GeoTech Foundation Company - West®
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PROJECT DESCRIPTION

PROJECT: Lafarge Cement Terminal

LOCATION: Eugene OR

DESIGN TEAM: *Structural Engineer*: Coffman Engineers – Spokane WA
Geotechnical Engineer: Professional Services Industries, Inc. – Portland OR

CONTRACTOR: The Haskins Company – Spokane WA

OWNER: Lafarge Canada, Inc. – Calgary AB, Canada

DESCRIPTION:

- 75’ tall cement storage silos, one 21’ diameter and one 15’ diameter
- A 29.75 by 49.5 foot common mat-slab foundation,
- Total load of 1100 kips (dead plus live load)
- Undocumented fill overlying sandy, fat clays and sandy gravels

The site consisted of up to 4 feet of fill overlying alluvium consisting of sandy fat clays. Underlying the clay alluvium at a depth about 10’ below grade is a formation of dense, sandy gravels. The geotechnical report recommended three alternatives for foundation support:

(1) Overexcavation of the fill only for a bearing pressure of 2,500 psf on the sandy fat clays with potentially large settlements

(2) Overexcavation and replacement of all soils overlying the gravel formation with more tolerable settlements

(3) A deep foundation system, consisting of drilled piers extending 5’ into the sandy gravel formation about 10’ below site grade

The Geopier® System, with piers terminating on the gravel formation was selected as a Value Engineering alternative. With the Geopier system reinforcement, a design bearing pressure of 6000 psf, with 1/3 increase for edge pressure due to overturning, was provided. A total of 72 Rammed Aggregate Pier® (RAP) elements were installed in only 2 working days on-site.

REFERENCES:

Charles R. Lane, P.E.	Sterling A Haksins	Karl G. Kolb, P.E.
Professional Service Industries, Inc.	The Haskins Company	Coffman Engineers
(503) 289-1778	(509) 535-2978	(503) 328-2994