

Public Abstract

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Graduation Term:FS 2006

Department:Civil Engineering

Degree:MS

Title:Geotextile Wrap-Face Wall Using Marginal Backfill

A residential 9-foot tall concrete retaining wall was constructed during October/November 2005.

Inadequate design and construction techniques caused severe cracking of the concrete wall. A remediation scheme to relieve the lateral earth pressure on the wall included the design and construction of a geotextile wrap-face wall constructed directly in front of the concrete wall. The in-situ clay, a marginally suitable material, was used for the wall backfill. The geotextile wrap-face wall was constructed in July 2006, and the wall was performance monitored thereafter. During the monitoring period, four months post construction, no significant lateral, nor vertical movements have occurred, and the drainage system experienced significant flows.