

Title: Verification of Abutment Wall Design Assumptions

SPR No: 720

Project Description: The first objective of this research is to verify that the backfill and drainage details currently used on cast-in-place concrete cantilevered retaining walls and bridge abutments on VTrans projects perform as expected, i.e. will provide zero pressure head differential on both faces of the wall, and that the backfill has the engineering properties assumed in the design.

The second objective is to find the most cost effective backfill details. This includes not only material costs such as concrete, rebar and the backfill, but also excavation and placement costs. Included in this objective is developing selection guidelines, soil parameters, drainage details and construction specifications that will allow the use of backfill materials with greater fines content than that currently specified. This evaluation will include materials meeting the gradation requirements of VTrans Standard Specification Section 703.03, Sand Borrow and Section 703.04, Granular Borrow as well as the requirements outlined in Geotechnical Engineering Circular No. 11 for select granular reinforced fill.

Start date: 2011

End date: 2013

Status: Active Inactive Completed

Total Dollars: \$100,000

Index Terms: Administration Bridges Construction Environment

Geotechnical Maintenance Materials Pavements Safety Traffic Transit

Sponsor Organization

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Subjects: Bridge Abutments, Retaining Walls, Backfill, Reinforced Fill