



Ministry of
Transportation
and Infrastructure



MOTI Geotechnical Engineering

*BCEA Expropriation Conference
October 27, 2017*

MOTI ENGINEERING SERVICES

Structural Engineering



Highway Design and Survey



Electrical Engineering



Source: <https://www.flickr.com/photos/tranbc>

Environmental Services



Source: Kathryn Graham

Traffic and Highway Safety



Source: <https://www.theglobeandmail.com>

Geotechnical Engineering



Source: <https://www.flickr.com/photos/tranbc>



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GEOTECHNICAL OVERVIEW

5 Work Units / Functions

Geohazards & Slope Stability

Foundations

Materials & Standards

Aggregate Resource Management

Rockwork Engineering

Geohazards & Slope Stability



Photos by Jillian Jackson, BC MOTI



Foundations

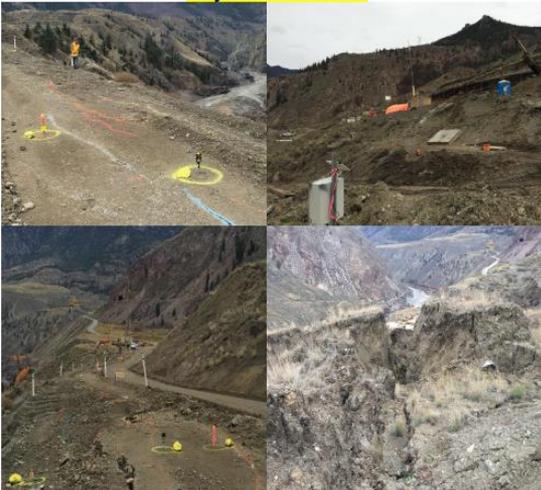


Materials & Standards



RECOGNIZED PRODUCTS LIST

May 1st 2017 Edition



Slope Stabilization - Highway 99 near Lillooet

Edited and Maintained by: NEW PRODUCTS EVALUATION STANDING COMMITTEE
Phone (250) 367-4360
email to: RPL@gov.bc.ca

INTERNET ADDRESS: <http://www.gov.bc.ca/tran>
Site Index - Search under "R" for Recognized Products List

Examples:

- Geotechnical Technical Circulars
- Geotechnical Design Criteria
- Geotechnical Terms of Reference
- Geotechnical updates to Sample Special Provisions and Standard Specifications.

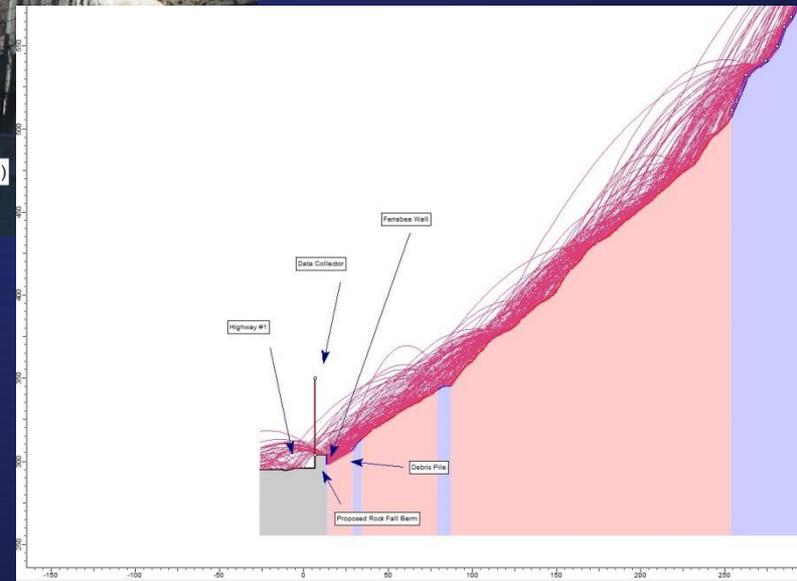
Aggregate Resource Management



Rockwork Engineering



Photo by Steve Pollak, BC MOTI





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HIGHWAY DESIGN AND CONSTRUCTION



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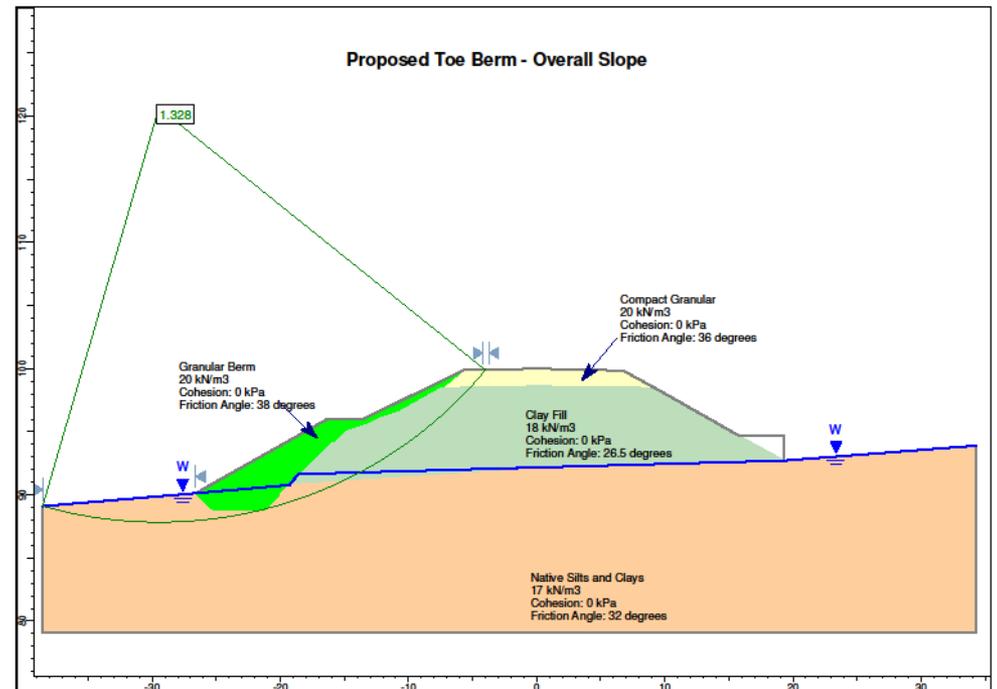
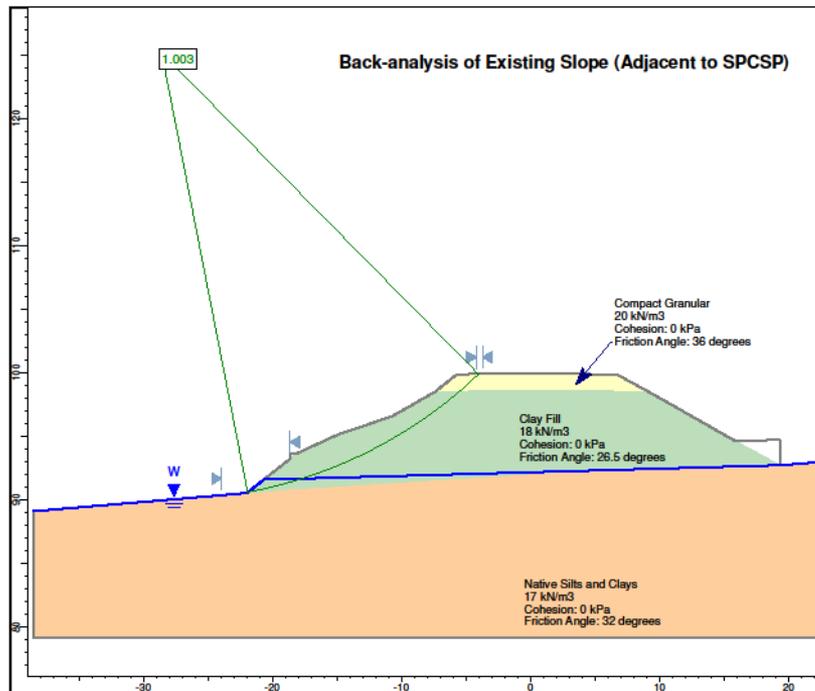


Corridor Studies

Preliminary Design

Subsurface Investigation

Slope Stability Analyses





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Material Availability / Suitability

Detailed Design

Tender & Award

Site Preparation

Construction

Field Review and QC/QA

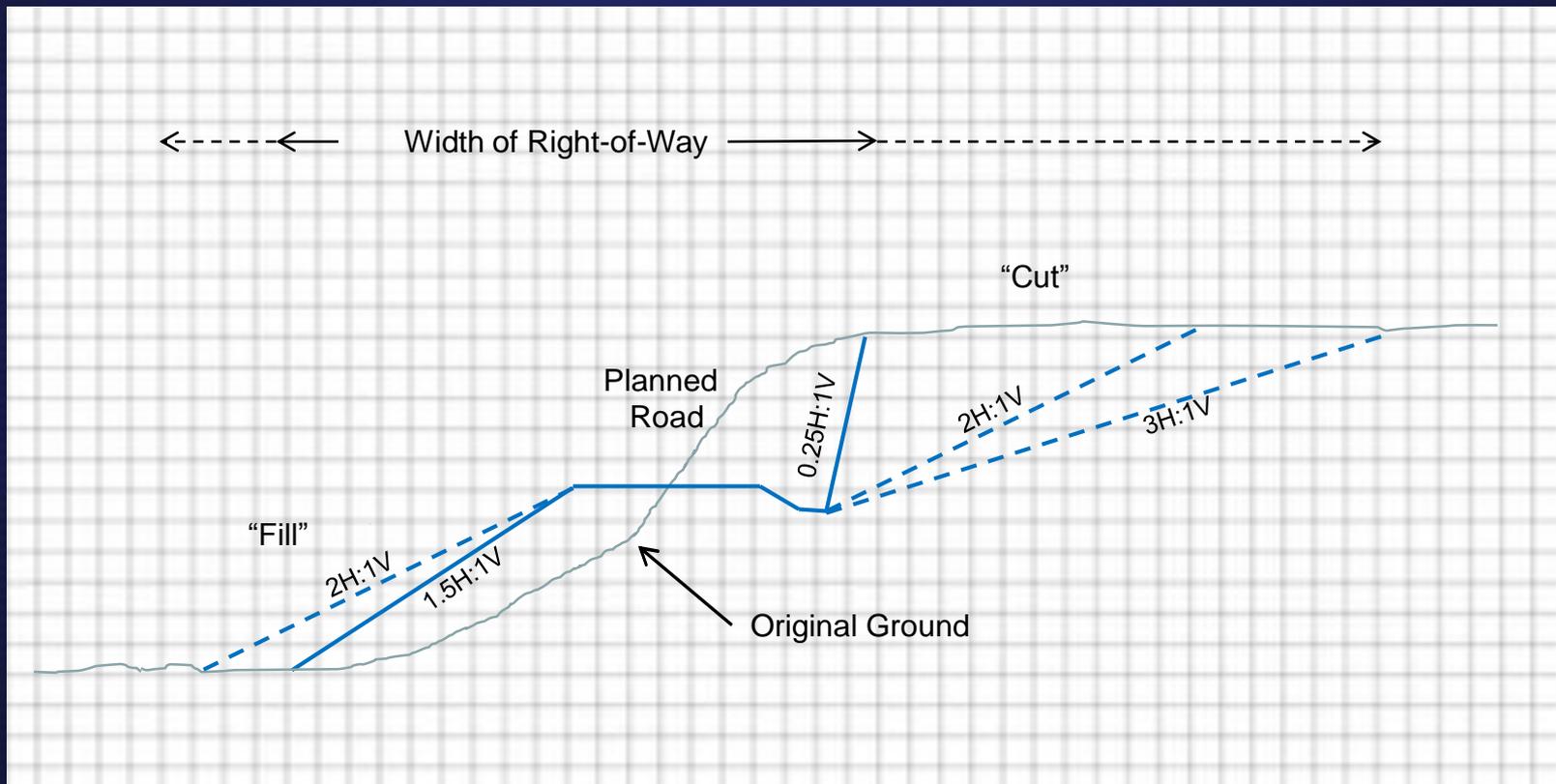


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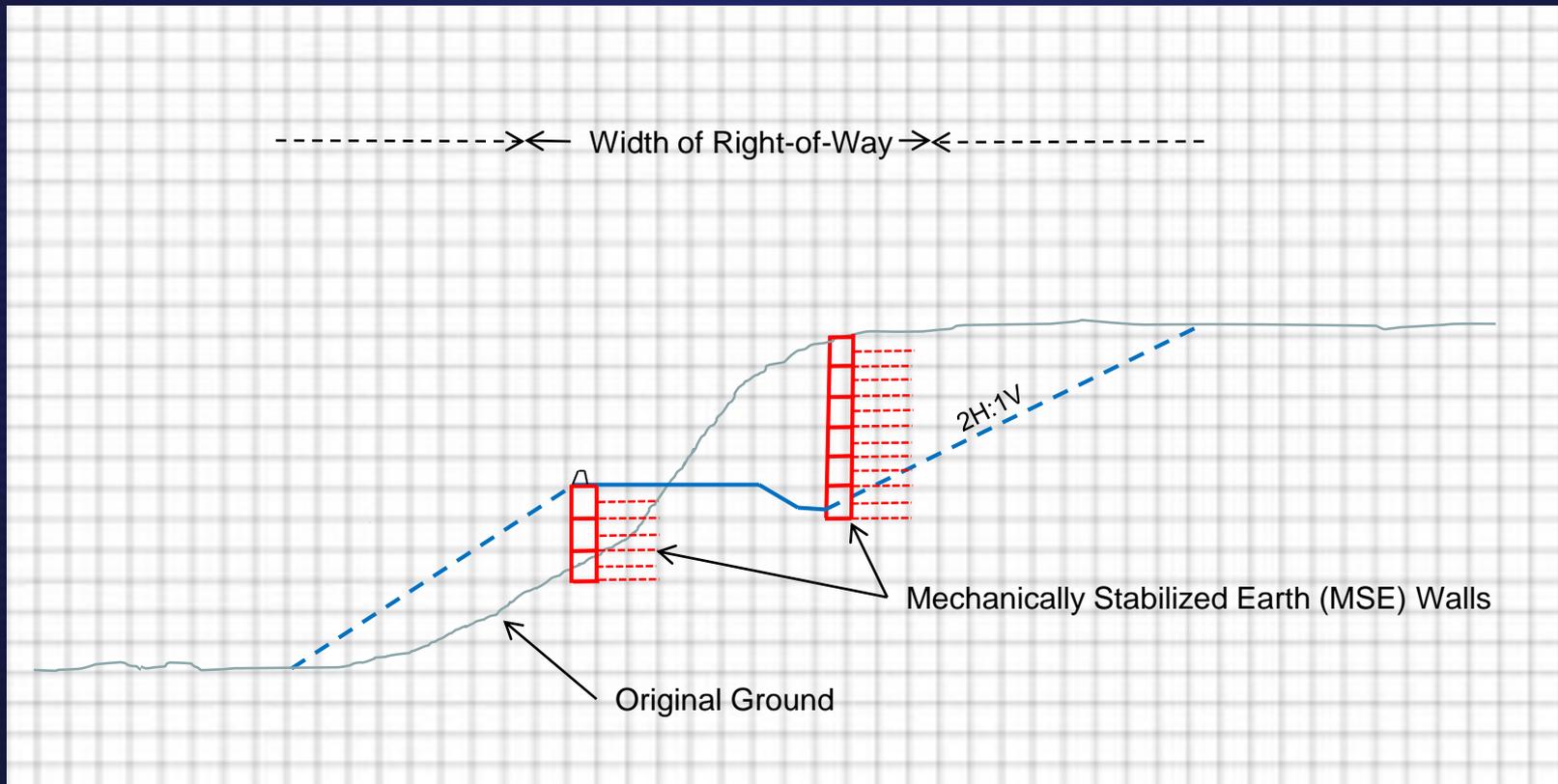


SOME FACTORS AFFECTING PROPERTY REQUIREMENTS

Material Types and Cut / Fill Slopes



Retaining Walls



Road Geometry

Affects Right of Way width through:

- Number of lanes
- Shoulder widths
- Cut and Fill slope angles
- Width of median (if any)
- Horizontal alignment (curve radius)
- Vertical alignments (affects cut and fill heights)



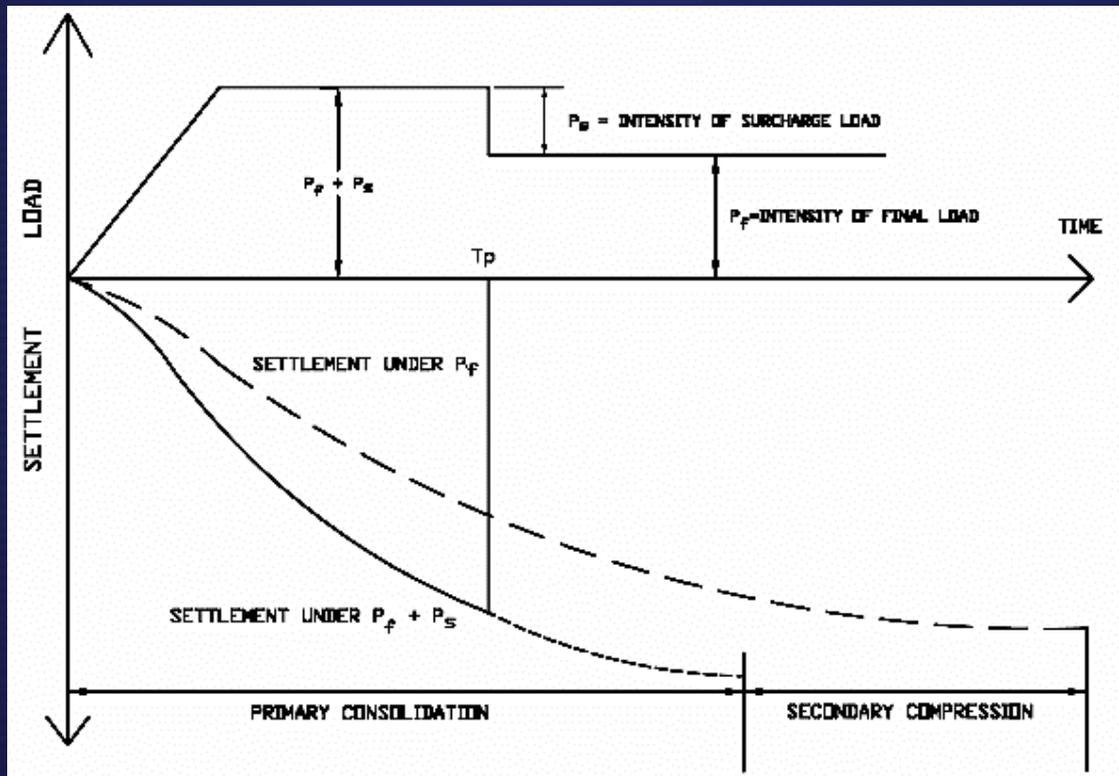
Source: BC Supplement to TAC
Geometric Design Guide

Geohazard Mitigation / Slide Repair



- Debris flow containment structures and slide stabilization toe berms can require property acquisition beyond the typical highway Right of Way.

Preloading (timing of acquisition)



Thank You!.....Questions?



BRITISH
COLUMBIA
