



Appendix A

Boston Bar Landslide Memo from BGC Engineering Inc.

September 10, 2024

Project 0409008

Fraser Valley Regional District
#1 – 45950 Cheam Avenue
Chilliwack, BC V2P 1N6

Attention: Graham Daneluz, Director of Planning and Development

Preliminary interpretation of a large landslide complex at Boston Bar

1.0 INTRODUCTION

Fraser Valley Regional District (FVRD) is currently undertaking review of official community plans (OCPs) in FVRD Electoral Areas A and B. FVRD engaged BGC Engineering Inc. (BGC) to develop a proposal for geohazard mapping within these electoral areas. As part of the proposal preparation process, BGC interpreted a previously undocumented large landslide complex within the community of Boston Bar.

The purpose of this letter is to summarize the preliminary interpretation of this landform for FVRD, and to provide recommendations for additional assessment of this landform. BGC understands that FVRD may use the recommendations to potentially support grant applications for further assessment in the future. BGC's work is being carried out under the terms of the contract between BGC and FVRD dated September 5, 2024.

2.0 LANDSLIDE COMPLEX FEATURE AT BOSTON BAR

Prior to 2023, lidar data in the Boston Bar area was limited to small sections of the Fraser River Canyon. In fall 2023, new lidar data was acquired by the federal government for the area including to the height of land adjacent to the canyon. In reviewing the new lidar, BGC interpreted the presence of a large landslide complex above the community of Boston Bar (Figure 1). To the best of our knowledge, this landslide complex was previously unknown or undocumented.

BGC interprets that this landform is a large landslide complex composed of a main headscarp that extends to the height of land above the community above Boston Bar (approximately 1,100 m elevation). The headscarp extends north of the main village site of Boston Bar, and south to the Anderson River. The toe of the landslide complex is within the Boston Bar village site. BGC interprets from the lidar data that the landslide complex contains different zones of landslide mechanisms (rockfall, rockslide, earthflow, potential rock avalanche).

Based on the information presently available and BGC's current scope, we have not assessed the level of activity of this landslide, likelihood of large rapid slope failure, nor the potential runout extents should the landslide develops into a large rapid slope failure. BGC recommends that additional assessment be completed to further characterize the hazards and risks at this landform to inform decisions on risk management by FVRD and others.

Additional geohazards have been mapped by BGC and others within the project area. The purpose of highlighting this landslide at Boston Bar is to document the new information and support FVRD in developing application(s) for funding to further characterize the geohazard and risk(s) at this site given the location of this landslide above developed areas.

3.0 RECOMMENDATIONS

BGC recommends that further assessments occur at this site. The objective would be to further characterize the landslide and its potential threat to valued assets (homes, roads, water infrastructure) in Boston Bar, and to recommend next actions for risk management.

BGC estimates that assessment at sufficient detail to inform decision making will require an effort exceeding \$100,000.

Funding for this assessment could come through the following grant sources:

- Emergency Management and Climate Readiness Disaster Resilience and Innovation Funding program
- Union of BC Municipalities Disaster Risk Reduction-Climate Adaptation fund.

If requested, BGC can provide FVRD with a workplan and cost estimate to apply to these grant sources.

4.0 CLOSURE

We trust the above satisfies your requirements. Should you have any questions or comments, please do not hesitate to contact us.

Yours sincerely,

BGC Engineering Inc.

per:



Carie-Ann Hancock, M.Sc., P.Geol.
Senior Geoscientist

Reviewed by:

Marc-André Brideau, Ph.D., P.Geol.
Senior Engineering Geologist

CAH/MAB/kj

Attachments: Limitations
 Figures

LIMITATIONS

BGC Engineering Inc. (“BGC”) prepared this document¹ for the exclusive use of Fraser Valley Regional District (the “Client”). This document is only intended for the Client’s use for the specific purpose or project identified herein. This document may not be used for any other purpose, modified, or published (either on the Internet, through open-source artificial intelligence (AI) tools, or through any other form of print or electronic media) without BGC’s express written consent. BGC is not liable for any loss, injury, or damages arising from any unapproved use or unauthorized modification of this document.

No third party may use or rely on this document unless BGC provides express written consent. Any use or reliance which a third party makes of this document is the responsibility of the third party and is at such third party’s own risk. BGC accepts no responsibility for damages, if any, suffered by any third parties as a result of their use of this document.

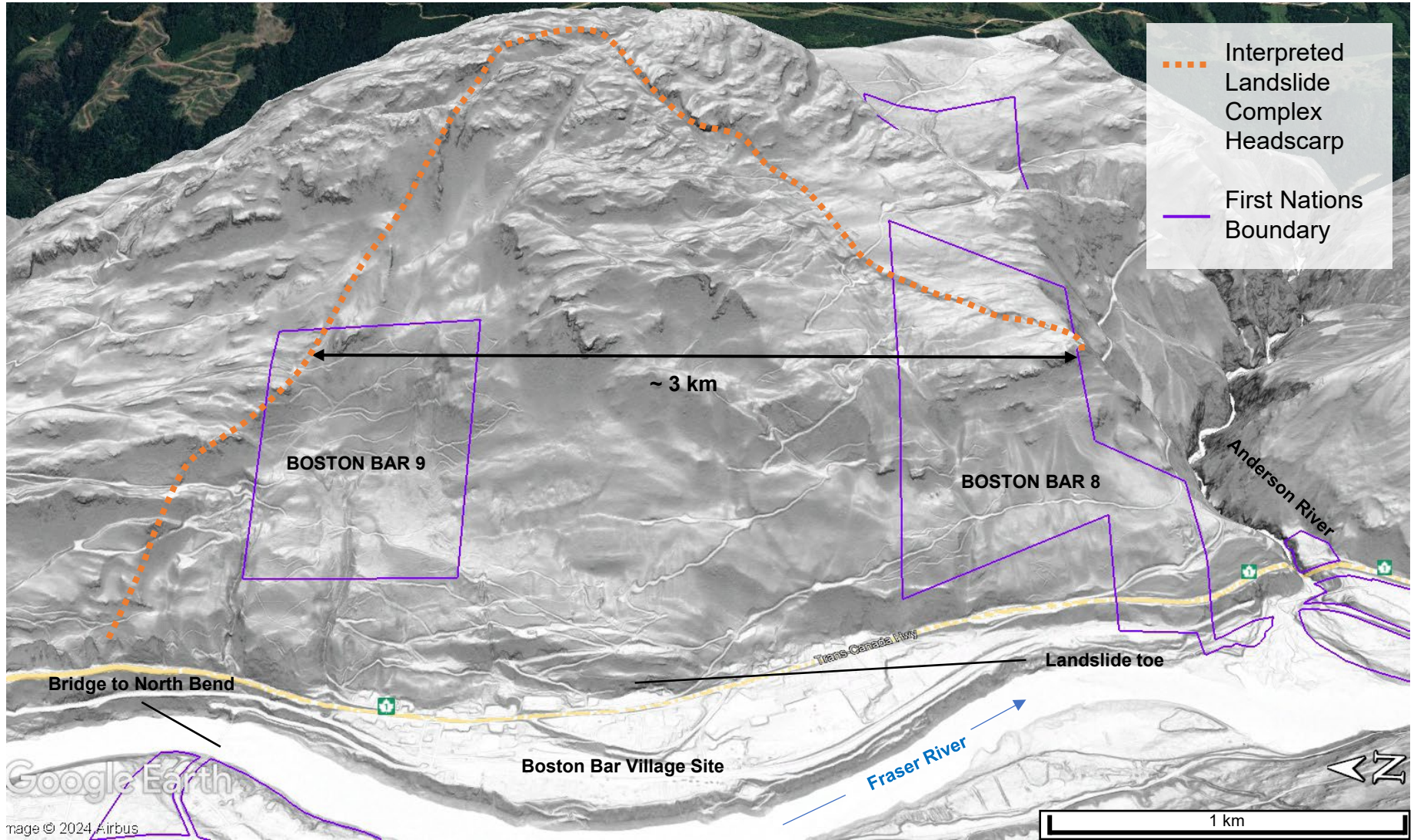
This document contains BGC’s professional opinions on the specific issues identified herein, based on the information available to BGC when BGC prepared this document. While preparing this document, BGC relied on information BGC received from the Client or other sources. Unless otherwise stated in this document, BGC did not independently verify such information, and BGC assumed that such information is accurate, complete, and reliable. BGC is not responsible for any deficiency, misstatement, or inaccuracy in this document due to errors or omissions in information provided by the Client or third parties.

This document may include or rely upon estimates, forecasts, or modeling analyses (e.g., results or outputs of numerical modeling) that are based on available data. Such estimates, forecasts, or modeling analyses do not provide definitive or certain results. The Client is solely responsible for deciding what action (if any) to take based on any estimates, forecasts, or modeling analyses.

BGC prepared this document in accordance with generally accepted practices for similar services in the applicable jurisdiction. BGC makes no warranty (either express or implied) related to this document. BGC is not responsible for any independent conclusions, interpretations, extrapolations, or decisions made by the Client or any third party based on this document. The record copy of this document in BGC’s files takes precedence over any other copy or reproduction of this document.

¹ References in these Limitations to the “document” include the document to which these Limitations are attached, any content contained in this document, and any content referenced in this document but located in one of BGC’s proprietary software applications (e.g., Cambio).

FIGURES



- NOTES:
1. This Figure should be read in conjunction with BGC's memorandum titled "Identification of Large Landslide at Boston Bar" and dated September 2024.
 2. Lidar data downloaded from Government of Canada High Resolution Digital Elevation Model program and dated 2023.
 3. First Nation reserve boundaries downloaded from Government of Canada.

PREPARED BY: CAH	FIGURE TITLE: BOSTON BAR LANDSLIDE COMPLEX		
CHECKED BY: MAB	CLIENT: FRASER VALLEY REGIONAL DISTRICT		
APPROVED BY: CAH	SCALE: AS SHOWN	PROJECT NO: P24424	FIGURE NO: 1