

To:	Myles Hargrove Summit Earthworks Inc.	Date:	October 11, 2019
c:		Memo No.:	001
From:	Yutaka Tabata, E.I.T. Stephen Gardner, M.Sc.	File:	ENG.VGEO03082-01
Subject:	Derwent Way Soil Transfer and Barge Facility Derwent Way/Salter Street Southbound Left-turn Assessment		

1.0 INTRODUCTION

Tetra Tech Canada Inc. (Tetra Tech) was retained by Summit Earthworks Inc. to undertake a traffic impact assessment (TIA) for the proposed Derwent Way Transfer Station to be located on a vacant lot adjacent to Derwent Way in New Westminster, British Columbia (BC). This traffic impact assessment analyzed both the weekday a.m. and p.m. peak hour conditions for the opening year and opening + 20-year horizon. The analysis covered the impact of site traffic at the intersections of Derwent Way/Ewen Avenue, Derwent Way/Salter Street, Derwent Way/South Dyke Road and Derwent Way/Annacis Parkway.

As part of the traffic study, the need for a southbound left-turn lane at Derwent Way/Salter Street was reviewed. This memo provides a summary of our findings from the analysis of the southbound left-turn movement.

2.0 EXISTING TRAFFIC VOLUMES

Turning movement counts were undertaken in the a.m. and p.m. peak periods at the intersection of Derwent Way and Salter Street in January 2017. No vehicles were observed making the southbound left-turn during the a.m. peak hour and only one vehicle was observed making the left-turn during the p.m. peak hour. A summary of the background traffic volumes is provided in Table 1.

Table 1: Existing Traffic Volumes at Derwent Way/Salter Street

	Southbound		Northbound		Westbound	
	Left-turn	Through	Through	Right-turn	Left-turn	Right-turn
a.m. Peak Hour	0	192	124	9	7	2
p.m. Peak Hour	1	202	367	3	3	1

Based on these traffic volumes a left-turn lane is not warranted. The existing queue should not exceed more than two vehicles under these traffic conditions.

3.0 TRAIN TRAFFIC

The Port of Vancouver has indicated that trains cross Salter Street approximately 10 times a day and may stop access to the site for around 5 minutes every time. This would temporarily delay southbound left-turn vehicles from making a turning onto Salter Street; however, southbound through vehicles would be able to pass vehicles waiting to turn left into Salter Street on the shoulder.

4.0 SITE TRAFFIC IMPACT

The site is anticipated to generate 11 inbound trips and 8 outbound trips in the a.m. peak hour and 8 inbound trips and 11 outbound trips in the p.m. peak hour. All site traffic will be routed to/from the south via Cliveden Avenue and Belgrave Way (i.e., no southbound left-turns from Derwent Way and westbound right-turns from Salter Street), as such it will not have any impact on the southbound left-turn movement from Derwent Way.

5.0 CONCLUSIONS

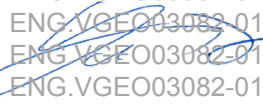
Based on this analysis the site **will not** trigger the need for a left-turn lane into Salter Street as all site traffic will be routed to/from the south. The southbound left-turn traffic volumes will remain unchanged from background conditions. Under these conditions a left turn lane is not warranted. A summary of our findings is provided below:

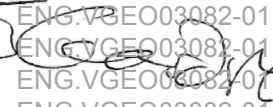
- Traffic counts conducted in January 2017 recorded only one vehicle making the southbound left-turn in the p.m. peak hour and no vehicles were observed making the movement in the a.m. peak hour.
- The intersection does not warrant a left-turn lane under existing conditions;
- All site traffic will be routed to/from the south; and as such will not add to the southbound left-turn movement.

6.0 CLOSURE

We trust this memo meets your present requirements. If you have any questions or comments, please contact the undersigned.

Respectfully submitted,
Tetra Tech Canada Inc.

ENG.VGEO03082-01
ENG.VGEO03082-01
ENG.VGEO03082-01
ENG.VGEO03082-01

ENG.VGEO03082-01
ENG.VGEO03082-01
ENG.VGEO03082-01
ENG.VGEO03082-01

ENG.VGEO03082-01
ENG.VGEO03082-01
ENG.VGEO03082-01
ENG.VGEO03082-01

ENG.VGEO03082-01
ENG.VGEO03082-01
ENG.VGEO03082-01
ENG.VGEO03082-01

Prepared by:
Yutaka Tabata, E.I.T.
Transportation Engineer-in-Training
Transportation Practice
Direct Line: 778.945.5726
yutaka.tabata@tetrattech.com

Reviewed by:
Stephen Gardner, M.Sc.
Principal Specialist
Transportation Practice
Direct Line: 778.945.5713
Stephen.Gardner@tetrattech.com

/sy

Enclosure: Limitations on the Use of this Document

LIMITATIONS ON USE OF THIS DOCUMENT

1.1 USE OF DOCUMENT AND OWNERSHIP

This document pertains to a specific site, a specific development, and a specific scope of work. The document may include plans, drawings, profiles and other supporting documents that collectively constitute the document (the "Professional Document").

The Professional Document is intended for the sole use of TETRA TECH's Client (the "Client") as specifically identified in the TETRA TECH Services Agreement or other Contractual Agreement entered into with the Client (either of which is termed the "Contract" herein). TETRA TECH does not accept any responsibility for the accuracy of any of the data, analyses, recommendations or other contents of the Professional Document when it is used or relied upon by any party other than the Client, unless authorized in writing by TETRA TECH.

Any unauthorized use of the Professional Document is at the sole risk of the user. TETRA TECH accepts no responsibility whatsoever for any loss or damage where such loss or damage is alleged to be or, in fact, caused by the unauthorized use of the Professional Document.

Where TETRA TECH has expressly authorized the use of the Professional Document by a third party (an "Authorized Party"), consideration for such authorization is the Authorized Party's acceptance of these Limitations on Use of this Document as well as any limitations on liability contained in the Contract with the Client (all of which is collectively termed the "Limitations on Liability"). The Authorized Party should carefully review both these Limitations on Use of this Document and the Contract prior to making any use of the Professional Document. Any use made of the Professional Document by an Authorized Party constitutes the Authorized Party's express acceptance of, and agreement to, the Limitations on Liability.

The Professional Document and any other form or type of data or documents generated by TETRA TECH during the performance of the work are TETRA TECH's professional work product and shall remain the copyright property of TETRA TECH.

The Professional Document is subject to copyright and shall not be reproduced either wholly or in part without the prior, written permission of TETRA TECH. Additional copies of the Document, if required, may be obtained upon request.

1.2 ALTERNATIVE DOCUMENT FORMAT

Where TETRA TECH submits electronic file and/or hard copy versions of the Professional Document or any drawings or other project-related documents and deliverables (collectively termed TETRA TECH's "Instruments of Professional Service"), only the signed and/or sealed versions shall be considered final. The original signed and/or sealed electronic file and/or hard copy version archived by TETRA TECH shall be deemed to be the original. TETRA TECH will archive a protected digital copy of the original signed and/or sealed version for a period of 10 years.

Both electronic file and/or hard copy versions of TETRA TECH's Instruments of Professional Service shall not, under any circumstances, be altered by any party except TETRA TECH. TETRA TECH's Instruments of Professional Service will be used only and exactly as submitted by TETRA TECH.

Electronic files submitted by TETRA TECH have been prepared and submitted using specific software and hardware systems. TETRA TECH makes no representation about the compatibility of these files with the Client's current or future software and hardware systems.

1.3 STANDARD OF CARE

Services performed by TETRA TECH for the Professional Document have been conducted in accordance with the Contract, in a manner consistent with the level of skill ordinarily exercised by members of the profession currently practicing under similar conditions in the jurisdiction in which the services are provided. Professional judgment has been applied in developing the conclusions and/or recommendations provided in this Professional Document. No warranty or guarantee, express or implied, is made concerning the test results, comments, recommendations, or any other portion of the Professional Document.

If any error or omission is detected by the Client or an Authorized Party, the error or omission must be immediately brought to the attention of TETRA TECH.

1.4 DISCLOSURE OF INFORMATION BY CLIENT

The Client acknowledges that it has fully cooperated with TETRA TECH with respect to the provision of all available information on the past, present, and proposed conditions on the site, including historical information respecting the use of the site. The Client further acknowledges that in order for TETRA TECH to properly provide the services contracted for in the Contract, TETRA TECH has relied upon the Client with respect to both the full disclosure and accuracy of any such information.

1.5 INFORMATION PROVIDED TO TETRA TECH BY OTHERS

During the performance of the work and the preparation of this Professional Document, TETRA TECH may have relied on information provided by persons other than the Client.

While TETRA TECH endeavours to verify the accuracy of such information, TETRA TECH accepts no responsibility for the accuracy or the reliability of such information even where inaccurate or unreliable information impacts any recommendations, design or other deliverables and causes the Client or an Authorized Party loss or damage.

1.6 GENERAL LIMITATIONS OF DOCUMENT

This Professional Document is based solely on the conditions presented and the data available to TETRA TECH at the time the data were collected in the field or gathered from available databases.

The Client, and any Authorized Party, acknowledges that the Professional Document is based on limited data and that the conclusions, opinions, and recommendations contained in the Professional Document are the result of the application of professional judgment to such limited data.

The Professional Document is not applicable to any other sites, nor should it be relied upon for types of development other than those to which it refers. Any variation from the site conditions present, or variation in assumed conditions which might form the basis of design or recommendations as outlined in this report, at or on the development proposed as of the date of the Professional Document requires a supplementary investigation and assessment.

TETRA TECH is neither qualified to, nor is it making, any recommendations with respect to the purchase, sale, investment or development of the property, the decisions on which are the sole responsibility of the Client.