



PERMIT TO PRACTICE NUMBER: 1003937
1770 Baron Road
Kelowna, BC, V1X 7G9

Joseph Medeiros
1947 Sandstone Drive
Penticton, BC V2A 8Y7

October 11, 2022
Valley Geo Project #: 60273-01

Attention: Joseph Medeiros

Regarding: Geotechnical Assurance & Design Letter for Pool
1947 Sandstone Drive, Penticton, BC (Regional District of Okanagan-Similkameen - RDOS)

1.0 INTRODUCTION

Valley Geotechnical Kelowna Ltd. (Valley Geo) has been retained to complete a geotechnical report for the purpose of obtaining variance to construct a pool.

It is our understanding that the recently amended Zoning Bylaw No. 2800, 2022 prevents new pools from being constructed in this area. It is also understood from discussions between the owner and the RDOS that a variance to the above bylaw may be applied for. No formal variance procedure has been identified as of the date of this letter.

Valley Geo has completed a site reconnaissance and reviewed available information for this area. Based on our review we confirm that the pool may be safely installed provided the recommendations presented in report letter are implemented.

2.0 SITE CONDITIONS

Valley Geo completed a site reconnaissance on September 8, 2022. Our relevant observations are generally summarized as follows:

- A single-family house is located on the front half of the subject property
- The subject property is relatively flat and covered with manicured lawn
- An approximately 15m high, 2.5 (horizontal) to 1 (vertical) slope extends down at the rear property line
- No signs of instability (i.e., sloughing or pistol butt trees) were observed on the slope
- Several pools were observed in the vicinity

3.0 INFORMATION REVIEWED

Valley Geo reviewed the following external and internal documents. Our relevant findings are listed as follows:

-Late Glacial History and Surficial Deposits of the Okanagan Valley by Hugh Nasmith, 1962

- The subject property, including the proposed pool location, is located within glacial retreat kettled outwash.



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-West Bench/Sage Mesa Area Geological Hazards Review, by Klohn Leonoff, dated 1992

- The site is outside of the West Bench/ Sage Mesa Geological Hazard zone.

-RDOS GIS – Public Parcel Viewer

- The subject site is located outside the zones for Silt Bluff Hazard (light pink), Landslide Hazard (red), and Sinkhole Hazard (pink).

-Ecora Report

- Ecora's Detailed Geological Cross Section A-A intersects the subject site and indicates that the underlying soil conditions consist of Glaciofluvial Deposits (Sand and Gravel).
- The sand and gravel deposits are subject to shallow planar landslide on steeper slopes steeper than 50% (<2H:1V).
- Ecora's Map 3.0 indicates the subject site is located in a "Low Hazard zone" (Slopes less than 50% and no signs of past instability)
- The underlying soil conditions are not conducive to the development of sink holes

-Valley Geo Projects at 1815, 2218, and 2236 Sandstone Drive, RDOS

- The underlying soil conditions at these sites consist of sand and gravel further underlain by bedrock. The observed bedrock is significantly shallower than inferred on the sections in the Ecora report which would increase the calculated factors of safety.

4.0 CONCLUSIONS & RECOMMENDATIONS

Based on the above Valley Geo confirms that the proposed pool can be safely constructed and will not increase the hazard risk for the subject and surrounding area. Valley Geo provides the following recommendations for construction:

- The pool be cited a minimum of 10m from the top of the slopes
- No uncontrolled water discharge directed over the top of slope
- Any infiltration systems located a minimum of 10m from the top of slope
- A leak detection system be installed within the pool to prevent saturation of the slope and surrounding material.
- The excavated pool base be reviewed by Valley Geo at the time of construction to confirm the anticipated soil conditions (sands and gravels).

5.0 LIMITATIONS & CLOSURE

The recommendations presented in this report are based on our qualitative analysis and information deemed relevant to the subject site. If conditions differ from those presented in this report, Valley Geo should be notified immediately to examine the conditions and reassess our recommendations.

This report has been prepared for the exclusive use of Joseph Medeiros and their agents for the purpose stated. It has been prepared in accordance with generally accepted engineering practice and no other warranty, expressed, or implied is made. Any use, in which a Third Party makes of this report, or reliance on decisions to be made based on it, is the responsibility of such Third Party.

We trust that this report provides you with the information required at this time. Please see the undersigned Limited License Scope.

Regards,
Valley Geotechnical Kelowna Ltd.



Sean Hope, EIT
Junior Geotechnical Engineer



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Professional Engineering Licensee - Principal