

## CITY OF KELOWNA

# MEMORANDUM

**Date:** August 6, 2019  
**File No.:** DVP19-0154  
**To:** Community Planning (SS)  
**From:** Development Engineering Manager (JK)  
**Subject:** 274 Chapin Rd. Retaining Wall Height

The Development Engineering Branch has the following comments associated with this application for a development variance permit:

A Development Variance application to vary the height of a garage from 4.8m (permitted) to 5.4m (proposed) and to vary the height of a retaining wall from 1.2m (permitted) to 5.0m (proposed) to allow the construction of a new garage on the subject property is subject to the conditions within Bulletin # 17-02 R2

#### 4. Retaining Walls & Rockfall Protection

With increased hillside development, Development Engineering wishes to remind the Development Community of the need of adequate Rockfall Protection adjacent the walls. Please consider BC MOT Supplement to TAC Geometric Design Guide 440, page 440-8, which outlines a ditch bottom width of 1.25-2.75m, depending on wall height. Sidewalks and utilities should be kept out of this protection area. Additional ROW may be required.

Where walls are on the high side, the City's preference is that the walls remain setback and on private property. Where the walls hold up the road, the City's preference is that additional dedication be provided and the walls be owned by the City. Please design any geogrids or tie-backs so that they do not encroach into the required road ROW.

#### **Engineers and Geoscientists BC's Quality Management Guidelines: Documented Independent Review of Structural Designs** shall be followed/implemented:

"Retaining walls including but not limited to, gravity, piling, cantilever, anchored, mechanically stabilized earth (MSE), and geosynthetic reinforced soil (GRS) walls when over 3.0 m high or deemed to be high risk are included in the requirement to have documented independent reviews conducted by a qualified professional, as retaining walls fulfill the important structural function of safely retaining soil."

Further, while the City Zoning Bylaw allows for walls of up to 1.2m and requires setbacks and tiers for higher, and Bulletin 07-05 prescribes a Development Variance Permit for overheight walls after subdivision, any wall greater than two tiers or 2.4m shall be based on Professional Reliance and require geotechnical/structural design and Schedules at time of approval.

*James Kay*

James Kay, P.Eng.  
Development Engineering Manager  
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