
To: Matt Corsi – Urban Evolution
From: Matthew W. Smith, PE and Aaron Hartvigsen, PE
Date: October 8, 2015
File: 12406-011-00
Subject: Issaquah Senior – Steep Slope Considerations

The purpose of this memorandum is to provide discussion of code requirements and available information regarding steep slopes mapped along the western property line.

CODE REQUIREMENTS

The Issaquah Municipal Code regarding steep slopes states that “steep slope hazard areas and associated buffers shall not be altered” (IMC 18.10.580) with steep slopes defined as 40 percent slope or steeper. The following exemptions are included in the code:

E. Limited Exemptions:

1. Slopes forty (40) percent and steeper with a vertical elevation change of up to twenty (20) feet may be exempted from the provisions of this section (through Level 1 Review or through the appropriate land use permitting process), based on the City review and acceptance of a soils report prepared by a geologist or licensed geotechnical engineer when no adverse impact will result from the exemption.
2. Any slope which has been created through previous, legal grading activities may be regarded as part of an approved development proposal. Any slope which remains equal to or in excess of forty (40) percent following site development shall be subject to the protection mechanisms for steep slopes.

SITE TOPOGRAPHY

We reviewed the site topography based on the Existing Slope Analysis Figure provided by VIA architecture, attached. The areas shaded the darkest gray are 40 percent or steeper. The area that meets steep slope requirements per the above referenced code is located at the northwest portion of the property. The elevation changes is approximately 22 to 24 feet through the steep portion of the slope immediately below Newport Way. The contours are at a consistent spacing until the catch point, which is typically near elevation 70 feet. The slope of what appears to be the natural grade is not as steep (15 percent to 25 percent) before transitioning to a much shallower slope (less than 15 percent) across the eastern half of the site.

SITE GEOLOGY

Published geologic information for the project vicinity includes a United States Geological Survey (USGS) geologic map of the East Half of the Bellevue South 7.5' x 15' Quadrangle, Issaquah Area, King County, Washington (Booth and others, 2012). Pre-Olympia age glacial deposits are mapped on the northwest corner of the site and consist of weakly to strongly oxidized silt, sand, gravel and till of glacial origin. The mapped

geologic unit at the base of the slope and the majority of the project site consists of alluvium deposits. The alluvium locally includes sediments of similar texture and age found in low-lying areas adjacent to Lake Sammamish, particularly beach and shallow lacustrine deposits. The alluvium generally consists of cobble gravel, pebbly sand, and sandy silt, moderately sorted; deposited along major stream channels.

HISTORICAL REVIEW

The western portion of the property is bounded by Newport Way. Based on our research of aerial photographs the roadway existed prior to 1936. We understand that the roadway was likely improved in the 1950s. Typical construction practice for both the original road construction and any improvements that would have occurred in the 1950s was to cut material from the upslope and place it on the downslope. This method of construction is commonly referred to as side-cast fill.

CONCLUSIONS AND RECOMMENDATIONS

Our borings for the site development were completed at the base of the steep slope in the vicinity of the building footprints. We do not have borings at the top of the steep slope at Newport Way. Based on our review of available information, the slope is likely constructed of fill derived from glacial soils and founded on glacial deposits. Although no plans are available, the slopes are interpreted to be created during the construction of Newport Way. No known slope stability issues have been recorded by City of Issaquah officials and we did not observe any during our site visits for explorations.

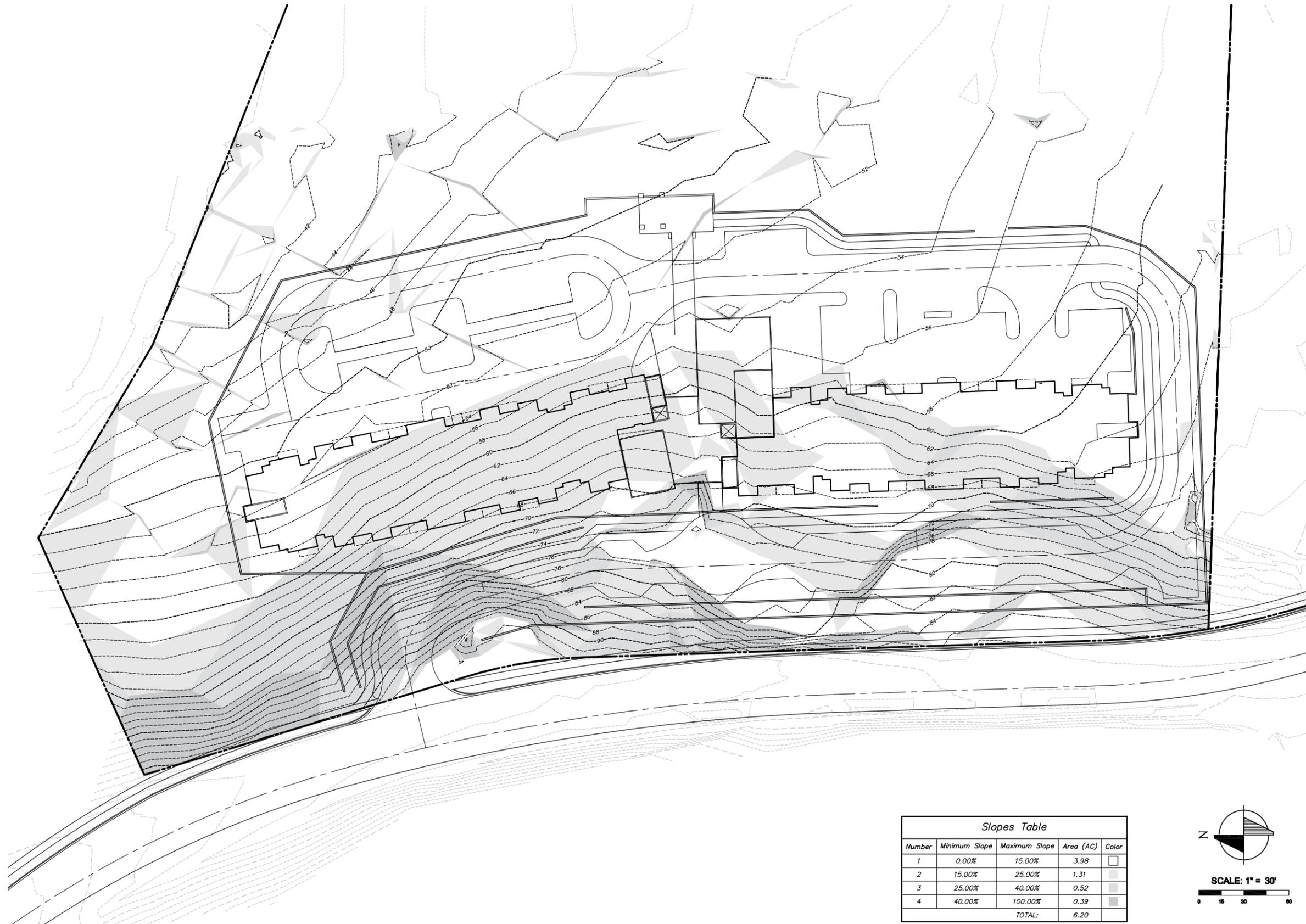
It is our opinion that the steep slopes at the site with less than 20 feet in elevation change meet the requirements of Limited Exemption 1. It is our opinion that slopes with greater than 20 feet in elevation change meet the requirements of Limited Exemption 2, based on our review of site topography as well as existing and historical information. All earthwork and retaining structures should be designed and built in accordance with our recommendations.

Attachments:
Existing Slope Analysis

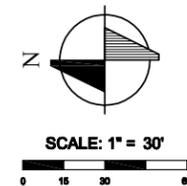
AJH:MWS:nld:leh

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EXISTING SLOPE ANALYSIS



Number	Minimum Slope	Maximum Slope	Area (AC)	Color
1	0.00%	15.00%	3.98	□
2	15.00%	25.00%	1.31	□
3	25.00%	40.00%	0.52	□
4	40.00%	100.00%	0.39	□
TOTAL:			6.20	



GRADING

Areas of steep slope on the existing site have excluded portions of the site area from the developable area as calculated according to the City of Issaquah standards. The remaining grade difference is accommodated with a new frontage road directly accessed from Newport Way to allow appropriate slope for pedestrians and vehicles on site.