

AGEC

Applied GeoTech

March 23, 2016

Big Canyon Homes
Eden, Utah

Attention: Paul Berman
EMAIL: paul@bigcanyonhomesinc.com

Subject: Work Plan
Proposed Residence, Lot 127
Highlands at Wolf Creek Subdivision, Phase 8
3563 Pineview Court
Eden, Utah
Project No. 1160176

Gentlemen:

Applied Geotechnical Engineering Consultants, Inc. (AGEC) was requested to develop a work plan for geologic hazard and geotechnical studies for the proposed residence to be constructed at 3563 Pineview Court in Eden, Utah. The property is Lot 127 of the Highlands at Wolf Creek subdivision, Phase 8.

SITE CONDITIONS

The building lot is currently undeveloped. There is an asphalt-paved, cul-de-sac road north of the property, Pineview Court. There is a residential house on the property to the west of the site and undeveloped hillside to the south and east.

The ground surface at the site slopes gently down toward the southwest in the area of the proposed building with slopes ranging from approximately 10 to 3½ horizontal to 1 vertical. The slope along the south side of the lot outside the proposed development area ranges from approximately 3 to 3½ horizontal to 1 vertical and slopes down to the south and southwest.

Vegetation at the site consists of grass and shrubs.

POTENTIAL GEOLOGIC HAZARDS

Determination of geologic hazards associated with the building lot were determined by a review of aerial photographs, Lidar data and geologic literature. Aerial photographs used in the review were downloaded from the Utah Geologic Survey website and have Photograph Nos. ELK-2-205 and 206 dated June 25, 1963 and Photograph Nos. AAJ-2B-46 and 47

dated August 10, 1946. The Lidar data was obtained from the 2013 and 2014 Utah Geological Survey data. Geologic maps reviewed for the study are Sorensen and Crittenden (1979), Coogan and King (2000), Elliott and Harty (2010), King and others (2014) and the Utah fault and fold database available at the Utah Geological Survey website.

1.0 Geologic Map Review

The geologic map by Sorensen and Crittenden (1979) shows the site to be underlain by colluvium and slope wash with a Holocene age. This map shows a fault just north of the site. The Coogan and King (2000) geologic map shows the area underlain by alluvium and colluvium of Quaternary age and states that this unit locally includes mass-movement deposits. The map shows a fault down to the southwest approximately 1,500 feet to the northeast of the site.

The Elliott and Harty (2010) landslide map shows the site and surrounding areas as landslide deposits.

The Utah fault and fold database shows the Ogden Valley North Fork fault located along the North Fork of the Ogden River, approximately 1.9 miles to the southwest and the Ogden Valley Northeast Margin fault located on the steep hillside to the northeast, approximately 1.1 miles from the site. The Ogden Valley North Fork fault is given an age of less than 750,000 years and the Ogden Valley Northeast Margin fault is given an age of less than 2.6 million years. No active faults are shown to be mapped through or near the site. The closest active fault to the site based on the Utah Geological Survey database is the Wasatch fault located approximately 6.7 miles to the west.

The King and others (2014) geologic map, which is a map in progress and currently has no legend, shows the site to be mapped as Qmso? (Qtg?) with a note stating, "like Tcg" (see attached figure). This mapping would suggest that the site is underlain by potential landslide deposits or gravel deposits. The map shows a fault approximately 1,700 feet to the northeast of the site and several lineations in the area with the closest located approximately 700 feet to the west. The map shows potential back-tilt features about 800 feet to the southeast. Most lineations and possibly the back-tilt features are likely related to faulting in the area. However, the Utah Geological Survey fault and fold database does not show these faults to be active. Thus, a fault study would not be needed at this site.

2.0 Aerial photograph and Lidar data review

No geomorphic features consistent with landslides were found for the site based on a review of the aerial photographs and the Lidar data. Mapped landslides and Norwood Tuff and the relatively steep slopes at the site indicate that slope stability may be a concern at the site. Thus, the geotechnical study will be used to evaluate slope stability at site.

GEOTECHNICAL STUDY

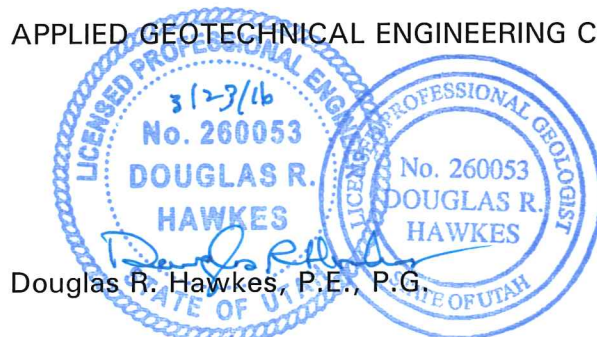
The geotechnical study will include the slope stability analysis along with a study to address typical geotechnical items for residential development, which are generally described in IBC 2012. The geotechnical study will include drilling one boring to a depth of approximately 50 feet or practical refusal and excavation of two test pits. The locations of the boring and test pits are presented on the attached figure.

The Lidar data and site topographic information will be used to produce a profile for the slope stability analysis. Borings and test pits will be used to determine the subsurface profile for the slope stability analysis. Laboratory testing along with reported strength values in the literature will be used in assigning strength parameters for the soil and possible bedrock units with the engineering analysis generally following the Draper City standards for slope stability analyses. Recommendations will be provided with respect to geologic hazards, geotechnical concerns and typical geotechnical analysis for residential development as generally described in IBC 2012.

If you have questions or if we can be of further service, please call.

Sincerely,

APPLIED GEOTECHNICAL ENGINEERING CONSULTANTS, INC.



Douglas R. Hawkes, P.E., P.G.

Reviewed by JRM, P.E.
DRH/rs
Enclosures

References:

Coogan, J.C. and King, J.K., 2000; Progress report geologic map of the Ogden 30' X 60' quadrangle, Utah and Wyoming, Utah Geological Survey Open-file Map 380.

Elliott, A.H. and Harty, K.M., 2010; Landslide maps of Utah, Ogden 30' X 60' quadrangle, Utah Geological Survey Map 246DM, Plate 6.

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King, J.K., McDonald, G.N. and Coogan, J.C., 2014; Progress report geologic map of the Huntsville quadrangle, Weber and Cache Counties, Utah, Utah Geological Survey map in progress.

Sorensen, M.L. and Crittenden, M.D., Jr., 1979; Geologic map of the Huntsville quadrangle, Weber and Cache Counties, Utah, US Geological Survey Map GQ-1503.

Utah fault and fold database accessed on March 18, 2016 at geology.utah.gov/resources/data-databases/qfaults/.

