



Staff Report for Administrative Approval – Hillside Review – Notice of Approval

Weber County Planning Division

Synopsis

Application Information

Application Request: Consideration and action on a request to approve a Hillside Review for Turner Residence Lot 65R in the Causey Estates Subdivision.

Applicant: Jeffery & Barbara Turner

File Number: HSR 2019-01

Property Information

Approximate Address: 15163 East Mill Rd, Huntsville, UT, 84317

Project Area: 2.00 acres

Zoning: F-10

Existing Land Use: Vacant

Proposed Land Use: Single Family Residence

Parcel ID: 23-073-0005

Township, Range, Section: 6N 3E Sec 1 Sec 11 NW

Adjacent Land Use

North: Mill Rd	South: Causey Estates HOA
East: Vacant/Residential/Recreational	West: Vacant/Residential/Recreational

Staff Information

Report Presenter: Tammy Aydelotte
rkippen@co.weber.ut.us
 801-399-8768

Report Reviewer: RK

Applicable Ordinances

- Weber County Land Use Code Title 108 (Standards) Chapter 14 (Hillside Development Review)
- Weber County Land Use Code Title 108 (Standards) Chapter 22 (Natural Hazards Areas)

Background

The subject lot is located in the Causey Estates Subdivision that was recorded with the Weber County Recorder’s office on June 15, 1976. During the subdivision process, it was determined that due to the steep topography, Lot 65 would be noted with an “R” designation to trigger the Hillside Review Process prior to a land use and building permit being issued.

C. Charles Payton, P.G., C.E.G. has performed a surface geologic hazard study to identify any geologic hazards that may be located on or near the site and to assess the subsurface soils in order to better design the home for slope stability and safety purposes. It is recommended that the cut slope present on the southeastern side of the proposed cabin site be stabilized. It is also recommended that a retaining wall be designed and constructed on the southeastern side of the proposed cabin site prior to further development of the site. Information related to the construction of the dwelling as outlined in the geotechnical report, has been distributed to the Hillside Review Board for comment. The reports have been reviewed and approved and/or conditionally approved by all applicable review agencies.

Planning Division Review

The Planning Division Staff has determined that the requirements and standards provided by the Hillside Review Chapter have been met for the excavation and construction of the dwelling. The following submittals were required:

1. Approved Plans (see Exhibit A)
 2. Geotechnical Investigation Report (see Exhibit B)
- SWPP needed??

Weber County Hillside Review Board comments

The Weber County Hillside Review Board, on this particular application, made comments related to the following:

Weber County Engineering Division: The Engineering Division submitted the following review on March 14, 2019. The approval is subject to the following comments as conditions of approval:

1. Show the proposed finished contours on the site plan.
2. The 4' retaining wall will need to be engineered.
3. All recommendations contained in the submitted Geologic Hazard Study dated 11/23/2018 must be followed

Weber Fire District: The Fire district has granted an approval on February 28, 2019, with the following comment:

"There is an existing water system with standpipes and the Fire Warden believes there is one close."

Weber County Building Inspection Department: The Building Inspection Office has not yet reviewed this project

Weber-Morgan Health Department: The Health Department has finalized the onsite wastewater system for a RV pad on September 25, 2018. The system should adequately serve the 2-bedroom cabin that has been submitted, as it was designed for a 2-bedroom residence.

Weber County Planning Division: The Planning Division has granted approval subject to the applicant complying with all Board requirements and conditions. This approval is also subject to the applicant developing Lot 65R according to approved plans and must comply with the geologic and geotechnical investigation reports which outline specific recommendations for the site development.

Planning Division Findings

Based on site inspections and review agency comments, the Planning Division Staff has determined that it is not necessary to impose additional requirements or conditions prior to approving HSR #2019-01 and is recommending approval based on adhering to all agencies review comments and conditions and based on the following findings:

1. The application was submitted and has been deemed complete.
2. The requirements and standards found in the Hillside Development Review Procedures and Standards Chapter have been met or will be met during the excavation and construction phase of the dwelling.
3. The Hillside Review Board members reviewed the application individually and have provided their comments.
4. The applicant has met or will meet, as part of the building permit process and/or during the excavation and construction phase of the dwelling, the requirements and conditions set forth by the Hillside Review Board. As a condition it is understood, by the applicant and his geo-technical engineer and geologist, that if any geologic hazards are revealed during the excavation and construction phase of the dwelling, work on Lot 65R will cease pending the development of appropriate mitigation measures and subsequent approval by the County and the County's contracted geo-technical and/or geological consultant.
5. The Planning Division Staff has determined that the proposed improvements have been sited within the required setbacks for the F-10 zone.

Administrative Approval

Administrative approval of Lot 65R Hillside Review (HR#2019-01), is hereby granted based upon its compliance with the Weber County Land Use Code. This approval is subject to the requirements of applicable review agencies and is based on the findings listed in this staff report.

Date of Administrative Approval: 4/23/19

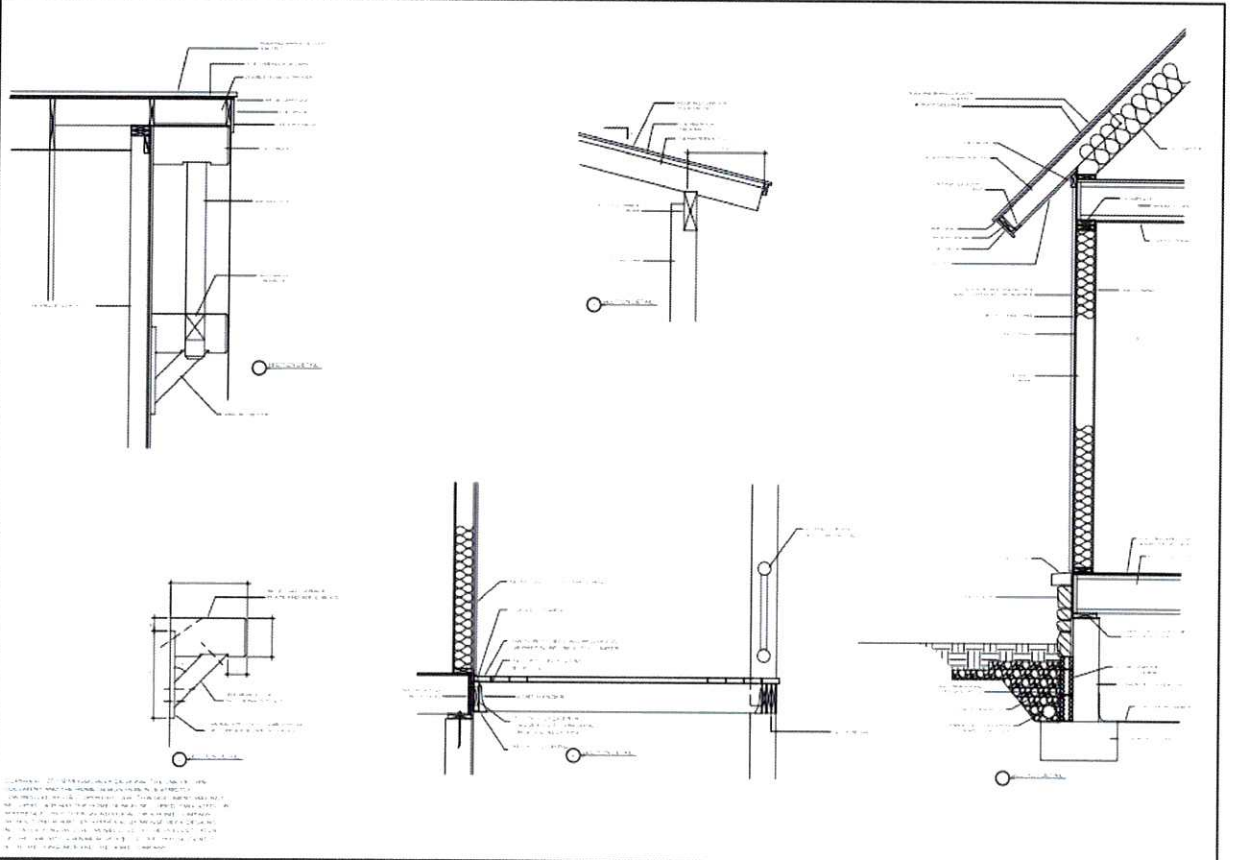
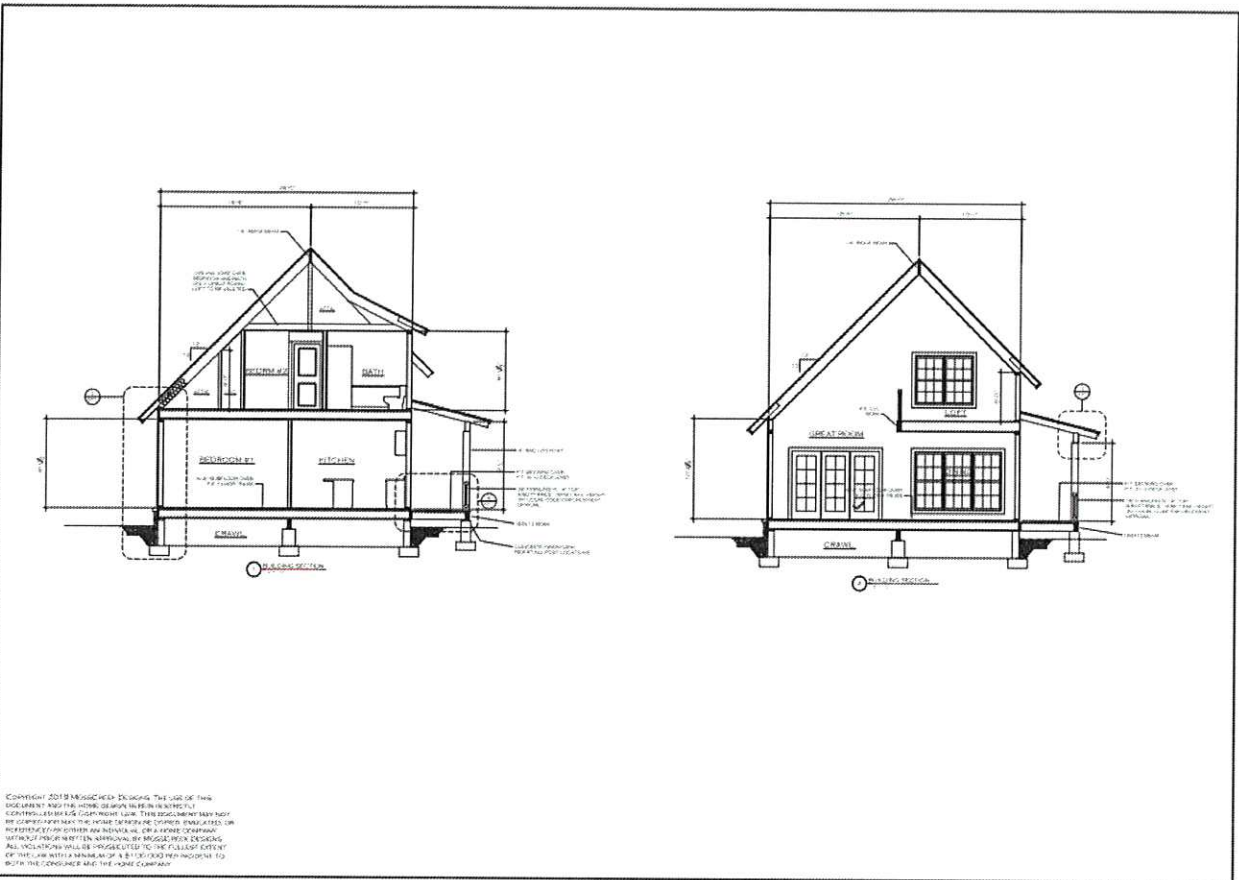


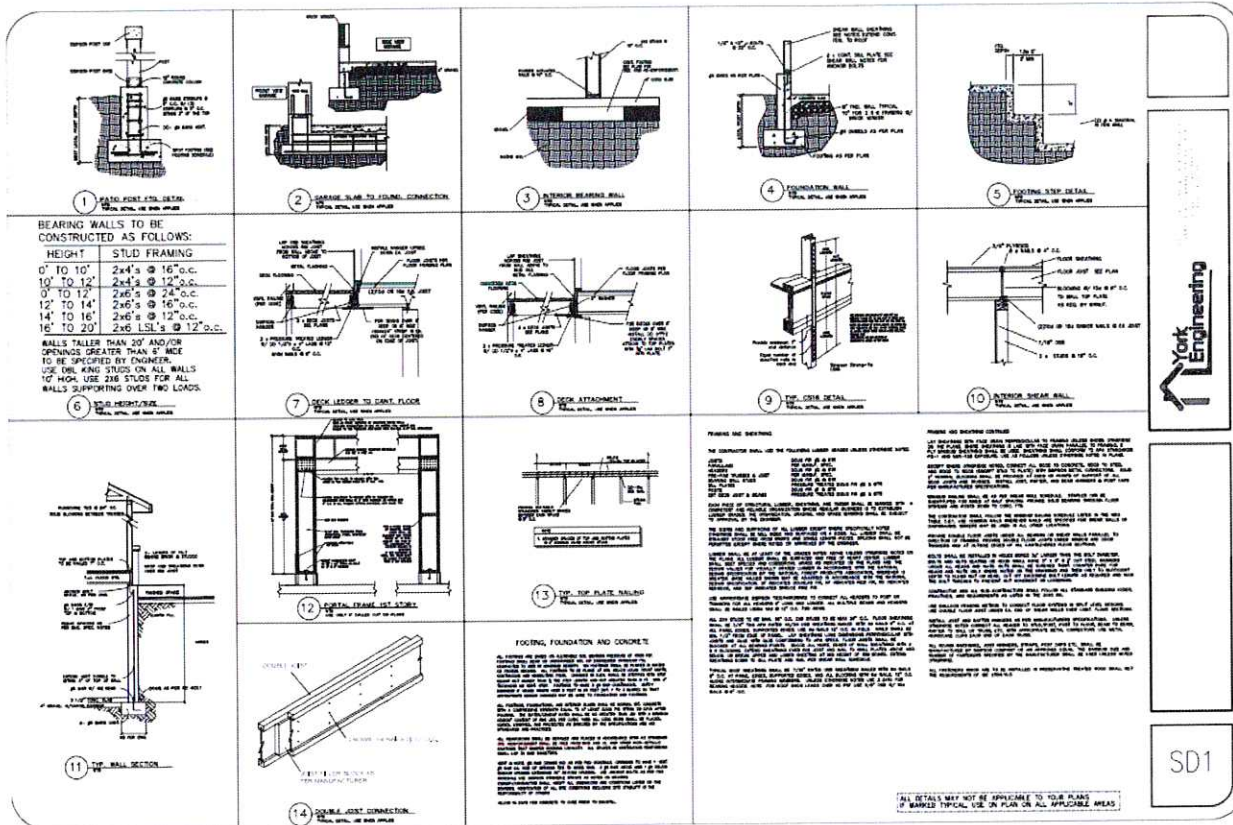
Rick Grover
Weber County Planning Director

Exhibits

- A. Approved Plans
- B. Geologic Report

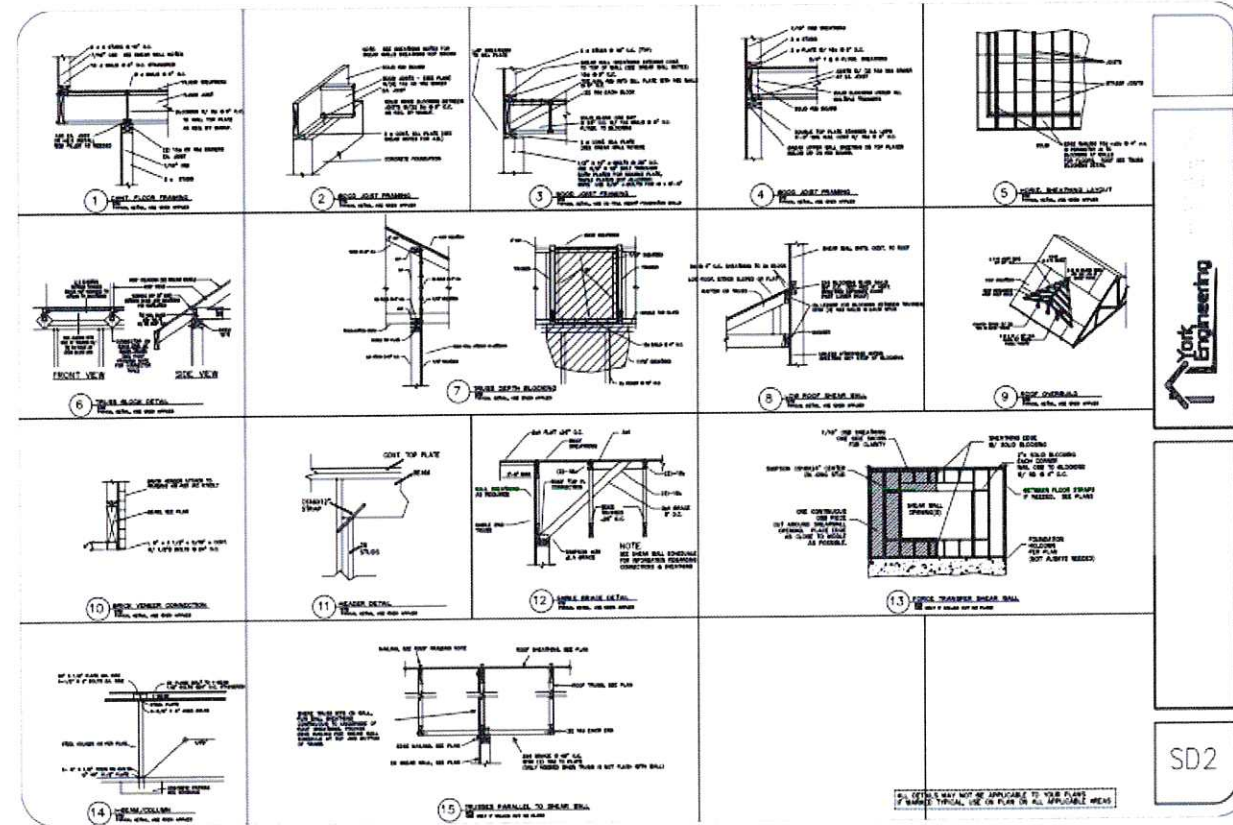






York Engineering

SD1



York Engineering

SD2

SURFACE GEOLOGIC HAZARD STUDY

**PROPERTY LOCATION
LOT 65R
15163 EAST MILL ROAD
HUNTSVILLE, UTAH**

PREPARED FOR:

JEFFERY TURNER

**184 KAY CIRCLE
KAYSVILLE, UTAH**

PROJECT NO. 11-18

NOVEMBER 23, 2018

Jeffery Turner
Property Owner
184 Kay Circle
Kaysville, Utah 84037

Jeffery and Barbara Turner:

Re: Report
Surface Geologic Hazard Study
Property Location at
15163 East Mill Road, Lot 65
Huntsville, Utah 84317

1. INTRODUCTION

1.1 GENERAL

Presented in this report are the results of a surface reconnaissance study which included the determination of potential geologic hazards present or adjacent to the property. The geologic hazards included landslides, active faults, debris flows, and flooding. The location of the site with respect to major topographic features and general conditions, as of 1998, is shown on Figure 1, Vicinity Map. A more detailed layout of the site showing property boundaries is shown on Figure 2, Site Plan.

1.2 OBJECTIVES AND SCOPE

The objectives and scope of this study were planned during telephone discussions and email between Mr. Jeff Turner and C. Charles Payton of Payton Geological Services, LLC

The objectives of this study were to:

1. Determine if there are any active landslides or other geologic hazards on the site.
2. Determine if active faults exist within the site area.
3. Determine the general soil conditions present on the site.

In accomplishing these objectives the scope included the following:

1. An initial review of geologic and topographic maps of the site area.
2. A field program consisting of a general reconnaissance of the site.
3. Preparation of this summary report.

2. SITE DESCRIPTION

This report presents the results of a surface geologic hazard study for the planned cabin to be constructed on Lot 65. The approximate elevation of the cabin site on the property is 6,278 feet above sea level. The property consists of a northwest facing slope which ranges in elevation from approximately 6,220 feet on Mill Road to approximately 6,400 feet at the southeast property line. The size of the property is approximately 1.96 acres.

Vegetation varies from scrub oak trees to large aspen trees with the open areas covered with smaller scrubs, weeds, and grass.

3. GEOLOGIC AND SEISMOTECTONIC SETTING

The property is located within the eastern portion of Weber County, Utah. It is east of the eastern foothills of the Wasatch Range and Ogden Valley and in the western foothills of the Monte Cristo Range. Causey Dam and Reservoir are located on the South Fork of the Ogden River which is just to the north of the property site (Figure 1). The Wasatch Range is the eastern side of the Basin and Range Province which extends westward to the Sierra Mountains in California. Lot 65 is approximately 20 miles east of Huntsville, Utah.

Based upon the United States Geologic Survey map of the Causey Quadrangle Lot 65 on a northwest facing slope within an area which has been mapped as part of the main body of the Wasatch and Evanston Formations (Tkwe) as shown on Figure 3. These formations may be up to 3,000 feet thick and are mainly reddish-brown poorly sorted sandstone and conglomerate containing scattered beds of reddish-brown sandy siltstone. Where the sandstone and conglomerate beds are exposed at the surface with have a gentle dip to the west. The dip slope of the sedimentary beds ranges from 4 to 7 degrees. Most of the conglomerate is composed of rounded tan, purple, and a few green quartzite pebbles, cobbles, and boulders (Mullens, 1969).

The surface soils on Lot 65 have been formed by the weathering and erosion of these bedrock formations. The soil is composed of reddish-brown silt, clay, and sand with scattered rounded hard gravel, cobbles, and boulders exposed on the ground surface. The boulders are more than 1.0 foot in diameter. These soils are very similar to the soils in the areas mapped as Fconglomerate (Qf) as shown on Figure 3. Again the surface soils are formed mainly by the weathering and erosion of the Wasatch and Evanston Formations.

The property site is located approximately 20.0 miles east of the Weber segment of the Wasatch Fault Zone. The active Wasatch Fault is considered to be made up of several segments, each segment acting relatively independently (Machette and Others, 1987). The Weber segment is one of the longest and most active segments within the Wasatch Fault Zone. The segments extends from north of Ogden to the north end of Salt Lake City, Utah. Nelson and others (2006) report four surface rupturing seismic events since the middle Holocene (about 5,000 years ago) with the most recent event being about 500 years ago with a surface rupture of 1.6 feet. The Weber Segment of the Wasatch Fault may be capable of producing earthquakes with a magnitude as large as 7.5 (Ms). Vertical displacements of 3 to 15 feet have been considered possible during a major earthquake on the Weber segment of the Wasatch Fault (Hecker, 1993).

No faults have been mapped on or adjacent to Lot 65. And no evidence of surface displacement was noted on or adjacent to the property site.

4. FIELD INVESTIGATION

The field investigation was conducted on November 16, 2018 and consisted of a reconnaissance of the property and surrounding area. The property has a northwest facing slope with an average slope angle of approximately 21 degrees. This slope is covered primarily with scrub oak trees and aspen trees with smaller shrubs, weeds and grass throughout the more open areas between the trees. Some small exposures of soil were observed and the soil was composed of fine to medium grained brown to dark gray sand, silt, and clay with scattered very hard rounded gravel, pebbles, and boulders. No outcrops of the sandstone and conglomerate bedrock was noted within the Lot 65 area.

At the cabin site, where a level excavation has been made, there is a cut slope at the southeast side of the cabin site which is approximately 12 feet high. This cut slope is slowly slumping onto the level area.

5. CONCLUSIONS AND RECOMMENDATIONS

Based on field observations and reviews of available geologic literature there is no evidence of any active landslide movement on the property. Geologic hazards considered during this study also included slope stability, alluvial fan flooding/debris flow, stream flooding, rock fall, and fault rupture during earthquakes along the Wasatch Fault Zone. A slope stability analysis was not performed during this geologic hazard assessment. The geologic hazards which were considered likely to not effect the property are alluvial fan flooding or debris flow, stream flooding, and rock fall. However, during a major earthquake on the Wasatch Fault located west of the property it is possible that minor ground shaking could be felt.

It is concluded, based upon this geologic hazards study, that the entire property has the potential of a slope stability hazard should a slope steeper than the natural tree covered slope be required for development. In the case of further development a slope stability analysis would be recommended. The cut slope present on the southeastern side of the proposed cabin site needs to be stabilized. A retaining wall needs to be designed and constructed there prior to further development of the site.

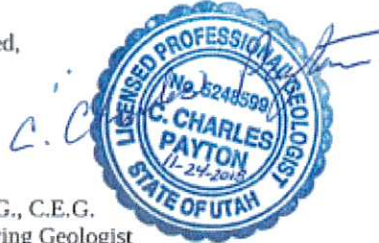
6. LIMITATIONS

The analysis and report findings are based upon published geologic maps and reports, a reconnaissance of the property. The conclusions are based on currently accepted geologic interpretation of this information. The surface reconnaissance does not necessarily reflect geologic conditions at a greater depth. During construction of the foundation for the cabin planned for the property the geologic conditions at depth could be observed. It is therefore recommended that a geologic review be made of the excavations to be certain that geologic features observed are not detrimental to cabin construction.

No attempt has been made to predict earthquake ground motions or to determine the magnitude of earthquakes associated with the Wasatch Fault Zone located west of the project area.

I appreciate the opportunity to be of service in relation to potential geologic hazards that may effect the further development of the property. Should you have any questions regarding this report or wish to discuss additional services, please do not hesitate to contact me at your convenience. My cell phone number is (801) 631-1613. Also you may reach me by email at c2payton.egs@gmail.com.

Respectfully submitted,



C. Charles Payton, P.G., C.E.G.
Professional Engineering Geologist
1474 North 1930 West
Provo, Utah 84604-2247

Enclosures: Figure 1, Vicinity Plan
Figure 2, Site Plan
Figure 3, Geologic Map

REFERENCES CITED

- Hecker, S., 1993: Quaternary Tectonics of Utah with Emphasis on Earthquake-Hazard Characterization: Utah Geological Survey, Bulletin 127.
- Machette, M.N., Personius, S.F. and Nelson, A.R., 1987: Quaternary geology along the Wasatch Fault Zone; segmentation, recent investigations and preliminary conclusions; U.S. Geological Survey open file report 87-585 p. B-1 -B-124.
- Mullens, F.E., 1969: Geologic Map of the Causey Dam Quadrangle, Weber County, Utah: United States Geological Survey, Map GQ-790.
- Nelson, A.R., Lowe, M., Personius, S.F., Bradley, L., Forman, S.L., Izlask, R., and Garr, J., 2006: Holocene earthquake history of the northern Weber segment of the Wasatch Fault Zone, Utah, Paleoseismology of Utah, Volume 13: Utah Geological Survey Miscellaneous Publication 05-8, 39p.

