LOR GEOTECHNICAL GROUP, INC.
Soil Engineering ▲ Geology ▲ Environmental

March 31, 2017

ICON General Contractors
1814 Commercenter West, Suite A
San Bernardino, California 92408

Project No. 51497.16

Attention: Mr. Patrick Hopkins

Subject: Geotechnical Update, Church of the Woods, Rimforest Area, San Bernardino County, California.

At your request, we have prepared this letter report providing a geotechnical update for the subject proposed church development.

A representative from this firm visited the site on March 28, 2017 to observe the current condition of the property. At the time of our visit, the site area generally consisted of forested, gently rolling to steep hillside land in a relatively natural condition and essentially the same as described within our referenced geotechnical investigation report.

The property is considered suitable for use as intended provided the recommendations contained in our previous reports are adhered to.

Although a Conditional Use Permit Site Plan and Preliminary Grading plan were provided at this time, precise grading plans were not yet available for our review. Such plans should be reviewed by this firm prior to construction and additional recommendations can be provided at that time, as necessary.

Section 1613 of Chapter 16 of the 2016 California Building Code (CBC) contains the procedures and definitions for the calculations of the earthquake loads on structures and non structural components that are permanently attached to structures and their supports and attachments. The following earthquake design criteria have been formulated for the site. However, these values should be reviewed and the final design should be performed by a qualified structural engineer familiar with the region.

CBC 2016 SEISMIC DESIGN SUMMARY Site Location: (USGS WGS84) 34.2305, -117.2179, Occupancy Category II	
Site Class Definition (Table 1613.5.2)	D
S_s Mapped Spectral Response Acceleration at 0.2s Period, (Figure 1613.5(3))	2.942
S_1 Mapped Spectral Response Acceleration at 1s Period, (Figure 1613.5(4))	0.960
F_a Short Period Site Coefficient at 0.2s Period, (Table 1613.5.3(1))	1.0
F_v Long Period Site Coefficient at 1s Period,(Table 1613.5.3(2))	1.5
S_{MS} Adjusted Spectral Response Acceleration at 0.2s Period, (eq .16-36)	2.942
S_{M1} Adjusted Spectral Response Acceleration at 1s Period, (eq .16-37)	1.439
S_{DS} Design Spectral Response Acceleration at 0.2s Period,(eq .16-38)	1.961
S_{D1} Design Spectral Response Acceleration at 1s Period, (eq .16-39)	0.960
Seismic Design Category, Short Period (Table 1613.5.6(1))	E
Seismic Design Category, Long Period (Table 1613.5.6(2))	E

We trust this information is desired at this time, if you have any questions please contact this firm at your convenience.

Respectfully submitted,
LOR Geotechnical Group, Inc.

John P. Leuer, GE 2030
President

RMM:JPL/ss

Distribution: Addressee (2) and via email: patrick@icongc.net

REFERENCES

1. California Building Standards Commission and International Conference of Building Officials, 2016, California Building Code, 2016 edition.

2. LOR Geotechical Group, Inc., 2001, Engineering Geology and Soils Engineering Investigation, Church of the Woods, Rimforest Area, San Bernardino County, California, Project No. 51497.1, Revision dated November 27, 2001.

3. San Bernardino County Land Use Services, Geologic Hazards Map FH23 C, Rimforest.

4. W. J. McKeever, Inc., 2017, Church of the Woods, Conditional Use Permit Site Plan & Preliminary Grading, 50-scale, dated March 14, 2017.