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(Revised)

FILE NO.: SL-15502-GA

Mr. Jeff Thomas, Supervising Inspector
County of Santa Barbara
Planning and Development
123 Anapamu2 Highland Drive
Santa Barbara, CA 93101PROJECT: REGIONAL SEISMIC CONDITIONS
ORCUTT, SANTA YNEZ AND SANTA BARBARA AREAS OF
SANTA BARBARA COUNTY, CALIFORNIA

SUBJECT: Results of Analyses

Dear Mr. Thomas:

In response to your request, we have performed seismic analyses for various regions of Santa Barbara County, California. We understand that the County of Santa Barbara desires this information for internal use in assessing seismic conditions as they may apply to various parts of the county. The objective of the analyses was to provide a general overview of the faulting in each region and the reasonably probable peak ground accelerations.

Per your request, the three regions analyzed included Orcutt, Santa Ynez, and the areas of Santa Barbara County outside of, but in close proximity to, the limits of the city of Santa Barbara. The analyses were based upon a preliminary version of the 2008 National Seismic Hazard Maps and the Probabilistic Seismic Hazards Analysis Interactive Deaggregation web page of the USGS website and the Probabilistic Seismic Hazards Mapping Group Motion web page of the California Geological Survey website, assuming a 10 percent probability of exceedance in 50 years, and a Soil Profile Type D (stiff soil) as defined in Section 1613.5 of the California Building Code (referred to as "Site Class" in that document.)

You indicated in our conversation that the analyses should be based upon a "worst case" scenario. With respect to soil profile types, a worst case would be a Soil Profile Type F; however, in our experience, soils within this classification are atypical of Santa Barbara County. Consequently, a Soil Profile Type D is considered to provide more reasonable results with respect to seismic conditions.

Santa Ynez Region

Seismic shaking within the Santa Ynez region of Santa Barbara County would most likely be generated by movement along the Los Alamos, Casmalia or Baseline faults. An event with a 10 percent probability of exceedance in 50 years is estimated to generate a 6.63 maximum magnitude earthquake with a peak ground acceleration of 0.41g.



Regional Seismic Conditions
Orcutt, Santa Ynez, and Santa Barbara Areas
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Orcutt Region

The Orcutt region of Santa Barbara County would be most likely be affected by seismic activity along the Casmalia fault. An event with a 10 percent probability of exceedance in 50 years is estimated to generate a 7.81 maximum magnitude earthquake with a peak ground acceleration of 0.30g.

Remaining Santa Barbara County Region

The area outside of, but in close proximity to, the city of Santa Barbara would most likely be affected by movement along the Mission Ridge, Red Mountain or Mesa-Rincon Creek faults. An event with a 10 percent probability of exceedance in 50 years is estimated to generate a 7.22 maximum magnitude earthquake with a peak ground acceleration of 0.53g.

The reader is cautioned that the above analyses were performed at the request of the County of Santa Barbara, for their specific internal use in assessing, on a comparative basis, the seismic characteristics of various regions within Santa Barbara County. The analyses are not intended for any other purpose, and should not be construed to supersede site-specific seismic analyses, or alternate approaches to seismic analysis as presented in the California Building Code, CGS Note 48, or other recognized documents.

We hope that this information is of assistance. If you have any questions or wish further discussion of seismic issues in Santa Barbara County, please do not hesitate to contact the undersigned.

Sincerely,
Earth Systems Pacific

Richard T. Gorman, C.E.G.

