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Memo

To: Whom it May Concern
From: Matt Melcher, SE
Re: Bear Valley Community Hospital Geotechnical/Geohazard Report
Date: June 16, 2025

The following information is provided as reference for use while creating a Geotechnical and Geological Hazard Report.

General Requirements

Please note that we are referencing the 2025 CBC which has not been published as of this date. References have been updated for the 2025 CBC based on the proposed amendments by the BSC dated February 22, 2024. Verify and use the equivalent updated 2025 CBC code as necessary.

The soil investigation and testing program shall be sufficient in scope to develop the foundation design criteria, differential settlement criteria and define any foundation and earth stability problems which may occur. Coordinate boring locations with owner based on site access and proposed construction to ensure an adequate representation of the site cross section.

The foundation recommendations within the report shall be complete and comprehensive, relating all factors influencing the design, construction, and performance of the foundation system. The report shall include recommended foundation options to allow for integrated value engineering considerations in conjunction with the superstructure construction. The report shall include recommendations for mediating soil stability, soil properties, water related problems, etc. As-built drawings dated Feb. 1, 1972 are available.

The report shall consist of geological hazard and geotechnical report sections prepared by a California certified Engineering Geologist and a California registered Geotechnical Engineer. The report shall be in conformance with 2025 California Building Code (CBC), ASCE 7-22, and satisfy the requirements of CGS Note 48 in addition to the following:

- Seismic Parameters:
    - At a minimum, provide seismic design parameters as required by ASCE 7-22 as modified by the 2025 CBC. Values shall address any local geologic features (such as nearby faults, etc.) as required. ASCE 7-22 Section 11.4.7 requires site-specific hazard analysis for some situations. While it is expected to utilize the exceptions in this code section to avoid a site-specific analysis, proposals for geotechnical services shall include a line item for the additional cost for such an analysis. The requirement to perform the site-specific hazard analysis shall be based on preliminary seismic parameters and structural design methodology. Coordinate this requirement with the Structural Engineer.
- Foundation system recommendations at existing buildings:
    - Maximum allowable soil bearing pressure (Dead + Live) and increase for wind/seismic – specify if value varies with depth of footing. Include safety factors for allowable soil bearing pressures to allow structural engineer to comply with CBC 1605A.1.1.

- Maximum allowable soil bearing pressure (Dead + Live) and increase for wind/seismic or snow for existing shallow footings where occurs.
- Estimated total and differential settlement, both short term and long term.
- Modulus of subgrade reaction for use in elastic foundation analysis.
- Modulus of subgrade reaction for slab on grade.
- Deep foundation load capacities for seismic load cases, non-seismic load cases, bearing, uplift, with recommend depth, and sizes.

Additional Services

In addition to the above services, we recommend the Owner require the following services to be performed by the Geotechnical Engineer:

- Review plans and specifications during the design stage to see if recommendations have been properly interpreted.
- Foundation specific testing/inspection (pile testing, etc).
- Percolation testing for stormwater quality per County of San Bernardino and City of Big Bear requirements.