

## **Appendix G      Third-Party Review of Geotechnical Assessment**

## Appendices

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February 6, 2019

Project No. 18152-01

Mr. William Halligan  
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Santa Ana, CA 92707

**Subject:** *Third-Party Review of Alta report dated December 19, 2018 and Site Reconnaissance Visit, Proposed Brea 265 Residential Development, City of Brea, California*

### **Introduction**

In accordance with your request, LGC Geotechnical, Inc. has prepared this third-party review of the referenced Environmental Impact Report (EIR) - level geotechnical report for the proposed approximately 265-acre Brea site located in the approximate vicinity of the intersections of E. Lambert Road and Valencia Avenue to N. Rose Drive and Blake Road, within the City of Brea, California. As part of our review, we conducted a site reconnaissance visit on January 29, 2019 and attended a tour conducted by site owners Aera Energy.

### **Project Overview**

The proposed project site is currently an active oil field with areas of agricultural uses. The large site spans low relief open valley areas to the west, an east-central area of hillsides with significant relief, and an area of low rolling hills graduating to open valley areas to the south. The adjacent Carbon Canyon Regional Park and flood control dam abut the eastern boundary of the site.

The proposed residential development is in the early phases of design and no grading plan is available at this time. Based on the Concept Land Use Plan (AERA, 2018), the development will consist of approximately 1,100 homes. Remedial grading measures for previous surrounding developments were reportedly extended onto the subject site in order to limit future impacts to those developments during grading of the subject site. Based on verbal communications with representatives of Aera Energy, we understand the eastern edge of the hillside portion of the site development is intended to remain natural and the development set back from the steep hills where the site abuts the flood control reservoir sidewalls.

The presence of existing oil field equipment, pumps, and miles of pipelines across the site need to be considered; however, the environmental issues associated with the site are not a part of the EIR level geotechnical report (Alta, 2018), and generally not a part of this review. The report is also noted to present only a 'limited' geotechnical investigation at this time, and significant additional subsurface exploration is proposed once the project is further along in the development process.

Geologic conditions include a hillside area with relatively consistent south/southwest-dipping bedding within a portion of the La Habra syncline. Fernando Formation Upper and Lower is called out along with Puente Formation at the northeastern corner of site. A queried fault that trends north-south as depicted on the northern hillside portion of the site, appears necessary to justify the interpreted contacts between Upper and Lower members of the Fernando Formation contact. Although the Whittier Fault is located as close as 2,000 feet from the site, the queried on-site fault is not considered active. The lower elevations and areas of less topographic relief are broadly mapped as young and old alluvium, terrace deposits, and artificial fill.

**Third Party Review of Reference Report dated December 19, 2018**

**Comment No. 1** - Review of the Geotechnical Map in comparison to the underlying topography appears to indicate some shift has occurred in the consultants' geologic contact mapping. Based on geologic contact lines such as the limits of artificial fill for the Carbon Canyon Dam, limits of alluvium, and potential location of a landslide, it appears some of the contacts have been shifted up to approximately 100 feet in plan view. The geologic contacts should be reviewed and shifted to the correct locations as necessary.

**Comment No. 2** – The reference report is applicable for EIR level. As indicated by the consultant, additional subsurface exploration and site evaluation will be performed and at a minimum should include:

- Large-diameter borings should be excavated and downhole logged as part of hillside evolution.
- Infiltration testing and feasibility should be performed.
- A detailed liquefaction analysis should be performed.
- Evaluation of the edge conditions as they relate to existing improvements including roadways, structures, the flood control reservoir, etc., should be performed.

**Closure**

Please note: This letter is based on our review of the referenced report and limited site visit only.

Our proposed services were performed to the general standard of care of geotechnical consulting in Southern California; no other warranty is expressed or implied. This geotechnical third-party review report has been prepared for the sole use of Placeworks, its subsidiaries and affiliates may be relied upon by any of same.

The opportunity of submitting this third-party review is sincerely appreciated. Should you have any questions, please do not hesitate to contact this office.

Sincerely,

*LGC Geotechnical, Inc.*



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Project Engineer



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Project Geologist



Dennis Boratynec, GE 2770  
Vice President



KTM/RLD/DJB/aca

Attachment: References

Distribution: (1) Addressee (electronic copy)

## References

- Aera Energy (AERA), 2018, Brea 265 Project Overview, Brea, California, dated July 16, 2018.
- Alta California Geotechnical, Inc., 2018, EIR-Level Geotechnical Assessment, Brea Central Property, City of Brea, County of Orange, California, Project No. 1-0250, dated December 19, 2018.
- Dibblee, T.W., 2001, Geologic Map of the Yorba Linda and Prado Dam Quadrangles, Eastern Puente Hills, Los Angeles, Orange, San Bernardino and Riverside Counties.
- Historic Aerials, 2019, HistoricAerials.com: Aerial Photographs and Topographic Maps by Netronline, retrieved January 31, 2019.