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## GEOLOGY REPORT APPROVAL LETTER

July 7, 2015

LOG # 87496R  
SOILS/GEOLOGY FILE - 2  
AP

Millennium Hollywood Development, LLC  
1680 N. Vine Street  
Los Angeles, CA 90028

TRACT: 18237 / Hollywood  
BLOCK: - / 21  
LOT(S): 1 and 2 (arbs 2-4) / 3-5 and 21 (arbs 1&2)  
LOCATION: 1731-1741 Argyle Ave, 1720-1750 N Vine St, 1746-1764 N Ivar Ave & 1749 N Vine St

<u>CURRENT REFERENCES</u> <u>(CORRECTED)</u>	<u>REPORT</u> <u>No.</u>	<u>DATE(S) OF</u> <u>DOCUMENT</u>	<u>PREPARED BY</u>
Geologic Response Report Oversized Doc(s).	3425 "	06/03/2015 "	Earth Consultants International "
Geologic Response Letter	LA-1191 A	05/17/2015	Group Delta
Third Party Review	3425	03/09/2015	Earth Consultants International
Geology Report Oversized Doc(s).	LA-1191 A "	03/06/2015 "	" "

<u>PREVIOUS REFERENCE</u> <u>REPORT/LETTER(S)</u>	<u>REPORT</u> <u>No.</u>	<u>DATE(S) OF</u> <u>DOCUMENT</u>	<u>PREPARED BY</u>
Dept. Approval Letter	77007-01	01/31/2013	LADBS
Geology/Soils Report	700019502	12/03/2012	Langan
Fault Investigation Report		11/30/2012	"
Dept. Correction Letter	77007	05/23/2015	LADBS
Soils Report	700019501	11/22/2011	Langan

The Grading Division of the Department of Building and Safety has reviewed the referenced reports that present a fault activity investigation at 1731-1741 Argyle Ave., 1720-1750 N. Vine St., 1746-1754 N. Ivar Ave. and 1749 N. Vine St. for the future devolvement of the property (Millennium project). The site contains two non-contiguous portions; one east of Vine Street and the other on the west. The site is currently occupied mostly by parking lots and some offices, including the CapitaRecords building. The site is located within an Official Earthquake Fault Zone that was established (November 6, 2014) by the California Geological Survey (CGS) for the Hollywood fault (on the USGS 7.5 minute Hollywood Quadrangle). The current reports are considered "stand alone" and do not rely on data from the previous reports prepared by Langan.

The fault investigation conducted by Group Delta (GDC) concluded that no active (Holocene) faults are known to be present beneath the site.

This investigation included the following:

1. A large exploration trench, about 30 to 80 feet wide 12 to 35 feet deep and approximately 278 feet long, located on the eastern side of the site and extended into the property to the north (6230 Yucca Street).
2. Several transects of CPT soundings and continuous core borings, which included a total of 78 CPTs and 35 continuous core borings.
3. Data from fault investigations adjacent and nearby projects by GDC were incorporated in this investigation including another trench, entirely on 6230 Yucca Street site, about 60 feet wide, 130 feet long and 25 to 30 feet deep.
4. A detailed soil stratigraphic/pedological analysis to estimate the age of the soil horizons encountered in the trenches in the eastern part of the site, as well as in two of the continuous cores on the western part of the site by Dr. Roy Shlemon (a well-known expert in soil stratigraphy, age-dating of soils and assessment of geologic hazards).

In addition, Earth Consultants International (ECI), a company well experienced with fault investigations, provided a “Third Party Review” of the GDC report (Appendix E of the report).

Both the western and eastern portions of the Millennium site are underlain by alluvial deposits, which are divided into three general units (see Figure 5 of the report). These units include an upper sandy alluvium that is geologically young (Holocene in age: about 11,000 years old or less); a Pleistocene deposit (about 35,000 to 60,000 years old), referred to as “mudflow”; and, an older Pleistocene deposit, referred to as “older alluvium” (about 200,000 years or older). Bedrock was found below the alluvium in some of the borings.

The investigation documents ancient faulting and folding of Pleistocene older alluvium (about 200,000 years or older). Beneath the northern part of the site, the older alluvium is tilted, dipping southward. Investigations by GDC on nearby and adjacent sites indicate that the geologic structure forms a broad anticline with an axis trending roughly along Yucca Street. The older alluvium on the south side of the site is relatively horizontal and does not appear to be folded. GDC infers that an inactive fault is located between the folded and non-folded older alluvium, where the subsurface data show discontinuous bedding. The inactive fault traverses the site in an approximately east-west trend (see Plate 1 and Figure 8 of the report), roughly along the trend of the “Yucca Strand” as mapped by the California Geological Survey on the January 8, 2014 Preliminary Alquist-Priolo Earthquake Fault Zone map. The inactive fault projects eastward towards a suspected fault scarp on the north side of Carlos Avenue that is likely related.

The “older alluvium” and inactive fault are buried by Pleistocene “mudflow” and Holocene alluvial deposits. The “mudflow” deposits (judged to be at least 35,000 years old) were observed to be continuously overlying the inactive fault at the continuous core/CPT transects. In addition, the inactive fault projects beneath the exploratory trench at the eastern part of the site, where the “mudflow” Pleistocene deposits were observed to be undisturbed.

Two minor anomalies were noted in transect M-M'. The first anomaly is at the location of CPT-29. The second is just north of CPT-29 which was judged to be a possible inactive fault by ECI. As a result, LADBS requested GDC to re-evaluate their data at this southern locality.

Subsequently, both GDC and ECI produced response reports that address the possible anomalous data from the CPT/Continuous Core Boring transects (GDC report dated 05/17/2015 and ECI report dated 06/03/2015). The reports acknowledge inaccurate locations of CPTs shown in the original report (GDC

03/06/2015). The CPTs and borings were surveyed and the transects were refined accordingly, except for Transect M-M', which had since been re-graded and paved, and therefore the survey of its CPT locations was not possible. The data from CPT-29 in transect M-M' (the first anomaly) are inconsistent relative to data from adjoining CPTs and the elevation is reportedly ambiguous, and issue was thoroughly addressed in the ECI report.

The second anomaly consists of a minor inferred fault identified by ECI north of CPT-29 located within the older alluvium and lower part of the "mudflow" unit. This inferred fault does not displace the upper part of the "mudflow", which indicates that it would not have been active in the last 80,000 years (based on ECI's age estimate).

Based on the site exploration and analysis described above, no active (Holocene) faults are known to be present beneath the site. GDC, Dr. Roy Shlemon, and ECI concluded that there are no active faults at the site and that the main inferred inactive fault is estimated to be about 150,000 years old or older. *Note: The State of California Aquist-Priolo Earthquake Fault Zoning Act precludes construction of structures for human occupancy on "active" faults (those that have ruptured within about 11,000 years).*

Since exploration did not extend beyond the property boundary, GDC recommends two setback zones where buildings cannot be constructed at the site; one at the northern edge of the western property and another at the southern part of the eastern property. Construction of buildings within these setback zones will be considered if additional geologic exploration is conducted and the areas are found to be free from active faults.

The referenced report is acceptable, provided the following conditions are complied with during site development:

1. During construction, the project engineering geologist shall observe and log in detail the proposed basement excavation where the natural alluvial soils are exposed. The project engineering geologist shall post a notice on the job site for the City Grading Inspector/Geologist and the Contractor stating that the excavation (or portion thereof) has been observed and documented and meets the conditions of the report. No fill or lagging shall be placed until the LADBS geologist has verified the documentation. If evidence of active faulting is observed, the Grading Division shall be notified immediately. (Code Section 91.7009)
2. A supplemental report that summarizes the geologist's observations (including photographs and logs of excavations) shall be submitted to the Grading Division of the Department upon completion of the excavations.
3. Prior to issuance of any permit, a soil engineering report shall be submitted to the Grading Division to provide design recommendations for the proposed grading/construction.



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cc: Group Delta, Project Consultant  
Earth Consultants International  
LA District Office