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Ref: 77705-0001

February 7, 2020

VIA E-MAIL AND COURIER

Chair Harris-Dawson
Honorable Members of the Planning and
Land Use Management Committee
200 N. Spring Street, Rm. 272
Los Angeles, CA 90012
Attn: Leyla Campos (clerk.plumcommittee@lacity.org)

Re: Council File 20-0027
560-620 (even) Marquette Street
Response to CEQA Appeal
Hearing Date: February 11, 2020

Chair Harris-Dawson and Members of the PLUM Committee:

Our office represents Cosimo and Christine Pizzulli, the owners of 560-620 (even) Marquette Street in Pacific Palisades (the "Properties") and applicants for the eight approved single-family homes on eight single-family lots (collectively, the "Project"). We write to address the appeal of the California Environmental Quality Act ("CEQA") determination for the Project¹, which raises no new issues not already addressed by City staff and decisionmakers. The opponents attempted to argue the same points before the Director of Planning and the West Los Angeles Area Planning Commission ("APC") in the related Coastal Development Permit ("CDP") cases, and these points were properly rejected.

The appeals allege the determination violates CEQA. However, the appeals present no evidence to support the allegations and include arguments that are not properly the subject of environmental analysis. Further, the record reflects extensive environmental analysis of the issues raised, with multiple reviews of geology and soils reports, and a further peer review confirming the results. Lastly, the appeal attempts to challenge the APC's action on the CDP cases, which is final and not at issue here.

The agency's decision on a Categorical Exemption was supported by substantial evidence, and the appellants bear the burden of overcoming the approvals. The appellants have failed to meet

¹ The appeals of the lot line adjustments are identical, and we address them collectively.

their burden, and the PLUM Committee should deny the appeal and sustain the Categorical Exemption.

1. Substantial Evidence Supports the Categorical Exemption.

As described in the Staff Appeal Report to the APC (provided under separate cover), the Deputy Advisory Agency and the Director of Planning previously adopted a mitigated negative declaration for the Project, but later determined that all of the conditions imposed by the negative declaration were already regulatory requirements imposed by the City. Accordingly, staff recommended—and the APC adopted—a Class 32 (infill) exemption for the Project. That determination was supported by extensive evidence, and appellants provided none to the APC and provide none to the PLUM Committee.

(a) The Properties Qualify for a Categorical Exemption.

The APC specifically addressed the suitability of the Properties for a Categorical Exemption. Contrary to the appeal, the site is not surrounded by woodland, but is bounded by a residentially zoned parcel that happens to contain an area with mature ornamental vegetation. As explained by Mr. Trinh at the APC hearing, the City’s policy and practice in evaluating sites is the underlying zoning that surrounds them. Here, all of the parcels surrounding the Properties are zoned for qualifying residential uses. Consequently, the City considers the site an infill site for the purposes of CEQA.

(b) Section 21159.21(h) of CEQA is satisfied, and a Categorical Exemption is Appropriate.

Appellants misquote section 21159.21(h) of CEQA, and attempt to use their unsupported (and contradicted) assertion of a landslide on or near the Property to disqualify the Project from the Categorical Exemption. This argument fails for two reasons.

First, and as described in detail below, repeated physical testing of the Properties and the surrounding area have identified no landslide on or adjacent to the Properties. The only suggestion of a landslide was based on a 30-year-old review of aerial photographs, and the conclusion regarding a landslide was disproven by every physical test performed on or adjacent to the Property.

Second, the section cited states a project may not qualify, “*unless* the applicable general plan or zoning ordinance contains provisions to mitigate the risk of landslide or flood.”² Here, the City’s Municipal Code contains regulations and requirements for addressing and mitigating seismic hazard and landslide areas. Specifically, the Municipal Code adopts the California Building

² PRC § 21159.21(h)(4); emphasis supplied.



Code, with certain local modifications, and section 91.7006.2 requires preparation of site-specific geology and soils studies, which the Department of Building and Safety (“DBS”) Grading Division must review and approve. Guidance from DBS includes publication CGI-13 (attached as Exhibit “A” to this letter), which specifies the substantive requirements and credentials for such submittals, and which incorporates published guidance from the California Geologic Survey.³ Information Bulletin P/BC 2017-113 provides guidance for soils and geology reports in hillside areas, and Information Bulletin P/BC 2017-049 (previously 2014-049) provides specific requirements for slope stability evaluation and acceptance standards. These documents are provided respectively as Exhibits “B” and “C” to this letter. The Project was subject to these requirements, and the geology and soils study prepared for the Property by Byer Geotechnical followed DBS guidance and was approved.

2. The Property and Surrounding Area are Geologically Stable, as Evidenced by Extensive Testing, and the Project Will *Improve* Stability.

Primarily and most significantly, the appeal continues to assert the Properties and adjacent areas are located on an historic landslide, with recent landslide events, despite the results of all direct physical testing demonstrating otherwise. Virtually every other aspect of the appeals flows from this erroneous belief, the only support for which is an outdated aerial photography survey that did not include physical testing of the Properties or any claimed landslide area.

The soils and geotechnical reports prepared for the Project were prepared by John Byer, one of the geotechnical engineers who actually helped the City develop the standards by which such reports are now evaluated. Byer also completed the geological evaluation of a prior, abandoned development proposal for Las Pulgas Canyon and is intimately familiar with the area and its geology. The reports were extensively reviewed by the DBS Grading Division, and were further updated in response to the appeals to the APC. Further, as summarized below, the results of the Byer investigation regarding the absence of landslide debris are corroborated by the soils reports conducted by other geologists on neighboring properties, *including the properties of opponents*, as well as another recent third-party review.

(a) The Army Corps. Report is Outdated and Did Not Include or Rely upon Direct Physical Testing.

The opponents and their consultant rely almost exclusively upon on a 30-year-old survey published by the U.S. Geological Survey (“USGS” and the “McGill Survey”), which itself is based on a 60-year-old survey prepared by the California Department of Public Works (the “MPMR Survey”), regarding potential landslide risks in areas that include Pacific Palisades. As described in the USGS survey itself, and in the Final MND, that survey was based only on

³ Publication CGI-13 references CGS Notes 42, 44, and 49, as well as CGS Special Publication 117 for seismic hazard areas, for substantive requirements of geology and soils reports.



reviews of aerial photography of the area, with some review of boring logs from around 1959. However, even the borings conducted in 1959 substantiate Byer's conclusions with respect to the Properties and the Project.

All purported identifications of landslide features occurred only on that basis, and with little physical testing—none of it on the Properties. Further, as described by Byer in his December 10, 2018 response to Bureau of Engineering (“BOE”) comments, the visual features documented in the survey are older alluvial terrace deposits, which appear superficially similar to landslide debris when viewed from the air. They may indicate a need for physical testing of a site to confirm the presence or absence of a landslide. However, in this case, even the boring log from the 1959 MPMR Survey from the Marquette Street roadway (boring 45 and accompanying section, provided as p. 30 of the Byer response) yielded no evidence of a landslide within the roadway. The associated diagram provided an “estimated” plane along which a landslide had occurred or could occur beneath or near the Properties, but unlike the Byer report, the borings for that study did not directly address the Properties.

Physical testing on the Properties by Byer and others and in the immediate area demonstrate the absence of landslide debris and the presence of alluvial terrace deposits. Section 3.5 of the responses to comments, as well as a memorandum from Byer dated October 9, 2018, which was incorporated in the responses to comments on the MND as Appendix “D,” addressed this issue in detail. The Byer report for the Properties, as well as geological reports for 539, 565, and 581 Marquette Street, located immediately north of the Properties, did not identify any landslide debris in their borings. *The appeals and opponents provide no evidence of any kind*—let alone substantial evidence—that these results are erroneous or subject to any material dispute.

(b) Prior Geologic Stabilization of a Portion of the Properties Occurred.

As described in the Byer Report, historical grading at the toe of the canyon face had created the conditions for a surface slump along the edge of the canyon along the southern boundary of the Properties. A prior report prepared in by MEC in 1999 for 560 Marquette evaluated the effects of that grading and provided a remedial design to fully stabilize the slope. That work included a retaining wall and associated footings, hydrauger drainage system, and two to four feet of engineered, compacted fill. That work was approved by the Coastal Commission, completed, and later confirmed by a final report in 2002. Although the Coastal Commission required recordation of document requiring Mr. Pizzulli to assume any risk of landslide, this is a standard requirement for any such project, particularly where the project involves stabilization, and was based on the existence of the same Army Corps. report upon which the appeal relies.

The Project includes extension of the existing retaining wall across 620 Marquette/Lot 1, anchored in bedrock below the Properties, with an associated subdrain system. However, although the Byer Report reviewed and considered the 1999 and 2002 reports, as well as the prior stabilization work that occurred, it does not rely upon those reports for its analysis, and



conducted independent, direct testing and analysis of the Properties, including nine new test pits, as described in Appendix “E” to the MND and in a 2017 Addendum, both prepared by Byer Geotechnical.

(c) Byer Completed Additional Analysis of the Proposed Sewer Extension, Which DBS and BOE Approved.

Byer completed an additional study for the proposed sewer extension in October and December 2018.⁴ The BOE completed additional review of geotechnical investigations for the proposed sewer extension. The BOE provided the results of its investigation in memoranda dated March 1, 2018 and January 10, 2019 (with an address correction on April 26, 2019). The memorandum accepted the recommendations of the Byer reports and addenda, and required the installation of flexible joints in the proposed sewer line in areas with slopes above a certain threshold steepness. Further, and contrary to the opponents, the BOE memorandum requires completion of the Byer reports’ recommendations, as well as their incorporation into the Project design.⁵ The BOE also required review by a geotechnical engineer of final Project plans during plancheck.⁶

(d) Geotechnical Reports Prepared for Surrounding Properties Also Concluded Those Properties were Geologically Stable.

As described in the Final MND (pp. 59-60) and the reports by Byer, the analysis and evaluation of the Properties included review of geological testing performed on three nearby properties. These properties *all are owned by opponents*, and include:

- 539 Marquette (Schick Geotechnical, April 5, 2006);
- 565 Marquette (GeoPlan, 1998, with 1999 addendum); and
- 581 Marquette (Mountain Geology, 1998).

Additionally, the McGill Report cited by opponents discusses the results of a boring completed in the Marquette Street right-of-way. The September 17, 2018 Byer report incorporated data from each of these reports, and included the reports as appendices. As described in the Byer report and in the reports themselves, the material underlying all of these sites is alluvial terrace and bedrock; none of the reports indicated landslide debris was observed, and the Schick Geotechnical Report for 539 Marquette also specifically states it was *not* observed.⁷ Simply put, no physical evidence exists of a landslide, and the available evidence affirmatively demonstrates no landslide is present on or adjacent to the Properties.

⁴ Byer Geotechnical, December 10, 2018; see also DBS approval letter dated January 28, 2019.

⁵ BOE memorandum dated January 28, 2019, p. 2.

⁶ *Id.*

⁷ See GeoPlan 1998, pp. 3–4; Schick 2006, pp. 4–5; Mountain Geology 1998, pp. 3–4.

(e) No Documented Landslide Occurred at 620 Marquette.

One resident who formerly rented at 620 Marquette claimed a landslide caused the loss of a fire pit on that property. However, we attach as Exhibit “D” to this letter historical aerial photographs illustrating the condition of the Properties—as shown therein, little has changed in the past approximately 70 years. Further, as stated in the Byer report, direct testing of 620 Marquette did not provide any evidence of landslide conditions, although some erosion had historically occurred.

Notwithstanding the above, and as described in the Byer report, historic grading to create a road at the toe of the slope, inside the canyon, created a non-conforming slope by existing standards. Past rainfall eroded that slope. However, the Project includes specific measures to extend the existing protections on the southern rim of the Project site and correct and fully stabilize that non-conforming slope.

These stabilization measures also would permit the proposed development, as described in detail in the Byer report and in the MND and responses to comments. Although the appeal attempts to characterize the 1999 slope stabilization improvements as incapable of supporting additional development, it provides no factual basis or qualifications for this claim.

The MEC report and addenda referenced by the appeals relate to conditions that existed *prior* to installation of the slope stabilization improvements, not current conditions. And MEC’s conclusions do not contradict those of the Byer report, but are consistent with them: As described above, the Byer report specifically addresses the historic grading activity within Las Pulgas Canyon and the resulting creation of non-conforming slopes along the southern boundary of the Properties. Byer evaluated but did not rely upon the MEC report, and concluded that the Properties, as improved by the 1999 stability improvements and by the proposed extension of those improvements, could support the proposed development. Byer also included detailed descriptions of its analytic methods in reaching that conclusion.

Given the above, the appeals provide no substantial evidentiary basis for determining the Director erred or for overturning the Determination.

(f) Discussion by E.D. Michel Fails to Provide Any Substantial Evidence to Dispute the Geotechnical Reports Prepared for the Project.

Opponents submitted a letter by E.D. Michel that purports to find fault with the extensive physical study completed for the Property and in the surrounding area. However, it offers little more than selective reads of prior reports, references other reports that did not rely on physical testing, and calls for irrelevant additional tests that multiple City departments have determined was not necessary.



Byer Geotechnical addressed each of the points in Mr. Michel's letter, and Byer's response is attached as Exhibit "E" to this letter. Further, DBS and BOE each provided memoranda responding to Mr. Michel, and concluded that his critiques were baseless. Those memoranda are attached to this letter as Exhibits "F" and "G," respectively.

(g) The Appeal's Claims Regarding Groundwater are Wrong and Contradicted by the Evidence in the Record.

The appeal makes the bizarre claim that appellants and others are trespassing on the Properties by allowing effluent or other liquid to discharge across Marquette Street and onto to the Properties. The appeal provides no support for this claim. But even if it did so, the presence of that effluent is an existing condition, and not an effect of the Project. Further, the appeals simply ignore the presence of an existing, functional dewatering system on the Properties.

As described in the prior geology and soils reports prepared for the Property by MEC and Byer, and as described in detail at the APC hearing, the existing retaining wall system at 560 Marquette includes a series of hydraugers. These are horizontal drains installed specifically to remove perched groundwater that used to be present beneath the Properties. The hydraugers required about two weeks to remove the water present when they were initially installed, and have been dry since that time, indicating no major source of water beneath the Properties. Further, their placement means that even if groundwater became present above bedrock (e.g., as a result of rain or other event), it would immediately drain and would not remain in the soils. However, even if the water remained in the soils, the soil stability tests conducted by Byer were conducted under fully saturated (wet) conditions. These tests therefore demonstrate the overall stability of soils underneath the Properties even when wet.

3. The Appeal Fails to Substantiate Any Claim Regarding the Safety or Sufficiency of the Sewer.

The appeals characterize the sewer as "not meet[ing] CEQA standards," but fails to articulate any violation of CEQA and ignore the studies already completed. The portion of the sewer that extends into the street to Las Casas was directly addressed by Byer in its supplemental report. As stated by Byer, enough information existed from his nine borings on the Properties, as well as prior reports on other nearby properties, to evaluate the proposed sewer alignment. Contrary to the appeal, the sewer alignment does not run along the edge of the canyon, but rather along the frontages of the Properties, adjacent to Marquette Street. That is, the portion of the sewer line that directly services the proposed houses is located directly on the Properties, and in the public right-of-way, both of which were subject to direct geological testing.

Although the appeal continues to insist the borings conducted by Byer and others are somehow insufficient, they do not provide any expert analysis or even a scintilla of other evidence as to why or where specific gaps in geotechnical data exist, nor how Byer departed from accepted



professional practice. Further, the locations of the borings upon which Byer relied included a boring taken directly from the Marquette Street right-of-way. Lastly, as described in detail in the Byer reports, it directly evaluates the soil characteristics, including saturated conditions.

As the appeal acknowledges, the DBS and BOE memoranda regarding the sewer line both correctly observed that the sewer line would eliminate the need for septic systems on the Properties, and would eliminate the existing septic systems on the Properties. Consequently, the sewer line would actually improve the existing condition from the standpoint of reducing effluent on-site. Although the appeal attempts to spin this obvious conclusion into a failure of the Project to remove all septic systems on the street, the appeal fails to provide any evidence that septic systems on the properties across Marquette Street to the north contribute any substantial flows to the Properties, or that the existing dewatering system on the Properties is insufficient to drain any effluent that might exist. Further, because any such flows would be existing conditions, and not an effect of the Project, they cannot be imputed to the Project for the purpose of determining its potential environmental effects.

Lastly, Project opponents have opined that insufficient sewer capacity may exist to serve the Project. First, they provide no evidence, other than a nearly decade-old lawsuit, that capacity is at issue. Second, the Project would not connect to the sewer lateral at issue in that lawsuit, which runs generally beneath Las Casas. Rather, the Project would connect to a lateral that runs south, toward Pacific Coast Highway. Any claim to the contrary is counter-factual and does not provide substantial evidence of any significant effect.

4. The Project Would Improve Vehicle Access on Marquette Street.

The appeals purport to state the addition of six net-new single-family homes would somehow result in a significant traffic and safety impact. The record demonstrates otherwise, as the Project would provide two features that significantly improve access and safety over the existing conditions, while adding only about three net new vehicle trips during peak traffic hours. This miniscule addition in vehicle trips is well below the threshold even to require a technical memorandum or report on traffic. Further, section 20199 of CEQA specifically eliminates vehicle congestion as a significant impact.

First, the Project includes roadway improvements, which would provide sidewalks on the south side of Marquette Street, where none currently exist beyond the second house from the corner. These sidewalks would provide greater separation between vehicles and pedestrians, and would reduce or eliminate any need for pedestrians to use the paved roadway. Also street parking is not proposed on the south side of Marquette Street, consistent with existing conditions.

Second, and despite the lack of any requirement to do so, Mr. Pizzulli voluntarily incorporated into the Project a hammerhead for use by emergency vehicles. The City's Fire Department ("LAFD") did not require the hammerhead; rather, Mr. Pizzulli proposed it in response to



community concerns, to improve emergency access compared to existing conditions, and gained approval of it from LAFD before incorporating it into the site plans. The Director's Determination, upheld by the APC, incorporates as Exhibit "A" the revised site plans, which include the hammerhead. Condition of Approval 1 requires development in substantial conformance with Exhibit "A" to the determination which therefore requires construction of the hammerhead. As reflected in Exhibit "A" to the determination the LAFD previously reviewed and approved the hammerhead design. Condition of Approval 17 requires further review and approval by LAFD of the final plans submitted for plan check.

5. The Project is Consistent with the General Plan.

Contrary to the appeal, a finding of consistency with the General Plan does not require strict consistency with every policy or with all aspects of a plan. Courts have consistently recognized that land use plans attempt to balance a wide range of competing interests, and a project need only be consistent with a plan overall. Even though a project may—and likely will—deviate from some particular provisions of a plan, it remains consistent with that plan on an overall basis.⁸ Consistent with this established doctrine, the Director determined, and the APC affirmed, the Project complied with the General Plan.

Courts have consistently distinguished between policies that are objective and mandatory, and those that are not, in determining overall consistency with a plan. In *Sequoyah Hills Homeowners Assn. v. City of Oakland*⁹, the Court rejected a challenge to a document based on inconsistency with policies, reiterating, "a project need not be in perfect conformity with each and every [] policy" to be consistent with the General Plan. In fact, the Court treated the idea of complete consistency as impossible, stating, "it is beyond cavil that no project could completely satisfy every policy stated in the [General Plan], and that state law does not impose such a requirement."¹⁰ The California Attorney General has agreed in published opinions.¹¹ The Court further found that "none of the policies on which appellant relies is mandatory," and rejected the claim of non-conformity on that basis.¹²

Here, the single Community Plan objective cited by the appeal (2-1.3) relates to general aesthetic considerations regarding compatibility. But this policy provides a general statement or preference, and does not impose any specific, objective obligation or command any particular course of action. Therefore, the objective is not mandatory, and any claimed conflict does not constitute a basis for finding a conflict with the Community Plan as a whole, and even if a conflict existed with a discrete policy (as described in the Director's and APC's determinations,

⁸ *Friends of Lagoon Valley v. City of Vacaville*, 154 Cal. App. 4th 807, 815 (2007).

⁹ 23 Cal.App.4th 704, 719 (1993).

¹⁰ 23 Cal.App.4th at p. 719, citing *Greenebaum v. City of Los Angeles*, 153 Cal.App.3d 391, 406- 407 (1984).

¹¹ 59 Ops.Cal.Atty.Gen. 129, 131 (1976).

¹² 23 Cal.App.4th at p. 719.

no conflict exists), it fails to establish error or abuse of discretion on the part of the Director or APC, or to support rejection of a Categorical Exemption on that basis.

Nevertheless, the Project was designed with scale and height in mind and *in consultation with community representatives*. In fact, Mr. Pizzulli consulted with the Pacific Palisades Civic League regarding its design guidelines and implemented each of its recommendations, as recognized by the Civic League itself. Further, as illustrated in the plans and renderings, the houses provide greater than the required setbacks, lower height than the maximum permitted, and “read” from the street as two-story houses, consistent with development on the street and throughout the neighborhood. Although the appeal points to floor area as the sole metric for evaluating compatibility, this is misleading, because the height and mass visible to the public from the street is less than what is permitted, and the additional floor area (which includes basements) is set into the Properties, where it is not publicly visible.

Additionally, CEQA provides that applicable General Plan policies refer to those that were “adopted for the purpose of avoiding or mitigating an environmental effect.”¹³ But even to the extent the cited objective is arguably mandatory (it is not) or that was adopted for the purpose of avoiding or mitigating a significant environmental effect (it was not), the Project complies, for the reasons described above.

Thus, no substantial evidence demonstrates any conflict with any of the objective the appeal cites, and the evidence in the record actually demonstrates the opposite. Ultimately, the Project would advance a range of planning policies articulated in the General Plan and Community Plan, as well as the quantifiable development standards and guidelines that apply. The Director’s and APC’s determinations included detailed findings, supported by substantial evidence, regarding General Plan compliance. Further, as the objective development standards provided in the Municipal Code *are* mandatory, the Project is consistent overall, even if other inconsistencies may exist with other particular policies or objectives.

6. The Appeals Urge Rejection of the CDP for the Project, But That Approval is Final and Beyond Challenge.

The appeals contain references to the APC determination regarding the CDP and purports to dispute the APC’s findings as to the Coastal Act. However, as stated on page 2 of the APC determination, the CDP approval became final when approved by the APC and is not further appealable. Nevertheless, the APC’s findings were supported by substantial evidence, and although appellants may disagree with the result, the APC is due deference in its decision and appellants provide no substantial evidence that the APC abused its discretion.

¹³ State CEQA Guidelines, Appx. G, §10, subd. (g).

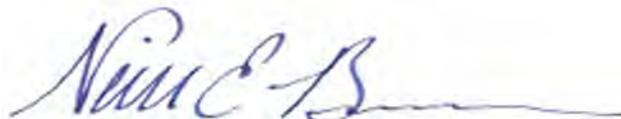


7. The Appeals Fail to Provide Substantial Evidence to Support Their Assertions, and the PLUM Committee Should Reject the Appeals and Affirm the Determination.

Any claim of a significant impact requires the support of substantial evidence. CEQA defines substantial evidence as “fact, a reasonable assumption predicated upon fact, or expert opinion supported by fact.” Public Resources Code Section 21080(e)(1). The law is clear that “argument, speculation, unsubstantiated opinion or narrative” *do not* constitute substantial evidence. *Id.* at subdiv. (e)(2); CEQA Guidelines Section 15384; *see also, Newberry Springs Water Assn. v. County of San Bernardino*, 150 Cal. App. 3d 740 (1984). Further, courts have well established that testimony, even by an expert, is not substantial when the party proffering that evidence is not qualified to render an opinion on the subject. *Cathay Mortuary, Inc. v. San Francisco Planning Comm'n*, 207 Cal. App. 3d 275 (1989). This is particularly true where, as here, the argument that a significant impact could occur is not supported by any expert testimony, is in fact *contradicted* by all available expert testimony, and consists of nothing more than suppositions and assertions, not supported by facts, that certain things may occur. *See, e.g., Apt. Assn. of Greater Los Angeles v. City of Los Angeles*, 90 Cal. App. 4th 1162, 1175-76 (2001).

As described above, not only have the appeals failed to provide evidence, but the evidence in the record concerning environmental impacts contradicts the appeals. Simply put, the appeals have failed to meet their burden, and the record for the proposed Project cannot support a rejection on the grounds the appeals proffer. Therefore, we urge the Commission to reject the unfounded claims of the appeal, deny the appeal, and sustain the Director’s determination for the Project.

Sincerely,



NEILL E. BROWER of
Jeffer Mangels Butler & Mitchell LLP

NEB:neb
Exhibits

cc: Len Nguyen, Council District 11 (via email)
Michelle Singh, Department of City Planning
Shannon Ryan, Department of City Planning
Kenton Trinh, Department of City Planning



Exhibit A



City of Los Angeles

CONTENTS OF REPORTS FOR SUBMITTAL TO THE GRADING SECTION

REV.: 04/03

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1. INTRODUCTION

Pursuant to Los Angeles Municipal Code Sec. 91.7006.2, geologic and soils reports are required to be submitted to the Department of Building and Safety (LADBS) for review and approval. These guidelines for geology and soils reports submitted to the City of Los Angeles are developed from four sources:

1. The Los Angeles Municipal Code (LAMC), Section 91 of the LAMC, known as the "Los Angeles Building Code" provides regulations affecting design and construction of grading and structures. The 2002 Building Code became effective on 11/01/2002.
2. The Department of Building and Safety Information Bulletins (IB), which document LADBS requirements and guidelines for specific topics in greater detail than the Building Code. Information Bulletins are available at the Department internet home page www.ladbs.org
3. Publications of the California Geologic Survey (CGS), including CGS Notes 42, 44 and 49 which provide the guidelines to geologic report format and content and CGS Special Publication 117 (SP117) which provides guidelines for evaluating and mitigating seismic hazards in California. CGS publication are available at: www.consrv.ca.gov
4. The Southern California Earthquake Center's (SCEC) "Recommended Procedures for Implementation of DMG Special Publication 117, Guidelines for Analyzing and Mitigating Liquefaction in California" (SCEC-Recommended Procedures) which provides more detail for implementing SP117. The SCEC-Recommended Procedures are available at www.scec.org.

Those preparing reports should first identify if the project site is to be subdivided and if it is within areas of the City that require special studies. A Parcel Profile Report available at www.ladbs.org may help in identifying whether the site is in a special study area. Those areas are:

- a) Hillside Grading Areas (HGA's) per LAMC Sect. 91.7000, requiring geologic and soil investigation,
- b) State Mapped Zones requiring Liquefaction and Landsliding investigation/mitigation per Seismic Hazard Mapping Act, State of California Public Resources Code, Section 2690 et seq.,
- c) Earthquake Fault Rupture (Alquist-Priolo) Hazard Zones per State of California Public Resources Code, Section 2620 et seq., requiring fault studies per I.B.P/BC2001-49 & CGS Note 49,
- d) Methane Seepage Districts per LAMC Sect. 91.7100. Methane report requirements may also include areas adjoining landfills, having hydrocarbon contamination, and near oil and gas wells.

Additional requirements for special reports are discussed in Section 4 of these guidelines. Information, analyses, and recommendations provided in the reports shall be developed and reported under the responsible charge of professional signatories registered with the State of California to practice the subject discipline. Common report types and licensed professionals typically preparing them include:



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Report Type	Engr. Geologist		Soils Engineer		Other
Hillside Grading Area (HGA) Investigation	✓	and	✓		
Soils Investigation			✓		
Fault Investigation	✓				
Compaction Report			✓		
Final Geology "As-Graded"	✓				
Monthly Progress Report for Grading	✓	and	✓		
Liquefaction Report	✓	and/or	✓		
Private Sewage Disposal	✓	and/or	✓		
Mudflow Analysis	✓	and/or	✓	and/or	✓
Responsibility Letter	✓	and/or	✓		
Methane Gas					✓

Geologic reports are generally required for:

- a) all proposed subdivisions, construction, and grading in hillside areas,
- b) during and/or at the completion of tract grading,
- c) private sewage disposal systems in hillside areas,
- d) sites located in Alquist-Priolo Earthquake Fault-Rupture Hazard Zones.

The engineering geology report shall include:

- a) description of the general setting with respect to major geologic and geographic features,
- b) description of the geology of the site accompanied with geologic maps and cross-sections,
- c) description of natural materials and structural features,
- d) conclusions and recommendations regarding the effect of geologic conditions on the proposed development, and
- e) an opinion as to whether the site is suitable for the intended use.

Geologic reports for Hillside Grading Areas are commonly provided in a Combined Geology and Soils report.

As stipulated in LAMC Sec. 91.7006.3.1, the soils engineering report shall include:

- 1. data regarding the nature, distribution, and strength of existing soils,
- 2. conclusions and recommendations for grading procedures and design criteria for corrective measures, including buttress fills, when necessary, and
- 3. opinion as to whether the site is suitable for the intended use.

Reports shall be submitted in triplicate, including one unbound original for microfilming, at the downtown office or at a district office. A fourth copy of the report shall be submitted if the project is a subdivision or within State Mapped Zones for seismically induced liquefaction or land sliding investigation/mitigation. To ensure sufficient information and data are provided in these reports so that it can be reviewed in an expeditious manner, they should include, but not be limited to, the items listed

As a cover entity under Title II of the Americans with Disabilities Act, the City of Los Angeles does not discriminate on the basis of disability and, upon request, will provide reasonable accommodation to ensure equal access to its programs, services and activities. For efficient handling of information internally and in the internet, conversion to this new format of code related and administrative information bulletins including MGD and RGA that were previously issued will also allow flexibility and timely distribution of information to the public.



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below. The suggested formats and information required are intended to be relatively complete, and not all items would be applicable to small projects or low risk sites. In addition, some items would be covered in separate reports by soil engineers, geologists, seismologists, civil or structural engineers.

2. CONTENTS OF SOILS AND GEOLOGY REPORTS

A. SITE AND PROJECT DESCRIPTION

Identify the site address and legal descriptors (Tract, Block, Lots, Arb) for the site, this information may be checked with a Parcel Profile Report (available at www.ladbs.org). Discuss the type, size, and scope of the project, with a brief description of the proposed structures including number of floor levels and maximum anticipated design loads, existing site topography, and the extent of grading work proposed. Specify the proximity of the proposed development to any relevant ascending and descending slopes and indicate slope heights and inclinations. Identify whether the site is located in areas requiring special analyses or reports as described in Section 1 above.

B. MAP AND CROSS SECTION

Provide a scaled site map or plot plan with a north arrow showing the location and extent of the project. The map shall be based upon a topographic base map prepared by a licensed land surveyor when the site is not flat. Cross sections are usually required where a slope, basement, retaining wall, or temporary/permanent excavations greater than 5ft high or below a 1:1 from the property line is present. The map and cross sections shall clearly show the site boundaries, location and size of all existing and proposed buildings, walls, elevated decks, and pools, the location of all exploratory pits/borings, material contacts, and the extent of the proposed grading work. Cross sections shall also include depictions of ground water, temporary excavations, grades, foundations, retaining walls, sub drains, property boundaries, and slope setbacks. Topographic data and cross sections shall extend beyond the site to demonstrate that adjacent or offsite slopes do not affect the stability of the site. A geologic map and cross sections shall be provided where bedrock formations are involved. The geologic map shall present all the features required on a geotechnical map and the distribution of geologic units, faults, landslides, slumps, bedding attitudes, etc.

C. FIELD EXPLORATION

Describe the method of exploration including sampling and testing of the soil and bedrock. Detailed logs of test pits and borings shall show the locations of all samples and sampling resistance (blow counts, etc.). Ground water and seeps with observed fluctuations should be noted on the logs. For specific guidelines and requirements on hillside exploration and reporting of the results, refer to I.B. P/BC2001-68.

D. LABORATORY TESTING

All laboratory testing must be performed by a City of Los Angeles approved testing agency. Field density tests are considered to be laboratory tests. If data from previous reports are used, copies of the reports and their approval letters shall be included. If testing was done by others, provide a complete laboratory report signed and stamped by the licensed engineer, together with a responsibility statement by the new soils engineer.

Provide descriptions of all testing procedures and sample preparation and ASTM designations. Graphical presentations are required for grain size analyses, maximum density, consolidation, and shear tests. Shear graphs shall include: sample location, soil description, moisture content and dry



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density at the time of shearing, and shearing rate, type of test/sample preparation (undisturbed or remolded), and if the results are peak, ultimate, or residual. The graphs shall show all test points (minimum 3), the shear strength envelope, resulting cohesion and friction angle. The approximate degree of saturation during testing shall be provided on the graph or an accompanying table. Material testing for slope stability analyses shall be in accordance with I.B. P/BC 2001-49.

E. RESPONSIBILITY STATEMENT

If previous exploration data, laboratory testing, calculations, recommendations, or conclusions by others are relied upon in the investigation, the soils engineer (and geologist if applicable) shall provide a statement of responsibility indicating that the data by others was reviewed and concurred with.

F. ANALYSES

Where more than three analyses cases are evaluated a summary table shall be provided. Analyses and justifications are required for any recommendations less conservative than Code values and for the following:

a) STATIC SLOPE STABILITY ANALYSES.

For slopes steeper than 2:1 or where adverse geologic conditions are encountered, the soils report shall provide slope stability analyses in accordance with I.B. P/BC2001-49: Slope Stability Evaluation and Acceptance Standard, and I.B. P/BC2001-50: Construction Upon Slopes Steeper Than Two Horizontal to One Vertical. Provide cross sections with X & Y coordinates for all calculations, along with the input and output data from computer analyses. Where the site is near or on a known landslide, a back-calculated shear strength of that known landslide shall be provided to verify the material strength. The analyses shall provide a complete search to demonstrate that the worst case condition has been determined. Temporary and permanent slopes require a minimum factor of safety of 1.25 and 1.5, respectively. Temporary cuts require stability analyses if the cut is more than 5-foot vertical; steeper than 1:1 above a 5-foot vertical cut; surcharged by off-site structures, for slot cuts, or adverse geologic conditions. All stability analyses must use saturated shear test data.

b) SEISMIC SLOPE STABILITY ANALYSES.

Seismic slope stability analyses shall be performed for new construction at sites having landslides, and those sites adjoining or within State of California Seismically Induced Landslide Seismic Hazard Zones for all new construction except: one or two floor level single-family dwellings (when not part of a development of four or more dwellings) and alterations or additions not exceeding either 50 percent of either the value of the existing structure or 50 percent of the existing floor area of the structure. Seismic stability analyses shall be in accordance with CGS SP117, I.B. P/BC2001-49, and I.B. P/BC2001-50.

c) LIQUEFACTION ANALYSES.

Liquefaction analysis is required at sites located within State of California Liquefaction Seismic Hazard Zones for all new construction except: one or two floor level single-family dwellings (when not part of a development of four or more dwellings), and alterations or additions not exceeding either 50 percent of either the value of the existing structure or 50 percent of the existing floor area of the structure. When such analysis is required, it shall be based on the maximum historic groundwater level in accordance with CGS Special Publication 117, the SCEC Recommended Procedures, and LAMC 91.1804.5. Seismically induced total and differential settlements and lateral spreading shall be evaluated and reported.



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d) LATERAL EARTH PRESSURE ANALYSES.

Retaining walls surcharged by slopes, structures, or adverse geology require lateral earth pressure calculations. Retaining walls over 15-foot high require lateral earth pressure calculations. Calculations shall show minimum factors of safety on mobilized shear strength of 1.5 for static lateral earth pressures and 1.25 for temporary cases. Design lateral pressures shall be equal to or greater than both: those from Table No.1 of IB P/BC2001-83: Retaining Wall Design, and those from limit equilibrium analyses (free-body diagram and vectors). Subdrains shall be provided, or walls shall be designed for full hydrostatic pressure. Walls founded in adverse geologic conditions, or on descending slope will require passive pressure analysis.

e) SETTLEMENT ANALYSES.

Settlement calculations are required where the estimated total and differential settlement of foundations exceed 2 inch and 1 inch, respectively over a 40ft span, and as deemed necessary. Estimated differential settlement between an existing structure and a proposed addition should be reported also.

f) MUDFLOW ANALYSES.

Where the site is located in the path of concentrated drainage or is in an area with a history of debris flows, recommendations conforming with the minimum guidelines of Section 91.7014.3 of the Los Angeles Municipal Code, I.B. P/BC2001-49, and I.B. P/BC2001-64 shall be provided.

G. RECOMMENDATIONS

The recommendations should cover mitigation of the effects of liquefaction and adverse geologic conditions; address the temporary and permanent cut, fill, and natural slopes; provide design parameters for shoring, foundations, retaining walls, pavement, setbacks from ascending and descending slopes; stipulate measures to handle expansive soil conditions; and specify any inspection requirements to be performed by the consulting engineer and/or geologist. Recommendations concerning sub drains, lateral deflection, and sequence of excavation/backfill shall be provided for retaining structures, as appropriate. Recommended minimum earthquake design parameters, soil profile type for use in the static lateral force procedure (LAMC Section 91, Table 16-J), or parameters for dynamic analysis procedures (LAMC Sect.91.1631) shall be provided.

3. CONTENTS OF COMPACTION REPORTS

Pursuant to Los Angeles Municipal Code Sec. 91.7006.2, which stipulates that all fills shall be compacted to a minimum of 90% of the maximum dry density as determined by ASTM D-1557, compaction reports are required to be submitted to this Department for review and approval prior to the placement of foundations. The report shall include, but not limited to, the following:

A. Site address, legal description, and the grading permit under which the work is authorized. The address shall be in the report title. The report, Certificate of Compliance, and grading permit shall all use the same address and legal description for the site.

B. Drawn to scale plot plan with north arrow, showing location, extent, and depth of fill; location and depth of compaction tests; location and height of retaining walls; location and outlets of sub drains; toe and top of slopes; property boundaries; and adjacent structures and streets. Note: Subsurface



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geologic/geotechnical cross sections and elevations of sub drains may be required if deemed necessary.

- C. Statement of:
- a) Purpose and use of fill: for supporting footings, floor slabs, and new fill, for supporting walkways/paving, for non-structural use (landscaping, etc.).
 - b) Inspection and approval of the bottom of the excavation prior to placing fill.
 - c) Inspection and approval of the sub drain pipes prior to placing gravel.
- D. Description of each of the following:
- a) Materials encountered at the bottom of the excavation.
 - b) Preparation of the bottom prior to placement of fill.
 - c) Fill placement, and preparation.
 - d) Moisture content control method and results.
 - e) Thickness of the fill layers (typically 6-8 inches) prior to compaction.
 - f) Types of compaction equipment and method of mechanical compaction.
 - g) Identify fill materials used with Unified Soil Classification, maximum dry density and optimum moisture content.
- E. Field density testing results. Field tests should be taken at every two vertical feet or for every 500 cubic yards of fill placed, whichever is more restrictive. Test results showing less than required relative compaction are not acceptable. Description of removal and re-compaction of the unacceptable fill and its retesting shall be included.
- F. Nuclear testing results. If used, it shall be performed in conformance with I.B. P/BC2001-28: At least one sandcone test (A.S.T.M. 1556) shall be taken for each five nuclear tests (A.S.T.M. 2922 and 3017). The sand cone test shall be taken at the general location and elevation as one of the five nuclear tests to verify accuracy of the nuclear test results.
- G. Laboratory Testing (See Item 2.D above.)
Results of all laboratory tests with applicable ASTM or UBC standard designation numbers and graphical presentation of maximum dry density and optimum moisture content testing. All soil testing shall be performed by a laboratory licensed by the Department's Materials Control Section. Engineers may employ an approved laboratory to perform the testing provided they furnish the Department with a letter of responsibility. A copy of the laboratory report signed and stamped by a licensed engineer shall also be provided.
- H. Recommended maximum bearing capacities and minimum embedment of footings in compacted fill. Where the supporting material is Class of Material No.5 in LABC Table 18-I-A, expansion index testing shall be provided or recommendations for special design for highly expansive soil. Where design values exceed those shown in Table 18-1-A and are not recommended in an approved soils investigation report, additional tests for maximum dry density, moisture content, direct shear tests, and consolidation may be required. Shear tests are required for any import soils.
- I. For buttress fills and slopes steeper than 2:1, as-built geologic cross sections and shear test results conducted on undisturbed samples are required.



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- J. A Certificate of Compliance that is completed, signed, and sealed by the Soils Engineer.

- 4. CONTENTS OF SPECIAL REPORTS**

- A. SUBDIVISION OF LAND**
 - a. The reports shall conform with I.B. P/BC2001-68 and include the contents of soils and geology reports (Item 2 above).
 - b. The geologic/geotechnical map shall be based upon the proposed subdivision map and show all proposed property lines.
 - c. A geologic report is generally not required if the site is not located; on a hillside or in a State Mapped Hazard Zone.

- B. FINAL REPORT AND PROGRESS REPORTS FOR TRACT GRADING**
 - a. The report shall conform with the guidelines in LAMC 91.7008.
 - b. The final geology map must be based upon the "As-Graded" plan prepared and certified by the design engineer or land surveyor. Sub drain locations shall be depicted on the plan.

- C. PRIVATE SEWAGE DISPOSAL SYSTEMS**
 - a. The report shall conform with the guidelines of I.B. P/BC2001-27.

- D. FAULT-RUPTURE HAZARD ZONE INVESTIGATION**
 - a. The report shall conform with the guidelines of I.B. P/BC2001-44 and CGS Note 49.

- E. METHANE GAS REPORT**
 - a. The report shall be prepared by a Civil Engineer experienced in the design of subsurface gas- control systems and conform with LAMC 91.7100 and MGD-92 (I.B. P/BC2001-77 when released).



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5. SELECTED DEPARTMENT REFERENCES

BUILDING CODE

LAMC Sect.91.0100 ADMINISTRATION
 LAMC Sect.91.1600 STRUCTURAL DESIGN REQUIREMENTS
 LAMC Sect.91.1800 FOUNDATIONS AND RETAINING WALLS
 LAMC Sect.91.3300 SITE WORK, DEMOLITION, AND CONSTRUCTION
 LAMC Sect.91.7000 GRADING, EXCAVATION, AND FILLS
 LAMC Sect.91.7100 METHANE SEEPAGE DISTRICT REGULATIONS

INFORMATION BULLETINS

I.B. No.	FORMER RGA/MGD	TITLE
P/BC2001-01		FOOTINGS ON OR ADJACENT TO SLOPES
P/BC2001-14	(RGA 14-67)	DESIGN AND CONSTRUCTION OF SWIMMING POOLS
P/BC2001-27	(MGD#54)	PRIVATE SEWAGE DISPOSAL SYSTEMS-GRADING HILLSIDE AREAS
P/BC2001-28	(MGD#61)	NUCLEAR DEVICES SOIL DENSITY AND MOISTURE DETERMINATION
P/BC2001-30	(RGA 2-66)	INTERCONNECTION TIES FOR INDIVIDUAL PILE CAPS AND CAISSONS
P/BC2001-34	(MGD#87)	EMPLOYMENT AND DUTIES OF A REGISTERED DEPUTY INSPECTOR
P/BC2001-35	(MGD#86)	DEPUTY INSPECTOR CERTIFICATE OF REGISTRATION
P/BC2001-39	(RGA 1-73)	DEMOLITION OF BUILDINGS
P/BC2001-44	(RGA 1-77)	IMPLEMENTATION OF THE ALQUIST-PRIOLO EARTHQUAKE FAULT ZONING ACT
P/BC2001-47	(MGD#81)	SPECIAL REQUIREMENTS FOR FOOTINGS ON EXPANSIVE SOILS
P/BC2001-49	(RGA 1-84)	SLOPE STABILITY EVALUATION AND ACCEPTANCE STANDARDS
P/BC2001-50	(RGA 2-84)	CONSTRUCTION UPON SLOPES STEEPER THAN TWO HORIZONTAL TO ONE VERTICAL
P/BC2001-57	(MGD#102)	DRAINAGE ACROSS LOT/PROPERTY LINE
P/BC2001-58	(MGD#93)	GUIDELINES FOR RECOGNITION OF TESTING AGENCIES
P/BC2001-64	(MGD#63)	FLOOD HAZARD MANAGEMENT SPECIFIC PLAN GUIDELINES
P/BC2001-68	(RGA 5-67)	RULES AND REGULATIONS FOR HILLSIDE TRACT EXPLORATORY WORK
(P/BC2001-77)	MGD#92	METHANE POTENTIAL HAZARD ZONES
P/BC2001-83		RETAINING WALL DESIGN
P/G I2001-18	(RGA6-68)	COMPUTER SOFTWARE PROGRAM SOLUTIONS

NOTE: RGA and MGD numbers enclosed in parenthesis are obsolete. The above references are periodically revised and may be supplemented or replaced by future Information Bulletins. Information Bulletin P/BC2001-77 is applicable when released.

Revision Date 12/18/2002 -tg

Exhibit B

SOILS/GEOLOGY REPORT REQUIREMENTS WHEN FILING A PARCEL MAP OR TRACT MAP APPLICATION WITH THE DEPARTMENT OF CITY PLANNING

I. Introduction

This Information Bulletin is intended to clarify when soils and/or geology reports are required to be included as part of the parcel and tract map application processed by the Department of City Planning (DCP). When a project site is located within a seismic hazard zone, an earthquake fault surface rupture study area, or the Hillside Grading Area, soils and/or geologic reports are required **at the time** of application with the DCP. The locations of the various seismic hazard areas (liquefaction, earthquake-induced landslides) including State of California Alquist-Priolo Earthquake Fault Zones and City of Los Angeles Preliminary Fault Rupture Study Areas, and the Hillside Grading Area (per Special Grading Area [BOE Basic Grid Map A-13372]) are shown on [NavigateLA](#) maps; and, are noted in Parcel Profile and Zimas reports. Report requirements for these zones/areas are summarized below.

II. Seismic Hazard Zones

Liquefaction and Earthquake-Induced Landslides zones are established by the State of California per the [Seismic Hazard Zonation Program](#). A soils report is required for sites in liquefaction areas. Both geology and soils (or combined) reports are required for sites within the Earthquake-Induced Landslides zones. See [Contents of Reports for Submittal to the LADBS Grading Division, IB P/BC 2017-113](#) for guidelines on preparing soils/geology reports. See [Slope Stability Evaluation and Acceptance Standards, IB P/BC 2017-049](#) for guidelines on preparing reports that address slope stability. The State publication [Guidelines for Evaluating and Mitigating Seismic Hazards in California, SP 117A](#) provides more information on seismic hazard evaluations.

III. Earthquake Fault Surface Rupture

Areas with known potential for earthquake surface fault rupture include the Alquist-Priolo Earthquake Fault Zones, as defined by the State of California ([Alquist-Priolo Earthquake Fault Zonation Program](#)) and the Preliminary Fault Rupture Study Areas ([PFRSA](#)), as defined by the City of Los Angeles. A geology (surface fault rupture hazard investigation) report is required for sites in either of these areas. See [Surface Fault Rupture Hazard Investigations, IB P/BC 2017-129](#) for guidelines on preparing fault investigations within the City of Los Angeles.

Note: Exemptions from the reports discussed above are explained in [Exemptions from Liquefaction, Earthquake Induced Landslide, and Fault-Rupture Hazard Zone Investigations, IB P/BC 2017-044](#)

IV. Hillside Grading Area

Sites within the Hillside Grading Area, as shown on the latest Bureau of Engineering Basic Grid Map No. A-13372, will require soils and geology (or combined) reports (see [Contents of Reports for Submittal to the LADBS Grading Division, IB P/BC 2017-113](#)) where significant grading (as determined by the Department) is part of the proposed project.

Note: Where significant grading or retaining walls are part of the proposed project, the parcel/tract map shall show the proposed grading.

Exhibit C

SLOPE STABILITY EVALUATION AND ACCEPTANCE STANDARDS

A. PURPOSE

This Information Bulletin is to provide uniform requirements for evaluation of and standards for acceptance of stability of slopes within the City of Los Angeles. These requirements include consideration of pertinent engineering geologic and soils engineering factors of the critical field conditions that may reasonably be expected at the project location. These requirements include documentation and recommendations needed to determine if the site as proposed to be developed has an acceptable level of stability.

B. APPLICATION

A stability evaluation will be required for cut, fill and natural slopes whose gradient exceeds two horizontal to one vertical (2:1) and for all slopes that expose incompetent bedrock or unfavorable geologic structure such as unsupported bedding or that contain evidence of prior instability or landslide activity. Analysis is to include deep-seated and surficial stability evaluation under static load conditions. Where the site is within a State of California Seismic Hazard Zone requiring investigation for seismically induced landslide, or where the Department requests, a seismic slope stability analysis is required.

C. SAFETY REQUIRED

The Municipal Code specifies 1.5 as the minimum acceptable static factor of safety for cut, fill, and natural slopes.

Safety factor is defined as the quotient of the sum of forces tending to resist failure divided by the sum of forces tending to cause failure.

1. New buildings and additions to buildings may be constructed on or adjacent to a cut, fill, or natural slope provided that:
 - a. The slopes have an evaluated safety factor of at least 1.5 against deep-seated static failure.
 - b. The slopes ascending above proposed structures have an evaluated safety factor of at least 1.5 against surficial failure or adequately designed protective devices are recommended that will protect the construction from the hazard of mud and debris flow. When protective devices are used, the owner shall record an affidavit with the Office of the County Recorder stating that specified areas of the site may be subject to mudflow hazard and notifying future owners of their responsibility to provide maintenance of the protective devices (7014.3).
 - c. The slopes have an evaluated safety factor of at least 1.0 against seismic deep-seated failure.

2. Minor additions or alterations may be made to existing structures where acceptable devices are provided to mitigate potential damage from failure of adjacent slopes and where the hazard to life or property is not increased.

D. DESIGN OF PROTECTIVE DEVICES

Protective devices shall be permanent structures designed to either isolate, contain, deflect or channelize any potential mud or debris flow. The design and construction details shall be based upon an estimate of the volume and location of containment area made by a soils engineer or engineering geologist.

The devices shall be located so that any potential surficial failure will be confined to remote or unused portions of the property at least 15 feet from all structures unless such portions are designed as permanent channels to prevent the accumulation of mud and debris. Remote or unused portions of the property shall not include accessory areas such as pools, driveways, parking or landscaped areas. Mud and debris shall not be diverted onto adjoining property.

Provision shall be made for reasonable access to all areas which may need future maintenance.

E. TYPE OF ANALYSIS

1. Deep-Seated Stability

Evaluation of slopes for safety factor against deep-seated failure shall be in general conformance with the following:

- a. The potential failure surface used in the analysis shall be composed of arcs, planes or other shapes considered to yield the lowest factor of safety and to be most appropriate to the soil and geologic site conditions. For reasonably homogeneous soils, an arcuate failure surface is considered adequate. In cohesive soils, a vertical tension crack may be used to aid in defining the potential failure surface. The potential failure surface having the lowest safety factor shall be used in the analysis.
- b. Loadings to be considered are gravity loads of potential failure mass, seepage forces and external loads. The potential for hydraulic head is to be evaluated and its effects included when appropriate. Soils below the piezometric surface shall be assumed saturated.
- c. An appropriate mathematical analysis method shall be chosen for the case analyzed. Simple planar failure surfaces can be analyzed by force equilibrium methods. Bishop's Method shall only be used for circular failure surfaces. Taylor's Method shall only be used for homogeneous simple slopes.

2. Steep Rock Slope Stability

Analysis of nonconforming slopes whose gradient is one horizontal to one vertical (1:1) or steeper, exposing bedrock shall include the following:

- a. Detailed mapping and description of discontinuities; such as joints, fractures, and faults, with characteristics such as orientation, spacing, presence of infilling or openness, continuity, etc.
- b. Detailed mapping and description of rock falls (fallen boulders), pop-outs, and wedge failures that may have occurred on the slope.

- c. Kinematic analysis of discontinuities relative to the slope face, using stereographic methods to assess potential planar, wedge and topple type failures.
- d. Slope stability analysis of the potential failures using appropriate methods for the type of failure identified from the kinematic analysis.

3. Surficial Stability

Evaluation of the slope surface for safety factor against surficial failure shall be based either on analysis procedures for an infinite slope with seepage parallel to the slope surface or on other methods approved by the Department. For the infinite slope analysis, the assumed depth of soil saturation shall be a minimum of three feet or the depth to firm bedrock, whichever is shallower. Soil strength characteristics used in analysis are to be obtained from representative samples of surficial soils that are tested under conditions approximating saturation.

4. Seismic Stability

- a. Ground motions used to evaluate slope stability shall be obtained based on methods prescribed in the 2017 LABC. Ground shaking hazard maps found in previous Seismic Hazard Zone Reports released before 2008 shall no longer be used to estimate ground shaking.
- b. For the peak ground acceleration (PGA) corresponding to two-thirds of the PGAM (Maximum Considered Earthquake-Geometric Mean, MCEG adjusted for site effects ASCE 7-10 Eq. 11.8-1), the seismic coefficient, k_{eq} (Special Publication 117A, 2008 "Guidelines for Evaluating and Mitigating Seismic Hazards in California", Page 29), shall be derived based on a displacement of 5 cm where potential failure planes intersect buildings, otherwise a maximum displacement of 15 cm may be assumed. A minimum safety factor of 1.0 is required. The predominant earthquake magnitude and distance to the seismic source may be obtained from the USGS Interactive Deaggregation web site: <https://geohazards.usgs.gov/deaggint/2008/>. A 10% probability of exceedance in 50 years (475-year return period) may be used (either modal or mean pair of values may be used).
- c. For sites consisting of soils that are liquefiable under the PGAM slope deformations shall be determined using the seismic coefficient, K_{eq} , corresponding to the PGAM. The predominant earthquake magnitude and distance to the seismic source may be obtained from the USGS Interactive Deaggregation web site: <https://geohazards.usgs.gov/deaggint/2008/>. A 2% probability of exceedance in 50 years (2475-year return period) shall be used (either modal or mean pair of values may be used). Deformations of any foundations located near the slope shall be such that the foundations of the buildings or other structures do not lose their ability to carry gravity loads and that collapse of the building or other structures is prevented.
- d. Requirements in item "c" above shall not apply to buildings and other structures that fall under Risk Category IV per Table 1604.5. They shall be evaluated based on a project-specific basis using the appropriate performance requirements.

F. MATERIAL PROPERTIES

The soil engineer shall use sound judgment in the selection of appropriate samples and in the determination of shear strength characteristics befitting the present and anticipated future slope conditions. To best accomplish this phase of the analysis, the project engineering geologist shall advise the soil engineer on pertinent geologic conditions and materials observed during the site investigation. The following guidelines are provided for evaluating soil properties:

1. Soil properties, including unit weight and shear strength parameters (cohesion and friction angle), shall be based on field and laboratory tests. Tests shall be made on an appropriate number of samples removed from test pits that represent the material in a particular slope. At least one test shall be made on the weakest plane or material in the area under test and shall be made in the direction of anticipated slippage.
2. Testing of earth materials shall be performed by an approved soil testing laboratory in accordance with Section 98.0503 of the Code.
3. Shear strength parameters used in stability evaluations may be based upon peak test values where appropriate. Parameters not exceeding residual test values shall be used for previous landslides, along bedrock bedding planes, highly distorted bedrock, over-consolidated fissured clays and for organic topsoil zone under fill.
4. Prior to shear tests, samples are to be soaked to approximate a saturated moisture content. Saturated shear tests shall be performed with the samples inundated in water during testing. Shearing strain rates/conditions are to be consistent with the material types and drainage conditions used in analyses.
5. An arbitrary residual angle of shearing resistance of six degrees and cohesion of 75 pounds per square foot may be used to represent the strength on shale bedding and in landslide debris in lieu of parameters determined by laboratory testing.
6. Analysis of failures of existing slopes that are similar to the slope under consideration in terms of location, configuration, height, geology and materials may be used to establish shear strength parameters.
7. Soil strength characteristics of off-site slope materials may be based upon tests of similar materials or nearby properties when both the engineering geologist and the soil engineer demonstrate a basis for assuming that the off-site materials possess strength characteristics equivalent to the material tested.

G. CONTENTS OF REPORTS

A Geotechnical Report shall be submitted to the Department which complies with applicable portions of the standard guidelines adopted as California Division of Mines and Geology Notes Number 44 and the following items:

1. Recommendations for site development that will provide at least the level of stability specified in Section C of this Bulletin.
2. An assessment of potential geotechnical hazards affecting the site.
3. A statement regarding location of potential ground water that may develop within the slope during and/or after major storm seasons and measures needed for ongoing stability.
4. Description of exploration performed as required by Information Bulletin No. P/BC 2017-068 entitled, "Rules and Regulations for Hillside Exploratory Work."

5. A plot plan and a topographical plan showing locations of test pits and the areas they are assumed to represent.
6. A complete description of the shear test procedures and test specimens.
7. Shear strength plots that include the identification of sample tested, whether values reflect peak or residual strengths, shearing strain rate, moisture content at time of testing, and approximate degree of saturation.
8. Comment on sample selection and a stated opinion that the samples tested represent the weakest material profile along with the potential failure path.
9. Calculations and failure surface cross sections used in stability evaluations.
10. General comments as to the stability of slopes from the effects of earthquakes concerning ground rupture, landslides and differential movement.
11. Detailed log of earth materials observed in test hole borings and test trenches to include characteristics such as bedding attitudes, joint spacing, fault zones, location of bentonite beds, etc.
12. Recommended drainage devices, including sub-drain systems below fills and behind stabilization structures.

Exhibit D



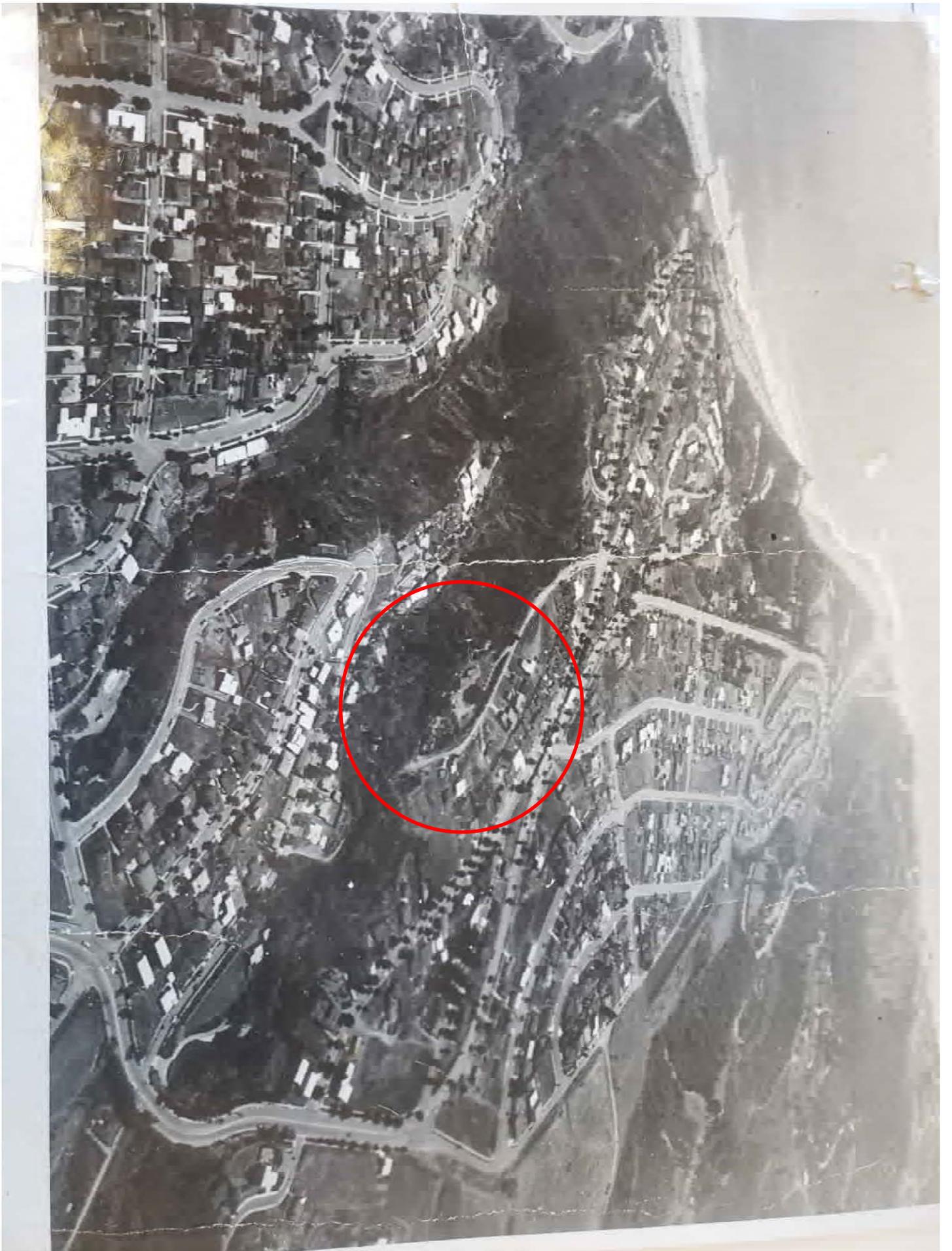


Exhibit E



BYER GEOTECHNICAL, INC.

May 30, 2019
BG 22452

Mr. Cosimo Pizzulli
Pizzulli Associates, Inc.
223 South Beverly Drive
Beverly Hills, California 90212

Subject

Appeal Letter of Thomas M. Donovan, on Bahalf of Save Las Pulgas Canyon
to the Commissioners of the West Los Angeles Area Planning Commission,
dated May 28, 2019

Proposed Eight Single Family Residences
Arb. 2, Lot 8, Block 137, Tract 9300
560 North Marquette Street
Pacific Palisades, California

References: Reports by Byer Geotechnical, Inc.:

Geologic and Geotechnical Engineering Exploration, Proposed Eight Single-Family Residences, Arbs. 1, 2, and 3, Lots 1 - 8, Block 137, Tract 9300, 560 - 620 North Marquette Street, Pacific Palisades, California, dated December 19, 2016;

Addendum Geologic and Geotechnical Engineering Exploration, Response to City of Los Angeles Correction Letter, Proposed Eight Single-Family Residences, Arbs. 1, 2, and 3, Lots 1 - 8, Block 137, Tract 9300, 560 - 620 North Marquette Street, Pacific Palisades, California, dated March 2, 2017;

Response to Geotechnical Group Review Comments, Proposed Sewer Line, Arb. 2, Lot 8, Block 137, Tract 9300, 560 North Marquette Street, Pacific Palisades, California, dated December 10, 2018; and

Geotechnical Memorandum, Proposed Sewer Line, Arb. 2, Lot 8, Block 137, Tract 9300, 560 North Marquette Street, Pacific Palisades, California, dated January 8, 2019.

Response by the City of Los Angeles, Department of Building and Safety (LADBS):

Geology and Soils Report Approval Log #96236-01, dated March 20, 2017.

Dear Mr. Pizzulli:

At your request, and in accordance with your authorization, Byer Geotechnical, is offering the following comments with respect to the Thomas M. Donovan, appeal letter of May 28, 2019.

The proposed project is not located on a steep coastal bluff. The project is located on the rim of Pulga Canyon. The geologic and geotechnical history of the descending slope, is discussed on our December 9, 2016, report.

The proposed retaining wall is to support and mitigate the non-conforming portion of the descending slope below Lots 1 and 2. The proposed sewer system extension is voluntary and intended to eliminate the use private sewage disposal systems typically consisting of a septic tank and seepage pit(s). The new sewer system avoid allowing water from these seepage pits to enter the subsurface.

Pg. 2, Item 1: The exploration and testing presented on our December 19, 2016, was found to be acceptable by the city of Los Angeles Department of Building and Safety, Grading Division, geotechnical engineers and engineering geologist.

Item 3: The previous reports by Byer Geotechnical demonstrate that there is no high geologic hazard area below the site.

Item 4: There is no high geologic hazard underlying the site.

Item 5: The sewer connection has been approved by the city of Los Angeles Bureau of Engineering and the City of Los Angeles Department of Public Works.

Response to comments by consulting Geologist E.D. Michael: The groundwater conditions at the site have been adequately explored by Byer Geotechnical including several deep borings. Shear test values are shown in the December 19, 2016, under the section titled "Laboratory Testing". The shear strength values reported are determined under saturated conditions, per the LADBS Guidelines.

- Pg. 3, Paragraph 1: No landslide debris is present under the project site and there is no bedding plane failure.
- Paragraph 2: Mr. Michael cannot report findings, as he has not done any subsurface exploration and testing.
- Paragraph 3: There is no debris mass.
- Paragraph 4: Triaxial testing is not required.

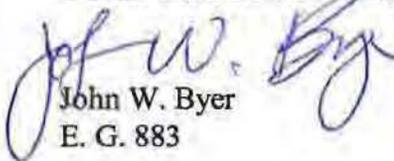
Bottom of Page 3: There is no creditable evidence of a potential for slope instability at the site. The proposed sewer line is evaluated in the December 10, 2018, report, and modified in the geotechnical memorandum of January 8, 2019.

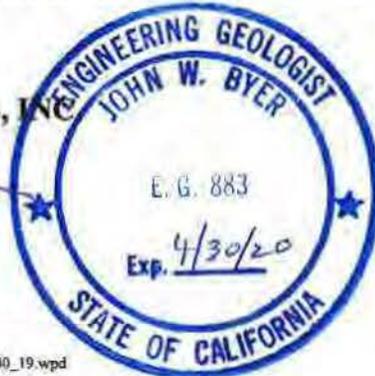
Page 4. There is no substantial evidence to support the findings of Mr. Michael. The conditions of North Marquette Street are left to comments by the project civil engineer. Plans for the private sewer system will be completed once the project has been accepted. The lot line adjustments and zoning regulations are deferred to the project civil engineer.

It is the opinion of Byer Geotechnical, that this memorandum adequately responds to the referenced letter from Thomas M. Donovan.

Should you have any questions or need additional information, please call on us.

Very truly yours,
BYER GEOTECHNICAL, INC.


John W. Byer
E. G. 883



JWB:mh
S:\FINAL\BG22452_Pizzoli\22452_Pizzoli_Letter_5_30_19.wpd

xc: Addressee (Email)

Exhibit F

CITY OF LOS ANGELES
INTER-DEPARTMENTAL CORRESPONDENCE

Date: July 8, 2019

To: Michael Patonai, Division Engineer
West Los Angeles District Office, Bureau of Engineering

Attention: Mahelet Gebeyhu

From: Patrick Schmidt, Division Manager
Geotechnical Engineering Division (GED)

Fred Beutt for

Subject: **507-551 MARQUETTE STREET - PROPOSED SEWER EXTENSION
GEOTECHNICAL REVIEW
FILE NO.: 18-032**

W.O. NO.: BR402851

In a response to a request from the Department of City Planning, received by email on June 6, 2019, the Geotechnical Engineering Division (GED) has reviewed the following reports:

- Geology and Soils Report Review Letter, 560-620 N. Marquette Street, Log #108965, dated June 26, 2019, and prepared by the Los Angeles Department of Building and Safety Grading Division (LADBS)
- Geotechnical Response Letter, Appeal Letter of Thomas M. Donovan, on Bahalf (*sic*) of Save Las Pulgas Canyon to the Commissioners of the West Los Angeles Area Planning Commission, dated May 28, 2019, Proposed Eight Single Family Residences, Arb. 2, Lot 8, Block 137, Tract 9300, 560 North Marquette Street, Pacific Palisades, California, dated May 30, 2019 and is prepared by Byer Geotechnical, Inc.
- Letter to the West Los Angeles Area Planning Commission, Re: DIR-2017-264-CDP-MEL-1A, et al. // CEQA No. ENV-2017-1259-MND, dated June 3, 2019 and is prepared by the Law offices of Thomas M. Donovan, Inc.
- Preliminary Review, Proposed 560 Marquette Street Redevelopment, City of Los Angeles Planning Department Case Nos. DIR-2017-268 through 449-CDP-MEL-1A, CEQA No. ENV-2017-1259--MND, dated May 30, 2019 and is prepared by E.D. Michael, Consulting Geologist

In response to an initial request for a geotechnical review received on February 20, 2018, and a subsequent request for additional review dated November 7, 2018, both from the West Los Angeles District Office, the Geotechnical Engineering Division (GED) has reviewed the following reports and plans:

- A three-sheet plan for Marquette Street Sewer Extension, BR402851. The plan is dated, January 25, 2019, and is prepared by M&G Civil Engineering & Land Surveying.
- A three-sheet plan for Marquette Street Sewer Extension, BR402851. The plan is dated, January 18, 2019, and is prepared by M&G Civil Engineering & Land Surveying.
- Geotechnical Memorandum, Proposed Sewer Line, Arbs. 2, Lots 8, Block 137, Tract 9300, 560 North Marquette Street, Pacific Palisades, California, dated January 8, 2019 and is prepared by Byer Geotechnical, Inc.
- Geologic and Geotechnical Engineering Exploration Update, Proposed Sewer Line, Arbs. 2, Lots 8, Block 137, Tract 9300, 560 North Marquette Street, Pacific Palisades, California, dated September 17, 2018 and is prepared by Byer Geotechnical, Inc.
- A six-sheet plan for Marquette Street Sewer Extension, BR402851. The plan is dated, January 15, 2018, and is prepared by EPD Consultants.
- Geologic and Geotechnical Engineering Exploration, for Proposed Eight Single Family

Residences, Arbs. 1, 2, and 3, Lots 1-8, Block 137, Tract 9300, 560-620 North Marquette Street, Pacific Palisades, California, dated December 19, 2016 and is prepared by Byer Geotechnical, Inc.

- Geology and Soils Report Review Letter, 365 Las Casa Avenue, Log #88320, dated May 20, 2015, and prepared by the Los Angeles Department of Building and Safety Grading Division (LADBS)
- Preliminary Geotechnical Engineering Exploration, Proposed Single Family Residence, Tract: 9300, Lot: 37, Block: 140, Pacific Palisades, California, dated March 30, 2015 and is prepared by GeoConcepts, Inc.

Our review is limited to portions of the project adjacent to or within the public right-of-way within the City of Los Angeles. The provided plans propose the construction of a sewer extension in the right of way of Las Casas Avenue and Marquette Street.

As stated in GED's review approval letter dated January 28, 2019 (revised on 4-26-2019 to correct the project addresses as requested by the West LA District Office), the proposed construction is on a street that is directly adjacent to Pulgas Canyon in an area that has been subject to slope instability in the past with an existing slope that is steeper than 2:1 (horizontal:vertical) only 20 feet away from the roadway. For these reasons, GED required due diligence with respect to potential slope instability to limit/mitigate as much as practical potential adverse impacts from the proposed construction. To this end, the applicant has agreed to install flexible joints on the sewer line in the area of the over-steepened slope to accommodate potential future slope movement and to install a closed impermeable liner system in the sewer trench in this area to limit/prevent potential infiltration in the case of a sewer leak.

GED reviewed the recently submitted documents including Byer Geotechnical's response to comments made by Thomas M. Donovan and E.D. Michael regarding the proposed residential development that includes the extension of the sewer in Marquette Street, as well as the specified comment documents and LADBS's review letter.

GED agrees with the determination as stated by E.D. Michael that groundwater recharge from septic systems, "is especially of concern because locally, the rate of recharge is much greater than that that due to other conditions." GED is supportive of the installation of and the connection to City sewer service as an alternative to septic systems in hillside areas as a means of reducing or eliminating a potential source of groundwater that has the potential to decrease the stability of slopes. As such, the proposed development, which includes the extension of the sewer on Marquette Street and GED's recommended mitigations, should locally reduce the amount of groundwater and increase the stability of the adjacent slopes when existing septic systems are moved onto City sewer service.

Based on the information provided by Byer's response, GED's recommended approval and the stated approval conditions detailed in GED's review approval letter dated January 28, 2019 (revised on 4-26-2019 to correct the project addresses as requested by the West LA District Office) remain applicable and no revisions to GED's conditional approval are necessary.

Exhibit G

CITY OF LOS ANGELES
INTER-DEPARTMENTAL CORRESPONDENCE

DIR-2017-264-CDP-MEL-1A, et al.

June 26, 2019

Log #108965
SOILS/GEOLOGY FILE – 2
LAN

To: Vincent P. Bertoni, AICP, Deputy Advisory Agency
Department of City Planning
200 N. Spring Street, 7th Floor, Room 750

From: Jesus Adolfo Acosta, Grading Division Chief
Department of Building and Safety

TRACT: 9300
BLOCK: 137
LOT(S): 1 (Arbs. 1 & 2), 3 (Arbs. 1 & 2) - 8 (Arbs. 1 & 2), & 2 (Arbs. 1 - 3)
LOCATION: 560 - 620 N. Marquette Street

<u>CURRENT 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>
Appeal Response	BG22452	05/30/2019	Byer Geotechnical, Inc.

<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	96236-01	03/20/2017	LADBS
Addendum Report	BG22452	03/02/2017	Byer Geotechnical, Inc.
Dept. Correction Letter	96236	01/23/2017	LADBS
Geology/Soils Report	BG22452	12/19/2016	Byer Geotechnical, Inc.
Dept. Approval Letter	34184	07/20/2001	LADBS
Addendum Report	8LEE132	07/10/2001	MEC
Dept. Approval Letter	29982-01	05/05/2000	LADBS
Addendum Report	8LEE132	05/04/2000	MEC
Addendum Report	8LEE132	03/21/2000	MEC
Dept. Correction Letter	29982	03/03/2000	LADBS
Geology Report	1944	01/12/2000	Ray A. Eastman
Soils Report	8LEE132	11/23/1999	MEC

The Grading Division of the Department of Building and Safety has reviewed the above referenced letter by Byer Geotechnical, Inc. (BG) in response to comments made by Thomas M. Donovan and Eugene D. Michael (EDM) regarding the proposed eight-lot residential development. The geological/geotechnical comments made by the appellants' representatives appear to focus on the groundwater conditions of the locality and the stability of the slopes across the subject lots.

EDM had commented that the local groundwater regime had not been determined by BG. In response, BG stated that the groundwater conditions were adequately explored through subsurface exploration that included 7 deep borings. Exploration logs presented within the referenced BG reports showed that the borings extended to a maximum depth of about 60 feet below the existing

ground surface. Typically, surface water will infiltrate into the ground through the alluvial layers and collect within the sandy marine terrace deposits above the bedrock, which generally impede the flow of groundwater in the local area. As noted in the MEC reports, a series of hydro-augers had been installed during the construction of the retaining wall and grading of the slope to intercept and remove any perched groundwater. It is also noted that the proposed residential development will be serviced by a new sewer line. The new sewer line will eliminate the need for seepage pits which will further reduce the amount of water introduced into the ground.

EDM had also commented that the stability of the slope/site had not been adequately determined by BG and had further commented on the presence of a landslide underlying the locality. BG stated that no landslide debris and no bedding plane failure were present underlying the site. The subsurface borings by BG were logged by a licensed geologist and no landslide debris was encountered within the borings. Direct shear testing had been performed on the earth materials under saturated conditions in accordance with Department requirements. The slope stability analyses conducted by BG using the shear test results yielded factors-of-safety in excess of the minimum building code requirements. The new residential development will also include trimming of the existing fill slope from a 1½:1 (H:V) gradient ($\approx 33^\circ$) to a 2:1 (H:V) gradient ($\approx 27^\circ$). The removal of a portion the fill materials will reduce the driving force on the slope and will also result in a more stable slope condition. New retaining walls are also proposed on the northern portion of the development to mitigate steep slope conditions.

In conclusion, based on the information presented by Byer Geotechnical, Inc., the proposed residential development will reduce the amount of water introduced into the ground and will increase the stability of the descending slope. The Department approval letter dated 03/20/2017, Log #96236-01 remains applicable and no revisions to the Department approval are necessary at this time.



EL:el
Log No. 108965
213-482-0480

cc (by email): Cosimo Pizulli, Property Owner
Byer Geotechnical, Inc., Project Consultant
Kenton Trinh, Department of City Planning
Juliet Oh, Department of City Planning
Shannon Ryan, Department of City Planning
Fred Burnett, Department of Public Works, Geotechnical Engineering Division
Eric Noreen, Department of Public Works, Geotechnical Engineering Division
Parish Knox, Office of the City Attorney
Oscar Medellin, Office of the City Attorney
Amy Brothers, Office of the City Attorney