



# City of Malibu

23815 Stuart Ranch Road • Malibu, California 90265-4861  
(310) 456-2489 • Fax (310) 456-7650 • [www.ci.malibu.ca.us](http://www.ci.malibu.ca.us)

**PLANNING REVIEW**

## GEOTECHNICAL REVIEW SHEET

### Project Information

<b>Date:</b> March 20, 2008	<b>Review Log #:</b> 2928	
<b>Site Address:</b> 24120 Pacific Coast Highway	<b>Planning #:</b> CD 07-144	
<b>Lot/Tract/PM #:</b> TT 070038	<b>TTM #:</b> TTM 07-003	
<b>Applicant/Contact:</b> Robert Gold, <a href="mailto:rgold@bigrockpartners.com">rgold@bigrockpartners.com</a>	<b>BPC/GPC #:</b>	
<b>Contact Phone #:</b> 310-734-2353	<b>Fax #:</b> 310-734-2297	<b>Planner:</b> Stefanie Edmondson
<b>Project Type:</b> 5-lot subdivision (five single-family residential developments addressed as 24108, 24120, 24134, 24150, and 24174 Pacific Coast Highway)		

### Submittal Information

**Consultant(s) / Report Date(s):** Leighton & Associates, Inc. (Kim, RGE 2620; Hillstrand, CEG 2366);  
*(Current submittal(s) in Bold.)* **12-5-07; Ref: 8-29-01, 10-2-2000**  
Seismic Consultant: Earth Consultants International, Inc. (Gath, CEG 1292): 4-12-02, 2-25-02, 1-25-02, 12-19-01, 8-23-01, 2-6-2000  
Ref: Converse Consultants: 8-8-88, 12-10-86, 10-18-85  
Ref: Lockwood-Singh & Associates: 9-18-79

Grading and Drainage Plans prepared by Psomas, dated 9-24-07, four sheets, 50-scale.

**Previous Reviews:** Geology Review Referral Sheet dated 2-15-08; Ref: 10-1-01

### Review Findings

#### Coastal Development Review

- Subdivision of the Tentative Tract Map (TTM) into 5 lots for single-family residential development is **APPROVED** from a geotechnical perspective.
- Subdivision of the Tentative Tract Map (TTM) into 5 lots for single-family residential development is **NOT APPROVED** from a geotechnical perspective. The listed 'Review Comments' shall be addressed prior to approval.

#### Building Plan-Check Stage

- Awaiting Building plan check submittal.** Please respond to the listed 'Building Plan-Check Stage Review Comments' AND review and incorporate the attached 'Geotechnical Notes for Building Plan Check' into the plans.
- APPROVED** from a geotechnical perspective. Please review the attached 'Geotechnical Notes for Building Plan Check' and incorporate into Building Plan-Check submittals.
- NOT APPROVED** from a geotechnical perspective. The listed 'Building Plan-Check Stage Review Comments' shall be addressed prior to Building Plan-Check Stage approval.

Guidelines for geotechnical reports (dated February 2002) are available on the City of Malibu web site:  
<http://www.ci.malibu.ca.us/index.cfm?fuseaction=nav&navid=30>.

Fugro Project #: 3399.001

**Remarks**

The report and plans were reviewed by the City from a geotechnical perspective. Based upon the submitted information, the project comprises subdividing the Tract into five single-family residential developments, grading (50,954 yards of overexcavation; 7,518 yards of cut under structure; 336 yards of cut and 2,909 yards of fill for safety; 6,642 yards of cut and 11,585 yards of fill non-exempt; and 9,045 yards of import and 9,045 yards of export), and new onsite wastewater treatment systems.

Once City geotechnical staff determines that the Project Geotechnical Consultants have demonstrated feasibility from a geotechnical perspective of the subdivision of the Tentative Tract Map into 5 lots for residential development, the applicant will be required to submit each individual lot for residential development to City geotechnical staff for feasibility review in the Planning stage. Geotechnical reports addressing the proposed development for each lot shall be submitted to City geotechnical staff for review at that time.

City geotechnical staff will review complete sets of building (for all structures) and grading plans for each residential lot during the Building plan check stage once the projects are submitted to the Building and Safety Department.

**The City of Malibu Building and Safety Department implemented the policy of requiring geotechnical consultants to submit electronic geotechnical reports (on CD Rom) for review beginning January 1, 2006. Geotechnical responses shall conform to this policy, which can be viewed on the City's website: <http://www.malibu-ca.gov/index.cfm?fuseaction=detail&navid=82&cid=7247>.**

**Review Comments:**

1. The Geotechnical Map does not appear to depict the currently proposed grading and pad elevations shown on the Psomas Grading Plan that was submitted with the TTM application (dated 9-24-07). The Consultant references a grading plan by Psomas dated 11-30-07. Please clarify. In addition, the grading plan is too light to read on the Geotechnical Map. Please include the currently proposed grading plan on the Geotechnical Map, including all proposed cut and fill slopes, for review.
2. Please provide a percolation test report and supporting engineering geologic report for the proposed OWTS for review. What type of system will be proposed?
3. Please provide two complete sets of OWTS plans to the City for review by City geotechnical and hydrogeologic staff.
4. The Project Geotechnical Consultant/hydrogeologic consultant must demonstrate that the effluent from the proposed private wastewater treatment system will not adversely affect the stability of the subject site or adjacent properties in accordance with Section 111 of the Malibu Building Code. Geotechnical cross section(s) shall be provided which depict the proposed development, proposed wastewater treatment system (leach fields), anticipated paths of effluent, and current depth to groundwater. The Consultant shall provide sufficient hydrogeologic data to substantiate their conclusions regarding the effects of effluent on groundwater levels under the site and the potential for mounding of groundwater under the site and down gradient. Will off site OWTS be adversely affected by dispersal of effluent on the site? In addition, the Consultant shall consider the effects of water from irrigation across the site on groundwater levels. The supporting geologic discussion shall include interpretations of stratigraphy (specifically, lithologic changes across the site that could affect hydraulic conductivities across the site), and variability of lithologies across the site due to the specific environments of deposition at the mouth of the Malibu Creek drainage basin. If analyses indicate that there is an adverse affect due to a rise on groundwater, then the Project Geotechnical Consultant shall provide recommendations for mitigation and/or the Project Applicant shall consider relocation or redesign of effluent disposal facilities that mitigate the rise in groundwater.
5. In accordance with Chapter 18.4(D) of the City's Local Coastal Plan-Local Implementation Plan (LCP-LIP), the proposed OWTS shall be evaluated for cumulative impacts on groundwater levels. A cumulative

impact analysis shall be submitted and approved by City geotechnical staff and the City Environmental Health Specialist, Andrew Sheldon.

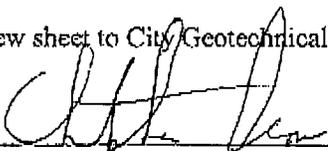
6. Cross sections need to be constructed through the two canyon areas, and slope stability analyses need to be performed to confirm the selection of the setback lines in the vicinity of these features.
7. Slope stability analyses are needed for Cross-Section E-E'.
8. Section 6.2.1 of the City of Malibu's geotechnical guidelines requires that direct shear tests be performed in accordance with ASTM procedures, and, if the rate of deformation exceeds 0.005 inches per minute, the Project Geotechnical Consultant needs to provide data to demonstrate that the rate is sufficiently slow for drained conditions. Since the rate of deformation exceeded 0.005 for some of the tests, please provide the requested information.
9. The boring logs indicate highly weathered and fractured bedrock. Specimens for direct shear are only one-inch high and about 2.4 inches in diameter. Also, the specimens are confined in a relatively rigid ring when undergoing a shear test. The likelihood of a defect such as a fissure or fracture, regardless of its tightness or continuity, negatively impacting the measured strength is very small compared to the behavior in the field where there is less displacement constraint as would be provided by the ring in a laboratory test. Also, the number or length of defects along a potential failure surface in the field, as a percentage, will likely exceed that in a small laboratory specimen. The shear strength measured in the laboratory on small relatively intact samples may not be reflective of the strength that is mobilized in situ for materials that are fractured, even if not continuous. Fractures will impact the strength of the bedrock that can be mobilized in the field, and result in a strength that is below that of a truly massive material or strength deduced from testing of laboratory specimens that may not contain fractures, fissures or other defects. Studies have shown that when a material contains highly fractured material, both continuous and discontinuous, or discontinuities, such as slickensides and fissures, the in-situ strength will depend on the frequency and orientation of the discontinuities [Burland (1990), Chandler (1984), Hoek and Brown (1988), Jade and Sitharam (2003), Skempton and Petley (1967), Skempton and Hutchinson (1969), and Wu, Williams, Lynch, and Kulatilake (1987)]. Although the guidelines provide for judgments in the selection of shear strength, all judgments need to be supported with appropriate references and not be contrary to the project data. When fissures, fractures, and joints of the bedrock are of sufficient size and abundance for migration of precipitation, irrigation, and effluent into the bedrock, as stated on page 9, they certainly will have an impact on the shear strength that can be mobilized. The Project Geotechnical Consultant needs to provide a discussion, supported with adequate data and reasonable interpretations, to justify their selection of shear strength parameters. Additional testing may be required and any changes to the shear strength parameters will require additional slope stability analyses.
10. On page 16, it is stated that foundations be below 2(H):1(V) projection from the toe of slope. If this results in foundation elements within the zone of the potential failure wedge associated with a computed safety factor of 1.5 (setback conditions), the portion of the pile within this zone must be designed to support a lateral load and appropriate recommendations need to be provided.
11. On page 10, reference is made to studies by Earth Consultants International on adjacent property to the west. Please be more specific as to the location of the site to the west and provide the reference.
12. The Project Geotechnical Consultant states that, "*Significant movement of the feature could cause headward movement of the headscarp region of the Amarillo Beach landslide complex.*" Is there evidence of historic headward movement of the landslide? Are mitigation measures necessary to protect future development on the subject site from headward movement of the landslide? Please discuss.
13. Please provide for review the stereonet plots for Data Set 1 and Data Set 2 from the report dated 9-17-03, as they were not in the report in the City's files.
14. The Project Geotechnical Consultant recommends, on pages 12 and 14 additional work be performed. With regard to the Geotechnical Setback Line, the Consultant states that this line as shown on the

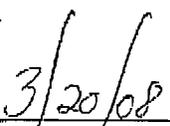
Geotechnical Map is subject to revision based on the results of additional field exploration, testing, and analyses. A description of the additional work required should be provided. When will this work be completed? What impact will this additional work have on the feasibility issues of this project? Additional data may result in more critical conditions, so it may not be possible to issue an approval until all work is completed that is consistent with current standards. Final geotechnical setback lines must be established based on the final grading plan and siting of the structures, and approved by City Geotechnical Staff prior to approval in the Planning stage.

15. Changes in the groundwater regime that may occur in response to the development of five new residential developments may be difficult to predict. In their response to our earlier comment (from 2001), the Consultant states on page 13 that they will be providing details for a groundwater monitoring system to confirm that there is no buildup of groundwater that could adversely influence slope stability. For a monitoring program to provide meaningful results, it needs to extend over several years. Please provide the results of the groundwater monitoring that confirms the groundwater levels utilized in the slope stability analyses. If the monitoring program reveals that the flow patterns are detrimental, what mitigations measures can be provided to correct the situation?
16. Please discuss whether sewage effluent that migrates southward in the subsurface could contribute to future movement of the offsite landslides.
17. The reviewers generally agree with the Project Geotechnical Consultant regarding the geologic structure on the east-facing slope. Apparent dips are generally a lot steeper than the slope gradients, although bedding is variable across the site and, thus, apparent dips could locally daylight on the slope. Please review the geologic data on the cross-sections and discuss, illustrate, and evaluate areas on the slopes where bedding is or could be more adverse. Will these areas adversely affect the slope stability results?
18. The applicant and Project Geotechnical Consultant shall provide to City geotechnical staff the quantity of grading yardage that is considered remedial. A discussion of the remedial grading must be provided, including geotechnical hazards that the grading is mitigating on the site. Justification of remedial grading from a geotechnical perspective is required in accordance with City Codes.

Please direct questions regarding this review sheet to City Geotechnical staff listed below.

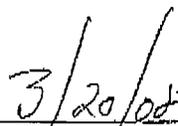
Engineering Geology Review by:

  
 Christopher Dean, C.E.G. #1751, Exp. 9-30-08  
 Engineering Geology Reviewer (x306)

  
 Date

Geotechnical Engineering Review by:

  
 Leland M. Kraft, Jr., G.E. # 484, Exp. 6-30-08  
 Geotechnical Engineering Reviewer (805-444-1943)

  
 Date

*This review sheet was prepared by City Geotechnical Staff contracted with Fugro as an agent of the City of Malibu.*

**FUGRO WEST, INC.**  
 4820 McGrath Street, Suite 100  
 Ventura, California 93003-7778  
 (805) 650-7000 (Ventura office)  
 (310) 456-2489, x306 (City of Malibu)





# City of Malibu

23815 Stuart Ranch Road  
 Malibu, California 90265  
 (310) 456-2489 Fax (310) 456-7650

## GEOTECHNICAL/CDP REVIEW FEE FORM

PROJECT OWNER/APPLICANT: Robert Gold

PROJECT ADDRESS: 24120 Pacific Coast Highway

GEOTECHNICAL LOG NO: 2928

PLANNING NO: CDP 07-144, TTM 07-003

PLAN CHECK NO: \_\_\_\_\_

ITEM	STATUS	DATE	DEPOSIT	CHARGE	BALANCE	COMMENTS
DEPOSIT BY: Robert Gold		12/6/07	\$1,250.00		\$1,250.00	
CITY ADMINISTRATIVE FEE		12/6/07		\$250.00	\$1,000.00	
Document retention Fee, \$39.11		12/6/07		\$0.00	\$1,000.00	
CDP 07-144	Response Required	3/20/08		\$2,217.50	(\$1,217.50)	
Document retention fee		3/20/08		\$38.09	(\$1,255.59)	
REFUND DUE APPLICANT						REFUND # _____
BALANCE DUE CITY OF MALIBU					\$ 1,255.59	CHECK # _____

**NOTES:**  
 \$1,250.00  
 \$625.00  
 \$XXX.XX  
 (\$XXX.XX)

**DEPOSITS**  
 Deposit required Geology AND Soils Review  
 Deposit required Geology OR Soils Review ONLY  
 Indicates Positive deposit balance  
 Indicates Negative balance, supplemental deposit required before further review.

PROJECTS REQUIRING AS-BUILT REVIEWS MAY REQUIRE ADDITIONAL FEE DEPOSIT



# City of Malibu

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**PLANNING REVIEW**

## GEOTECHNICAL AND HYDROGEOLOGIC REVIEW SHEET

<u>Project Information</u>	
<b>Date:</b> January 12, 2010	<b>Review Log #:</b> 2928
<b>Site Address:</b> 24120 Pacific Coast Highway	<b>Planning #:</b> CDP 07-144
<b>Lot/Tract/PM #:</b> TT 070038	<b>TTM 07-003</b>
<b>Applicant/Contact:</b> Robert Gold, <a href="mailto:rgold@bigrockpartners.com">rgold@bigrockpartners.com</a>	<b>BPC/GPC #:</b>
<b>Contact Phone #:</b> 310-734-2353	<b>Fax #:</b> 310-734-2297
<b>Project Type:</b> 5-lot subdivision (five single-family residential developments addressed as 24108, 24120, 24134, 24150, and 24174 Pacific Coast Highway)	<b>Planner:</b> Stefanie Edmondson

## GEOTECHNICAL REVIEW

<u>Submittal Information</u>	
<b>Consultant(s) / Report Date(s):</b> <i>(Current submittal(s) in Bold.)</i>	Leighton & Associates, Inc. (Mills, CEG 2034; Kim, RGE 2620): <b>9-21-09 (two reports)</b> Leighton & Associates, Inc. (Kim, RGE 2620; Sanchez, CEG 2221): <b>10-29-08</b> Earth Consultants International (Gath, CEG 1292; Layton, PG): <b>9-21-09</b> Leighton & Associates, Inc. (Kim, RGE 2620; Hillstrand, CEG 2366): 12-5-07; Ref: 8-29-01, 10-2-2000 Seismic Consultant: Earth Consultants International, Inc. (Gath, CEG 1292): 4-12-02, 2-25-02, 1-25-02, 12-19-01, 8-23-01, 2-6-2000 Ref: Converse Consultants: 8-8-88, 12-10-86, 10-18-85 Ref: Lockwood-Singh & Associates: 9-18-79
	<b>Grading and Drainage Plan prepared by Psomas, dated 10-23-09, one sheets, 50-scale.</b> Ensitu Engineering, Inc. (Yaroslaski, RCE 60149): <b>9-21-09 (two reports)</b> <b>Conformance review OWTS Plans prepared by Ensitu Engineering, Inc., dated September 2009, three sheets.</b> Lawrence Young (REHS # 3738): <b>9-12-08</b>
<b>Previous Reviews:</b>	3-20-08, Review Referral Sheet dated 2-15-08; Ref: 10-1-01

<u>Review Findings</u>	
<b><u>Coastal Development Permit Review</u></b>	
<input type="checkbox"/>	Subdivision of the Tentative Tract Map (TTM) into 5 lots for single-family residential development is <b>APPROVED</b> from a geotechnical perspective.

Guidelines for geotechnical reports (dated February 2002) are available on the City of Malibu web site:  
<http://www.ci.malibu.ca.us/index.cfm?fuseaction=nav&navid=30>.

Fugro Project #: 3399.001

- Subdivision of the Tentative Tract Map (TTM) into 5 lots for single-family residential development is **NOT APPROVED** from a geotechnical perspective. The listed 'Review Comments' shall be addressed prior to approval.

**Building Plan-Check Stage**

- Awaiting Building plan check submittal. Please respond to the listed 'Building Plan-Check Stage Review Comments' AND review and incorporate the attached 'Geotechnical Notes for Building Plan Check' into the plans.
- APPROVED** from a geotechnical perspective. Please review the attached 'Geotechnical Notes for Building Plan Check' and incorporate into Building Plan-Check submittals.
- NOT APPROVED** from a geotechnical perspective. The listed 'Building Plan-Check Stage Review Comments' shall be addressed prior to Building Plan-Check Stage approval.

**Remarks**

The response geotechnical and hydrogeologic reports were reviewed by the City from a geotechnical perspective. The project comprises subdividing the Tract into five single-family residential developments, grading (96,700 yards of overexcavation; 13,522 yards under structure; 8,663 yards for safety; 14,273 yards non-exempt; 389 yards of remedial fill, and 3,752 yards of export), and new onsite wastewater treatment systems (OWTS), consisting of septic tanks on the five lots, a centralized treatment area adjacent to the gate house, and 10 seepage pits with 100% expansion on Lot 7 (undeveloped).

Once City geotechnical staff determines that the Project Geotechnical Consultants have demonstrated feasibility from a geotechnical perspective of the subdivision of the Tentative Tract Map into five lots for residential development, the applicant will be required to submit each individual lot for residential development to City geotechnical staff for feasibility review in the Planning stage. Geotechnical reports addressing the proposed development for each lot shall be submitted to City geotechnical staff for review at that time.

City geotechnical staff will review complete sets of building (for all structures) and grading plans for each residential lot during the Building plan check stage once the projects are submitted to the Building and Safety Department.

**The City of Malibu Building and Safety Department implemented the policy of requiring geotechnical consultants to submit electronic geotechnical reports (on CD Rom) for review beginning January 1, 2006. Geotechnical responses shall conform to this policy, which can be viewed on the City's website: <http://www.malibu-ca.gov/index.cfm?fuseaction=detail&navid=82&cid=7247>.**

**Review Comments:**

1. The Project Geotechnical Consultant and Hydrogeologic Consultant must demonstrate that the effluent from the proposed private wastewater treatment system will not adversely affect the stability of the subject site or adjacent properties in accordance with Section 111 of the Malibu Building Code. Geotechnical cross section(s) shall be provided which depict the proposed development, proposed wastewater treatment system (leach fields), anticipated paths of effluent, and current depth to groundwater. The Consultant shall provide sufficient hydrogeologic data to substantiate their conclusions regarding the effects of effluent on groundwater levels under the site and the potential for mounding of groundwater under the site and down gradient. Will off site OWTS be adversely affected by dispersal of effluent on the site? In addition, the Consultant shall consider the effects of water from irrigation across the site on groundwater levels. The supporting geologic discussion shall include interpretations of stratigraphy (specifically, lithologic changes across the site that could affect hydraulic conductivities across the site), and variability of lithologies across the site. If analyses indicate that there is an adverse affect due to a rise of groundwater or migration of

groundwater, considering the Project Geotechnical Consultant's responses to the hydrogeologic review comments, then the Project Geotechnical Consultant shall provide recommendations for mitigation and/or the Project Applicant shall consider relocation or redesign of effluent disposal facilities that mitigate the rise in groundwater.

2. The undersigned reviewers agree with the Project Geotechnical Consultant that the canyon slopes are less steep and, more than likely, less critical than those analyzed and evaluated for the geotechnical setback established elsewhere on the site. However, the setbacks established across the canyon areas seem arbitrary. Technical justification must be provided for the setbacks, which may include performing slope stability analyses across the canyon areas.
3. Please discuss whether sewage effluent that migrates southward in the subsurface could contribute to future movement of the offsite landslides on the basis of the Project Geotechnical Consultant's responses to the hydrogeologic review comments.
4. Total cut and fill grading yardages reports by the Project Geotechnical Consultant do not match the yardages on the latest Total Grading Yardage Verification Certificate dated 1-21-09. Please clarify.
5. Please provide the reference for the 2007 aerial photograph in the October 2008 Revised Addendum No. 1.
6. Please provide Plate 2 from the Leighton report regarding the OWTS dated 9-21-09, as it was not included in the electronic version of the report.

Please direct questions regarding this review sheet to City Geotechnical staff listed below.

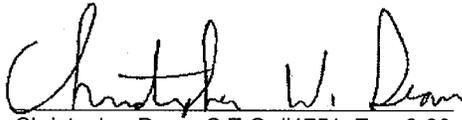
Geotechnical Engineering Review by:



Kenneth Clements, G.E. # 2010, Exp. 6-30-10  
Geotechnical Engineering Reviewer (805-963-4450)

January 12, 2010  
Date

Engineering Geology Review by:



Christopher Dean, C.E.G. #1751, Exp. 9-30-10  
Engineering Geology Reviewer (x306)

January 12, 2010  
Date

**Hydrogeologic Review follows on next page**

## HYDROGEOLOGIC REVIEW

### Submittal Information

**Consultant(s) / Report Date(s):** Leighton & Associates, Inc. (Mills, CEG 2034; Kim, RGE 2620):  
*(Current submittal(s) in Bold.)* **9-21-09**  
 Earth Consultants International (Gath, CEG 1292; Layton, PG ):  
**9-21-09**  
 Ensitu (Yaroslaski, PE 60149): **9-21-09**

**Previous Reviews:** None

### Review Findings

#### Coastal Development Permit Review

- The AOWTS is **APPROVED** from a hydrogeologic perspective.
- The AOWTS is **NOT APPROVED** from a hydrogeologic perspective. The listed 'Review Comments' shall be addressed prior to approval.

#### Remarks

The reports were reviewed by the City from a hydrogeologic perspective regarding the proposed on-site wastewater treatment system, which consists of an on-site clustered seepage pit system for the disposal of effluent (10 present and 10 future pits). The project comprises five single-family residential developments.

**The City of Malibu Building and Safety Department implemented the policy of requiring geotechnical consultants to submit electronic geotechnical reports (on CD Rom) for review beginning January 1, 2006. Geotechnical responses shall conform to this policy, which can be viewed on the City's website: <http://www.malibu-ca.gov/index.cfm?fuseaction=detail&navid=82&cid=7247>.**

#### Additional Data/Information Requests:

1. More explanation is needed with regard to how percolation test results were used to support model K values. The explanation should include calculations used to convert percolation test results to K values.
2. The model water balance should be provided. The model water balance should provide the amounts of inflows (e.g., from model boundaries, recharge sources, etc.) and outflows (e.g., model boundaries, wells, etc.).
3. A table should be provided with the I.D. of each well, field measured groundwater elevation, modeled groundwater elevation, and +/- difference between modeled and measured values.
4. Slug tests should be conducted in all on-site monitoring wells to obtain K values.
5. Groundwater elevation contour maps should be provided for each model scenario of on-site treated effluent discharge along with the baseline groundwater elevation contour map with no on-site treated effluent discharge. A groundwater elevation difference map should also be provided for each model scenario compared to the baseline scenario.

#### Hydrogeologic Review Comments:

1. The key factor in the groundwater mounding analysis is the K value in the bedrock. Several aspects of the report indicate a low K value in bedrock: steep hydraulic gradient, "...*fractures and bedding planes being commonly tightly closed...*". The site is not contained within a DWR defined groundwater basin, and has

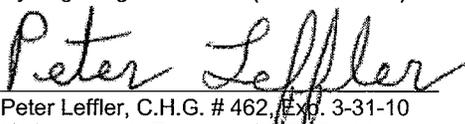
- low or failed percolation test rates at several locations. However, model calibrated K values for bedrock are very high and appear to be in the range of 35 to 80 feet/day. The set-up of the model boundary conditions and lack of significant historic stresses in the model domain likely allow for the model to be adequately calibrated under a wide range of K values. The K values for this analysis should be derived primarily from on-site field testing and not from model calibration.
2. A constant head should not be used for the up-gradient boundary condition; this boundary is too close to the site. A general head boundary condition would be more appropriate on the up-gradient side of the model domain.
  3. The method of accounting for a wet season/wet year water table is not adequate. The model is calibrated to June 2009 water levels – neither a wet season nor a wet year. The water level history of the monitoring wells (February-May 2008 to July 2009) shown in Figure 8 does not encompass a wet year; other water level data in the area should be reviewed (and/or another means used) to establish a reasonable approximation for a wet year/wet season water table. More detail should be provided with regard to model scenario 5 which is intended to simulate wet year/wet season water table; for example, how much did the baseline wet-year water table rise compared to the baseline normal year, and how does this difference between baseline model-simulated normal and wet year groundwater elevations compare to other evidence for a reasonable approximation of a wet-year water table?
  4. We are aware that a similar project is proposed at the adjacent Towing Site. A cumulative impacts analysis of groundwater mounding should be conducted assuming that the proposed projects will be built on both sites.
  5. After consideration of the above comments and re-evaluation of groundwater mounding, the consultant shall make findings of significance for groundwater mounding both on- and off-site in accordance with City and RWQCB policies. The consultant shall provide the rationale (i.e., explanation of how project achieves conformance with City and RWQCB criteria) for their findings of significance.
  6. With respect to the Ensitu Report section entitled, “LCP/LIP 18.4.E Cumulative Impact Analysis Statement,” please provide a conceptual model describing the locations and relevant geohydrologic features of water bearing units at the point(s) of discharge, at the point(s) of compliance, and within the intervening groundwater flow path.
  7. The Ensitu Report provides a calculation of nitrate loading based on a mass balance equation. The calculation includes two sources: recharge from upland surface runoff ( $Q_2$ ) and discharged treated water from septic systems ( $Q_3$ ). These represent recharge to Winter Canyon alluvium. However, these two recharge sources to Winter Canyon alluvium will not mix with the design flow ( $Q_1$ ) from the Crummer Site seepage pits within the underlying bedrock. The recharge source more likely to combine with  $Q_1$  is bedrock subsurface inflow from upgradient of the Crummer Site, which is represented in the groundwater model as a constant head boundary. Therefore, the nitrate loading calculation should be revised pending resolution of other comments that may require some modifications of the groundwater flow model.

Please direct questions regarding this review sheet to City Hydrogeologic staff listed below.

Hydrogeologic Review by:

  
 David Gardner, C.H.G. # 122, Exp. 5-31-11  
 Hydrogeologic Reviewer (805-289-3826)

January 12, 2010  
 Date

  
 Peter Leffler, C.H.G. # 462, Exp. 3-31-10  
 Hydrogeologic Reviewer (510-267-4415)

January 12, 2010  
 Date



# City of Malibu

- GEOTECHNICAL -

## NOTES FOR BUILDING PLAN-CHECK

The following standard items should be incorporated into Building Plan-Check submittals, as appropriate:

1. One set of addition and deck plans, incorporating the Geotechnical Consultant's recommendations and items in this review sheet, must be submitted to City geotechnical staff for review. **Additional review comments may be raised at that time that may require a response.**
2. Show the name, address, and phone number of the Geotechnical Consultant(s) on the cover sheet of the Building Plans.
3. Include the following note on Grading and Foundation Plans: *"Subgrade soils shall be tested for Expansion Index prior to pouring footings or slabs; Foundation Plans shall be reviewed and revised by the Geotechnical Consultant, as appropriate."*
4. Include the following note on the Foundation Plans: *"All foundation excavations must be observed and approved by the Geotechnical Consultant prior to placement of reinforcing steel."*
5. The Foundation Plans for the proposed addition and deck shall clearly depict the embedment material and minimum depth of embedment for the foundations in accordance with the Geotechnical Consultant's recommendations.
6. Foundation setback distances from descending slopes shall be in accordance with Section 1806.5 of the Malibu Building Code, or the requirements of the Geotechnical Consultant's recommendations, whichever are more stringent. Show minimum foundation setback distances on the foundation plans, as applicable.
7. Show the onsite wastewater treatment system on the Site Plan.
8. Please contact the Building and Safety Department regarding the submittal requirements for a grading and drainage plan review.
9. A comprehensive Site Drainage Plan, incorporating the Geotechnical Consultant's recommendations, shall be included in the Plans. Show all area drains, outlets, and non-erosive drainage devices on the Plans. Water shall not be allowed to flow uncontrolled over descending slopes.
2. Prior to final approval of the project, an as-built compaction report prepared by the Project Geotechnical Consultant must be submitted to the City for review. The report must include the results of all density tests as well as a map depicting the limits of fill, locations of all density tests, locations and elevations of all removal bottoms, locations and elevations of all keyways and back drains, and locations and elevations of all retaining wall backdrains and outlets. Geologic conditions exposed during grading must be depicted on an as-built geologic map. This comment must be included as a note on the grading plans.

### Retaining Walls (As Applicable)

1. Show retaining wall backdrain and backfill design, as recommended by the Geotechnical Consultant, on the Plans.
2. Retaining walls separate from a residence require separate permits. Contact the Building and Safety Department for permit information. One set of retaining wall plans shall be submitted to the City for review by City geotechnical staff. Additional concerns may be raised at that time which may require a response by the Project Geotechnical Consultant and applicant.

### Grading Plans (as Applicable)

1. Grading Plans shall clearly depict the limits and depths of overexcavation, as applicable.

Guidelines for geotechnical reports (dated February 2002) are available on the City of Malibu web site:  
<http://www.ci.malibu.ca.us/index.cfm?fuseaction=nav&navid=30>.

Fugro Project #: 3399.001



# City of Malibu

23815 Stuart Ranch Road  
 Malibu, California 90265  
 (310) 456-2489 Fax (310) 456-7650

## GEOTECHNICAL/CDP REVIEW FEE FORM

**PROJECT OWNER/APPLICANT:** Robert Gold

**PROJECT ADDRESS:** 24120 Pacific Coast Highway

**GEOTECHNICAL LOG NO:** 2928

**PLANNING NO:** CDP 07-144, TTM 07-003

**PLAN CHECK NO:** \_\_\_\_\_

ITEM	STATUS	DATE	DEPOSIT	CHARGE	BALANCE	COMMENTS
DEPOSIT BY: Robert Gold		12/6/07	\$1,250.00		\$1,250.00	
CITY ADMINISTRATIVE FEE		12/6/07		\$250.00	\$1,000.00	
Document retention Fee, \$39.11		12/6/07		\$0.00	\$1,000.00	
CDP 07-144	Response Required	3/20/08		\$2,287.50	(\$1,287.50)	
Document retention fee		3/20/08		\$38.09	(\$1,325.59)	
Balance due payment		4/21/08	\$1,255.59		(\$70.00)	Check # 1338
Supplemental Deposit		10/15/09	\$2,580.80		\$2,510.80	
Document retention fee		10/15/09		\$80.80	\$2,430.00	
CITY ADMINISTRATIVE FEE		10/15/09		\$500.00	\$1,930.00	
CDP 07-144, TPM 07-003	Response Required	1/12/10		\$7,121.00	(\$5,191.00)	Geotechnical and Hydrogeologic Reviews
Document retention fees		1/12/10		\$166.11	(\$5,357.11)	
City Administrative Fees		1/12/10		\$1,297.75	(\$6,654.86)	
REFUND DUE APPLICANT						REFUND # _____
BALANCE DUE CITY OF MALIBU					\$ 6,654.86	CHECK # _____

**NOTES:**

\$1,250.00  
 \$625.00  
 \$XXX.XX  
 (\$XXX.XX)

**DEPOSITS**

Deposit required Geology AND Soils Review  
 Deposit required Geology OR Soils Review ONLY  
 Indicates Positive deposit balance

Indicates Negative balance, supplemental deposit required before further review.

PROJECTS REQUIRING AS-BUILT REVIEWS MAY REQUIRE ADDITIONAL FEE DEPOSIT

**ALL OUTSTANDING BALANCES ARE SUBJECT TO DOCUMENT RETENTION AND CITY ADMINISTRATIVE FEES**



# City of Malibu

PLANNING REVIEW

23825 Stuart Ranch Road • Malibu, California 90265-4861  
(310) 456-2489 • Fax (310) 317-1950 • www.malibucity.org

## GEOTECHNICAL AND HYDROGEOLOGIC REVIEW SHEET

<u>Project Information</u>	
Date:	May 7, 2012
Site Address:	24120 Pacific Coast Highway
Lot/Tract/PM #:	TT 070038
Applicant/Contact:	Robert Gold, <a href="mailto:rgold@bigrockpartners.com">rgold@bigrockpartners.com</a>
Contact Phone #:	310-734-2353
Project Type:	5-lot subdivision (five single-family residential developments addressed as 24108, 24120, 24134, 24150, and 24174 Pacific Coast Highway)
Review Log #:	2928
Planning #:	CDP 07-144 TTM 07-003
BPC/GPC #:	
Planner:	Stefanie Edmondson

## GEOTECHNICAL REVIEW

<u>Submittal Information</u>	
Consultant(s) / Report Date(s):	Leighton & Associates, Inc. (Mills, CEG 2034; Kim, RGE 2620): <i>(Current submittal(s) in Bold.)</i> <b>3-7-12, 9-21-09</b> (two reports)
	Leighton & Associates, Inc. (Kim, RGE 2620; Sanchez, CFG 2221): 10-29-08
	Earth Consultants International (Gath, CEG 1292; Layton, PG ): 9-21-09
	Leighton & Associates, Inc. (Kim, RGE 2620; Hillstrand, CEG 2366): 12-5-07; Ref: 8-29-01, 10-2-2000
	Seismic Consultant: Earth Consultants International, Inc. (Gath, CEG 1292): 4-12-02, 2-25-02, 1-25-02, 12-19-01, 8-23-01, 2-6-2000
	Ref: Converse Consultants: 8-8-88, 12-10-86, 10-18-85
	Ref: Lockwood-Singh & Associates: 9-18-79
	Grading and Drainage Plan prepared by Psomas, dated 10-23-09, one sheets, 50-scale.
	Ensitu Engineering, Inc. (Yaroslaski, RCE 60149): <b>3-7-12</b> (three reports), 9-21-09 (two reports)
	<b>Preliminary OWTS Plans prepared by Ensitu Engineering, Inc., dated March 7, 2012, three sheets.</b>
	Lawrence Young (REHS # 3738): 5-19-10, 9-12-08
Previous Reviews:	1-12-10, 3-20-08, Review Referral Sheet dated 2-15-08; Ref: 10-1-01

<u>Review Findings</u>	
<u>Coastal Development Permit Review</u>	
<input type="checkbox"/>	Subdivision of the Tentative Tract Map (TTM) into 5 lots for single-family residential development is <b>APPROVED</b> from a geotechnical perspective.
Guidelines for geotechnical reports (dated February 2002) are available on the City of Malibu web site: <a href="http://www.ci.malibu.ca.us/index.cfm?fuseaction=nav&amp;navid=30">http://www.ci.malibu.ca.us/index.cfm?fuseaction=nav&amp;navid=30</a>	

- Subdivision of the Tentative Tract Map (TTM) into 5 lots for single-family residential development is **NOT APPROVED** from a geotechnical perspective. The listed 'Review Comments' shall be addressed prior to approval.

**Building Plan-Check Stage**

- Awaiting Building plan check submittal.** Please respond to the listed 'Building Plan-Check Stage Review Comments' AND review and incorporate the attached 'Geotechnical Notes for Building Plan Check' into the plans.
- APPROVED** from a geotechnical perspective. Please review the attached 'Geotechnical Notes for Building Plan Check' and incorporate into Building Plan-Check submittals.
- NOT APPROVED** from a geotechnical perspective. The listed 'Building Plan-Check Stage Review Comments' shall be addressed prior to Building Plan-Check Stage approval.

**Remarks**

The response geotechnical and hydrogeologic reports were reviewed by the City from a geotechnical perspective. The project comprises subdividing the Tract into five single-family residential developments, grading (96,700 yards of overexcavation; 13,737 yards under structure; 8,847 yards for safety; 17,380 yards non-exempt; 389 yards of remedial fill, and 7,652 yards of export), and new onsite wastewater treatment systems (OWTS), consisting of septic tanks on the five lots, a centralized treatment area adjacent to the gate house, and 10 seepage pits with 100% expansion on Lot 7 (undeveloped).

Once City geotechnical staff determines that the Project Geotechnical Consultants have demonstrated feasibility from a geotechnical perspective of the subdivision of the Tentative Tract Map into 5 lots for residential development, the applicant will be required to submit each individual lot for residential development to City geotechnical staff for feasibility review in the Planning stage. Geotechnical reports addressing the proposed development for each lot shall be submitted to City geotechnical staff for review at that time.

City geotechnical staff will review complete sets of building (for all structures) and grading plans for each residential lot during the Building plan check stage once the projects are submitted to the Building and Safety Department.

**Review Comments:**

1. The Project Geotechnical Consultant provided additional slope stability analysis for cross sections I-I, J-J, K-K, and L-L. The Consultant needs to provide the anisotropic values that were used in the current stability analysis and provide calculation printouts of the slope stability analysis for review by the City.
2. The critical failure surfaces (those with the lowest computed safety factors) for static and seismic conditions need to be plotted on the geologic cross sections in accordance with Section 6.2.3.1 of the City's geotechnical guidelines.
3. Please clearly depict the 1.5:1 Geotechnical Setback Line on the plans. It appears that the setback layer may have been turned off on Plate 1 in the March 7, 2012 report.

Please direct questions regarding this review sheet to City Geotechnical staff listed below.

Geotechnical Engineering Review by:  May 7, 2012  
Date  
Kenneth Clements, G.E. # 2010, Exp. 6-30-12  
Geotechnical Engineering Reviewer (805-963-4450)

Engineering Geology Review by:  5/7/12  
Date  
Christopher Dean, C.E.G. #1751, Exp. 9-30-12  
Engineering Geology Reviewer (310-456-2489, x306)  
Email: cdean@malibucity.org

**Hydrogeologic Review follows on next page**

## HYDROGEOLOGIC REVIEW

### Submittal Information

<b>Consultant(s) / Report Date(s):</b> <i>(Current submittal(s) in Bold.)</i>	Leighton & Associates, Inc. (Mills, CEG 2034; Kim, RGF 2620); 3-7- <b>12, 9-21-09</b> Earth Consultants International (Gath, CEG 1292; Layton, PG); 9-21-09 Ensitu (Yaroslaski, PE 60149); 9-21-09
<b>Previous Reviews:</b>	1-12-10

### Review Findings

#### Coastal Development Permit Review

- The AOWTS is **APPROVED** from a hydrogeologic perspective.
- The AOWTS is **NOT APPROVED** from a hydrogeologic perspective. The listed 'Review Comments' shall be addressed prior to approval.

#### Remarks

The reports were reviewed by the City from a hydrogeologic perspective regarding the proposed on-site wastewater treatment system, which consists of an on-site clustered seepage pit system for the disposal of effluent (10 present and 10 future pits). The project comprises five single-family residential developments.

The March 7, 2012 responses by Earth Consultants International (ECI) submitted in response to the City of Malibu's review letter dated January 12, 2010 were reviewed relative to hydrogeological and treated wastewater mounding issues associated with the proposed Malibu Bluffs Residential Development (aka Crummer site). As discussed in the ECI letter, since September 2009, a variety of additional groundwater level measurements have been obtained and field testing performed to refine hydraulic conductivity values in support of revised groundwater model parameters as requested in the City of Malibu review comments. Revised groundwater modeling incorporated site specific water level data (essentially continuous water level measurements from early 2008 until early 2012 from onsite monitoring wells) which captured several significant precipitation events and periods of "high water levels" (refer to Figure 8b). The resulting modeling and mounding analyses also incorporated significantly lower hydraulic conductivity values for the earth materials that would receive the treated effluent (oxidized bedrock zone), based on field percolation testing performed by Lawrence Young. The water balance for the model was revised relative to certain boundary conditions, and inflows from adjacent properties that would account for eventual cumulative discharges of treated wastewater to the oxidized bedrock zone was also considered (i.e., the adjacent Towing site property development).

Based on the above, both measured and observed (predicted) calibration targets associated with the model were compared and found to be in reasonable agreement. The calibration targets centered around the high water level period of May 2011 to predict mounding associated with high water level conditions and peak wastewater discharge flows. Groundwater elevation maps were prepared as requested as part of the January 2010 City of Malibu review comments to depict the predicted water level rises both on-site and off-site. Tables 4 and 5 of the ECI response letter provide a summary of groundwater elevation rises at certain locations both on the Crummer and adjacent Towing sites. Maximum groundwater elevation changes (i.e., predicted mounding) due to the combined discharges range from 0.14 feet (about 1.7 inches) on the Towing site to about 0.38 feet (about 4.5 inches) at the Crummer site.

As stated in the ECI letter, the model-predicted rise in groundwater levels beneath the seepage pits on both the Crummer and Towing sites will not result in more than a 50 percent reduction in the minimum depth to seasonally high groundwater levels, will provide for the required 10-foot separation between the bottom of the seepage pits and the groundwater table, and will not adversely affect the performance of existing offsite sewage disposal systems. As such, the model predicted mounding under the anticipated loading rates is in conformance with LCP/PIP Section 18.7.

Relative to the issue of nitrate loading (City of Malibu review comment 7), a nitrate balance mass loading analysis was provided which considered certain revisions to up-gradient sources of nitrate. The general mass balance equation and the input parameters is considered to be reasonably accurate to conclude that the nitrate loading (expressed as nitrate-nitrogen) from the treated wastewater disposal at the Crummer site to be on the order of 2 milligrams per litre (mg/l). Based on the analysis, the nitrogen loading from the discharge at the Crummer site will not cause groundwater beneath the site and in immediate down gradient locations to exceed 10 mg/l.

**The responses provided in the ECI letter adequately address the review comments contained in the City of Malibu review letter of January 12, 2010; the predicted cumulative mounding is considered reasonably conservative, groundwater quality related to nitrogen loading will not be impaired, and, accordingly, the AOWTS is now approved from a hydrogeologic perspective.**

Hydrogeologic Review Comments:

- I. None

Please direct questions regarding this review sheet to City Hydrogeologic staff listed below.

Hydrogeologic Review by:



David Gardner, C.H.G. # 122, Exp. 5-31-13  
Hydrogeologic Reviewer (805-289-3826)

Date

5-9-12

*This review sheet was prepared by City Geotechnical Staff  
contracted with Fugro as an agent of the City of Malibu.*

**FUGRO CONSULTANTS, INC.**   
4820 McGrath Street, Suite 100  
Ventura, California 93003-7778  
(805) 650-7000 (Ventura office)  
(310) 456-2489, x306 (City of Malibu)



# City of Malibu

- GEOTECHNICAL -

## NOTES FOR BUILDING PLAN-CHECK

The following standard items should be incorporated into Building Plan-Check submittals, as appropriate:

1. One set of addition and deck plans, incorporating the Geotechnical Consultant's recommendations and items in this review sheet, must be submitted to City geotechnical staff for review. **Additional review comments may be raised at that time that may require a response.**
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1. Show retaining wall backdrain and backfill design, as recommended by the Geotechnical Consultant, on the Plans.
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<http://www.ci.malibu.ca.us/index.cfm?fuseaction=nav&navid=33>

Fugro Project # 3399 001



# City of Malibu

**PLANNING REVIEW**

23825 Stuart Ranch Road • Malibu, California 90265-4861  
(310) 456-2489 • Fax (310) 317-1950 • www.malibucity.org

## GEOTECHNICAL REVIEW SHEET

<u>Project Information</u>	
<b>Date:</b> June 18, 2012	<b>Review Log #:</b> 2928
<b>Site Address:</b> 24120 Pacific Coast Highway	
<b>Lot/Tract/PM #:</b> TT 070038	<b>Planning #:</b> CDP 07-144 TTM 07-003
<b>Applicant/Contact:</b> Robert Gold, <a href="mailto:rgold@bigrockpartners.com">rgold@bigrockpartners.com</a>	<b>BPC/GPC #:</b>
<b>Contact Phone #:</b> 310-734-2353	<b>Fax #:</b> 310-734-2297
<b>Project Type:</b> 5-lot subdivision (five single-family residential developments addressed as 24108, 24120, 24134, 24150, and 24174 Pacific Coast Highway)	<b>Planner:</b> Ha Ly

## GEOTECHNICAL REVIEW

<u>Submittal Information</u>	
<b>Consultant(s) / Report Date(s):</b> <i>(Current submittal(s) in Bold.)</i>	Leighton & Associates, Inc. (Mills, CEG 2034; Kim, RGE 2620): <b>5-16-12</b> , 3-7-12, 9-21-09 (two reports) Leighton & Associates, Inc. (Kim, RGE 2620; Sanchez, CEG 2221): 10-29-08 Earth Consultants International (Gath, CEG 1292; Layton, PG): 9-21-09 Leighton & Associates, Inc. (Kim, RGE 2620; Hillstrand, CEG 2366): 12-5-07; Ref: 8-29-01, 10-2-2000 Seismic Consultant: Earth Consultants International, Inc. (Gath, CEG 1292): 4-12-02, 2-25-02, 1-25-02, 12-19-01, 8-23-01, 2-6-2000 Ref: Converse Consultants: 8-8-88, 12-10-86, 10-18-85 Ref: Lockwood-Singh & Associates: 9-18-79  Grading and Drainage Plan prepared by Psonas, dated 10-23-09, one sheets, 50-scale. Ensitu Engineering, Inc. (Yaroslaski, RCE 60149): <b>3-7-12</b> (three reports), 9-21-09 (two reports) <b>Preliminary OWTS Plans prepared by Ensitu Engineering, Inc., dated March 7, 2012, three sheets.</b> Lawrence Young (REHS # 3738): <b>5-19-10</b> , 9-12-08
<b>Previous Reviews:</b>	5-7-12, 1-12-10, 3-20-08, Review Referral Sheet dated 2-15-08; Ref: 10-1-01

### Review Findings

#### Coastal Development Permit Review

- Subdivision of the Tentative Tract Map (TTM) into 5 lots for single-family residential development is **APPROVED** from a geotechnical perspective.

Guidelines for geotechnical reports (dated February 2002) are available on the City of Malibu web site:  
<http://www.ci.malibu.ca.us/index.cfm?fuseaction=nav&navid=30>.

Fugro Project #: 3399.001

- Subdivision of the Tentative Tract Map (TTM) into 5 lots for single-family residential development is **NOT APPROVED** from a geotechnical perspective. The listed 'Review Comments' shall be addressed prior to approval.

**Building Plan-Check Stage Review**

- Awaiting Building plan check submittal. Please respond to the listed 'Building Plan-Check Stage Review Comments' AND review and incorporate the attached 'Geotechnical Notes for Building Plan Check' into the plans.
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**Remarks**

The response geotechnical report was reviewed by the City from a geotechnical perspective. The project comprises subdividing the Tract into five single-family residential developments, grading (96,700 yards of overexcavation; 13,737 yards under structure; 8,847 yards for safety; 17,380 yards non-exempt; 389 yards of remedial fill, and 7,652 yards of export), and new onsite wastewater treatment systems (OWTS), consisting of septic tanks on the five lots, a centralized treatment area adjacent to the gate house, and 10 seepage pits with 100% expansion on Lot 7 (undeveloped).

*Once City geotechnical staff determines that the Project Geotechnical Consultants have demonstrated feasibility from a geotechnical perspective of the subdivision of the Tentative Tract Map into 5 lots for residential development, the applicant will be required to submit each individual lot for residential development to City geotechnical staff for feasibility review in the Planning stage. Geotechnical reports addressing the proposed development for each lot shall be submitted to City geotechnical staff for review at that time.*

City geotechnical staff will review complete sets of building (for all structures) and grading plans for each residential lot during the Building plan check stage once the projects are submitted to the Building and Safety Department.

Please direct questions regarding this review sheet to City Geotechnical staff listed below.

Geotechnical Engineering Review by:



Kenneth Clements, G.E. # 2010, Exp. 6-30-14  
Geotechnical Engineering Reviewer (805-563-8909)  
Email: kclements@fugro.com

June 11, 2012

Date

Engineering Geology Review by:



6/18/12  
Date

Christopher Dean, C.E.G. #1751, Exp. 9-30-12  
Engineering Geology Reviewer (310-456-2489, x306)  
Email: cdean@malibucity.org

*This review sheet was prepared by City Geotechnical Staff  
contracted with Fugro as an agent of the City of Malibu.*

**FUGRO CONSULTANTS, INC.**   
4820 McGrath Street, Suite 100  
Ventura, California 93003-7778  
(805) 650-7000 (Ventura office)  
(310) 456-2489, x306 (City of Malibu)



# City of Malibu

23825 Stuart Ranch Road  
 Malibu, California 90265  
 (310) 456-2489 Fax (310) 317-1950

## GEOTECHNICAL REVIEW INVOICE/FEE FORM

PROJECT OWNER/APPLICANT: Robert Gold  
 PROJECT ADDRESS: 24120 Pacific Coast Highway  
 CITY GEOLOGY LOG NO: 2928  
 PLANNING NO: CDP 07-144; TTM 07-003  
 PLAN CHECK NO: \_\_\_\_\_

ITEM	STATUS	DATE	DEPOSIT	CHARGE	BALANCE	COMMENTS
DEPOSIT BY:			\$0.00		\$0.00	
CITY ADMINISTRATIVE FEE				\$0.00	\$0.00	
Document Retention Fee				\$0.00	\$0.00	
Past review time and meetings	Response Required	2/21/12		\$1,573.75	(\$1,573.75)	Awaiting response to comments
Supplemental Deposit		2/21/12	\$1,291.00		(\$282.75)	Check # 000073
Payment for past reviews		2/21/12	\$1,573.75	\$0.00	\$1,291.00	Check # 000073
City Administrative and Document Retention Fees		2/21/12		\$291.00	\$1,000.00	
Meeting with applicant at City Hall		2/21/12		\$155.00	\$845.00	
CDP 07-144, TTM 07-133	Response Required	5/7/12		\$2,603.50	(\$1,758.50)	
City Administrative fee		5/7/12		\$439.62	(\$2,198.12)	
Payment and supplemental deposit; document retention and City administrative fees		5/15/12	\$3,489.12	\$291.00	\$1,000.00	Check # 107
CDP 07-144, TTM 07-133	Approved	6/18/12		\$713.50	\$286.50	Planning only-5 lot subdivision
REFUND DUE APPLICANT						REFUND # _____
BALANCE DUE CITY OF MALIBU						CHECK # _____

**NOTES:**  
 \$1,250.00 Deposit required Geology AND Soils Review  
 \$625.00 Deposit required Geology OR Soils Review ONLY  
 \$XXX.XX Indicates Positive deposit balance  
 (\$XXX.XX) Indicates Negative balance, supplemental deposit required before further review.  
 PROJECTS REQUIRING AS-BUILT REVIEWS MAY REQUIRE ADDITIONAL FEE DEPOSIT



# City of Malibu

PLANNING REVIEW

23825 Stuart Ranch Road • Malibu, California 90265-4861  
(310) 456-2489 • Fax (310) 317-1950 • www.malibucity.org

## GEOTECHNICAL REVIEW SHEET

<u>Project Information</u>			
<b>Date:</b>	July 16, 2012	<b>Review Log #:</b>	2928-1
<b>Site Address:</b>	24108 Pacific Coast Highway		
<b>Lot/Tract/PM #:</b>	Lot 1	<b>Planning #:</b>	CDP 07-145
<b>Applicant/Contact:</b>	Robert Gold, <a href="mailto:rgold@bigrockpartners.com">rgold@bigrockpartners.com</a>	<b>BPC/GPC #:</b>	
<b>Contact Phone #:</b>	310-734-2353	<b>Fax #:</b>	310-734-2297
<b>Project Type:</b>	New Single-family residential development	<b>Planner:</b>	Ha Ly

<u>Submittal Information</u>	
<b>Consultant(s) / Report Date(s):</b> <i>(Current submittal(s) in Bold.)</i>	Leighton & Associates, Inc. (Mills, CEG 2034; Kim, RGE 2620): <b>5-16-12</b> , 3-7-12, 9-21-09 (two reports) Leighton & Associates, Inc. (Kim, RGE 2620; Sanchez, CEG 2221): 10-29-08 Earth Consultants International (Gath, CEG 1292; Layton, PG): 9-21-09 Leighton & Associates, Inc. (Kim, RGE 2620; Hillstrand, CEG 2366): 12-5-07; Ref: 8-29-01, 10-2-2000 Seismic Consultant: Earth Consultants International, Inc. (Gath, CEG 1292): 4-12-02, 2-25-02, 1-25-02, 12-19-01, 8-23-01, 2-6-2000 Ref: Converse Consultants: 8-8-88, 12-10-86, 10-18-85 Ref: Lockwood-Singh & Associates: 9-18-79
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<u>Review Findings</u>	
<b><u>Coastal Development Permit Review</u></b>	
<input checked="" type="checkbox"/>	The single-family residential development is <b>APPROVED</b> from a geotechnical perspective.
<input type="checkbox"/>	The single-family residential development is <b>NOT APPROVED</b> from a geotechnical perspective. The listed 'Review Comments' shall be addressed prior to approval.

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Fugro Project #: 3399.001

**Building Plan-Check Stage Review**

- Awaiting Building plan check submittal. Please respond to the listed 'Building Plan-Check Stage Review Comments' AND review and incorporate the attached 'Geotechnical Notes for Building Plan Check' into the plans.
- APPROVED from a geotechnical perspective. Please review the attached 'Geotechnical Notes for Building Plan Check' and incorporate into Building Plan-Check submittals.
- NOT APPROVED from a geotechnical perspective. The listed 'Building Plan-Check Stage Review Comments' shall be addressed prior to Building Plan-Check Stage approval.

**Remarks**

The building plans and geotechnical report were reviewed by the City from a geotechnical perspective. The project comprises constructing a new 8,057 square foot two-story single-family residence on Lot 1 with a 613 square foot basement, 893 square foot garage, 623 square foot pool cabana, grading (13,400 yards of overexcavation: 3,106 yards under structure; 646 yards for safety; 2,099 yards non-exempt; 363 yards of remedial fill, and 4,010 yards of export), retaining walls, swimming pool and spa, and new onsite wastewater treatment system (OWTS), consisting of a septic tank on the lot, a centralized treatment area adjacent to the gate house, and two seepage pits with 100% expansion on Lot 7 (undeveloped).

City geotechnical staff will review complete sets of building (for all structures) and grading plans for each residential lot during the Building plan check stage once the projects are submitted to the Building and Safety Department.

**NOTICE: Applicants shall be required to submit all Geotechnical reports reviewed by City Geotechnical Staff for this specific proposed project as a searchable PDF file on a CD at the time of Building Plan Check application.**

**Building Plan-Check Stage Review Comments:**

1. Please submit one copy of the Project Geotechnical Consultant's building plan check stage geotechnical report to City geotechnical staff for review.
2. The Consultant states that the applicant proposes to repair the small erosional gully on the north-descending slope above Pacific Coast Highway in the northeastern portion of the lot. Please perform slope stability analyses for this repair, and provide the results for review by City geotechnical staff.
3. The eastern margin of the proposed swimming pool extends beyond the Geotechnical Setback Line; the factor of safety of this portion of the pool is less than 1.5. Please provide specific stabilization recommendations for the pool in this area to demonstrate long-term stability of the swimming pool site.
4. The City of Malibu has adopted the 2011 Los Angeles County Building Code. The Project Geotechnical Consultant shall review the adopted Code and provide pertinent updates so that the proposed project meets the requirements of the new Building Code.
5. Two sets of final grading, retaining wall, OWTS, swimming pool/spa, cabana, and residence plans (**APPROVED BY BUILDING AND SAFETY**) incorporating the Project Geotechnical Consultant's recommendations and items in this review sheet must be **reviewed and wet stamped and manually signed by the Project Engineering Geologist and Project Geotechnical Engineer**. City geotechnical staff will review the plans for conformance with the Project Geotechnical Consultants' recommendations and items in this review sheet over the counter at City Hall. **Appointments for final review and approval of the plans may be made by calling or emailing City Geotechnical staff.**

Please direct questions regarding this review sheet to City Geotechnical staff listed below.

Geotechnical Engineering Review by:



Kenneth Clements, G.E. # 2010, Exp. 6-30-14  
Geotechnical Engineering Reviewer (805-563-8909)  
Email: kclements@fugro.com

July 16, 2012  
Date

Engineering Geology Review by:



Christopher Dean, C.E.G. #1751, Exp. 9-30-12  
Engineering Geology Reviewer (310-456-2489, x306)  
Email: cdean@malibucity.org

7/16/12  
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*This review sheet was prepared by City Geotechnical Staff  
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4820 McGrath Street, Suite 100  
Ventura, California 93003-7778  
(805) 650-7000 (Ventura office)  
(310) 456-2489, x306 (City of Malibu)



# City of Malibu

– GEOTECHNICAL –

## NOTES FOR BUILDING PLAN-CHECK

The following standard items should be incorporated into Building Plan-Check submittals, as appropriate:

1. One set of grading, retaining wall, OWTS, swimming pool/spa, cabana, and residence plans, incorporating the Geotechnical Consultant's recommendations and items in this review sheet, must be submitted to City geotechnical staff for review. Additional review comments may be raised at that time that may require a response.
  2. Show the name, address, and phone number of the Geotechnical Consultant(s) on the cover sheet of the Building Plans.
  3. Include the following note on Grading and Foundation Plans: *"Subgrade soils shall be tested for Expansion Index prior to pouring footings or slabs; Foundation Plans shall be reviewed and revised by the Geotechnical Consultant, as appropriate."*
  4. Include the following note on the Foundation Plans: *"All foundation excavations must be observed and approved by the Geotechnical Consultant prior to placement of reinforcing steel."*
  5. The Foundation Plans for the proposed addition and deck shall clearly depict the embedment material and minimum depth of embedment for the foundations in accordance with the Geotechnical Consultant's recommendations.
  6. Foundation setback distances from descending slopes shall be in accordance with Section 1808 of the Malibu Building Code, or the requirements of the Geotechnical Consultant's recommendations, whichever are more stringent. Show minimum foundation setback distances on the foundation plans, as applicable.
  7. Show the onsite wastewater treatment system on the Site Plan.
  8. Please contact the Building and Safety Department regarding the submittal requirements for a grading and drainage plan review.
  9. A comprehensive Site Drainage Plan, incorporating the Geotechnical Consultant's recommendations, shall be included in the Plans. Show all area drains, outlets, and non-erosive drainage devices on the Plans. Water shall not be allowed to flow uncontrolled over descending slopes.
- depths of overexcavation, as applicable.
2. Prior to final approval of the project, an as-built compaction report prepared by the Project Geotechnical Consultant must be submitted to the City for review. The report must include the results of all density tests as well as a map depicting the limits of fill, locations of all density tests, locations and elevations of all removal bottoms, locations and elevations of all keyways and back drains, and locations and elevations of all retaining wall backdrains and outlets. Geologic conditions exposed during grading must be depicted on an as-built geologic map. This comment must be included as a note on the grading plans.

### Retaining Walls (As Applicable)

1. Show retaining wall backdrain and backfill design, as recommended by the Geotechnical Consultant, on the Plans.
2. Retaining walls separate from a residence require separate permits. Contact the Building and Safety Department for permit information. One set of retaining wall plans shall be submitted to the City for review by City geotechnical staff. Additional concerns may be raised at that time which may require a response by the Project Geotechnical Consultant and applicant.

### Grading Plans (as Applicable)

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Fugro Project #: 3399.001



# City of Malibu **PLANNING REVIEW**

23825 Stuart Ranch Road • Malibu, California 90265-4861  
(310) 456-2489 • Fax (310) 317-1950 • www.malibucity.org

## GEOTECHNICAL REVIEW SHEET

### Project Information

<b>Date:</b>	July 16, 2012	<b>Review Log #:</b>	2928-2
<b>Site Address:</b>	24120 Pacific Coast Highway	<b>Planning #:</b>	CDP 07-146
<b>Lot/Tract/PM #:</b>	Lot 2	<b>BPC/GPC #:</b>	
<b>Applicant/Contact:</b>	Robert Gold, <a href="mailto:rgold@bigrockpartners.com">rgold@bigrockpartners.com</a>	<b>Planner:</b>	Ha Ly
<b>Contact Phone #:</b>	310-734-2353	<b>Fax #:</b>	310-734-2297
<b>Project Type:</b>	New Single-family residential development		

### Submittal Information

**Consultant(s) / Report Date(s):** Leighton & Associates, Inc. (Mills, CEG 2034; Kim, RGE 2620):  
*(Current submittal(s) in Bold.)* **5-16-12, 3-7-12, 9-21-09** (two reports)  
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Ref: Converse Consultants: 8-8-88, 12-10-86, 10-18-85  
Ref: Lockwood-Singh & Associates: 9-18-79

**Building plans prepared by Landry Design Group dated February 21, 2012.**

Grading and Drainage Plan prepared by Psomas, dated 10-23-09, one sheets, 50-scale.

Ensitu Engineering, Inc. (Yaroslaski, RCE 60149): 3-7-12 (three reports), 9-21-09 (two reports)

Preliminary OWTS Plans prepared by Ensitu Engineering, Inc., dated March 7, 2012, three sheets.

Lawrence Young (REHS # 3738): 5-19-10, 9-12-08

**Previous Reviews:** 5-7-12, 1-12-10, 3-20-08, Review Referral Sheet dated 2-15-08;  
Ref: 10-1-01

### Review Findings

#### Coastal Development Permit Review

- The single-family residential development is **APPROVED** from a geotechnical perspective.
- The single-family residential development is **NOT APPROVED** from a geotechnical perspective. The listed 'Review Comments' shall be addressed prior to approval.

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Fugro Project # 3399.001

**Building Plan-Check Stage Review**

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- APPROVED** from a geotechnical perspective. Please review the attached 'Geotechnical Notes for Building Plan Check' and incorporate into Building Plan-Check submittals.
- NOT APPROVED** from a geotechnical perspective. The listed 'Building Plan-Check Stage Review Comments' shall be addressed prior to Building Plan-Check Stage approval.

**Remarks**

The building plans and geotechnical report were reviewed by the City from a geotechnical perspective. The project comprises constructing a new 8,634 square foot two-story single-family residence on Lot 2 with a 426 square foot basement, 898 square foot garage, 458 square foot gym, grading (12,600 yards of overexcavation; 2,657 yards under structure; 1,242 yards for safety; 3,456 yards non-exempt; and 1,701 yards of export), retaining walls, patios, swimming pool and spa, and new onsite wastewater treatment system (OWTS), consisting of a septic tank on the lot, a centralized treatment area adjacent to the gate house, and two seepage pits with 100% expansion on Lot 7 (undeveloped).

City geotechnical staff will review complete sets of building (for all structures) and grading plans for each residential lot during the Building plan check stage once the projects are submitted to the Building and Safety Department.

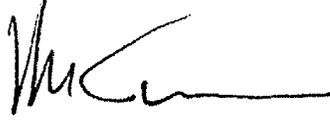
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**Building Plan-Check Stage Review Comments:**

1. Please submit one copy of the Project Geotechnical Consultant's building plan check stage geotechnical report to City geotechnical staff for review.
2. The eastern portions of the residence and garage extend beyond the Geotechnical Setback Line: the factor of safety of these portions of the garage and residence is less than 1.5. Please provide specific stabilization recommendations for these portions of the garage and residence to demonstrate long-term stability of the residence and garage.
3. Portions of the proposed fill slopes south and east of the pool and residence are outside the Geotechnical Setback Line. Please discuss these slopes with regard to their stability in areas where the factor of safety is less than 1.5. Mitigation measures could be required.
4. The City of Malibu has adopted the 2011 Los Angeles County Building Code. The Project Geotechnical Consultant shall review the adopted Code and provide pertinent updates so that the proposed project meets the requirements of the new Building Code.
5. Two sets of final grading, retaining wall, OWTS, swimming pool/spa, cabana, and residence plans (**APPROVED BY BUILDING AND SAFETY**) incorporating the Project Geotechnical Consultant's recommendations and items in this review sheet must be **reviewed and wet stamped and manually signed by the Project Engineering Geologist and Project Geotechnical Engineer**. City geotechnical staff will review the plans for conformance with the Project Geotechnical Consultants' recommendations and items in this review sheet over the counter at City Hall. **Appointments for final review and approval of the plans may be made by calling or emailing City Geotechnical staff.**

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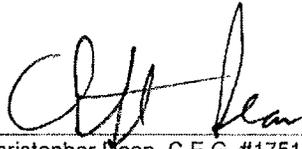
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# City of Malibu

- GEOTECHNICAL -

## NOTES FOR BUILDING PLAN-CHECK

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  6. Foundation setback distances from descending slopes shall be in accordance with Section 1808 of the Malibu Building Code, or the requirements of the Geotechnical Consultant's recommendations, whichever are more stringent. Show minimum foundation setback distances on the foundation plans, as applicable.
  7. Show the onsite wastewater treatment system on the Site Plan.
  8. Please contact the Building and Safety Department regarding the submittal requirements for a grading and drainage plan review.
  9. A comprehensive Site Drainage Plan, incorporating the Geotechnical Consultant's recommendations, shall be included in the Plans. Show all area drains, outlets, and non-erosive drainage devices on the Plans. Water shall not be allowed to flow uncontrolled over descending slopes.
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Fugro Project #: 3399 001



# City of Malibu

PLANNING REVIEW

23825 Stuart Ranch Road • Malibu, California 90265-4861  
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## GEOTECHNICAL REVIEW SHEET

<u>Project Information</u>			
Date:	July 16, 2012	Review Log #:	2928-3
Site Address:	24134 Pacific Coast Highway	Planning #:	CDP 07-147
Lot/Tract/PM #:	Lot 3	BPC/GPC #:	
Applicant/Contact:	Robert Gold, <a href="mailto:rgold@bigrockpartners.com">rgold@bigrockpartners.com</a>	Planner:	Ha Ly
Contact Phone #:	310-734-2353	Fax #:	310-734-2297
Project Type:	New Single-family residential development		

<u>Submittal Information</u>	
<b>Consultant(s) / Report Date(s):</b> <i>(Current submittal(s) in Bold.)</i>	Leighton & Associates, Inc. (Mills, CEG 2034; Kim, RGE 2620); <b>5-16-12, 3-7-12, 9-21-09</b> (two reports) Leighton & Associates, Inc. (Kim, RGE 2620; Sanchez, CEG 2221); 10-29-08 Earth Consultants International (Gath, CEG 1292; Layton, PG ); 9-21-09 Leighton & Associates, Inc. (Kim, RGE 2620; Hillstrand, CEG 2366); 12-5-07; Ref: 8-29-01, 10-2-2000 Seismic Consultant: Earth Consultants International, Inc. (Gath, CEG 1292); 4-12-02, 2-25-02, 1-25-02, 12-19-01, 8-23-01, 2-6-2000 Ref: Converse Consultants: 8-8-88, 12-10-86, 10-18-85 Ref: Lockwood-Singh & Associates: 9-18-79
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<u>Review Findings</u>	
<b><u>Coastal Development Permit Review</u></b>	
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**Remarks**

The building plans and geotechnical report were reviewed by the City from a geotechnical perspective. The project comprises constructing a new 8,345 square foot two-story single-family residence on Lot 2 with a 455 square foot basement, 957 square foot garage, 435 square foot cabana and 458 square foot guest house, grading (17,100 yards of overexcavation; 2,585 yards under structure; 2,575 yards non-exempt; and 1,140 yards of export), retaining walls, patios, swimming pool and spa, and new onsite wastewater treatment system (OWTS), consisting of a septic tank on the lot, a centralized treatment area adjacent to the gate house, and two seepage pits with 100% expansion on Lot 7 (undeveloped).

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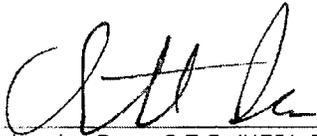
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# City of Malibu

- GEOTECHNICAL -

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### Retaining Walls (As Applicable)

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2. Retaining walls separate from a residence require separate permits. Contact the Building and Safety Department for permit information. One set of retaining wall plans shall be submitted to the City for review by City geotechnical staff. Additional concerns may be raised at that time which may require a response by the Project Geotechnical Consultant and applicant.

### Grading Plans (as Applicable)

1. Grading Plans shall clearly depict the limits and

Guidelines for geotechnical reports (dated February 2002) are available on the City of Malibu web site:  
<http://www.ci.malibu.ca.us/index.cfm?fuseaction=nav&navid=30>.

Fugro Project #: 3399.001



# City of Malibu

PLANNING REVIEW

23825 Stuart Ranch Road • Malibu, California 90265-4861  
(310) 456-2489 • Fax (310) 317-1950 • www.malibucity.org

## GEOTECHNICAL REVIEW SHEET

### Project Information

<b>Date:</b>	July 16, 2012	<b>Review Log #:</b>	2928-4
<b>Site Address:</b>	24150 Pacific Coast Highway	<b>Planning #:</b>	CDP 07-148
<b>Lot/Tract/PM #:</b>	Lot 4	<b>BPC/GPC #:</b>	
<b>Applicant/Contact:</b>	Robert Gold, <a href="mailto:rgold@bigrockpartners.com">rgold@bigrockpartners.com</a>	<b>Planner:</b>	Ha Ly
<b>Contact Phone #:</b>	310-734-2353	<b>Fax #:</b>	310-734-2297
<b>Project Type:</b>	New Single-family residential development		

### Submittal Information

**Consultant(s) / Report Date(s):** Leighton & Associates, Inc. (Mills, CEG 2034; Kim, RGE 2620):  
*(Current submittal(s) in Bold.)* **5-16-12, 3-7-12, 9-21-09 (two reports)**  
Leighton & Associates, Inc. (Kim, RGE 2620; Sanchez, CEG 2221):  
10-29-08  
Earth Consultants International (Gath, CEG 1292; Layton, PG):  
9-21-09  
Leighton & Associates, Inc. (Kim, RGE 2620; Hillstrand, CEG 2366):  
12-5-07; Ref: 8-29-01, 10-2-2000  
Seismic Consultant: Earth Consultants International, Inc. (Gath, CEG  
1292): 4-12-02, 2-25-02, 1-25-02, 12-19-01, 8-23-01, 2-6-2000  
Ref: Converse Consultants: 8-8-88, 12-10-86, 10-18-85  
Ref: Lockwood-Singh & Associates: 9-18-79

**Building plans prepared by Landry Design Group dated February 21, 2012.**

Grading and Drainage Plan prepared by Psomas, dated 10-23-09, one sheets, 50-scale.

Ensitu Engineering, Inc. (Yaroslaski, RCE 60149): 3-7-12 (three reports), 9-21-09 (two reports)

Preliminary OWTS Plans prepared by Ensitu Engineering, Inc., dated March 7, 2012, three sheets.

Lawrence Young (REHS # 3738): 5-19-10, 9-12-08

**Previous Reviews:** 5-7-12, 1-12-10, 3-20-08, Review Referral Sheet dated 2-15-08; Ref: 10-1-01

### Review Findings

#### Coastal Development Permit Review

- The single-family residential development is **APPROVED** from a geotechnical perspective.
- The single-family residential development is **NOT APPROVED** from a geotechnical perspective. The listed 'Review Comments' shall be addressed prior to approval.

Guidelines for geotechnical reports (dated February 2002) are available on the City of Malibu web site:  
<http://www.ci.malibu.ca.us/index.cfm?fuseaction=nav&navid=30>

Fugro Project # 3399 001

**Building Plan-Check Stage Review**

- Awaiting Building plan check submittal.** Please respond to the listed 'Building Plan-Check Stage Review Comments' AND review and incorporate the attached 'Geotechnical Notes for Building Plan Check' into the plans.
- APPROVED** from a geotechnical perspective. Please review the attached 'Geotechnical Notes for Building Plan Check' and incorporate into Building Plan-Check submittals.
- NOT APPROVED** from a geotechnical perspective. The listed 'Building Plan-Check Stage Review Comments' shall be addressed prior to Building Plan-Check Stage approval.

**Remarks**

The building plans and geotechnical report were reviewed by the City from a geotechnical perspective. The project comprises constructing a new 8,440 square foot two-story single-family residence on Lot 4 with a 407 square foot basement, 956 square foot garage, 298 square foot pool cabana, grading (12,800 yards of overexcavation; 2,385 yards under structure; 300 yards for safety; 2,507 yards non-exempt; and 118 yards of export), retaining walls, patios, swimming pool and spa, and new onsite wastewater treatment system (OWTS), consisting of a septic tank on the lot, a centralized treatment area adjacent to the gate house, and two seepage pits with 100% expansion on Lot 7 (undeveloped).

City geotechnical staff will review complete sets of building (for all structures) and grading plans for each residential lot during the Building plan check stage once the projects are submitted to the Building and Safety Department.

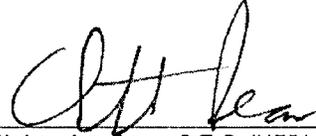
**NOTICE: Applicants shall be required to submit all Geotechnical reports reviewed by City Geotechnical Staff for this specific proposed project as a searchable PDF file on a CD at the time of Building Plan Check application.**

**Building Plan-Check Stage Review Comments:**

1. Please submit one copy of the Project Geotechnical Consultant's building plan check stage geotechnical report to City geotechnical staff for review.
2. The City of Malibu has adopted the 2011 Los Angeles County Building Code. The Project Geotechnical Consultant shall review the adopted Code and provide pertinent updates so that the proposed project meets the requirements of the new Building Code.
3. Two sets of final grading, retaining wall, OWTS, swimming pool/spa, pool cabana, and residence plans (**APPROVED BY BUILDING AND SAFETY**) incorporating the Project Geotechnical Consultant's recommendations and items in this review sheet must be **reviewed and wet stamped and manually signed by the Project Engineering Geologist and Project Geotechnical Engineer**. City geotechnical staff will review the plans for conformance with the Project Geotechnical Consultants' recommendations and items in this review sheet over the counter at City Hall. **Appointments for final review and approval of the plans may be made by calling or emailing City Geotechnical staff.**

Please direct questions regarding this review sheet to City Geotechnical staff listed below.

Geotechnical Engineering Review by:  July 16, 2012  
 Kenneth Clements, G.E. # 2010, Exp. 6-30-14 Date  
 Geotechnical Engineering Reviewer (805-563-8909)  
 Email: kclements@fugro.com

Engineering Geology Review by:  7/16/12  
 Christopher Dean, C.E.G. #1751, Exp. 9-30-12 Date  
 Engineering Geology Reviewer (310-456-2489, x306)  
 Email: cdean@malibucity.org

*This review sheet was prepared by City Geotechnical Staff contracted with Fugro as an agent of the City of Malibu.*

**FUGRO CONSULTANTS, INC.**   
 4820 McGrath Street, Suite 100  
 Ventura, California 93003-7778  
 (805) 650-7000 (Ventura office)  
 (310) 456-2489, x306 (City of Malibu)



# City of Malibu

- GEOTECHNICAL -

## NOTES FOR BUILDING PLAN-CHECK

The following standard items should be incorporated into Building Plan-Check submittals, as appropriate:

1. One set of grading, retaining wall, OWTS, swimming pool/spa, pool cabana, garage, and residence plans, incorporating the Geotechnical Consultant's recommendations and items in this review sheet, must be submitted to City geotechnical staff for review. **Additional review comments may be raised at that time that may require a response.**
  2. Show the name, address, and phone number of the Geotechnical Consultant(s) on the cover sheet of the Building Plans.
  3. Include the following note on Grading and Foundation Plans: "*Subgrade soils shall be tested for Expansion Index prior to pouring footings or slabs; Foundation Plans shall be reviewed and revised by the Geotechnical Consultant, as appropriate.*"
  4. Include the following note on the Foundation Plans: "*All foundation excavations must be observed and approved by the Geotechnical Consultant prior to placement of reinforcing steel.*"
  5. The Foundation Plans for the proposed addition and deck shall clearly depict the embedment material and minimum depth of embedment for the foundations in accordance with the Geotechnical Consultant's recommendations.
  6. Foundation setback distances from descending slopes shall be in accordance with Section 1808 of the Malibu Building Code, or the requirements of the Geotechnical Consultant's recommendations, whichever are more stringent. Show minimum foundation setback distances on the foundation plans, as applicable.
  7. Show the onsite wastewater treatment system on the Site Plan.
  8. Please contact the Building and Safety Department regarding the submittal requirements for a grading and drainage plan review.
  9. A comprehensive Site Drainage Plan, incorporating the Geotechnical Consultant's recommendations, shall be included in the Plans. Show all area drains, outlets, and non-erosive drainage devices on the Plans. Water shall not be allowed to flow uncontrolled over descending slopes.
- depths of overexcavation, as applicable.
2. Prior to final approval of the project, an as-built compaction report prepared by the Project Geotechnical Consultant must be submitted to the City for review. The report must include the results of all density tests as well as a map depicting the limits of fill, locations of all density tests, locations and elevations of all removal bottoms, locations and elevations of all keyways and back drains, and locations and elevations of all retaining wall backdrains and outlets. Geologic conditions exposed during grading must be depicted on an as-built geologic map. This comment must be included as a note on the grading plans.

### Retaining Walls (As Applicable)

1. Show retaining wall backdrain and backfill design, as recommended by the Geotechnical Consultant, on the Plans.
2. Retaining walls separate from a residence require separate permits. Contact the Building and Safety Department for permit information. One set of retaining wall plans shall be submitted to the City for review by City geotechnical staff. Additional concerns may be raised at that time which may require a response by the Project Geotechnical Consultant and applicant.

### Grading Plans (as Applicable)

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<http://www.ci.malibu.ca.us/index.cfm?fuseaction=nav&navid=30>.

Fugro Project #: 3399 001



# City of Malibu

PLANNING REVIEW

23825 Stuart Ranch Road • Malibu, California 90265-4861  
(310) 456-2489 • Fax (310) 317-1950 • www.malibucity.org

## GEOTECHNICAL REVIEW SHEET

<u>Project Information</u>			
Date:	July 16, 2012	Review Log #:	2928-5
Site Address:	24174 Pacific Coast Highway		
Lot/Tract/PM #:	Lot 5	Planning #:	CDP 07-149
Applicant/Contact:	Robert Gold, <a href="mailto:rgold@bigrockpartners.com">rgold@bigrockpartners.com</a>	BPC/GPC #:	
Contact Phone #:	310-734-2353	Fax #:	310-734-2297
		Planner:	Ha Ly
Project Type:	New Single-family residential development		

<u>Submittal Information</u>	
<b>Consultant(s) / Report Date(s):</b> <i>(Current submittal(s) in Bold.)</i>	Leighton & Associates, Inc. (Mills, CEG 2034; Kim, RGE 2620): <b>5-16-12, 3-7-12, 9-21-09</b> (two reports) Leighton & Associates, Inc. (Kim, RGE 2620; Sanchez, CEG 2221): 10-29-08 Earth Consultants International (Gath, CEG 1292; Layton, PG): 9-21-09 Leighton & Associates, Inc. (Kim, RGE 2620; Hillstrand, CEG 2366): 12-5-07; Ref: 8-29-01, 10-2-2000 Seismic Consultant: Earth Consultants International, Inc. (Gath, CEG 1292): 4-12-02, 2-25-02, 1-25-02, 12-19-01, 8-23-01, 2-6-2000 Ref: Converse Consultants: 8-8-88, 12-10-86, 10-18-85 Ref: Lockwood-Singh & Associates: 9-18-79
	<b>Building plans prepared by Landry Design Group dated February 21, 2012.</b> Grading and Drainage Plan prepared by Psomas, dated 10-23-09, one sheets, 50-scale. Ensitu Engineering, Inc. (Yaroslaski, RCE 60149): 3-7-12 (three reports), 9-21-09 (two reports) Preliminary OWTS Plans prepared by Ensitu Engineering, Inc., dated March 7, 2012, three sheets. Lawrence Young (REHS # 3738): 5-19-10, 9-12-08
<b>Previous Reviews:</b>	5-7-12, 1-12-10, 3-20-08, Review Referral Sheet dated 2-15-08; Ref: 10-1-01

<u>Review Findings</u>	
<b><u>Coastal Development Permit Review</u></b>	
<input checked="" type="checkbox"/>	The single-family residential development is <b><u>APPROVED</u></b> from a geotechnical perspective.
<input type="checkbox"/>	The single-family residential development is <b><u>NOT APPROVED</u></b> from a geotechnical perspective. The listed 'Review Comments' shall be addressed prior to approval.

Guidelines for geotechnical reports (dated February 2002) are available on the City of Malibu web site:  
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Fugro Project # 3399 001

**Building Plan-Check Stage Review**

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- APPROVED** from a geotechnical perspective. Please review the attached 'Geotechnical Notes for Building Plan Check' and incorporate into Building Plan-Check submittals.
- NOT APPROVED** from a geotechnical perspective. The listed 'Building Plan-Check Stage Review Comments' shall be addressed prior to Building Plan-Check Stage approval.

**Remarks**

The building plans and geotechnical report were reviewed by the City from a geotechnical perspective. The project comprises constructing a new 8,334 square foot two-story single-family residence on Lot 5 with a 337 square foot basement, 885 square foot garage, 188 square foot pool bath, 479 square foot guest house, grading (31,400 yards of overexcavation; 3,004 yards under structure; 1,395 yards for safety; 3,466 yards non-exempt; and 1,947 yards of export), retaining walls, patios, swimming pool and spa, and new onsite wastewater treatment system (OWTS), consisting of a septic tank on the lot, a centralized treatment area adjacent to the gate house, and two seepage pits with 100% expansion on Lot 7 (undeveloped).

City geotechnical staff will review complete sets of building (for all structures) and grading plans for each residential lot during the Building plan check stage once the projects are submitted to the Building and Safety Department.

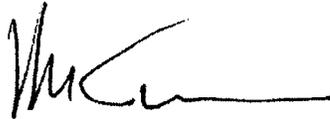
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**Building Plan-Check Stage Review Comments:**

1. Please submit one copy of the Project Geotechnical Consultant's building plan check stage geotechnical report to City geotechnical staff for review.
2. Portions of the proposed fill slopes south, west, and east of the pool and residence are outside the Geotechnical Setback Line. Please discuss these slopes with regard to their stability in areas where the factor of safety is less than 1.5. Mitigation measures could be required.
3. The City of Malibu has adopted the 2011 Los Angeles County Building Code. The Project Geotechnical Consultant shall review the adopted Code and provide pertinent updates so that the proposed project meets the requirements of the new Building Code.
4. Two sets of final grading, retaining wall, OWTS, swimming pool/spa, pool cabana, and residence plans (**APPROVED BY BUILDING AND SAFETY**) incorporating the Project Geotechnical Consultant's recommendations and items in this review sheet must be reviewed and wet stamped and manually signed by the Project Engineering Geologist and Project Geotechnical Engineer. City geotechnical staff will review the plans for conformance with the Project Geotechnical Consultants' recommendations and items in this review sheet over the counter at City Hall. **Appointments for final review and approval of the plans may be made by calling or emailing City Geotechnical staff.**

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Geotechnical Engineering Review by:



Kenneth Clements, G.E. # 2010, Exp. 6-30-14  
Geotechnical Engineering Reviewer (805-563-8909)  
Email: kclements@fugro.com

July 16, 2012  
Date

Engineering Geology Review by:



Christopher Dean, C.E.G. #1751, Exp. 9-30-12  
Engineering Geology Reviewer (310-456-2489, x306)  
Email: cdean@malibucity.org

7/16/12  
Date

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# City of Malibu

- GEOTECHNICAL -

## NOTES FOR BUILDING PLAN-CHECK

The following standard items should be incorporated into Building Plan-Check submittals, as appropriate:

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  3. Include the following note on Grading and Foundation Plans: "*Subgrade soils shall be tested for Expansion Index prior to pouring footings or slabs; Foundation Plans shall be reviewed and revised by the Geotechnical Consultant, as appropriate.*"
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### Retaining Walls (As Applicable)

1. Show retaining wall backdrain and backfill design, as recommended by the Geotechnical Consultant, on the Plans.
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Fugro Project # : 3399.001



# City of Malibu

**PLANNING REVIEW**

23825 Stuart Ranch Road • Malibu, California 90265-4861  
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## GEOTECHNICAL REVIEW SHEET

<u>Project Information</u>			
<b>Date:</b>	July 16, 2012	<b>Review Log #:</b>	2928-1
<b>Site Address:</b>	24108 Pacific Coast Highway		
<b>Lot/Tract/PM #:</b>	Lot 1	<b>Planning #:</b>	CDP 07-145
<b>Applicant/Contact:</b>	Robert Gold, <a href="mailto:rgold@bigrockpartners.com">rgold@bigrockpartners.com</a>	<b>BPC/GPC #:</b>	
<b>Contact Phone #:</b>	310-734-2353	<b>Fax #:</b>	310-734-2297
		<b>Planner:</b>	Ha Ly
<b>Project Type:</b>	New Single-family residential development		

<u>Submittal Information</u>	
<b>Consultant(s) / Report Date(s):</b> <i>(Current submittal(s) in Bold.)</i>	Leighton & Associates, Inc. (Mills, CEG 2034; Kim, RGE 2620): <b>5-16-12, 3-7-12, 9-21-09</b> (two reports) Leighton & Associates, Inc. (Kim, RGE 2620; Sanchez, CEG 2221): 10-29-08 Earth Consultants International (Gath, CEG 1292; Layton, PG): 9-21-09 Leighton & Associates, Inc. (Kim, RGE 2620; Hillstrand, CEG 2366): 12-5-07; Ref: 8-29-01, 10-2-2000 Seismic Consultant: Earth Consultants International, Inc. (Gath, CEG 1292): 4-12-02, 2-25-02, 1-25-02, 12-19-01, 8-23-01, 2-6-2000 Ref: Converse Consultants: 8-8-88, 12-10-86, 10-18-85 Ref: Lockwood-Singh & Associates: 9-18-79
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<b><u>Coastal Development Permit Review</u></b>	
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Fugro Project #: 3399.001

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- NOT APPROVED** from a geotechnical perspective. The listed 'Building Plan-Check Stage Review Comments' shall be addressed prior to Building Plan-Check Stage approval.

**Remarks**

The building plans and geotechnical report were reviewed by the City from a geotechnical perspective. The project comprises constructing a new 8,057 square foot two-story single-family residence on Lot 1 with a 613 square foot basement, 893 square foot garage, 623 square foot pool cabana, grading (13,400 yards of overexcavation; 3,106 yards under structure; 646 yards for safety; 2,099 yards non-exempt; 363 yards of remedial fill, and 4,010 yards of export), retaining walls, swimming pool and spa, and new onsite wastewater treatment system (OWTS), consisting of a septic tank on the lot, a centralized treatment area adjacent to the gate house, and two seepage pits with 100% expansion on Lot 7 (undeveloped).

City geotechnical staff will review complete sets of building (for all structures) and grading plans for each residential lot during the Building plan check stage once the projects are submitted to the Building and Safety Department.

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**Building Plan-Check Stage Review Comments:**

1. Please submit one copy of the Project Geotechnical Consultant's building plan check stage geotechnical report to City geotechnical staff for review.
2. The Consultant states that the applicant proposes to repair the small erosional gully on the north-descending slope above Pacific Coast Highway in the northeastern portion of the lot. Please perform slope stability analyses for this repair, and provide the results for review by City geotechnical staff.
3. The eastern margin of the proposed swimming pool extends beyond the Geotechnical Setback Line; the factor of safety of this portion of the pool is less than 1.5. Please provide specific stabilization recommendations for the pool in this area to demonstrate long-term stability of the swimming pool site.
4. The City of Malibu has adopted the 2011 Los Angeles County Building Code. The Project Geotechnical Consultant shall review the adopted Code and provide pertinent updates so that the proposed project meets the requirements of the new Building Code.
5. Two sets of final grading, retaining wall, OWTS, swimming pool/spa, cabana, and residence plans (**APPROVED BY BUILDING AND SAFETY**) incorporating the Project Geotechnical Consultant's recommendations and items in this review sheet must be **reviewed and wet stamped and manually signed by the Project Engineering Geologist and Project Geotechnical Engineer**. City geotechnical staff will review the plans for conformance with the Project Geotechnical Consultants' recommendations and items in this review sheet over the counter at City Hall. **Appointments for final review and approval of the plans may be made by calling or emailing City Geotechnical staff.**

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# City of Malibu

- GEOTECHNICAL -

## NOTES FOR BUILDING PLAN-CHECK

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  6. Foundation setback distances from descending slopes shall be in accordance with Section 1808 of the Malibu Building Code, or the requirements of the Geotechnical Consultant's recommendations, whichever are more stringent. Show minimum foundation setback distances on the foundation plans, as applicable.
  7. Show the onsite wastewater treatment system on the Site Plan.
  8. Please contact the Building and Safety Department regarding the submittal requirements for a grading and drainage plan review.
  9. A comprehensive Site Drainage Plan, incorporating the Geotechnical Consultant's recommendations, shall be included in the Plans. Show all area drains, outlets, and non-erosive drainage devices on the Plans. Water shall not be allowed to flow uncontrolled over descending slopes.
2. Prior to final approval of the project, an as-built compaction report prepared by the Project Geotechnical Consultant must be submitted to the City for review. The report must include the results of all density tests as well as a map depicting the limits of fill, locations of all removal tests, locations and elevations of all removal bottoms, locations and elevations of all keyways and back drains, and locations and elevations of all retaining wall backdrains and outlets. Geologic conditions exposed during grading must be depicted on an as-built geologic map. This comment must be included as a note on the grading plans.

### Retaining Walls (As Applicable)

1. Show retaining wall backdrain and backfill design, as recommended by the Geotechnical Consultant, on the Plans.
2. Retaining walls separate from a residence require separate permits. Contact the Building and Safety Department for permit information. One set of retaining wall plans shall be submitted to the City for review by City geotechnical staff. Additional concerns may be raised at that time which may require a response by the Project Geotechnical Consultant and applicant.

### Grading Plans (as Applicable)

1. Grading Plans shall clearly depict the limits and

Guidelines for geotechnical reports (dated February 2002) are available on the City of Malibu web site:  
<http://www.ci.malibu.ca.us/index.cfm?fuseaction=nav&navid=30>

Fugro Project #: 3399.001



# City of Malibu PLANNING REVIEW

23825 Stuart Ranch Road • Malibu, California 90265-4861  
(310) 456-2489 • Fax (310) 317-1950 • www.malibucity.org

## GEOTECHNICAL REVIEW SHEET

<u>Project Information</u>		Review Log #:	2928-2
Date:	July 16, 2012	Planning #:	CDP 07-146
Site Address:	24120 Pacific Coast Highway	BPC/GPC #:	
Lot/Tract/PM #:	Lot 2	Planner:	Ha Ly
Applicant/Contact:	Robert Gold, <a href="mailto:rgold@bigrockpartners.com">rgold@bigrockpartners.com</a>		
Contact Phone #:	310-734-2353 Fax #: 310-734-2297		
Project Type:	New Single-family residential development		

<u>Submittal Information</u>	
<b>Consultant(s) / Report Date(s):</b> <i>(Current submittal(s) in Bold.)</i>	Leighton & Associates, Inc. (Mills, CEG 2034; Kim, RGE 2620): <b>5-16-12, 3-7-12, 9-21-09</b> (two reports) Leighton & Associates, Inc. (Kim, RGE 2620; Sanchez, CEG 2221): 10-29-08 Earth Consultants International (Gath, CEG 1292; Layton, PG ): 9-21-09 Leighton & Associates, Inc. (Kim, RGE 2620; Hillstrand, CEG 2366): 12-5-07; Ref: 8-29-01, 10-2-2000 Seismic Consultant: Earth Consultants International, Inc. (Gath, CEG 1292): 4-12-02, 2-25-02, 1-25-02, 12-19-01, 8-23-01, 2-6-2000 Ref: Converse Consultants: 8-8-88, 12-10-86, 10-18-85 Ref: Lockwood-Singh & Associates: 9-18-79
	<b>Building plans prepared by Landry Design Group dated February 21, 2012.</b> Grading and Drainage Plan prepared by Psomas, dated 10-23-09, one sheets, 50-scale. Ensitu Engineering, Inc. (Yaroslaski, RCE 60149): 3-7-12 (three reports), 9-21-09 (two reports) Preliminary OWTS Plans prepared by Ensitu Engineering, Inc., dated March 7, 2012, three sheets. Lawrence Young (REHS # 3738): 5-19-10, 9-12-08
<b>Previous Reviews:</b>	5-7-12, 1-12-10, 3-20-08, Review Referral Sheet dated 2-15-08; Ref: 10-1-01

<u>Review Findings</u>	
<b><u>Coastal Development Permit Review</u></b>	
<input checked="" type="checkbox"/>	The single-family residential development is <b>APPROVED</b> from a geotechnical perspective.
<input type="checkbox"/>	The single-family residential development is <b>NOT APPROVED</b> from a geotechnical perspective. The listed 'Review Comments' shall be addressed prior to approval.

Guidelines for geotechnical reports (dated February 2002) are available on the City of Malibu web site:  
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**Building Plan-Check Stage Review**

- Awaiting Building plan check submittal.** Please respond to the listed 'Building Plan-Check Stage Review Comments' AND review and incorporate the attached 'Geotechnical Notes for Building Plan Check' into the plans.
- APPROVED** from a geotechnical perspective. Please review the attached 'Geotechnical Notes for Building Plan Check' and incorporate into Building Plan-Check submittals.
- NOT APPROVED** from a geotechnical perspective. The listed 'Building Plan-Check Stage Review Comments' shall be addressed prior to Building Plan-Check Stage approval.

**Remarks**

The building plans and geotechnical report were reviewed by the City from a geotechnical perspective. The project comprises constructing a new 8,634 square foot two-story single-family residence on Lot 2 with a 426 square foot basement, 898 square foot garage, 458 square foot gym, grading (12,600 yards of overexcavation; 2,657 yards under structure; 1,242 yards for safety; 3,456 yards non-exempt; and 1,701 yards of export), retaining walls, patios, swimming pool and spa, and new onsite wastewater treatment system (OWTS), consisting of a septic tank on the lot, a centralized treatment area adjacent to the gate house, and two seepage pits with 100% expansion on Lot 7 (undeveloped).

City geotechnical staff will review complete sets of building (for all structures) and grading plans for each residential lot during the Building plan check stage once the projects are submitted to the Building and Safety Department.

**NOTICE: Applicants shall be required to submit all Geotechnical reports reviewed by City Geotechnical Staff for this specific proposed project as a searchable PDF file on a CD at the time of Building Plan Check application.**

**Building Plan-Check Stage Review Comments:**

1. Please submit one copy of the Project Geotechnical Consultant's building plan check stage geotechnical report to City geotechnical staff for review.
2. The eastern portions of the residence and garage extend beyond the Geotechnical Setback Line; the factor of safety of these portions of the garage and residence is less than 1.5. Please provide specific stabilization recommendations for these portions of the garage and residence to demonstrate long-term stability of the residence and garage.
3. Portions of the proposed fill slopes south and east of the pool and residence are outside the Geotechnical Setback Line. Please discuss these slopes with regard to their stability in areas where the factor of safety is less than 1.5. Mitigation measures could be required.
4. The City of Malibu has adopted the 2011 Los Angeles County Building Code. The Project Geotechnical Consultant shall review the adopted Code and provide pertinent updates so that the proposed project meets the requirements of the new Building Code.
5. Two sets of final grading, retaining wall, OWTS, swimming pool/spa, cabana, and residence plans (**APPROVED BY BUILDING AND SAFETY**) incorporating the Project Geotechnical Consultant's recommendations and items in this review sheet must be reviewed and wet stamped and manually signed by the Project Engineering Geologist and Project Geotechnical Engineer. City geotechnical staff will review the plans for conformance with the Project Geotechnical Consultants' recommendations and items in this review sheet over the counter at City Hall. **Appointments for final review and approval of the plans may be made by calling or emailing City Geotechnical staff.**

Please direct questions regarding this review sheet to City Geotechnical staff listed below.

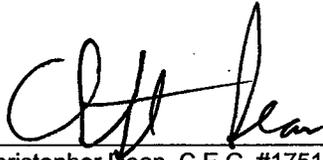
Geotechnical Engineering Review by:



Kenneth Clements, G.E. # 2010, Exp. 6-30-14  
Geotechnical Engineering Reviewer (805-563-8909)  
Email: kclements@fugro.com

July 16, 2012  
Date

Engineering Geology Review by:



Christopher Dean, C.E.G. #1751, Exp. 9-30-12  
Engineering Geology Reviewer (310-456-2489, x306)  
Email: cdean@malibucity.org

7/16/12  
Date

*This review sheet was prepared by City Geotechnical Staff contracted with Fugro as an agent of the City of Malibu.*

**FUGRO CONSULTANTS, INC.**  
4820 McGrath Street, Suite 100  
Ventura, California 93003-7778  
(805) 650-7000 (Ventura office)  
(310) 456-2489, x306 (City of Malibu)





# City of Malibu

- GEOTECHNICAL -

## NOTES FOR BUILDING PLAN-CHECK

The following standard items should be incorporated into Building Plan-Check submittals, as appropriate:

1. One set of grading, retaining wall, OWTS, swimming pool/spa, gym, garage, and residence plans, incorporating the Geotechnical Consultant's recommendations and items in this review sheet, must be submitted to City geotechnical staff for review. **Additional review comments may be raised at that time that may require a response.**
  2. Show the name, address, and phone number of the Geotechnical Consultant(s) on the cover sheet of the Building Plans.
  3. Include the following note on Grading and Foundation Plans: "*Subgrade soils shall be tested for Expansion Index prior to pouring footings or slabs; Foundation Plans shall be reviewed and revised by the Geotechnical Consultant, as appropriate.*"
  4. Include the following note on the Foundation Plans: "*All foundation excavations must be observed and approved by the Geotechnical Consultant prior to placement of reinforcing steel.*"
  5. The Foundation Plans for the proposed addition and deck shall clearly depict the embedment material and minimum depth of embedment for the foundations in accordance with the Geotechnical Consultant's recommendations.
  6. Foundation setback distances from descending slopes shall be in accordance with Section 1808 of the Malibu Building Code, or the requirements of the Geotechnical Consultant's recommendations, whichever are more stringent. Show minimum foundation setback distances on the foundation plans, as applicable.
  7. Show the onsite wastewater treatment system on the Site Plan.
  8. Please contact the Building and Safety Department regarding the submittal requirements for a grading and drainage plan review.
  9. A comprehensive Site Drainage Plan, incorporating the Geotechnical Consultant's recommendations, shall be included in the Plans. Show all area drains, outlets, and non-erosive drainage devices on the Plans. Water shall not be allowed to flow uncontrolled over descending slopes.
- depths of overexcavation, as applicable.
  2. Prior to final approval of the project, an as-built compaction report prepared by the Project Geotechnical Consultant must be submitted to the City for review. The report must include the results of all density tests as well as a map depicting the limits of fill, locations of all density tests, locations and elevations of all removal bottoms, locations and elevations of all keyways and back drains, and locations and elevations of all retaining wall backdrains and outlets. Geologic conditions exposed during grading must be depicted on an as-built geologic map. This comment must be included as a note on the grading plans.

### Retaining Walls (As Applicable)

1. Show retaining wall backdrain and backfill design, as recommended by the Geotechnical Consultant, on the Plans.
2. Retaining walls separate from a residence require separate permits. Contact the Building and Safety Department for permit information. One set of retaining wall plans shall be submitted to the City for review by City geotechnical staff. Additional concerns may be raised at that time which may require a response by the Project Geotechnical Consultant and applicant.

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Fugro Project #: 3399.001



# City of Malibu

**PLANNING REVIEW**

23825 Stuart Ranch Road • Malibu, California 90265-4861  
(310) 456-2489 • Fax (310) 317-1950 • www.malibucity.org

## GEOTECHNICAL REVIEW SHEET

### Project Information

<b>Date:</b>	July 16, 2012	<b>Review Log #:</b>	2928-3
<b>Site Address:</b>	24134 Pacific Coast Highway	<b>Planning #:</b>	CDP 07-147
<b>Lot/Tract/PM #:</b>	Lot 3	<b>BPC/GPC #:</b>	
<b>Applicant/Contact:</b>	Robert Gold, <a href="mailto:rgold@bigrockpartners.com">rgold@bigrockpartners.com</a>	<b>Planner:</b>	Ha Ly
<b>Contact Phone #:</b>	310-734-2353	<b>Fax #:</b>	310-734-2297
<b>Project Type:</b>	New Single-family residential development		

### Submittal Information

**Consultant(s) / Report Date(s):** Leighton & Associates, Inc. (Mills, CEG 2034; Kim, RGE 2620):  
*(Current submittal(s) in Bold.)* **5-16-12, 3-7-12, 9-21-09** (two reports)  
Leighton & Associates, Inc. (Kim, RGE 2620; Sanchez, CEG 2221):  
10-29-08  
Earth Consultants International (Gath, CEG 1292; Layton, PG):  
9-21-09  
Leighton & Associates, Inc. (Kim, RGE 2620; Hillstrand, CEG 2366):  
12-5-07; Ref: 8-29-01, 10-2-2000  
Seismic Consultant: Earth Consultants International, Inc. (Gath, CEG  
1292): 4-12-02, 2-25-02, 1-25-02, 12-19-01, 8-23-01, 2-6-2000  
Ref: Converse Consultants: 8-8-88, 12-10-86, 10-18-85  
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**Building plans prepared by Landry Design Group dated February 21, 2012.**

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Preliminary OWTS Plans prepared by Ensitu Engineering, Inc., dated March 7, 2012, three sheets.

Lawrence Young (REHS # 3738): 5-19-10, 9-12-08

**Previous Reviews:** 5-7-12, 1-12-10, 3-20-08, Review Referral Sheet dated 2-15-08;  
Ref: 10-1-01

### Review Findings

#### Coastal Development Permit Review

- The single-family residential development is **APPROVED** from a geotechnical perspective.
- The single-family residential development is **NOT APPROVED** from a geotechnical perspective. The listed 'Review Comments' shall be addressed prior to approval.

Guidelines for geotechnical reports (dated February 2002) are available on the City of Malibu web site:  
<http://www.ci.malibu.ca.us/index.cfm?fuseaction=nav&navid=30>.

Fugro Project #: 3399.001

**Building Plan-Check Stage Review**

- Awaiting Building plan check submittal.** Please respond to the listed 'Building Plan-Check Stage Review Comments' AND review and incorporate the attached 'Geotechnical Notes for Building Plan Check' into the plans.
- APPROVED** from a geotechnical perspective. Please review the attached 'Geotechnical Notes for Building Plan Check' and incorporate into Building Plan-Check submittals.
- NOT APPROVED** from a geotechnical perspective. The listed 'Building Plan-Check Stage Review Comments' shall be addressed prior to Building Plan-Check Stage approval.

**Remarks**

The building plans and geotechnical report were reviewed by the City from a geotechnical perspective. The project comprises constructing a new 8,345 square foot two-story single-family residence on Lot 2 with a 455 square foot basement, 957 square foot garage, 435 square foot cabana and 458 square foot guest house, grading (17,100 yards of overexcavation; 2,585 yards under structure; 2,575 yards non-exempt; and 1,140 yards of export), retaining walls, patios, swimming pool and spa, and new onsite wastewater treatment system (OWTS), consisting of a septic tank on the lot, a centralized treatment area adjacent to the gate house, and two seepage pits with 100% expansion on Lot 7 (undeveloped).

City geotechnical staff will review complete sets of building (for all structures) and grading plans for each residential lot during the Building plan check stage once the projects are submitted to the Building and Safety Department.

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**Building Plan-Check Stage Review Comments:**

1. Please submit one copy of the Project Geotechnical Consultant's building plan check stage geotechnical report to City geotechnical staff for review.
2. Portions of the proposed fill slopes south and west of the residence are outside the Geotechnical Setback Line. Please discuss these slopes with regard to their stability in areas where the factor of safety is less than 1.5. Mitigation measures could be required.
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4. Two sets of final grading, retaining wall, OWTS, swimming pool/spa, cabana, guest house, and residence plans (**APPROVED BY BUILDING AND SAFETY**) incorporating the Project Geotechnical Consultant's recommendations and items in this review sheet must be **reviewed and wet stamped and manually signed by the Project Engineering Geologist and Project Geotechnical Engineer**. City geotechnical staff will review the plans for conformance with the Project Geotechnical Consultants' recommendations and items in this review sheet over the counter at City Hall. **Appointments for final review and approval of the plans may be made by calling or emailing City Geotechnical staff.**

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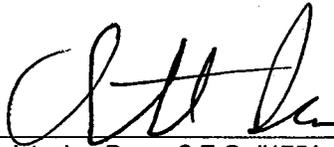
Geotechnical Engineering Review by:



Kenneth Clements, G.E. # 2010, Exp. 6-30-14  
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# City of Malibu

- GEOTECHNICAL -

## NOTES FOR BUILDING PLAN-CHECK

The following standard items should be incorporated into Building Plan-Check submittals, as appropriate:

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  2. Show the name, address, and phone number of the Geotechnical Consultant(s) on the cover sheet of the Building Plans.
  3. Include the following note on Grading and Foundation Plans: *"Subgrade soils shall be tested for Expansion Index prior to pouring footings or slabs; Foundation Plans shall be reviewed and revised by the Geotechnical Consultant, as appropriate."*
  4. Include the following note on the Foundation Plans: *"All foundation excavations must be observed and approved by the Geotechnical Consultant prior to placement of reinforcing steel."*
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  6. Foundation setback distances from descending slopes shall be in accordance with Section 1808 of the Malibu Building Code, or the requirements of the Geotechnical Consultant's recommendations, whichever are more stringent. Show minimum foundation setback distances on the foundation plans, as applicable.
  7. Show the onsite wastewater treatment system on the Site Plan.
  8. Please contact the Building and Safety Department regarding the submittal requirements for a grading and drainage plan review.
  9. A comprehensive Site Drainage Plan, incorporating the Geotechnical Consultant's recommendations, shall be included in the Plans. Show all area drains, outlets, and non-erosive drainage devices on the Plans. Water shall not be allowed to flow uncontrolled over descending slopes.
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### Retaining Walls (As Applicable)

1. Show retaining wall backdrain and backfill design, as recommended by the Geotechnical Consultant, on the Plans.
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### Grading Plans (as Applicable)

1. Grading Plans shall clearly depict the limits and

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Fugro Project #: 3399.001



# City of Malibu **PLANNING REVIEW**

23825 Stuart Ranch Road • Malibu, California 90265-4861  
(310) 456-2489 • Fax (310) 317-1950 • www.malibucity.org

## GEOTECHNICAL REVIEW SHEET

<u>Project Information</u>			
<b>Date:</b>	July 16, 2012	<b>Review Log #:</b>	2928-4
<b>Site Address:</b>	24150 Pacific Coast Highway		
<b>Lot/Tract/PM #:</b>	Lot 4	<b>Planning #:</b>	CDP 07-148
<b>Applicant/Contact:</b>	Robert Gold, <a href="mailto:rgold@bigrockpartners.com">rgold@bigrockpartners.com</a>	<b>BPC/GPC #:</b>	
<b>Contact Phone #:</b>	310-734-2353	<b>Fax #:</b>	310-734-2297
		<b>Planner:</b>	Ha Ly
<b>Project Type:</b>	New Single-family residential development		

<u>Submittal Information</u>	
<b>Consultant(s) / Report Date(s):</b> <i>(Current submittal(s) in Bold.)</i>	Leighton & Associates, Inc. (Mills, CEG 2034; Kim, RGE 2620): <b>5-16-12, 3-7-12, 9-21-09</b> (two reports) Leighton & Associates, Inc. (Kim, RGE 2620; Sanchez, CEG 2221): 10-29-08 Earth Consultants International (Gath, CEG 1292; Layton, PG): 9-21-09 Leighton & Associates, Inc. (Kim, RGE 2620; Hillstrand, CEG 2366): 12-5-07; Ref: 8-29-01, 10-2-2000 Seismic Consultant: Earth Consultants International, Inc. (Gath, CEG 1292): 4-12-02, 2-25-02, 1-25-02, 12-19-01, 8-23-01, 2-6-2000 Ref: Converse Consultants: 8-8-88, 12-10-86, 10-18-85 Ref: Lockwood-Singh & Associates: 9-18-79
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<u>Review Findings</u>	
<b><u>Coastal Development Permit Review</u></b>	
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Fugro Project #: 3399.001

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- NOT APPROVED** from a geotechnical perspective. The listed 'Building Plan-Check Stage Review Comments' shall be addressed prior to Building Plan-Check Stage approval.

**Remarks**

The building plans and geotechnical report were reviewed by the City from a geotechnical perspective. The project comprises constructing a new 8,440 square foot two-story single-family residence on Lot 4 with a 407 square foot basement, 956 square foot garage, 298 square foot pool cabana, grading (12,800 yards of overexcavation; 2,385 yards under structure; 300 yards for safety; 2,507 yards non-exempt; and 118 yards of export), retaining walls, patios, swimming pool and spa, and new onsite wastewater treatment system (OWTS), consisting of a septic tank on the lot, a centralized treatment area adjacent to the gate house, and two seepage pits with 100% expansion on Lot 7 (undeveloped).

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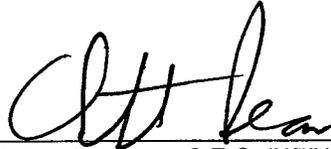
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# City of Malibu

- GEOTECHNICAL -

## NOTES FOR BUILDING PLAN-CHECK

The following standard items should be incorporated into Building Plan-Check submittals, as appropriate:

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  2. Show the name, address, and phone number of the Geotechnical Consultant(s) on the cover sheet of the Building Plans.
  3. Include the following note on Grading and Foundation Plans: *"Subgrade soils shall be tested for Expansion Index prior to pouring footings or slabs; Foundation Plans shall be reviewed and revised by the Geotechnical Consultant, as appropriate."*
  4. Include the following note on the Foundation Plans: *"All foundation excavations must be observed and approved by the Geotechnical Consultant prior to placement of reinforcing steel."*
  5. The Foundation Plans for the proposed addition and deck shall clearly depict the embedment material and minimum depth of embedment for the foundations in accordance with the Geotechnical Consultant's recommendations.
  6. Foundation setback distances from descending slopes shall be in accordance with Section 1808 of the Malibu Building Code, or the requirements of the Geotechnical Consultant's recommendations, whichever are more stringent. Show minimum foundation setback distances on the foundation plans, as applicable.
  7. Show the onsite wastewater treatment system on the Site Plan.
  8. Please contact the Building and Safety Department regarding the submittal requirements for a grading and drainage plan review.
  9. A comprehensive Site Drainage Plan, incorporating the Geotechnical Consultant's recommendations, shall be included in the Plans. Show all area drains, outlets, and non-erosive drainage devices on the Plans. Water shall not be allowed to flow uncontrolled over descending slopes.
2. Prior to final approval of the project, an as-built compaction report prepared by the Project Geotechnical Consultant must be submitted to the City for review. The report must include the results of all density tests as well as a map depicting the limits of fill, locations of all removal bottoms, locations and elevations of all keyways and back drains, and locations and elevations of all retaining wall backdrains and outlets. Geologic conditions exposed during grading must be depicted on an as-built geologic map. This comment must be included as a note on the grading plans.

### Retaining Walls (As Applicable)

1. Show retaining wall backdrain and backfill design, as recommended by the Geotechnical Consultant, on the Plans.
2. Retaining walls separate from a residence require separate permits. Contact the Building and Safety Department for permit information. One set of retaining wall plans shall be submitted to the City for review by City geotechnical staff. Additional concerns may be raised at that time which may require a response by the Project Geotechnical Consultant and applicant.

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Fugro Project #: 3399.001



# City of Malibu **PLANNING REVIEW**

23825 Stuart Ranch Road • Malibu, California 90265-4861  
(310) 456-2489 • Fax (310) 317-1950 • www.malibucity.org

## GEOTECHNICAL REVIEW SHEET

<u>Project Information</u>			
Date:	July 16, 2012	Review Log #:	2928-5
Site Address:	24174 Pacific Coast Highway	Planning #:	CDP 07-149
Lot/Tract/PM #:	Lot 5	BPC/GPC #:	
Applicant/Contact:	Robert Gold, <a href="mailto:rgold@bigrockpartners.com">rgold@bigrockpartners.com</a>	Planner:	Ha Ly
Contact Phone #:	310-734-2353	Fax #:	310-734-2297
Project Type:	New Single-family residential development		

<u>Submittal Information</u>	
Consultant(s) / Report Date(s): (Current submittal(s) in Bold.)	Leighton & Associates, Inc. (Mills, CEG 2034; Kim, RGE 2620): <b>5-16-12, 3-7-12, 9-21-09</b> (two reports) Leighton & Associates, Inc. (Kim, RGE 2620; Sanchez, CEG 2221): 10-29-08 Earth Consultants International (Gath, CEG 1292; Layton, PG): 9-21-09 Leighton & Associates, Inc. (Kim, RGE 2620; Hillstrand, CEG 2366): 12-5-07; Ref: 8-29-01, 10-2-2000 Seismic Consultant: Earth Consultants International, Inc. (Gath, CEG 1292): 4-12-02, 2-25-02, 1-25-02, 12-19-01, 8-23-01, 2-6-2000 Ref: Converse Consultants: 8-8-88, 12-10-86, 10-18-85 Ref: Lockwood-Singh & Associates: 9-18-79
	<b>Building plans prepared by Landry Design Group dated February 21, 2012.</b> Grading and Drainage Plan prepared by Psomas, dated 10-23-09, one sheets, 50-scale. Ensitu Engineering, Inc. (Yaroslaski, RCE 60149): 3-7-12 (three reports), 9-21-09 (two reports) Preliminary OWTS Plans prepared by Ensitu Engineering, Inc., dated March 7, 2012, three sheets. Lawrence Young (REHS # 3738): 5-19-10, 9-12-08
Previous Reviews:	5-7-12, 1-12-10, 3-20-08, Review Referral Sheet dated 2-15-08; Ref: 10-1-01

<u>Review Findings</u>	
<u>Coastal Development Permit Review</u>	
<input checked="" type="checkbox"/>	The single-family residential development is <b>APPROVED</b> from a geotechnical perspective.
<input type="checkbox"/>	The single-family residential development is <b>NOT APPROVED</b> from a geotechnical perspective. The listed 'Review Comments' shall be addressed prior to approval.

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# City of Malibu

- GEOTECHNICAL -

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