

SCHICK GEOTECHNICAL, INC.

~
Geology and Soils Engineering
Specializing in Residential
Hillside Properties

October 4, 2007
SG 6164-W

Ms. Heidi Davis
871 S. Tremaine Avenue
Los Angeles, California 90005

Subject

Response to City Review Letter
Portion of Lot 17, Tract 11357
7810 Torreyson Drive
Los Angeles, California

References:

“Preliminary Geologic and Soils Engineering Exploration, Proposed Residence, Portion of Lot 17, Tract 11357, 7810 Torreyson Drive, Los Angeles, California,” prepared by Kovacs-Byer and Associates, Inc., dated February 3, 1984;
“Geologic and Soils Engineering Update, Proposed Residence, Garage, and Retaining Walls, Portion of Lot 17, Tract 11357, 7810 Torreyson Drive, Los Angeles, California,” prepared by Kovacs-Byer and Associates, Inc., dated February 17, 1989;
City of Los Angeles Department of Building and Safety, Grading Division, Approval Letter, dated June 5, 1990 (log# 17014);
City of Los Angeles Department of Building and Safety, Grading Division, Correction Letter, dated December 18, 2003 (log# 41917);
City of Los Angeles Department of Building and Safety, Grading Division, Approval Letter, dated August 26, 2004 (log# 41917-01);
“Geologic and Soils Engineering Exploration, Proposed Residence, Portion of Lot 17, Tract 11357, 7810 Torreyson Drive, Los Angeles, California,” dated September 18, 2005;
City of Los Angeles Department of Building and Safety, Grading Division, Approval Letter, dated June 29, 2006 (log#53552);
“Additional Comments, Portion of Lot 17, Tract 11357, 7810 Torreyson Drive, Los Angeles, California,” dated May 21, 2007;
City of Los Angeles Department of Building and Safety, Grading Division, Correction Letter, dated August 15, 2007 (log#59271).

Dear Ms. Davis:

Per your request, SGI is providing the following response to the referenced City Correction Letter. The revised Grading Plan was used to prepare this response to the City Review Letter.

Response to Review Item 1. The pile-supported walls are shown on the Geologic Map and Section.

Response to Review Item 2. The portion of the over-steeped street cut within the bedrock is to be trimmed to a 1:1 gradient as shown. The portion of the cut within soil cannot be trimmed to a 1:1

SCHICK GEOTECHNICAL, INC.
13223 Ventura Boulevard, Suite J, Studio City, California 91604 Ph (818) 905-8011 Fx (818) 905-8115

gradient, therefore, is to be supported with a pile-supported retaining wall, as shown on the enclosed Geologic Map and Section B.

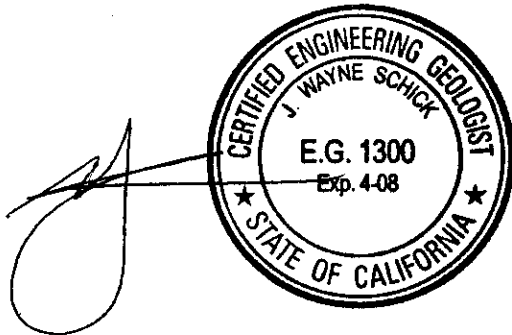
Response to Review Item 3. This issue is to be resolved by the project civil engineer.

Response to Review Item 4. The soil is to be supported with a pile-supported retaining wall, as shown on the enclosed Geologic Map and Section B.

Response to Review Item 5. As requested, the north property line is to be provided with an impact wall. The wall must be designed for an equivalent fluid pressure of 125 pounds per cubic foot and must have a concrete "V" shaped drain. The drain must be kept free of debris. The wall must be provided with access in order to provide periodic maintenance. The graded slopes are to be provided with erosion resistant vegetation.

Response to Review Item 6. The enclosed calculations indicate that 1:1 cut slopes within bedrock will have a factor of safety in excess of 1.50.

Respectfully submitted,



Wayne Schick
C.E.G. 1300

A handwritten signature in black ink.

John Tsao
P.E. 46886

Enc:
Geologic Map and Sections
Calculation Sheet
City Review Letter



xc: (7) Addressee

**BOARD OF
BUILDING AND SAFETY
COMMISSIONERS**

MARSHA L. BROWN
PRESIDENT

PEDRO BIRBA
VICE-PRESIDENT

VAN AMBATIELOS
HELENA JUBANY

ELENORE A. WILLIAMS

CITY OF LOS ANGELES
CALIFORNIA



ANTONIO R. VILLARAIGOSA
MAYOR

**DEPARTMENT OF
BUILDING AND SAFETY**

201 NORTH FIGUEROA STREET
LOS ANGELES, CA 90012

ANDREW A. ADELMAN, P.E.
GENERAL MANAGER

RAYMOND CHAN
EXECUTIVE OFFICER

GEOLOGY AND SOILS REPORT CORRECTION LETTER

August 15, 2007

Log # 59271
SOILS/GEOLOGY FILE - 2

Ms. Heidi Davis
871 S. Tremaine Avenue
Los Angeles, CA 90005

TRACT: 11357
LOT: Lot 17, arb I
LOCATION: 7810 W. Torreyson Drive

<u>CURRENT REFERENCE REPORT/LETTER(S)</u>	<u>REPORT NO.</u>	<u>DATE(S) OF DOCUMENT</u>	<u>PREPARED BY</u>
Geology/Soil Report Oversized Documents	SG 6164-W "	05/21/2007 "	Schick Geotechnical "
<u>PREVIOUS REFERENCE REPORT/LETTER(S)</u>	<u>REPORT NO.</u>	<u>DATE(S) OF DOCUMENT</u>	<u>PREPARED BY</u>
Department Approval Letter	Log # 53552	06/29/2006	LADBS
Geol./Soil Addendum	SG 6164-W	06/29/2006	Schick Geotechnical
Geology/Soil Report	"	09/18/2005	"
Department Approval Letter	Log # 41917-01	08/26/2004	LADBS
Geology/Soil Report	SG 5499-W	01/03/2004	Schick Geotechnical
Department Correction Letter	Log # 41917	12/18/2003	LADBS
Geology/Soil Report	SG 5499-W	08/23/2003	Schick Geotechnical
Department Approval Letter	Log # 17014	06/05/1990	LADBS
Geol./Soil Report Supplement	KB 12431-G	01/10/1990	Kovacs-Byer
"	"	02/17/1989	"
Department Approval Letter	-----	03/21/1984	LADBS
Geol./Soil Report	KB 7843-G	02/03/1984	Kovacs-Byer

The referenced 05/21/2007 update report concerning the proposed construction on the subject property has been reviewed by the Grading Division of the Department of Building and Safety. Currently, a new residence and pool are proposed. Stabilization with soldier piles is planned in the failure area, rather than the grading previously recommended so that the mature oaks can be sustained. Based on the Department's Plan Check and Inspection System (PCIS) database, permit applications for retaining wall, grading and new building on the subject property, were filed in June 2007.

Retaining wall permit applications filed on or after 03/09/2005 will be subject to the requirements of the Retaining Walls in Hillside Areas, Ordinance No. 176, 445. The Ordinance limits the number of retaining walls detached from the building planned in hillside areas to either one retaining wall with an exposed wall height no greater than 12 feet or, two walls separated by a minimum horizontal distance of 3 feet with the

Page 2
7810 W. Torreyson Drive

exposed wall height of each wall to be no higher than 10 feet. Note: Free-standing debris/slough walls etc., are exempt from Ordinance 176, 445. The Department requires such protective devices to resist impact be designed for a minimum equivalent fluid pressure no less than 125 pounds per cubic foot (pcf).

The review of the 05/21/2007 update cannot be completed at this time and will be continued upon submittal of an addendum to the report which shall include, but need not be limited to, the following:

1. Show the entire length of all proposed retaining walls on the map. Show also the walls on the appropriate sections. Note: Review Item 8 on page 1 of the 05/21/2007 update indicates that pile-supported retaining walls are proposed as shown on section B. However, retaining walls were not shown on the section or the map.
2. Show on the map (and on cross-sections) how all over-steepened, non-conforming portions of the cut slope above the street will either be trimmed or supported with a designed retaining wall to conform to the Code. Note: Street cuts exposing favorable, hazard-free geology calculated with a factor of safety greater than 1.5 (static and surficial) may be trimmed back to a horizontal to vertical slope gradient no steeper than 1H:1V.
3. Obtain approval from the Zoning Administrator with regard to any exemptions from Ordinance 176, 445 requirements. Alternatively, the map and cross-sections in the addendum shall be verified (and amended as necessary), so that the number-of-wall and wall height requirements of Ordinance 176, 445 are complied with.
4. Section B shows that soil material on the slope will be exposed at a 1H:1V grade, which is not acceptable. Revise recommendations.
5. Recommendations shall be provided for a free-standing slough or debris wall designed for impact with adequate height and suitable access for seasonal clean-outs along the north property boundary to protect the street from any slope-related instability, hazard or nuisance conditions.
6. Provide slope stability analyses to demonstrate that any proposed road cuts in bedrock with a gradient of 1:1 have the minimum factor of safety as required by code.



STEPHEN DAWSON
Engineering Geologist I



RAPHAEL CHENG
Geotechnical Engineer I

SD/RC:sd/rc
59271
(213) 482-0480

cc: Blythe McKinney (Applicant)
Schick Geotechnical
LA District Office

SCHICK GEOTECHNICAL, INC.

GEOLOGY AND SOILS ENGINEERING

Gross Stability Analysis - Taylor's Method

Calculate the maximum slope height to which 45 degree slope consisting of Shale have a factor of safety greater than 1.5 utilizing Taylor's method 'Fundamentals of Soil Mechanics.'

Shale Properties (Saturated)

Cohesion (C)	Saturated Density (Ws)	Angle of Internal Friction (ϕ)
1175 psf	125 pcf	26 °

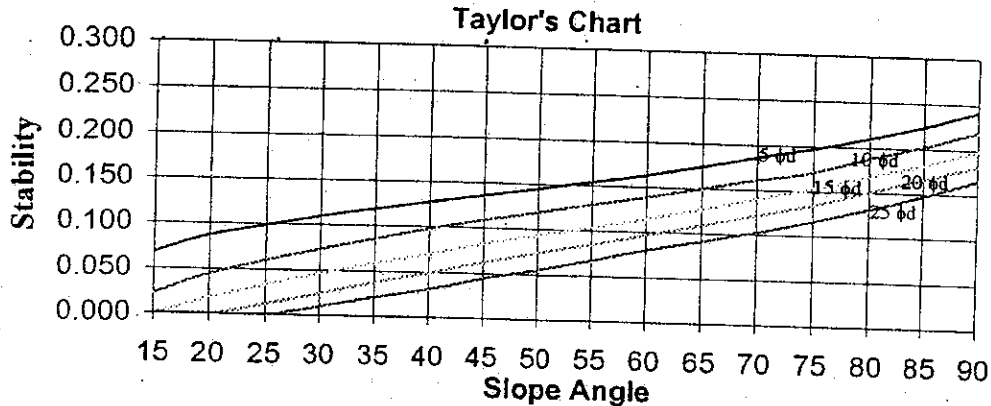
SLOPE ANGLE ANALYZED: 45 °

FOR FACTOR OF SAFETY (Fs) = 1.5

$$C_d = C / F_s = 783 \text{ psf}$$

$$\phi_d = \text{ARCTAN} \frac{\text{TAN}(\phi)}{F_s} = 18.01 \text{ °}$$

Interpolate Stability Number (sn) from Taylor's charts:



From Taylor's Chart: Stability Number (sn) = 0.07

$$\frac{C_d}{W_t \cdot (sn)} = \frac{\text{Safe Slope Height: } 783 \text{ psf}}{125 \text{ pcf} \cdot 0.07} = 89.07 \text{ feet}$$

CONCLUSIONS:

The calculations indicate that 45° degree slopes in Shale are grossly stable with a factor of safety greater than 1.5 up to 89.07 feet high. Therefore, the existing slopes up to 50 feet high consisting of Shale are grossly stable.