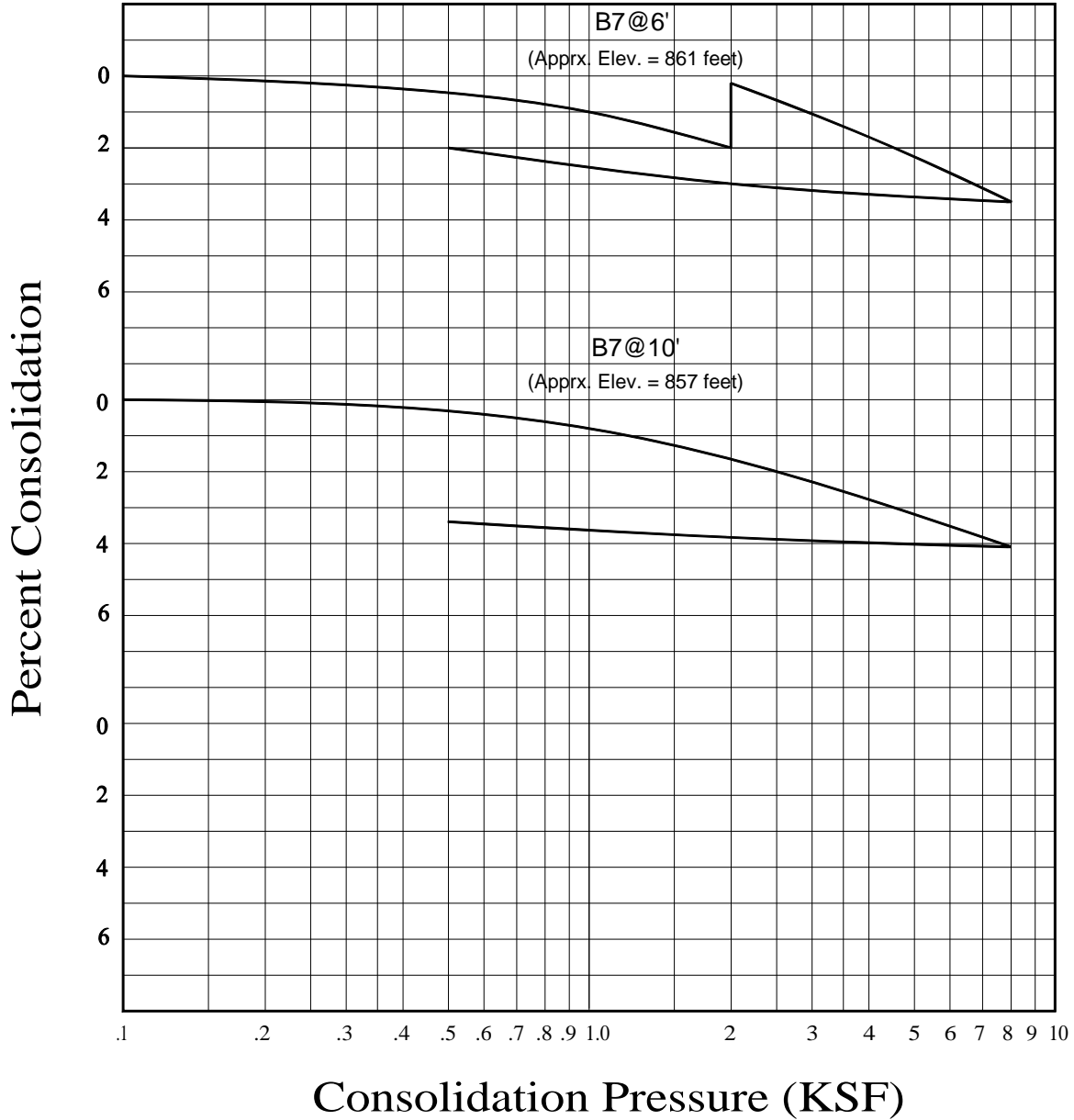


WATER ADDED AT 2 KSF



GEOCON
WEST, INC.



ENVIRONMENTAL GEOTECHNICAL MATERIALS
3303 N. SAN FERNANDO BLVD. - SUITE 100 - BURBANK, CA 91504
PHONE (818) 841-8388 - FAX (818) 841-1704

CONSOLIDATION TEST RESULTS

AGOURA HILLS HHG HOTEL DEVELOPMENT, LP.
29508 ROADSIDE DRIVE
AGOURA HILLS, CALIFORNIA

Drafted by: RDG

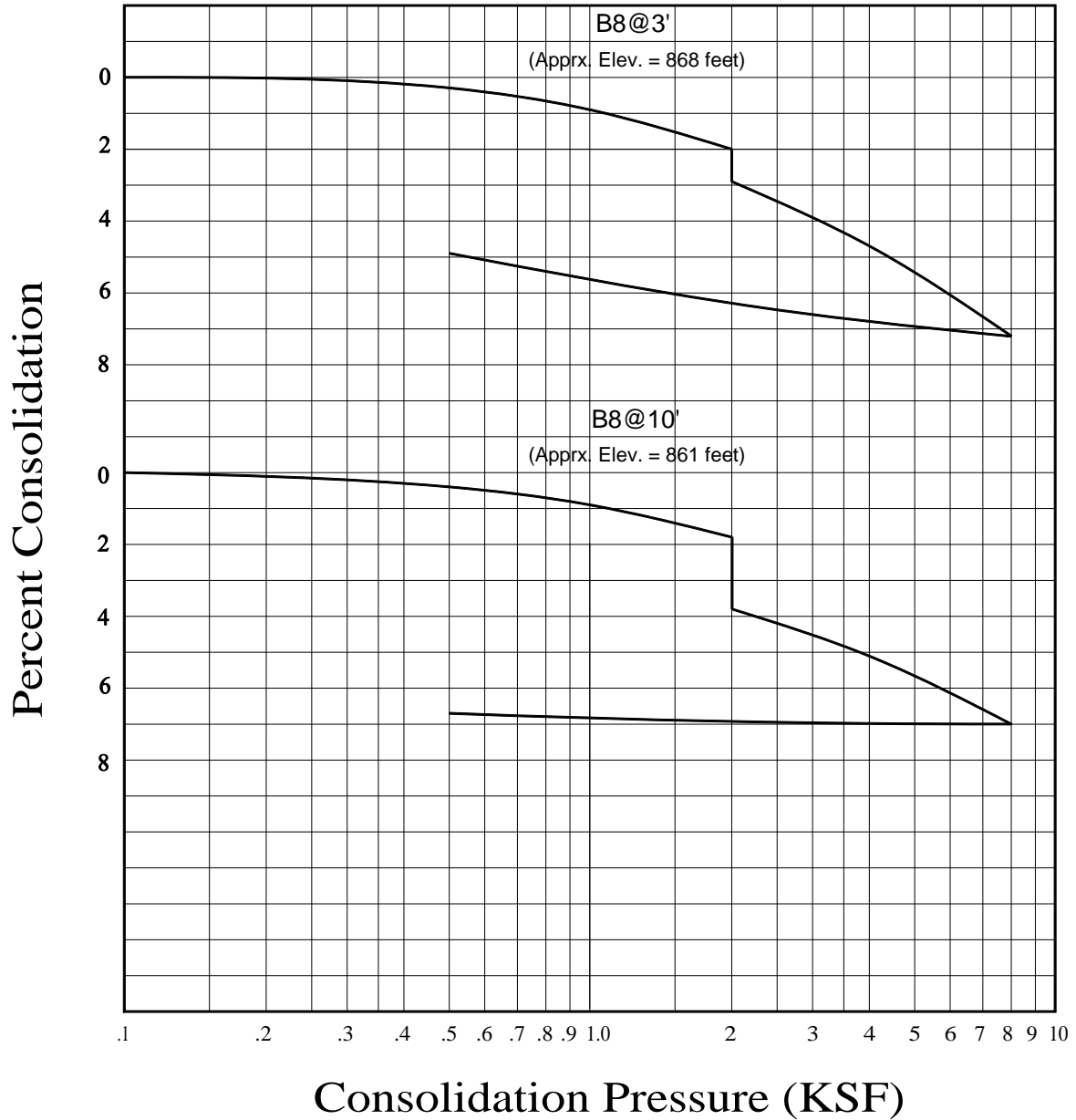
Checked by: HHD

FEB. 2016

PROJECT NO. A8487-06-04

FIG. B4

WATER ADDED AT 2 KSF



GEOCON
WEST, INC.



ENVIRONMENTAL GEOTECHNICAL MATERIALS
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PHONE (818) 841-8388 - FAX (818) 841-1704

CONSOLIDATION TEST RESULTS

AGOURA HILLS HHG HOTEL DEVELOPMENT, LP.
29508 ROADSIDE DRIVE
AGOURA HILLS, CALIFORNIA

Drafted by: RDG

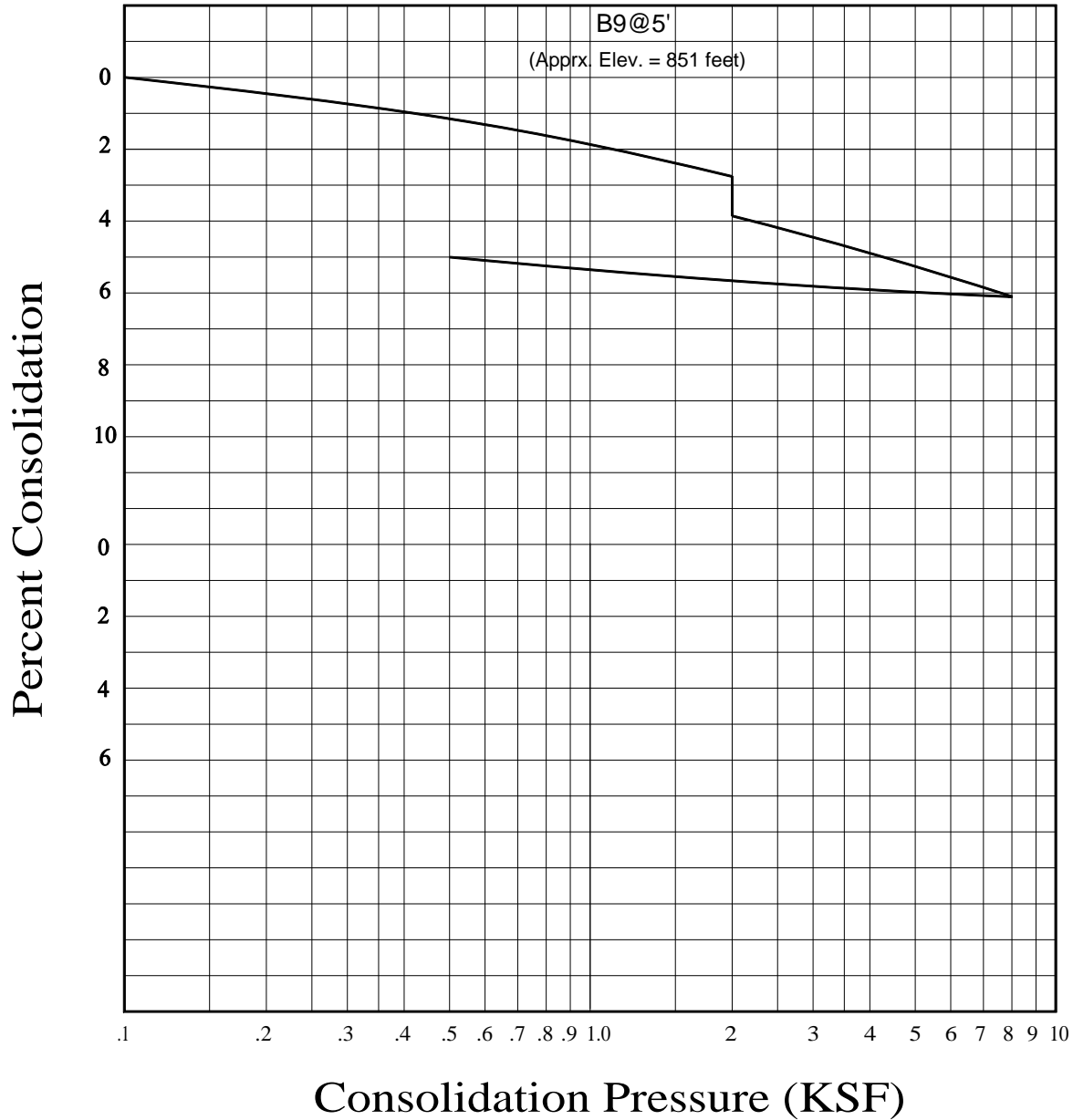
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PROJECT NO. A8487-06-04

FIG. B5

WATER ADDED AT 2 KSF



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ENVIRONMENTAL GEOTECHNICAL MATERIALS
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PHONE (818) 841-8388 - FAX (818) 841-1704

CONSOLIDATION TEST RESULTS

AGOURA HILLS HHG HOTEL DEVELOPMENT, LP.
29508 ROADSIDE DRIVE
AGOURA HILLS, CALIFORNIA

Drafted by: RDG

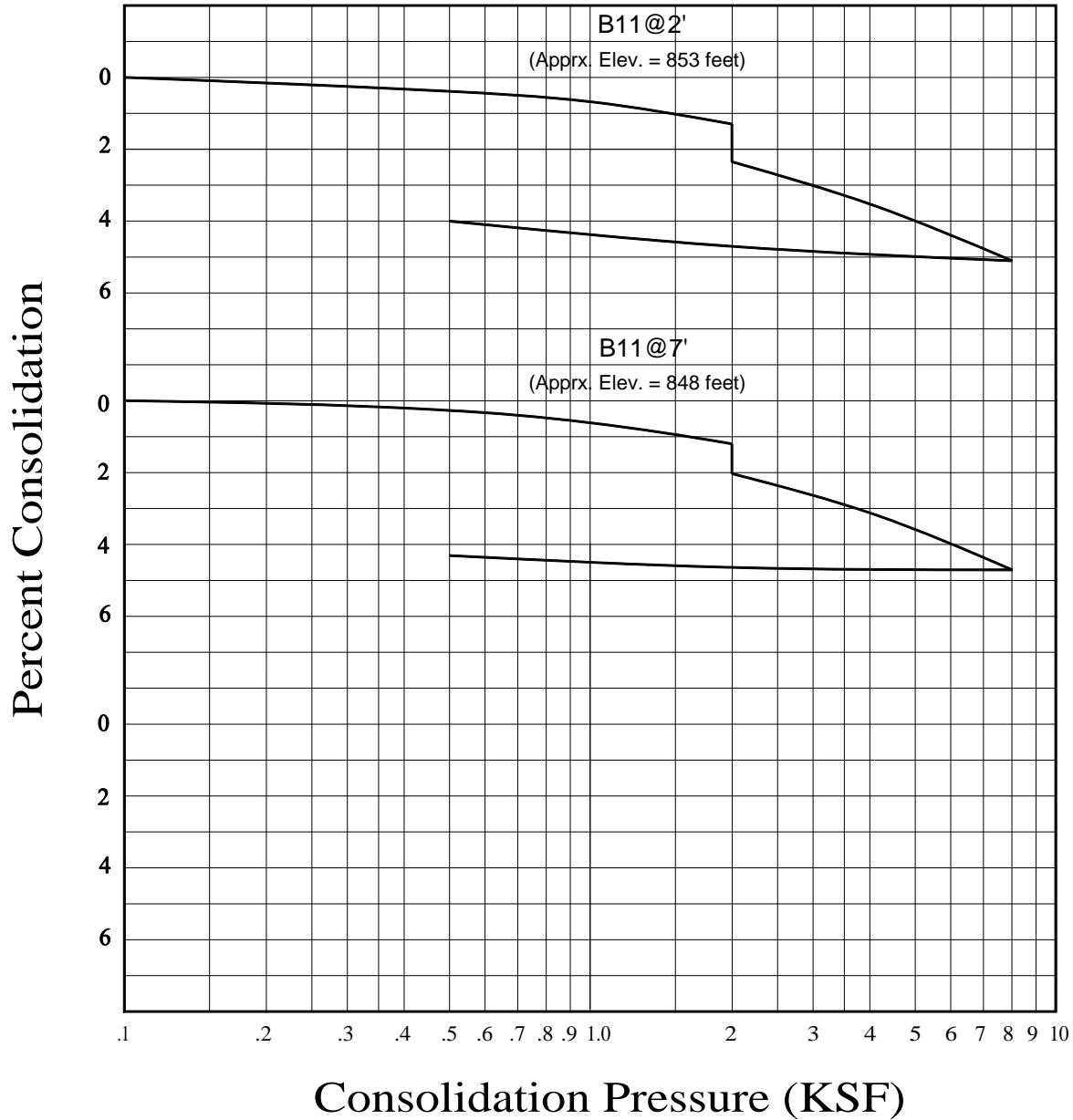
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PROJECT NO. A8487-06-04

FIG. B6

WATER ADDED AT 2 KSF



GEOCON
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ENVIRONMENTAL GEOTECHNICAL MATERIALS
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PHONE (818) 841-8388 - FAX (818) 841-1704

CONSOLIDATION TEST RESULTS

AGOURA HILLS HHG HOTEL DEVELOPMENT, LP.
29508 ROADSIDE DRIVE
AGOURA HILLS, CALIFORNIA

Drafted by: RDG

Checked by: HHD

FEB. 2016

PROJECT NO. A8487-06-04

FIG. B7

**SUMMARY OF LABORATORY EXPANSION INDEX TEST RESULTS
ASTM D 4829-11**

Sample No.	Moisture Content (%)		Dry Density (pcf)	Expansion Index	*UBC Classification	**CBC Classification
	Before	After				
B8 @ 0-10'	11.5	25.9	103.4	52	Medium	Expansive

* Reference: 1997 Uniform Building Code, Table 18-I-B.

** Reference: 2013 California Building Code, Section 1803.5.3

**SUMMARY OF LABORATORY MAXIMUM DENSITY AND
AND OPTIMUM MOISTURE CONTENT TEST RESULTS
ASTM D 1557-12**

Sample No.	Soil Description	Maximum Dry Density (pcf)	Optimum Moisture (%)
B8 @ 0-10'	Brown Sandy Clay	117.5	13.5

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PHONE (818) 841-8388 - FAX (818) 841-1704

Drafted by: RDG

Checked by: HHD

LABORATORY TEST RESULTS

AGOURA HILLS HHG HOTEL DEVELOPMENT, LP.
29508 ROADSIDE DRIVE
AGOURA HILLS, CALIFORNIA

FEB. 2016

PROJECT NO. A8487-06-04

FIG. B8



Project No. A8487-06-04

March 16, 2016

Ms. Patricia Santini
Agoura hills HHG Hotel Development LP
105 Decker Court, Suite 500
Irving, Texas 75062

Subject: RESPONSE TO CITY OF AGOURA HILLS – GEOTECHNICAL REVIEW SHEET
29505 AND 29515 AGOURA ROAD
AGOURA HILLS, CALIFORNIA

Reference: *Geotechnical Investigation, Proposed Commercial Development, Venture Professional Center, Agoura Hills, California*, by Geocon Inland Empire, Inc., Project No. A8487-06-01A, December 19, 2006;

Updated Geotechnical Investigation, Proposed Hotel Development, 29508 Roadside Drive, Agoura Hills, California, by Geocon West, Inc., Project No. A8487-06-03, May 20, 2015;

City of Agoura Hills – Geotechnical Review Sheet, GDI # 15.00103.0203, June 22, 2015;

Response to City of Agoura Hills – Geotechnical Review Sheet, by Geocon West, Inc., Project No. A8487-06-03, October 9, 2015;

City of Agoura Hills – Geotechnical Review Sheet, GDI # 15.00103.0203, October 28, 2015;

Response to City of Agoura Hills – Geotechnical Review Sheet, 29505 and 29515 Agoura Road, Agoura Hills, California, by Geocon West, Inc., Project No. A8487-06-04, February 4, 2016;

City of Agoura Hills – Geotechnical Review Sheet, GDI # 15.00103.0203, February 29, 2016.

Dear Ms. Santini:

This letter has been prepared to provide our response to the City of Agoura Hills review comments pertaining to the Updated Geotechnical Investigation report and Response to City of Agoura Hills letters previously submitted. This letter has been prepared as a narrative to the revisions specific to the comments. Where applicable, the recommendations provided herein supersede those presented in the referenced Updated Geotechnical Investigation report, dated May 20, 2015 and response letters dated October 9, 2015 and February 4, 2016, and may be utilized for design and construction of the proposed project.

Planning/Feasibility Comments

Response to Comment 1:

As a minimum, it is recommended that the upper ten feet of existing earth material from proposed finished grade within the proposed building footprint area (see Site Plan, Figure 1) be excavated and properly compacted for foundation and slab support. All fill and backfill soils should be placed in horizontal loose layers approximately 6 to 8 inches thick, moisture conditioned to 2 percent above optimum moisture content, and properly compacted to a minimum 92 percent of the maximum dry density in accordance with ASTM D 1557 (latest edition). The contractor should be prepared for deeper excavations, as necessary, to remove any encountered fill or soft alluvial soils at the direction of the Geotechnical Engineer (a representative of Geocon West, Inc.). All foundations should be underlain by at least 8 feet of newly placed engineered fill and the grading contractor should verify proposed foundation depths prior to commencement of grading activities to ensure that the minimum 8-foot requirement is maintained. The excavation should extend laterally a minimum of 10 feet beyond the proposed building footprint area, including building appurtenances, or a distance equal to the depth of fill below the foundations, whichever is greater. The required over-excavation limits will be verified by the Geocon representative during site grading activities.

Based on the consideration that the grading will remove all existing artificial fill and loose and soft alluvial material within the building footprint, and the fact that the site is underlain by shallow bedrock of the Tertiary age Topanga Formation and Conejo Volcanics, it is our opinion that the potential for liquefaction and associated ground deformations beneath the site is considered to be low. Furthermore, no surface manifestations of liquefaction are expected at the subject site.

According to the Human Health Risk Assessment report dated December 23, 2015 (referred to as “the environmental study in the review comments”), the site does not pose an unacceptable adverse impact for the proposed structure. Based on this consideration, deep environmental remedial excavations are not anticipated on site and the existing site soils may be used for grading purposes.

Response to Comment 2:

The attached site plan (see Figure 1) was revised to better define the contact between the uncertified fill, top soil and colluvium, alluvial deposits, terrace deposits, and bedrock. Also, Geologic Cross Sections A and B (see Figure 2) have been updated to illustrate the contact between the uncertified fill, top soil and colluvium, alluvial deposits, terrace deposits, bedrock, as well as the proposed grading excavation bottom of 10 feet below proposed finished grade.

As a minimum, it is recommended that the upper 10 feet of existing earth material from proposed finished grade within the proposed building footprint area (see Site Plan, Figure 1) be excavated and properly compacted for foundation and slab support. All fill and backfill soils should be placed in horizontal loose layers approximately 6 to 8 inches thick, moisture conditioned to 2 percent above optimum moisture content, and properly compacted to a minimum 92 percent of the maximum dry density in accordance with ASTM D 1557 (latest edition). The contractor should be prepared for deeper excavations, as necessary, to remove any encountered fill or soft alluvial soils at the direction of the Geotechnical Engineer (a representative of Geocon West, Inc.). All foundations should be underlain by at least 8 feet of newly placed engineered fill and the grading contractor should verify proposed foundation depths prior to commencement of grading activities to ensure that the minimum 8-foot requirement is maintained. The excavation should extend laterally a minimum of 10 feet beyond the proposed building footprint area, including building appurtenances, or a distance equal to the depth of fill below the foundations, whichever is greater. The required over-excavation limits will be verified by the Geocon representative during site grading activities.

Response to Comment 3:

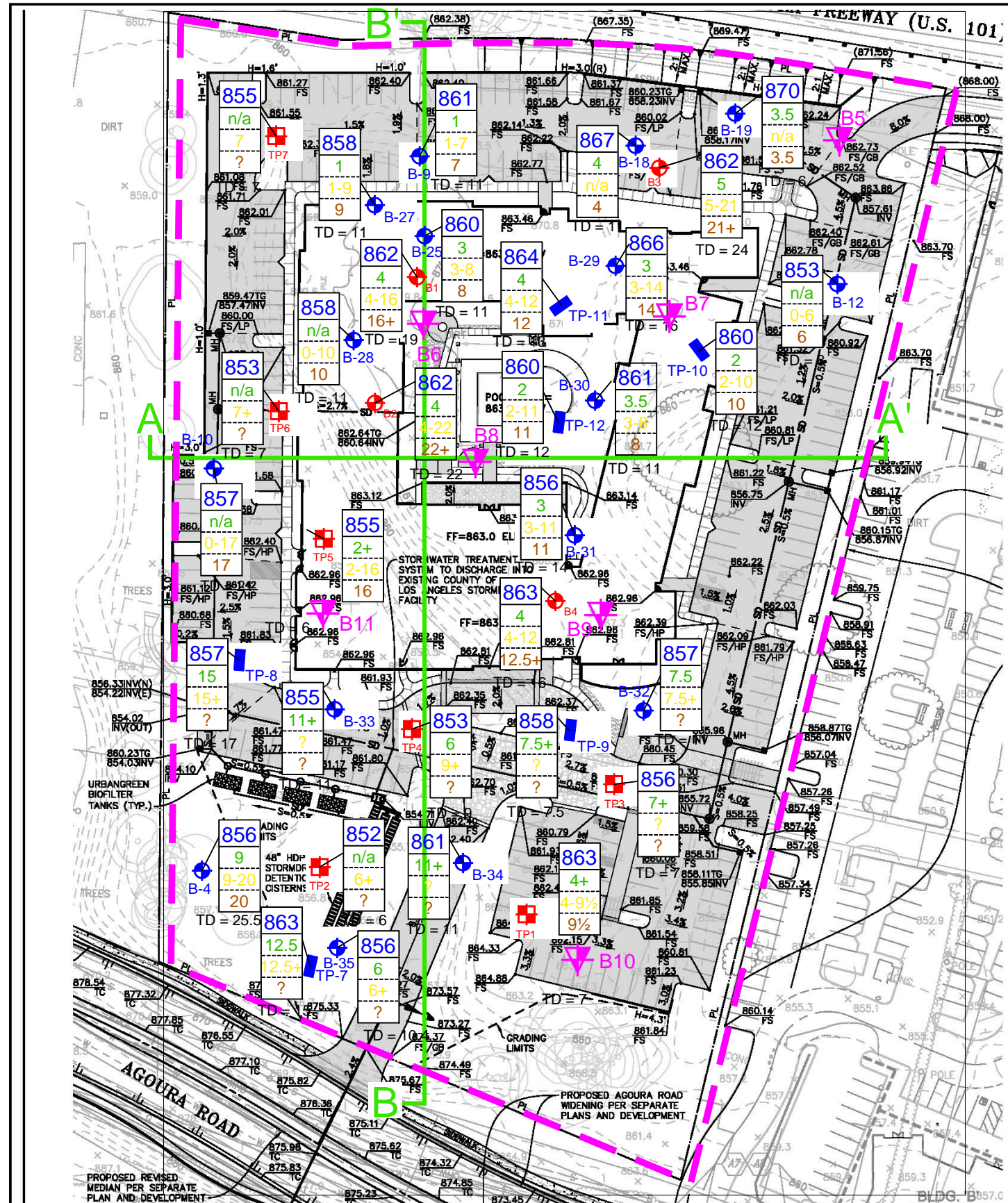
According to the project structural engineer, column loads for the proposed structure will be up to 200 kips, and wall loads up to 3 kips per linear foot. Based on this consideration and our analyses of the laboratory test results, a new maximum allowable bearing pressure of 2,500 psf is recommended for foundations. The proposed structure supported on a conventional foundation system underlain by at least 8 feet of newly placed engineered fill and designed with the maximum allowable bearing value of 2,500 psf is not anticipated to induce settlement in excess of 1-inch. Differential settlement is not expected to exceed ¾-inch over a distance of twenty feet. Static settlement calculations for column and wall foundations presented in Figures 3 and 4, and the soil samples utilized for the settlement analyses as well as the corresponding elevations are indicated on the figures.

Report Review Comments








Response to Comment 1:



Acknowledged. Due to the “high” expansive potential of some of the on-site materials, conventional foundations should be a minimum of 12 inches in width and 30 inches in depth below the lowest adjacent grade, and 12 inches into the recommended bearing material. Verification testing will be performed on the completed building pad subsequent to grading and, as necessary, additional recommendations will be provided at that time.

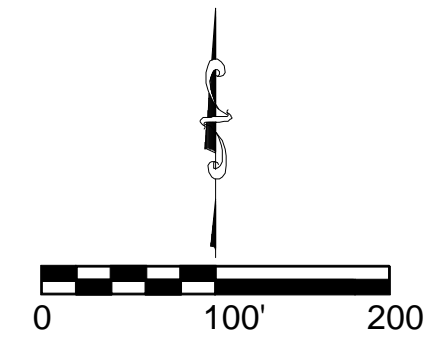
Subsequent to the recommended grading, concrete slabs-on-grade for structures, not subject to vehicle loading, should be a minimum of 4-inches thick and minimum slab reinforcement should consist of No. 4 steel reinforcing bars placed 16 inches on center in both horizontal directions. Steel reinforcing should be positioned vertically near the slab midpoint.



LEGEND

-  B4 Approximate Location of Borings (Geocon Inland Empire, Inc.)
-  TP7 Approximate Location of Test Pits (Geocon Inland Empire, Inc.)
-  B11 Approximate Location of Boring (Geocon West, Inc. - 2016)
-  B-61 Approximate Location of Borings (AGS)
-  CPT-6 Approximate Location of CPT (AGS)
-  TP-11 Approximate Location of Borings (AGS)
-  54 Strike & Dip of Bedding
- | |
|-----|
| 862 |
| 5 |
| 5 |
| 5 |

 Ground Surface Elevation, feet MSL
Depth of Artificial Fill and/or Topsoil (feet)
Depth of Alluvium and/or Terrace Deposits (feet)
Depth of Bedrock Contact (feet)
-  A A' Approximate Location of Geologic Cross Section
-  Approximate Location of Proposed Development



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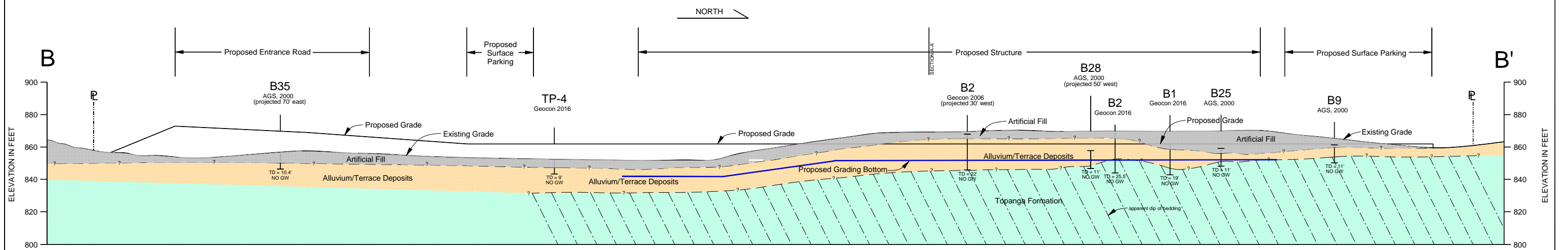
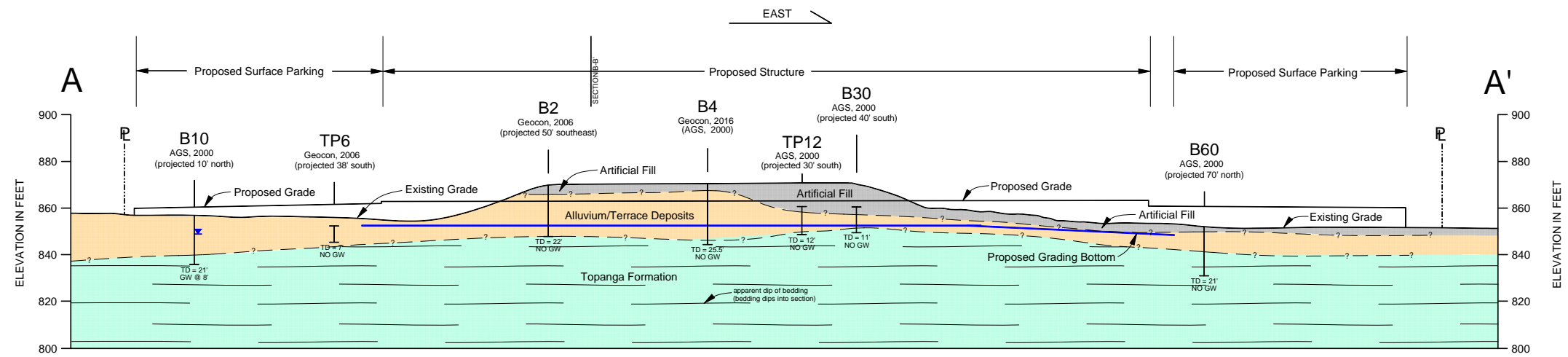
ENVIRONMENTAL GEOTECHNICAL MATERIALS
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PHONE (818) 841-8388 - FAX (818) 841-1704

DRAFTED BY: TL CHECKED BY: HHD

SITE PLAN

AGOURA HILLS HHG HOTEL DEVELOPMENT LP
29508 ROADSIDE DRIVE
AGOURA HILLS, CALIFORNIA

MAR. 2016 PROJECT NO. A8487-06-04 FIG. 1



NOTES:
 1. THE SECTIONS ARE BASED ON GEOLOGIC CONDITIONS AT BORING LOCATIONS AND AT SURFACE EXPOSURES MAPPED DURING THE INVESTIGATION. THE GEOLOGIC CONDITIONS BETWEEN SUCH LOCATIONS HAVE BEEN INTERPOLATED. LOCALIZED VARIATIONS COULD OCCUR. THE SECTIONS ARE INTENDED FOR DESCRIPTIVE PURPOSES ONLY.
 2. SEE FIGURE FOR LOCATION OF SECTIONS.

LEGEND

Artificial Fill	Geologic Contact
Alluvium/Terrace Deposits	Groundwater Level Encountered in Boring
Topanga Formation	

SCALE: 1" = 20'
 (HORIZONTAL AND VERTICAL SCALE)

GEOCON WEST, INC. ENVIRONMENTAL, GEOTECHNICAL, MATERIALS 2925 S. FERNWOOD BL., SUITE 100, RIVERSIDE, CA 92507 PHONE: 951-519-2222 FAX: 951-519-1750	GEOLOGIC SECTION AGOURA HILLS HHG HOTEL DEVELOPMENT LP 2908 ROUNDSIDE DRIVE AGOURA HILLS, CALIFORNIA

COLUMN SETTLEMENT CALCULATIONS

(AT-GRADE FOOTINGS-SEE INSTRUCTIONS BELOW)

CLIENT: 29508 Roadside Drive Finish floor elevation: 863 FEET
 FILE NUMBER: A8487-06-04

COLUMN LOAD 200 (KIPS)
 DESIGN BEARING VALUE 2500 (PSF)
 DEAD LOAD 75 (PERCENT)
 LIVE LOAD 25 (PERCENT)
 FOOTING DEPTH (DF) 2 (FEET)
 SOIL DENSITY (G) 120 (PCF)
 FOOTING SIZE(SQUARE)(a) 8.9 (FEET)
 REAL LOAD (PR) 2500 (PSF)

Di = INITIAL DEPTH OF SLICE (FEET)
 Df = FINAL DEPTH OF SLICE (FEET)
 D1 = AVG. DEPTH OF SLICE BELOW ORIG. GRADE (FEET)
 D2 = AVG. DEPTH BELOW FOOTING (FEET)
 PV = VERTICAL PRESSURE (PERCENTAGE OF REAL LOAD)

ENTER THE PERCENTAGE OF CONSOLIDATION FROM
 PLATE C AT THE INITIAL TO FINAL PRESSURES.

		ELEVATION		SOIL PRESSURES					SLICE		ELEVATION		
Di	Df	FTG. BOT. (FT)	(z)	(KIPS)	PERCENT	THICKNESS	SETTLE.			MSL			
		(FT)	D1	D2	a/z	PV	INITIAL	FINAL	CONSOL.	(INCHES)	(INCHES)	SAMPLE	(FEET)
2	3	860	3	1	17.9	93.0	0.3	2.6	0.8	12	0.10	B8 @ 0-10'	Eng. Fill
3	4	859	4	2	6.0	79.0	0.4	2.4	0.7	12	0.08	B8 @ 0-10'	Eng. Fill
4	6	857	5	3	3.0	61.0	0.6	2.1	0.5	24	0.12	B8 @ 0-10'	Eng. Fill
6	8	855	7	5	1.8	42.0	0.8	1.9	0.4	24	0.10	B8 @ 0-10'	Eng. Fill
8	10	853	9	7	1.3	30.0	1.1	1.8	0.2	24	0.05	B8 @ 0-10'	Eng. Fill
10	12	851	11	9	1.0	22.0	1.3	1.9	0.6	24	0.14	B9 @ 5'	851
12	14	849	13	11	0.8	17.0	1.6	2.0	0.2	24	0.05	B11 @ 7'	848
14	16	847	15	13	0.7	13.0	1.8	2.1	0.9	24	0.22	B11 @ 7'	848
16	18	845	17	15	0.6	10.0	2.0	2.3	0.3	24	0.07	B11 @ 7'	848
18	20	843	19	17	0.5	9.0	2.3	2.5	0.1	24	0.02	B11 @ 7'	848
20	22	841	21	19	0.5	7.0	2.5	2.7	0.1	24	0.02	B11 @ 7'	848
22	24	839	23	21	0.4	6.0	2.8	2.9	0.0	24	0.00	Bedrock	Bedrock
24	26	837	25	23	0.4	5.0	3.0	3.1	0.0	24	0.00	Bedrock	Bedrock
26	28	835	27	25	0.4	4.0	3.2	3.3	0.0	24	0.00	Bedrock	Bedrock
28	30	833	29	27	0.3	0.0	3.5	3.5	0.0	24	0.00	Bedrock	Bedrock
30	32	831	31	29	0.3	0.0	3.7	3.7	0.0	24	0.00	Bedrock	Bedrock
32	34	829	33	31	0.3	0.0	4.0	4.0	0.0	24	0.00	Bedrock	Bedrock
34	36	827	35	33	0.3	0.0	4.2	4.2	0.0	24	0.00	Bedrock	Bedrock
36	38	825	37	35	0.3	0.0	4.4	4.4	0.0	24	0.00	Bedrock	Bedrock
38	40	823	39	37	0.2	0.0	4.7	4.7	0.0	24	0.00	Bedrock	Bedrock
40	42	821	41	39	0.2	0.0	4.9	4.9	0.0	24	0.00	Bedrock	Bedrock
TOTAL SETTLEMENT:										0.97	INCH		

WALL SETTLEMENT CALCULATIONS

(AT-GRADE FOOTINGS-SEE INSTRUCTIONS BELOW)

PROJECT NAME: 29508 Roadside Drive
Project # A8487-06-04

WALL LOAD	3 (KIPS/FOOT)
DESIGN BEARING VALUE	2500 (PSF)
DEAD LOAD	75 (PERCENT)
LIVE LOAD	25 (PERCENT)
FOOTING DEPTH (DF)	2 (FEET)
SOIL DENSITY (G)	120 (PCF)
FOOTING SIZE (WIDTH)	1.2 (FEET)
REAL LOAD (PR)	2500 (PSF)

Di = INITIAL DEPTH OF SLICE (FEET)
 Df = FINAL DEPTH OF SLICE (FEET)
 D1 = AVG. DEPTH OF SLICE BELOW ORIG. GRADE (FEET)
 D2 = AVG. DEPTH BELOW FOOTING (FEET)
 PV = VERTICAL PRESSURE (PERCENTAGE OF REAL LOAD)

ENTER THE PERCENTAGE OF CONSOLIDATION FROM
 PLATE C AT THE INITIAL TO FINAL PRESSURES.

Finish floor elevation: 863 FEET

Di	Df	D1	D2	Elevation	b/z	SOIL PRESSURES (KIPS)			PERCENT CONSOL.	SLICE THICKNESS (INCHES)	SETTLEMENT (INCHES)	SAMPLE	ELEVATION MSL (FEET)
						PV	INITIAL	FINAL					
2	3	2.5	0.5	861	2.4	74	0.3	2.2	0.8	12	0.10	B8 @ 0-10'	Eng. Fill
3	4	3.5	1.5	860	0.8	39	0.4	1.4	0.5	12	0.06	B8 @ 0-10'	Eng. Fill
4	5	4.5	2.5	859	0.5	26	0.5	1.2	0.4	12	0.05	B8 @ 0-10'	Eng. Fill
5	7	6	4	858	0.3	17	0.7	1.1	0.3	24	0.07	B8 @ 0-10'	Eng. Fill
7	9	8	6	856	0.2	11	1.0	1.2	0.1	24	0.02	B8 @ 0-10'	Eng. Fill
9	11	10	8	854	0.2	8	1.2	1.4	0.0	24	0.00	B8 @ 0-10'	Eng. Fill
11	13	12	10	852	0.1	0	1.4	1.4	0.0	24	0.00	B11 @ 2'	853
13	15	14	12	850	0.1	0	1.7	1.7	0.0	24	0.00	B9 @ 5'	851
15	17	16	14	848	0.1	0	1.9	1.9	0.0	24	0.00	B11 @ 7'	848
17	19	18	16	846	0.1	0	2.2	2.2	0.0	24	0.00	B11 @ 7'	848
19	21	20	18	844	0.1	0	2.4	2.4	0.0	24	0.00	B11 @ 7'	848
21	23	22	20	842	0.1	0	2.6	2.6	0.0	24	0.00	B11 @ 7'	848
23	25	24	22	840	0.1	0	2.9	2.9	0.0	24	0.00	Bedrock	--
25	27	26	24	838	0.1	0	3.1	3.1	0.0	24	0.00	Bedrock	--
27	29	28	26	836	0.0	0	3.4	3.4	0.0	24	0.00	Bedrock	--
29	31	30	28	834	0.0	0	3.6	3.6	0.0	24	0.00	Bedrock	--
31	33	32	30	832	0.0	0	3.8	3.8	0.0	24	0.00	Bedrock	--
33	35	34	32	830	0.0	0	4.1	4.1	0.0	24	0.00	Bedrock	--
35	37	36	34	828	0.0	0	4.3	4.3	0.0	24	0.00	Bedrock	--
TOTAL SETTLEMENT:											0.30	INCH	

RECEIVED

By Valerie Darbouze at 9:02 am, Mar 01, 2016

FAX TRANSMITTAL

Fax Number: (818) 597-7352

To: City of Agoura Hills

Attention: Valerie Darbouze

Number of Pages

Including Cover Sheet: 7

Date: February 29, 2016

Project No. #: 15.00103.0203

Comments

Two hard copies will be mailed to you.

Signed: Ali Abdel-Haq

If an error occurs during transmission, please call Ali Abdel-Haq at (805) 496-1222

Date: February 29, 2016
GDI #: 15.00103.0203**CITY OF AGOURA HILLS - GEOTECHNICAL REVIEW SHEET**

To: Valerie Darbouze

Project Location: 29505 and 29515 Agoura Road, Agoura Road, Agoura Hills, California.

Building & Safety #: CUP-01150-2015, OAK-01153-2015, VAR-01151-2015, and SIGN-01152-2015

Geotechnical Report: Geocon West, Inc., (2016), "Response to City of Agoura Hills, Geotechnical Review Sheet, 29505 and 29515 Agoura Road, Agoura Hills, California," Project Number A8487-06-04, dated February 4, 2016.

Geocon West, Inc., (2015b), "Response to City of Agoura Hills, Geotechnical Review Sheet, 29508 Roadside Drive, Agoura Hills, California," Project Number A8487-06-03, dated October 9, 2015.

Geocon West, Inc., (2015a), "Proposed Hotel Development, 29508 Roadside Drive, Agoura Hills, California," Project Number A8487-06-03, dated May 20, 2015.

Hillmann Consulting (2015), "Phase II Subsurface Investigation Report, 29508 Roadside Drive, Agoura Hills, California 91301" Project Number C3-6321, dated June 19, 2015.

References: See attached list of references.

Plans: ACRM (2015b), "Marriott, Courtyard & Townplace Suites, Sheets 1-15, 29505 & 29515 Agoura Road, Agoura Hills, California 91301," dated August 12, 2015.

ACRM (2015a), "Concept Design, Courtyard & Townplace Suites, Sheets 1-15, C-1, E0.1, E1.0, and E1.1, Agoura Hills, California," Project No. 15-0301, dated May 22, 2015.

Stantec, "Courtyard & Townplace Suites, Grading and Drainage Plan, Sheets C-1 to C-3, L-1, L-2, E-1 and E-2, 1-11, C-1, E0.1, E1.0, and E1.1, Agoura Hills, California," Undated.

Previous Reviews: June 22, 2015 and October 28, 2015.

FINDINGS

Planning/Feasibility Issues

 Acceptable as Presented Response Required

Geotechnical Report

 Acceptable as Presented Response Required**REMARKS**

Geocon West, Inc. (GWI; consultant) provided a response to the geotechnical review letter by the City of Agoura Hills dated October 28, 2015 regarding the hotel development proposed at the northeast corner of Roadside Drive, City of Agoura Hills, California. Currently proposed on the 5.65-acre site are a three-story, 250-room hotel of about 142,000 ft², a swimming pool, retaining walls, and parking and access areas. Previously, a commercial development was proposed that included the construction of several commercial buildings with assorted appurtenant facilities. Advanced Geotechnical Services (AGS) was the previous

consultant of record and prepared the geotechnical documents in the attached reference list in support of the previously proposed development.

The City of Agoura Hills – Planning Department reviewed the referenced reports from a geotechnical perspective for compliance with applicable codes, guidelines, and standards of practice. GeoDynamics, Inc. (GDI) performed the geotechnical review on behalf of the City. Based upon a review of the submitted reports, some concerns remain regarding potential hazards at the site that have not been adequately addressed and/or mitigated by the consultant. Specifically, these remaining concerns include the following items:

- 1) The recommended depth of overexcavation within the proposed building area (5 feet below the existing grade) does not remove all uncertified fill within the building footprint;
- 2) There are soft and loose native materials within the building area (example: B-1B-3 and B-4) that extend below the existing fill and below the recommended depth of overexcavation;
- 3) There are some loose materials below the recommended depth of overexcavation that are susceptible to liquefaction and/or seismic settlement in the event of an earthquake;
- 4) The proposed development area is underlain by native materials that are potentially variable in thickness and engineering characteristics. Some are susceptible to hydrocollapse (B-8@10'), others are susceptible to expansion B-6@9, others are porous (B-29@3-10'), etc;
- 5) Settlement analyses did not account for the most critical conditions.

More detailed discussions of these remaining concerns are provided in the comments below. We recommend that the consultant shall adequately address the following Planning/Feasibility comments prior to consideration by the Planning Commission of approval of Case Nos. CUP-01150-2015, OAK-01153-2015, VAR-01151-2015, and SIGN-01152-2015. The Consultant should respond to the following Report Review comments prior to Building Plan-Check Approval. Plan-Check comments should be addressed in Building & Safety Plan Check. A separate geotechnical submittal is not required for plan-check comments. The reviewer welcomes the opportunity to discuss any of the comments below with the consultant and applicant if they so desire.

Planning/Feasibility Comments

1. Considering the findings from the environmental study (as well as previous studies on the site by others) regarding groundwater and the presence of relatively loose alluvial deposits within the proposed building area, the consultant should further evaluate the potential for liquefaction and related hazards if alluvial deposits are to remain in-place. Mitigation measures should be provided as necessary.

Note: The response to this comment is considered incomplete for the following reasons:

- a) Evaluation of the liquefaction potential should be based on the historical high groundwater conditions. The consultant acknowledged that groundwater seepage may develop where none previously existed - particularly after rainfall. Some of the underlying materials (below the recommended depth of overexcavation) are reported by the current and previous consultants to be "loose" or medium-dense with Standard Penetration Test (SPT) blow counts less than 30. Given these conditions, the site appears to be potentially susceptible to liquefaction and related hazards such as post-liquefaction seismic settlement, surface manifestation of liquefaction in the form of sand boils and fissures, loss of bearing, and lateral spreading. Please note that sites not located in a liquefaction hazard zone may include some potentially liquefiable layers/lenses that must be identified, delineated and mitigated to acceptable standards.
- b) Loose and/or medium-dense sandy material can experience volumetric changes that cause seismic-dry sand settlement in response to the ground shaking anticipated at the site. This can occur even if the materials are located above anticipated groundwater levels.
- c) In addition to the potential for liquefaction and/or seismic dry sand settlement of some of the underlying materials, the significant variations in thickness and engineering characteristics of alluvial deposits may contribute to differential movements (example: some of the underlying materials are susceptible to hydrocollapse; some are expansive, others are identified as soft and loose, etc.)

- d) The Phase II Environmental Study concluded that some of the potentially contaminated soil *“will need to be segregated and removed prior to the planned sensitive development. In addition, a risk management decision will be required regarding the potential impact of the known groundwater contamination. Though the groundwater zone is clearly a limited perched zone and not of beneficial use, it could prove a source of health risk to future occupants. Previous closure of UST cases was likely made under the provision of future commercial use only.”* The impact of the environmental conditions on the geotechnical aspects of the site was not addressed as required by the above comment.

Based on the above, it seems that additional site characterization and delineation of areas of geotechnical concerns are warranted. Mitigation measures should be recommended as necessary.

2. The site is underlain by up to 19 ft of surficial material including uncertified fill, topsoil and colluvium, alluvial deposits, and terrace deposits. Some of the underlying alluvium is wet and loose. The previous consultant recommended removal to bedrock. Geocon recommends removal to at least 5 ft below existing grade (and possibly deeper as determined in the field). Hence, a significant change is made in the recommended mitigation measures between the previous and current geotechnical consultant. With that being the case, and considering that substantial subsurface data is available, the consultant should further delineate and substantiate the recommended depth of overexcavation, particularly within settlement-sensitive structures.

Note 1: The report should provide adequate characterization of the geotechnical conditions at the site and provide preliminary geotechnical recommendations for mitigation measures (overexcavation). We understand and appreciate the consultant’s intent to verify these recommendations in the field during grading. However, based on available subsurface data, there are several points of exploration that indicate a likely need for deeper removals and should be considered and accounted for in the preliminary recommendations. Some examples:

- B-1 (by GWI) indicates soft clay down to 13 ft below existing grade.
- B-3 (by GWI) indicates fill and loose materials down to about 8.5 ft.
- B-29 (by AGS) indicates porous materials to 9 ft below existing grade.
- Fill significantly deeper than 5 ft was encountered in all borings and trenches excavated in the southern building area.

As requested in the comment above, the consultant should further delineate the vertical and horizontal extent of the recommended removal and recompaction at the site.

Note 2: The response by the consultant is considered incomplete for the following reasons:

- a) Consolidation tests were not flooded as is typically done to evaluate the impact of moisture infiltration on the soils. Hence, consolidation tests performed on samples from B-3 are considered to be incomplete. Consolidation tests by both the current and previous consultants exhibited in some cases significant hydrocollapse potential.
- b) Notwithstanding that a 2150-pound hammer was used to drive samples in the bucket auger borings, the soil descriptions provided suggest problematic materials (B-1 from 9.5-13 ft described as soft clay, in B-3 from 5-8.5 ft as loose clayey sand, and in Test Pit 4 from 6-9 ft (bottom of excavation) as soft to firm clay). Similar loose to medium-dense sandy materials with blow counts below 30 were obtained in several borings by the previous consultants. These data support a conclusion that alluvial deposits at the site are not uniform.
- c) Due to the presence of abundant gravel, high blow obtained may not accurately represent the consistency of underlying materials.
- d) The consultant recommends removing a minimum of the upper 5 feet within the building area, and observation of the bottom of excavation for areas where deeper removals are warranted. However, available geotechnical data clearly indicate that deeper removals are warranted because of the presence of either uncertified fill and/or soft/loose materials at depths greater than 5 feet. It seems prudent to further delineate the vertical and horizontal extent of unsuitable materials at the site at this stage rather than leaving it to the field representative during grading. Please also note that some of the unsuitable materials that were encountered during the subsurface investigations may not be readily apparent during grading. Mitigation measures for all unsuitable materials should be provided prior to start of grading.

3. Based on submitted consolidation data, and considering the expected column loads of 600 kips, a cursory check of settlement indicates a potential for significantly higher static settlement than calculated by the consultant. The consultant should check and revise as necessary settlement estimates due to anticipated loading. Detailed analyses including assumptions and schematic sections with soil properties indicated should be provided for review. Mitigation measures should be recommended as necessary.
4. A copy of the review letter shall be attached to the response

Report Review Comments

1. Expansion index tests from on-site materials indicate expansion indices of 39, 74 and 89; yet, the consultant assumed an expansion index of 39 in the design of foundations. Highly expansive soils are very common in the Agoura Hills area. The consultant should substantiate using the lower limit of expansion in the design of foundations.

Note 1: In response to this comment, the consultant asserted that the tested sample that exhibited an expansion index of 39 is more representative of the upper grade materials. However, as mentioned above (Planning/Feasibility Comment No. 1), there are other data including expansion test data that exhibited significantly higher expansion potential (critically expansive in some cases with EI>130). The AGS report dated September 17, 2001 reported the following expansion index test results:

<u>Sample</u>	<u>Expansion Index</u>
B-1@0-2	145
B-6@0.5-2	102
B-13@2-4	38
B-16@1-3	89
B-17@1-3	137

In light of the above, the consultant should use a more realistic value of expansion index to base the preliminary design of foundations and slabs-on-grade.

Note 2: The consultant acknowledged the comment but did not provide revised recommendations for preliminary design of foundations and slabs-on-grade as requested, or provide additional measures to mitigate the very highly expansive nature of some of the on-site soils.

2. Considering the expansive nature of on-site materials and that a three story structure is proposed, the consultant should substantiate the adequacy of the recommended minimum depth of embedment of 18 inches below the lowest adjacent grade.

Note 1: The design of foundations and slabs-on-grade in expansive soils should be per the latest edition of the California Building Code (CBC). Alternative methods acceptable by the City may be considered. An 18 inch embedment depth for a three story structure in expansive soils should be substantiated.

Note 2: The response does not address the comment. Highly expansive soils with an expansion index greater than 130 were obtained from B-17 at 1-3 ft.

3. The structural engineer for the project should evaluate the impact of the proposed development on the existing culvert. The structural engineer should provide a letter indicating that proposed grading around the culvert and the proposed fill on the top of the culvert will not adversely impact the stability and/or the structural integrity of the existing culvert, and that the proposed additional loads and stresses including those due to grading and fill placement on the top of the culvert are within the tolerance limits of the culvert.

Note 1: No response was provided. The reviewers are aware that this issue should be addressed by the structural engineer. However, since the extra loads on the culvert are due to geotechnical activities, a verification letter from the structural engineer should be provided prior to issuing a grading permit.

Note 2: The consultant acknowledged this comment. The structural engineer should provide the requested letter prior to approval.

4. The geotechnical consultant should review the Phase II environmental report for possible impacts on grading and safety precautions that may be required during grading.

Plan-Check Comments

1. The name, address, and phone number of the Consultant and a list of all the applicable geotechnical reports shall be included on the building/grading plans.
2. The following note must appear on the grading and foundation plans: *“All retaining wall excavations shall be reviewed by the project engineering geologist for the presence of adversely oriented joint surfaces. Adverse surfaces shall be evaluated and supported in accordance with recommendations of the project geotechnical engineer.”*
3. The grading plan should include the limits and depths of overexcavation for the swimming pool, the road and flatwork areas as recommended by the Consultant.
4. The following note must appear on the grading and foundation plans: *“Excavations shall be made in compliance with CAL/OSHA Regulations.”*
5. The following note must appear on the foundation plans: *“All foundation excavations must be observed and approved, in writing, by the Project Geotechnical Consultant prior to placement of reinforcing steel.”*
6. Foundation plans and foundation details shall clearly depict the embedment material and minimum depth of embedment for the foundations.
7. Drainage plans depicting all surface and subsurface non-erosive drainage devices, flow lines, and catch basins shall be included on the building plans.
8. Final grading, drainage, and foundation plans shall be reviewed, signed, and wet stamped by the consultant.
9. Provide a note on the grading and foundation plans that states: *“An as-built report shall be submitted to the City for review. This report prepared by the Geotechnical Consultant must include the results of all compaction tests as well as a map depicting the limits of fill, locations of all density tests, outline and elevations of all removal bottoms, keyway locations and bottom elevations, locations of all subdrains and flow line elevations, and location and elevation of all retaining wall backdrains and outlets. Geologic conditions exposed during grading must be depicted on an as-built geologic map.”*

If you have any questions regarding this review letter, please contact GDI at (805) 496-1222.

Respectfully Submitted,

GeoDynamics, INC.



Ali Abdel-Haq
Geotechnical Engineering Reviewer
GE 2308 (exp. 12/31/17)

REFERENCES

REPORT

Advanced Geotechnical Services, Inc., (2014c), "*Response to Geotechnical Review Sheet Dated October 24, 2014, GDI #: 14.00103.0194, Building & Safety #: 14-SPR-003, 14-OTP-016, 14-LLA-002, Proposed Commercial Development, 29432 and 29439 Agoura Road, Agoura Hills, California*", Report Number 9496, Client Number 2738, dated November 13, 2014.

Advanced Geotechnical Services, Inc., (2014b), "*Response to Geotechnical Review Sheet Dated August 13, 2014, GDI #: 14.00103.0194, Building & Safety #: 14-SPR-003, 14-OTP-016, 14-LLA-002, Proposed Commercial Development, 29432 and 29439 Agoura Road, Agoura Hills, California*", Report Number 9466, Client Number 2738, dated September 29, 2014.

Advanced Geotechnical Services, Inc., (2014a), "*Geotechnical Engineering Update Study, Proposed Commercial Development, 29432 and 29439 Agoura Road, Agoura Hills, California*", Report Number 9427, Client Number 2738, dated July 18, 2014.

Advanced Geotechnical Services, Inc., (2001), "*Geotechnical Engineering Study, Proposed Home Depot Outlet and Restaurant Pad, Ladyface Village Phase I, Agoura Road West of Kanan, Agoura Hills, California*", Report Number 4613 Revised, Client Number 2738, dated September 17, 2001.

PLANS

Hardy Engineering, Inc. (2014b), "*Agoura Road Grading Plan, 29432 and 29439 Agoura Road, Agoura Hills, CA 91301, Sheets C01-C03, and HYDRO-2B,*", Printing Date: October 9, 2014.

Hardy Engineering, Inc. (2014a), "*Agoura Road Grading Plan, 29432 and 29439 Agoura Road, Agoura Hills, CA 91301, Sheets C01-C03, HYDRO-2A, and HYDRO-2B,*", dated July 23, 2014.

bk:architecture, "*Architectural Drawings, Agoura Park, 29431 Agoura Road Agoura Hills, California 91301, Sheets ap1, thru ap6;* Various Scales, Undated.

Date: March 25, 2016
GDI #: 15.00103.0203

CITY OF AGOURA HILLS - GEOTECHNICAL REVIEW SHEET

To: Valerie Darbouze

Project Location: 29505 and 29515 Agoura Road, Agoura Road, Agoura Hills, California.

Building & Safety #: CUP-01150-2015, OAK-01153-2015, VAR-01151-2015, and SIGN-01152-2015

Geotechnical Report: Geocon West, Inc., (2016b), "Response to City of Agoura Hills - Geotechnical Review Sheet, 29505 and 29515 Agoura Road, Agoura Hills, California," Project Number A8487-06-04, dated March 16, 2016.

Geocon West, Inc., (2016a), "Response to City of Agoura Hills, Geotechnical Review Sheet, 29505 and 29515 Agoura Road, Agoura Hills, California," Project Number A8487-06-04, dated February 4, 2016.

Geocon West, Inc., (2015b), "Response to City of Agoura Hills, Geotechnical Review Sheet, 29508 Roadside Drive, Agoura Hills, California," Project Number A8487-06-03, dated October 9, 2015.

Geocon West, Inc., (2015a), "Proposed Hotel Development, 29508 Roadside Drive, Agoura Hills, California," Project Number A8487-06-03, dated May 20, 2015.

References: See attached list of references.

Plans: ACRM (2015b), "Marriott, Courtyard & Townplace Suites, Sheets 1-15, 29505 & 29515 Agoura Road, Agoura Hills, California 91301," dated August 12, 2015.

ACRM (2015a), "Concept Design, Courtyard & Townplace Suites, Sheets 1-15, C-1, E0.1, E1.0, and E1.1, Agoura Hills, California," Project No. 15-0301, dated May 22, 2015.

Stantec, "Courtyard & Townplace Suites, Grading and Drainage Plan, Sheets C-1 to C-3, L-1, L-2, E-1 and E-2, 1-11, C-1, E0.1, E1.0, and E1.1, Agoura Hills, California," Undated.

Previous Reviews: June 22, 2015, October 28, 2015 and February 29, 2016.

FINDINGS

Planning/Feasibility Issues

- Acceptable as Presented
 Response Required

Geotechnical Report

- Acceptable as Presented
 Response Required

REMARKS

Geocon West, Inc. (GWI; consultant) provided a response to the geotechnical review letter by the City of Agoura Hills dated February 29, 2016 regarding the proposed hotel development at the northeast corner of Roadside Drive, City of Agoura Hills, California. Currently proposed on the 5.65-acre site are a three-story, 250-room hotel of about 142,000 ft², a swimming pool, retaining walls, and parking and access areas. Previously, a commercial development was proposed that included the construction of several commercial buildings with associated appurtenant facilities. Advanced Geotechnical Services (AGS) was the previous

consultant of record and prepared the geotechnical documents in the attached reference list in support of the previously proposed development.

The City of Agoura Hills – Planning Department reviewed the referenced reports from a geotechnical perspective for compliance with applicable codes, guidelines, and standards of practice. GeoDynamics, Inc. (GDI) performed the geotechnical review on behalf of the City. Based upon our review, we recommend the Planning Commission consider approval of Case # CUP-01150-2015, OAK-01153-2015, VAR-01151-2015, and SIGN-01152-2015 from a geotechnical perspective. The Consultant should respond to the following Report Review Comments when final development plans become available, prior to Building Plan Approval. Plan-Check comments should be addressed in Building & Safety Plan Check, and a separate geotechnical submittal is not required for plan-check comments

Report Review Comments

1. The consultant should review final development plans, including grading and foundation plans when they become available, and provide additional recommendations as necessary to address any significant changes to the plans. The Geologic Map should be updated using the final grading plan as a base map.
2. Considering the highly expansive nature of on-site materials and that a three story structure is proposed, the consultant should substantiate the adequacy of the recommended minimum width of footings of 12 inches.

Plan-Check Comments

1. The name, address, and phone number of the Consultant and a list of all the applicable geotechnical reports shall be included on the building/grading plans.
2. The following note must appear on the grading and foundation plans: *“Excavations shall be made in compliance with CAL/OSHA Regulations.”*
3. The grading plan should include the limits and depths of overexcavation for the swimming pool, the road and flatwork areas as recommended by the Consultant.
1. The following notes must be added to the grading plan:
 - The geotechnical consultant should determine the expansion potential of the finish grade materials at the completion of grading. Grading and Foundation design recommendations should be revised if the expansion potential of finish grade materials substantially differs from the assumed expansion range.
 - At the completion of grading, samples of the onsite soils should be collected and tested for corrosion potential.
 - At the completion of grading, samples of the finish grade materials within driveway and access areas should be collected and tested for R-Value.
 - An as-built report shall be submitted to the City for review. This report prepared by the Geotechnical Consultant must include the results of all compaction tests as well as a map depicting the limits of fill, locations of all density tests, outline and elevations of all removal bottoms, keyway locations and bottom elevations, locations of all subdrains and flow line elevations, and location and elevation of all retaining wall backdrains and outlets. Geologic conditions exposed during grading must be depicted on an as-built geologic map.”
4. The following note must appear on the foundation plans: *“All foundation excavations must be observed and approved, in writing, by the Project Geotechnical Consultant prior to placement of reinforcing steel.”*
5. Foundation plans and foundation details shall clearly depict the embedment material and minimum depth of embedment for the foundations.
6. Drainage plans depicting all surface and subsurface non-erosive drainage devices, flow lines, and catch basins shall be included on the building plans.
7. Final grading, drainage, and foundation plans shall be reviewed, signed, and wet stamped by the consultant.

If you have any questions regarding this review letter, please contact GDI at (805) 496-1222.

Respectfully Submitted,
GeoDynamics, INC.



Ali Abdel-Haq
Geotechnical Engineering Reviewer
GE 2308 (exp. 12/31/17)

REFERENCES

REPORT

Advanced Geotechnical Services, Inc., (2014c), "*Response to Geotechnical Review Sheet Dated October 24, 2014, GDI #: 14.00103.0194, Building & Safety #: 14-SPR-003, 14-OTP-016, 14-LLA-002, Proposed Commercial Development, 29432 and 29439 Agoura Road, Agoura Hills, California*", Report Number 9496, Client Number 2738, dated November 13, 2014.

Advanced Geotechnical Services, Inc., (2014b), "*Response to Geotechnical Review Sheet Dated August 13, 2014, GDI #: 14.00103.0194, Building & Safety #: 14-SPR-003, 14-OTP-016, 14-LLA-002, Proposed Commercial Development, 29432 and 29439 Agoura Road, Agoura Hills, California*", Report Number 9466, Client Number 2738, dated September 29, 2014.

Advanced Geotechnical Services, Inc., (2014a), "*Geotechnical Engineering Update Study, Proposed Commercial Development, 29432 and 29439 Agoura Road, Agoura Hills, California*", Report Number 9427, Client Number 2738, dated July 18, 2014.

Advanced Geotechnical Services, Inc., (2001), "*Geotechnical Engineering Study, Proposed Home Depot Outlet and Restaurant Pad, Ladyface Village Phase I, Agoura Road West of Kanan, Agoura Hills, California*", Report Number 4613 Revised, Client Number 2738, dated September 17, 2001.

Hillmann Consulting (2015), "*Phase II Subsurface Investigation Report, 29508 Roadside Drive, Agoura Hills, California 91301*" Project Number C3-6321, dated June 19, 2015.

Mearns Consulting LLC (2015), "Human Health Risk Assessment, 29508 Roadside Drive, Agoura Hills, California, 91301," dated December 23, 2015.

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Hardy Engineering, Inc. (2014b), "Agoura Road Grading Plan, 29432 and 29439 Agoura Road, Agoura Hills, CA 91301, Sheets C01-C03, and HYDRO-2B," Printing Date: October 9, 2014.

Hardy Engineering, Inc. (2014a), "Agoura Road Grading Plan, 29432 and 29439 Agoura Road, Agoura Hills, CA 91301, Sheets C01-C03, HYDRO-2A, and HYDRO-2B," dated July 23, 2014.

bk:architecture, "Architectural Drawings, Agoura Park, 29431 Agoura Road Agoura Hills, California 91301, Sheets ap1, thru ap6,: Various Scales, Undated.