Project No. 05704-52-54A
October 22, 2019

GDM Hotel Properties, LLC
Blum Capital Partners, L. P.
3963 Maple Avenue, Suite 200
Dallas, Texas 75219

Attention: Ms. Erin O'Grady

Subject: RESPONSE TO CITY REVIEW COMMENTS
MEADOWS DEL MAR (THE BOUGAINVILLEA)
LOT 80: 5702 MEADOWS DEL MAR
PTS# 604841 – MEADOWS DEL MAR SDP
SAN DIEGO, CALIFORNIA

References:
1. *City of San Diego Review Comments [for] Meadows Del Mar SDP, Project No. 60481,* LDR-Geology, dated September 30, 2019.
2. *Update Geotechnical Report, Meadows Del Mar (The Bougainvillea) Tract No. 13684, Lot No. 80 (5702 Grand Del Mar Way), San Diego, California,* prepared by Geocon Incorporated, dated March 9, 2009 (Project No. 05704-52-54).
3. *Addendum Update Geotechnical Report, Report of Testing and Observation Services During Regrading Operations, Grand Del Mar Lot 80, San Diego, California,* prepared by Geocon Incorporated, dated November 13, 2009 (Project No. 05704-52-54).

Dear Ms. O'Grady:

In accordance with the request of the request of Mr. Nick Psyhogios with Latitude 33, we prepared this letter to respond to City of San Diego review comments (Reference 1). The review comments specific to geotechnical engineering aspects are provided herein followed by our responses.

Comment No. 6: *Provide an updated, site-specific geologic map that depicts the current geologic conditions, existing and proposed development. Circumscribe the recommended limits of remedial grading (if applicable).*

Response: Figure 1 presents a site-specific Geologic Map depicting the current geologic conditions and additional grading subsequent to the referenced report dated November 13, 2009. The additional grading has been completed.

Comment No. 7: *Provide representative geologic/geotechnical cross section that shows the existing and proposed grades, distribution of fill and geologic units.*

Response: Figure 2 presents a Geologic Cross-Section presenting the existing and proposed grades, and distribution of fill and geologic units.

Comment No. 8: *Provide a description of the current site conditions and provide updated recommendations based on the proposed development.*

Response: The Scripps Formation underlies the slope zone on the western margins of the site and compacted fill underlies the building pad. Subsequent to the referenced report dated November 13, 2009, we understand additional grading occurred. Based on review of Geologic Map and Cross-Section, approximately 1 to 2 feet of fill was placed over the Scripps Formation with the slope zone. Additional recommendations are not necessary at this time. The site should be graded and maintained such that surface drainage is directed away from structures in accordance with 2016 CBC 1804.4 or other applicable standards. In addition, surface drainage should be directed away from the top of slopes into swales or other controlled drainage devices. Roof and pavement drainage should be directed into conduits that carry runoff away from the proposed structure.

Should you have questions regarding this letter, or if we may be of further service, please contact the undersigned at your convenience.

Very truly yours,

GEOCON INCORPORATED

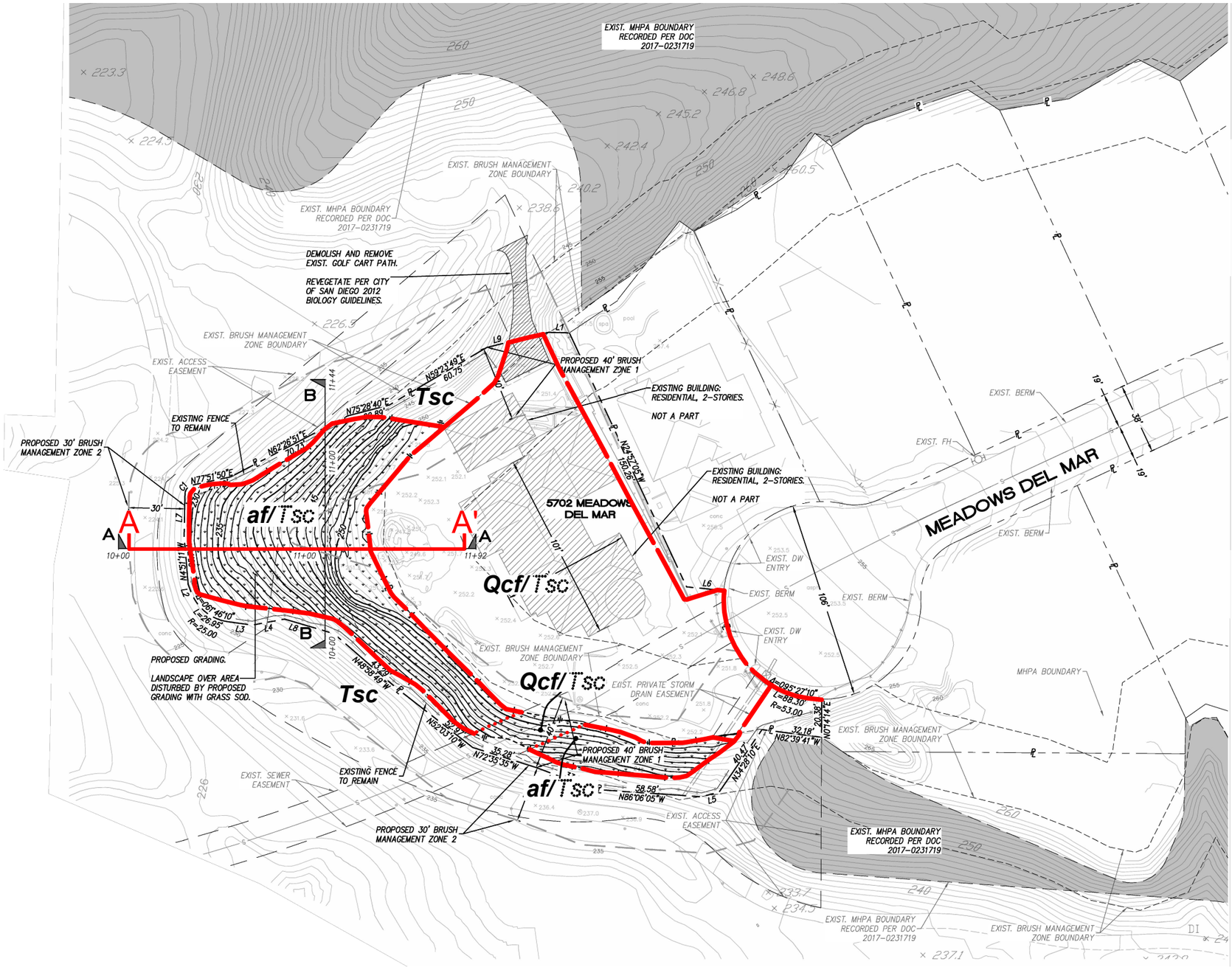
Michael C. Ertwine
CEG 2659

Shawn Foy Weedon
GE 2714

MCE:SFW:dmc

Attachments: Figures 1 and 2

(e-mail) Addressee
(e-mail) Jones Construction Management
Attention: Mr. Eric Jones
(e-mail) Latitude 33
Attention: Mr. Nick Psyhogios
(e-mail) McCarthy Companies
Attention: Mr. Tony Koeljmans



GEOCON LEGEND

- **af** .....ARTIFICIAL FILL
- **Qcf** .....COMPACTED FILL
- **Tsc** .....SCRIPPS FORMATION (Dotted Where Buried)
- .....APPROX. LOCATION OF GEOLOGIC CONTACT (Queried Where Uncertain)
- A — A' .....APPROX. LOCATION OF GEOLOGIC CROSS-SECTION

GEOLOGIC MAP

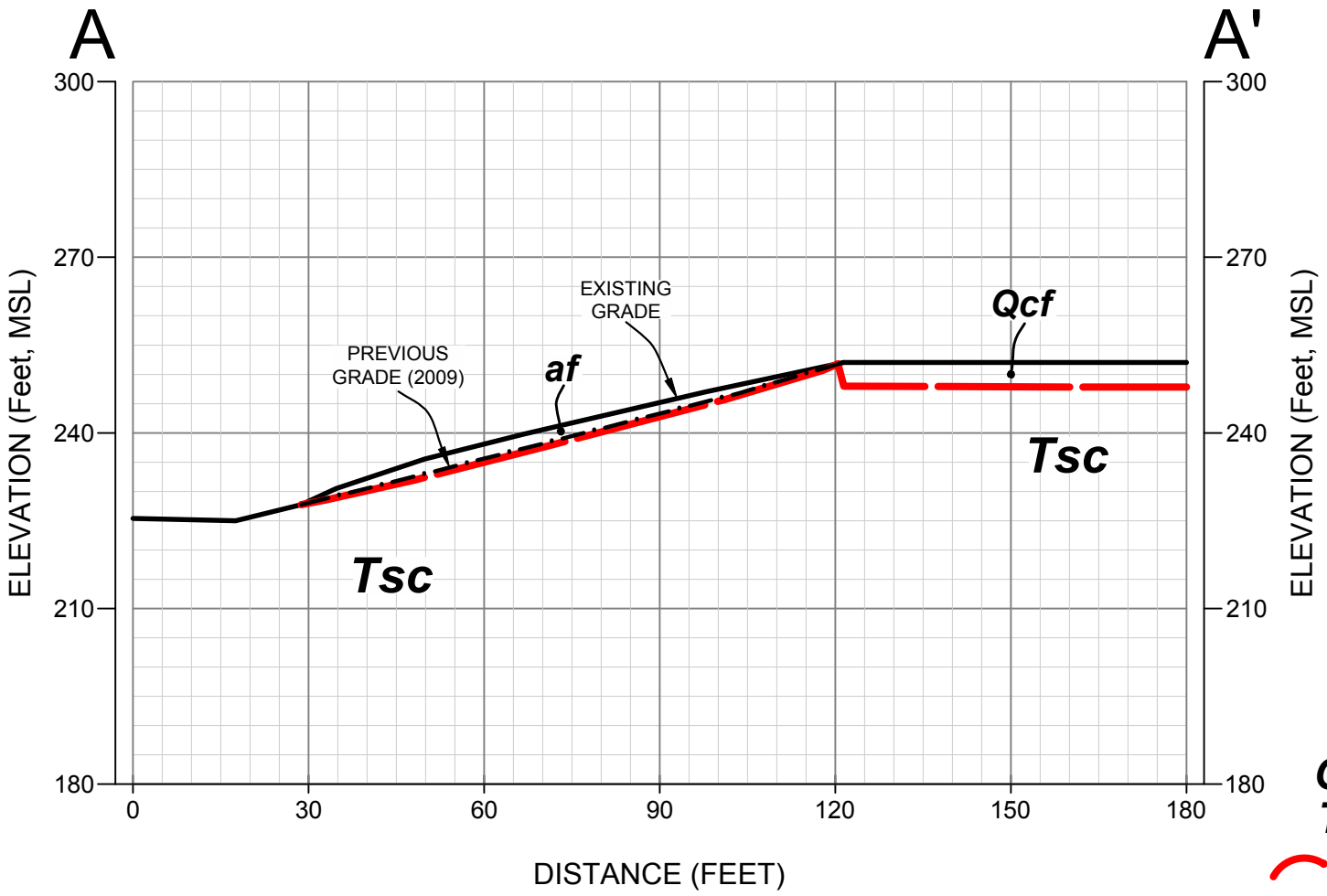
MEADOWS DEL MAR - LOT 180
SAN DIEGO, CALIFORNIA

GEOCON INCORPORATED
GEOTECHNICAL CONSULTANTS
6960 FLANDERS DRIVE - SAN DIEGO, CALIFORNIA 92121 - 2974
PHONE 858 558-6900 - FAX 858 558-6159

SCALE	1" = 60'	DATE	10 - 22 - 2019
PROJECT NO.	05704 - 52 - 54A	FIGURE	1
SHEET	1 OF 1		

Plotted:10/22/2019 7:38AM | By:RUBEN AGUILAR | File Location:Y:\PROJECTS\05704-52-54A Meadows Del Mar-Lot 80\SHEETS\05704-52-54A GeoMap.dwg

MEADOWS DEL MAR - LOT 80
SAN DIEGO, CALIFORNIA



GEOCON LEGEND

af	.....ARTIFICIAL FILL
Qcf	.....COMPACTED FILL
Tsc	.....SCRIPPS FORMATION
~	.....APPROX. LOCATION OF GEOLOGIC CONTACT

GEOLOGIC CROSS-SECTION A-A'

SCALE: 1" = 30' (Vert. = Horiz.)

GEOCON INCORPORATED
GEOTECHNICAL ■ ENVIRONMENTAL ■ MATERIALS
6960 FLANDERS DRIVE - SAN DIEGO, CALIFORNIA 92121 - 2974
PHONE 858 558-6900 - FAX 858 558-6159

PROJECT NO. 05704 - 52 - 54A
FIGURE 2
DATE 10 - 22 - 2019

GEOLOGIC CROSS-SECTION

Plotted:10/22/2019 7:38AM | By:RUBEN AGUILAR | File Location:Y:\PROJECTS\05704-52-54A Meadows Del Mar-Lot 80\SHEETS\05704-52-54A Cross-Section.dwg

Project No. 05704-52-54A
June 4, 2019

GDM Hotel Properties, LLC
Blum Capital Partners, L.P.
3963 Maple Avenue, Suite 200
Dallas, Texas 75219

Attention: Ms. Erin O'Grady

Subject: BUILDING PLAN REVIEW
MEADOWS DEL MAR (THE BOUGAINVILLEA)
LOT 80: 5702 MEADOWS DEL MAR
PTS# 604481 – MEADOWS DEL MAR SDP
SAN DIEGO, CALIFORNIA

References:
1. *Site Plan for: Grand Del Mar Meadows, 5702 Meadows Del Mar,* prepared by Latitude 33 Planning & Engineering, dated August 15, 2018.

2. *Update Geotechnical Report, Meadows Del Mar (The Bougainvillea) Tract No. 13684, Lot No. 80 (5702 Grand Del Mar Way), San Diego, California,* prepared by Geocon Incorporated, dated March 9, 2009 (Project No. 05704-52-54).

3. *Addendum Update Geotechnical Report, Report of Testing and Observation Services During Regrading Operations, Grand Del Mar Lot 80, San Diego, California,* prepared by Geocon Incorporated, dated November 13, 2009 (Project No. 05704-52-54).

Dear Ms. O'Grady:

In accordance with the request of the request of Mr. Sean Scaramella with Latitude 33, we reviewed the referenced building plans prepared for the subject project. We opine the referenced plans have been prepared in substantial conformance with recommendations presented in the referenced geotechnical reports. Geocon Inc. did not perform testing and observation services and offer no opinion regarding the fill placement subsequent to the referenced reports.

We limited our review to geotechnical aspects of project development and did not include the review of other details on the referenced plans. Geocon Incorporated has no opinion regarding other details

found on the referenced plans, architectural, structural, civil, or otherwise, that do not directly pertain to geotechnical aspects of site development.

Should you have questions regarding this letter, or if we may be of further service, please contact the undersigned at your convenience.

Very truly yours,

GEOCON INCORPORATED

Michael C. Ertwine
CEG 2659

Shawn Foy Weedon
GE 2714

MCE:SFW:dmc

(e-mail) Addressee
(e-mail) Jones Construction Management
Attention: Mr. Eric Jones
(e-mail) McCarthy Companies
Attention: Mr. Tony Koeljmans

GEOCON
INCORPORATED
GEOTECHNICAL
CONSULTANTS

UPDATE
GEOTECHNICAL REPORT

MEADOWS DEL MAR
(THE BOUGAINVILLEA)
TRACT NO. 13684
LOT 80 (5702 GRAND DEL MAR WAY)
SAN DIEGO, CALIFORNIA

PREPARED FOR

MANCHESTER FINANCIAL GROUP
SAN DIEGO, CALIFORNIA

MARCH 9, 2009
PROJECT NO. 05704-52-54

Project No. 05704-52-54
March 9, 2009

Manchester Financial Group
One Market Place, 33rd Floor
San Diego, California 92101-7714

Attention: Ms. Mari Waldron

Subject: MEADOWS DEL MAR (THE BOUGAINVILLEA)
TRACT NO. 13684
LOT NO. 80 (5702 GRAND DEL MAR WAY)
SAN DIEGO, CALIFORNIA
UPDATE GEOTECHNICAL REPORT

Dear Ms. Waldron:

In accordance with your request and our Proposal No. LG-09033 dated February 9, 2009, we have prepared this update geotechnical report for the subject project. The accompanying report presents the results of our study and conclusions and recommendations pertaining to the geotechnical aspects of proposed development of the site. The site is considered suitable for the construction of the proposed development provided the recommendations of this report are followed.

Should you have questions regarding this report, or if we may be of further service, please contact the undersigned at your convenience.

Very truly yours,

GEOCON INCORPORATED

Ali Sadr
CEG 1778

PROFESSIONAL GEOLOGIST
ALI SADR
No. 1778
CERTIFIED ENGINEERING GEOLOGIST
STATE OF CALIFORNIA

Shawn Weedon
GE 2714

REGISTERED PROFESSIONAL ENGINEER
SHAWN WEEDON
No. 2714
Exp. 06/30/09
GEOTECHNICAL
STATE OF CALIFORNIA

AS:SW:dmc

(2) Addressee
(4) Altevers
Attention: Mr. Stepen Frazier
(e-mail) Latitude 33
Attention: Mr. Noel Barnett

TABLE OF CONTENTS

UPDATE GEOTECHNICAL REPORT

1. PURPOSE AND SCOPE

This report presents the results of the update geotechnical study for the proposed development of Lot 80 situated on the eastern central portion of the Meadows Del Mar (The Bougainvillea) project. The purpose of this report is to provide information regarding the geologic soil underlying the site and to provide recommendations for the construction of the proposed single-family residence.

2. PREVIOUS SITE DEVELOPMENT

The scope of the study included a review of the following:

1. *Final Report of Testing and Observation Services During Site Grading, The Bougainvillea, San Diego, California,* prepared by Geocon Incorporated, dated August 27, 1999 (Project No. 05704-12-03).

2. *Update Report of Site Grading, Meadows Del Mar (The Bougainvillea), Tract No. 13684, Lot Nos. 9, 25, 30, 33, 53, 55, 61, 76, 80, and 86, San Diego, California,* prepared by Geocon Incorporated, dated November 18, 2001 (Project No. 05704-12-19).

3. *Final Report of Testing and Observation Services During Pad Regrade, The Bougainvillea, (Meadows Del Mar), Tract No. 13684, Legal Lot 80, 5702 Meadows Del Mar, San Diego, California,* prepared by Geocon Incorporated, dated August 21, 2002 (Project No. 05704-12-19).

4. *Grand Del Mar, Lot 80, Conceptual Pad Grading Plan,* prepared by Latitude 33, dated March 3, 2009 (Job No. 691.0).

Lot 80 was graded as a cut lot during the mass grading of Meadows Del Mar (The Bougainvillea) development. Geocon Incorporated performed the testing and observation services during mass grading, including for Lot 80, as reported in August 1999 (Reference No. 1). The pad elevation at this time was approximately 252.0 feet mean Sea Level (MSL). In 2002, we performed testing and observation services for additional fine grading at the subject lot, which consisted of raising the pad approximately 3½ to 4 feet to an approximate elevation of 255.7 feet MSL. A summary of the observations, compaction test results, and professional opinions pertaining to the fine grading is presented in our referenced report dated August 21, 2002. Subsequently, approximately 1½ feet of fill was removed from the site. The current elevation of the pad is approximately 254.0 feet MSL. Table I presents the as-graded site conditions for the property.

3. SITE AND PROJECT DESCRIPTION

The site is located on 5702 Grand Del Mar in the City of San Diego, California (see Vicinity Map, Figure 1). Lot 80 is a fill lot that has a fill thickness of approximately 2 feet. Descending slopes are located on the northern, western, and southern property boundaries and a residence is located east of the building pad. Proposed development for the subject lot will consist of the construction of a custom residential structure. Based on a review of the referenced conceptual grading plans, we understand additional grading would consist of the removal of approximately 18-inches to achieve the design grades, which would re-establish Lot 80 to be a cut lot.

The locations and descriptions of the site and proposed improvements are based on a site a review of the referenced reports and our understanding of project development. If project details vary significantly from those described herein, Geocon Incorporated should be contacted to evaluate the necessity for review and revision of this report.

4. SOIL AND GEOLOGIC CONDITIONS

The site is underlain by compacted fill and formational materials of the Tertiary-aged Scripps Formation as shown on the Geologic Map, Figure 2. The Geologic Map depicts the approximate limits of compacted fill and formational materials. Descriptions of the geologic units are described herein in order of increasing age.

4.1 Compacted Fill (Qcf)

Compacted fill placed within the pad areas consist of silty sand imported to the site during the re-grading operations. The compacted fill is expected to have a "very low" to "low" expansion potential (expansion index [EI] of 50 or less). Compacted fill is present throughout a majority of the lot and is considered suitable to provide adequate support for additional fill and for the proposed improvements.

4.2. Scripps Formation (Tsc)

The Tertiary-aged Scripps Formation consists predominantly of massive or laminated to thinly bedded medium dense, to dense moist clayey and silty sand with scattered interbeds of rounded cobbles, gravel, sandy silt, silt and clay. The Scripps Formation can possess a "very low" to "medium" expansion potential (EI of 90 or less) and possesses suitable shear strength for foundation support. The Scripps Formation is present below the compacted fill and is exposed on the descending slopes. The formational materials are considered suitable to provide adequate support for additional fill and proposed structures.

5. GROUNDWATER

We did not encounter groundwater during previous grading operations for the subject lot. We do not expect groundwater to adversely impact the development of the property. However, we observed minor seepage along the toe of the existing cut slope on the southeast side of the lot. The source of water appears to be irrigation from the neighboring lot. Groundwater elevations are dependent on seasonal precipitation, irrigation, land use, among other factors, and vary as a result. Proper surface drainage will be important to future performance of the project.

6. GEOLOGIC HAZARDS

6.1 Faulting and Seismicity

The City of San Diego Seismic Safety Study, Geologic Hazards and Faults, maps the site as having a *Hazard Category of 53: Level or sloping terrain unfavorable geologic structure, low to moderate risk.* A review of the referenced geologic materials and our knowledge of the general area indicate that the site is not underlain by active, potentially active, or inactive faults. An active fault is defined by the California Geological Survey (CGS) as a fault showing evidence for activity within the last 11,000 years. The site is not located within State of California Earthquake Fault Zone.

According to the computer program *EZ-FRISK* (Version 7.30), nine known active faults are located within a search radius of 50 miles from the property. The nearest known active fault is the Rose Canyon Fault, located approximately 6 mile west of the site and is the dominant source of potential ground motion. Earthquakes that might occur on the Rose Canyon Fault Zone or other faults within the southern California and northern Baja California area are potential generators of significant ground motion at the site. The estimated deterministic maximum earthquake magnitude and peak ground acceleration for the Rose Canyon Fault are 7.2 and 0.32g, respectively. Table 6.1.1 lists the estimated maximum earthquake magnitude and peak ground acceleration for the most dominant faults in relationship to the site location. We calculated peak ground acceleration (PGA) using Boore-Atkinson (2008) NGA USGS2008, Campbell-Bozorgnia (2008) NGA USGS 2008, and Chiou-Youngs (2008) NGA acceleration-attenuation relationships.

TABLE 6.1.1
DETERMINISTIC SPECTRA SITE PARAMETERS

Fault Name	Distance from Site (miles)	Maximum Earthquake Magnitude (Mw)	Peak Ground Acceleration		
			Boore-Atkinson 2008 (g)	Campbell-Bozorgnia 2008 (g)	Chiou-Youngs 2008 (g)
Rose Canyon	6	7.2	0.26	0.27	0.32
Coronado Bank	19	7.7	0.17	0.13	0.17
Newport-Inglewood (offshore)	20	7.2	0.13	0.10	0.11
Elsinore (Julian)	30	7.5	0.11	0.08	0.09
Elsinore (Temecula)	32	7.2	0.09	0.07	0.07
Earthquake Valley	39	6.9	0.06	0.05	0.04
Elsinore (Coyote Mountain)	48	7.2	0.06	0.05	0.05
Palos Verdes	49	7.4	0.06	0.05	0.05
Elsinore (Glen-Ivy)	49	7.2	0.06	0.05	0.04

We used the computer program *EZ-FRISK* to perform a probablilistic seismic hazard analysis. The computer program *EZ-FRISK* operates under the assumption that the occurrence rate of earthquakes on each mappable Quaternary fault is proportional to the faults slip rate. The program accounts for fault rupture length as a function of earthquake magnitude, and site acceleration estimates are made using the earthquake magnitude and distance from the site to the rupture zone. The program also accounts for uncertainty in each of following: (1) earthquake magnitude, (2) rupture length for a given magnitude, (3) location of the rupture zone, (4) maximum possible magnitude of a given earthquake, and (5) acceleration at the site from a given earthquake along each fault. By calculating the expected accelerations from considered earthquake sources, the program calculates the total average annual expected number of occurrences of site acceleration greater than a specified value. We utilized acceleration-attenuation relationships suggested by Boore-Atkinson (2008) NGA USGS2008, Campbell-Bozorgnia (2008) NGA USGS 2008, and Chiou-Youngs (2008) in the analysis. Table 6.1.2 presents the site-specific probabilistic seismic hazard parameters including acceleration-attenuation relationships and the probability of exceedence.

TABLE 6.1.2
PROBABILISTIC SEISMIC HAZARD PARAMETERS

Probability of Exceedence	Peak Ground Acceleration		
	Boore-Atkinson, 2007 (g)	Campbell-Bozorgnia, 2008 (g)	Chiou-Youngs, 2008 (g)
2% in a 50 Year Period	0.42	0.45	0.53
5% in a 50 Year Period	0.31	0.33	0.38
10% in a 50 Year Period	0.23	0.25	0.27

The California Geologic Survey (CGS) has a program that calculates the ground motion for a 10 percent of probability of exceedence in 50 years based on an average of several attenuation relationships. Table 6.1.3 presents the calculated results from the Probabilistic Seismic Hazards Mapping Ground Motion Page from the CGS website.

TABLE 6.1.3
PROBABILISTIC SITE PARAMETERS FOR SELECTED FAULTS
CALIFORNIA GEOLOGIC SURVEY

Calculated Acceleration (g) Firm Rock	Calculated Acceleration (g) Soft Rock	Calculated Acceleration (g) Alluvium
0.25	0.27	0.31

While listing peak accelerations is useful for comparison of potential effects of fault activity in a region, other considerations are important in seismic design, including the frequency and duration of motion and the soil conditions underlying the site. Seismic design of the structures should be evaluated in accordance with the California Building Code (CBC) guidelines currently adopted by the City of San Diego.

6.2 Liquefaction

Liquefaction typically occurs when a site is located in a zone with seismic activity, onsite soils are cohesionless, groundwater is encountered within 50 feet of the surface, and soil relative densities are less than about 70 percent. If the four previous criteria are met, a seismic event could result in a rapid-pore water pressure increase from the earthquake-generated ground accelerations. Due to the dense nature of the compacted fill and formational materials and the lack of a permanent groundwater table in the upper 50 feet, the potential for liquefaction occurring at the site is considered to be very low

7. CONCLUSIONS AND RECOMMENDATIONS

7.1 General

7.1.1 From a geotechnical engineering standpoint, it is our opinion that the lot is suitable for the proposed development, provided the recommendations presented herein are implemented in design and construction of the project.

7.1.2. The site is underlain by approximately 2 feet of compacted fill and the Scripps Formation. We understand that the fill will be removed and exported from the site. The formational material is considered suitable for support of structural fill and/or loads for the proposed development.

7.1.3 Excavations within the compacted fill and the Scripps Formation should generally be possible with moderate to heavy effort using conventional heavy-duty equipment. Localized concretions may exist within the formational materials that may cause difficulties in excavation.

7.1.4 We did not observe groundwater during the previous grading operations for the subject lot. We do not expect groundwater will be encountered during construction of the proposed improvements.

7.1.5 With the exception of possible strong seismic shaking, significant geologic hazards were not observed or are known to exist on the site that would adversely affect the proposed project.

7.1.6 The proposed structure can be supported by conventional continuous and spread footings bearing on properly compacted fill, provided the recommendations of this report have been incorporated into the design.

7.1.7 Surface settlement monuments will not be required on the project.

7.2 Excavation and Soil Characteristics

7.2.1 We obtained a sample of soil from the cut lot encountered during the fine grading operations on the pad. Our laboratory test results indicate the soil is considered to be "expansive" (expansion index [EI] greater than 20) as defined by 2007 California Building Code (CBC) Section 1802.3.2. Table 7.2.1 presents soil classifications based on the expansion index. We expect the existing soil possesses a low" expansion potential (Expansion Index of 90 or less). Table II presents the expansion index laboratory test results for the subject property.

TABLE 7.2.1
SOIL CLASSIFICATION BASED ON EXPANSION INDEX

Expansion Index (EI)	Soil Classification
0 – 20	Very Low
21 – 50	Low
51 – 90	Medium
91 – 130	High
Greater Than 130	Very High

7.2.2 We tested samples of the site materials during mass grading operations to evaluate the percentage of water-soluble sulfate content. Results from the laboratory water-soluble sulfate content tests are presented in Table III and indicate that the on-site materials at the locations tested possesses a "moderate" sulfate exposure to concrete structures as defined by 2007 CBC Section 1904.3 and ACI 318. Table 7.2.2 presents a summary of concrete requirements set forth by 2007 CBC Section 1904.3 and ACI 318. The presence of water-soluble sulfates is not a visually discernible characteristic; therefore, other soil samples from the site could yield different concentrations. Additionally, over time landscaping activities (i.e., addition of fertilizers and other soil nutrients) may affect the concentration. Table III presents the laboratory water-soluble sulfate test results for the subject property.

TABLE 7.2.2
REQUIREMENTS FOR CONCRETE EXPOSED TO SULFATE-CONTAINING SOLUTIONS

Sulfate Exposure	Water-Soluble Sulfate Percent by Weight	Cement Type	Maximum Water to Cement Ratio by Weight	Minimum Compressive Strength (psi)
Negligible	0.00-0.10	--	--	--
Moderate	0.10-0.20	II	0.50	4000
Severe	0.20-2.00	V	0.45	4500
Very Severe	> 2.00	V	0.45	4500

7.2.3 Geocon Incorporated does not practice in the field of corrosion engineering. Therefore, if improvements that could be susceptible to corrosion are planned, further evaluation by a corrosion engineer should be performed.

7.2.4 Excavation of the formational material will require very heavy effort and may generate oversized material using conventional heavy-duty equipment during grading.

7.3 Subdrains

7.3.1 With the exception of subdrains for retaining walls, other subdrains will not be required.

7.4 Seismic Design Criteria

7.4.1 We used the computer program *Seismic Hazard Curves and Uniform Hazard Response Spectra*, provided by the USGS. Table 7.4 summarizes site-specific design criteria obtained from the 2007 California Building Code (CBC; Based on the 2006 International Building Code [IBC]), Chapter 16 Structural Design, Section 1613 Earthquake Loads. The short spectral response uses a period of 0.2 second.

TABLE 7.4
2007 CBC SEISMIC DESIGN PARAMETERS

Parameter	Value	IBC-06 Reference
Site Class	C	Table 1613.5.2
Spectral Response – Class B (short), S_S	1.185g	Figure 1613.5(3)
Spectral Response – Class B (1 sec), S_1	0.435g	Figure 1613.5(4)
Site Coefficient, F_A	1.000	Table 1613.5.3(1)
Site Coefficient, F_V	1.365	Table 1613.5.3(2)
Maximum Considered Earthquake Spectral Response Acceleration (short), S_{MS}	1.185	Section 1613.5.3 (Eqn 16-37)
Maximum Considered Earthquake Spectral Response Acceleration – (1 sec), S_{M1}	0.594	Section 1613.5.3 (Eqn 16-38)
5% Damped Design Spectral Response Acceleration (short), S_{DS}	0.790g	Section 1613.5.4 (Eqn 16-39)
5% Damped Design Spectral Response Acceleration (1 sec), S_{D1}	0.396g	Section 1613.5.4 (Eqn 16-40)

7.4.2 Conformance to the criteria in Table 7.4 for seismic design does not constitute any kind of guarantee or assurance that significant structural damage or ground failure will not occur if a large earthquake occurs. The primary goal of seismic design is to protect life, not to avoid all damage, since such design may be economically prohibitive.

7.5 Grading

7.5.1 Grading should be performed in accordance with the attached *Recommended Grading Specifications* contained in Appendix A. Where the recommendations of this section conflict with those of Appendix A, the recommendations of this section take precedence. Earthwork should be observed and fill tested for compaction by Geocon Incorporated.

7.5.2 Prior to commencing grading, a preconstruction conference should be held at the site with the owner or developer, grading contractor, civil engineer, and geotechnical engineer in attendance. Special soil handling and/or the grading plans can be discussed at that time.

7.5.3 The grading will consist of excavating the existing fill and exporting from the site. If fill is exposed on the surface subsequent to the grading operations, the existing ground surface should be scarified at least 12 inches, moisture conditioned as necessary, and properly compacted. The lateral limits of the recompaction should be at least 5 feet outside of the proposed building footprint. Deeper removals may be necessary if soft soil is encountered. Geocon Incorporated should evaluate the limits of the removals during grading operations.

7.5.4 The site soil is considered suitable for placement of fill provided it is generally free from debris and oversize material. Layers of fill should be no thicker than will allow for adequate bonding and compaction. Fill, including trench and scarified ground surfaces, should be compacted to a dry density of at least 90 percent of the laboratory maximum dry density near to slightly above optimum moisture content as determined by the current ASTM Test Procedure D 1557.

7.5.5 Import fill (if necessary) should consist of granular materials with a "very low" to "low" expansion potential (EI of 50 or less) free of deleterious material or stones larger than 3 inches and should be compacted as recommended herein. Geocon Incorporated should be notified of the import soil source and should perform laboratory testing of import soil prior to its arrival at the site to determine its suitability as fill material.

7.6 Temporary Excavations

7.6.1 Temporary slopes should be made in conformance with OSHA requirements. The surficial materials should be considered Type B soil (Type C where groundwater or seepage is encountered) and the formational materials can be considered a Type A Soil (Type B where groundwater or seepage is encountered). It is the responsibility of the contractor to provide a safe excavation during the construction of the proposed project. In general, no special shoring requirement will be necessary if temporary excavations will be less than 4 feet high. Temporary excavations greater than 4 feet high should be laid back at an appropriate inclination. Surcharge loads should not be permitted within a distance equal to the height of the excavation from the top of the excavation. The top of the excavation should be at least 15 feet from the edge of existing improvements. Excavations steeper than those recommended or closer than 15 feet from an existing surface improvement should be shored in accordance with applicable OSHA codes and regulations.

7.7 Foundations

7.7.1 The foundation recommendations herein are based on the assumption that the footings will be founded entirely on properly compacted fill or formational material, and that the prevailing soil within 3 feet of finish grade consists of "very low" to "medium" expansive soil (EI of 90 or less).

7.7.2 The proposed residential building can be founded in properly compacted fill or formational materials on conventional continuous and isolated spread footings. Continuous footings should have a minimum embedment depth of 18 inches below lowest adjacent pad grade and a minimum width of 12 inches. Isolated spread footings should be at least 24 inches square and founded at least 18 inches below lowest adjacent pad grade. A Typical Wall/Column Dimension Detail is presented in Figure 3.

7.7.3 Footings proportioned as recommended herein may be designed for an allowable soil bearing pressure of 3,000 pounds per square foot (psf), dead plus live loads. The soil bearing pressure may be increased by 300 psf and 500 psf for each additional foot of foundation width and depth, respectively, up to a maximum allowable soil bearing pressure of 6,000 psf. The allowable bearing pressure may be increased by up to one-third for transient loads due to wind or seismic forces. We estimate the total and differential settlement for the structure is ½ inch.

7.7.4 Continuous footings should be reinforced with four No. 4 steel reinforcing bars, two placed near the top of the footing and two placed near the bottom. Reinforcement for spread footings should be designed by the project structural engineer.

7.7.5 Special subgrade presaturation (i.e., flooding to saturate soils to foundation depths to mitigate highly expansive soils) is not deemed necessary prior to placement of concrete. However, the slab and foundation subgrade should be moisturized as necessary to maintain a moist condition as would be expected in any concrete placement.

7.7.6 We should observe the foundation excavations prior to the placement of reinforcing steel and concrete to check that the exposed soil conditions are consistent with those expected and have been extended to appropriate bearing strata. If unexpected soil conditions are encountered, foundation modifications may be required.

7.8 Concrete Slabs-on-Grade

7.8.1 Interior concrete slabs-on-grade should be at least 5 inches thick. As a minimum, slab reinforcement should consist of No. 3 steel reinforcing bars spaced 24 inches on center in both horizontal directions placed mid-height in the slab.

7.8.2 Concrete slabs on grade should be underlain by 4 inches of clean sand to reduce the potential for differential curing, slab curl, and cracking. Slabs that may receive moisture-sensitive floor coverings or may be used to store moisture-sensitive materials should be underlain by a vapor retarder placed near the middle of the sand bedding. The vapor retarder used should be specified by the project architect or developer based on the type of floor covering that will be installed. The vapor retarder design should be consistent with the guidelines presented in Section 9.3 of the American Concrete Institute's (ACI) *Guide for Concrete Slabs that Receive Moisture-Sensitive Flooring Materials* (ACI 302.2R-06).

7.8.3 The foundation and slab-on-grade dimensions and minimum reinforcement recommendations are based upon soil conditions only and are not intended to be used in lieu of those required for structural purposes.

7.8.4 Exterior concrete slabs should be provided with adequate construction joints and/or expansion joints to control unsightly shrinkage cracking. The spacing should be determined by the project structural engineer based upon the intended slab usage, type and extent of brittle floor-covering materials, thickness, and reinforcement. The structural engineer should take into consideration criteria of the American Concrete Institute (ACI) when establishing crack-control spacing patterns.

7.8.5 Exterior slabs not subjected to vehicle loads should be at least 4 inches thick and reinforced with 6 x 6 - 6/6 welded wire mesh. The mesh should be placed within the upper one-third of the slab. Proper mesh positioning is critical to future performance of the slabs. The contractor should take extra care to provide proper mesh placement. Prior to construction of slabs, the subgrade should be moisture conditioned near to slightly above optimum moisture content and compacted to a dry density at least 90 percent of the laboratory maximum dry density.

7.8.6 Where exterior flatwork abuts the structure at entrant or exit points, the exterior slab should be dowelled into the structure's foundation stemwall. This recommendation is intended to reduce the potential for differential elevations that could result from differential settlement or minor heave of the flatwork. Dowelling details should be designed by the project structural engineer.

7.8.7 Where buildings or other improvements are planned near the top of a slope steeper than 3:1 (horizontal:vertical), special foundations and/or design considerations are recommended due to the tendency for lateral soil movement to occur.

- For fill slopes less than 20 feet high or cut slopes regardless of height, building footings should be deepened such that the bottom outside edge of the footing is at least 7 feet horizontally from the face of the slope.

- When located next to a descending 3:1 (horizontal:vertical) slope or steeper, the foundations should be extended to a depth where the minimum horizontal distance is equal to H/3 (where H equals the vertical distance from the top of the slope to the toe) with a minimum of 5 feet but need not exceed 40 feet. The horizontal distance is measured from the outer, deepest edge of the footing to the face of the slope.

- For cut slopes in dense formational materials inclined at 3:1 (horizontal:vertical) or flatter, the bottom outside edge of building footings should be at least 7 feet horizontally from the face of the slope, regardless of slope height.

- Swimming pools located within 7 feet of the top of cut or fill slopes are not recommended. Where such a condition cannot be avoided, it is recommended that the portion of the swimming pool wall within 7 feet of the slope face be designed assuming that the adjacent soil provides no lateral support. This recommendation applies to fill slopes up to 30 feet in height, and cut slopes regardless of height. For swimming pools located near the top of fill slopes greater than 30 feet in height, additional recommendations may be required and Geocon Incorporated should be contacted for a review of specific site conditions.

- Although other improvements, which are relatively rigid or brittle, such as concrete flatwork or masonry walls, may experience some distress if located near the top of a slope, it is generally not economical to mitigate this potential. It may be possible, however, to incorporate design measures that would permit some lateral soil movement without causing extensive distress. Geocon Incorporated should be consulted for specific recommendations.

7.8.8 The recommendations of this report are intended to reduce the potential for cracking of slabs due to expansive soils (if present) and differential settlement of fill soil. However, even with the incorporation of the recommendations presented herein, foundations and slabs-on-grade placed on such conditions may still exhibit cracking. The occurrence of concrete shrinkage cracks is independent of the supporting soil characteristics. Their occurrence may be reduced and/or controlled by limiting the slump of the concrete, proper concrete placement and curing, and the placement of crack-control joints at proper locations, particularly where re-entrant slab corners occur.

7.9 Retaining Walls

7.9.1 Retaining walls not restrained at the top and having a level backfill surface should be designed for an active soil pressure equivalent to the pressure exerted by a fluid density of 35 pounds per cubic foot (pcf). An active soil pressure of 50 pcf should be used where the backfill will be inclined at 2:1 (horizontal:vertical). Soil with an expansion index (EI) of greater than 50 should not be used as backfill material behind retaining walls.

7.9.2 Unrestrained walls are those that are allowed to rotate more than 0.001H (where H equals the height of the retaining portion of the wall) at the top of the wall. Where walls are restrained from movement at the top, an additional uniform pressure of 7H psf should be added to the active soil pressure. For retaining walls subject to vehicular loads within a horizontal distance equal to two-thirds the wall height, a surcharge equivalent to 2 feet of fill soil should be added. Loads from the adjacent housing structures should be incorporated into the design of the subterranean garage retaining wall, if applicable.

7.9.3 The use of drainage openings through the base of the wall (weep holes) is not recommended where the seepage could be a nuisance or otherwise adversely affect the property adjacent to the base of the wall. The recommendations herein assume a properly compacted granular (EI of 50 or less) free-draining backfill material with no hydrostatic forces or imposed surcharge load. Figure 4 presents a typical retaining wall drainage detail. If conditions different than those described are expected, or if specific drainage details are desired, Geocon Incorporated should be contacted for additional recommendations.

7.9.4 The structural engineer should determine the seismic design category for the project. If the project possesses a seismic design category of D, E, or F, the proposed retaining walls should be designed with seismic lateral pressure. A seismic load of 22H should be used for design. The seismic load is dependent on the retained height where H is the height of the wall, in feet, and the calculated loads result in pounds per square foot (psf) exerted at the top of the wall and zero at the base of the wall. We used a peak site acceleration of 0.32g calculated form the 2007 California Building Code ($S_{DS}/2.5$) and applying a pseudo-static coefficient of 0.5.

7.9.5 Although this seismic loading on the wall was evaluated for an active pressure case and the walls will be in an at-rest condition, some researchers have reported that this analysis produces reasonable design earth pressures. Because seismic loads will be analyzed using lower factors of safety than static earth pressures, we expect the design can be controlled by static loads.

7.10 Lateral Loading

7.10.1 To resist lateral loads, a passive pressure exerted by an equivalent fluid weight of 300 pounds per cubic foot (pcf) should be used for the design of footings or shear keys poured neat against formational materials. The allowable passive pressure assumes a horizontal surface extending at least 5 feet, or three times the surface generating the passive pressure, whichever is greater. The upper 12 inches of material in areas not protected by floor slabs or pavement should not be included in design for passive resistance.

7.10.2 If friction is to be used to resist lateral loads, an allowable coefficient of friction between soil and concrete of 0.4 should be used for design.

7.11 Drainage and Maintenance

7.11.1 Establishing proper drainage is critical to reduce the potential for differential soil movement, erosion and subsurface seepage. Positive measures should be taken to properly finish-grade the pads after the structures and other improvements are in place so that the drainage water from the lots and adjacent properties are directed off the lots and to the street away from foundations and the top of the slopes. Experience has shown that even with these provisions, a shallow groundwater or subsurface water condition can and may develop in areas where no such water conditions existed prior to the site development; this is particularly true where a substantial increase in surface water infiltration results from an increase in landscape irrigation.

7.11.2 Underground utilities should be leak free. Utility and irrigation lines should be checked periodically for leaks for early detection of water infiltration and detected leaks should be repaired promptly. Detrimental soil movement could occur if water is allowed to infiltrate the soil for a prolonged period.

7.11.3 Landscaping planters adjacent to paved areas are not recommended due to the potential for surface or irrigation water to infiltrate the pavement's subgrade and base course. Surface drains to collect excess irrigation water and transmit it to drainage structures, or impervious above-grade planter boxes should be used. In addition, where landscaping is planned adjacent to the pavement, a cutoff wall should be provided along the edge of the pavement and should extend at least 6 inches below the bottom of the base material.

7.11.4 If detention basins, bioswales, retention basins, or water infiltration devices are being considered, Geocon Incorporated should be retained to provide recommendations pertaining to the geotechnical aspects of possible impacts and design. Distress may be caused to planned improvements and properties located hydrologically downstream. The distress

depends on the amount of water to be detained, its residence time, soil permeability, and other factors. We have not performed a hydrogeology study at the site. Downstream properties may be subjected to seeps, springs, slope instability, raised groundwater, movement of foundations and slabs, or other impacts as a result of water infiltration.

7.12 Grading and Foundation Plan Review

7.12.1 A review of the grading and foundation plans should be performed prior to finalization to check their compliance with the recommendations of this report and determine the need for additional comments, recommendations and/or analysis.

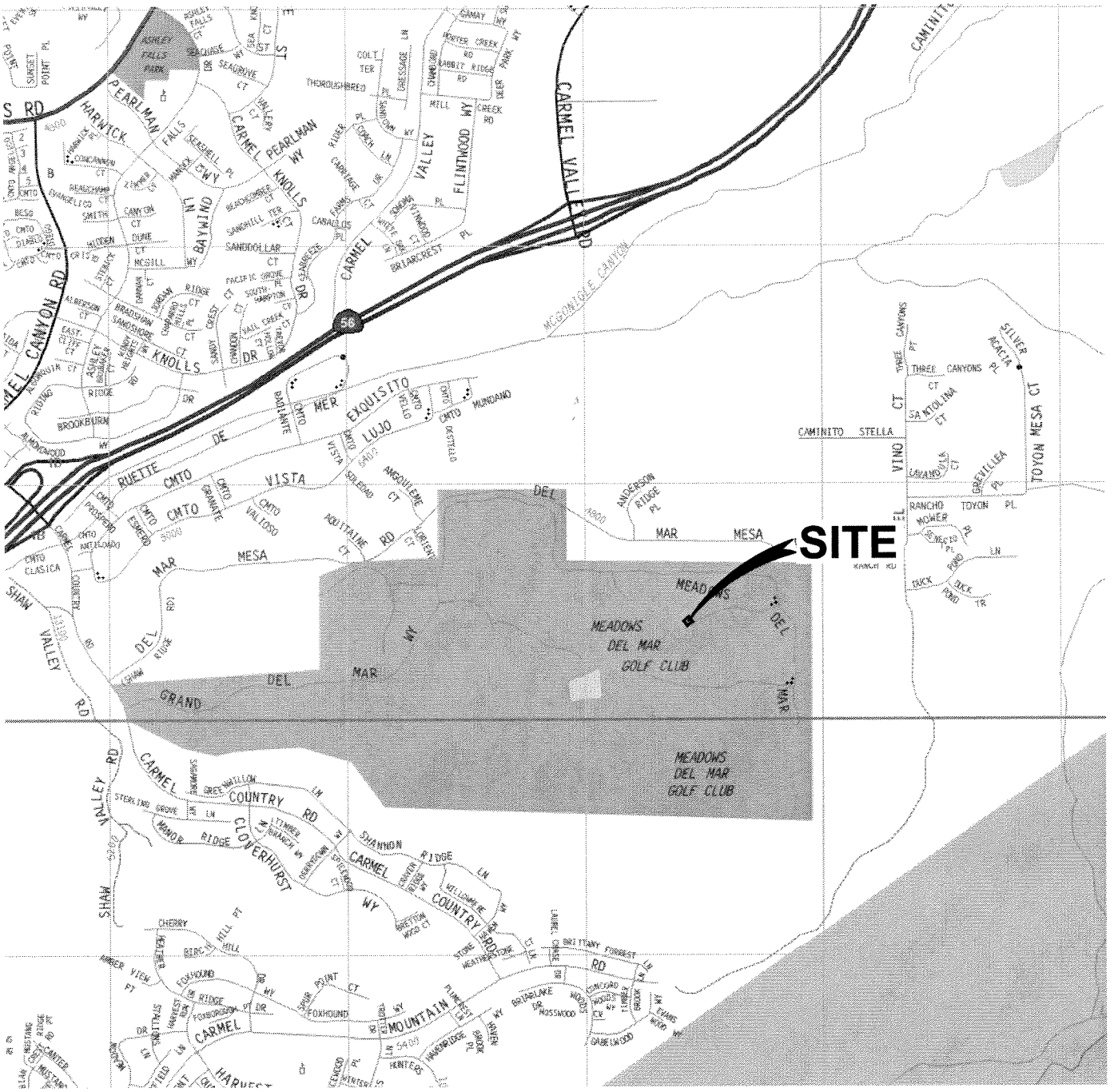
LIMITATIONS AND UNIFORMITY OF CONDITIONS

1. The firm that performed the geotechnical investigation for the project should be retained to provide testing and observation services during construction to provide continuity of geotechnical interpretation and to check that the recommendations presented for geotechnical aspects of site development are incorporated during site grading, construction of improvements, and excavation of foundations. If another geotechnical firm is selected to perform the testing and observation services during construction operations, that firm should prepare a letter indicating their intent to assume the responsibilities of project geotechnical engineer of record. A copy of the letter should be provided to the regulatory agency for their records. In addition, that firm should provide revised recommendations concerning the geotechnical aspects of the proposed development, or a written acknowledgement of their concurrence with the recommendations presented in our report. They should also perform additional analyses deemed necessary to assume the role of Geotechnical Engineer of Record.

2. The recommendations of this report pertain only to the site investigated and are based upon the assumption that the soil conditions do not deviate from those disclosed in the investigation. If any variations or undesirable conditions are encountered during construction, or if the proposed construction will differ from that anticipated herein, Geocon Incorporated should be notified so that supplemental recommendations can be given. The evaluation or identification of the potential presence of hazardous or corrosive materials was not part of the scope of services provided by Geocon Incorporated.

3. This report is issued with the understanding that it is the responsibility of the owner or his representative to ensure that the information and recommendations contained herein are brought to the attention of the architect and engineer for the project and incorporated into the plans, and the necessary steps are taken to see that the contractor and subcontractors carry out such recommendations in the field.

4. The findings of this report are valid as of the present date. However, changes in the conditions of a property can occur with the passage of time, whether they be due to natural processes or the works of man on this or adjacent properties. In addition, changes in applicable or appropriate standards may occur, whether they result from legislation or the broadening of knowledge. Accordingly, the findings of this report may be invalidated wholly or partially by changes outside our control. Therefore, this report is subject to review and should not be relied upon after a period of three years.



SOURCE: 2007 THOMAS BROTHERS MAP
SAN DIEGO COUNTY, CALIFORNIA

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N

NO SCALE

GEOCON
INCORPORATED
GEOTECHNICAL CONSULTANTS
6960 FLANDERS DRIVE - SAN DIEGO, CALIFORNIA 92121 - 2974
PHONE 858 558-6900 - FAX 858 558-6159

ME / RA		DSK/GTYPD

VICINITY MAP

GRAND DEL MAR, LOT 80
SAN DIEGO, CALIFORNIA

DATE 03-09-2009	PROJECT NO. 05704 - 52 - 54	FIG. 1

Vicinity Map

CONTRACTOR'S NOTE

Construction contractor agrees that in accordance with generally accepted construction practices, construction contractor will be required to assume sole and complete responsibility for job site conditions during the course of construction of the project, including safety of all persons and property; that this requirement shall be made to apply continuously and not be limited to normal working hours, and construction contractor further agrees to defend, indemnify and hold city of San Diego harmless from any and all liability, real or alleged, in connection with the performance of work on this project, excepting liability arising from the sole negligence of city of San Diego professional.

ENGINEER'S NOTE

UNAUTHORIZED CHANGES & USES:
These plans will not be responsible for, or liable for, unauthorized changes to or uses of these plans. All changes to the plans must be in writing and must be approved by the preparer of these plans.

CELSOC
Consulting Engineers &
Land Surveyors of California

LEGAL DESCRIPTION

PARCEL NO. 1 OF
MAP NO. XXXXXX
RECORDED XXXXXXX

BENCHMARK

CONCRETE MONUMENT AT ENTRANCE TO SEA BREEZE FARMS ACCORDING TO THE CITY OF SAN DIEGO VERTICAL CONTROL DATA.
ELEVATION = 274.883 (MSL) N.A.V.D. 29

NOTES:

1. FOR IMPROVEMENT PLANS AND SPECIFICATIONS SEE CITY OF SAN DIEGO DWG. NO. 29088-D
2. THE BUILDING FOOTPRINTS SHOWN ARE BASED ON ARCHITECTURAL PLANS DATED 10-30-2008
3. STREET, CURB & PAD ELEVATIONS ARE PER EXISTING PLANS AND SHOULD BE VERIFIED IN THE FIELD. IF ACTUAL ELEVATIONS VARY FROM THOSE SHOWN, NOTIFY THE ENGINEER OF WORK AT (858) 751-0633.
4. PLANTING SHALL BE DESIGNED AND INSTALLED IN SUCH A WAY THAT IT DOES NOT OBSTRUCT OR ALTER DRAINAGE PATTERNS OR GRADING SHOWN HEREON.
5. STREET TREES SHALL BE LOCATED 5' MINIMUM FROM UNDERGROUND UTILITIES, 10' MINIMUM FROM ABOVE GROUND UTILITIES & DRIVEWAYS, 20' MINIMUM FROM TRAFFIC SIGNALS AND STOP SIGNS, AND 25' MINIMUM FROM STREET INTERSECTIONS. A MINIMUM OF 40 S.F. PER TREE SHALL BE PROVIDED AS A WATER PERMEABLE AREA. THE CONTRACTOR MAY NEED TO ADJUST STREET TREE LOCATIONS IN THE FIELD TO MEET THE AFOREMENTIONED CRITERIA.
6. FOR ALL PLAN TYPES, THE LOCATION OF YARD WALL RETURNS AND GATE LOCATIONS ARE TO BE DETERMINED IN THE FIELD BY THE OWNERS' REPRESENTATIVE AND LANDSCAPE ARCHITECT PRIOR TO CONSTRUCTION.
7. GARAGE FLOOR ELEVATION AT FACE OF GARAGE IS EQUAL TO PAD ELEVATION UNLESS OTHERWISE NOTED.
8. PRIVATE SEWER LATERAL PER EMRA NO. XXXXX-X

PERMANENT BMP MEASURES:

1. MINIMIZE DIRECTLY CONNECTED IMPERVIOUS AREAS
   DIRECT SURFACE RUNOFF AND ROOF DRAINS TO ADJACENT LANDSCAPING PRIOR TO DISCHARGING INTO THE STORM DRAIN SYSTEM.
2. EDUCATION OF RESIDENTS
   EDUCATION MATERIALS ON STORM WATER ISSUES AND SIMPLE WAYS TO PREVENT STORM WATER POLLUTION WILL BE MADE AVAILABLE TO RESIDENTS.
3. EFFICIENT IRRIGATION
   IN THE HOMEOWNERS ASSOCIATION (HOA) MAINTAINED LANDSCAPED AREAS, A STATE OF THE ART IRRIGATION SYSTEM WILL AUTOMATICALLY IRRIGATE ALL PLANTING AREAS BASED ON EXPOSURE AND PLANT MATERIAL TYPE. THE SYSTEM WILL USE WATER SAVING DEVICES DURING TIMES OF RAINFALL.
4. INTEGRATED PEST MANAGEMENT PRINCIPLES
   RESIDENTS AND GROUNDSKEEPERS WILL BE EDUCATED ON PEST MANAGEMENT PRINCIPLES.
5. POROUS PAVING AND HARDSCAPE WHERE NOTED

STORM WATER QUALITY NOTES
CONSTRUCTION BMP'S

1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CLEANUP OF ALL SILT AND MUD ON ADJACENT STREET(S), DUE TO CONSTRUCTION VEHICLES OR ANY OTHER CONSTRUCTION ACTIVITY. AT THE END OF EACH WORK DAY, OR AFTER A STORM EVENT THAT CAUSES A BREECH IN INSTALLED CONSTRUCTION BMPS WHICH MAY COMPROMISE STORM WATER QUALITY WITHIN ANY STREET(S). A STABILIZED CONSTRUCTION EXIT MAY BE REQUIRED TO PREVENT CONSTRUCTION VEHICLES OR EQUIPMENT FROM TRACKING MUD OR SILT ONTO THE STREET.
2. ALL STOCKPILES OF SOIL AND/OR BUILDING MATERIALS THAT ARE INTENDED TO BE LEFT FOR A PERIOD GREATER THAN SEVEN CALENDAR DAYS ARE TO BE COVERED. ALL REMOVABLE BMP DEVICES SHALL BE IN PLACE AT THE END OF EACH WORKING DAY WHEN THE FIVE DAY RAIN PROBABILITY FORECAST EXCEEDS 40%.
3. A CONCRETE WASHOUT SHALL BE PROVIDED ON ALL PROJECTS WHICH PROPOSE THE CONSTRUCTION OF ANY CONCRETE IMPROVEMENTS WHICH ARE TO BE POURED IN-PLACE ON SITE.
4. THE CONTRACTOR SHALL RESTORE ALL EROSION/SEDIMENT CONTROL DEVICES TO WORKING ORDER AFTER EACH RUN-OFF PRODUCING RAINFALL OR AFTER ANY MATERIAL BREACH IN EFFECTIVENESS.
5. ALL SLOPES THAT ARE CREATED OR DISTURBED BY CONSTRUCTION ACTIVITY MUST BE PROTECTED AGAINST EROSION AND SEDIMENT TRANSPORT AT ALL TIMES.
6. THE STORAGE OF ALL CONSTRUCTION MATERIALS AND EQUIPMENT MUST BE PROTECTED AGAINST ANY POTENTIAL RELEASE OF POLLUTANTS INTO THE ENVIRONMENT.

REFERENCE DRAWINGS

29088-D (IMPROVEMENT PLANS – THE BOUGAINVILLEA), W.O. 980018
28615-D (MASS GRADING PLANS – THE BOUGAINVILLEA), W.O. 967067

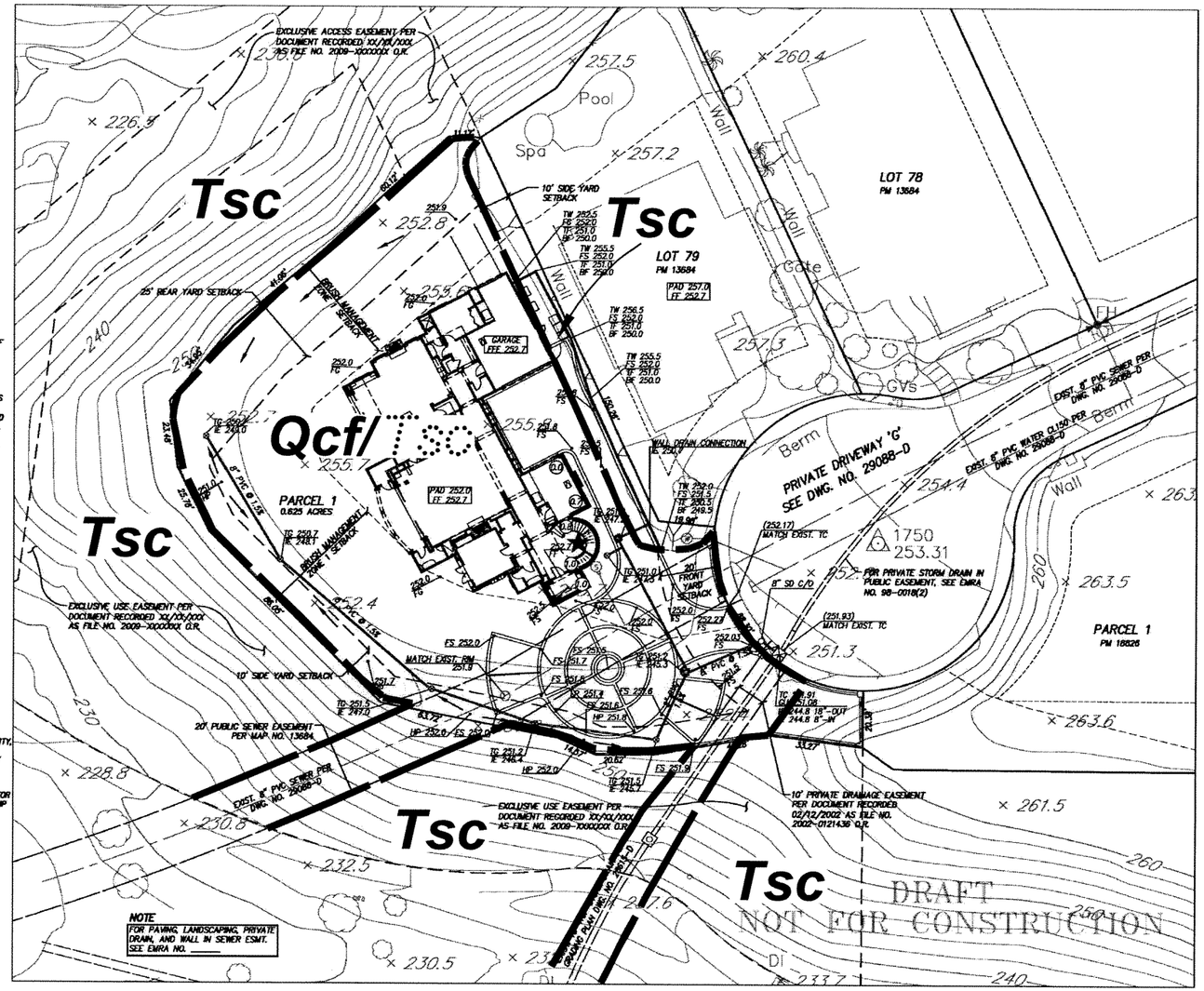
NOTICE TO PROSPECTIVE BUILDER

This plan is technical in nature and is produced to be used by workers in order to perform their work in conformity with local laws and community requirements, while maintaining good engineering and construction practices. The plan does not attempt to, and does not show every item within the house and legal lot.

THIS PLAN SHOULD NOT BE RELIED UPON FOR OTHER THAN THOSE PURPOSES.

PRD/CUP NO. 89-1296 REQRD YDS

	PERMIT
STREET YARD:	20'
STREET SIDE YARD:	5'/10'
INTERIOR YARDS	10'
REAR YARD:	25'



LEGEND

- LOT LINE
- BUILDING SETBACK LINE
- BRUSH MANAGEMENT ZONE
- EASEMENT LINE
- EXISTING WATER MAIN
- EXISTING SEWER MAIN
- EXISTING SEWER MANHOLE
- EXISTING WATER SERVICE (1" COPPER)
- EXISTING SEWER LATERAL (4" PVC, PRIVATE WITH CLEANOUT)
- SLOPE (2:1) (1.0% MIN.)
- GRADED SWALE
- SPOT ELEVATION 488.3
- EXISTING FIRE HYDRANT
- EXISTING STORM DRAIN
- EXISTING STORM DRAIN INLET
- ELECTRICAL TRANSFORMER
- ELECTRICAL HANDHOLE
- TELEPHONE PEDESTAL
- CABLE BOX
- FINISHED FLOOR ELEVATION FFE
- GARAGE FACE ELEVATION GFE
- DEEPENED FOOTING (IN FEET) 3 3
- 16" SQUARE PILASTER (PER LANDSCAPE ARCH PLAN)
- MASONARY BLOCK YARD WALL/RETAINING WALL PER CITY OF S.D. BULLETIN WALL NO. 222 (DETAIL BELOW)
- 6' MASONARY BLOCK WALL (PER LANDSCAPE ARCH PLAN)
- 8" PVC YARD DRAIN
- 18"X18" BROOKS BOX W/ TRAFFIC GRATE
- SEWER BACKFLOW PREVENTION VALVE PER U.P.C. SECTION 710.1

APPROX. SCALE: 1" = 50'

GEOLOGIC MAP

GRAND DEL MAR - LOT 80
SAN DIEGO, CALIFORNIA

GEOCON LEGEND

- Qcf .....COMPACTED FILL
- Tsc .....SCRIPPS FORMATION (Dotted Where Buried)
- ~~~ .....APPROX. LOCATION OF GEOLOGIC CONTACT

GEOCON INCORPORATED
GEOTECHNICAL CONSULTANTS
6960 FLANDERS DRIVE - SAN DIEGO, CALIFORNIA 92121 - 2974
PHONE 858.558.6900 - FAX 858.558.6159

SCALE	1" = 50'
DATE	03-09-2009
PROJECT NO.	05704 - 52 - 54
FIGURE	2
SHEET	1 OF 1

Latitude 33
Planning and Engineering
4933 Paramount Drive, Second Floor
San Diego, CA 92123
858-751-0633 Fax 858-751-0634

C. JOHN EARDENSOHN R.C.E. 34584
REG. EXPIRES 9-30-2009

DATE	REVISIONS	BY
3/3/2009	UPDATED ARCH. FILE	LAT33
3/3/2009	MOVED PAD TO 252.0	LAT33

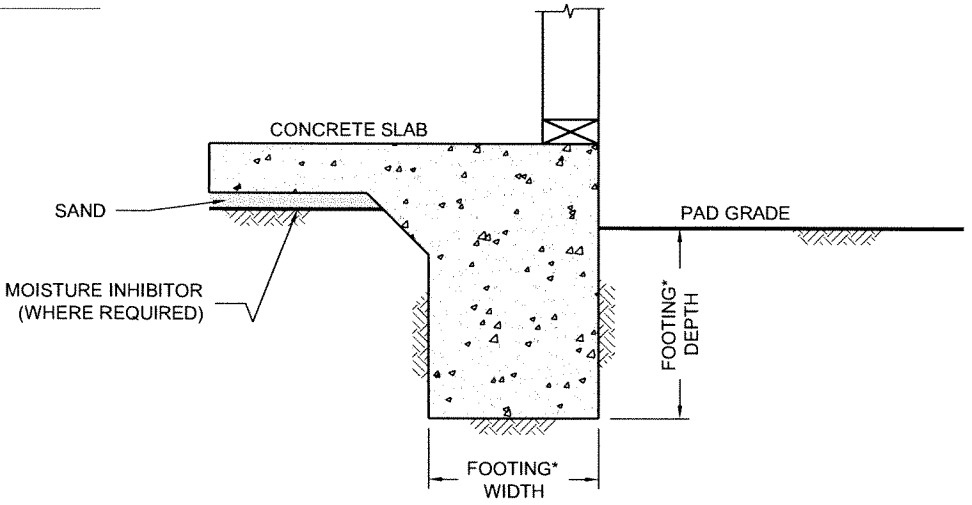
DESIGNED BY CJE
DRAWN BY NAB
CHECKED BY CJE

PLOT PLANS FOR:
THE GRAND DEL MAR – LOT 80
PARCEL 1 OF PM _____
(FORMALLY PARCEL 3 OF PM 18826)

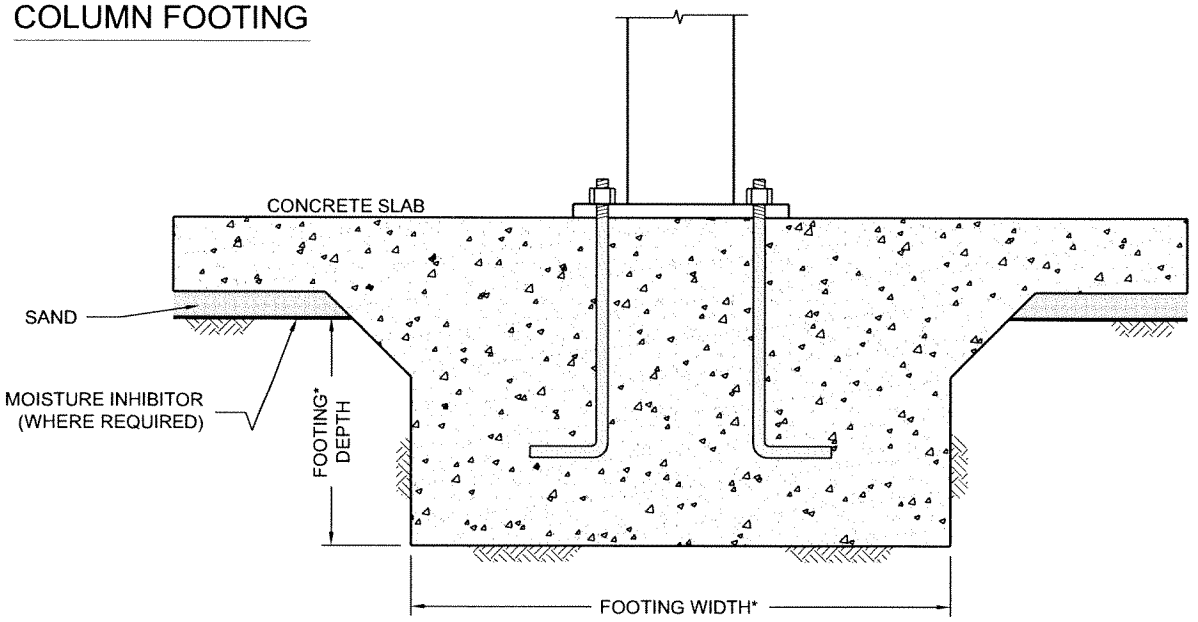
PLAN FOR CONSTRUCTION:
BID/DISTRIBUTION DATE _____
CONST./PERMIT DATE _____
DATE: 11/13/2008
JOB. NO. 691.0
SHEET of SHEETS

Y:/05704-52-54/RA/AS_5704 GEO-MAP/DWG.

WALL FOOTING



COLUMN FOOTING



*....SEE REPORT FOR FOUNDATION WITDH AND DEPTH RECOMMENDATION

NO SCALE

WALL / COLUMN FOOTING DIMENSION DETAIL

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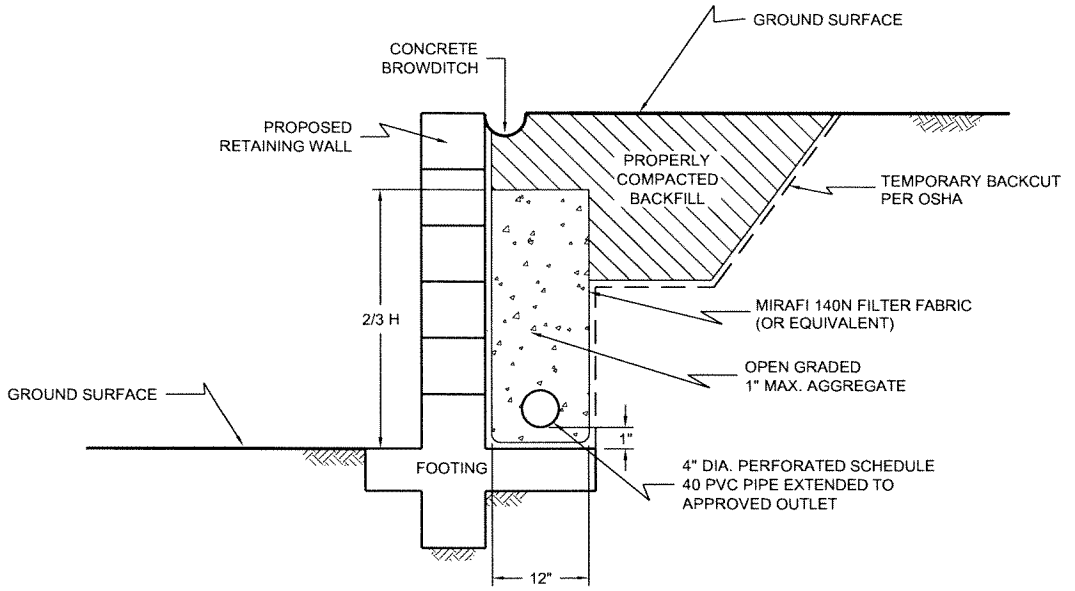
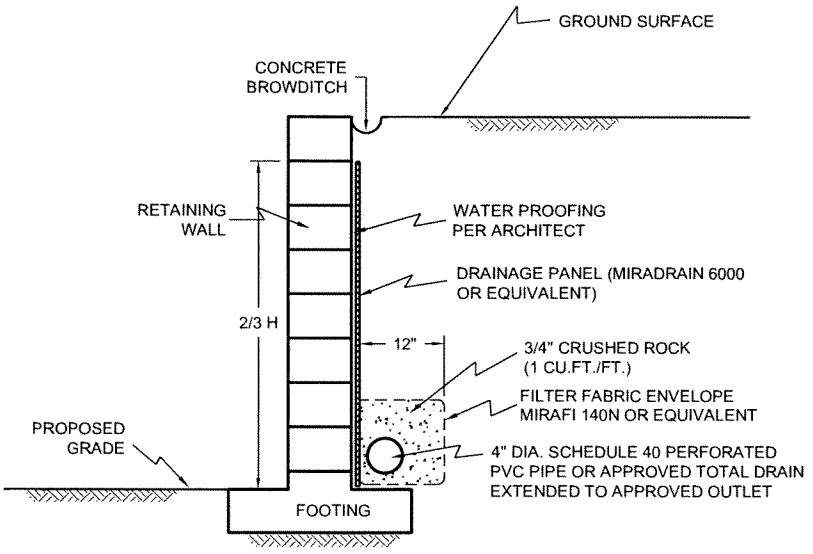
GRAND DEL MAR, LOT 80
SAN DIEGO, CALIFORNIA

DATE 03-09-2009	PROJECT NO. 05704 - 52 - 54	FIG. 3

Y:/R14TEMP/1_AUTOCAD PLATE TEMPLATE/1_DETAIL/COLUMN FOOTING/COLFOOT2.DWG





NOTE :

DRAIN SHOULD BE UNIFORMLY SLOPED TO GRAVITY OUTLET
OR TO A SUMP WHERE WATER CAN BE REMOVED BY PUMPING

NO SCALE

TYPICAL RETAINING WALL DRAIN DETAIL

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GRAND DEL MAR, LOT 80
SAN DIEGO, CALIFORNIA

DATE 03-09-2009	PROJECT NO. 05704 - 52 - 54	FIG. 4

Y:/R14TEMP/1_AUTOCAD PLATE TEMPLATE/1_DETAIL/RETAINING WALL DRAINAGE/RET WALL DRAIN DETAILS_2.DWG

TABLE I
SUMMARY OF AS-GRADED BUILDING PAD CONDITIONS
MEADOWS DEL MAR (THE BOUGAINVILLEA)

Legal Lot No.	Pad Condition	Approximate Maximum Depth of Fill (feet)	Approximate Maximum Depth of Fill Differential (feet)	Expansion Index
80	Cut	0	0	42

TABLE II
SUMMARY OF LABORATORY EXPANSION INDEX TEST RESULTS
ASTM D 4829-03

Sample No.	Location	Moisture Content (%)		Dry Density (pcf)	Expansion Index	Expansion Classification
		Before Test	After Test			
1	Lot No. 80	9.5	20.9	113.2	42	Low

TABLE III
SUMMARY OF LABORATORY WATER-SOLUBLE SULFATE TEST RESULTS
CALIFORNIA TEST NO. 417

Sample No.	Location	Water-Soluble Sulfate (%)	Sulfate Exposure
1	Lot 80	0.158	Moderate

APPENDIX A

APPENDIX A

RECOMMENDED GRADING SPECIFICATIONS

FOR

MEADOWS DEL MAR
(THE BOUGAINVILLEA)
TRACT NO. 13684
LOT 80 (5702 GRAND DEL MAR WAY)
SAN DIEGO, CALIFORNIA

PROJECT NO. 05704-52-54

RECOMMENDED GRADING SPECIFICATIONS

1. GENERAL

1.1 These Recommended Grading Specifications shall be used in conjunction with the Geotechnical Report for the project prepared by Geocon Incorporated. The recommendations contained in the text of the Geotechnical Report are a part of the earthwork and grading specifications and shall supersede the provisions contained hereinafter in the case of conflict.

1.2 Prior to the commencement of grading, a geotechnical consultant (Consultant) shall be employed for the purpose of observing earthwork procedures and testing the fills for substantial conformance with the recommendations of the Geotechnical Report and these specifications. The Consultant should provide adequate testing and observation services so that they may assess whether, in their opinion, the work was performed in substantial conformance with these specifications. It shall be the responsibility of the Contractor to assist the Consultant and keep them apprised of work schedules and changes so that personnel may be scheduled accordingly.

1.3 It shall be the sole responsibility of the Contractor to provide adequate equipment and methods to accomplish the work in accordance with applicable grading codes or agency ordinances, these specifications and the approved grading plans. If, in the opinion of the Consultant, unsatisfactory conditions such as questionable soil materials, poor moisture condition, inadequate compaction, adverse weather, result in a quality of work not in conformance with these specifications, the Consultant will be empowered to reject the work and recommend to the Owner that grading be stopped until the unacceptable conditions are corrected.

2. DEFINITIONS

2.1 **Owner** shall refer to the owner of the property or the entity on whose behalf the grading work is being performed and who has contracted with the Contractor to have grading performed.

2.2 **Contractor** shall refer to the Contractor performing the site grading work.

2.3 **Civil Engineer** or **Engineer of Work** shall refer to the California licensed Civil Engineer or consulting firm responsible for preparation of the grading plans, surveying and verifying as-graded topography.

2.4 **Consultant** shall refer to the soil engineering and engineering geology consulting firm retained to provide geotechnical services for the project.

2.5 **Soil Engineer** shall refer to a California licensed Civil Engineer retained by the Owner, who is experienced in the practice of geotechnical engineering. The Soil Engineer shall be responsible for having qualified representatives on-site to observe and test the Contractor's work for conformance with these specifications.

2.6 **Engineering Geologist** shall refer to a California licensed Engineering Geologist retained by the Owner to provide geologic observations and recommendations during the site grading.

2.7 **Geotechnical Report** shall refer to a soil report (including all addenda) which may include a geologic reconnaissance or geologic investigation that was prepared specifically for the development of the project for which these Recommended Grading Specifications are intended to apply.

3. MATERIALS

3.1 Materials for compacted fill shall consist of any soil excavated from the cut areas or imported to the site that, in the opinion of the Consultant, is suitable for use in construction of fills. In general, fill materials can be classified as *soil* fills, *soil-rock* fills or *rock* fills, as defined below.

3.1.1 **Soil fills** are defined as fills containing no rocks or hard lumps greater than 12 inches in maximum dimension and containing at least 40 percent by weight of material smaller than ¾ inch in size.

3.1.2 **Soil-rock fills** are defined as fills containing no rocks or hard lumps larger than 4 feet in maximum dimension and containing a sufficient matrix of soil fill to allow for proper compaction of soil fill around the rock fragments or hard lumps as specified in Paragraph 6.2. **Oversize rock** is defined as material greater than 12 inches.

3.1.3 **Rock fills** are defined as fills containing no rocks or hard lumps larger than 3 feet in maximum dimension and containing little or no fines. Fines are defined as material smaller than ¾ inch in maximum dimension. The quantity of fines shall be less than approximately 20 percent of the rock fill quantity.

3.2 Material of a perishable, spongy, or otherwise unsuitable nature as determined by the Consultant shall not be used in fills.

3.3 Materials used for fill, either imported or on-site, shall not contain hazardous materials as defined by the California Code of Regulations, Title 22, Division 4, Chapter 30, Articles 9 and 10; 40CFR; and any other applicable local, state or federal laws. The Consultant shall not be responsible for the identification or analysis of the potential presence of hazardous materials. However, if observations, odors or soil discoloration cause Consultant to suspect the presence of hazardous materials, the Consultant may request from the Owner the termination of grading operations within the affected area. Prior to resuming grading operations, the Owner shall provide a written report to the Consultant indicating that the suspected materials are not hazardous as defined by applicable laws and regulations.

3.4 The outer 15 feet of *soil-rock* fill slopes, measured horizontally, should be composed of properly compacted *soil* fill materials approved by the Consultant. *Rock* fill may extend to the slope face, provided that the slope is not steeper than 2:1 (horizontal:vertical) and a soil layer no thicker than 12 inches is track-walked onto the face for landscaping purposes. This procedure may be utilized provided it is acceptable to the governing agency, Owner and Consultant.

3.5 Samples of soil materials to be used for fill should be tested in the laboratory by the Consultant to determine the maximum density, optimum moisture content, and, where appropriate, shear strength, expansion, and gradation characteristics of the soil.

3.6 During grading, soil or groundwater conditions other than those identified in the Geotechnical Report may be encountered by the Contractor. The Consultant shall be notified immediately to evaluate the significance of the unanticipated condition

4. CLEARING AND PREPARING AREAS TO BE FILLED

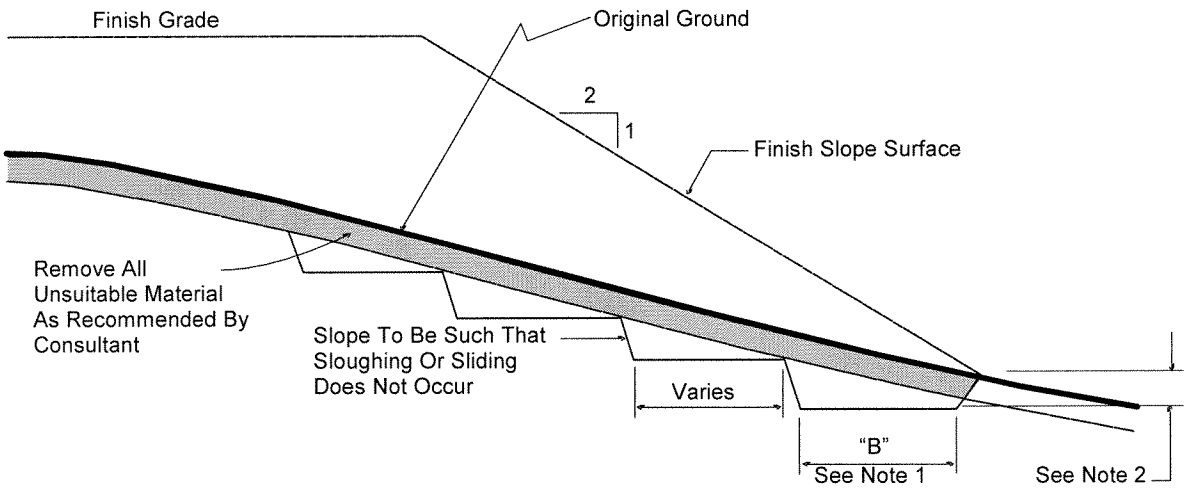
4.1 Areas to be excavated and filled shall be cleared and grubbed. Clearing shall consist of complete removal above the ground surface of trees, stumps, brush, vegetation, man-made structures, and similar debris. Grubbing shall consist of removal of stumps, roots, buried logs and other unsuitable material and shall be performed in areas to be graded. Roots and other projections exceeding 1½ inches in diameter shall be removed to a depth of 3 feet below the surface of the ground. Borrow areas shall be grubbed to the extent necessary to provide suitable fill materials.

4.2 Any asphalt pavement material removed during clearing operations should be properly disposed at an approved off-site facility. Concrete fragments that are free of reinforcing steel may be placed in fills, provided they are placed in accordance with Section 6.2 or 6.3 of this document.

4.3 After clearing and grubbing of organic matter and other unsuitable material, loose or porous soils shall be removed to the depth recommended in the Geotechnical Report. The depth of removal and compaction should be observed and approved by a representative of the Consultant. The exposed surface shall then be plowed or scarified to a minimum depth of 6 inches and until the surface is free from uneven features that would tend to prevent uniform compaction by the equipment to be used.

4.4 Where the slope ratio of the original ground is steeper than 5:1 (horizontal:vertical), or where recommended by the Consultant, the original ground should be benched in accordance with the following illustration.

TYPICAL BENCHING DETAIL



No Scale

DETAIL NOTES: (1) Key width "B" should be a minimum of 10 feet, or sufficiently wide to permit complete coverage with the compaction equipment used. The base of the key should be graded horizontal, or inclined slightly into the natural slope.

(2) The outside of the key should be below the topsoil or unsuitable surficial material and at least 2 feet into dense formational material. Where hard rock is exposed in the bottom of the key, the depth and configuration of the key may be modified as approved by the Consultant.

4.5 After areas to receive fill have been cleared and scarified, the surface should be moisture conditioned to achieve the proper moisture content, and compacted as recommended in Section 6 of these specifications.

5. COMPACTION EQUIPMENT

5.1 Compaction of *soil* or *soil-rock* fill shall be accomplished by sheepsfoot or segmented-steel wheeled rollers, vibratory rollers, multiple-wheel pneumatic-tired rollers, or other types of acceptable compaction equipment. Equipment shall be of such a design that it will be capable of compacting the *soil* or *soil-rock* fill to the specified relative compaction at the specified moisture content.

5.2 Compaction of *rock* fills shall be performed in accordance with Section 6.3.

6. PLACING, SPREADING AND COMPACTION OF FILL MATERIAL

6.1 *Soil* fill, as defined in Paragraph 3.1.1, shall be placed by the Contractor in accordance with the following recommendations:

6.1.1 *Soil* fill shall be placed by the Contractor in layers that, when compacted, should generally not exceed 8 inches. Each layer shall be spread evenly and shall be thoroughly mixed during spreading to obtain uniformity of material and moisture in each layer. The entire fill shall be constructed as a unit in nearly level lifts. Rock materials greater than 12 inches in maximum dimension shall be placed in accordance with Section 6.2 or 6.3 of these specifications.

6.1.2 In general, the *soil* fill shall be compacted at a moisture content at or above the optimum moisture content as determined by ASTM D 1557-02.

6.1.3 When the moisture content of *soil* fill is below that specified by the Consultant, water shall be added by the Contractor until the moisture content is in the range specified.

6.1.4 When the moisture content of the *soil* fill is above the range specified by the Consultant or too wet to achieve proper compaction, the *soil* fill shall be aerated by the Contractor by blading/mixing, or other satisfactory methods until the moisture content is within the range specified.

6.1.5 After each layer has been placed, mixed, and spread evenly, it shall be thoroughly compacted by the Contractor to a relative compaction of at least 90 percent. Relative compaction is defined as the ratio (expressed in percent) of the in-place dry density of the compacted fill to the maximum laboratory dry density as determined in accordance with ASTM D 1557-02. Compaction shall be continuous over the entire area, and compaction equipment shall make sufficient passes so that the specified minimum relative compaction has been achieved throughout the entire fill.

6.1.6 Where practical, soils having an Expansion Index greater than 50 should be placed at least 3 feet below finish pad grade and should be compacted at a moisture content generally 2 to 4 percent greater than the optimum moisture content for the material.

6.1.7 Properly compacted *soil* fill shall extend to the design surface of fill slopes. To achieve proper compaction, it is recommended that fill slopes be over-built by at least 3 feet and then cut to the design grade. This procedure is considered preferable to track-walking of slopes, as described in the following paragraph.

6.1.8 As an alternative to over-building of slopes, slope faces may be back-rolled with a heavy-duty loaded sheepsfoot or vibratory roller at maximum 4-foot fill height intervals. Upon completion, slopes should then be track-walked with a D-8 dozer or similar equipment, such that a dozer track covers all slope surfaces at least twice.

6.2 *Soil-rock* fill, as defined in Paragraph 3.1.2, shall be placed by the Contractor in accordance with the following recommendations:

6.2.1 Rocks larger than 12 inches but less than 4 feet in maximum dimension may be incorporated into the compacted *soil* fill, but shall be limited to the area measured 15 feet minimum horizontally from the slope face and 5 feet below finish grade or 3 feet below the deepest utility, whichever is deeper.

6.2.2 Rocks or rock fragments up to 4 feet in maximum dimension may either be individually placed or placed in windrows. Under certain conditions, rocks or rock fragments up to 10 feet in maximum dimension may be placed using similar methods. The acceptability of placing rock materials greater than 4 feet in maximum dimension shall be evaluated during grading as specific cases arise and shall be approved by the Consultant prior to placement.

6.2.3 For individual placement, sufficient space shall be provided between rocks to allow for passage of compaction equipment.

6.2.4 For windrow placement, the rocks should be placed in trenches excavated in properly compacted *soil* fill. Trenches should be approximately 5 feet wide and 4 feet deep in maximum dimension. The voids around and beneath rocks should be filled with approved granular soil having a Sand Equivalent of 30 or greater and should be compacted by flooding. Windrows may also be placed utilizing an "open-face" method in lieu of the trench procedure, however, this method should first be approved by the Consultant.

6.2.5 Windrows should generally be parallel to each other and may be placed either parallel to or perpendicular to the face of the slope depending on the site geometry. The minimum horizontal spacing for windrows shall be 12 feet center-to-center with a 5-foot stagger or offset from lower courses to next overlying course. The minimum vertical spacing between windrow courses shall be 2 feet from the top of a lower windrow to the bottom of the next higher windrow.

6.2.6 Rock placement, fill placement and flooding of approved granular soil in the windrows should be continuously observed by the Consultant.

6.3 *Rock* fills, as defined in Section 3.1.3, shall be placed by the Contractor in accordance with the following recommendations:

6.3.1 The base of the *rock* fill shall be placed on a sloping surface (minimum slope of 2 percent). The surface shall slope toward suitable subdrainage outlet facilities. The *rock* fills shall be provided with subdrains during construction so that a hydrostatic pressure buildup does not develop. The subdrains shall be permanently connected to controlled drainage facilities to control post-construction infiltration of water.

6.3.2 *Rock* fills shall be placed in lifts not exceeding 3 feet. Placement shall be by rock trucks traversing previously placed lifts and dumping at the edge of the currently placed lift. Spreading of the *rock* fill shall be by dozer to facilitate *seating* of the rock. The *rock* fill shall be watered heavily during placement. Watering shall consist of water trucks traversing in front of the current rock lift face and spraying water continuously during rock placement. Compaction equipment with compactive energy comparable to or greater than that of a 20-ton steel vibratory roller or other compaction equipment providing suitable energy to achieve the

required compaction or deflection as recommended in Paragraph 6.3.3 shall be utilized. The number of passes to be made should be determined as described in Paragraph 6.3.3. Once a *rock* fill lift has been covered with *soil* fill, no additional *rock* fill lifts will be permitted over the *soil* fill.

6.3.3 Plate bearing tests, in accordance with ASTM D 1196-93, may be performed in both the compacted *soil* fill and in the *rock* fill to aid in determining the required minimum number of passes of the compaction equipment. If performed, a minimum of three plate bearing tests should be performed in the properly compacted *soil* fill (minimum relative compaction of 90 percent). Plate bearing tests shall then be performed on areas of *rock* fill having two passes, four passes and six passes of the compaction equipment, respectively. The number of passes required for the *rock* fill shall be determined by comparing the results of the plate bearing tests for the *soil* fill and the *rock* fill and by evaluating the deflection variation with number of passes. The required number of passes of the compaction equipment will be performed as necessary until the plate bearing deflections are equal to or less than that determined for the properly compacted *soil* fill. In no case will the required number of passes be less than two.

6.3.4 A representative of the Consultant should be present during *rock* fill operations to observe that the minimum number of "passes" have been obtained, that water is being properly applied and that specified procedures are being followed. The actual number of plate bearing tests will be determined by the Consultant during grading.

6.3.5 Test pits shall be excavated by the Contractor so that the Consultant can state that, in their opinion, sufficient water is present and that voids between large rocks are properly filled with smaller rock material. In-place density testing will not be required in the *rock* fills.

6.3.6 To reduce the potential for "piping" of fines into the *rock* fill from overlying *soil* fill material, a 2-foot layer of graded filter material shall be placed above the uppermost lift of *rock* fill. The need to place graded filter material below the *rock* should be determined by the Consultant prior to commencing grading. The gradation of the graded filter material will be determined at the time the *rock* fill is being excavated. Materials typical of the *rock* fill should be submitted to the Consultant in a timely manner, to allow design of the graded filter prior to the commencement of *rock* fill placement.

6.3.7 *Rock* fill placement should be continuously observed during placement by the Consultant.

7. OBSERVATION AND TESTING

7.1 The Consultant shall be the Owner's representative to observe and perform tests during clearing, grubbing, filling, and compaction operations. In general, no more than 2 feet in vertical elevation of *soil* or *soil-rock* fill should be placed without at least one field density test being performed within that interval. In addition, a minimum of one field density test should be performed for every 2,000 cubic yards of *soil* or *soil-rock* fill placed and compacted.

7.2 The Consultant should perform a sufficient distribution of field density tests of the compacted *soil* or *soil-rock* fill to provide a basis for expressing an opinion whether the fill material is compacted as specified. Density tests shall be performed in the compacted materials below any disturbed surface. When these tests indicate that the density of any layer of fill or portion thereof is below that specified, the particular layer or areas represented by the test shall be reworked until the specified density has been achieved.

7.3 During placement of *rock* fill, the Consultant should observe that the minimum number of passes have been obtained per the criteria discussed in Section 6.3.3. The Consultant should request the excavation of observation pits and may perform plate bearing tests on the placed *rock* fills. The observation pits will be excavated to provide a basis for expressing an opinion as to whether the *rock* fill is properly seated and sufficient moisture has been applied to the material. When observations indicate that a layer of *rock* fill or any portion thereof is below that specified, the affected layer or area shall be reworked until the *rock* fill has been adequately seated and sufficient moisture applied.

7.4 A settlement monitoring program designed by the Consultant may be conducted in areas of *rock* fill placement. The specific design of the monitoring program shall be as recommended in the Conclusions and Recommendations section of the project Geotechnical Report or in the final report of testing and observation services performed during grading.

7.5 The Consultant should observe the placement of subdrains, to verify that the drainage devices have been placed and constructed in substantial conformance with project specifications.

7.6 Testing procedures shall conform to the following Standards as appropriate:

7.6.1 Soil and Soil-Rock Fills:

7.6.1.1 Field Density Test, ASTM D 1556-02, *Density of Soil In-Place By the Sand-Cone Method.*

7.6.1.2 Field Density Test, Nuclear Method, ASTM D 2922-01, *Density of Soil and Soil-Aggregate In-Place by Nuclear Methods (Shallow Depth).*

7.6.1.3 Laboratory Compaction Test, ASTM D 1557-02, *Moisture-Density Relations of Soils and Soil-Aggregate Mixtures Using 10-Pound Hammer and 18-Inch Drop.*

7.6.1.4. Expansion Index Test, ASTM D 4829-03, *Expansion Index Test.*

7.6.2 Rock Fills

7.6.2.1 Field Plate Bearing Test, ASTM D 1196-93 (Reapproved 1997) *Standard Method for Nonreparative Static Plate Load Tests of Soils and Flexible Pavement Components, For Use in Evaluation and Design of Airport and Highway Pavements.*

8. PROTECTION OF WORK

8.1 During construction, the Contractor shall properly grade all excavated surfaces to provide positive drainage and prevent ponding of water. Drainage of surface water shall be controlled to avoid damage to adjoining properties or to finished work on the site. The Contractor shall take remedial measures to prevent erosion of freshly graded areas until such time as permanent drainage and erosion control features have been installed. Areas subjected to erosion or sedimentation shall be properly prepared in accordance with the Specifications prior to placing additional fill or structures.

8.2 After completion of grading as observed and tested by the Consultant, no further excavation or filling shall be conducted except in conjunction with the services of the Consultant.

9. CERTIFICATIONS AND FINAL REPORTS

9.1 Upon completion of the work, Contractor shall furnish Owner a certification by the Civil Engineer stating that the lots and/or building pads are graded to within 0.1 foot vertically of elevations shown on the grading plan and that all tops and toes of slopes are within 0.5 foot horizontally of the positions shown on the grading plans. After installation of a section of subdrain, the project Civil Engineer should survey its location and prepare an *as-built* plan of the subdrain location. The project Civil Engineer should verify the proper outlet for the subdrains and the Contractor should ensure that the drain system is free of obstructions.

9.2 The Owner is responsible for furnishing a final as-graded soil and geologic report satisfactory to the appropriate governing or accepting agencies. The as-graded report should be prepared and signed by a California licensed Civil Engineer experienced in geotechnical engineering and by a California Certified Engineering Geologist, indicating that the geotechnical aspects of the grading were performed in substantial conformance with the Specifications or approved changes to the Specifications.

Project No. 05704-52-54
November 13, 2009

Manchester Financial Group
One Market Place, 33rd Floor
San Diego, California 92101-7714

Attention: Ms. Mari Waldron

Subject: GRAND DEL MAR LOT 80
SAN DIEGO, CALIFORNIA
ADDENDUM UPDATE GEOTECHNICAL REPORT
REPORT OF TESTING AND OBSERVATION SERVICES
DURING REGRADING OPERATIONS

Reference: *Update Geotechnical Report, Meadows Del Mar (The Bougainvilla) Tract No. 13684, Lot 80 (5702 Grand Del Mar Way) San Diego, California*, prepared by Geocon Incorporated, dated March 9, 2009 (Project No. 05704-52-54).

Dear Ms. Waldron:

In accordance with your request, we performed additional geotechnical services for the project. Our services included testing and observation services performed between October 30 and November 6, 2009, during the site regrading operations. The grading mainly consisted of excavating and exporting of approximately 2 to 4 feet of fill from the site. The lot was originally graded as a cut lot with an approximate elevation of 252 feet Mean Sea Level (MSL). In 2002 the lot was raised by placing compacted fill to an approximate elevation of 256 feet (MSL). Subsequently the pad was lowered to an approximate elevation of 254 feet (MSL). During the current phase of grading the pad was lowered to the original elevation of 252 feet (MSL). Currently the pad is underlain by the formational material of the Scripps Formation and isolated areas of compacted fill with a maximum thickness of approximately 1½ feet.

We performed in place density tests of the fill material, using a nuclear gauge in accordance with ASTM Test procedure D 6938. The results of the in place density and moisture content tests are summarized on Table I. In general, the in-place density tests indicate that the fill soil has a dry density of at least 90 percent of the laboratory maximum dry density near to slightly above optimum moisture content at the locations tested. The location of the in-place density tests are shown on the As-Graded Geologic Map (Figure 1).

We obtained a sample of the fill material for laboratory testing for expansion index and water-soluble sulfate content testing. We had also tested the fill material to evaluate moisture-density relationship, optimum moisture content and maximum dry density (ASTM D 1557). The results of the laboratory tests are summarized on Table II through IV.

A review of the laboratory test results confirms that the near surface materials possess a "low" expansion potential (expansion index of 50 or less) and a "moderate" sulfate exposure.

By lowering the pad elevation a relatively narrow zone along the northern and western boundaries has encroached in to the landscaped areas. Some topsoil may exist in these areas. The remedial grading did not extend into these areas, due to the "40-foot Brush Management Zone." Settlement sensitive structures should not be planned where topsoil is exposed. If structures are planned in these areas, the existing topsoil should be removed and replaced with compacted fill. Isolated footings for sound walls and pilasters should penetrate though topsoil and embedded into the formational materials. Geocon Incorporated should be contacted to perform testing and observation services during grading operations.

This report should be considered as an addendum to the referenced "Update Geotechnical Report." The conclusions and recommendations presented in the referenced report remain applicable. Foundations for the planned residence should be embedded at least 6 inches into the formational materials.

Should you have any questions regarding this report, or if we may be of further service, please contact the undersigned at your convenience.

Very truly yours,

GEOCON INCORPORATED

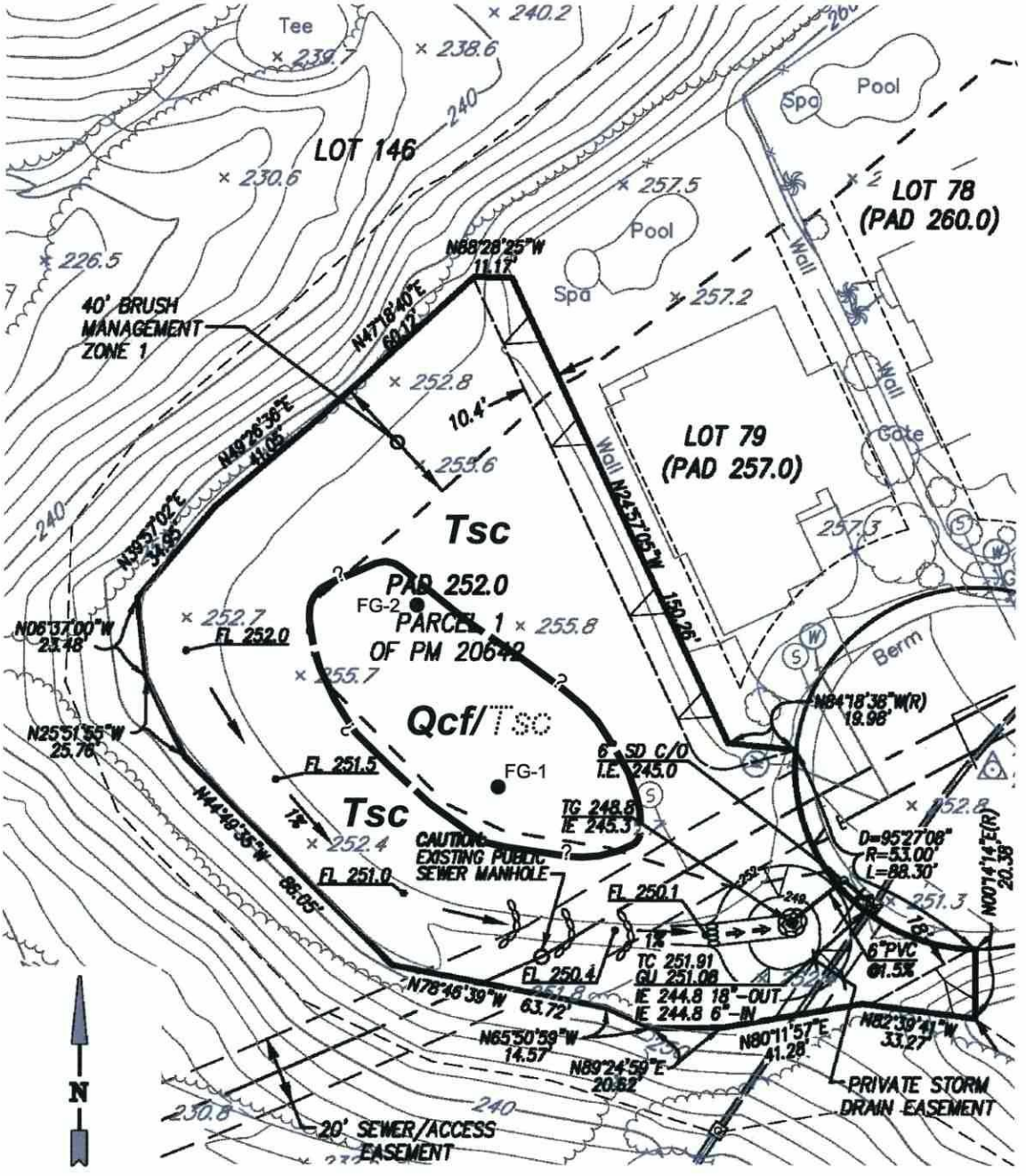
Ali Sadr
CEG 1778

Shawn Weedon
GE 2714

AS:SW:dmc

(4/del) Addressee

GRAND DEL MAR - LOT 80
SAN DIEGO, CALIFORNIA



GEOCON LEGEND

Qcf .....COMPACTED FILL

Tsc .....SCRIPPS FORMATION (Dotted Where Buried)

FG-2 ● .....APPROX. LOCATION OF IN-PLACE DENSITY TEST
FG....Finish Grade

~?~ .....APPROX. LOCATION OF GEOLOGIC CONTACT
(Queried Where Uncertain)

N

APPROX. SCALE: 1" = 50'

GEOCON
INCORPORATED
GEOTECHNICAL CONSULTANTS
6960 FLANDERS DRIVE - SAN DIEGO, CALIFORNIA 92121 - 2974
PHONE 858 558-6900 - FAX 858 558-6159

PROJECT NO. 05704 - 52 - 54
FIGURE 1
DATE

AS - GRADED GEOLOGIC MAP

Y:\R14TEMP\1_GEOTECH\1_GEOTECH_RUBEN\GEOCON 2009\05704-52-54 GRAND DEL MAR-LOT 80\AS_5704 AS GRD MAP (11-12-2009) .dwg

TABLE I
SUMMARY OF FIELD DENSITY TEST RESULTS

Test No.		Date	Location	Elev. or Depth (ft)	Curve No.	Plus 3/4" Rock (%)	Field Dry Dens. (pcf)	Field Moist. Cont. (%)	Field Rel. Comp. (%)	Req'd. Rel. Comp. (%)
FG	1	11/06/09	Lot 80	0	7	0	117.6	13.1	100	90
FG	2	11/06/09	Lot 80	0	7	0	115.4	12.5	98	90

TABLE I
EXPLANATION OF CODED TERMS

- TEST SUFFIX

A, B, C, . . . : Retest of previous density test failure, following moisture conditioning and/or recompaction.

- ~~STRIKE-OUT~~

Fill in area of density test failure was removed and replaced with properly compacted fill soil.

- PREFIX CODE DESIGNATION FOR TEST NUMBERS

FG - FINISH GRADE

- CURVE NO.

Corresponds to curve numbers listed in the summary of laboratory maximum dry density and optimum moisture content test results table for selected fill soil samples encountered during testing and observation.

- ROCK CORRECTION

For density tests with rock percentage greater than zero, laboratory maximum dry density and optimum moisture content were adjusted for rock content. For tests with rock content equal to zero, laboratory maximum dry density and optimum moisture content values are unadjusted.

- TYPE OF TEST

SC: Sand Cone Test (ASTM D 1556)
NU: Nuclear Density Test (ASTM D 6938)
OT: Other

- ELEVATION/DEPTH

Test elevations/depths have been rounded to the nearest whole foot.

- LOCATION DESCRIPTION

(IP): Indicates in-place tests. Where (IP) appears in the location description, the compaction procedures were not observed by a representative of Geocon. Tests were taken at the surface or in test pits after placement of the fill. The results of these tests are indicative of the relative compaction at the location of the test only and may not be extrapolated to adjacent areas. Geocon has no opinion regarding the relative compaction of fill in adjacent areas.

TABLE II
SUMMARY OF LABORATORY MAXIMUM DRY DENSITY
AND OPTIMUM MOISTURE CONTENT TEST RESULTS
ASTM D 1557-00

Sample No.	Description	Maximum Dry Density (pcf)	Optimum Moisture Content (% dry weight)
7	Light brown, fine to medium SAND, with trace silt	118.0	12.7

TABLE III
SUMMARY OF LABORATORY EXPANSION INDEX TEST RESULTS
ASTM D 4829-95

Sample No.	Location	Moisture Content (%)		Dry Density (pcf)	Expansion Index	Expansion Classification
		Before Test	After Test			
A	Lot 80	9.4	18.6	112.1	19	Low

TABLE IV
SUMMARY OF WATER-SOLUBLE SULFATE LABORATORY TEST RESULTS
(CALIFORNIA TEST NO. 417)

Sample No.	Water-Soluble Sulfate (%)	Sulfate Exposure
A	0.187	Moderate