December 5, 2017

CWE 2170685.01

Lookout Drive, LLC 8400 Miramar Road, Suite 270 San Diego, California 92123 Attention: Justin Mandelbaum

Subject: Update Geotechnical Report and Response to LDR-Geology Cycle 1 Review Memorandum, Proposed Residential Remodel and Single-Family Residences Parcels 1, 2, 4, & 5, Parcel Map 17817, 7727 Lookout Drive, La Jolla, California

References: 1) Christian Wheeler Engineering Report 2130434.01, "Report of Preliminary Geotechnical Investigation, Proposed Remodel, Addition, and Future Single-Family Residences Parcels 1, 2, 4, & 5, Parcel Map 17817, 7727 Lookout Drive, La Jolla, California", dated April 14, 2014.
2) City of San Diego LDR-Geology Cycle 1 Review Memorandum, Lookout Lots 2, 4, and 5 CDP, Project Nbr. 482904, prepared by Patrick Thomas, CEG, dated May 17, 2017.

CHRISTIAN WHEELER engineering

Ladies and Gentlemen:

In accordance with your request and our proposal dated October 19, 2017, we have prepared this addendum report to respond to or provide comment regarding the geotechnical "issues" presented in the referenced LDR-Geology Cycle 1 review memorandum. The following presents each of the specific issues noted in the BDR-Geology review memorandum, followed by our response to, or comments regarding each issue.

City Issue #5 – Submit an addendum geotechnical report that specifically addresses the following issues and is prepared in accordance with the City's "Guidelines for Geotechnical Reports." http://www.sandiego.gov/development-services/industry/pdf/geoguidelines.pdf

<u>CWE Response</u> – This report has been prepared as an update and addendum to our referenced geotechnical report. As such, unless specifically modified herein, all of the previous geotechnical recommendations presented in the referenced reports remain applicable to the subject project.

The following presents the seismic design factors applicable to the subject site in accordance with the 2016 California Building Code. The site coefficients and adjusted maximum considered earthquake spectral response acceleration parameters are presented in the following Table I.

Site Coordinates: Latitude	32.8482°
Longitude	-117.2585°
Site Class	D
Site Coefficient Fa	1.000
Site Coefficient F _v	1.500
Spectral Response Acceleration at Short Periods Ss	1.298 g
Spectral Response Acceleration at 1 Second Period S1	0.503 g
$S_{MS} = F_a S_s$	1.298 g
$S_{M1} = F_v S_1$	0.754 g
$S_{DS} = 2/3 * S_{MS}$	0.865 g
$S_{D1} = 2/3 * S_{M1}$	0.503 g

 TABLE I: SEISMIC DESIGN FACTORS

Probable ground shaking levels at the site could range from slight to moderate, depending on such factors as the magnitude of the seismic event and the distance to the epicenter. It is likely that the site will experience the effects of at least one moderate to large earthquake during the life of the proposed improvements.

For the design of retaining walls, seismic lateral earth pressures may be assumed to equal an inverted triangle starting at the bottom of the wall with the maximum pressure equal to 12.5H pounds per square foot (where H = wall height in feet) occurring at the top of the wall.

City Issue #6 – Provide geologic cross sections that correlate the stratigraphy exposed in the geologic/fault investigations performed at the site. Indicate if stratigraphic continuity exists across the site.

<u>CWE Response</u> – Stratigraphic continuity across the project site. Plate No. 2 of this report presents geologic cross sections A-A' and B-B', which correlate the stratigraphy exposed in the geologic/fault investigations performed at the site. The locations of these cross sections are shown on Plate No. 1 of this report.

City Issue #7 – The geotechnical consultant must provide a statement that the site will have a factor-of-safety of 1.5 or greater with respect to gross and surficial slope stability at the completion of the project.

CWE Response – The site will have a factor-of-safety of 1.5 or greater with respect to gross and surficial slope stability at the completion of the project.

City Issue #8 - The geotechnical consultant must indicate whether or not the proposed site development will be safe to occupy with respect to geologic hazards.

CWE Response - It is our professional opinion and judgment that, provided the recommendations contained in our referred report and sound construction practices are followed, the proposed site development should be safe to occupy with respect to geologic hazards.

City Issue #9 - A permeable pavement surface is proposed. The project's geotechnical consultant must address the proposed permeable pavement shown on the referenced plans in accordance with Appendix F of the City's Guidelines for Geotechnical Reports.

CWE Response – It is our understanding that permeable pavement surfaces are no longer proposed for this project.

City Issue #10 - Submit original quality prints and digital copies (on CD/DVD/or USB data storage device) of the geotechnical investigation report listed as "References" and the requested addendum geotechnical document for our records.

CWE Response - The project applicant should submit original quality prints and digital copies (on CD/DVD/or USB data storage device) of this report as well as our referenced geotechnical report (CWE 2130434.01) to the City for their records.

If you have any questions after reviewing this report, please do not hesitate to contact this office. This opportunity to be of professional service is sincerely appreciated. ENGINEERING GEOLOGIST

DAVID R

RUSSELL

Respectfully submitted, CHRISTIAN WHEELER ENGINEERING. 2215

Russell, CEG #2215

OF CALIFORNIE



Daniel B. Adler, RCE #36037

ec: justin@mirainv.com, sfrantz@islandarch.com, lkriedeman@islandarch.com

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CROSS SECTION B-B'

	CWE LEGEND
Qaf	Artificial Fill
Qcol	Coluvium
Qop1	Light gray to pale yellowish-brown, Silty Sand and slightly Silty Sand
Qop2	Light brown to orangish-brown, Clayey Sand with occasional dark gray clay lenses
Qop3	Grayish-brown to light orangish-brown, Silty Sand and slightly Silty Sand
Qop4	Orangish-brown, Silty Sand with occasional light gray Clay Sand-Sandy Clay lenses

SCALE: 1" = 10'

	PRO	POSED REMODEL, ADDITION PARCELS 1, 2, 4, & 7727 LOOI LA JOLLA,	V, AND SINGLE-FAN 5, PARCEL MAP 1781 KOUT DRIVE CALIFORNIA	AILY RESIDENCES 17	
CROSS SECTIONS	DATE:	DECEMBER 2017	JOB NO.:	2170685.02	CHR ISTIAN WHEFT FR
	BY:	MAH	PLATE NO.:	2	ENGINEERING

Appendix A

CWE Test Trench Logs (2013)

Steven E Jacobs Fault Trench Log (T-1) with Explanation (2013)

GEI Fault Trench (T-1) Log (2001)

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			SM	Old Pa	ralic De	posits	s (Qop)	: Yel	low t	o ora	ngis	h-bro	own,	mois	t, m	edium d	ense,		CK		6.5	115.8		
5—			SM SC CL	fine- to Light g stiff, IN mediun	medium ray, orar ITERBE 1-grainec	-grain Igish-b DDEI I, CLA	ied, SII prown, D, fine YEY S	And c and c to n SANI	SANE lark g nediu D and	D; mc gray, 1 m-gra l SAN	odera mois ained NDY	te ro t, m , SIL CL.	ots. ediun TY S AY; s	n den ANI light	ise a D, fi roo	nd stiff t ne- to ts.	o very		CK					
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					Summary of subsurface conditions (based on unified Soil Classification System) /Slopewash: Brown to dark brown, moist, very loose, fine- to rained, slightly SILTY SAND; heavy roots. raile Deposits (Qop): Yellow to orangish-brown, moist, medium dense, medium-grained, SILTY SAND; moderate roots. ay, orangish-brown, and dark gray, moist, medium dense and stiff to very reprint to the remained, SILTY SAND and SANDY CLAY; slight roots. inch terminated at 8 feet. No groundwater or seepage encountered. inch terminated at 8 feet. No groundwater or seepage encountered. inch terminated at 8 feet. No groundwater or seepage encountered.																			
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					Paralic Deposits (Qop): Grayish-brown with orange, moist, mediu to medium-grained, CLAYEY SAND. trench terminated at 6½ feet. No groundwater or seepage encounter																					
15 —					SUMMARY OF SUBSURFACE CONDITIONS (based on Unified Soil Classification System) icial Fill (Qaf): Light brown to brown, moist, medium dense, fine- egrained, slightly SILTY SAND with gravel-size rock. Paralic Deposits (Qop): Gravish-brown with orange, moist, mediu to medium-grained, CLAYEY SAND. rench terminated at 6½ feet. No groundwater or seepage encounter Image: State																					
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				to n	nedium	-grain	ied, CI	_AYEY	Y SAN	vD; m	odera	te root	s.	_						СК		8.7	113.5		
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0 			SM SC-CL SM	To SA Ol fin mi Gr Tr: Te	psoil: ND; a d Para e- to m nor ro ayish-l th CL/ ace am st tren	Brow bundi ilic D nediur ots. prowr AY ount ch ter	n to d ant ro eposit n-grain n, moi of col	lark b ots. ts (Q ned, v st, m oble-s ted at	orow op): CLA ediu size r	n, moi Gray YEY S n dens ock up et. No	ist, loo and or SAND se, fine o to 6 i o grour	se, fin ange, -SAN - to m nches. adwate	ne- to moist IDY (nediur er or s	medi , med CLA n-gra	um-ş dium Y; gr iined ge er	grain a den avel , SIL	ed, S se to layer TY :	SILTY o stiff, r and SANI d.	7 , D			CK CK		<u>12.2</u> 11.1	111.5		EI SA MD DS SO4
10-					irayish-brown, moist, medium dense, fine- to medium-grained, SILTY SAND ith CLAY																						
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96 ((•	Appar No Sa	ent Seepa mple Reco	ge overy				I	DAT	E:	API	RIL 20	014			J	OB	NO.:		213	0434	.01		CH	IRISTIA engin	N WHEE Teering	LER.
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		L	,00	G OI	F TI	ESJ	Γ]	Ŕŀ	EN	CI	Η	T-8	3			Cal SPT ST	Sample T Modified C Standard P Shelby Tub	ype a Californ enetrati ee	nd Labo ia Sampler on Test	CK Chur DR Dens	est Legen nk Density sity Ring	<u>d</u>
	Date Logg Exist Prop	Drilled: ed By: ing Elev osed Ele	ation: evation:	10/ TSV N/. N/.	11/13 W A A			Equ Auş Dri Deş	uipmen ger Tyj ve Typ pth to`	t: pe: pe: Water	:	Case 58 N/A N/A N/A	0L wi	ith 18" I	3ucket	MD SO4 SA HA SE PI CP	Max Densi Soluble Sul Sieve Anal Hydromet Sand Equiv Plasticity I Collapse P	ty fates vsis er valent ndex otential		DS Di Con Co EI Ex R-Val Re Chl So Res pF	irect Shear onsolidation spansion Inde esistance Valu sluble Chloric H & Resistivit	x e les y
DEPTH (ft)	ELEVATION (ft)	GRAPHIC LOG	USCS SYMBOL		SU	JMMA (based (RY O on Un	F SUB ified S	SURF Soil Cla	ACE	CO atio	NDITI(1 Syster	ONS n)			PENETRATION (blows per foot)	SAMPLE TYPE	BULK	MOISTURE CONTENT (%)	DRY DENSITY (pcf)	RELATIVE COMPACTION (%)	LABORATORY TESTS
0 5			SM SM SC-CL SC	Artific to med to med Gray ar CLAYI Grayish SAND. Test tre	al Fill (C ium-grain ralic De um-grain ad orange EY SANI i-brown, ench term	Qaf): Bined, SII posits (ned, SIL e, moist <u>D-SAN</u> moist, ninated	rown t .TY SA .TY SA , medi DY CI mediu at 5½	o dark AND; : N <u>D</u> . um den LAY; r m dens feet. N	brown abunda brown nse to s ninor r se, fine-	to bro tiff, fi oots. to m	own own ne- t ediu	oose to n , moist, , o mediu m-graine	mediu mediu um-gra ed, CI	m dense um dens ained, .AYEY ountered	e, fine-		CK CK CK		17.6	102.4		
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∑ ▼	7	Sym Groun Groun	bol L e dwater Le dwater Le	e gend evel During evel After D	Drilling Prilling		1	PROPOS	SED REM	MODEI	l, AD Parc	DITION, ELS 1, 2, 4 7727 LC LA JOLI	AND I , & 5, F DOKOI LA, CA	FUTURE PARCEL W UT DRIVI LIFORNI	SÍNGLE-F IAP 17817 Z A	AMILY RE	SIDENCES			9	8	
96 ((Appar No Sai	ent Seepaş mple Reco	ge overy	-		DAT	Έ:	APR	IL 20	14			JOB NG	D.:	2130	434.01		CH	IRISTIA Iristia engin	N WHEE	LER
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	Date Logg Exis Prop	e Drilled: ged By: ting Elev posed Ele	ation: evation:	10 TS N N	/11/13 SW /A /A			1 7 1 1	Equip Auger Drive Depth	ment: [.] Type: Type: 1 to Wi	ater:	Cas N/. N/. N/.	e 580 A A A	Lw	ith 18	3" Bucke	rt	MD SO4 SA HA SE PI CP	Max Densi Soluble Sul Sieve Anal Hydromet Sand Equiv Plasticity I Collapse P	ty Ifates ysis er valent ndex otential		DS D Con C EI E R-Val R Chl So Res pl	irect Shear onsolidation xpansion Inde: ssistance Valu sluble Chlorid I & Resistivit	x e les y
DEPTH (ft)	ELEVATION (ft)	GRAPHIC LOG	USCS SYMBOL		:	SUMM (base	IARY (d on U	OF S Jnifie	UBSU d Soil	JRFA I Class	CE CC ificatio	OND on Sy	ITIC)				PENETRATION (blows per foot)	SAMPLE TYPE	BULK	MOISTURE CONTENT (%)	DRY DENSITY (pcf)	RELATIVE COMPACTION (%)	LABORATORY TESTS
o 			SM	<u>Topso</u> SANI	oil: Brow D; abund	vn to da lant roc	ark bro ots.	wn, n	noist,	loose,	fine- to	o mec	lium-	graii	ned, S	SILTY			CK					
			SM SC	Old F mediu	aralic I m-grain	Deposit ed, SIL	<mark>s (Qop</mark> TY SA): Lig ND; 1	ht bro ninor	own, d [.] roots.	ry to r	noist,	med	ium	dense	e, fine- to			CK					
5 —		HH.		Grayi SANI	sh-brow: D.	n, mois	st, med	ium d	ense,	fine- to	o medi	um-gr	aineo	l, CI	LAYI	EY	\downarrow		CK					
				Test t	rench te	rminat	ed at 5	feet. I	No gr	oundw	vater of	r seep	age e	ncou	intere	ed.								
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)	Appare	ent Seepa	ge	2 ming		DA	TE:		APRIL	, 2014				JOB	NO.:		21304	34.01			(RISTIA	N WHFF	LER
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DESCRIPTION OF UNITS:

Surficial Soils

- af Fill: Silty sand (SM) and clayey sand (SC), medium- to coarse-grained, dark brown (10YR-4/3 to -3/3) and dark grayish brown (10YR-4/2), abundant angular (crushed rock) ¼-½" gravels, few round gravels to 3", few light gray sandstone fragments, abundant roots and rootlets to 1½", some construction debris (ceramic tile, plastic sheet, lumber), loose, slightly moist
- Qc Colluvium/Topsoil: Silty sand (SM) to clayey sand (SC), fine- to medium-grained, brown (10YR-5/3) to dark brown (10YR-4/3 to -3/3), numerous roots and rootlets to ¼", granular to moderately developed subangular blocky soil structure, common pores, locally common white caliche-filled rootlet casts, loose to medium dense, slightly moist to moist

Pedogenic Soils

Bt Subsoil (Argillic horizon): Clayey sand/sandy clay (SC/CL), fine- to medium-grained sand, dark brown (10YR-4/3) to dusky yellow-brown (10YR-4/4), grayish brown (10YR-5/2) to very dark grayish brown (10YR-4/2) and very dark brown (10YR-2/2) to very dark grayish brown (10YR-3/2), some roots and rootlets, moderate to strongly developed angular to subangular blocky soil structure, firm to stiff, moist to very moist, slight gradation into underlying deposits

Old Paralic (Terrace) Deposits

- Qop-1 Sand to silty sand (SP/SM), clean to silty, fine- to medium-grained, light gray (10YR-7/2) to pale brown (10YR-6/3) and brown (10YR-5/3), common reddish brown (5YR-3/3 to -3/4) iron-oxide stains, poorly indurated, granular to weakly developed subangular blocky structure, pale brown (10YR-6/3) and brown (10YR-5/3), few roots and rootlets, medium dense to dense, moist
- Qop-2 Clayey sand to clayey silt (SC/ML), very fine- to fine-grained sand, locally medium-grained, brown (10YR-5/3) and dark brown (10YR-3/3) to dusky yellow-brown (10YR-4/4), numerous laminar argillic (Bt) soil lenses and rootlet casts, few roots and rootlets, moderate to strongly developed subangular, blocky soil structure, common pale brown (10YR-6/3) mottles, some iron-oxide stains, few black manganese oxide stains, firm to stiff, moist to very moist

OTHER FEATURES:

- Contact between pedogenic/geologic units
- Approx. contact between pedogenic/geologic units
- Top of pedogenic soil horizon

FAULT TRENCH LOG EXPLANATION

7727 Lookout Drive, La Jolla, CA Logged by SEJ on 7/10/2013

Project No. 13004

Figure 12

Stephen E. Jacobs, CEG



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