GEOLOGIC UNITS:

Tcva - conejo volcanics

Ttvc - Topanga Formation clay shale & siltstone with sandstone interbeds overlain by ≈ 2 feet of colluvium (Qcol)

LEGEND:

B-2 Exploratory Boring

P-1 Double Ring Infiltrometer Test

TP-7 Exploratory Test Pit

Geologic Contact

N

SCALE: 1" = 80'

Base Map:

Site Plan
Oakmont Senior Living
Landesign Group
July 2015

SITE PLAN AND GEOLOGIC MAP

FOR: OAKMONT SENIOR LIVING

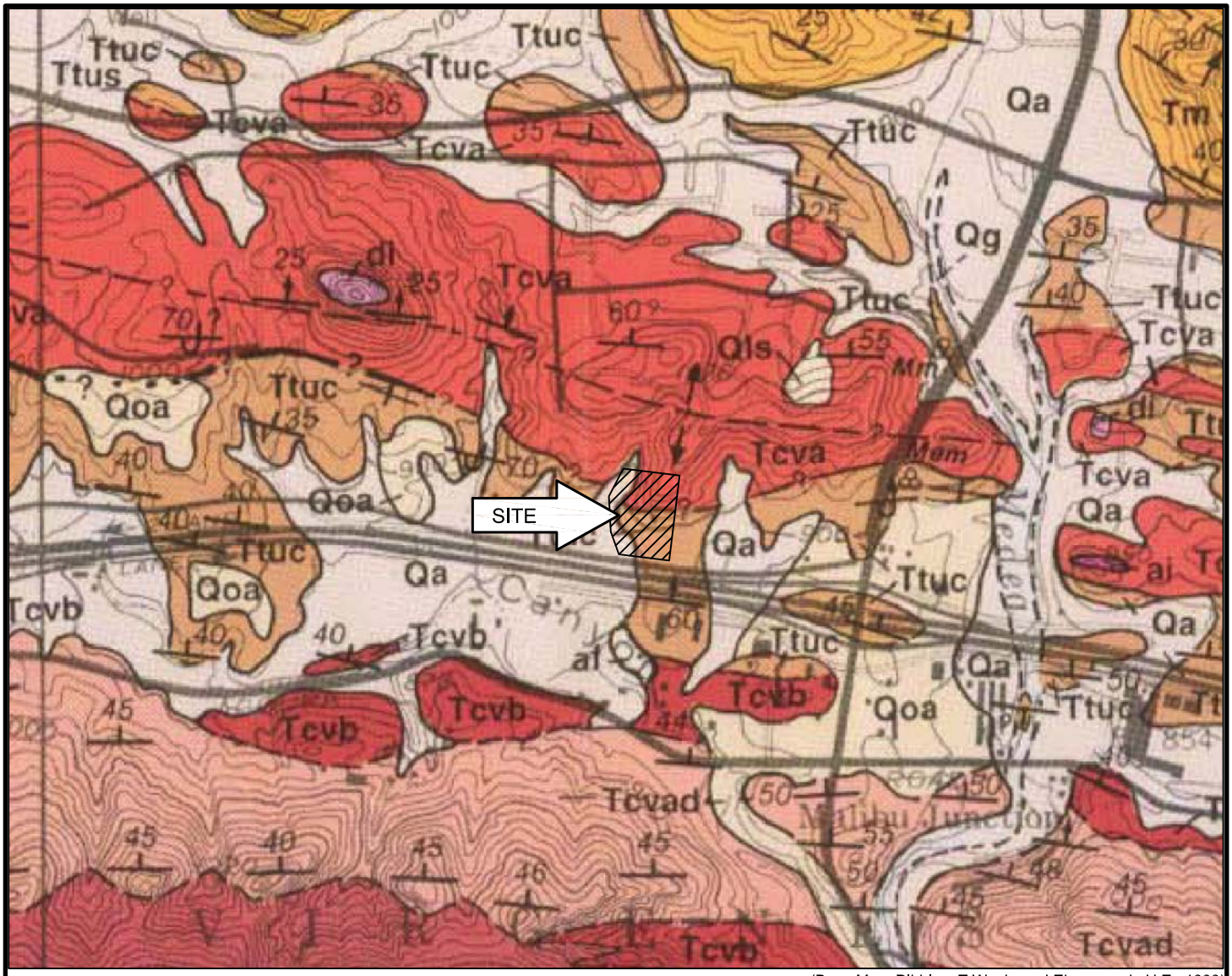
DATE: OCTOBER 2015

GEOTECHNICAL INVESTIGATION
OAKMONT OF AGOURA HILLS SENIOR FACILITY
APN 2053-001-005
29353 CANWOOD STREET
AGOURA HILLS, CALIFORNIA

ENCLOSURE "A-2"

JOB NUMBER 15473-3

CHJ Consultants



(Base Map: Dibblee, T.W., Jr. and Ehrenspeck, H.E., 1993)

GEOLOGIC UNITS:

Qa - alluvium

Qoa - older alluvium

Qls - landslide debris

Ttus - Topanga Formation - clay shale and siltstone.
Includes sandstone interbeds.

Tcva - Conejo Volcanics - andesitic flows and breccias

geologic contact

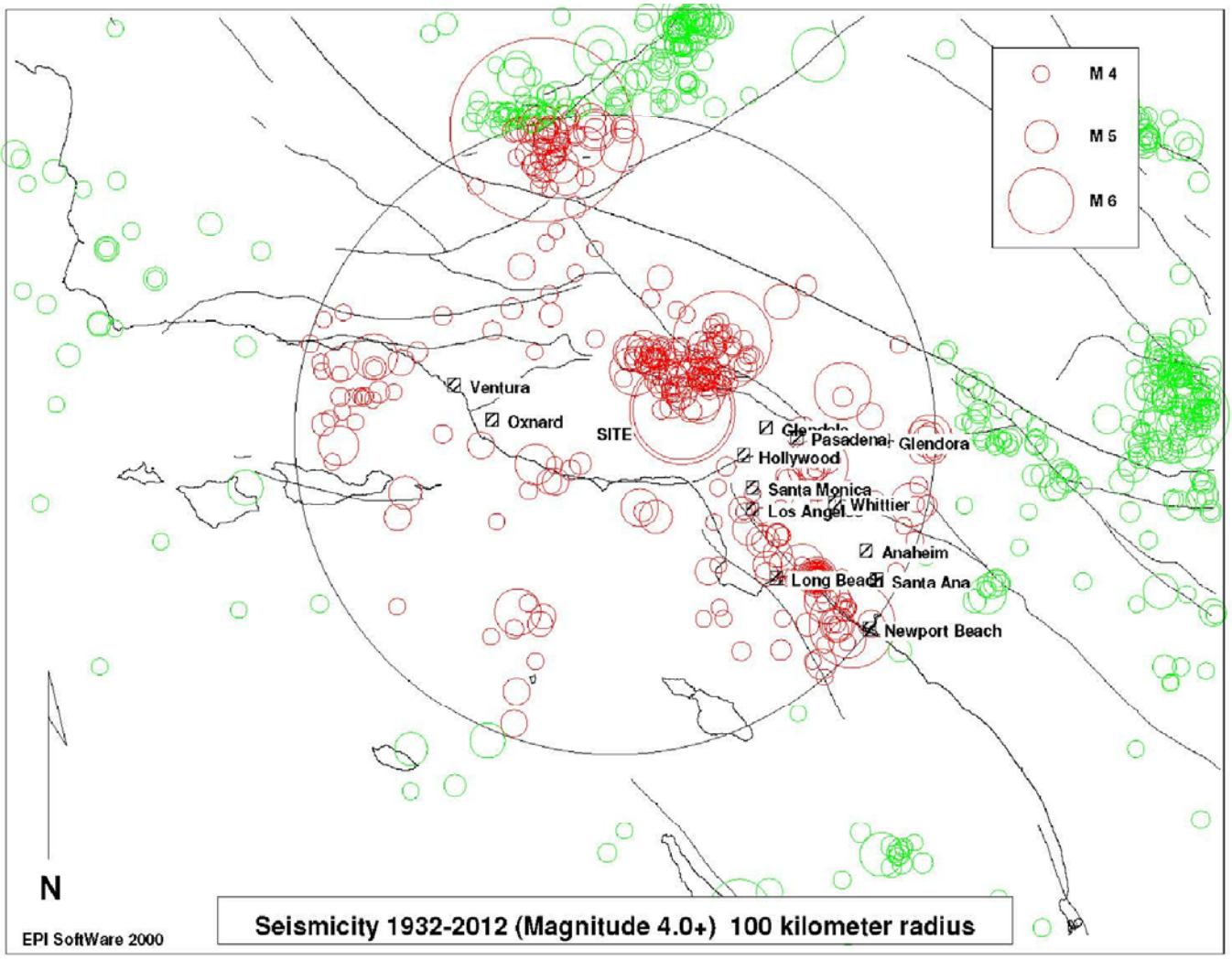
−N−

SCALE: 1" = Approx.1000'

GEOLOGIC INDEX MAP

FOR: OAKMONT SENIOR LIVING	GEOTECHNICAL INVESTIGATION OAKMONT OF AGOURA HILLS SENIOR FACILITY APN 2053-001-005 29353 CANWOOD STREET AGOURA HILLS, CALIFORNIA	ENCLOSURE "A-3"
DATE: OCTOBER 2015		JOB NUMBER 15473-3

CHJ Consultants



SITE LOCATION: 34.1475 LAT. -118.7659 LONG.

MINIMUM LOCATION QUALITY: C

TOTAL # OF EVENTS ON PLOT: 870

TOTAL # OF EVENTS WITHIN SEARCH RADIUS: 449

MAGNITUDE DISTRIBUTION OF SEARCH RADIUS EVENTS:

4.0- 4.9 : 398
5.0- 5.9 : 46
6.0- 6.9 : 4
7.0- 7.9 : 1
8.0- 8.9 : 0

0 50 100
KILOMETERS

CLOSEST EVENT: 4.4 ON SATURDAY, MAY 02, 2009 LOCATED APPROX. 14 KILOMETERS SOUTHWEST OF THE SITE

LARGEST 5 EVENTS:

7.5 ON MONDAY, JULY 21, 1952 LOCATED APPROX. 97 KILOMETERS NORTH OF THE SITE
6.7 ON MONDAY, JANUARY 17, 1994 LOCATED APPROX. 22 KILOMETERS EAST OF THE SITE
6.6 ON MONDAY, JANUARY 17, 1994 LOCATED APPROX. 22 KILOMETERS EAST OF THE SITE
6.6 ON TUESDAY, FEBRUARY 09, 1971 LOCATED APPROX. 44 KILOMETERS NORTHEAST OF THE SITE
6.4 ON SATURDAY, MARCH 11, 1933 LOCATED APPROX. 94 KILOMETERS SOUTHEAST OF THE SITE

EARTHQUAKE EPICENTER MAP

FOR: OAKMONT SENIOR LIVING	GEOTECHNICAL INVESTIGATION OAKMONT OF AGOURA HILLS SENIOR FACILITY APN 2053-001-005 29353 CANWOOD STREET AGOURA HILLS, CALIFORNIA	ENCLOSURE "A-4"
DATE: OCTOBER 2015		JOB NUMBER 15473-3

CHJ Consultants

APPENDIX "B"

EXPLORATORY LOGS

KEY TO LOGS

LEGEND OF LAB/FIELD TESTS:

Blows	A measure of the penetration resistance of soil expressed as the number of hammer blows required to advance the indicated sampler 6 inches (or less if noted). Samplers are driven with an automatic hammer that drops a 140-pound weight 30 inches for each blow. After the required seating, samplers are advanced up to 18 inches ahead of the boring, providing up to three sets of blows per drive.
Bulk	Indicates Bulk Sample
Consol.	Consolidation Test (ASTM D2435/4546)
Cor.	Chemical/Corrosivity Tests (ASTM G187, D4327, D4972)
Dist.	Indicates Disturbed Sample
DS	Direct Shear Test (ASTM D3080)
Exp.	Expansion Index (ASTM D4829)
MDC	Maximum Density Optimum Moisture Test (ASTM D1557)
Pass #200	Fines Content (ASTM C117)
PI	Plasticity Index (ASTM D4318)
Ring	Indicates Relatively Undisturbed Ring Sample. The number of blows per 6 inches required to drive a California sampler (3-1/4" O.D. and 2-3/8" I.D.) 18 inches using a 140-pound weight falling 30 inches was recorded.
SPT	Indicates Sample Obtained with an Unlined Standard Penetration Test Sampler (2" O.D. and 1-3/8" I.D.)

Enclosure "B" (2 of 2)
Job No. 15473-3

UNIFIED SOIL CLASSIFICATION SYSTEM

UNIFIED SOIL CLASSIFICATION AND SYMBOL CHART

COARSE-GRAINED SOILS (more than 50% of material is larger than No. 200 sieve size)			
GRAVELS More than 50% of coarse fraction larger than No.4 sieve size	Clean Gravels (Less than 5% fines)	GW	Well-graded gravels, gravel-sand mixtures, little or no fines
		GP	Poorly-graded gravels, gravel-sand mixtures, little or no fines
	Gravels with fines (More than 12% fines)	GM	Silty gravels, gravel-sand-silt mixtures
		GC	Clayey gravels, gravel-sand-clay mixtures
SANDS 50% or more of coarse fraction smaller than No.4 sieve size	Clean Sands (Less than 5% fines)	SW	Well-graded sands, gravelly sands, little or no fines
		SP	Poorly graded sands, gravelly sands, little or no fines
	Sands with fines (More than 12% fines)	SM	Silty sands, sand-silt mixtures
		SC	Clayey sands, sand-clay mixtures
FINE-GRAINED SOILS (50% or more of material is smaller than No. 200 sieve size)			
SILTS AND CLAYS Liquid limit less than 50%		ML	Inorganic silts and very fine sands, rock flour, silty of clayey fine sands or clayey silts with slight plasticity
		CL	Inorganic clays of low to medium plasticity, gravelly clays, sandy clays, silty clays, lean clays
		OL	Organic silts and organic silty clays of low plasticity
SILTS AND CLAYS Liquid limit 50% or greater		MH	Inorganic silts, micaceous or diatomaceous fine sandy or silty soils, elastic silts
		CH	Inorganic clays of high plasticity, fat clays
		OH	Organic clays of medium to high plasticity, organic silts
HIGHLY ORGANIC SOILS		PT	Peat and other highly organic soils

LABORATORY CLASSIFICATION CRITERIA

GW $C_u = \frac{D_{60}}{D_{10}}$ greater than 4; $C_c = \frac{D_{30}^2}{D_{10} \times D_{60}}$ between 1 and 3

GP Not meeting all gradation requirements for GW

GM Atterberg limits below "A" line or P.I. less than 4

GC Atterberg limits above "A" line with P.I. greater than 7

Above "A" line with P.I. between 4 and 7 are borderline cases requiring use of dual symbols.

SW $C_u = \frac{D_{60}}{D_{10}}$ greater than 6; $C_c = \frac{D_{30}^2}{D_{10} \times D_{60}}$ between 1 and 3

SP Not meeting all gradation requirements for SW

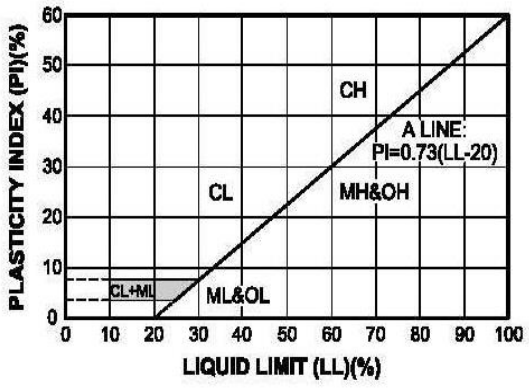
SM Atterberg limits below "A" line or P.I. less than 4

SC Atterberg limits above "A" line with P.I. greater than 7

Limits plotting in shaded zone with P.I. between 4 and 7 are borderline cases requiring use of dual symbols.

Determine percentages of sand and gravel from grain-size curve. Depending on percentage of fines (fraction smaller than No. 200 sieve size).
Coarse-grained soils are classified as follows:
Less than 5 percent.....GW, GP, SW, SP
More than 12 percent.....GM, GC, SM, SC
5 to 12 percent.....Borderline cases requiring dual symbols

PLASTICITY CHART



EXPLORATORY BORING NO. 1

Date Drilled: 9/30/15 | Client: Oakmont Senior Living

Equipment: CME 75 Track Rig | Driving Weight / Drop / Sampler Size: 140lbs./30in./3.25" O.D.

Surface Elevation(ft): N/A | Logged by: VJR | Measured Depth to Water(ft): N/A

DEPTH (ft)	GRAPHIC LOG	VISUAL CLASSIFICATION	REMARKS	SAMPLES: DRIVE	SAMPLES: BULK	BLOWS/6 IN.	FIELD MOISTURE (%)	DRY UNIT WT. (pcf)	LAB/FIELD TESTS
		(SC) Clayey Sand, fine to coarse, with silt, dark brown	Fill	X		22 26 30	12.8	110	Ring
		(CH) Fat Clay, with silt and sand, fine, yellow			X		14.2		Exp., PI
5		(Ttuc) Topanga Formation Siltstone recovered as (SC) Clayey Sand, fine to medium, with silt, yellowish brown, interbedded sandstone lenses	Native Siltstone bedrock	X		28 50	13.9	Dist.	Ring
10		(Ttuc) Topanga Formation Siltstone recovered as (CL) Clay, with silt, yellowish brown, interbedded sandstone lenses		X		11 20 32	24.5	101	Ring
15				X		14 28 42	17.0	112	Ring
20				X		27 50/5"	19.9	Dist.	Ring
25				X		50	19.7	Dist.	Ring
		END OF BORING NO REFUSAL, NO CAVING NO GROUNDWATER, FILL TO 4' SILTSTONE BEDROCK AT 5'							
30									

10331-3 15473-3.GPJ CHJ.GDT 10/20/15

CHJ

OAKMONT OF AGOURA HILLS SENIOR FACILITY
29353 CANWOOD STREET, AGOURA HILLS, CALIFORNIA

Job No. 15473-3

Enclosure B-1

EXPLORATORY BORING NO. 2

Date Drilled: 9/30/15 | Client: Oakmont Senior Living

Equipment: CME 75 Track Rig | Driving Weight / Drop / Sampler Size: 140lbs./30in./3.25" O.D.

Surface Elevation(ft): N/A | Logged by: VJR | Measured Depth to Water(ft): N/A

DEPTH (ft)	GRAPHIC LOG	VISUAL CLASSIFICATION	REMARKS	SAMPLES DRIVE	SAMPLES BULK	BLOWS/6 IN.	FIELD MOISTURE (%)	DRY UNIT WT. (pcf)	LAB/FIELD TESTS
		(CH) Fat Clay, with silt and sand, fine to medium, dark brown	Fill				14.6		
				X		11 15 18	13.7	Dist.	Consol., Ring
5		(Ttuc) Topanga Formation Siltstone, recovered as (CL) Clay, with silt and sand, fine, yellow, interbedded sandstone lenses	Native Siltstone bedrock	X		16 32 42	13.7	110	Ring
							14.6		
10				X		16 22 32	24.6	97	Ring
15				X		15 32 45	20.8	104	Ring
20				X		18 50	14.8	Dist.	Ring
25				X		20 50/3"	18.2	Dist.	Ring
		END OF BORING NO REFUSAL, NO CAVING NO GROUNDWATER, FILL TO 5' SILTSTONE BEDROCK AT 5'							
30									

10331-3 15473-3.GPJ CHJ.GDT 10/20/15

CHJ

OAKMONT OF AGOURA HILLS SENIOR FACILITY
29353 CANWOOD STREET, AGOURA HILLS, CALIFORNIA

Job No. 15473-3

Enclosure B-2

EXPLORATORY BORING NO. 3

Date Drilled: 9/30/15 | Client: Oakmont Senior Living

Equipment: CME 75 Track Rig | Driving Weight / Drop / Sampler Size: 140lbs./30in./3.25" O.D.

Surface Elevation(ft): N/A | Logged by: VJR | Measured Depth to Water(ft): N/A

DEPTH (ft)	GRAPHIC LOG	VISUAL CLASSIFICATION	REMARKS	SAMPLES DRIVE	SAMPLES BULK	BLOWS/6 IN.	FIELD MOISTURE (%)	DRY UNIT WT. (pcf)	LAB/FIELD TESTS
		(SC) Clayey Sand, fine to coarse, with silt, brown	Fill				13.2		
				X		13 18 19	8.5	Dist.	Ring
5		(CH) Fat Clay, with silt and sand, fine, yellow	Native	X		10 9 12	15.8	104	Ring
							22.4		
10		(Ttuc) Topanga Formation Sandstone, recovered as (SM) Silty Sand, fine with medium, with clay, yellowish brown	Sandstone Bedrock	X		30 35 50/5"	13.3 10.3	Dist.	Ring
15				X		35 50/4"	7.8	Dist.	Ring
20		(Ttuc) Topanga Formation Siltstone, recovered as (CL) Clay, with silt and sand, fine, yellowish brown	Iron Oxide Staining	X		16 34 50/5"	14.7	Dist.	Ring
25				X		28 50/4"	15.0	Dist.	Ring
		END OF BORING							
		NO REFUSAL, NO CAVING NO GROUNDWATER, FILL TO 5' SANDSTONE BEDROCK AT 10' SILTSTONE BEDROCK AT 20'							
30									

10331-3 15473-3.GPJ CHJ.GDT 10/20/15

CHJ

OAKMONT OF AGOURA HILLS SENIOR FACILITY
29353 CANWOOD STREET, AGOURA HILLS, CALIFORNIA

Job No. 15473-3

Enclosure B-3

EXPLORATORY BORING NO. 4

Date Drilled: 9/30/15 | Client: Oakmont Senior Living

Equipment: CME 75 Track Rig | Driving Weight / Drop / Sampler Size: 140lbs./30in./2.0" O.D.

Surface Elevation(ft): N/A | Logged by: VJR | Measured Depth to Water(ft): N/A

DEPTH (ft)	VISUAL CLASSIFICATION	REMARKS	SAMPLES DRIVE	SAMPLES BULK	BLOWS/6 IN.	FIELD MOISTURE (%)	DRY UNIT WT. (pcf)	LAB/FIELD TESTS
	(CH) Fat Clay, with silt, dark brown	Fill				14.1		Cor., DS, Exp., MDC, PI Pass #200, SPT
			X		4 5 9			
	(Ttuc) Topanga Formation Siltstone, recovered as (CH) Fat Clay, with silt and sand, fine, yellowish brown	Native						
5		Iron Oxide Staining	X		7 14 15			Pass #200, SPT
						18.8		
10			X		5 12 14			SPT
15		Iron Oxide Staining	X		7 12 17			SPT
20	(Ttuc) Topanga Formation Siltstone, recovered as (ML) Sandy Silt, fine to medium, with clay, yellowish brown		X		14 16 19			Pass #200, SPT
25	(Ttuc) Topanga Formation Siltstone, recovered as (CH) Clay, with silt, gray	Carbonate Staining	X		12 24 34			Pass #200, SPT
		Siltstone bedrock						
30	(Ttuc) Topanga Formation Siltstone, recovered as (CL) Sandy Clay, fine to medium, with silt, gray, interbedded sandstone lenses	Carbonate Staining	X		14 27 40			Pass #200, SPT

10331-3 15473-3.GPJ CHJ.GDT 10/20/15

CHJ

OAKMONT OF AGOURA HILLS SENIOR FACILITY
29353 CANWOOD STREET, AGOURA HILLS, CALIFORNIA

Job No. 15473-3

Enclosure B-4a

EXPLORATORY BORING NO. 4

Date Drilled: 9/30/15 Client: Oakmont Senior Living

Equipment: CME 75 Track Rig Driving Weight / Drop / Sampler Size: 140lbs./30in./2.0" O.D.

Surface Elevation(ft): N/A Logged by: VJR Measured Depth to Water(ft): N/A

DEPTH (ft)	GRAPHIC LOG	VISUAL CLASSIFICATION	REMARKS	SAMPLES DRIVE	SAMPLES BULK	BLOWS/6 IN.	FIELD MOISTURE (%)	DRY UNIT WT. (pcf)	LAB/FIELD TESTS
		(Ttuc) Topanga Formation Siltstone, recovered as (CL) Sandy Clay, fine to medium, with silt, gray, interbedded sandstone lenses		X		15 27 36			SPT
40				X		20 30 50/5"			SPT
45		(Ttuc) Topanga Formation Siltstone, recovered as (SM) Silty Sand, fine to medium, gray		X		13 29 36			Pass #200, SPT
50				X		50			SPT
		END OF BORING NO REFUSAL, NO CAVING NO GROUNDWATER, FILL TO 3' SILTSTONE BEDROCK AT 3'							
55									
60									
65									

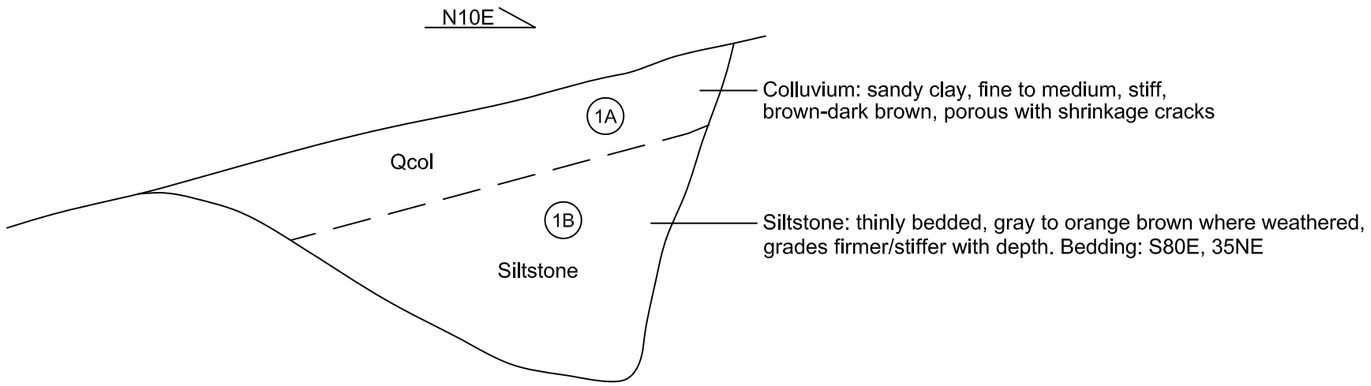
10331-3 15473-3.GPJ CHJ.GDT 10/20/15

CHJ

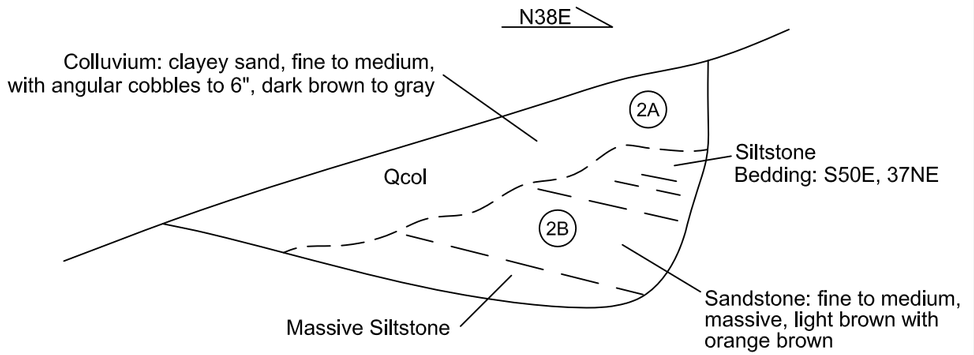
OAKMONT OF AGOURA HILLS SENIOR FACILITY
29353 CANWOOD STREET, AGOURA HILLS, CALIFORNIA

Job No. 15473-3

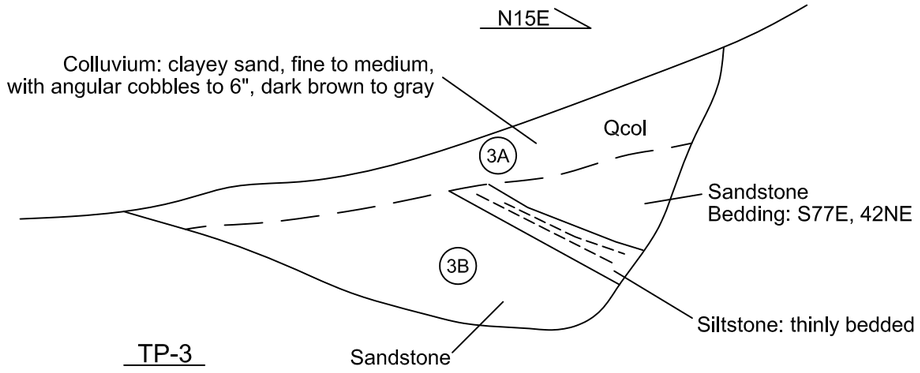
Enclosure B-4b



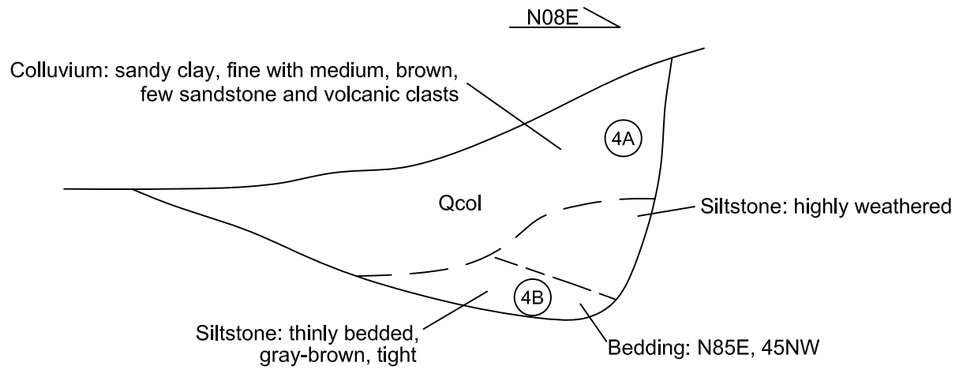
TP-1



TP-2



TP-3



TP-4

LEGEND:

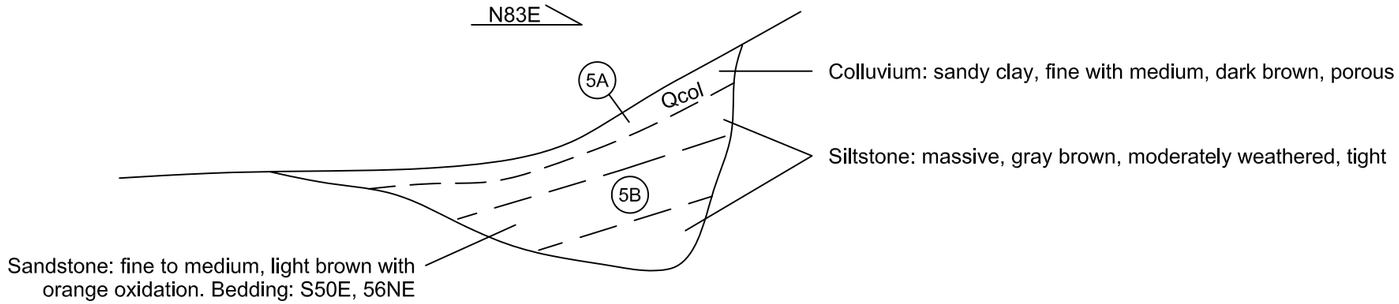
(7B) Location of bulk sample

SCALE: 1" = 5' H=V

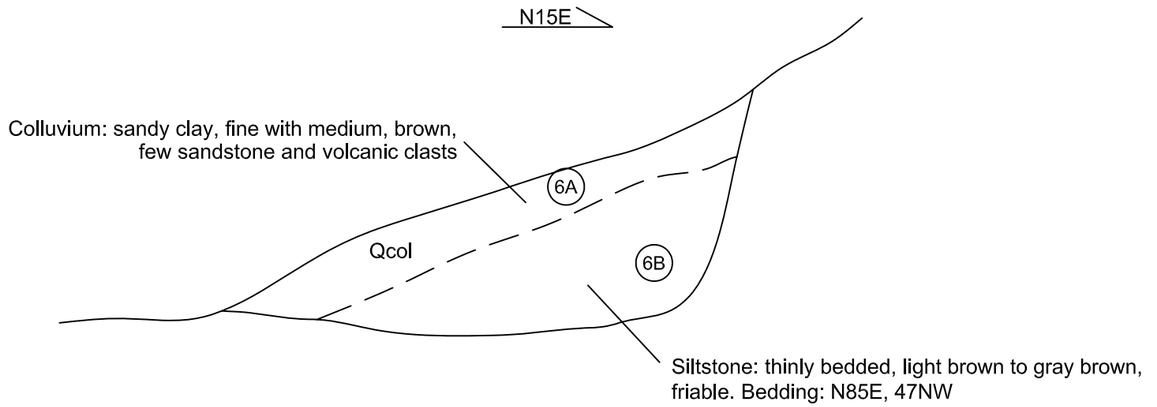
TRENCH LOGS

FOR: OAKMONT SENIOR LIVING	GEOTECHNICAL INVESTIGATION OAKMONT OF AGOURA HILLS SENIOR FACILITY APN 2053-001-005 29353 CANWOOD STREET AGOURA HILLS, CALIFORNIA	ENCLOSURE "B-5.1"
DATE: OCTOBER 2015		JOB NUMBER 15473-3

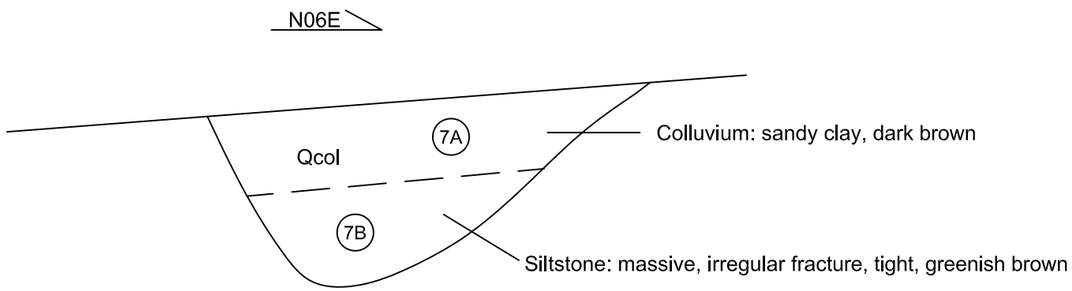
CHJ Consultants



TP-5



TP-6



TP-7

LEGEND:

7B Location of bulk sample

SCALE: 1" = 5' H=V

TRENCH LOGS

FOR: OAKMONT SENIOR LIVING	GEOTECHNICAL INVESTIGATION OAKMONT OF AGOURA HILLS SENIOR FACILITY APN 2053-001-005 29353 CANWOOD STREET AGOURA HILLS, CALIFORNIA	ENCLOSURE "B-5.2"
DATE: OCTOBER 2015		JOB NUMBER 15473-3

CHJ Consultants

EXPLORATORY TEST PIT NO. P-1

Date Excavated: 9/30/15 Client: Oakmont Senior Living

Equipment: Rubber-Tire Backhoe Bucket Size: 36" Bucket

Surface Elevation(ft): N/A Logged by: GA Station No.: N/A

DEPTH (ft)	GRAPHIC LOG	VISUAL CLASSIFICATION	REMARKS	SAMPLES: DENSITY	SAMPLES: BULK	RELATIVE COMP. (%)	FIELD MOISTURE (%)	DRY UNIT WT. (pcf)	LAB/FIELD TESTS
1		(SC) Clayey Sand, fine to medium, dark brown, disturbed colluvium	Disturbed Native						
2									
3		Siltstone bedrock, weathered, brown	Siltstone bedrock						
4		END OF TEST PIT NO REFUSAL, NO CAVING NO GROUNDWATER NO FILL, SILTSTONE BEDROCK AT 2.5'							
5									
6									
7									
8									
9									

TEST PIT - 10 FT 15473-8.GPJ CHJ.GDT 10/20/15

CHJ

OAKMONT OF AGOURA HILLS SENIOR FACILITY
29353 CANWOOD STREET, AGOURA HILLS, CALIFORNIA

Job No. 15473-3

Enclosure B-6

EXPLORATORY TEST PIT NO. P-2

Date Excavated: 9/30/15 Client: Oakmont Senior Living

Equipment: Rubber-Tire Backhoe Bucket Size: 36" Bucket

Surface Elevation(ft): N/A Logged by: GA Station No.: N/A

DEPTH (ft)	GRAPHIC LOG	VISUAL CLASSIFICATION	REMARKS	SAMPLES: DENSITY	SAMPLES: BULK	RELATIVE COMP. (%)	FIELD MOISTURE (%)	DRY UNIT WT. (pcf)	LAB/FIELD TESTS
1		(SC) Clayey Sand, fine to medium, disturbed colluvium, dark brown	Disturbed Native						
2									
3		Siltstone bedrock, weatered, brown	Siltstone bedrock						
4									
5		END OF TEST PIT							
		NO REFUSAL, NO CAVING NO GROUNDWATER NO FILL, SILTSTONE BEDROCK AT 3'							
6									
7									
8									
9									

TEST PIT - 10 FT 15473-8.GPJ CHJ.GDT 10/20/15

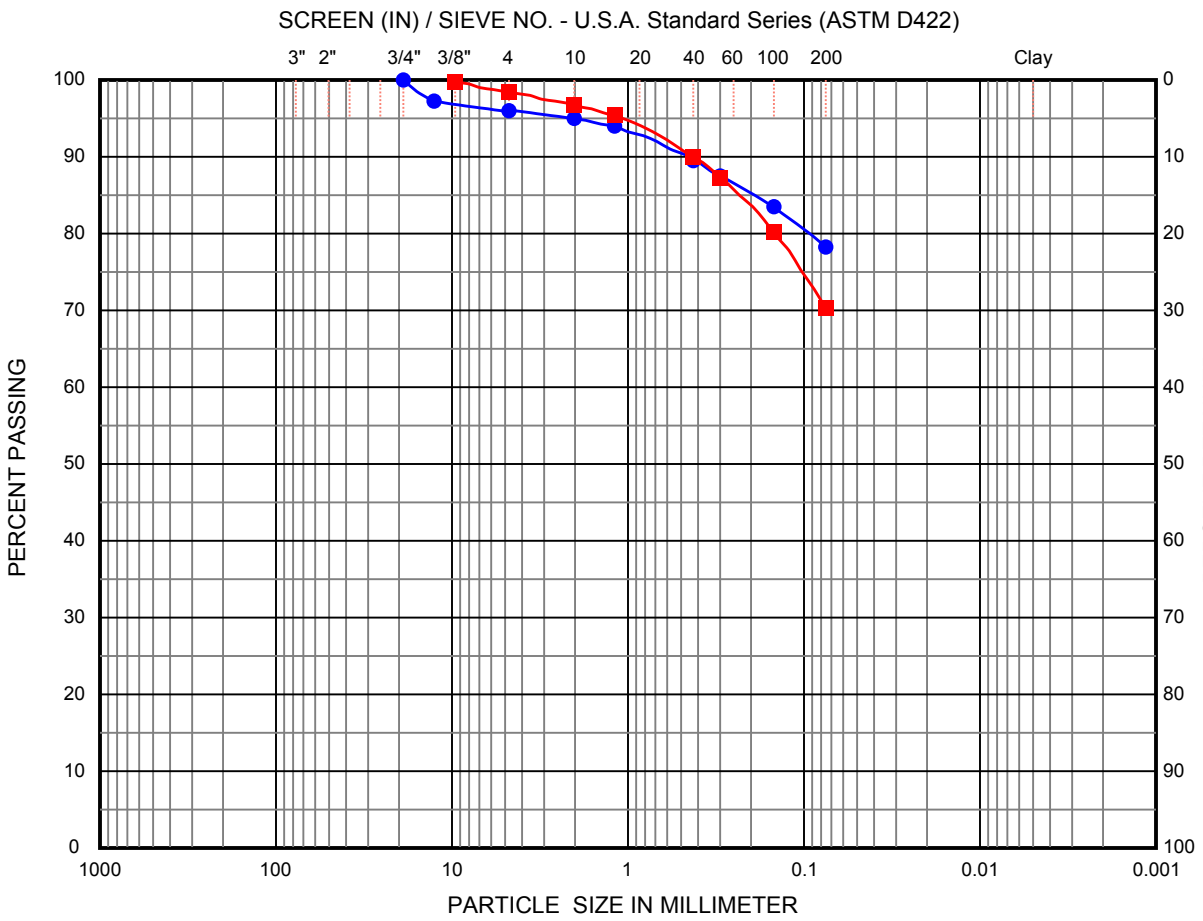
CHJ

OAKMONT OF AGOURA HILLS SENIOR FACILITY
29353 CANWOOD STREET, AGOURA HILLS, CALIFORNIA

Job No. 15473-3 Enclosure B-7

APPENDIX "C"

LABORATORY TESTING



Cobbles & Boulders	Gravel		Sand			Silt	Clay
	Coarse	Fine	Coarse	Medium	Fine		

	Boring No.	Depth	Gravel	Sand	Fines	Clay	D_{10}	D_{30}	D_{50}	D_{60}	C_u	C_c
●	TP-1	0	4.0	17.8	78.2							
	(CL) Sandy Clay, fine (SE=13)											
■	TP-3	0	1.6	28.1	70.3							
	(CL) Sandy Clay, fine (SE=7)											

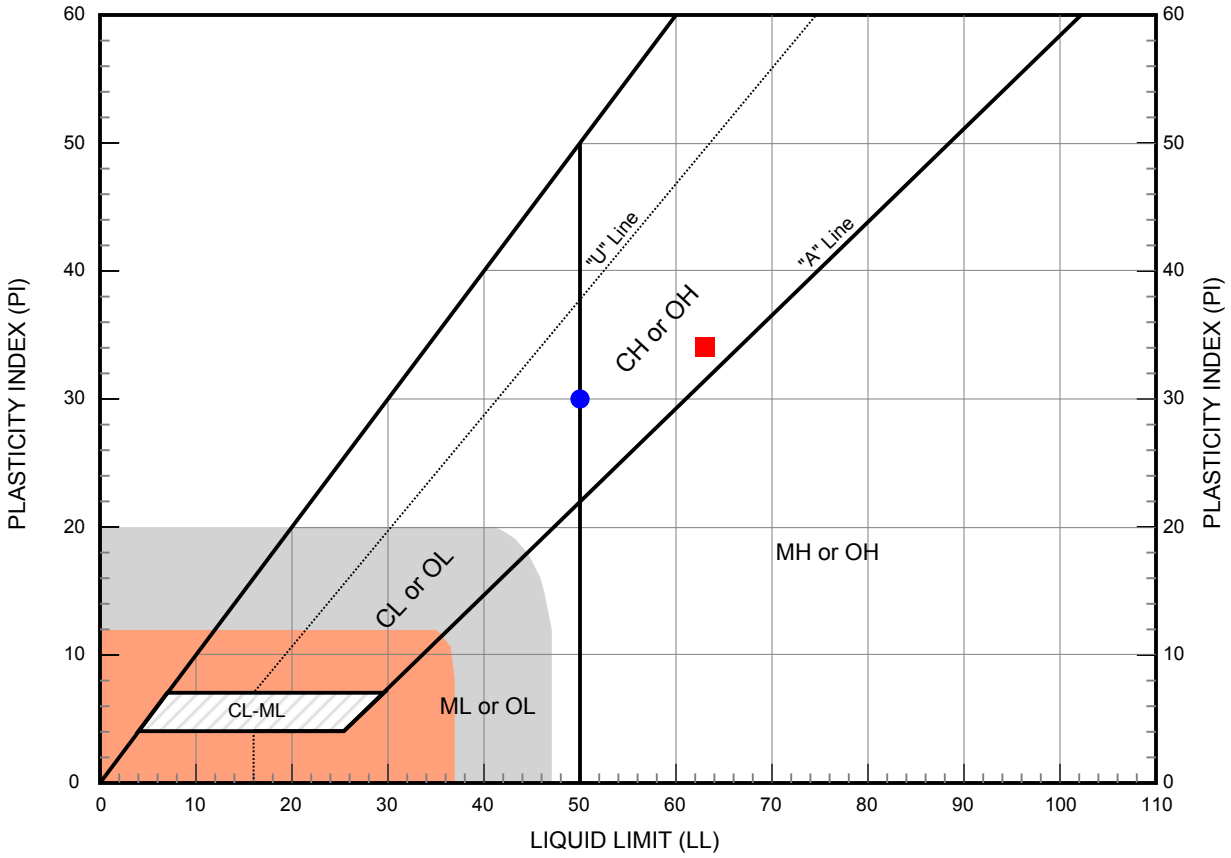
CHJ Consultants

PARTICLE SIZE DISTRIBUTION (ASTM D422)

Project:	Oakmont of Agoura Hills Senior Facility				
Location:	29353 Canwood Street, Agoura Hills, California				
Job Number:	15473-3	Engineer:	MNoorzay	Enclosure:	C-1

N:\Projects\Geotechnical\2015\15473-2&3 Oakmont SL, Oakmont of Agoura Hills\LabSuite\LabSuite_15473-3.csv

LabSuite© Version 4.0.3.26. Developed by Fred Yi, PhD, PE, GE Copyright© 2002 - 2015 GeoAdvanced™. All rights reserved _Commercial Copy
Prepared at 10/14/2015 11:52:30 AM



	Boring No.	Depth (ft)	USCS Classification	PL	LL	PI
●	1	4	(CH) Fat clay	20	50	30
■	4	0	(CH) Fat clay	29	63	34

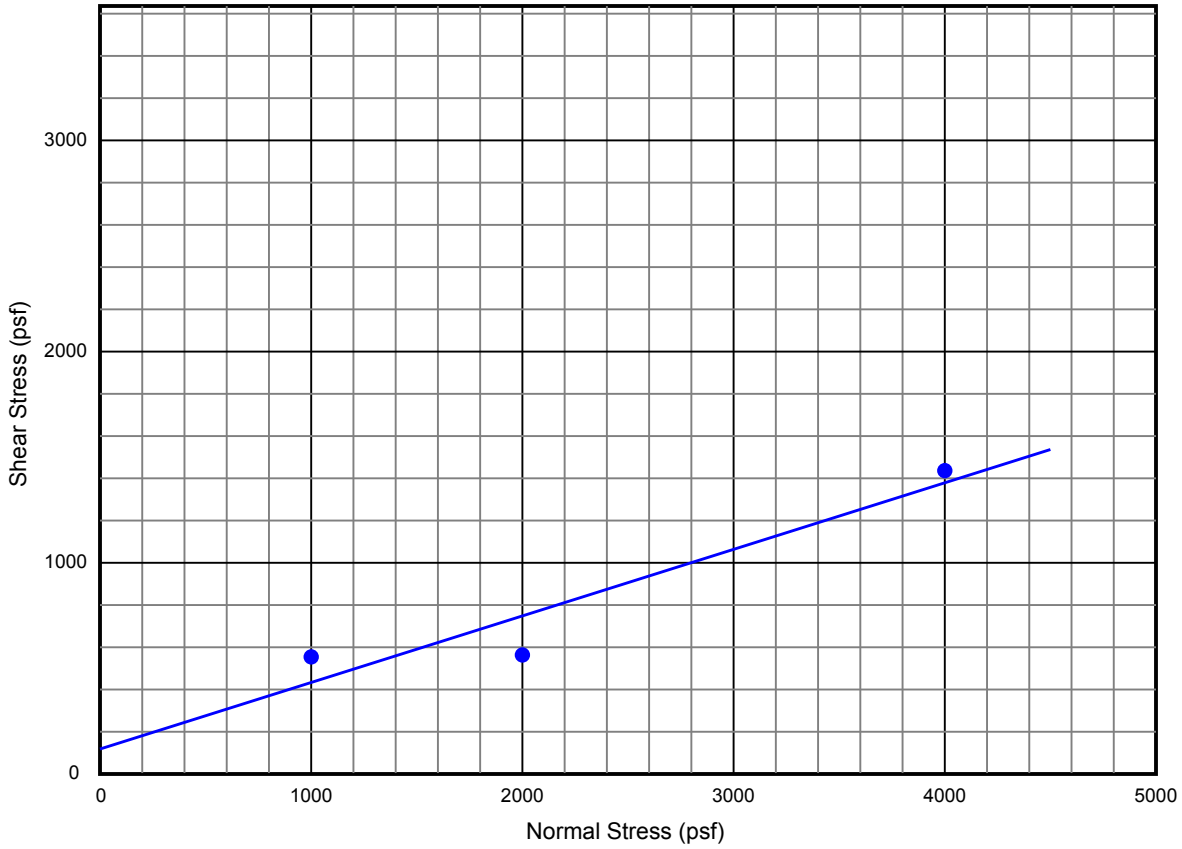
N:\Projects\Geotechnical\2015\15473-2&3 Oakmont SL, Oakmont of Agoura Hills\LabSuite\LabSuite_15473-3.csv

CHJ Consultants

PLASTICITY CHART (ASTM D4318)

Project:	Oakmont of Agoura Hills Senior Facility				
Location:	29353 Canwood Street, Agoura Hills, California				
Job Number:	15473-3	Engineer:	MNoorzay	Enclosure:	C-2

LabSuite© Version 4.0.3.26. Developed by Fred Yi, PhD, PE, GE Copyright© 2002 - 2015 GeoAdvanced™. All rights reserved _Commercial Copy
Prepared at 10/14/2015 11:52:30 AM



	Boring No.	Depth (ft)	γ_d (pcf)	w (%)	C_{pk} (psf)	ϕ_{pk} (°)	C_{rs} (psf)	ϕ_{rs} (°)
●	4	0	97.0	17.5	168.4	20.4	114.2	17.6
	(CH) Fat clay, Remolded to 90% R.C.							

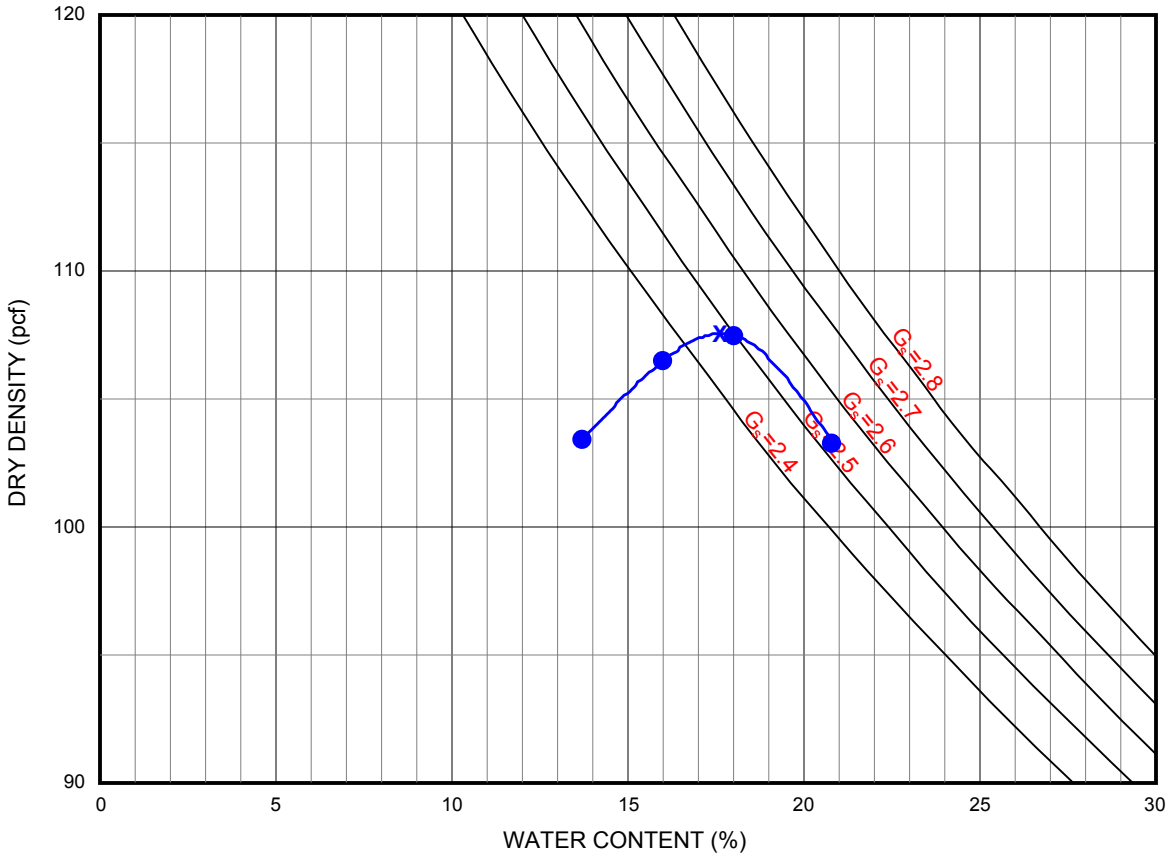
CHJ Consultants

DIRECT SHEAR TESTS (ASTM D3080)

Project:	Oakmont of Agoura Hills Senior Facility				
Location:	29353 Canwood Street, Agoura Hills, California				
Job Number:	15473-3	Engineer:	MNoorzay	Enclosure:	C-3

N:\Projects\Geotechnical\2015\15473-2&3 Oakmont SL, Oakmont of Agoura Hills\LabSuite\LabSuite_15473-3.csv

LabSuite© Version 4.0.3.26. Developed by Fred Yi, PhD, PE, GE Copyright© 2002 - 2015 GeoAdvanced™. All rights reserved _Commercial Copy
Prepared at 10/14/2015 11:52:30 AM



	Boring No.	Depth (ft)	USCS Classification	γ_{dmax} (pcf)	w_o (%)
●	4	0	(CH) Fat clay	107.5	17.5

CHJ Consultants

COMPACTION CURVES (ASTM D1557)

Project:	Oakmont of Agoura Hills Senior Facility				
Location:	29353 Canwood Street, Agoura Hills, California				
Job Number:	15473-3	Engineer:	MNoorzay	Enclosure:	C-4

N:\Projects\Geotechnical\2015\15473-2&3 Oakmont SL, Oakmont of Agoura Hills\LabSuite\LabSuite_15473-3.csv

LabSuite© Version 4.0.3.26. Developed by Fred Yi, PhD, PE, GE Copyright© 2002 - 2015 GeoAdvanced™. All rights reserved _Commercial Copy
Prepared at 10/14/2015 11:52:30 AM

FINES CONTENT (ASTM C117)

Boring No.	4	4	4	4	4	4
Depth (ft)	2	5	20	25	30	45
Original Dry Mass	185	163.6	171.2	170.4	196.0	176.4
Dry Mass after Washing	23.9	13.1	27.6	4.7	90.3	92.6
Fine Contents (%)	87.1	92.0	83.9	97.2	53.9	47.5
Classification	CH	CH	ML	CH	CL	SM

EXPANSION INDEX (ASTM D 4829)

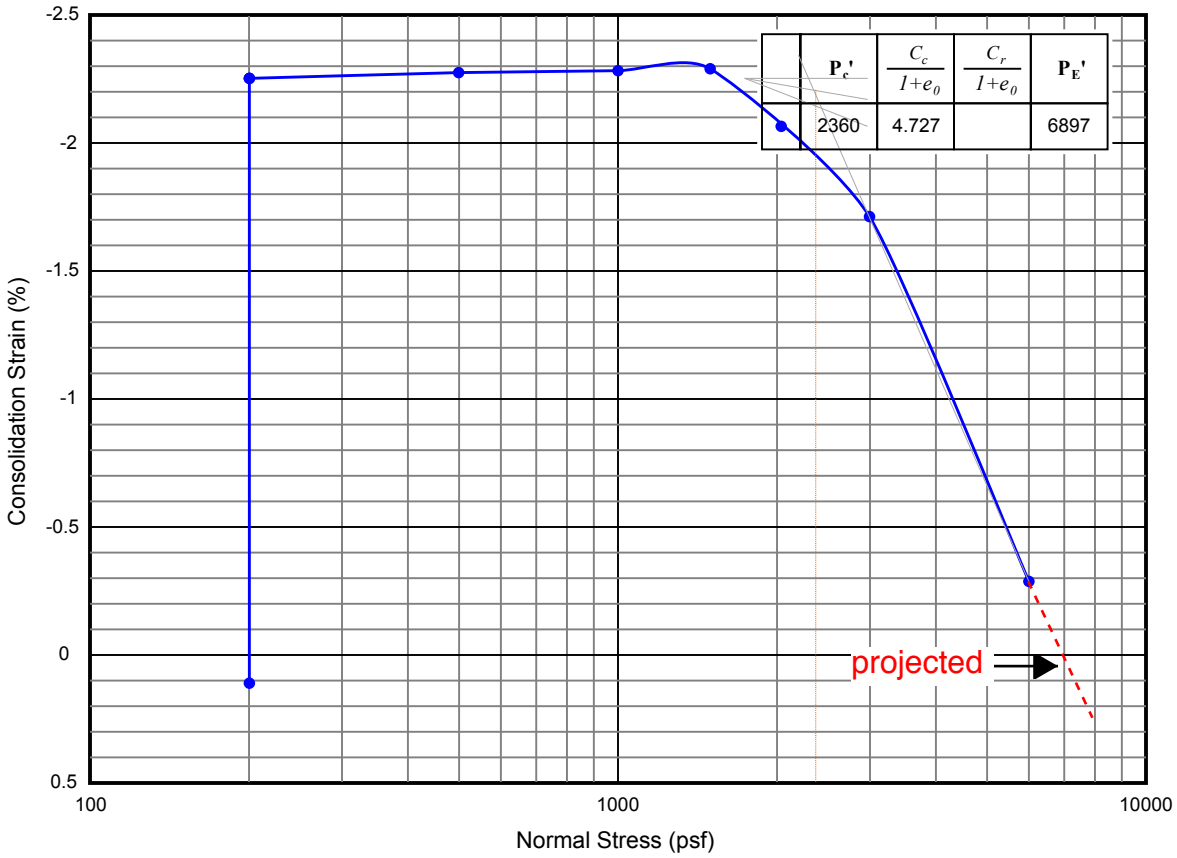
Sample No.	1A	4A
Depth (ft)	4	0
Initial Moisture (%)	14.7	15.3
Final Moisture (%)	26.2	30.5
Degree of Saturation (%)	52	48
Expansion Index	150	157
Expansion Potential	Very High	Very High

N:\Projects\Geotechnical\2015\15473-2&3 Oakmont SL, Oakmont of Agoura Hills\LabSuite\LabSuite_15473-3.csv

CHJ Consultants

TEST DATA SUMMARY					
Project:	Oakmont of Agoura Hills Senior Facility				
Location:	29353 Canwood Street, Agoura Hills, California				
Job Number:	15473-3	Engineer:	MNoorzay	Enclosure:	C-5

LabSuite© Version 4.0.3.26. Developed by Fred Yi, PhD, PE, GE Copyright© 2002 - 2015 GeoAdvanced™. All rights reserved _Commercial Copy



	Boring No.	Depth (ft)	USCS Classification	γ_d (pcf)	w (%)	HCS (%)
●	2	1	(CH) Fat Clay, with silt and sand	102.8	12.9	-2.4

CHJ Consultants

CONSOLIDATION TESTS (ASTM D2435/4546)

Project:	Oakmont of Agoura Hills Senior Facility				
Location:	29353 Canwood Street, Agoura Hills, California				
Job Number:	15473-3	Engineer:	MNoorzay	Enclosure:	C-6

N:\Projects\Geotechnical\2015\15473-2&3 Oakmont SL, Oakmont of Agoura Hills\LabSuite\LabSuite_15473-3.csv

LabSuite© Version 4.0.3.26. Developed by Fred Yi, PhD, PE, GE Copyright© 2002 - 2015 GeoAdvanced™. All rights reserved _Commercial Copy Prepared at 10/20/2015 9:43:50 AM

Table 1 - Laboratory Tests on Soil Samples

CHJ Consultants
Oakment SL-Agoura Hills
Your #15473-3, HDR Lab #15-0788LAB
5-Oct-15

Sample ID			4A
Resistivity		**Units**	
as-received		ohm-cm	10,800
saturated		ohm-cm	1,160
pH			6.7
Electrical Conductivity		mS/cm	0.33
Chemical Analyses			
Cations			
calcium	Ca^{2+}	mg/kg	104
magnesium	Mg^{2+}	mg/kg	15
sodium	Na^{1+}	mg/kg	238
potassium	K^{1+}	mg/kg	15
Anions			
carbonate	CO_3^{2-}	mg/kg	ND
bicarbonate	HCO_3^{1-}	mg/kg	564
fluoride	F^{1-}	mg/kg	2.7
chloride	Cl^{1-}	mg/kg	56
sulfate	SO_4^{2-}	mg/kg	163
phosphate	PO_4^{3-}	mg/kg	ND
Other Tests			
ammonium	NH_4^{1+}	mg/kg	0.8
nitrate	NO_3^{1-}	mg/kg	21
sulfide	S^{2-}	qual	na
Redox		mV	na

Electrical conductivity in millisiemens/cm and chemical analysis were made on a 1:5 soil-to-water extract.
mg/kg = milligrams per kilogram (parts per million) of dry soil.
Redox = oxidation-reduction potential in millivolts
ND = not detected
na = not analyzed

431 West Baseline Road · Claremont, CA 91711
Phone: 909.962.5485 · Fax: 909.626.3316

CHJ Consultants
1355 E. Cooley Drive, Suite C, Colton, CA 92324 ◆ Phone (909) 824-7311 ◆ Fax (909) 503-1136
15345 Anacapa Road, Suite D, Victorville, CA 92392 ◆ Phone (760) 243-0506 ◆ Fax (760) 243-1225
77-564A Country Club Drive, Suite 122, Palm Desert, CA 92211 ◆ Phone (760) 772-8234 ◆ Fax (909) 503-1136

June 14, 2016

Oakmont Senior Living
9249 Old Redwood Highway, Suite 200
Windsor, California 95492
Attention: Mr. Wayne Sant, Vice President, Development

Job No. 15473-3A

Subject: Addendum to Geotechnical Investigation Report
Response to Geotechnical Review Sheet
Proposed Oakmont of Agoura Hills Senior Facility
29353 Canwood Street
Agoura Hills, California

References: See Attached References Sheet

Dear Mr. Sant:

As requested, we have examined the review comments by GeoDynamics, Incorporated, prepared on behalf of the City of Agoura Hills, and we provide our responses below. Several comments relate to updating information/recommendations based on plans provided for this response that were not completed at the time of our original investigation. The reviewer's comments appear below in italics followed by our response.

Planning/Feasibility Comments

1. *The consultant should provide an updated geologic map based on a legible copy of the latest development plan. The map should include all geologic data including contacts between all geologic units (including alluvial units if appropriate), structural information and a complete geologic legend. The consultant should discuss the basis for the location of the contact between Tcva and Ttuc (sic) indicated on the map.*

An updated geological and geotechnical map on the basis of the proposed grading plan, prepared by Huitt-Zollars, Inc., dated (last saved) April 16, 2016, is attached hereto.

2. *Brief discussions of each geologic unit noted on the map should be provided in the text of the report*.

Geologic maps for the site region include Yerkes and Showalter (1991) and Dibblee and Ehrenspeck (1993). The geologic units designated for this project include alluvium, colluvium, sedimentary bedrock and volcanic bedrock.

Fill (f) occurs in limited areas of the site to depths between 2 and 5 feet below ground surface. The thickest fill occurs near the area of the existing structure foundations in the east-central portion of the site. The fill is derived from local materials (colluvium and bedrock) and is considered unsuitable for support of proposed structures. Recommendations for removal of existing fill are presented in a later section of this report.

Alluvium (Qa) is present along the axis of Lindero Canyon south of the site boundary and is not within the area of the Site Plan and Geologic Map.

Colluvium (Qcol), derived as a product of weathering of underlying bedrock and gravity creep of soil residuum, is present as a mantle over bedrock units within the site. The thickness of colluvium varies depending on the steepness of the ground surface with thicker accumulations on flats and near the toes of slopes and thinner accumulations on steeper slope surfaces. The colluvium consists of gray-brown to dark brown fat sandy clay and contains scattered angular fragments of siltstone.

Sedimentary bedrock consisting of clay shale and siltstone with sandy interbeds was encountered beneath a soil mantle in the proposed building area and slope area of the site. This unit is mapped as Topanga Formation (Ttuc) by Dibblee and Ehrenspeck (1993) and Calabasas Formation by Yerkes and Showalter (1991). The depth to bedrock varies from 3 to 10 feet beneath the proposed building footprint and is shallow (less than 3 feet) in the slope area. Test pits for infiltrometer use revealed Ttuc at 2-1/2 and 3 feet below existing surface along Canwood Street. The Ttuc unit is yellow-brown to gray, bedded, and exhibits closely- spaced orthogonal joint sets that produce elongate, blocky rock fragments in spoils. Joint surfaces are commonly oxide stained orange-brown within 3 feet of the

surface. Gray, less-weathered bedrock with tight joints occurs approximately 3 feet below the surface. The siltstone unit is tight and competent and is considered relatively strong with regard to slope stability.

Andesitic (volcanic) flows and breccias (Tcva) form a second bedrock unit in the northern portion of the site. This unit is included with the Conejo Volcanics units described by Dibblee and Ehrenspeck (1993). The contact between Tcva and Ttuc is depicted by Dibblee and Ehrenspeck (1993) as a north-dipping fault west of the site and indeterminate at the site. The bedrock contact location included on the Site Plan and Geologic Map (A-2.1) is based on field observations of highest occurrence of surface clasts on slopes and limited outcrop exposures. This unit and/or its contact with siltstone does not underlie the portion of the site proposed for development and is not anticipated to be a concern with regard to slope stability or site development.

3. *Cross sections should be provided through the slope and proposed retaining walls along the north edge of the building pad.*

A cross section illustrating the relationship of existing grades and topography to the proposed building pad, retaining walls and recommended removal depth is attached hereto.

4. *The consultant should clarify whether the recommended removal depth is below finished or existing grade, and whether removal to bedrock is recommended in limited areas where bedrock may not be encountered within the recommended removal depth.*

In the report, we recommended that "All areas to be graded should have at least the upper 5 feet of existing soils removed or expose siltstone bedrock, and the open excavation bottoms observed by our engineering geologist to verify and document in writing that all undocumented fill is removed prior to refilling with properly tested and documented compacted fill." The recommended depth of initial removal is from existing ground surface. If the depth of bedrock is shallower than 5 feet, the initial removal depth only needs to expose bedrock. If shallow bedrock is encountered in footing areas, further removal is required (see Section PREPARATION OF FOUNDATION AREAS).

5. *Remnants of a previous structure are present on the site. Proposed grading appears likely to entirely remove this structure. Nonetheless, the consultant should review the current grading*

plan and discuss whether any elements of this previous construction need to be considered in the proposed construction. In particular, the consultant should consider whether components of an abandoned private sewage disposal system may be encountered during construction and provide appropriate recommendations for abandonment.

Abandoned septic tank systems and/or old drainage systems, if any, should be identified/delineated, removed and backfilled with recompacted materials or using sand slurry with a minimum 2 sack per cubic yard of cement.

If necessary, the abandonment of seepage pits will require that any existing effluent and water be pumped from the pits. Following the pumping, any loose and/or organic material that remains in the pits should be removed. The pits should then be backfilled with a one-sack sand slurry mixture to within approximately 6 feet of the finish grade elevation. Following the backfill, the area surrounding the seepage pits should be then excavated to a depth of approximately 6 feet below finish grade elevation. The excavation should include all loose material surrounding the pit. In addition, the excavation should allow access for compaction equipment. The excavation should then be backfilled to finish grade elevation as properly compacted fill.

6. *The consultant should discuss and evaluate as necessary the stability of all slopes that would impact the proposed development at the site. Mitigation measures should be recommended as necessary.*

The stability of the proposed cut slope was evaluated using a computer program, Slide 6.039 (Rocscience, 2016). Based on the grading plan, the highest cut slope is approximately 31.5 feet in total height. According to Seismic Hazard Zone Report 042 (Seismic Hazard Zone Report For The Thousand Oak 7.5-Minute Quadrangle, Ventura And Los Angeles Counties, California, California Geological Survey, 2000), the mean/medium frictional angle is of 33/31 degrees and the mean/medium cohesion strength is of 591 psf for Group Ttc2 (Ttuc for the subject site) material. We used a frictional angle of 31 degrees and cohesive strength of 590 psf in our slope stability calculations.

The results of static and seismic stability are shown in Enclosures "C-1" and "C-2". The results indicate factors of safety of 1.54 under a static condition and 1.19 under a seismic condition. Both satisfy the minimum values for required factors of safety.

The stability of the wall itself was not considered in our calculations. The design engineer should ensure the stability of walls.

7. *The consultant recommends on page 25 that a design infiltration rate of 0.03 inches (sic) per hour be used in the design of the storm water disposal system, and later concluded that the existing infiltration rate at the site is too slow and alternative measures should be considered. But, as per the County of Los Angeles Guidelines, a minimum infiltration rate of 0.5 inch per hour is required for on-site storm water disposal system. Any on-site storm water disposal system must comply with the County's guidelines and requirements, including testing and reporting procedures.*

As the measured infiltration rate is lower than the minimum infiltration rate required by County of Los Angeles Guidelines, on-site storm water infiltration may not be feasible. The designer engineer should consult with City of Agoura Hills for alternative storm water handling systems.

8. *The consultant should provide a 111 statement in accordance with the County of Los Angeles Guideline.*

Section 111 STATEMENT

Based on our field investigation and laboratory testing results, it is our opinion that the proposed development will be safe against hazards from landslide, settlement or slippage and the proposed construction will have no adverse effect on the geologic stability of the adjacent properties or future developments provided the recommendations presented in the our report dated October 21, 2015, as well as this addendum, are followed.

Report Review Comments

1. *The consultant should review development plans as they become available to verify compliance with recommendations in the above-referenced reports. A geotechnical map using the proposed grading plan as a base map should be included. Cross sections should be updated as necessary*

to reflect changes in the proposed grading relative to the current grading concept. Additional geotechnical recommendations should be provided as necessary.

An updated geological and geotechnical map on the basis of the proposed grading plan, prepared by Huitt-Zollars, Inc., dated (last saved) April 16, 2016, is attached hereto.

2. *The consultant should discuss and evaluate the potential for interaction between closely located retaining walls (example: stacked retaining walls) using appropriate method of analyses. Please note that the 1:1 criterion is not acceptable for lateral surcharge unless substantiated with analyses and/or references.*

See response to Planning/Feasibility Comments No. 6.

3. *The consultant recommends on page 22 that either a perforated PVC pipe encased in 2 cubic feet of granular drain materials (burrito drain) or a synthetic drains should be used as a backdrain system behind retaining walls. However, it seems that a combination of these two items, not either one of them would be needed to provide an effective backdrain system. For example: a burrito drain would be needed at the bottom of the synthetic drain in order to collect and transfer water coming out of the synthetic drain to an approved drainage course. Similarly, a synthetic or a gravel blanket would be needed to collect water for the backfill materials and transfer to the burrito drain. Please clarify and revise recommendations as necessary.*

Both a vertical and horizontal drain system should be installed behind all retaining walls. The burrito drain could be used for horizontal drain and synthetic drains could be sued for vertical drain.

4. *The consultant should provide recommendations for the foundation to slope setback in accordance with the City of Agoura Hills building ordinance.*

Foundations on or adjacent to slope surfaces shall be designed in accordance with 2013 CBC, Section 1808.7.2. The minimum setback from the slope surface is shown in Enclosure "B-1".

5. *The consultant should provide geotechnical input and soil parameters necessary for design of foundations and slabs-on-grade, with due considerations to the highly-expansive nature of on-site soils.*

In the report, we recommended slab-on-grade to be designed in accordance with WRI/CRSI Design of Slab-on-Ground Foundations or PTI Standard Requirements for Analysis of Shallow Concrete Foundations on Expansive Soils. The following parameters could be used in the design:

- Liquid limit: 63
- Plastic Index: 34
- Percent passing No. 200 screen: 78%
- Percent passing 2μ: 65%
- Edge Moisture Variation Distance e_m of approximately 8.0' for center lift and 4.5' for edge lift
- Differential Soil Movement y_m of approximately 1-1/8" for center lift and 1-1/4" for edge lift

6. *The consultant should provide recommendations for the minimum depth of embedment of footings below lowest adjacent grade, with due considerations to the highly expansive nature of on-site soils.*

Due to the high expansive nature of the on-site soils and the volume of expansive soil to be replaced, conventional spread foundation is not considered to be suitable footing type.

7. *Considering the highly-expansive soil conditions at the site, the consultant should discuss the need to pre-saturate the upper soils within footings and slabs-on-grade areas.*

Due to the high expansive nature of the on-site soils and the site condition, pre-saturation of the upper soil is not considered to be practical method for this site.

Plan-Check Comments

Acknowledged. Will be responded to by Building and Safety Plan Check.

This letter should be included with and considered part of the Geotechnical Investigation report for the project.

We appreciate this opportunity to provide geotechnical services for this project. If you should have any questions or comments concerning this letter, please do not hesitate to contact this firm at your convenience.

Respectfully submitted,

CHJ CONSULTANTS

John S. McKeown, C.E.G. 2396
Project Geologist

Fred Yi, Ph.D., G.E. 2967
Managing Engineer

Robert J. Johnson, G.E. 443
President

JSM/FY/RJJ:jsm/tlw

Enclosures: City of Agoura Hills - Geotechnical Review Sheet
Site Plan and Geologic Map
Geologic Cross Section A-A'
Building Setback Detail
Static and Seismic Stability Figures

REFERENCES

California Division of Mines and Geology (now California Geological Survey), 2000, Seismic Hazard Zone Report for the Thousand Oaks 7.5-Minute Quadrangle, Ventura and Los Angeles Counties, California.

CHJ Consultants, 2015, Geotechnical Investigation, Oakmont of Agoura Hills, 29353 Canwood Street, Agoura Hills, California, Report Prepared For Oakmont Senior Living, Job No. 15473-3, Dated October 21, 2015

GeoDynamics, Incorporated, City of Agoura Hills – Geotechnical Review Sheet, CUP-001231-2016, 29353 Canwood Street, Agoura Hills, California, Dated May 20, 2016.

Huitt-Zollars, Inc., 2016, Grading Plan, Oakmont of Agoura Hills, 29353 Canwood Street, Agoura Hills, CA 93101, Saved on April 18, 2016.

Los Angeles, County of, Department of Public Works, 2014, Low Impact Development Standards Manual.

Los Angeles, County of, 2014, Guidelines for Design, Investigation, and Reporting, Low Impact Development Storm Water Infiltration, G5200.1, dated June 30, 2014.

GeoDynamics, Inc.
Applied Earth Sciences
Geotechnical Engineering & Engineering Geology Consultants

Date: May 20, 2016
GDI #: 16.00103.0211

SEND TO CHJ ALONG W/ OUR SITE PLAN + CIVIL SET

CITY OF AGOURA HILLS - GEOTECHNICAL REVIEW SHEET

To:	Allison Cook
Project Location:	29353 Canwood Street, Agoura Hills, California.
Planning Case #:	CUP-001231-2016, SIGN-01232-2016, OAK-01233-2016
Building & Safety #:	None
Geotechnical Report:	CHJ Consultants (2015), "*Geotechnical Investigation, Oakmont of Agoura Hills, 29353 Canwood Street, Agoura Hills, California*" J. N. 15473-3, dated October 21, 2015.
Plans:	Ali Iqbal (2016), "Oakmont of Agoura Hills" Sheets A0, R1 to R3, A1.0 through A1.2, A2.1 through A2.3, A3, A4.1 through A4.3 and A5, dated April 30, 2106 LandDesign Group (2016), "Oakmont of Agoura Hills, 29353 Canwood Street, Agoura Hills, California", Sheets 1 through 5, dated April, 2016 Huitt-Zollars (undated), "Grading Plan, Oakmont of Agoura Hills, 29353 Canwood Street, Agoura Hills, CA 91301", Sheets 1 and 2 of 2. Huitt-Zollars (2016), "Conceptual LID/Drainage Report for Oakmont of Agoura Hills, 29353 Canwood Street, Agoura Hills, CA 91301" J.N. R305871.01, dated April 12, 2016.
Previous Reviews:	None.

FINDINGS

Planning/Feasibility Issues	Geotechnical Report
☐ Acceptable as Presented	☐ Acceptable as Presented
☒ Response Required	☒ Response Required

REMARKS

CHJConsultants (CHJ; consultant) prepared a geotechnical investigation for the proposed development at the site located at 29353 Canwood Street, in the City of Agoura Hills, California. According to the above-referenced report, the site will be developed with a two- to three-story, 80-unit, senior facility of approximately 80,000 square feet. Grading will be required to create the level building pad using series of stacked retaining walls to support fill along the south edge of the pad and bedrock cut along the north edge of the pad. Based on the grading plans included as part of the submittal package, the overall height of the retaining wall stacks will reach maximum heights of about 30 feet with individual walls as high as eight feet.

The City of Agoura Hills – Planning Department reviewed the referenced report from a geotechnical perspective for compliance with applicable codes, guidelines, and standards of practice. GeoDynamics, Inc. (GDI) performed the geotechnical review on behalf of the City. Based upon a review of the submitted report and plans, the consultant shall adequately respond to the following Planning/Feasibility comments prior to consideration by the Planning Commission of approval of Case Nos. CUP-001231-2016, SIGN-

01232-2016, OAK-01233-2016. The Consultant should respond to the following Report Review comments prior to Building Plan-Check Approval. Plan-Check comments should be addressed in Building & Safety Plan Check. A separate geotechnical submittal is not required for plan-check comments.

Note to the City: The consultant indicates that the proposed development includes the construction of high retaining walls (higher than 6 ft), which might not be consistent with the current City building code and zoning ordinances.

Planning/Feasibility Comments

1. The consultant should provide an updated geologic map based on a legible copy of the latest development plan. The map should include all geologic data including contacts between all geologic units (including alluvial units if appropriate), structural information and a complete geologic legend. The consultant should discuss the basis for the location of the contact between Tcva and Ttvc (sic) indicated on the map.
2. Brief discussions of each geologic unit noted on the map should be provided in the text of the report.
3. Cross Sections should be provided through the slope and proposed retaining walls along the north edge of the building pad.
4. The consultant should clarify whether the recommended removal depth is below finished or existing grade, and whether removal to bedrock is recommended in limited areas where bedrock may not be not be encountered within the recommended removal depth.
5. Remnants of a previous structure are present on the site. Proposed grading appears likely to entirely remove this structure. Nonetheless, the consultant should review the current grading plan and discuss whether any elements of this previous construction need to be considered in the proposed construction. In particular, the consultant should consider whether components of an abandoned private sewage disposal system may be encountered during construction and provide appropriate recommendations for abandonment.
6. The consultant should discuss and evaluate as necessary the stability of all slopes that would impact the proposed development at the site. Mitigation measures should be recommended as necessary.
7. The consultant recommends on page 25 that a design infiltration rate of 0.03 inches per hour be used in the design of the storm water disposal system, and later concluded that the existing infiltration rate at the site is too slow and alternative measures should be considered. But as per the County of Los Angeles Guidelines, a minimum infiltration rate of 0.5 inch per hour is required for on-site storm water disposal system. Any on-site storm water disposal system must comply with the County's guidelines and requirements, including testing and reporting procedures.
8. The consultant should provide a 111 statement in accordance with the County of Los Angeles Guideline.

Report Review Comments

1. The consultant should review development plans as they become available to verify compliance with recommendations in the above-referenced reports. A geotechnical map using the proposed grading plan as base map should be included. Cross-sections should be updated as necessary to reflect changes in the proposed grading relative to the current grading concept. Additional geotechnical recommendations should be provided as necessary.
2. The consultant should discuss and evaluate the potential for interaction between closely located retaining walls (example: stacked retaining walls) using an appropriate method of analyses. Please note that the 1:1 criterion is not acceptable for lateral surcharge unless substantiated with analyses and/or references.
3. The consultant recommends on page 22 that either a perforated PVC pipe encased in 2 cubic feet of granular drain materials (burrito drain) **or** a synthetic drains should be used as a backdrain system behind retai9ning walls. However, it seems that a combination of these two items, not either one of

them would be needed to provide an effective backdrain system. For example: a burrito drain would be needed at the bottom of the synthetic drain in order to collect and transfer water coming out of the synthetic drain to an approved drainage course. Similarly, a synthetic or a gravel blanket would be needed to collect water from the backfill materials and transfer it to the burrito drain. Please clarify and revise recommendations as necessary.

4. The consultant should provide recommendations for the foundation to slope setback in accordance with the City of Agoura Hills building ordinance.
5. The consultant should provide geotechnical input and soil parameters necessary for the design of foundations and slabs-on-grade for the highly expansive soils at the site.
6. The consultant should provide recommendations for the minimum depth of embedment of footings below lowest adjacent grade, with due considerations to the highly expansive nature of on-site soils.
7. Considering the highly expansive soil conditions at the site, the consultant should discuss the need to pre-saturate the upper soils within footings and slabs-on-grade areas.

Plan-Check Comments

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

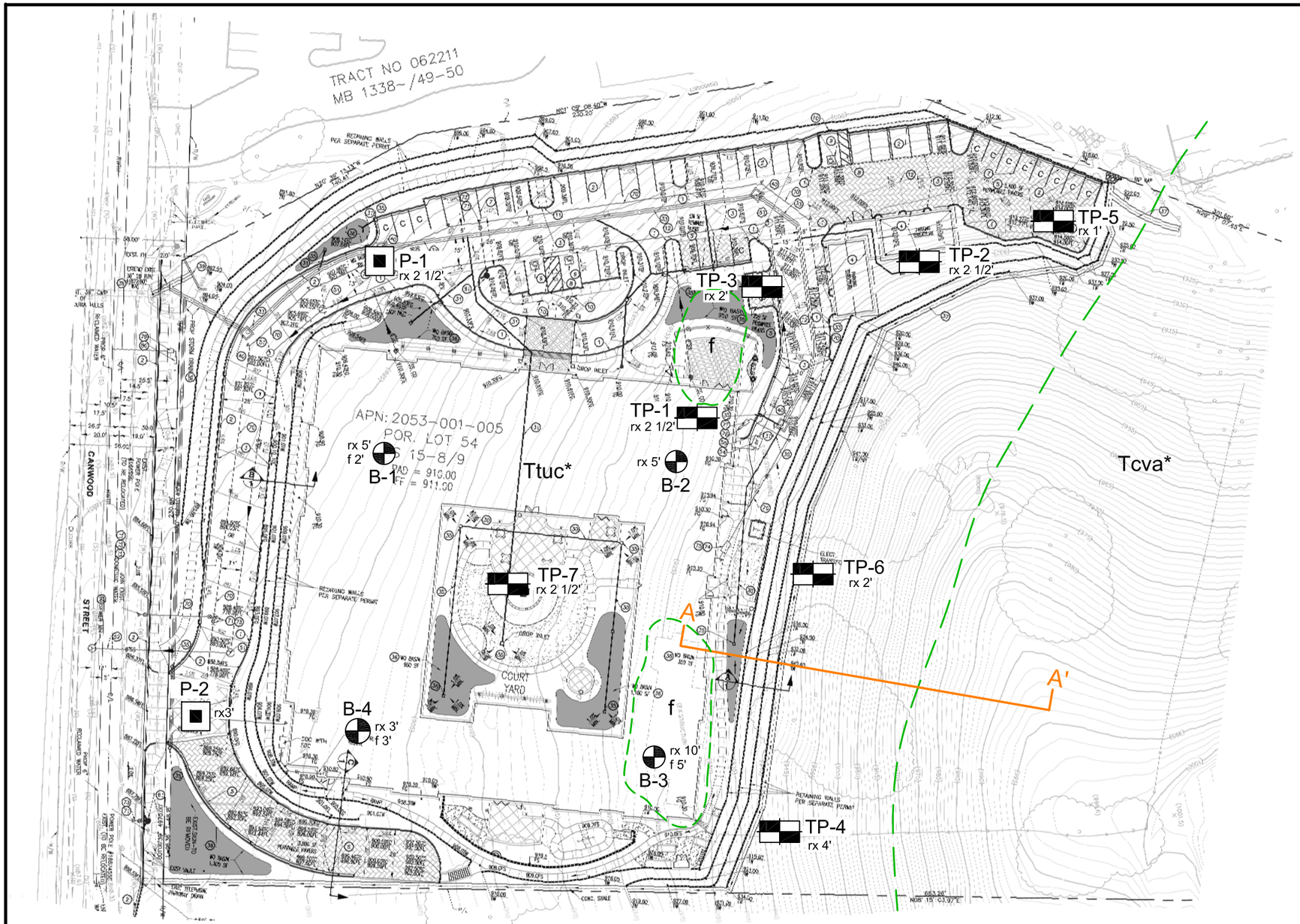
If you have any questions regarding this review letter, please contact GDI at (805) 496-1222.

Respectfully Submitted,

GeoDynamics, INC.

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

Christopher J. Sexton
Engineering Geologic Reviewer
CEG 1441 (exp. 11/30/16)



GEOLOGIC UNITS:

f - fill derived from Qcol

Tcva - conejo volcanics

Ttuc - Topanga Formation clay shale & siltstone with sandstone interbeds.

* bedrock overlain by mantle of colluvium (Qcol)

LEGEND:

- B-2 — Exploratory Boring
- P-1 — Double Ring Infiltrometer Test
- TP-7 — Exploratory Test Pit
- rx 2' — Depth to bedrock
- f 5' — Depth of fill
- Geologic Contact
- A — A' — Geologic Cross Section

N

SCALE: 1" = 60'

0 60 120

Base Map:

Grading Plan
Oakmont of Agora Hills
Huitt-Zollars
Undated

SITE PLAN AND GEOLOGIC MAP

FOR: OAKMONT SENIOR LIVING

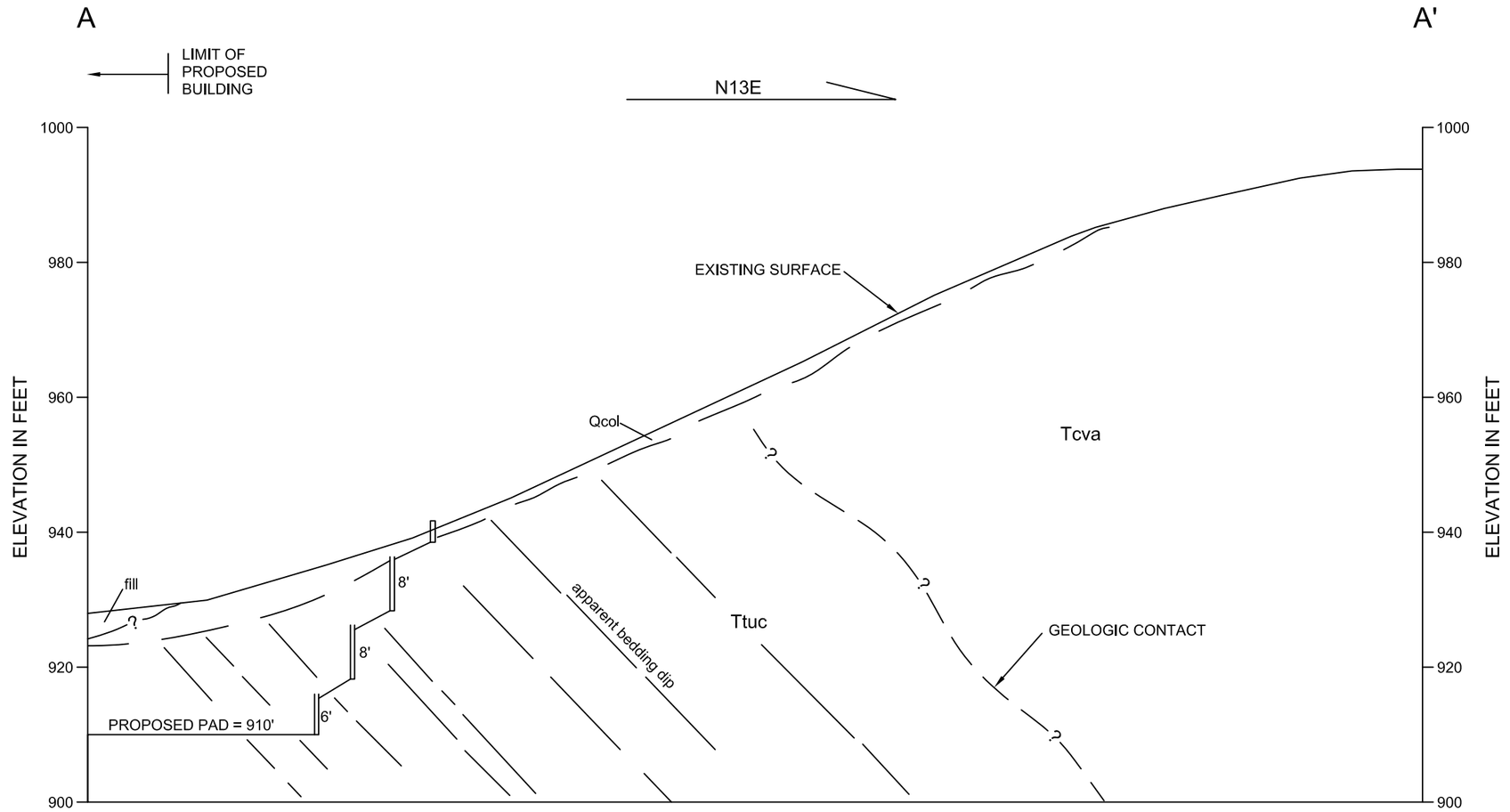
DATE: JUNE 2016

GEOTECHNICAL INVESTIGATION
OAKMONT OF AGOURA HILLS SENIOR FACILITY
APN 2053-001-005
29353 CANWOOD STREET
AGOURA HILLS, CALIFORNIA

ENCLOSURE "A-2.1"

JOB NUMBER 15473-3A

CHJ Consultants



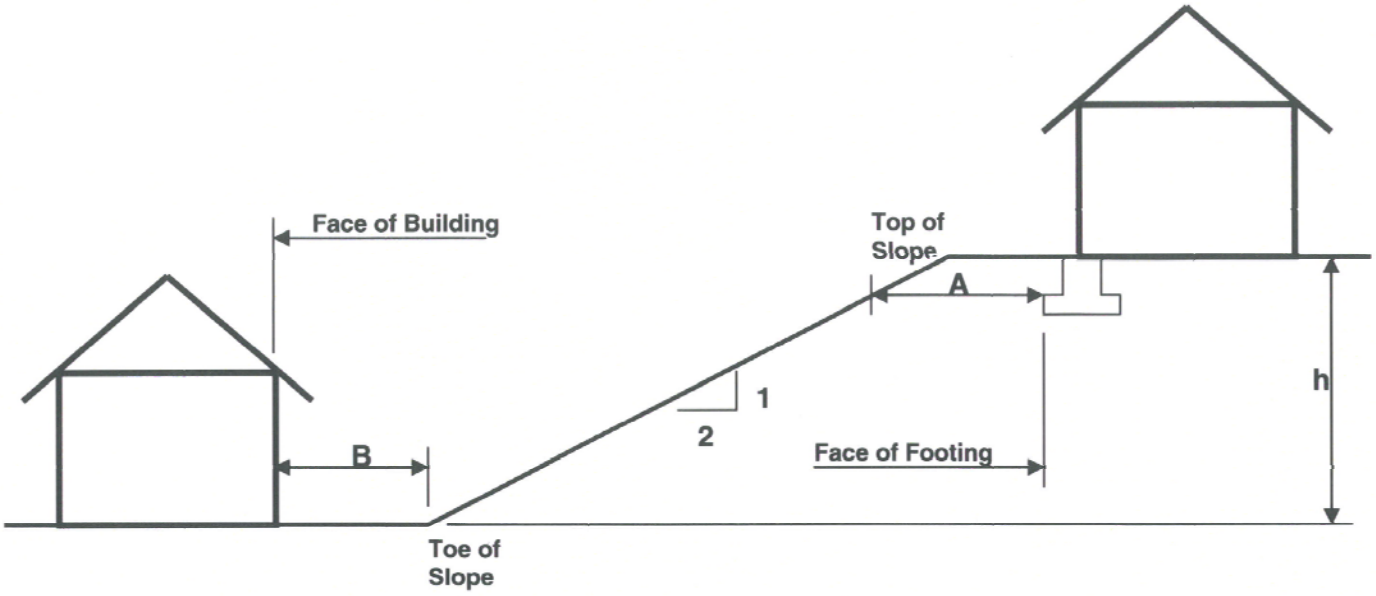
SCALE: 1" = 20'

GEOLOGIC CROSS SECTION A-A'

FOR: OAKMONT SENIOR LIVING	GEOTECHNICAL INVESTIGATION OAKMONT OF AGOURA HILLS SENIOR FACILITY APN 2053-001-005 29353 CANWOOD STREET AGOURA HILLS, CALIFORNIA	ENCLOSURE "A-2.2"
DATE: JUNE 2016		JOB NUMBER 15473-3A

CHJ Consultants

Building Setback Requirement (Constructed Slopes)



TOP OF SLOPE

SLOPE HEIGHT (h) (feet)	SETBACK (A) (feet)
0-15'	5' min.
15'-120'	h/3 min.
120'+	40'*

TOE OF SLOPE

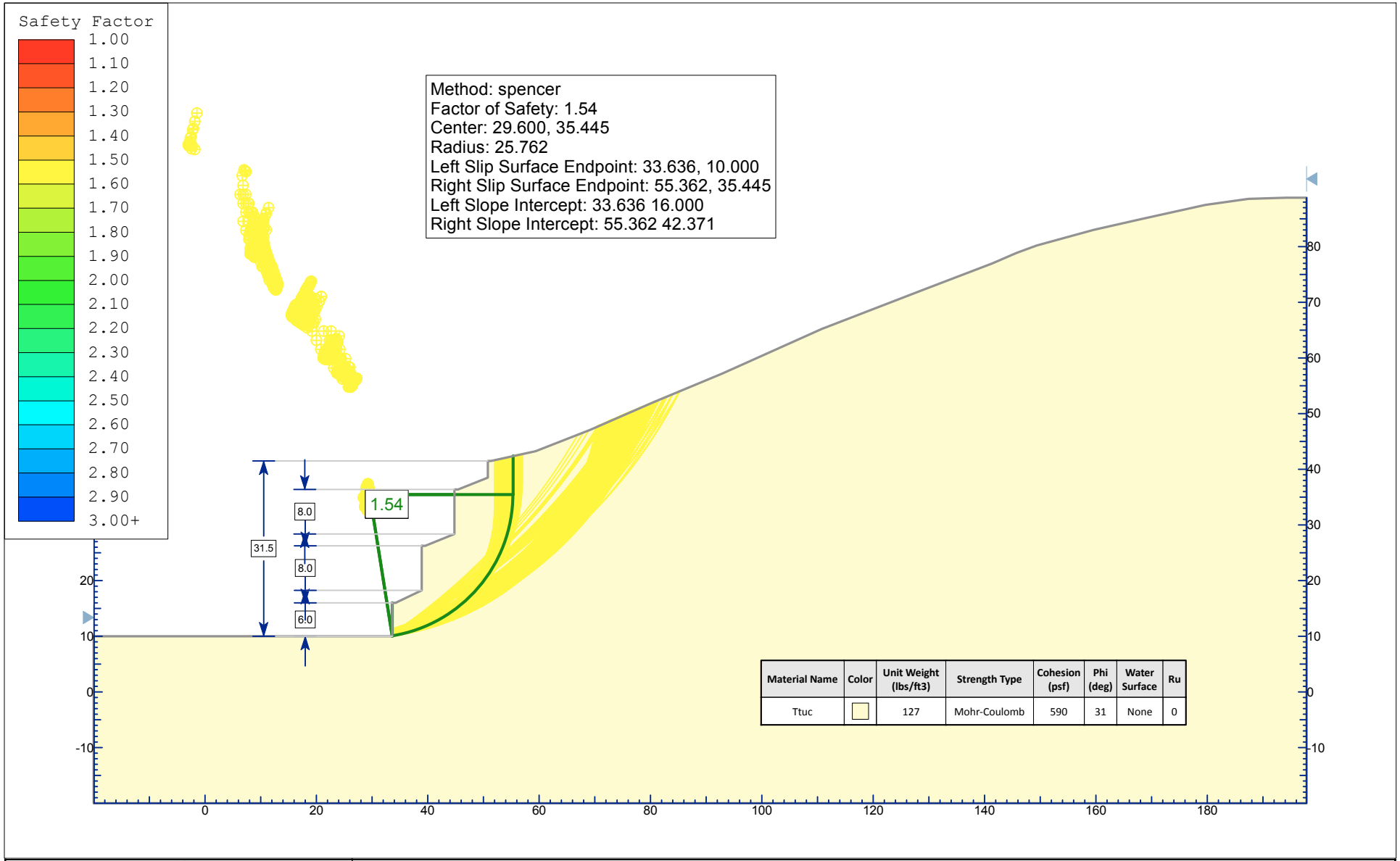
SLOPE HEIGHT (h) (feet)	SETBACK (B) (feet)
0-15'	5' min.
10'-30'	h/2 min.
30'+	15'

* or directed by project engineering geologist

BUILDING SETBACK DETAIL

FOR: OAKMONT SENIOR LIVING	GEOTECHNICAL INVESTIGATION OAKMONT OF AGOURA HILLS SENIOR FACILITY APN 2053-001-005 29353 CANWOOD STREET AGOURA HILLS, CALIFORNIA	ENCLOSURE "B-1"
DATE: JUNE 2016		JOB NUMBER 15473-3A

CHJ Consultants



SLIDEINTERPRET 6.039	Project: SLIDE - An Interactive Slope Stability Program			
	Analysis Description:			
	Drawn By: CHJ Consultants	Author: F.Yi	Scale: 1:300	
	File Name: 15473-3A Section D-D.slim	Date: 6/22/2016	Enclosure: C-1	