

24	711.47	179.82
25	736.09	184.15
26	760.66	188.81
27	785.15	193.81
28	809.58	199.14
29	833.92	204.81
30	858.19	210.82
31	882.37	217.16
32	906.47	223.83
33	930.47	230.83
34	954.37	238.17
35	978.16	245.83
36	1001.85	253.82
37	1025.43	262.14
38	1048.89	270.77
39	1072.23	279.74
40	1095.44	289.02
41	1118.52	298.52
42	1141.47	308.54
43	1164.28	318.77
44	1186.95	329.32
45	1209.47	340.17
46	1231.83	351.34
47	1254.05	362.81
48	1276.10	374.59
49	1297.98	386.68
50	1319.70	399.06
51	1341.25	411.74
52	1362.62	424.71
53	1383.81	437.98
54	1404.81	451.54
55	1425.62	465.39
56	1446.25	479.52
57	1466.67	493.94
58	1486.90	508.63
59	1506.92	523.60
60	1526.73	538.85
61	1531.00	542.24

Circle Center At X = 410.11, Y = 969.9 and Radius = 4814.7

*** 2.046 ***

Individual data on the 97 slices

Slice No.	Width (ft)	Weight (lbs)	Water Force		Tie Force		Earthquake Force		Surcharge Load (lbs)
			Top (lbs)	Bot (lbs)	Norm (lbs)	Tan (lbs)	Hor (lbs)	Ver (lbs)	
1	24.7	5514.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	11.0	5903.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3	13.8	10142.2	0.0	775.2	0.0	0.0	0.0	0.0	0.0
4	3.9	3388.5	0.0	489.0	0.0	0.0	0.0	0.0	0.0
5	4.7	4423.2	0.0	743.4	0.0	0.0	0.0	0.0	0.0
6	7.0	7167.9	0.0	1403.6	0.0	0.0	0.0	0.0	0.0
7	9.3	10572.3	0.0	2405.2	0.0	0.0	0.0	0.0	0.0
8	17.7	23461.0	0.0	6208.4	0.0	0.0	0.0	0.0	0.0
9	0.5	838.2	0.0	204.2	0.0	0.0	0.0	0.0	0.0
10	0.5	1410.1	0.0	205.8	0.0	0.0	0.0	0.0	0.0
11	5.0	16776.5	0.0	2145.9	0.0	0.0	0.0	0.0	0.0
12	1.1	3831.8	0.0	416.9	0.0	0.0	0.0	0.0	0.0
13	4.9	16700.7	0.0	2517.6	0.0	0.0	0.0	0.0	0.0
14	0.5	1720.3	0.0	322.8	0.0	0.0	0.0	0.0	0.0
15	9.5	33384.8	0.0	8505.9	0.0	0.0	0.0	0.0	0.0
16	7.0	25229.8	0.0	10451.2	0.0	0.0	0.0	0.0	0.0
17	3.0	11096.3	0.0	4611.1	0.0	0.0	0.0	0.0	0.0
18	23.0	86889.1	0.0	36309.1	0.0	0.0	0.0	0.0	0.0
19	0.5	2102.3	0.0	817.7	0.0	0.0	0.0	0.0	0.0
20	0.5	2417.1	0.0	818.9	0.0	0.0	0.0	0.0	0.0
21	1.0	4968.9	0.0	1580.9	0.0	0.0	0.0	0.0	0.0
22	4.0	21003.8	0.0	6658.8	0.0	0.0	0.0	0.0	0.0
23	20.0	108285.6	0.0	35271.0	0.0	0.0	0.0	0.0	0.0
24	0.9	5137.1	0.0	1734.5	0.0	0.0	0.0	0.0	0.0
25	16.1	92404.0	0.0	31923.9	0.0	0.0	0.0	0.0	0.0
26	8.9	52990.5	0.0	18651.2	0.0	0.0	0.0	0.0	0.0

27	7.1	43311.6	0.0	16090.5	0.0	0.0	0.0	0.0	0.0
28	0.5	3230.2	0.0	1170.3	0.0	0.0	0.0	0.0	0.0
29	0.5	3543.8	0.0	1175.4	0.0	0.0	0.0	0.0	0.0
30	9.0	67462.8	0.0	22026.8	0.0	0.0	0.0	0.0	0.0
31	7.9	60443.7	0.0	21009.6	0.0	0.0	0.0	0.0	0.0
32	7.2	56380.5	0.0	19384.3	0.0	0.0	0.0	0.0	0.0
33	17.8	143539.8	0.0	5551.9	0.0	0.0	0.0	0.0	0.0
34	6.1	50823.3	0.0	1911.9	0.0	0.0	0.0	0.0	0.0
35	18.9	160678.8	0.0	5888.1	0.0	0.0	0.0	0.0	0.0
36	25.0	221970.2	0.0	7800.0	0.0	0.0	0.0	0.0	0.0
37	7.1	65075.9	0.0	2224.8	0.0	0.0	0.0	0.0	0.0
38	17.9	166240.6	0.0	5575.2	0.0	0.0	0.0	0.0	0.0
39	1.1	10714.9	0.0	354.4	0.0	0.0	0.0	0.0	0.0
40	23.8	240332.3	0.0	7445.6	0.0	0.0	0.0	0.0	0.0
41	25.0	283346.5	0.0	7800.0	0.0	0.0	0.0	0.0	0.0
42	24.9	314476.0	0.0	7800.0	0.0	0.0	0.0	0.0	0.0
43	0.2	3077.5	0.0	72.8	0.0	0.0	0.0	0.0	0.0
44	24.7	332504.0	0.0	7727.2	0.0	0.0	0.0	0.0	0.0
45	24.9	346351.6	0.0	7800.0	0.0	0.0	0.0	0.0	0.0
46	24.9	355939.3	0.0	7800.0	0.0	0.0	0.0	0.0	0.0
47	24.8	364342.2	0.0	7800.0	0.0	0.0	0.0	0.0	0.0
48	24.8	371557.6	0.0	7800.0	0.0	0.0	0.0	0.0	0.0
49	24.7	377587.2	0.0	7800.0	0.0	0.0	0.0	0.0	0.0
50	24.7	382431.2	0.0	7800.0	0.0	0.0	0.0	0.0	0.0
51	24.6	386091.1	0.0	7800.0	0.0	0.0	0.0	0.0	0.0
52	24.6	388574.2	0.0	7800.0	0.0	0.0	0.0	0.0	0.0
53	24.5	389883.8	0.0	7800.0	0.0	0.0	0.0	0.0	0.0
54	6.8	109282.7	0.0	2187.0	0.0	0.0	0.0	0.0	0.0
55	17.6	280821.4	0.0	5613.0	0.0	0.0	0.0	0.0	0.0
56	24.3	389374.8	0.0	7800.0	0.0	0.0	0.0	0.0	0.0
57	24.3	387507.3	0.0	7800.0	0.0	0.0	0.0	0.0	0.0
58	24.2	384502.0	0.0	7800.0	0.0	0.0	0.0	0.0	0.0
59	8.6	136545.5	0.0	2792.4	0.0	0.0	0.0	0.0	0.0
60	15.5	248586.2	0.0	5007.6	0.0	0.0	0.0	0.0	0.0
61	24.0	401364.1	0.0	7800.0	0.0	0.0	0.0	0.0	0.0
62	0.5	9229.2	0.0	175.9	0.0	0.0	0.0	0.0	0.0
63	23.4	408470.6	0.0	7624.1	0.0	0.0	0.0	0.0	0.0
64	5.6	100957.2	0.0	1846.4	0.0	0.0	0.0	0.0	0.0
65	18.2	328236.8	0.0	5953.6	0.0	0.0	0.0	0.0	0.0
66	23.7	431315.4	0.0	7800.0	0.0	0.0	0.0	0.0	0.0
67	23.6	431900.9	0.0	7800.0	0.0	0.0	0.0	0.0	0.0
68	15.6	286147.0	0.0	5177.0	0.0	0.0	0.0	0.0	0.0
69	7.9	144488.0	0.0	2623.0	0.0	0.0	0.0	0.0	0.0
70	23.3	419794.0	0.0	7800.0	0.0	0.0	0.0	0.0	0.0
71	23.2	405402.7	0.0	7800.0	0.0	0.0	0.0	0.0	0.0
72	23.1	390065.2	0.0	7800.0	0.0	0.0	0.0	0.0	0.0
73	22.9	373812.4	0.0	7800.0	0.0	0.0	0.0	0.0	0.0
74	22.8	356670.5	0.0	7800.0	0.0	0.0	0.0	0.0	0.0
75	22.7	338668.8	0.0	7800.0	0.0	0.0	0.0	0.0	0.0
76	22.5	319839.5	0.0	7800.0	0.0	0.0	0.0	0.0	0.0
77	22.4	300215.9	0.0	7800.0	0.0	0.0	0.0	0.0	0.0
78	21.2	267066.0	0.0	7432.5	0.0	0.0	0.0	0.0	0.0
79	1.0	12776.2	0.0	367.5	0.0	0.0	0.0	0.0	0.0
80	22.1	265865.8	0.0	7800.0	0.0	0.0	0.0	0.0	0.0
81	21.9	256924.9	0.0	7800.0	0.0	0.0	0.0	0.0	0.0
82	21.7	247030.8	0.0	7800.0	0.0	0.0	0.0	0.0	0.0
83	21.5	236211.9	0.0	7800.0	0.0	0.0	0.0	0.0	0.0
84	21.4	224498.9	0.0	7800.0	0.0	0.0	0.0	0.0	0.0
85	0.4	3922.9	0.0	140.7	0.0	0.0	0.0	0.0	0.0
86	20.8	206280.4	0.0	7659.2	0.0	0.0	0.0	0.0	0.0
87	21.0	193293.2	0.0	7800.0	0.0	0.0	0.0	0.0	0.0
88	20.8	175685.0	0.0	7800.0	0.0	0.0	0.0	0.0	0.0
89	20.6	157415.8	0.0	7800.0	0.0	0.0	0.0	0.0	0.0
90	4.8	33835.1	0.0	1815.5	0.0	0.0	0.0	0.0	0.0
91	15.7	102178.1	0.0	5984.5	0.0	0.0	0.0	0.0	0.0
92	4.3	25462.7	0.0	1669.4	0.0	0.0	0.0	0.0	0.0
93	15.9	79764.3	0.0	6130.5	0.0	0.0	0.0	0.0	0.0
94	20.0	67272.3	0.0	7800.0	0.0	0.0	0.0	0.0	0.0
95	19.1	28749.2	0.0	7513.2	0.0	0.0	0.0	0.0	0.0
96	0.7	398.3	0.0	286.9	0.0	0.0	0.0	0.0	0.0
97	4.3	1078.0	0.0	1700.4	0.0	0.0	0.0	0.0	0.0

Failure Surface Specified By 63 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	83.33	159.94
2	108.17	157.08
3	133.04	154.53
4	157.94	152.29
5	182.86	150.35
6	207.81	148.72
7	232.78	147.39
8	257.75	146.37
9	282.74	145.66
10	307.74	145.26
11	332.74	145.16
12	357.74	145.37
13	382.73	145.89
14	407.72	146.71
15	432.70	147.84
16	457.65	149.28
17	482.59	151.02
18	507.51	153.07
19	532.40	155.43
20	557.26	158.09
21	582.08	161.06
22	606.86	164.33
23	631.61	167.91
24	656.30	171.79
25	680.95	175.97
26	705.55	180.46
27	730.08	185.24
28	754.56	190.33
29	778.97	195.72
30	803.32	201.41
31	827.59	207.39
32	851.79	213.68
33	875.90	220.26
34	899.94	227.14
35	923.89	234.31
36	947.75	241.77
37	971.51	249.53
38	995.18	257.58
39	1018.75	265.92
40	1042.21	274.55
41	1065.57	283.47
42	1088.82	292.67
43	1111.95	302.16
44	1134.96	311.93
45	1157.85	321.98
46	1180.61	332.31
47	1203.25	342.92
48	1225.75	353.81
49	1248.12	364.98
50	1270.35	376.42
51	1292.44	388.13
52	1314.38	400.11
53	1336.17	412.36
54	1357.81	424.88
55	1379.30	437.66
56	1400.62	450.70
57	1421.79	464.01
58	1442.79	477.57
59	1463.62	491.40
60	1484.28	505.47
61	1504.77	519.80
62	1525.08	534.38
63	1544.92	549.14

Circle Center At X = 328.2 Y = 2080.14 Point Radius = 2034.9
 *** 2.049 ***

Failure Surface Specified By 60 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
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1	350.00	175.00
2	174.88	172.57
3	199.79	170.44
4	224.73	168.62
5	249.68	167.12
6	274.65	165.92
7	299.64	165.04
8	324.63	164.46
9	349.63	164.20
10	374.63	164.25
11	399.62	164.60
12	424.62	165.27
13	449.60	166.25
14	474.56	167.54
15	499.51	169.14
16	524.44	171.05
17	549.34	173.27
18	574.21	175.79
19	599.05	178.63
20	623.85	181.77
21	648.61	185.23
22	673.33	188.99
23	698.00	193.05
24	722.61	197.43
25	747.17	202.11
26	771.67	207.09
27	796.10	212.38
28	820.47	217.97
29	844.76	223.86
30	868.98	230.06
31	893.13	236.55
32	917.18	243.35
33	941.16	250.44
34	965.04	257.83
35	988.83	265.52
36	1012.52	273.50
37	1036.11	281.77
38	1059.60	290.34
39	1082.97	299.20
40	1106.24	308.35
41	1129.49	317.79
42	1152.42	327.51
43	1175.33	337.52
44	1198.11	347.81
45	1220.77	358.39
46	1243.29	369.25
47	1265.67	380.38
48	1287.91	391.79
49	1310.01	403.48
50	1331.96	415.44
51	1353.77	427.68
52	1375.41	440.18
53	1396.91	452.95
54	1418.24	465.99
55	1439.40	479.29
56	1460.40	492.86
57	1481.24	506.68
58	1501.89	520.76
59	1522.37	535.10
60	1532.07	542.07

Circle Center At X = 358.4 Y = 2175.91 and Radius = 2011.6
 2.051

Feature Surface Specified By 61 Coordinate Points

Point No	X-Surf (ft)	Y-Surf (ft)
1	150.00	175.00
2	174.57	170.36
3	199.20	166.11
4	223.90	162.23
5	248.65	158.74
6	273.46	155.62

7	298.31	152.89
8	323.20	150.54
9	348.12	148.58
10	373.07	147.00
11	398.04	145.80
12	423.03	144.99
13	448.03	144.56
14	473.03	144.52
15	498.02	144.87
16	523.01	145.60
17	547.99	146.71
18	572.94	148.21
19	597.87	150.09
20	622.77	152.36
21	647.63	155.01
22	672.44	158.04
23	697.21	161.46
24	721.92	165.25
25	746.57	169.43
26	771.15	173.98
27	795.66	178.91
28	820.09	184.22
29	844.43	189.91
30	868.69	195.97
31	892.85	202.40
32	916.90	209.21
33	940.85	216.38
34	964.69	223.92
35	988.40	231.83
36	1011.99	240.10
37	1035.46	248.74
38	1058.78	257.73
39	1081.96	267.09
40	1105.00	276.80
41	1127.89	286.86
42	1150.61	297.28
43	1173.18	308.04
44	1195.57	319.15
45	1217.80	330.60
46	1239.84	342.40
47	1261.70	354.53
48	1283.37	367.00
49	1304.84	379.80
50	1326.12	392.93
51	1347.19	406.38
52	1368.05	420.16
53	1388.69	434.26
54	1409.12	448.68
55	1429.32	463.40
56	1449.29	478.44
57	1469.03	493.78
58	1488.53	509.43
59	1507.78	525.37
60	1526.79	541.61
61	1528.02	542.69

Circle Center At X = 463.2 ; Y = 1767.4 and Radius 1622.9

*** 2.051 ***

Failure Surface Specified By 61 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	150.00	175.00
2	174.55	170.26
3	199.16	165.89
4	223.84	161.91
5	248.58	158.30
6	273.37	155.08
7	298.21	152.24
8	323.09	149.79
9	348.00	147.72
10	372.95	146.03
11	397.91	144.73

12	422.90	143.81
13	447.89	143.28
14	472.89	143.13
15	497.89	143.37
16	522.88	143.99
17	547.86	145.00
18	572.82	146.40
19	597.76	148.18
20	622.67	150.34
21	647.54	152.89
22	672.36	155.82
23	697.14	159.13
24	721.87	162.83
25	746.53	166.90
26	771.13	171.36
27	795.66	176.19
28	820.11	181.41
29	844.48	187.00
30	868.76	192.96
31	892.94	199.30
32	917.02	206.01
33	941.00	213.09
34	964.86	220.54
35	988.61	228.35
36	1012.23	236.53
37	1035.73	245.08
38	1059.09	253.98
39	1082.31	263.25
40	1105.38	272.87
41	1128.31	282.85
42	1151.07	293.18
43	1173.68	303.85
44	1196.11	314.88
45	1218.38	326.25
46	1240.46	337.96
47	1262.37	350.02
48	1284.08	362.40
49	1305.60	375.13
50	1326.93	388.18
51	1348.04	401.56
52	1368.95	415.26
53	1389.65	429.29
54	1410.13	443.63
55	1430.38	458.28
56	1450.41	473.25
57	1470.20	488.52
58	1489.75	504.10
59	1509.06	519.97
60	1528.13	536.15
61	1544.48	551.70

Circle Center At X = 165.97 Y = 1764.3 and Radius = 1621.42
 *** 2.051 ***

Failure Surface Specified By 63 Coordinate Points

Point No	X-Surf (ft)	Y-Surf (ft)
1	83.33	159.94
2	108.13	156.71
3	132.96	153.81
4	157.82	151.23
5	182.72	148.98
6	207.65	147.04
7	232.59	145.43
8	257.56	144.15
9	282.54	143.18
10	307.53	142.54
11	332.53	142.23
12	357.53	142.24
13	382.53	142.57
14	407.52	143.23
15	432.50	144.21
16	457.47	145.51

17	482.41	147.14
18	507.34	149.09
19	532.23	151.37
20	557.10	153.97
21	581.93	156.88
22	606.72	160.13
23	631.46	163.69
24	656.16	167.57
25	680.80	171.77
26	705.39	176.29
27	729.92	181.13
28	754.38	186.29
29	778.77	191.76
30	803.09	197.55
31	827.34	203.66
32	851.50	210.08
33	875.58	216.81
34	899.56	223.85
35	923.46	231.20
36	947.26	238.87
37	970.95	246.84
38	994.54	255.11
39	1018.02	263.69
40	1041.39	272.58
41	1064.64	281.77
42	1087.77	291.25
43	1110.77	301.04
44	1133.65	311.13
45	1156.39	321.51
46	1179.00	332.18
47	1201.47	343.15
48	1223.79	354.40
49	1245.96	365.95
50	1267.99	377.78
51	1289.85	389.90
52	1311.56	402.29
53	1333.11	414.97
54	1354.49	427.93
55	1375.70	441.16
56	1396.74	454.67
57	1417.60	468.45
58	1438.28	482.50
59	1458.77	496.81
60	1479.08	511.39
61	1499.20	526.23
62	1519.13	541.33
63	1521.27	543.00

Circle Center At X = 344.3 Y = 2070.2 and Radius = 1928.5

Failure Surface Specified By 61 coordinate points

Point No	X-Surf (ft)	Y-Surf (ft)
1	127.78	175.00
2	152.46	171.01
3	177.19	167.37
4	201.98	164.09
5	226.80	161.17
6	251.67	158.60
7	276.57	156.40
8	301.51	154.55
9	326.46	153.05
10	351.44	151.92
11	376.42	151.15
12	401.42	150.73
13	426.42	150.68
14	451.42	150.98
15	476.41	151.65
16	501.39	152.67
17	526.35	154.05
18	551.29	155.80
19	576.20	157.89

20	501.08	160.35
21	525.92	163.17
22	550.72	166.34
23	575.47	169.87
24	600.17	173.75
25	624.80	177.99
26	649.38	182.58
27	673.89	187.52
28	698.32	192.82
29	822.67	198.46
30	846.94	204.46
31	871.12	210.81
32	895.21	217.50
33	919.20	224.53
34	943.09	231.92
35	966.86	239.64
36	990.51	247.70
37	1014.07	256.11
38	1037.49	264.85
39	1060.79	273.93
40	1083.95	283.34
41	1106.97	293.08
42	1129.85	303.16
43	1152.58	313.56
44	1175.17	324.29
45	1197.59	335.34
46	1219.86	346.71
47	1241.95	358.40
48	1263.88	370.41
49	1285.63	382.73
50	1307.21	395.36
51	1328.60	408.30
52	1349.80	421.55
53	1370.81	435.10
54	1391.52	448.95
55	1412.23	463.10
56	1432.63	477.55
57	1452.83	492.28
58	1472.81	507.31
59	1492.57	522.62
60	1512.11	538.21
61	1517.94	543.00

Circle Center At X = 417.71, Y = 1889.6, and Radius = 439.0

*** 2.052 ***

Failure Surface Specified By 63 Coordinate Points

Point No	X-Surf (ft)	Y-Surf (ft)
1	22.22	158.04
2	96.93	154.20
3	121.68	150.70
4	146.48	147.54
5	171.32	144.72
6	196.20	142.23
7	221.10	140.09
8	246.04	138.28
9	271.00	136.82
10	295.97	135.69
11	320.96	134.91
12	345.95	134.47
13	370.95	134.36
14	395.95	134.60
15	420.95	135.18
16	445.93	136.10
17	470.90	137.36
18	495.85	138.97
19	520.77	140.91
20	545.67	143.19
21	570.53	145.81
22	595.35	148.77
23	620.13	152.06
24	644.87	155.70

25	669.55	159.67
26	694.18	163.98
27	718.74	168.62
28	743.24	173.60
29	767.67	178.91
30	792.03	184.56
31	816.30	190.53
32	840.49	196.84
33	864.60	203.47
34	888.61	210.44
35	912.52	217.73
36	936.33	225.34
37	960.04	233.28
38	983.63	241.54
39	1007.11	250.13
40	1030.47	259.03
41	1053.71	268.25
42	1076.82	277.79
43	1099.80	287.64
44	1122.64	297.80
45	1145.34	308.27
46	1167.90	319.06
47	1190.30	330.14
48	1212.56	341.54
49	1234.65	353.23
50	1256.59	365.23
51	1278.35	377.52
52	1299.95	390.11
53	1321.38	402.99
54	1342.63	416.12
55	1363.69	429.53
56	1384.57	443.28
57	1405.26	457.41
58	1425.76	471.72
59	1446.06	486.31
60	1466.16	501.18
61	1486.06	516.31
62	1505.74	531.72
63	1519.76	543.00

Circle Center At X = 365.26, Y = 1987.9, and Radius = 1888.7

*** 2.052 ***

Failure Surface Specified By 62 Regularly Spaced Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	105.56	163.13
2	130.24	159.74
3	154.97	156.10
4	179.75	152.81
5	204.58	149.86
6	229.44	147.27
7	254.34	145.02
8	279.27	143.13
9	304.22	141.59
10	329.19	140.39
11	354.18	139.55
12	379.17	139.06
13	404.17	138.92
14	429.17	139.13
15	454.17	139.69
16	479.15	140.61
17	504.12	141.87
18	529.07	143.49
19	553.99	145.46
20	578.88	147.77
21	603.74	150.44
22	628.56	153.45
23	653.33	156.82
24	678.05	160.53
25	702.72	164.59
26	727.33	168.99
27	751.87	173.74

28	776.35	1178.84
29	800.75	1184.28
30	825.07	1190.06
31	849.31	1196.18
32	873.46	1202.64
33	897.52	1209.45
34	921.48	1216.58
35	945.33	1224.06
36	969.08	1231.87
37	992.72	1240.01
38	1016.24	1248.48
39	1039.64	1257.29
40	1062.91	1266.42
41	1086.05	1275.88
42	1109.06	1285.66
43	1131.93	1295.76
44	1154.65	1306.19
45	1177.22	1316.93
46	1199.64	1327.99
47	1221.91	1339.36
48	1244.01	1351.05
49	1265.94	1363.04
50	1287.71	1375.34
51	1309.30	1387.95
52	1330.71	1400.86
53	1351.93	1414.07
54	1372.97	1427.57
55	1393.82	1441.37
56	1414.47	1455.46
57	1434.92	1469.84
58	1455.16	1484.51
59	1475.20	1499.46
60	1495.03	1514.69
61	1514.64	1530.19
62	1529.68	1542.44

Circle Center at X = 1016.24 and Radius = 278.71

Failure Surface Specified By 64 Coordinate Pairs

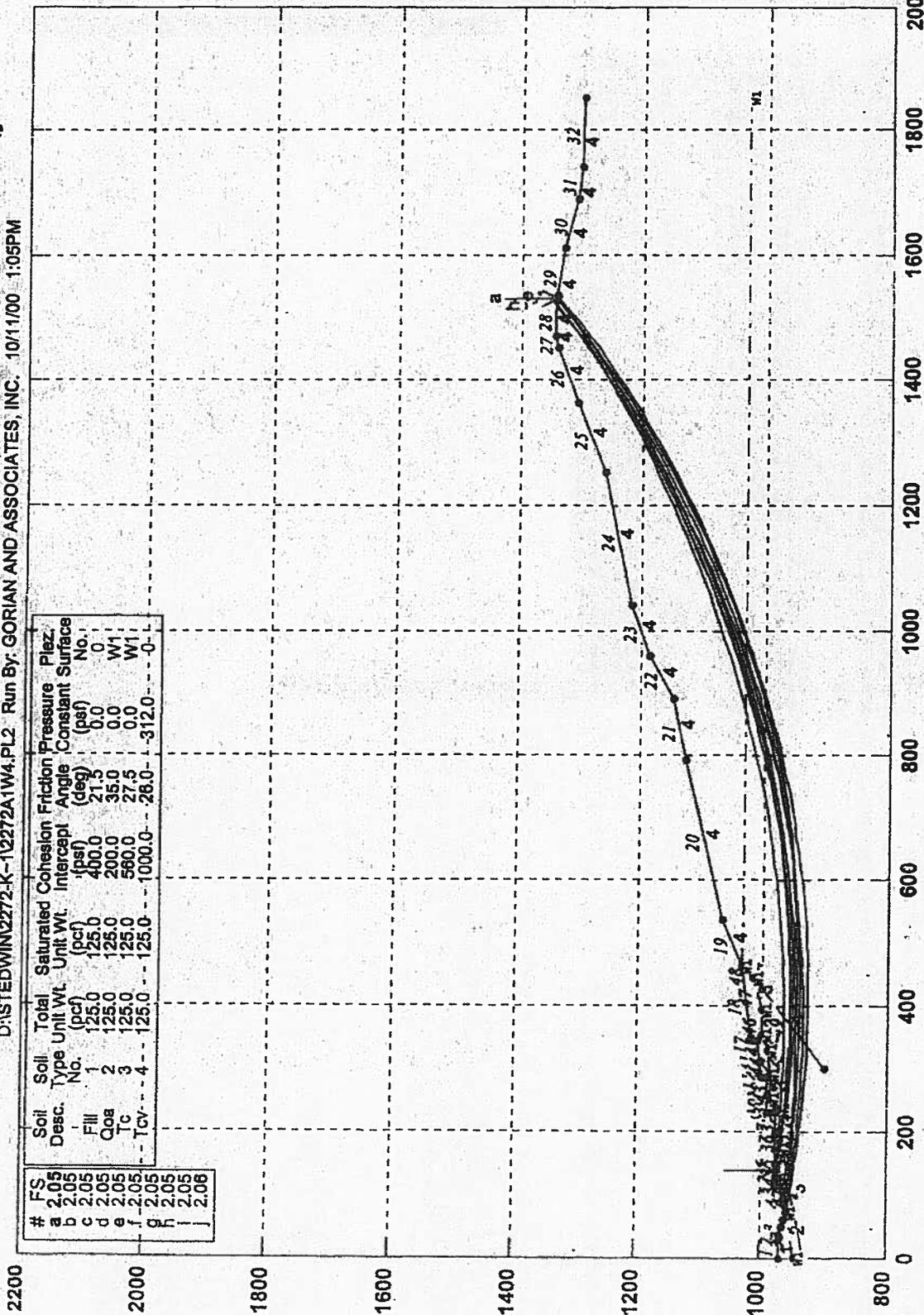
Point No.	X Surf (ft)	Y Surf (ft)
1	72.22	158.04
2	96.80	153.48
3	121.45	149.28
4	146.15	145.43
5	170.90	141.93
6	195.71	138.80
7	220.55	136.02
8	245.43	133.59
9	270.35	131.53
10	295.29	129.82
11	320.25	128.48
12	345.23	127.49
13	370.23	126.86
14	395.23	126.60
15	420.23	126.69
16	445.22	127.14
17	470.21	127.95
18	495.18	129.12
19	520.13	130.65
20	545.06	132.54
21	569.96	134.78
22	594.83	137.39
23	619.65	140.35
24	644.43	143.67
25	669.16	147.34
26	693.83	151.37
27	718.44	155.76
28	742.99	160.50
29	767.46	165.59
30	791.87	171.03
31	816.18	176.82

32	840.42	182.97
33	864.56	189.46
34	888.61	196.29
35	912.55	203.47
36	936.39	211.00
37	960.12	218.87
38	983.74	227.08
39	1007.23	235.62
40	1030.60	244.51
41	1053.84	253.73
42	1076.94	263.28
43	1099.90	273.17
44	1122.72	283.38
45	1145.39	293.92
46	1167.91	304.79
47	1190.26	315.98
48	1212.45	327.49
49	1234.48	339.31
50	1256.33	351.46
51	1278.01	363.91
52	1299.50	376.68
53	1320.81	389.75
54	1341.93	403.13
55	1362.85	416.82
56	1383.58	430.80
57	1404.10	445.08
58	1424.41	459.65
59	1444.52	474.51
60	1464.40	489.66
61	1484.07	505.10
62	1503.51	520.81
63	1522.72	536.81
64	1541.75	552.19

Circle Center At X = 101.4 Y = 186.1 and Radius = 1737.6
 *** 2055 ***

APN# 2061-001-025, 30800 Block Agoura Rd Section A-A' Static Global Stability

D:\STEDWIN\2272-K-12272A1W4.PL2 Run By: GORIAN AND ASSOCIATES, INC. 10/11/00 1:05PM



GSTABL7 FSmin=2.05
Safety Factors Are Calculated By The Modified Bishop Method

STED



*** GSTABL7 ***
 ** GSTABL7 by Garry H. Gregory, P.E. **
 ** Version 1.0, January 1996; Version 1.16, May 2000 **
 --Slope Stability Analysis--
 Simplified Janbu, Modified Bishop
 or Spencer's Method of Slices
 (Based on STABL6-1986, by Purdue University)
 Run Date: 10/11/00
 Time of Run: 1:11PM
 Run By: GORIAN AND ASSOCIATES, INC.
 Input Data Filename: D:2272a14q.in
 Output Filename: D:2272a14q.OUT
 Unit System: English
 Plotted Output Filename: D:2272a14q.PLT
 PROBLEM DESCRIPTION APN# 2061-001-025, 30800 Block Agoura Rd
 Section A-A' Pseudostatic Stability

BOUNDARY COORDINATES

Note: User origin value specified.
 Add 0.00 to X-values and 800.00 to Y-values listed.

32 Top Boundaries					
49 Total Boundaries					
Boundary No.	X-Left (ft)	Y-Left (ft)	X-Right (ft)	Y-Right (ft)	Soil Type Below Bnd
1	0.00	169.00	31.00	169.00	1
2	31.00	169.00	36.00	170.00	1
3	36.00	170.00	72.00	158.00	1
4	72.00	158.00	113.00	165.00	2
5	113.00	165.00	114.00	175.00	1
6	114.00	175.00	197.00	175.00	1
7	197.00	175.00	231.00	175.00	2
8	231.00	175.00	231.50	182.00	2
9	231.50	182.00	232.00	190.00	1
10	232.00	190.00	260.00	190.00	1
11	260.00	190.00	286.00	190.00	2
12	286.00	190.00	286.50	195.00	2
13	286.50	195.00	287.00	200.00	1
14	287.00	200.00	312.00	202.00	1
15	312.00	202.00	345.00	205.00	2
16	345.00	205.00	345.50	210.00	2
17	345.50	210.00	346.00	215.00	1
18	346.00	215.00	464.00	231.00	1
19	464.00	231.00	538.00	265.00	4
20	538.00	265.00	792.00	323.00	4
21	792.00	323.00	891.00	346.00	4
22	891.00	346.00	960.00	384.00	4
23	960.00	384.00	1041.00	415.00	4
24	1041.00	415.00	1253.00	460.00	4
25	1253.00	460.00	1363.00	507.00	4
26	1363.00	507.00	1451.00	539.00	4
27	1451.00	539.00	1471.00	543.00	4
28	1471.00	543.00	1526.00	543.00	4
29	1526.00	543.00	1611.00	530.00	4
30	1611.00	530.00	1691.00	510.00	4
31	1691.00	510.00	1740.00	503.00	4
32	1740.00	503.00	1852.00	499.00	4
33	0.00	147.00	72.00	158.00	2
34	113.00	165.00	128.00	166.00	2
35	128.00	166.00	174.00	170.00	2
36	174.00	170.00	204.00	170.00	2
37	204.00	170.00	237.00	170.00	3
38	237.00	170.00	243.00	176.00	3
39	243.00	176.00	253.00	185.00	2
40	253.00	185.00	292.00	185.00	2
41	292.00	185.00	312.00	202.00	2
42	0.00	131.00	204.00	170.00	3
43	243.00	176.00	292.00	185.00	3
44	292.00	185.00	329.00	190.00	3
45	329.00	190.00	355.00	198.00	3
46	355.00	198.00	394.00	199.00	3
47	394.00	199.00	445.00	214.00	3

48	445.00	214.00	464.00	231.00	4
49	390.00	100.00	445.00	214.00	4

ISOTROPIC SOIL PARAMETERS

4 Type(s) of Soil

Soil No.	Total Unit Wt. (pcf)	Saturated Unit Wt. (pcf)	Cohesion Intercept (psf)	Friction Angle (deg)	Pore Pressure Param. (psf)	Pressure Constant (psf)	Piez. Surface No.
1	125.0	125.0	400.0	21.5	0.00	0.0	0
2	125.0	125.0	200.0	35.0	0.00	0.0	1
3	125.0	125.0	560.0	27.5	0.00	0.0	1
4	125.0	125.0	1000.0	26.0	0.00	312.0	0

1 PIEZOMETRIC SURFACE(S) HAVE BEEN SPECIFIED

Unit Weight of Water = 62.40

Piezometric Surface No. 1 Specified by 14 Coordinate Points

Point No.	X-Water (ft)	Y-Water (ft)
1	0.00	147.00
2	72.00	158.00
3	113.00	165.00
4	128.00	166.00
5	174.00	170.00
6	237.00	170.00
7	253.00	185.00
8	292.00	185.00
9	329.00	190.00
10	355.00	198.00
11	394.00	199.00
12	445.00	214.00
13	464.00	231.00
14	1852.00	231.00

A Horizontal Earthquake Loading Coefficient Of 0.150 Has Been Assigned

A Vertical Earthquake Loading Coefficient Of 0.000 Has Been Assigned

Cavitation Pressure = 0.0 (psf)

A Critical Failure Surface Searching Method, Using A Random Technique For Generating Circular Surfaces, Has Been Specified, 3000 Trial Surfaces Have Been Generated.

300 Surfaces Initiate From Each Of 10 Points Equally Spaced Along The Ground Surface Between X = 50.00 (ft) and X = 150.00 (ft)

Each Surface Terminates Between X = 950.00 (ft) and X = 1535.00 (ft)

Unless Further Limitations Were Imposed, The Minimum Elevation At Which A Surface Extends Is Y = 0.00 (ft)

25.00 (ft) Line Segments Define Each Trial Failure Surface.

Following Are Displayed The Ten Most Critical Of The Trial Failure Surfaces Examined. They Are Ordered Most Critical First.

Safety Factors Are Calculated By The Modified Bishop Method Failure Surface Specified By 18 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	83.33	159.94
2	108.17	157.08
3	133.04	154.53
4	157.94	152.29
5	182.86	150.35
6	207.81	148.72
7	232.78	147.39
8	257.75	146.37
9	282.74	145.66
10	307.74	145.26
11	332.74	145.16
12	357.74	145.37
13	382.73	145.89
14	407.72	146.71
15	432.70	147.84
16	457.65	149.28
17	482.59	151.02
18	507.51	153.07

19	532.40	155.43
20	557.26	158.09
21	582.08	161.06
22	606.86	164.33
23	631.61	167.91
24	656.30	171.79
25	680.95	175.97
26	705.55	180.46
27	730.08	185.24
28	754.56	190.33
29	778.97	195.72
30	803.32	201.41
31	827.59	207.39
32	851.79	213.68
33	875.90	220.26
34	899.94	227.14
35	923.89	234.31
36	947.75	241.77
37	971.51	249.53
38	995.18	257.58
39	1018.75	265.92
40	1042.21	274.55
41	1065.57	283.47
42	1088.82	292.67
43	1111.95	302.16
44	1134.96	311.93
45	1157.85	321.98
46	1180.61	332.31
47	1203.25	342.92
48	1225.75	353.81
49	1248.12	364.98
50	1270.35	376.42
51	1292.44	388.13
52	1314.38	400.11
53	1336.17	412.36
54	1357.81	424.88
55	1379.30	437.66
56	1400.62	450.70
57	1421.79	464.01
58	1442.79	477.57
59	1463.62	491.40
60	1484.28	505.47
61	1504.77	519.80
62	1525.08	534.38
63	1534.92	541.64

Circle Center At X = 328.2 ; Y = 2188.1 and Radius = 2034.0
 *** 1.102 ***

Individual data on the 102 slices

Slice No.	Width (ft)	Weight (lbs)	Water Force		Tie Force		Earthquake Force		Surcharge Load (lbs)
			Top (lbs)	Bot (lbs)	Norm (lbs)	Tan (lbs)	Hor (lbs)	Ver (lbs)	
1	24.8	11014.3	0.0	5456.1	0.0	0.0	1652.1	0.0	0.0
2	4.8	4682.1	0.0	2316.3	0.0	0.0	702.3	0.0	0.0
3	1.0	1683.3	0.0	532.0	0.0	0.0	252.5	0.0	0.0
4	12.6	30076.1	0.0	7581.5	0.0	0.0	4511.4	0.0	0.0
5	1.4	3586.2	0.0	978.3	0.0	0.0	537.9	0.0	0.0
6	5.0	12733.1	0.0	3600.1	0.0	0.0	1910.0	0.0	0.0
7	24.9	67202.9	0.0	21933.5	0.0	0.0	10080.4	0.0	0.0
8	16.1	46855.2	0.0	17666.1	0.0	0.0	7028.3	0.0	0.0
9	8.9	26932.0	0.0	10721.2	0.0	0.0	4039.8	0.0	0.0
10	14.1	44378.3	0.0	17781.0	0.0	0.0	6656.7	0.0	0.0
11	7.0	22580.1	0.0	9107.4	0.0	0.0	3387.0	0.0	0.0
12	3.8	12459.7	0.0	5041.8	0.0	0.0	1869.0	0.0	0.0
13	23.2	77973.3	0.0	31733.7	0.0	0.0	11696.0	0.0	0.0
14	0.5	1939.3	0.0	703.9	0.0	0.0	290.9	0.0	0.0
15	0.5	2409.7	0.0	704.7	0.0	0.0	361.5	0.0	0.0
16	0.8	4127.2	0.0	1094.3	0.0	0.0	619.1	0.0	0.0
17	4.2	22547.0	0.0	5988.0	0.0	0.0	3382.0	0.0	0.0
18	6.0	32177.7	0.0	7382.3	0.0	0.0	4826.7	0.0	0.0
19	0.5	2676.1	0.0	687.7	0.0	0.0	401.4	0.0	0.0

20	9.5	51361.1	0.0	15360.6	0.0	0.0	7704.2	0.0	0.0
21	4.8	25870.8	0.0	11440.8	0.0	0.0	3880.6	0.0	0.0
22	2.2	12254.6	0.0	5419.1	0.0	0.0	1838.2	0.0	0.0
23	22.7	125137.1	0.0	55394.6	0.0	0.0	18770.6	0.0	0.0
24	3.3	18054.5	0.0	7998.1	0.0	0.0	2708.2	0.0	0.0
25	0.5	2931.0	0.0	1229.3	0.0	0.0	439.6	0.0	0.0
26	0.5	3244.0	0.0	1229.6	0.0	0.0	486.6	0.0	0.0
27	5.0	34155.1	0.0	12309.4	0.0	0.0	5123.3	0.0	0.0
28	15.7	109490.3	0.0	39604.1	0.0	0.0	16423.6	0.0	0.0
29	4.3	30121.5	0.0	11105.5	0.0	0.0	4518.2	0.0	0.0
30	17.0	122326.7	0.0	45882.9	0.0	0.0	18349.0	0.0	0.0
31	3.7	27378.3	0.0	10141.6	0.0	0.0	4106.8	0.0	0.0
32	12.3	90765.7	0.0	35004.4	0.0	0.0	13614.8	0.0	0.0
33	0.5	3889.7	0.0	1484.7	0.0	0.0	583.5	0.0	0.0
34	0.5	4201.9	0.0	1489.2	0.0	0.0	630.3	0.0	0.0
35	9.0	79089.1	0.0	27568.8	0.0	0.0	11863.4	0.0	0.0
36	2.7	24035.6	0.0	8893.7	0.0	0.0	3605.3	0.0	0.0
37	0.0	298.9	0.0	10.5	0.0	0.0	44.8	0.0	0.0
38	25.0	227009.0	0.0	7800.0	0.0	0.0	34051.4	0.0	0.0
39	11.3	105150.9	0.0	3516.7	0.0	0.0	15772.6	0.0	0.0
40	13.7	130272.6	0.0	4283.3	0.0	0.0	19540.9	0.0	0.0
41	25.0	242832.7	0.0	7800.0	0.0	0.0	36424.9	0.0	0.0
42	12.3	122112.1	0.0	3845.4	0.0	0.0	18316.8	0.0	0.0
43	12.7	127121.8	0.0	3954.6	0.0	0.0	19068.3	0.0	0.0
44	6.3	64306.3	0.0	1984.7	0.0	0.0	9645.9	0.0	0.0
45	18.6	197316.7	0.0	5815.3	0.0	0.0	29597.5	0.0	0.0
46	24.9	290325.4	0.0	7800.0	0.0	0.0	43548.8	0.0	0.0
47	24.9	318750.9	0.0	7800.0	0.0	0.0	47812.6	0.0	0.0
48	5.6	75619.0	0.0	1757.9	0.0	0.0	11342.9	0.0	0.0
49	19.3	265094.8	0.0	6042.1	0.0	0.0	39764.2	0.0	0.0
50	24.8	349560.3	0.0	7800.0	0.0	0.0	52434.0	0.0	0.0
51	24.8	356903.5	0.0	7800.0	0.0	0.0	53535.5	0.0	0.0
52	24.7	363197.5	0.0	7800.0	0.0	0.0	54479.6	0.0	0.0
53	24.7	368442.0	0.0	7800.0	0.0	0.0	55266.3	0.0	0.0
54	24.6	372640.8	0.0	7800.0	0.0	0.0	55896.1	0.0	0.0
55	24.6	375795.7	0.0	7800.0	0.0	0.0	56369.4	0.0	0.0
56	24.5	377909.7	0.0	7800.0	0.0	0.0	56686.5	0.0	0.0
57	24.5	378989.6	0.0	7800.0	0.0	0.0	56848.4	0.0	0.0
58	24.4	379041.4	0.0	7800.0	0.0	0.0	56856.2	0.0	0.0
59	13.0	202373.3	0.0	4174.2	0.0	0.0	30356.0	0.0	0.0
60	11.3	175729.6	0.0	3625.8	0.0	0.0	26359.4	0.0	0.0
61	24.3	376370.5	0.0	7800.0	0.0	0.0	56455.6	0.0	0.0
62	24.2	373673.5	0.0	7800.0	0.0	0.0	56051.0	0.0	0.0
63	24.1	369979.3	0.0	7800.0	0.0	0.0	55496.9	0.0	0.0
64	15.1	229881.4	0.0	4898.8	0.0	0.0	34482.2	0.0	0.0
65	8.9	137008.9	0.0	2901.2	0.0	0.0	20551.3	0.0	0.0
66	12.9	202227.4	0.0	4201.6	0.0	0.0	30334.1	0.0	0.0
67	11.0	177354.0	0.0	3598.4	0.0	0.0	26603.1	0.0	0.0
68	23.9	395591.7	0.0	7800.0	0.0	0.0	59338.8	0.0	0.0
69	12.3	209581.6	0.0	4021.0	0.0	0.0	31437.2	0.0	0.0
70	11.5	199413.7	0.0	3779.0	0.0	0.0	29912.1	0.0	0.0
71	23.7	412365.0	0.0	7800.0	0.0	0.0	61854.7	0.0	0.0
72	23.6	413098.6	0.0	7800.0	0.0	0.0	61964.8	0.0	0.0
73	22.2	391389.1	0.0	7396.2	0.0	0.0	58708.4	0.0	0.0
74	1.2	21379.5	0.0	403.8	0.0	0.0	3206.9	0.0	0.0
75	23.4	405018.3	0.0	7800.0	0.0	0.0	60752.8	0.0	0.0
76	23.2	391137.9	0.0	7800.0	0.0	0.0	58670.7	0.0	0.0
77	23.1	376417.2	0.0	7800.0	0.0	0.0	56462.6	0.0	0.0
78	23.0	360881.3	0.0	7800.0	0.0	0.0	54132.2	0.0	0.0
79	22.9	344552.0	0.0	7800.0	0.0	0.0	51682.8	0.0	0.0
80	22.8	327450.2	0.0	7800.0	0.0	0.0	49117.5	0.0	0.0
81	22.6	309601.3	0.0	7800.0	0.0	0.0	46440.2	0.0	0.0
82	22.5	291029.9	0.0	7800.0	0.0	0.0	43654.5	0.0	0.0
83	22.4	271761.2	0.0	7800.0	0.0	0.0	40764.2	0.0	0.0
84	4.9	56884.5	0.0	1712.4	0.0	0.0	8532.7	0.0	0.0
85	17.3	198981.7	0.0	6087.6	0.0	0.0	29847.3	0.0	0.0
86	22.1	248094.8	0.0	7800.0	0.0	0.0	37214.2	0.0	0.0
87	21.9	239766.7	0.0	7800.0	0.0	0.0	35965.0	0.0	0.0
88	21.8	230587.9	0.0	7800.0	0.0	0.0	34588.2	0.0	0.0
89	21.6	220580.4	0.0	7800.0	0.0	0.0	33087.1	0.0	0.0
90	5.2	51535.1	0.0	1883.3	0.0	0.0	7730.3	0.0	0.0

91	16.3	157176.6	0.0	5916.7	0.0	0.0	23576.5	0.0	0.0
92	21.9	193602.4	0.0	7800.0	0.0	0.0	29040.4	0.0	0.0
93	21.2	177715.4	0.0	7800.0	0.0	0.0	26657.3	0.0	0.0
94	21.0	161185.9	0.0	7800.0	0.0	0.0	24177.9	0.0	0.0
95	8.2	58745.8	0.0	3074.3	0.0	0.0	8807.4	0.0	0.0
96	12.6	83697.7	0.0	4725.7	0.0	0.0	12554.7	0.0	0.0
97	7.4	44599.1	0.0	2785.9	0.0	0.0	6689.9	0.0	0.0
98	13.1	69812.6	0.0	5014.2	0.0	0.0	10471.9	0.0	0.0
99	20.5	77749.7	0.0	7800.0	0.0	0.0	11662.5	0.0	0.0
100	20.3	40381.9	0.0	7800.0	0.0	0.0	6057.3	0.0	0.0
101	0.9	956.9	0.0	358.4	0.0	0.0	143.5	0.0	0.0
102	8.9	4424.7	0.0	3456.9	0.0	0.0	663.7	0.0	0.0

Failure Surface Specified By 63 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	72.22	158.04
2	96.93	154.20
3	121.68	150.70
4	146.48	147.54
5	171.32	144.72
6	196.20	142.23
7	221.10	140.09
8	246.04	138.28
9	271.00	136.82
10	295.97	135.69
11	320.96	134.91
12	345.95	134.47
13	370.95	134.36
14	395.95	134.60
15	420.95	135.18
16	445.93	136.10
17	470.90	137.36
18	495.85	138.97
19	520.77	140.91
20	545.67	143.19
21	570.53	145.81
22	595.35	148.77
23	620.13	152.06
24	644.87	155.70
25	669.55	159.67
26	694.18	163.98
27	718.74	168.62
28	743.24	173.60
29	767.67	178.91
30	792.03	184.56
31	816.30	190.53
32	840.49	196.84
33	864.60	203.47
34	888.61	210.44
35	912.52	217.73
36	936.33	225.34
37	960.04	233.28
38	983.63	241.54
39	1007.11	250.13
40	1030.47	259.03
41	1053.71	268.25
42	1076.82	277.79
43	1099.80	287.64
44	1122.64	297.80
45	1145.34	308.27
46	1167.90	319.06
47	1190.30	330.14
48	1212.56	341.54
49	1234.65	353.23
50	1256.59	365.23
51	1278.35	377.52
52	1299.95	390.11
53	1321.38	402.99
54	1342.63	416.17
55	1363.69	429.63
56	1384.57	443.38

57	1405.26	457.41
58	1425.76	471.72
59	1446.06	486.31
60	1466.16	501.18
61	1486.06	516.31
62	1505.74	531.72
63	1519.78	543.00

Circle Center At X = 965.9 , Y = 1967.7 and Radius = 1833.4
 1.903

Failure Surface Specified By 63 Coordinate Points

Point No	X-Surf (ft)	Y-Surf (ft)
1	83.33	159.94
2	108.13	156.71
3	132.96	153.81
4	157.82	151.23
5	182.72	148.98
6	207.65	147.04
7	232.59	145.43
8	257.56	144.15
9	282.54	143.18
10	307.53	142.54
11	332.53	142.23
12	357.53	142.24
13	382.53	142.57
14	407.52	143.23
15	432.50	144.21
16	457.47	145.51
17	482.41	147.14
18	507.34	149.09
19	532.23	151.37
20	557.10	153.97
21	581.93	156.88
22	606.72	160.13
23	631.46	163.69
24	656.16	167.57
25	680.80	171.77
26	705.39	176.29
27	729.92	181.13
28	754.38	186.29
29	778.77	191.76
30	803.08	197.55
31	827.34	203.66
32	851.50	210.08
33	875.58	216.81
34	899.56	223.85
35	923.46	231.20
36	947.26	238.87
37	970.95	246.84
38	994.54	255.11
39	1018.02	263.68
40	1041.39	272.58
41	1064.64	281.77
42	1087.77	291.25
43	1110.77	301.04
44	1133.65	311.13
45	1156.39	321.51
46	1179.00	332.18
47	1201.47	343.15
48	1223.79	354.40
49	1245.96	365.95
50	1267.99	377.78
51	1289.85	389.90
52	1311.56	402.29
53	1333.11	414.97
54	1354.49	427.93
55	1375.70	441.16
56	1396.74	454.67
57	1417.60	468.45
58	1438.28	482.50
59	1458.77	496.81

60 1479.08 511.39
 61 1499.20 526.23
 62 1519.13 541.33
 63 1521.27 543.00
 Circle Center At X = 344.3 ; Y = 2070.7 and Radius = 1928.5
 *** 1.304 ***

Failure Surface Specified By 64 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	72.22	158.04
2	96.80	153.48
3	121.45	149.28
4	146.15	145.43
5	170.90	141.93
6	195.71	138.80
7	220.55	136.02
8	245.43	133.59
9	270.35	131.53
10	295.29	129.82
11	320.25	128.48
12	345.23	127.49
13	370.23	126.86
14	395.23	126.60
15	420.23	126.69
16	445.22	127.14
17	470.21	127.95
18	495.18	129.12
19	520.13	130.65
20	545.06	132.54
21	569.96	134.78
22	594.83	137.39
23	619.65	140.35
24	644.43	143.67
25	669.16	147.34
26	693.83	151.37
27	718.44	155.76
28	742.99	160.50
29	767.46	165.59
30	791.87	171.03
31	816.18	176.82
32	840.42	182.97
33	864.56	189.46
34	888.61	196.29
35	912.55	203.47
36	936.39	211.00
37	960.12	218.87
38	983.74	227.08
39	1007.23	235.62
40	1030.60	244.51
41	1053.84	253.73
42	1076.94	263.28
43	1099.90	273.17
44	1122.72	283.38
45	1145.39	293.92
46	1167.91	304.79
47	1190.26	315.98
48	1212.45	327.49
49	1234.48	339.31
50	1256.33	351.46
51	1278.01	363.91
52	1299.50	376.68
53	1320.81	389.75
54	1341.93	403.13
55	1362.85	416.82
56	1383.58	430.80
57	1404.10	445.08
58	1424.41	459.65
59	1444.52	474.51
60	1464.40	489.66
61	1484.07	505.10
62	1503.51	520.81

63 1522.72 536.81
 64 1529.35 542.49
 Circle Center At X = 401.4 Y = 1864.9 and Radius = 1737.6
 *** 1.305 ***

Failure Surface Specified By 62 Coordinates Points

Point X-Surf Y-Surf
 No (ft) (ft)

1	105.56	153.73
2	130.24	159.74
3	154.97	156.10
4	179.75	152.81
5	204.58	149.86
6	229.44	147.27
7	254.34	145.02
8	279.27	143.13
9	304.22	141.59
10	329.19	140.39
11	354.18	139.55
12	379.17	139.06
13	404.17	138.92
14	429.17	139.13
15	454.17	139.69
16	479.15	140.61
17	504.12	141.87
18	529.07	143.49
19	553.99	145.46
20	578.88	147.77
21	603.74	150.44
22	628.56	153.45
23	653.33	156.82
24	678.05	160.53
25	702.72	164.59
26	727.33	168.99
27	751.87	173.74
28	776.35	178.84
29	800.75	184.28
30	825.07	190.06
31	849.31	196.18
32	873.46	202.64
33	897.52	209.45
34	921.48	216.58
35	945.33	224.06
36	969.08	231.87
37	992.72	240.01
38	1016.24	248.48
39	1039.64	257.29
40	1062.91	266.42
41	1086.05	275.88
42	1109.06	285.66
43	1131.93	295.76
44	1154.65	306.19
45	1177.22	316.93
46	1199.64	327.99
47	1221.91	339.36
48	1244.01	351.05
49	1265.94	363.04
50	1287.71	375.34
51	1309.30	387.95
52	1330.71	400.86
53	1351.93	414.07
54	1372.97	427.57
55	1393.82	441.37
56	1414.47	455.46
57	1434.92	469.84
58	1455.16	484.51
59	1475.20	499.46
60	1495.03	514.69
61	1514.64	530.19
62	1529.68	542.44

Circle Center At X = 401.6 Y = 1917.4 and Radius = 1778.5
 *** 1.307 ***

Failure Surface Specified By 62 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	94.44	161.83
2	119.20	158.36
3	144.01	155.23
4	168.85	152.43
5	193.73	149.98
6	218.64	147.85
7	243.57	146.07
8	268.53	144.62
9	293.51	143.51
10	318.50	142.74
11	343.49	142.31
12	368.49	142.22
13	393.49	142.46
14	418.48	143.05
15	443.47	143.97
16	468.43	145.23
17	493.38	146.83
18	518.31	148.77
19	543.20	151.04
20	568.07	153.65
21	592.89	156.60
22	617.68	159.88
23	642.44	163.50
24	667.10	167.45
25	691.73	171.74
26	716.30	176.36
27	740.80	181.32
28	765.24	186.60
29	789.60	192.22
30	813.88	198.16
31	838.08	204.43
32	862.19	211.03
33	886.22	217.96
34	910.14	225.21
35	933.97	232.79
36	957.68	240.68
37	981.30	248.90
38	1004.80	257.44
39	1028.17	266.29
40	1051.43	275.46
41	1074.56	284.94
42	1097.56	294.74
43	1120.43	304.84
44	1143.16	315.26
45	1165.74	326.08
46	1188.18	337.01
47	1210.46	348.24
48	1232.59	359.97
49	1254.56	371.90
50	1276.37	384.13
51	1298.01	396.65
52	1319.48	409.46
53	1340.77	422.56
54	1361.88	435.95
55	1382.81	449.62
56	1403.55	463.58
57	1424.10	477.82
58	1444.46	492.33
59	1464.62	507.12
60	1484.57	522.17
61	1504.32	537.50
62	1511.21	543.00

Circle Center At X = 362.9 Y = 1987.6 and Radius = 1045.4
 *** 1308 ***

Failure Surface Specified By 62 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	94.44	161.83

2	119.28	158.99
3	141.15	156.46
4	169.06	154.24
5	193.98	152.34
6	218.93	150.76
7	243.90	149.50
8	268.88	148.55
9	293.88	147.92
10	318.87	147.61
11	343.87	147.62
12	368.87	147.94
13	393.86	148.58
14	418.85	149.54
15	443.81	150.82
16	468.76	152.41
17	493.69	154.32
18	518.59	156.55
19	543.46	159.09
20	568.30	161.95
21	593.09	165.12
22	617.85	168.61
23	642.56	172.41
24	667.22	176.53
25	691.82	180.96
26	716.37	185.70
27	740.85	190.75
28	765.27	196.12
29	789.62	201.79
30	813.89	207.77
31	838.09	214.06
32	862.20	220.66
33	886.23	227.56
34	910.17	234.77
35	934.01	242.28
36	957.76	250.09
37	981.41	258.20
38	1004.95	266.62
39	1028.38	275.33
40	1051.70	284.34
41	1074.91	293.64
42	1097.99	303.24
43	1120.95	313.13
44	1143.78	323.31
45	1166.49	333.78
46	1189.05	344.54
47	1211.48	355.59
48	1233.77	366.92
49	1255.91	378.53
50	1277.90	390.43
51	1299.74	402.59
52	1321.42	415.03
53	1342.94	427.75
54	1364.30	440.75
55	1385.49	454.01
56	1406.51	467.54
57	1427.36	481.34
58	1448.03	495.40
59	1468.52	509.72
60	1488.83	524.30
61	1508.95	539.14
62	1514.05	543.00

Circle Center At X = 330.9 Y = 201.52 Radius = 967.7

Failure Surface Specified By 61 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	138.89	175.00
2	163.63	171.43
3	188.43	168.21
4	213.26	165.33
5	238.13	162.79

6	263.03	160.59
7	287.96	158.74
8	312.92	157.22
9	337.89	156.06
10	362.88	155.24
11	387.87	154.76
12	412.87	154.62
13	437.87	154.83
14	462.86	155.39
15	487.85	156.29
16	512.82	157.53
17	537.77	159.12
18	562.69	161.05
19	587.59	163.32
20	612.45	165.94
21	637.28	168.90
22	662.06	172.20
23	686.79	175.84
24	711.47	179.82
25	736.09	184.15
26	760.66	188.81
27	785.15	193.81
28	809.58	199.14
29	833.92	204.81
30	858.19	210.82
31	882.37	217.16
32	906.47	223.83
33	930.47	230.83
34	954.37	238.17
35	978.16	245.83
36	1001.85	253.82
37	1025.43	262.14
38	1048.89	270.77
39	1072.23	279.74
40	1095.44	289.02
41	1118.52	298.62
42	1141.47	308.54
43	1164.28	318.77
44	1186.95	329.32
45	1209.47	340.17
46	1231.83	351.34
47	1254.05	362.81
48	1276.10	374.59
49	1297.98	386.68
50	1319.70	399.06
51	1341.25	411.74
52	1362.62	424.71
53	1383.81	437.98
54	1404.81	451.54
55	1425.62	465.39
56	1446.25	479.52
57	1466.67	493.94
58	1486.90	508.63
59	1506.92	523.60
60	1526.73	538.85
61	1531.00	542.24

Circle Center At X = 410.1 Y = 1069.8 and Radius = 184.7
1.309

Failure Surface Specified By 62 Coordinate Points

Point No	X-Surf (ft)	Y-Surf (ft)
1	94.44	161.83
2	119.38	159.99
3	144.33	158.43
4	169.30	157.15
5	194.27	156.14
6	219.26	155.41
7	244.26	154.95
8	269.26	154.78
9	294.26	154.88
10	319.26	155.26

11	344.25	155.91
12	369.23	156.85
13	394.20	158.06
14	419.16	159.55
15	444.09	161.31
16	469.01	163.35
17	493.90	165.67
18	518.77	168.26
19	543.60	171.13
20	568.40	174.28
21	593.17	177.70
22	617.89	181.39
23	642.58	185.36
24	667.22	189.61
25	691.80	194.12
26	716.34	198.91
27	740.82	203.97
28	765.25	209.30
29	789.61	214.90
30	813.91	220.78
31	838.15	226.92
32	862.31	233.33
33	886.40	240.01
34	910.42	246.95
35	934.36	254.16
36	958.21	261.64
37	981.98	269.38
38	1005.67	277.39
39	1029.26	285.65
40	1052.76	294.18
41	1076.17	302.97
42	1099.47	312.02
43	1122.67	321.32
44	1145.77	330.88
45	1168.77	340.70
46	1191.65	350.77
47	1214.41	361.10
48	1237.07	371.68
49	1259.60	382.51
50	1282.01	393.59
51	1304.30	404.91
52	1326.46	416.38
53	1348.49	428.10
54	1370.39	440.06
55	1392.15	452.27
56	1413.77	464.71
57	1435.26	478.00
58	1456.60	491.02
59	1477.79	504.28
60	1498.84	517.77
61	1519.74	531.49
62	1534.83	541.65

Circle Center At X = 272.6 ; Y = 2407.7 and Radius = 2252.4
*** 1.311 ***

Failure Surface Specified By 62 Coordinates

Point No.	X-Surf (ft)	Y-Surf (ft)
1	94.44	161.83
2	119.38	160.00
3	144.33	158.45
4	169.30	157.17
5	194.28	156.17
6	219.27	155.45
7	244.26	155.01
8	269.26	154.84
9	294.26	154.95
10	319.26	155.34
11	344.25	156.00
12	369.23	156.94
13	394.20	158.16
14	419.16	159.66

15	444.09	161.43
16	469.01	163.48
17	493.90	165.80
18	518.77	168.40
19	543.60	171.28
20	568.40	174.43
21	593.17	177.86
22	617.89	181.56
23	642.57	185.54
24	667.21	189.78
25	691.80	194.31
26	716.33	199.10
27	740.81	204.16
28	765.24	209.50
29	789.60	215.11
30	813.90	220.99
31	838.13	227.13
32	862.30	233.55
33	886.39	240.23
34	910.40	247.18
35	934.34	254.40
36	958.19	261.88
37	981.96	269.62
38	1005.64	277.63
39	1029.24	285.90
40	1052.74	294.43
41	1076.14	303.22
42	1099.44	312.27
43	1122.65	321.58
44	1145.74	331.14
45	1168.73	340.96
46	1191.61	351.04
47	1214.38	361.37
48	1237.03	371.95
49	1259.56	382.78
50	1281.98	393.86
51	1304.26	405.18
52	1326.42	416.76
53	1348.45	428.58
54	1370.35	440.64
55	1392.11	452.95
56	1413.73	465.49
57	1435.22	478.28
58	1456.56	491.30
59	1477.75	504.56
60	1498.80	518.05
61	1519.70	531.77
62	1534.46	541.71
Circle Center At X = 271.9 Y = 2488.6 and Radius = 2259.7		
*** 1.311 ***		

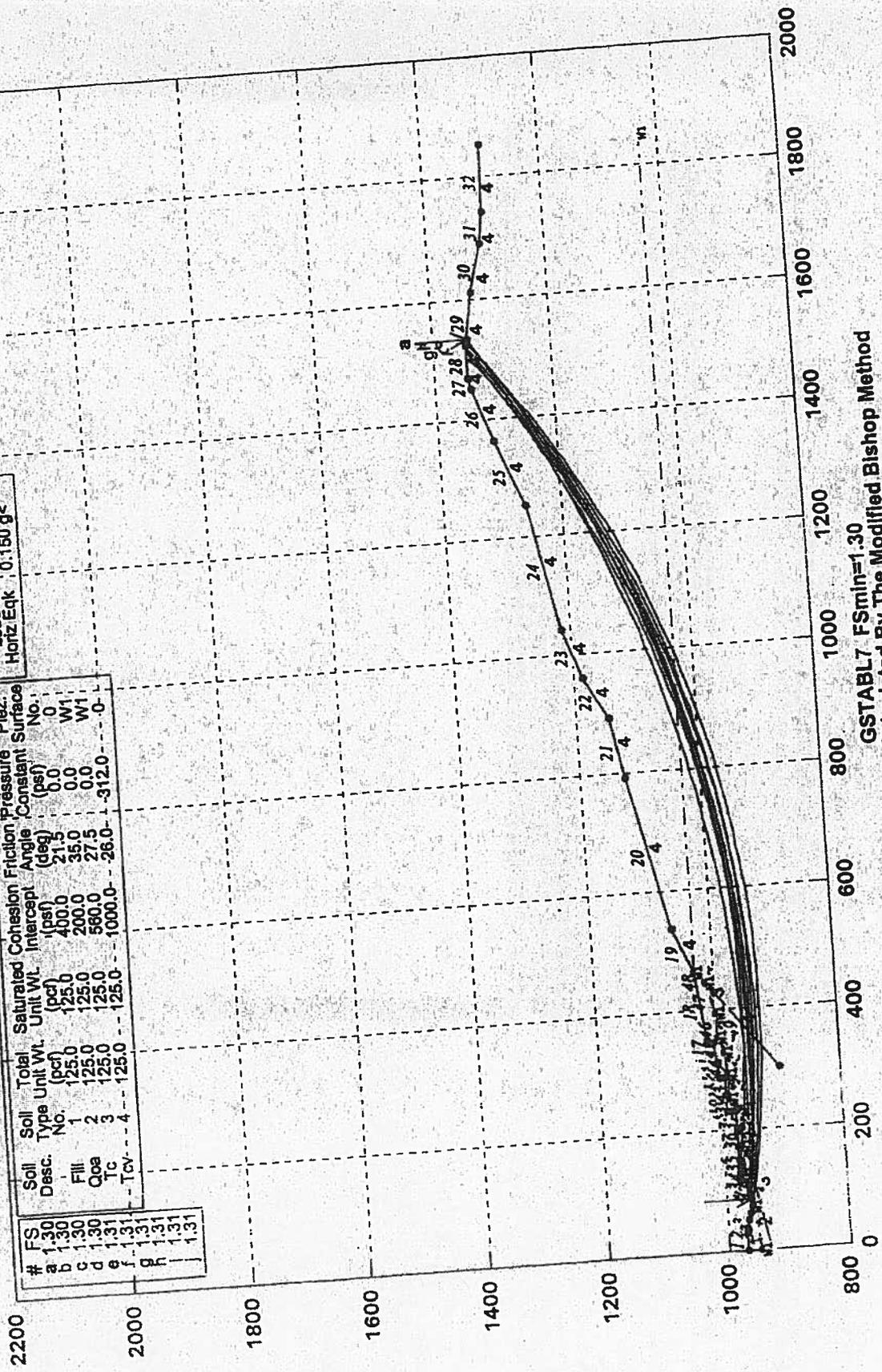
APN# 2061-001-025, 30800 Block Agoura Rd Section A-A' Pseudostatic Stability

D:\STEDWIN\2272-K-1\2272A14Q.PL2 Run By: GORIAN AND ASSOCIATES, INC. 10/11/00 1:11PM

Load Horiz Eqk Value
0.150 g

Soil Desc.	Soil Type No.	Total Unit Wt. (pcf)	Saturated Unit Wt. (pcf)	Cohesion (psf)	Friction Angle (deg)	Pressure Intercept (psf)	Piez. Constant (psf)	Piez. Surface No.
a	1	125.0	125.0	400.0	21.5	0.0	0.0	W1
b	1	125.0	125.0	200.0	35.0	0.0	0.0	W1
c	2	125.0	125.0	580.0	27.5	0.0	0.0	W1
d	3	125.0	125.0	1000.0	26.0	-312.0	0.0	0
e	4	125.0	125.0					

#	FS
a	1.30
b	1.30
c	1.30
d	1.31
e	1.31
f	1.31
g	1.31
h	1.31
i	1.31



GSTABL7 FSmin=1.30
Safety Factors Are Calculated By The Modified Bishop Method

STED



*** GSTABL7 ***

** GSTABL7 by Garry H. Gregory, P.E. **
 ** Version 1.0, January 1996; Version 1.16, May 2000 **

--Slope Stability Analysis--
 Simplified Janbu, Modified Bishop
 or Spencer's Method of Slices

(Based on STABL6-1986, by Purdue University)

Run Date: 10/11/00
 Time of Run: 11:49AM
 Run By: GORIAN AND ASSOCIATES, INC.
 Input Data Filename: D:2272a3w.in
 Output Filename: D:2272a3w.OUT
 Unit System: English
 Plotted Output Filename: D:2272a3w.PLT
 PROBLEM DESCRIPTION APN# 2061-001-025, 30800 Block Agoura Rd
 Section A-A' Global Static Stability

BOUNDARY COORDINATES

Note: User origin value specified.
 Add 0.00 to X-values and 800.00 to Y-values listed.

19 Top Boundaries		36 Total Boundaries				
Boundary No.	X-Left (ft)	Y-Left (ft)	X-Right (ft)	Y-Right (ft)	Soil Type Below Bnd	
1	0.00	169.00	31.00	169.00	1	
2	31.00	169.00	36.00	170.00	1	
3	36.00	170.00	72.00	158.00	1	
4	72.00	158.00	113.00	165.00	2	
5	113.00	165.00	114.00	175.00	1	
6	114.00	175.00	197.00	175.00	1	
7	197.00	175.00	231.00	175.00	2	
8	231.00	175.00	231.50	182.00	2	
9	231.50	182.00	232.00	190.00	1	
10	232.00	190.00	260.00	190.00	1	
11	260.00	190.00	286.00	190.00	2	
12	286.00	190.00	286.50	195.00	2	
13	286.50	195.00	287.00	200.00	1	
14	287.00	200.00	312.00	202.00	1	
15	312.00	202.00	345.00	205.00	2	
16	345.00	205.00	345.50	210.00	2	
17	345.50	210.00	346.00	215.00	1	
18	346.00	215.00	464.00	231.00	1	
19	464.00	231.00	538.00	265.00	4	
20	0.00	147.00	72.00	158.00	2	
21	113.00	165.00	128.00	166.00	2	
22	128.00	166.00	174.00	170.00	2	
23	174.00	170.00	204.00	170.00	2	
24	204.00	170.00	237.00	170.00	3	
25	237.00	170.00	243.00	176.00	3	
26	243.00	176.00	253.00	185.00	2	
27	253.00	185.00	292.00	185.00	2	
28	292.00	185.00	312.00	202.00	2	
29	0.00	131.00	204.00	170.00	3	
30	243.00	176.00	292.00	185.00	3	
31	292.00	185.00	329.00	190.00	3	
32	329.00	190.00	355.00	198.00	3	
33	355.00	198.00	394.00	199.00	3	
34	394.00	199.00	445.00	214.00	3	
35	445.00	214.00	464.00	231.00	4	
36	300.00	100.00	445.00	214.00	4	

ISOTROPIC SOIL PARAMETERS

4 Type(s) of Soil							
Soil Type No.	Total Unit Wt. (pcf)	Saturated Unit Wt. (pcf)	Cohesion (psf)	Friction Angle (deg)	Pore Pressure Param.	Pressure Constant (psf)	Piez. Surface No.
1	125.0	125.0	400.0	21.5	0.00	0.0	0
2	125.0	125.0	200.0	35.0	0.00	0.0	1
3	125.0	125.0	560.0	27.5	0.00	0.0	1
4	125.0	125.0	1000.0	26.0	0.00	312.0	0

1 PIEZOMETRIC SURFACE(S) HAVE BEEN SPECIFIED
 Unit Weight of Water = 62.40

Piezometric Surface No. 1 Specified by 13 Coordinate Points

Point No.	X-Water (ft)	Y-Water (ft)
1	0.00	147.00
2	72.00	158.00
3	113.00	165.00
4	128.00	166.00
5	174.00	170.00
6	237.00	170.00
7	253.00	185.00
8	292.00	185.00
9	329.00	190.00
10	355.00	198.00
11	394.00	199.00
12	445.00	214.00
13	464.00	231.00

A Critical Failure Surface Searching Method, Using A Random Technique For Generating Circular Surfaces, Has Been Specified. 2500 Trial Surfaces Have Been Generated.

250 Surfaces Initiate From Each Of 10 Points Equally Spaced Along The Ground Surface Between X = 150.00(ft) and X = 231.00(ft)

Each Surface Terminates Between X = 286.00(ft) and X = 535.00(ft)

Unless Further Limitations Were Imposed, The Minimum Elevation At Which A Surface Extends Is Y = 0.00(ft)

10.00(ft) Line Segments Define Each Trial Failure Surface.

Following Are Displayed The Ten Most Critical Of The Trial

Failure Surfaces Examined. They Are Ordered Most Critical First.

Safety Factors Are Calculated By The Modified Bishop Method Failure Surface Specified By 31 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	177.00	175.00
2	185.69	170.04
3	194.61	165.52
4	203.74	161.45
5	213.06	157.83
6	222.55	154.68
7	232.18	152.00
8	241.94	149.79
9	251.79	148.07
10	261.71	146.84
11	271.69	146.11
12	281.68	145.86
13	291.68	146.11
14	301.65	146.85
15	311.58	148.09
16	321.43	149.81
17	331.18	152.02
18	340.81	154.70
19	350.30	157.86
20	359.62	161.48
21	368.75	165.56
22	377.67	170.09
23	386.35	175.04
24	394.78	180.43
25	402.93	186.22
26	410.79	192.40
27	418.33	198.97
28	425.54	205.90
29	432.40	213.18
30	438.89	220.79
31	444.74	228.39

Circle Center At X = 281.6 ; Y = 348.3 and Radius = 292.5

*** 2.583 ***

Individual data on the 54 slices

Slice Width	Weight	Water Force		Tie Force		Earthquake Force		Surcharge Load
		Top	Bot	Norm	Tan	Hor	Ver	

No.	(ft)	(lbs)	(lbs)	(lbs)	(lbs)	(lbs)	(lbs)	(lbs)	(lbs)
1	8.7	2690.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	0.1	54.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3	5.0	3909.4	0.0	441.8	0.0	0.0	0.0	0.0	0.0
4	3.8	4081.4	0.0	941.0	0.0	0.0	0.0	0.0	0.0
5	2.4	2995.2	0.0	819.5	0.0	0.0	0.0	0.0	0.0
6	6.7	10147.6	0.0	3244.8	0.0	0.0	0.0	0.0	0.0
7	0.3	444.7	0.0	150.6	0.0	0.0	0.0	0.0	0.0
8	9.1	17454.1	0.0	6314.0	0.0	0.0	0.0	0.0	0.0
9	9.5	22236.9	0.0	8577.7	0.0	0.0	0.0	0.0	0.0
10	8.4	22707.6	0.0	9030.1	0.0	0.0	0.0	0.0	0.0
11	0.5	1640.3	0.0	574.7	0.0	0.0	0.0	0.0	0.0
12	0.5	2117.7	0.0	579.2	0.0	0.0	0.0	0.0	0.0
13	0.2	874.1	0.0	214.4	0.0	0.0	0.0	0.0	0.0
14	4.8	23205.7	0.0	5714.4	0.0	0.0	0.0	0.0	0.0
15	4.9	24476.5	0.0	5316.2	0.0	0.0	0.0	0.0	0.0
16	1.1	5347.1	0.0	1309.8	0.0	0.0	0.0	0.0	0.0
17	0.5	2514.4	0.0	634.8	0.0	0.0	0.0	0.0	0.0
18	8.3	42708.1	0.0	12547.3	0.0	0.0	0.0	0.0	0.0
19	1.2	6353.6	0.0	2123.9	0.0	0.0	0.0	0.0	0.0
20	7.0	37195.6	0.0	16509.3	0.0	0.0	0.0	0.0	0.0
21	1.7	9222.9	0.0	4100.4	0.0	0.0	0.0	0.0	0.0
22	10.0	54257.0	0.0	24039.2	0.0	0.0	0.0	0.0	0.0
23	10.0	55003.4	0.0	24345.9	0.0	0.0	0.0	0.0	0.0
24	4.3	23785.5	0.0	10530.3	0.0	0.0	0.0	0.0	0.0
25	0.5	2907.8	0.0	1217.9	0.0	0.0	0.0	0.0	0.0
26	0.5	3219.5	0.0	1217.6	0.0	0.0	0.0	0.0	0.0
27	4.7	31672.5	0.0	11378.8	0.0	0.0	0.0	0.0	0.0
28	0.3	2166.9	0.0	777.1	0.0	0.0	0.0	0.0	0.0
29	9.7	65510.1	0.0	23440.0	0.0	0.0	0.0	0.0	0.0
30	9.9	67107.1	0.0	24430.0	0.0	0.0	0.0	0.0	0.0
31	0.4	2850.9	0.0	1051.4	0.0	0.0	0.0	0.0	0.0
32	9.4	62976.8	0.0	23290.7	0.0	0.0	0.0	0.0	0.0
33	7.6	49730.4	0.0	18640.4	0.0	0.0	0.0	0.0	0.0
34	2.2	14139.7	0.0	5147.6	0.0	0.0	0.0	0.0	0.0
35	9.6	61194.3	0.0	23160.6	0.0	0.0	0.0	0.0	0.0
36	4.2	25859.3	0.0	10242.6	0.0	0.0	0.0	0.0	0.0
37	0.5	3207.6	0.0	1221.4	0.0	0.0	0.0	0.0	0.0
38	0.5	3509.7	0.0	1221.0	0.0	0.0	0.0	0.0	0.0
39	4.3	31264.9	0.0	10487.5	0.0	0.0	0.0	0.0	0.0
40	4.7	33552.9	0.0	11588.0	0.0	0.0	0.0	0.0	0.0
41	4.6	32326.4	0.0	11592.7	0.0	0.0	0.0	0.0	0.0
42	9.1	61567.4	0.0	21654.3	0.0	0.0	0.0	0.0	0.0
43	8.9	56703.6	0.0	19115.5	0.0	0.0	0.0	0.0	0.0
44	8.7	51362.3	0.0	16298.4	0.0	0.0	0.0	0.0	0.0
45	7.6	41577.3	0.0	12118.9	0.0	0.0	0.0	0.0	0.0
46	0.8	4048.9	0.0	1053.8	0.0	0.0	0.0	0.0	0.0
47	8.2	39584.4	0.0	10249.8	0.0	0.0	0.0	0.0	0.0
48	7.9	33331.7	0.0	8071.9	0.0	0.0	0.0	0.0	0.0
49	7.5	26967.5	0.0	5607.6	0.0	0.0	0.0	0.0	0.0
50	7.2	20594.8	0.0	2863.2	0.0	0.0	0.0	0.0	0.0
51	3.1	7129.7	0.0	320.5	0.0	0.0	0.0	0.0	0.0
52	3.8	7189.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
53	6.5	8246.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0
54	5.9	2490.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Failure Surface Specified By 31 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	177.00	175.00
2	185.76	170.17
3	194.74	165.77
4	203.92	161.81
5	213.28	158.30
6	222.81	155.25
7	232.47	152.66
8	242.24	150.54
9	252.10	148.90
10	262.04	147.74
11	272.01	147.06
12	282.01	146.86
13	292.01	147.15

14	301.98	147.92
15	311.90	149.18
16	321.75	150.91
17	331.50	153.11
18	341.14	155.79
19	350.63	158.93
20	359.96	162.53
21	369.11	166.57
22	378.05	171.05
23	386.76	175.96
24	395.22	181.28
25	403.42	187.01
26	411.33	193.13
27	418.94	199.62
28	426.22	206.48
29	433.16	213.68
30	439.74	221.20
31	445.52	228.49

Circle Center At X = 281.1 ; Y = 353.4 and Radius = 206.5
 *** 2.583 ***

Failure Surface Specified By 31 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	177.00	175.00
2	185.63	169.95
3	194.51	165.35
4	203.62	161.22
5	212.93	157.57
6	222.42	154.41
7	232.05	151.75
8	241.82	149.59
9	251.68	147.94
10	261.62	146.81
11	271.60	146.20
12	281.60	146.10
13	291.59	146.53
14	301.54	147.47
15	311.44	148.94
16	321.24	150.91
17	330.93	153.39
18	340.47	156.37
19	349.85	159.85
20	359.03	163.81
21	368.00	168.24
22	376.72	173.13
23	385.18	178.46
24	393.35	184.23
25	401.20	190.42
26	408.73	197.01
27	415.90	203.98
28	422.70	211.31
29	429.10	218.99
30	435.10	226.99
31	435.17	227.09

Circle Center At X = 278.4 ; Y = 338.9 and Radius = 192.2
 *** 2.585 ***

Failure Surface Specified By 29 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	186.00	175.00
2	194.77	170.20
3	203.79	165.87
4	213.02	162.02
5	222.44	158.67
6	232.03	155.83
7	241.75	153.49
8	251.58	151.68
9	261.50	150.39
10	271.47	149.63
11	281.47	149.39
12	291.46	149.69

13	301.43	150.52
14	311.34	151.88
15	321.16	153.76
16	330.87	156.16
17	340.43	159.07
18	349.83	162.48
19	359.04	166.39
20	368.02	170.78
21	376.76	175.64
22	385.23	180.96
23	393.41	186.72
24	401.26	192.90
25	408.78	199.50
26	415.94	206.48
27	422.72	213.83
28	429.09	221.53
29	433.00	226.80

Circle Center At X = 280.8 ; Y = 337.8 and Radius: 168.4
 *** 2.585 ***

Failure Surface Specified By 30 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	186.00	175.00
2	194.83	170.30
3	203.88	166.05
4	213.14	162.26
5	222.57	158.94
6	232.16	156.10
7	241.87	153.74
8	251.70	151.87
9	261.60	150.50
10	271.56	149.63
11	281.56	149.25
12	291.56	149.38
13	301.54	150.01
14	311.47	151.14
15	321.34	152.77
16	331.11	154.89
17	340.77	157.50
18	350.28	160.58
19	359.62	164.15
20	368.78	168.17
21	377.72	172.65
22	386.42	177.57
23	394.87	182.93
24	403.03	188.70
25	410.90	194.87
26	418.45	201.43
27	425.66	208.36
28	432.51	215.64
29	438.99	223.26
30	442.71	228.11

Circle Center At X = 284.0 ; Y = 348.4 and Radius: 199.2
 *** 2.587 ***

Failure Surface Specified By 32 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	177.00	175.00
2	185.96	170.55
3	195.10	166.50
4	204.41	162.85
5	213.87	159.62
6	223.47	156.81
7	233.18	154.42
8	242.99	152.46
9	252.87	150.94
10	262.81	149.86
11	272.79	149.21
12	282.79	149.00
13	292.79	149.24
14	302.76	149.91

15	312.70	151.03
16	322.58	152.58
17	332.38	154.56
18	342.08	156.98
19	351.67	159.82
20	361.13	163.07
21	370.43	166.75
22	379.56	170.82
23	388.50	175.30
24	397.24	180.17
25	405.75	185.41
26	414.02	191.03
27	422.04	197.01
28	429.79	203.33
29	437.25	209.99
30	444.41	216.97
31	451.26	224.26
32	456.14	229.93

Circle Center At X = 282.4 ; Y = 275.8 and Radius = 226.8
 *** 2.589 ***

Failure Surface Specified By 33 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	168.00	175.00
2	176.54	169.80
3	185.33	165.03
4	194.34	160.69
5	203.55	156.79
6	212.94	153.35
7	222.48	150.36
8	232.16	147.85
9	241.95	145.81
10	251.83	144.24
11	261.77	143.16
12	271.75	142.57
13	281.75	142.46
14	291.74	142.83
15	301.71	143.70
16	311.61	145.04
17	321.45	146.87
18	331.18	149.18
19	340.78	151.95
20	350.25	155.19
21	359.54	158.88
22	368.64	163.03
23	377.53	167.61
24	386.18	172.62
25	394.59	178.04
26	402.71	183.86
27	410.55	190.08
28	418.07	196.67
29	425.27	203.61
30	432.11	210.90
31	438.60	218.51
32	444.70	226.43
33	446.21	228.59

Circle Center At X = 279.70 ; Y = 247.9 and Radius = 205.9
 *** 2.589 ***

Failure Surface Specified By 26 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	195.00	175.00
2	203.83	170.30
3	212.92	166.14
4	222.25	162.53
5	231.77	159.48
6	241.46	157.00
7	251.28	155.10
8	261.19	153.79
9	271.16	153.08
10	281.16	152.96

11	291.15	153.43
12	301.10	154.50
13	310.96	156.16
14	320.70	158.40
15	330.30	161.22
16	339.71	164.61
17	348.90	168.55
18	357.84	173.03
19	366.49	178.03
20	374.84	183.54
21	382.84	189.54
22	390.47	196.01
23	397.70	202.91
24	404.51	210.24
25	410.87	217.96
26	415.58	224.44

Circle Center At X = 278.2 ; Y = 320.7 and Radius = 167.8
 *** 2.590 ***

Failure Surface Specified By 30 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	177.00	175.00
2	185.50	169.74
3	194.29	164.96
4	203.32	160.67
5	212.59	156.90
6	222.04	153.66
7	231.67	150.94
8	241.43	148.77
9	251.30	147.15
10	261.24	146.08
11	271.23	145.56
12	281.23	145.61
13	291.21	146.21
14	301.14	147.37
15	310.99	149.09
16	320.73	151.35
17	330.33	154.15
18	339.76	157.48
19	348.99	161.34
20	357.99	165.70
21	366.73	170.56
22	375.18	175.90
23	383.32	181.70
24	391.13	187.95
25	398.57	194.63
26	405.63	201.71
27	412.29	209.18
28	418.52	217.00
29	424.30	225.16
30	424.61	225.66

Circle Center At X = 275.4 ; Y = 324.5 and Radius = 178.9
 *** 2.591 ***

Failure Surface Specified By 26 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	195.00	175.00
2	204.04	170.72
3	213.30	166.96
4	222.76	163.71
5	232.39	161.00
6	242.15	158.82
7	252.01	157.18
8	261.95	156.10
9	271.94	155.57
10	281.94	155.60
11	291.92	156.18
12	301.86	157.32
13	311.71	159.00
14	321.46	161.23
15	331.07	164.00

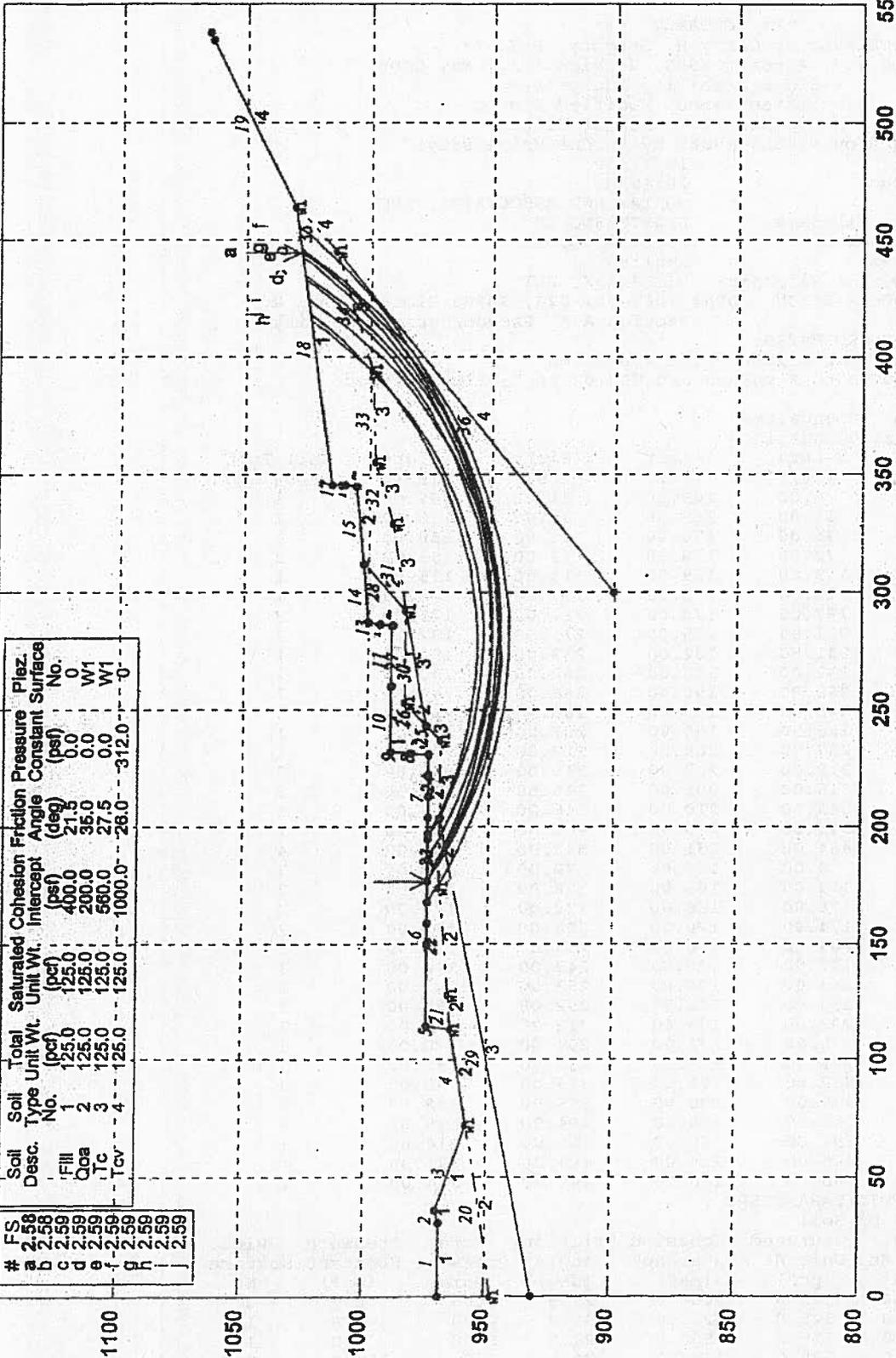
16	340.51	167.30
17	349.76	171.11
18	358.77	175.44
19	367.54	180.25
20	376.02	185.55
21	384.19	191.31
22	392.04	197.51
23	399.52	204.14
24	406.63	211.18
25	413.33	218.60
26	418.35	224.81
Circle Center At X = 276.4 ; Y = 335.5 ; and Radius = 179.9		
*** 2.591 ***		

APN# 2061-001-025, 30800 Block Agoura Rd Section A-A' Global Static Stability

D:\STEDWIN\2272-K-1\2272A3W.PL2 Run By: GORIAN AND ASSOCIATES, INC. 10/11/00 11:49AM

1150

#	FS	Soil Desc.	Soil Type No.	Total Unit Wt. (pcf)	Saturated Unit Wt. (pcf)	Cohesion Intercept (psf)	Friction Angle (deg)	Pressure Constant (psf)	Piez. No.
a	2.58	Fill	1	125.0	125.0	400.0	21.5	0.0	0
b	2.58	Fill	2	125.0	125.0	200.0	35.0	0.0	W1
c	2.59	Fill	3	125.0	125.0	560.0	27.5	0.0	W1
d	2.59	Fill	4	125.0	125.0	1000.0	26.0	-312.0	0



1100

1050

1000

950

900

850

800

0

50

100

150

200

250

300

350

400

450

500

550

STED

GSTABL7 FSmin=2.58
Safety Factors Are Calculated By The Modified Bishop Method



*** GSTABL7 ***

** GSTABL7 by Garry H. Gregory, P.E. **
 ** Version 1.0, January 1996; Version 1.16, May 2000 **

--Slope Stability Analysis--
 Simplified Janbu, Modified Bishop
 or Spencer's Method of Slices

(Based on STABL6-1986, by Purdue University)

Run Date: 10/11/00
 Time of Run: 10:45AM
 Run By: GORIAN AND ASSOCIATES, INC.
 Input Data Filename: D:2272A3WQ.IN
 Output Filename: D:2272A3WQ.OUT
 Unit System: English
 Plotted Output Filename: D:2272A3WQ.PLT
 PROBLEM DESCRIPTION APN# 2061-001-025, 30800 Block Agoura Rd
 Section A-A' Pseudostatic Stability

BOUNDARY COORDINATES

Note: User origin value specified.
 Add 0.00 to X-values and 800.00 to Y-values listed.

Boundary No.	X-Left (ft)	Y-Left (ft)	X-Right (ft)	Y-Right (ft)	Soil Type Below Bnd
1	0.00	169.00	31.00	169.00	1
2	31.00	169.00	36.00	170.00	1
3	36.00	170.00	72.00	158.00	1
4	72.00	158.00	113.00	165.00	2
5	113.00	165.00	114.00	175.00	1
6	114.00	175.00	197.00	175.00	1
7	197.00	175.00	231.00	175.00	2
8	231.00	175.00	231.50	182.00	2
9	231.50	182.00	232.00	190.00	1
10	232.00	190.00	260.00	190.00	1
11	260.00	190.00	286.00	190.00	2
12	286.00	190.00	286.50	195.00	2
13	286.50	195.00	287.00	200.00	1
14	287.00	200.00	312.00	202.00	1
15	312.00	202.00	345.00	205.00	2
16	345.00	205.00	345.50	210.00	2
17	345.50	210.00	346.00	215.00	1
18	346.00	215.00	464.00	231.00	1
19	464.00	231.00	538.00	265.00	4
20	0.00	147.00	72.00	158.00	2
21	113.00	165.00	128.00	166.00	2
22	128.00	166.00	174.00	170.00	2
23	174.00	170.00	204.00	170.00	2
24	204.00	170.00	237.00	170.00	3
25	237.00	170.00	243.00	176.00	3
26	243.00	176.00	253.00	185.00	2
27	253.00	185.00	292.00	185.00	2
28	292.00	185.00	312.00	202.00	2
29	0.00	131.00	204.00	170.00	3
30	243.00	176.00	292.00	185.00	3
31	292.00	185.00	329.00	190.00	3
32	329.00	190.00	355.00	198.00	3
33	355.00	198.00	394.00	199.00	3
34	394.00	199.00	445.00	214.00	3
35	445.00	214.00	464.00	231.00	4
36	300.00	100.00	445.00	214.00	4

ISOTROPIC SOIL PARAMETERS

4 Type(s) of Soil

Soil Type No.	Total Unit Wt. (pcf)	Saturated Unit Wt. (pcf)	Cohesion Intercept (psf)	Friction Angle (deg)	Pore Pressure Param. (psf)	Pressure Constant (psf)	Piez. Surface
1	125.0	125.0	400.0	21.5	0.00	0.0	0
2	125.0	125.0	200.0	35.0	0.00	0.0	1
3	125.0	125.0	560.0	27.5	0.00	0.0	1
4	125.0	125.0	1000.0	26.0	0.00	312.0	0

1 PIEZOMETRIC SURFACE(S) HAVE BEEN SPECIFIED

Unit Weight of Water = 62.40

Piezometric Surface No. 1 Specified by 13 Coordinate Points

Point No.	X-Water (ft)	Y-Water (ft)
1	0.00	147.00
2	72.00	158.00
3	118.00	165.00
4	128.00	166.00
5	174.00	170.00
6	237.00	170.00
7	253.00	185.00
8	292.00	185.00
9	329.00	190.00
10	355.00	198.00
11	394.00	199.00
12	445.00	214.00
13	464.00	231.00

A Horizontal Earthquake Loading Coefficient Of 0.150 Has Been Assigned

A Vertical Earthquake Loading Coefficient Of 0.000 Has Been Assigned

Cavitation Pressure = 0.0 (psf)

A Critical Failure Surface Searching Method, Using A Random Technique For Generating Circular Surfaces, Has Been Specified:

2500 Trial Surfaces Have Been Generated.

250 Surfaces Initiate From Each Of 10 Points Equally Spaced Along The Ground Surface Between X = 150.00 (ft) and X = 231.00 (ft)

Each Surface Terminates Between X = 285.00 (ft) and X = 535.00 (ft)

Unless Further Limitations Were Imposed, The Minimum Elevation At Which A Surface Extends Is Y = 0.00 (ft)

10.00 (ft) Line Segments Define Each Trial Failure Surface.

Following Are Displayed The Ten Most Critical Of The Trial

Failure Surfaces Examined. They Are Ordered Most Critical First.

* Safety Factors Are Calculated By The Modified Bishop Method *
Failure Surface Specified By 32 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	177.00	175.00
2	185.96	170.55
3	195.10	166.50
4	204.41	162.85
5	213.87	159.62
6	223.47	156.81
7	233.18	154.42
8	242.99	152.46
9	252.87	150.94
10	262.81	149.86
11	272.79	149.21
12	282.79	149.00
13	292.79	149.24
14	302.76	149.91
15	312.70	151.03
16	322.58	152.58
17	332.38	154.56
18	342.08	156.98
19	351.67	159.82
20	361.13	163.07
21	370.43	166.75
22	379.56	170.82
23	388.50	175.30
24	397.24	180.17
25	405.75	185.41
26	414.02	191.03
27	422.04	197.01
28	429.79	203.33
29	437.25	209.99
30	444.41	216.97
31	451.26	224.26
32	456.14	229.93

Circle Center At X = 282.4 Y = 375.8 and Radius = 926.8
 *** 1.518 ***

Individual data on the 55 slices

Slice No.	Width (ft)	Weight (lbs)	Water Force		Tie Force		Earthquake Force		Surcharge Load (lbs)
			Top (lbs)	Bot (lbs)	Norm (lbs)	Tan (lbs)	Hor (lbs)	Ver (lbs)	
1	9.0	2491.2	0.0	0.0	0.0	0.0	373.7	0.0	0.0
2	1.2	731.3	0.0	0.0	0.0	0.0	109.7	0.0	0.0
3	5.1	3875.8	0.0	388.0	0.0	0.0	581.4	0.0	0.0
4	2.8	2795.1	0.0	557.1	0.0	0.0	419.3	0.0	0.0
5	1.9	2111.1	0.0	494.2	0.0	0.0	316.7	0.0	0.0
6	7.0	9291.5	0.0	2635.7	0.0	0.0	1393.7	0.0	0.0
7	0.4	617.1	0.0	193.8	0.0	0.0	92.6	0.0	0.0
8	9.5	16283.2	0.0	5469.6	0.0	0.0	2442.5	0.0	0.0
9	9.6	20137.4	0.0	7355.2	0.0	0.0	3020.6	0.0	0.0
10	7.5	17997.9	0.0	6832.2	0.0	0.0	2699.7	0.0	0.0
11	0.5	1475.3	0.0	485.3	0.0	0.0	221.3	0.0	0.0
12	0.5	1951.8	0.0	489.3	0.0	0.0	292.8	0.0	0.0
13	1.2	5226.6	0.0	1170.3	0.0	0.0	784.0	0.0	0.0
14	3.8	17171.2	0.0	3879.4	0.0	0.0	2575.7	0.0	0.0
15	6.0	27643.0	0.0	5762.3	0.0	0.0	4146.4	0.0	0.0
16	0.0	62.0	0.0	14.8	0.0	0.0	9.3	0.0	0.0
17	0.5	2336.6	0.0	563.9	0.0	0.0	350.5	0.0	0.0
18	9.4	44914.6	0.0	13066.1	0.0	0.0	6737.2	0.0	0.0
19	0.1	633.6	0.0	212.2	0.0	0.0	95.0	0.0	0.0
20	7.0	34522.5	0.0	15139.1	0.0	0.0	5178.4	0.0	0.0
21	2.8	14052.2	0.0	6174.3	0.0	0.0	2107.8	0.0	0.0
22	10.0	50477.4	0.0	22131.1	0.0	0.0	7571.6	0.0	0.0
23	10.0	51105.0	0.0	22397.0	0.0	0.0	7665.7	0.0	0.0
24	3.2	16444.1	0.0	7208.8	0.0	0.0	2466.6	0.0	0.0
25	0.5	2713.4	0.0	1120.8	0.0	0.0	407.0	0.0	0.0
26	0.5	3025.2	0.0	1120.5	0.0	0.0	453.8	0.0	0.0
27	5.0	31898.9	0.0	11184.6	0.0	0.0	4784.8	0.0	0.0
28	0.8	5026.5	0.0	1740.3	0.0	0.0	754.0	0.0	0.0
29	10.0	63961.0	0.0	22388.7	0.0	0.0	9594.1	0.0	0.0
30	9.2	59118.7	0.0	21065.7	0.0	0.0	8867.8	0.0	0.0
31	0.7	4468.5	0.0	1602.1	0.0	0.0	670.3	0.0	0.0
32	9.9	62621.0	0.0	22672.1	0.0	0.0	9393.2	0.0	0.0
33	6.4	40149.5	0.0	14721.0	0.0	0.0	6022.4	0.0	0.0
34	3.4	20908.6	0.0	7475.0	0.0	0.0	3136.3	0.0	0.0
35	9.7	58862.2	0.0	21948.8	0.0	0.0	8829.3	0.0	0.0
36	2.9	17294.1	0.0	6728.0	0.0	0.0	2594.1	0.0	0.0
37	0.5	3099.2	0.0	1154.6	0.0	0.0	464.9	0.0	0.0
38	0.5	3402.4	0.0	1154.8	0.0	0.0	510.4	0.0	0.0
39	5.7	40003.4	0.0	13115.3	0.0	0.0	6000.5	0.0	0.0
40	3.3	23123.0	0.0	7793.8	0.0	0.0	3468.5	0.0	0.0
41	6.1	41832.9	0.0	14579.0	0.0	0.0	6274.9	0.0	0.0
42	9.3	61355.3	0.0	20813.5	0.0	0.0	9203.3	0.0	0.0
43	9.1	57231.8	0.0	18543.5	0.0	0.0	8584.8	0.0	0.0
44	8.9	52638.2	0.0	16019.7	0.0	0.0	7895.7	0.0	0.0
45	5.5	30451.6	0.0	8676.0	0.0	0.0	4567.7	0.0	0.0
46	3.2	17181.8	0.0	4486.9	0.0	0.0	2577.3	0.0	0.0
47	8.5	42281.8	0.0	11032.1	0.0	0.0	6342.3	0.0	0.0
48	8.3	36652.4	0.0	9256.9	0.0	0.0	5497.9	0.0	0.0
49	8.0	30818.5	0.0	7219.6	0.0	0.0	4622.8	0.0	0.0
50	7.7	24856.8	0.0	4924.4	0.0	0.0	3728.5	0.0	0.0
51	7.5	18847.2	0.0	2375.5	0.0	0.0	2827.1	0.0	0.0
52	2.5	5192.1	0.0	184.6	0.0	0.0	778.8	0.0	0.0
53	4.6	7679.2	0.0	0.0	0.0	0.0	1151.9	0.0	0.0
54	6.8	7013.1	0.0	0.0	0.0	0.0	1052.0	0.0	0.0
55	4.9	1529.2	0.0	0.0	0.0	0.0	229.4	0.0	0.0

Failure Surface Specified By 34 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	159.00	175.00
2	167.47	169.69
3	176.19	164.79
4	185.13	160.30
5	194.26	156.24
6	203.58	152.61

7	213.07	149.43
8	222.69	146.70
9	232.42	144.43
10	242.26	142.62
11	252.17	141.28
12	262.13	140.40
13	272.12	140.00
14	282.12	140.06
15	292.11	140.60
16	302.06	141.61
17	311.95	143.09
18	321.75	145.03
19	331.46	147.44
20	341.04	150.30
21	350.48	153.61
22	359.75	157.36
23	368.83	161.54
24	377.71	166.15
25	386.36	171.17
26	394.76	176.59
27	402.90	182.41
28	410.75	188.60
29	418.30	195.15
30	425.53	202.06
31	432.43	209.29
32	438.99	216.85
33	445.17	224.71
34	448.13	228.85

Circle Center At X = 275.7 ; Y = 351.7 and Radius = 211.7
 *** 1.520 ***

Failure Surface Specified By 35 Coordinate Points

Point No	X-Surf (ft)	Y-Surf (ft)
1	150.00	175.00
2	158.40	169.58
3	167.05	164.55
4	175.91	159.93
5	184.98	155.71
6	194.24	151.92
7	203.65	148.55
8	213.21	145.62
9	222.90	143.13
10	232.69	141.09
11	242.56	139.50
12	252.50	138.37
13	262.47	137.69
14	272.47	137.47
15	282.47	137.71
16	292.44	138.41
17	302.38	139.56
18	312.25	141.17
19	322.03	143.23
20	331.71	145.74
21	341.27	148.68
22	350.68	152.07
23	359.92	155.88
24	368.98	160.11
25	377.84	164.75
26	386.48	169.80
27	394.87	175.23
28	403.01	181.05
29	410.87	187.23
30	418.43	193.77
31	425.69	200.64
32	432.63	207.84
33	439.23	215.36
34	445.48	223.16
35	449.78	229.07

Circle Center At X = 272.3 ; Y = 355.4 and Radius = 217.9
 *** 1.520 ***

Failure Surface Specified By 32 Coordinate Points

Point No	X-Surf (ft)	Y-Surf (ft)
1	177.00	175.00
2	186.03	170.69
3	195.23	166.78
4	204.59	163.26
5	214.09	160.15
6	223.72	157.46
7	233.46	155.18
8	243.28	153.32
9	253.18	151.88
10	263.13	150.88
11	273.11	150.30
12	283.11	150.15
13	293.11	150.43
14	303.08	151.15
15	313.02	152.29
16	322.89	153.86
17	332.69	155.85
18	342.40	158.26
19	351.99	161.09
20	361.45	164.33
21	370.77	167.97
22	379.91	172.01
23	388.88	176.44
24	397.64	181.25
25	406.20	186.43
26	414.52	191.98
27	422.59	197.88
28	430.40	204.12
29	437.94	210.69
30	445.19	217.59
31	452.13	224.78
32	456.76	230.02

Circle Center At X = 281.5 ; Y = 1382.8 and Radius = 232.2
 *** 1.520 ***

Failure Surface Specified By 33 Coordinate Points

Point No	X-Surf (ft)	Y-Surf (ft)
1	168.00	175.00
2	176.54	169.80
3	185.33	165.03
4	194.34	160.69
5	203.55	156.79
6	212.94	153.35
7	222.48	150.36
8	232.16	147.85
9	241.95	145.81
10	251.83	144.24
11	261.77	143.16
12	271.75	142.57
13	281.75	142.46
14	291.74	142.83
15	301.71	143.70
16	311.61	145.04
17	321.45	146.87
18	331.18	149.18
19	340.78	151.95
20	350.25	155.19
21	359.54	158.88
22	368.64	163.03
23	377.53	167.61
24	386.18	172.62
25	394.59	178.04
26	402.71	183.86
27	410.55	190.08
28	418.07	196.67
29	425.27	203.61
30	432.11	210.90
31	438.60	218.51
32	444.70	226.43

33 446.21 228.59
 Circle Center At X = 279.0 ; Y = 147.9 and Radius = 226.5
 *** 1.522 ***

Failure Surface Specified By 35 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	150.00	175.00
2	158.45	169.65
3	167.13	164.69
4	176.03	160.14
5	185.14	156.00
6	194.42	152.29
7	203.87	149.00
8	213.46	146.16
9	223.17	143.77
10	232.98	141.82
11	242.86	140.33
12	252.81	139.29
13	262.79	138.72
14	272.79	138.61
15	282.79	138.95
16	292.75	139.76
17	302.67	141.03
18	312.52	142.75
19	322.28	144.93
20	331.93	147.55
21	341.45	150.62
22	350.82	154.12
23	360.01	158.05
24	369.02	162.40
25	377.81	167.16
26	386.38	172.32
27	394.70	177.87
28	402.75	183.80
29	410.52	190.09
30	417.99	196.74
31	425.15	203.72
32	431.98	211.03
33	438.47	218.64
34	444.59	226.54
35	446.01	228.56

Circle Center At X = 270.2 ; Y = 135.4 and Radius = 216.8
 *** 1.523 ***

Failure Surface Specified By 33 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	159.00	175.00
2	167.70	170.07
3	176.62	165.55
4	185.74	161.44
5	195.03	157.75
6	204.49	154.49
7	214.08	151.67
8	223.79	149.30
9	233.61	147.38
10	243.50	145.90
11	253.45	144.89
12	263.43	144.33
13	273.43	144.23
14	283.42	144.59
15	293.39	145.41
16	303.31	146.69
17	313.16	148.42
18	322.92	150.60
19	332.56	153.23
20	342.08	156.30
21	351.45	159.80
22	360.64	163.73
23	369.65	168.08
24	378.44	172.84
25	387.01	178.00

26	395.33	183.54
27	403.39	189.46
28	411.17	195.75
29	418.65	202.39
30	425.82	209.36
31	432.66	216.65
32	439.15	224.26
33	442.09	228.03

Circle Center At X = 270.6 ; Y = 261.8 and Radius = 217.6

*** 1.524 ***

Failure Surface Specified By 31 Coordinate Points

Point No	X-Surf (ft)	Y-Surf (ft)
1	177.00	175.00
2	185.76	170.17
3	194.74	165.77
4	203.92	161.81
5	213.28	158.30
6	222.81	155.25
7	232.47	152.66
8	242.24	150.54
9	252.10	148.90
10	262.04	147.74
11	272.01	147.06
12	282.01	146.86
13	292.01	147.15
14	301.98	147.92
15	311.90	149.18
16	321.75	150.91
17	331.50	153.11
18	341.14	155.79
19	350.63	158.93
20	359.96	162.53
21	369.11	166.57
22	378.05	171.05
23	386.76	175.96
24	395.22	181.28
25	403.42	187.01
26	411.33	193.13
27	418.94	199.62
28	426.22	206.48
29	433.15	213.68
30	439.74	221.20
31	445.52	228.49

Circle Center At X = 281.1 ; Y = 353.1 and Radius = 206.5

*** 1.525 ***

Failure Surface Specified By 31 Coordinate Points

Point No	X-Surf (ft)	Y-Surf (ft)
1	177.00	175.00
2	185.69	170.04
3	194.61	165.52
4	203.74	161.45
5	213.06	157.83
6	222.55	154.68
7	232.18	152.00
8	241.94	149.79
9	251.79	148.07
10	261.71	146.84
11	271.69	146.11
12	281.68	145.86
13	291.68	146.11
14	301.65	146.85
15	311.58	148.09
16	321.43	149.81
17	331.18	152.02
18	340.81	154.70
19	350.30	157.86
20	359.62	161.48
21	368.75	165.56
22	377.67	170.09

23	386.35	175.04
24	394.78	180.43
25	402.93	186.22
26	410.79	192.40
27	418.33	198.97
28	425.54	205.90
29	432.40	213.18
30	438.89	220.79
31	444.74	228.39

Circle Center At X = 281.6 ; Y = 348.3 and Radius = 202.5
 *** 1.526 ***

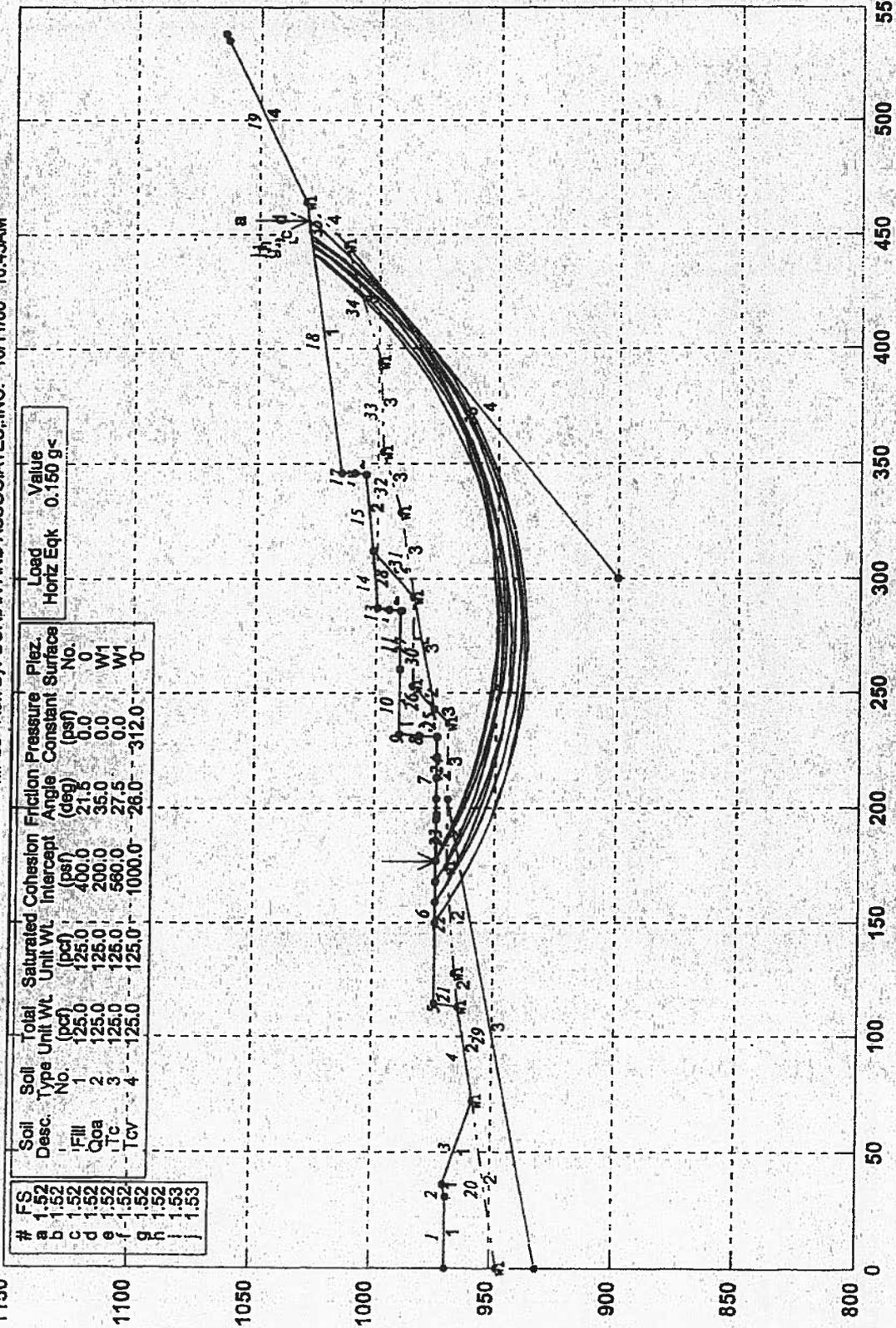
Failure Surface Specified By 32 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	168.00	175.00
2	176.84	170.33
3	185.89	166.07
4	195.13	162.24
5	204.53	158.84
6	214.09	155.89
7	223.77	153.37
8	233.55	151.31
9	243.42	149.70
10	253.35	148.56
11	263.33	147.87
12	273.33	147.65
13	283.33	147.89
14	293.30	148.60
15	303.23	149.77
16	313.10	151.39
17	322.88	153.47
18	332.55	156.01
19	342.10	158.99
20	351.50	162.40
21	360.73	166.25
22	369.77	170.53
23	378.60	175.21
24	387.21	180.31
25	395.57	185.79
26	403.67	191.56
27	411.48	197.90
28	419.00	204.49
29	426.21	211.42
30	433.08	218.69
31	439.62	226.26
32	440.88	227.86

Circle Center At X = 273.1 ; Y = 363.2 and Radius = 215.6
 *** 1.527 ***

APN# 2061-001-025, 30800 Block Agoura Rd Section A-A' Pseudostatic Stability

D:\STEDWIN\272-K-1\272A3WQ.PL2 RUN BY: GORIAN AND ASSOCIATES, INC. 10/11/00 10:45AM



#	FS	Soil Desc.	Type No.	Total Unit Wt. (pcf)	Saturated Unit Wt. (pcf)	Cohesion (psf)	Friction Angle (deg)	Pressure Constant (psf)	Piez. Surface No.	Load Horiz Eqk	Value
a	1.52	Fill	1	125.0	125.0	400.0	21.5	0.0	0	0.150	g<
b	1.52	Clay	2	125.0	125.0	200.0	35.0	0.0	W1		
c	1.52	TC	3	125.0	125.0	580.0	27.5	0.0	W1		
d	1.52	TC	4	125.0	125.0	1000.0	26.0	-312.0	0		
e	1.52										
f	1.52										
g	1.52										
h	1.53										
i	1.53										

GSTABL7 FSmin=1.52

Safety Factors Are Calculated By The Modified Bishop Method

STED

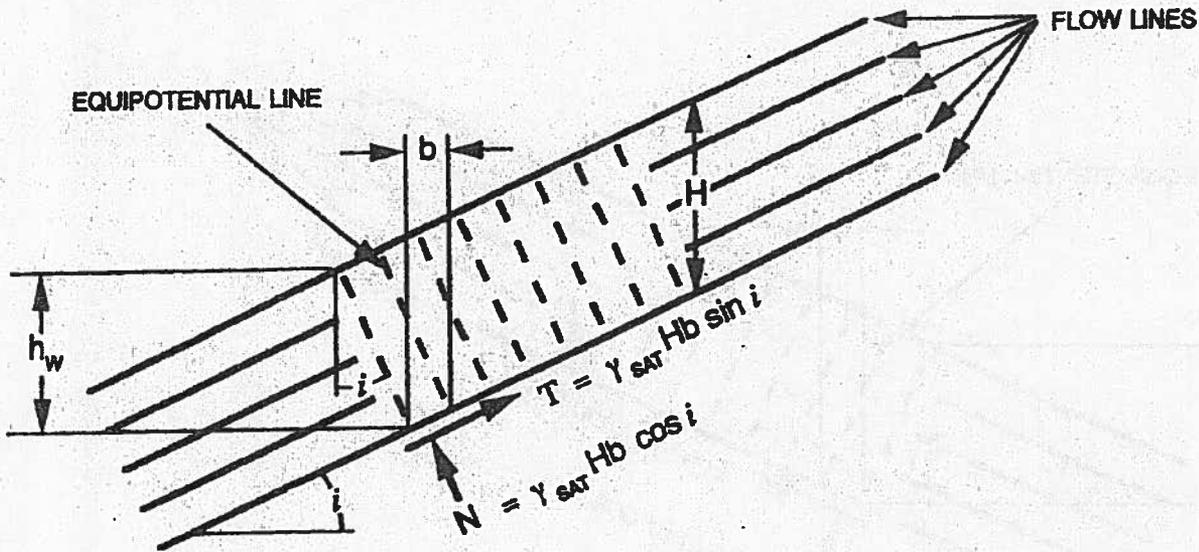




Surficial Slope Stability (Seepage Parallel to Slope)

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$$T = \frac{T}{b/\cos i} \frac{\gamma_{SAT} H \sin i \cos i}{b/\cos i} = \gamma_{SAT} H \sin i \cos i = \text{TANGENTIAL STRESS}$$

$$\sigma = \frac{N}{b/\cos i} - h_w \gamma_w = \gamma_{SAT} H \cos^2 i - h_w \gamma_w : \gamma' H \cos^2 i = \text{NORMAL STRESS}$$

$$F.S. = \frac{C}{\gamma_{SAT} H \cos^2 i \tan i} + \frac{\gamma' \tan \phi}{\gamma_{SAT} \tan i}$$

$$F.S. = \frac{200}{200.18} + \frac{43.83}{62.60}$$

C	=	200	psf
ϕ	=	35	degrees
$\tan \phi$	=	0.70	
i	=	26.6	degrees
$\tan i$	=	0.50	
$\cos^2 i$	=	0.80	
H	=	4	feet
γ_{SAT}	=	125	pcf
γ'	=	62.6	pcf

FACTOR OF SAFETY = 1.70

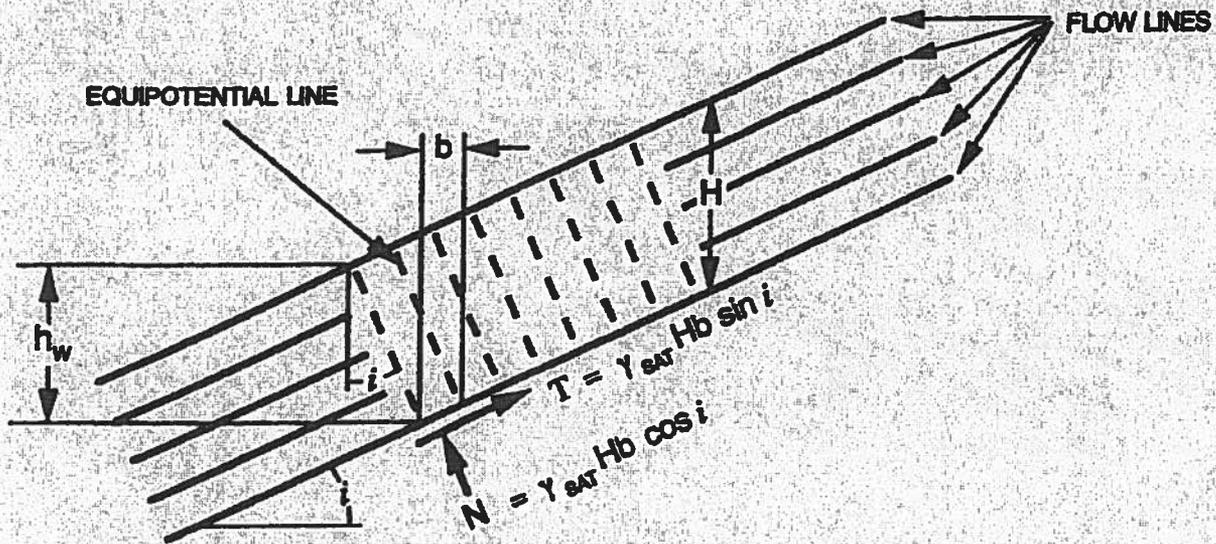
2(h):1(v) Cut Slope
in Alluvium



Surficial Slope Stability (Seepage Parallel to Slope)

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$$T = \frac{T}{b/\cos i} \frac{\gamma_{SAT} H \sin i \cos i}{b/\cos i} = \gamma_{SAT} H \sin i \cos i = \text{TANGENTIAL STRESS}$$

$$\sigma = \frac{N}{b/\cos i} - h_w \gamma_w = \gamma_{SAT} H \cos^2 i - h_w \gamma_w : \gamma' H \cos^2 i = \text{NORMAL STRESS}$$

$$F.S. = \frac{C}{\gamma_{SAT} H \cos^2 i \tan i} + \frac{\gamma' \tan \phi}{\gamma_{SAT} \tan i}$$

$$F.S. = \frac{1000}{200.18} + \frac{30.53}{62.60}$$

- C = 1000 psf
- ϕ = 26 degrees
- $\tan \phi$ = 0.49
- i = 26.6 degrees
- $\tan i$ = 0.50
- $\cos^2 i$ = 0.80
- H = 4 feet
- γ_{SAT} = 125 pcf
- γ' = 62.6 pcf

FACTOR OF SAFETY = 5.48

2(h):1(v) Natural or Cut Slope
In Conejo Volcanics

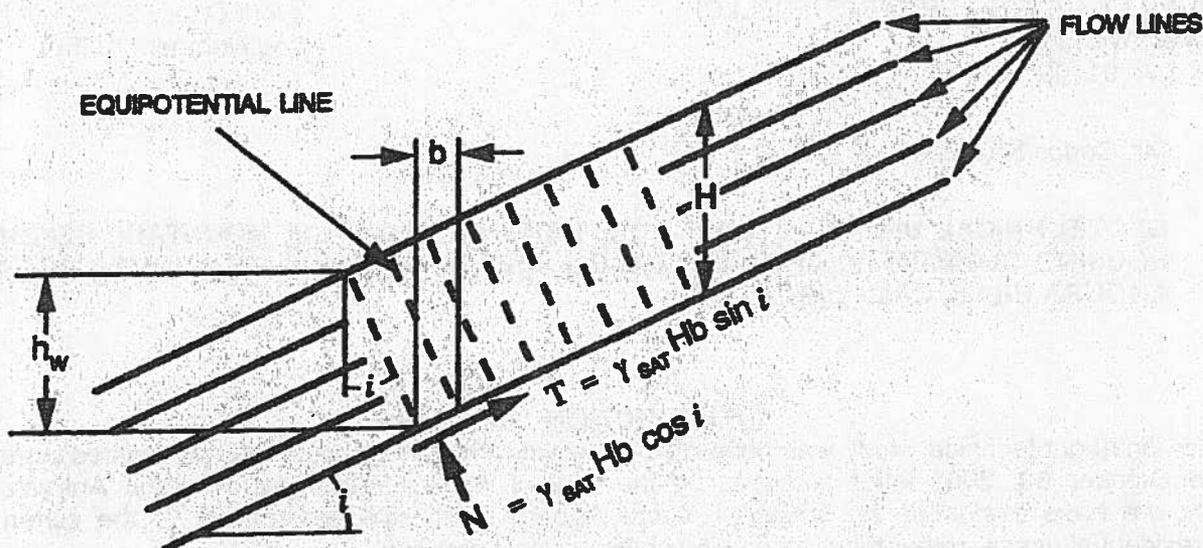
Reference: Soil Mech. and Found., Parcher, Means, 1967
Work Order: 2272-1-0-11
Log Number: 20524

Surficial Slope Stability (Seepage Parallel to Slope)



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$$T = \frac{T}{b/\cos i} \frac{\gamma_{SAT} H \sin i \cos i}{b/\cos i} = \gamma_{SAT} H \sin i \cos i = \text{TANGENTIAL STRESS}$$

$$\sigma = \frac{N}{b/\cos i} - h_w \gamma_w = \gamma_{SAT} H \cos^2 i - h_w \gamma_w : \gamma' H \cos^2 i = \text{NORMAL STRESS}$$

$$F.S. = \frac{C}{\gamma_{SAT} H \cos^2 i \tan i} + \frac{\gamma' \tan \phi}{\gamma_{SAT} \tan i}$$

$$F.S. = \frac{400}{200.18} + \frac{24.66}{62.60}$$

FACTOR OF SAFETY = 2.39

C	=	400	psf
ϕ	=	21.5	degrees
$\tan \phi$	=	0.39	
i	=	26.6	degrees
$\tan i$	=	0.50	
$\cos^2 i$	=	0.80	
H	=	4	feet
γ_{SAT}	=	125	pcf
γ'	=	62.6	pcf

2(h):1(v) Engineered Fill Slope



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February 21, 2003

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AGOURA HILLS CENTER PROPERTIES, LLC
7655 Haskell Avenue
Van Nuys, CA 91406

Work Order: 2272-1-0-13
Log Number: 22287

Attention: Mr. Carlos Khantzis

Subject: **GEOTECHNICAL UPDATE STUDY – THE PARK AT LADYFACE MOUNTAIN, SENIOR HOUSING COMMUNITY, APN# 2061-001-025 AND 30800 BLOCK OF AGOURA ROAD, AGOURA HILLS, CALIFORNIA.**

INTRODUCTION

The supplemental geotechnical study was performed to provide the update information requested in the referenced October 30, 2002 letter prepared by the City of Agoura Hills' Environmental Analysts. Specifically, we have evaluated the subject 7.1-acre Agoura Road site with respect to the current clustered residential usage, rather than the previous office project proposal.

PROPOSED DEVELOPMENT

The current proposed project for the site consists of clustered residential housing for seniors. Twelve, small residential buildings with underground parking will be constructed in three general clusters over the 7.1 acre site (refer to Plate 1). Building areas will be developed using cut and fill grading, as well as retaining wall construction.

Manufactured slopes (both cut and fills) will be at 2(h):1(v) gradients. Retaining walls up to 16' tall are proposed. Access to the building clusters will be via two driveways off of Agoura Road. Agoura Road will be widened along the northern property line. A retention basin will be developed by construction of a 5' to 10' berm and spillway across the western "blue line stream" drainage course. A second existing debris basin would be restructured as part of the Agoura Road widening.

SCOPE OF SERVICES

In preparing this report the following scope of work was conducted by or under the direct supervision of the undersigned state registered geotechnical engineer and certified engineering geologist:

- 1) Archival Review – A review of the previous referenced geologic and geotechnical engineering reports addressing the site and vicinity was performed.
- 2) Subsurface Exploration – Four (4) additional backhoe pits (TP-1 through TP-4) were excavated in the western portion of the site to provide additional subsurface data. The pits were excavated with a

subcontractor supplied and operated rubber tired tractor-mounted backhoe with a 24-inch wide bucket. The undersigned-engineering geologist entered and logged the exploratory pits. Bulk and relatively undisturbed drive samples were obtained from each pit for geotechnical laboratory testing. Logs of the recent backhoe pits are attached in Appendix A.

Each excavation was backfilled at the completion of the logging and sampling operations with spoils from the excavations. The backfill was wheelrolled from the surface to densify the soil, however, the backfill may settle. Consequently, the site owner or representative should periodically inspect the locations to determine if the backfill has settled and to fill any depressions.

- 3) Laboratory Testing – A limited program of laboratory testing was performed to evaluate the geotechnical properties of the samples obtained during the trenching operations. The laboratory-testing program included evaluation of in-situ moisture and density.
- 4) Geologic and Geotechnical Engineering Analyses – The results of our archival review, supplemental subsurface exploration, and laboratory were used to evaluate the site with respect to the current proposed development. The *Preliminary Grading Plan, Parcel 2 of Parcel Map 15762*, prepared by HMK Engineering, Inc. (Scale: 1"=30' and dated 8/22/02) was used in our evaluation of the proposed development and serves as the base map of our revised Geotechnical Map, Plate 1.
- 5) Report – This report was prepared to present our findings, conclusions, and recommendations based on the previous and recent site investigations.

ADDITIONAL SURFACE EXPLORATION

Four (4) exploratory backhoe pits (TP-1 through TP-4) were excavated in the western portion of the site where previous subsurface exploration was lacking (this area of the site was excluded from development in the previously evaluated office building proposal). TP-4 was excavated in the area of the proposed retention basin berm to further evaluate potential remedial grading (alluvial removals) and groundwater conditions in this area.

Based on these recent test pits and laboratory testing, areas of unsuitable non-engineered fills, recent alluvium, and topsoil and/or colluvial deposits were encountered overlying very stiff to hard Older Alluvial Deposits. Generally 4' to 6' in depth, these upper soils are not suitable to support any proposed construction and should be removed from area of construction a minimum of five feet beyond [Refer to Gorian 2002b].

Minor seepage and standing water was encountered in TP-4 just below the current base level of the adjacent stream. Saturated conditions and control of groundwater should be anticipated and planned for during grading within the western most drainage.

CONCLUSIONS AND RECOMMENDATIONS

The site remains suitable for the current proposed senior housing development from a geotechnical standpoint. Findings, conclusions and recommendations contained in our previous geotechnical investigation (Gorian 2002b) remain applicable. A copy of that report is appended herewith as Appendix B for ease of referral. Our Revised Geotechnical Map depicting the approximate distribution of earth units on the site and location of exploratory excavations (both previous and current) is attached as Plate 1. Also, our previous Geotechnical Cross-Section A-A' has been revised and is attached as Plate 2.

-o0o-

We trust that this evaluation satisfies the current geotechnical needs of the project. Please do not hesitate to call if you have any questions or require any additional information.

Respectfully,

GORIAN AND ASSOCIATES, INC.



By: William F. Cavan, Jr. EG 1161
Principal Engineering Geologist



Jerome J. Blunck, GE 151
Principal Geotechnical Engineer

Attachments: References
Appendix A – Backhoe Trench Logs
Appendix B – Gorian 10/12/2000 Report
Plate 1 – Revised Geotechnical Map
Plate 2 – Revised Geotechnical Cross-Section A-A'

Distribution: Addressee (3)
Franco & Associates (4) for redistribution and submittals



REFERENCES

- Agoura Hills, City of (2002), *Review of the EIR Data Base Submittals for The Park at Ladyface (a Senior Housing Project)*. Dated October 30, 2002.
- Gorian and Associates, Inc. (1999), *Cursory Geologic Feasibility Evaluation, Khantzis/Agoura Hills Project, APN#2061-001-025 and 30800 Block of Agoura Road, Agoura Hills, California, Ware & Malcomb Project No. 993-025.00*. Work Order: 2272-0-0-10, Log Number: 19926, Dated November 30, 1999.
- Gorian and Associates, Inc. (2000a), *Geologic And Geotechnical Engineering Evaluation, Agoura Hills Project, APN# 2061-001-025 and 30800 Block of Agoura Road, Agoura Hills, California*. Work Order: 2272-1-0-11, Log Number: 20349, Dated June 19, 2000.
- Gorian and Associates, Inc. (2000b), *Results of Preliminary Geotechnical Investigation, Agoura Hills Project, APN#2061-001-025 and 30800 Block of Agoura Road, Agoura Hills, California*. Work Order: 2272-1-0-11, Log Number: 20524, Dated October 12, 2000.
- Gorian and Associates, Inc. (2000c), *Response to Memorandum dated October 10, 2000 Regarding Agoura Hills Project, APN#2061-001-025 and 30800 Block of Agoura Road*. Work Order: 2272-1-0-13, Log Number: 20609, Dated October 18, 2000.

Work Order: 2272-1-0-13
Log Number: 22287

**APPENDIX A
BACKHOE TRENCH LOGS**

GORIAN AND ASSOCIATES, INC.



Project: Agoura Hills Center Properties LLC
 Method of Excavation: Rubber Tire Backhoe
 Trench Width 2 ft
 Surface Elevation: 985'±

TRENCH: T-1
 Work Order: 2272-1-0-13
 Report Log No.: 22287
 Date: 1/28/03

Applied Earth Sciences

Logged by: BC

Depth (ft)	Undisturbed	Bulk	Blow Counts	Moisture Content (% dry weight)	Dry Density (pcf)	Penetrometer (tsf)	USCS	Soil/ Lithology	Description	Remarks
0							CL/ ML	ARTIFICIAL FILL: At 0 to 3'; very dark grayish brown (10YR 3/2) fine sandy to very silty clay (very moist, soft to medium stiff). Abundant rootlets in upper 9". Very porous. Becoming slightly porous with depth. Trace rootlets, roots. Occasional gravel. Minor debris-can, plastic, wood, carbon, brick. Below 12"; locally mottled with pale brown (10YR 5/6) to yellowish brown (10YR 5/4) clayey silt and fragments of older alluvium. Becoming drier with depth. Sharp contact with unit below.		
				9.6	85		CL	TOPSOIL/COLLUVIUM: At 3' to 4½'; very dark grayish brown (10YR 3/2) sandy silty clay (dry to damp, medium stiff to very stiff). Occasional rootlets. Scattered tubular voids. Trace of Basalt gravel and occasional cobbles.		
5				13.9	81		ML	OLDER ALLUVIUM: At 4'3" to 7'; yellowish brown (10YR 5/6) slightly clayey silt with sand and trace gravel (moist, hard).		
				20.6	86					
10								Total depth 7': No groundwater, No caving.		



Project: Agoura Hills Center Properties LLC
 Method of Excavation: Rubber Tire Backhoe
 Trench Width 2 ft
 Surface Elevation: 971'±

TRENCH: T-2

Work Order: 2272-1-0-13

Report Log No.: 22287

Date: 1/28/03

Applied Earth Sciences

Logged by: BC

Depth (ft)	Undisturbed	Bulk	Blow Counts	Moisture Content (% dry weight)	Dry Density (pcf)	Penetrometer (tsf)	USCS	Soil/ Lithology	Description	Remarks
0							CL		<p>ARTIFICIAL FILL: At 0 to 3¼'; dark to very dark grayish brown (10YR 4-3/2) sandy silty clay with scattered to abundant subrounded to rounded gravels and pebbles (damp, soft). Desiccated in upper 12" and with abundant root hairs. Becoming mainly light olive brown with abundant sandy silty clay to very clayey sand with abundant subangular to subrounded gravels and pebbles with trace cobbles. Occasional 2" to 4" thick interlayer of dark grayish brown (damp to very moist, medium stiff).</p>	
				16.3	93		CL/SC			
5				21.2	100		CL			
				26.9	83		CL		<p>OLDER ALLUVIUM: At 6' to 8¼'; light olive brown (2.5Y 5/4) to yellowish brown (10YR 5/6) mottled with pale olive (5Y 6/3) silty clay (very moist, very stiff to hard).</p>	
10									Total depth 8¼': No groundwater, No caving.	



Project: Agoura Hills Center Properties LLC
 Method of Excavation: Rubber Tire Backhoe
 Trench Width 2 ft
 Surface Elevation: 965½±

TRENCH: T-3

Work Order: 2272-1-0-13

Report Log No.: 22287

Date: 1/28/03

Applied Earth Sciences

Logged by: BC

Depth (ft)	Undisturbed	Bulk	Blow Counts	Moisture Content (% dry weight)	Dry Density (pcf)	Penetrometer (tsf)	USCS	Soil/ Lithology	Description	Remarks
0				24.1	95		CL		ARTIFICIAL FILL: At 0 to 4½'; dark grayish brown (10YR 4/2) sandy silty clay. Upper 12" disturbed via discing. Abundant root hairs and desiccated. (Moist, soft). Scattered gravel. Below 12"; becoming (very moist, medium stiff to stiff). Trace roots and rootlets. Irregular contact with unit below.	
5				29.5	88		ML		OLDER ALLUVIUM: At 4½' to 7'; yellowish brown (10YR 5/6) with mottling of pale yellow (5Y 7/3) to pale olive (5Y 6/3) clayey silt with fine sand (very moist, very stiff).	
10									Total depth 7': No groundwater, No caving.	



Project: Agoura Hills Center Properties LLC
 Method of Excavation: Rubber Tire Backhoe
 Trench Width 2 ft
 Surface Elevation: 961½±

TRENCH: T-4

Work Order: 2272-1-0-13

Report Log No.: 22287

Date: 1/28/03

Logged by: BC

Applied Earth Sciences

Depth (ft)	Undisturbed	Bulk	Blow Counts	Moisture Content (% dry weight)	Dry Density (pcf)	Penetrometer (tsf)	USCS	Soil/Lithology	Description	Remarks
0				26.7	90		CL		ARTIFICIAL FILL: At 0 to 1'; dark grayish brown (10YR 4/2) mottled with yellow brown sandy silty clay with abundant gravel and pebbles (dry to damp, soft). Abundant root hairs and occasional rootlets.	
							CL		ALLUVIUM: At 1' to 5½'; very dark grayish brown (10YR 4/2) to black (10YR 2/1) mottled silty clay with fine sand (very moist, stiff becoming very stiff with depth). Only trace rootlets and root hairs. Minor calcium carbonate as fine veinlets. Expansion/contraction shears noted in clay.	
							GC		: At 3½' southside of pit to 4¼' northside; cobble lag starts. Abundant subrounded pebbles and mainly cobbles to 6" diameter in matrix of dark grayish brown (2.5Y 4/2) mottled with very dark grayish brown (2.5Y 3/2) slightly silty clay (very moist, stiff).	
5				27.9	81		ML		OLDER ALLUVIUM: At 5½' to 7'; yellowish brown (10YR 5/6) mottled with pale olive (5Y 6/3) clayey silt with fine sand (very moist to wet, very stiff).	
10									Total depth 7': No caving. Water seeping into lower 6", standing water at 6" after 1 hour±.	

**APPENDIX B
GEOTECHNICAL REPORT DATED OCTOBER 12, 2000**



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September 7, 2007

CITY OF AGOURA HILLS

City of Agoura Hills
Planning and Community Development
Case: 08-CUP-001/08-SPA-001/
08-VAR-002/08-OTP-004
Date: 03/17/08
Exhibit Submitted: Geol/Geotech Reports

Log Number: 2272-1-0-100

Agoura Hills Center Properties, L.P.
2985 E Hillcrest Drive #107
Thousand Oaks, CA 91362

Attention: Mr. Steve Rice

Subject: **GEOTECHNICAL UPDATE STUDY, SENIOR HOUSING COMMUNITY, APN# 2061-001-025, 30800 AGOURA ROAD, AGOURA HILLS, CALIFORNIA.**

1. INTRODUCTION

This geotechnical update study was performed to review the current grading plan and observe the present site conditions for the proposed senior housing community at 30800 Agoura Road in Agoura Hills, California. The current grading plan by CC&R, Inc., which is the basis for our attached Plate 1, was changed significantly since our previous report (Gorian, 2003). The current plan shows development of two residential buildings with subterranean parking, a separate community building, associated surface improvements, and widening of Agoura Road.

2. PROPOSED DEVELOPMENT

The project currently proposed for the site consists of two multi-unit senior residential buildings with subterranean parking garages at the lower levels. These buildings will be constructed in the eastern and western portions of the 7.1-acre site (refer to Plate 1) with a community building proposed in the central portion of the development. A drive with surface parking will extend from Agoura Road to provide vehicular access to the buildings. Agoura Road is to be widened along the northern property line.

The development area will be graded using cut and fill grading. Manufactured slopes (both cut and fill) will be at a 2(h):1(v) gradient. Retaining walls with maximum heights of 10 feet and 6 feet (internal to buildings and exterior, respectively) are also proposed at various locations within the developed area. An inlet structure will be constructed at the northern limit of the western drainage course. An existing debris basin at the eastern limit of the property would be reconfigured as part of the Agoura Road widening.

3. SCOPE OF SERVICES

In preparing this report, the following scope of work was conducted by or under the direct supervision of the undersigned state registered geotechnical engineer and certified engineering geologist:

TSJ
RETURNED

SEP 13 2007

- 1) **Archival Review** – A review was performed of the previous referenced geologic and geotechnical engineering reports addressing the site and vicinity.
- 2) **Site Walkover** – A site walkover was conducted to document current site conditions, to observe the performance of the natural slopes in the areas of proposed cuts, and to look for settlement in the area of our previous subsurface explorations.
- 3) **Geologic and Geotechnical Engineering Analyses** – The results of our archival review and data from our previous reports were used to evaluate the site with respect to the current proposed development. The *Preliminary Grading Plan, 30800 Agoura Road*, prepared by CC and R Engineering, Inc. (Scale: 1"=40' and dated 3/22/07) was used in our evaluation of the proposed development and serves as the base map of our revised Geotechnical Map, Plate 1.
- 4) **Report** – This report was prepared to present our findings, conclusions, and recommendations based on the previous and recent site investigations.

4. CURRENT SITE CONDITIONS

On April 5, 2007, a geologist from this office performed a site walkover and photo reconnaissance to document current site conditions. The following observations of current site conditions were made:

The lower slopes of the property are currently covered by a low to moderate growth of seasonal weeds and grasses with occasional clusters of native oaks and chaparral. In areas of steeper topography at the southern limit of the property, a heavy growth of chaparral and native trees continues to flourish. The natural slopes continue to perform well and no signs of surficial instability were observed. At the time of our site visit, all the drainage courses on the property were dry.

In the approximate center of the property, at the north end of an existing north-south drainage is a body of non-certified artificial fill (Plate 1). Where this fill crosses the active drainage channel, an approximately 4 foot deep channel has been eroded.

5. CONCLUSIONS AND RECOMMENDATIONS

The site remains suitable for the current proposed senior housing development from a geotechnical standpoint. All findings, conclusions, and recommendations contained in our previous geotechnical investigation (see Gorian 2003) remain applicable.

Additionally, the artificial fill body at the north end of the central drainage channel should be remediated in the same fashion as described for treatment of non-certified fills in our previous report. This fill body is outside the area of proposed grading. However, continued erosion of this fill could adversely affect future development.

Our Revised Geotechnical Map depicting the approximate distribution of earth units on the site and location of our previous exploratory excavations is attached as Plate 1. Also, our Revised Geotechnical Cross-Section A-A' reflecting the current development plan is attached as Plate 2.

6. CLOSURE

This report was prepared under the direction of State registered Geotechnical Engineer and certified Engineering Geologist. No warranty, express or implied, is made as to conclusions and professional advice included in this report. Gorian and Associates, Inc. disclaim responsibility and liability for problems that may occur if the recommendations presented in this report are not followed.

The report was prepared for Agoura Hills Center Properties, LLC and design consultants solely for design and construction of the project as described herein. It may not contain sufficient information for other uses or the purposes of other parties. These recommendations should not be extrapolated to other areas or used for other facilities without consulting Gorian and Associates, Inc.

Services of Gorian and Associates, Inc. or this report should not be construed to relieve the owner or any construction contractor from their responsibility or liabilities, or for maintaining a safe jobsite. Neither the professional activities of Gorian and Associates, Inc. nor the presence of our employees shall be construed to imply Gorian and Associates, Inc. has any responsibility for methods of work performance, superintendence, sequencing of construction, or safety in, on, or about the jobsite.

The recommendations are based on interpretations of the subsurface conditions concluded from information gained from subsurface explorations and a surficial site reconnaissance. The interpretations may differ from actual subsurface conditions, which can vary horizontally and vertically across the site. Due to possible subsurface variations, this office should observe all aspects of field construction addressed in this report. Any persons using this report for bidding or construction purposes should perform such independent investigations, as they deem necessary.

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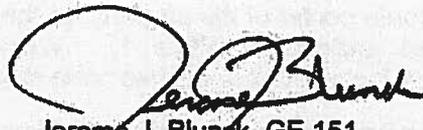
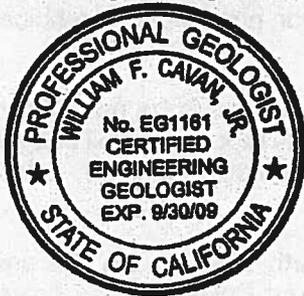
We trust that this evaluation satisfies the current geotechnical needs of the project. Please do not hesitate to call if you have any questions or require any additional information.

Respectfully,

Gorian and Associates, Inc.



By: William F. Cavan, Jr., CEG 1161
Principal Engineering Geologist



Jerome J. Blunck, GE 151
Principal Geotechnical Engineer



Attachments: References
Plate 1 – Revised Geotechnical Map
Plate 2 – Revised Geotechnical Cross-Section A-A'

Distribution: Addressee (7) for redistribution and submittals

REFERENCES

- Agoura Hills, City of (2002), *Review of the EIR Data Base Submittals for the Park at Ladyface (a Senior Housing Project)*. Dated October 30, 2002.
- CC and R Engineering Inc. (2007), *Tentative Parcel Map No. For Senior Housing Purposes, 30800 Agoura Road, Agoura Hills, Los Angeles County, California*. Tentative Map dated 7/17/07 by CC and R for Agoura Hills Center Properties, LLC.
- Gorian and Associates, Inc. (1999), *Cursory Geologic Feasibility Evaluation, Khantzis/Agoura Hills Project, APN#2061-001-025 and 30800 Block of Agoura Road, Agoura Hills, California, Ware & Malcomb Project No. 993-025.00*. Work Order: 2272-0-0-10, Log Number: 19926, Dated November 30, 1999.
- Gorian and Associates, Inc. (2000a), *Geologic And Geotechnical Engineering Evaluation, Agoura Hills Project, APN# 2061-001-025 and 30800 Block of Agoura Road, Agoura Hills, California*. Work Order: 2272-1-0-11, Log Number: 20349, Dated June 19, 2000.
- Gorian and Associates, Inc. (2000b), *Results of Preliminary Geotechnical Investigation, Agoura Hills Project, APN#2061-001-025 and 30800 Block of Agoura Road, Agoura Hills, California*. Work Order: 2272-1-0-11, Log Number: 20524, Dated October 12, 2000.
- Gorian and Associates, Inc. (2000c), *Response to Memorandum dated October 10, 2000 Regarding Agoura Hills Project, APN#2061-001-025 and 30800 Block of Agoura Road*. Work Order: 2272-1-0-13, Log Number: 20609, Dated October 18, 2000.
- Gorian and Associates, Inc. (2003), *Geotechnical Update Study – The Park at Ladyface Mountain, Senior Housing Community, APN# 2061-001-025 and 30800 Block of Agoura Road*. Work Order: 2272-1-0-13, Log Number: 22287, Dated February 21, 2003

Appendix G

Noise Measurements and Modeling Results





Measurement Location 1

Address	Time	Measurme	LAeq	LAE	LAmx	LAmn	LA10
1	#####	0:15:00	62.5	92.1	72	52.7	66.2
2	#####	0:02:07	61.9	82.9	67	55.9	64.6

LA33	LA50	LA90	LA95	Lppeak	Over	Under	Pause
63	61.1	55.5	54.7	103.9	-	-	-
62.3	61.3	57.1	56.6	102.7	-	-	-

Measurement Location 2

Address	Time	Measurme LAeq	LAE	LAmx	Lamin	LA10	
1	#####	0:15:00	54.9	84.4	62.3	48.5	57.3
2	#####	0:00:02	52.2	55.2	52.6	52	52.5

LA33	LA50	LA90	LA95	Lppeak	Over	Under	Pause
55.3	54.2	50.9	50	98.7	-	-	-
52.3	52.2	52.1	52.1	77.1	-	-	-

RESULTS: SOUND LEVELS

<Project Name?>

<Organization?>
<Analysis By?>

10 December 2014
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS

PROJECT/CONTRACT:

<Project Name?>

RUN:

<Run Title?>

BARRIER DESIGN:

INPUT HEIGHTS

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

ATMOSPHERICS:

20 deg C, 50% RH

Receiver

Name	No.	#DUs	Existing LAeq1h dBA	No Barrier				With Barrier				
				LAeq1h		Increase over existing		Type Impact	Calculated LAeq1h dBA	Noise Reduction		Calculated minus Goal dBA
				Calculated	Crit'n	Calculated	Crit'n			Calculated	Goal	
Building A	1	1	0.0	61.7	66	61.7	10	---	61.7	0.0	8	-8.0
Dwelling Units		# DUs	Noise Reduction									
			Min	Avg	Max							
			dB	dB	dB							
All Selected		1	0.0	0.0	0.0							
All Impacted		0	0.0	0.0	0.0							
All that meet NR Goal		0	0.0	0.0	0.0							

RESULTS: SOUND LEVELS

<Project Name?>

<Organization?>
<Analysis By?>

10 December 2014
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS

PROJECT/CONTRACT: <Project Name?>
RUN: <Run Title?>
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 20 deg C, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver

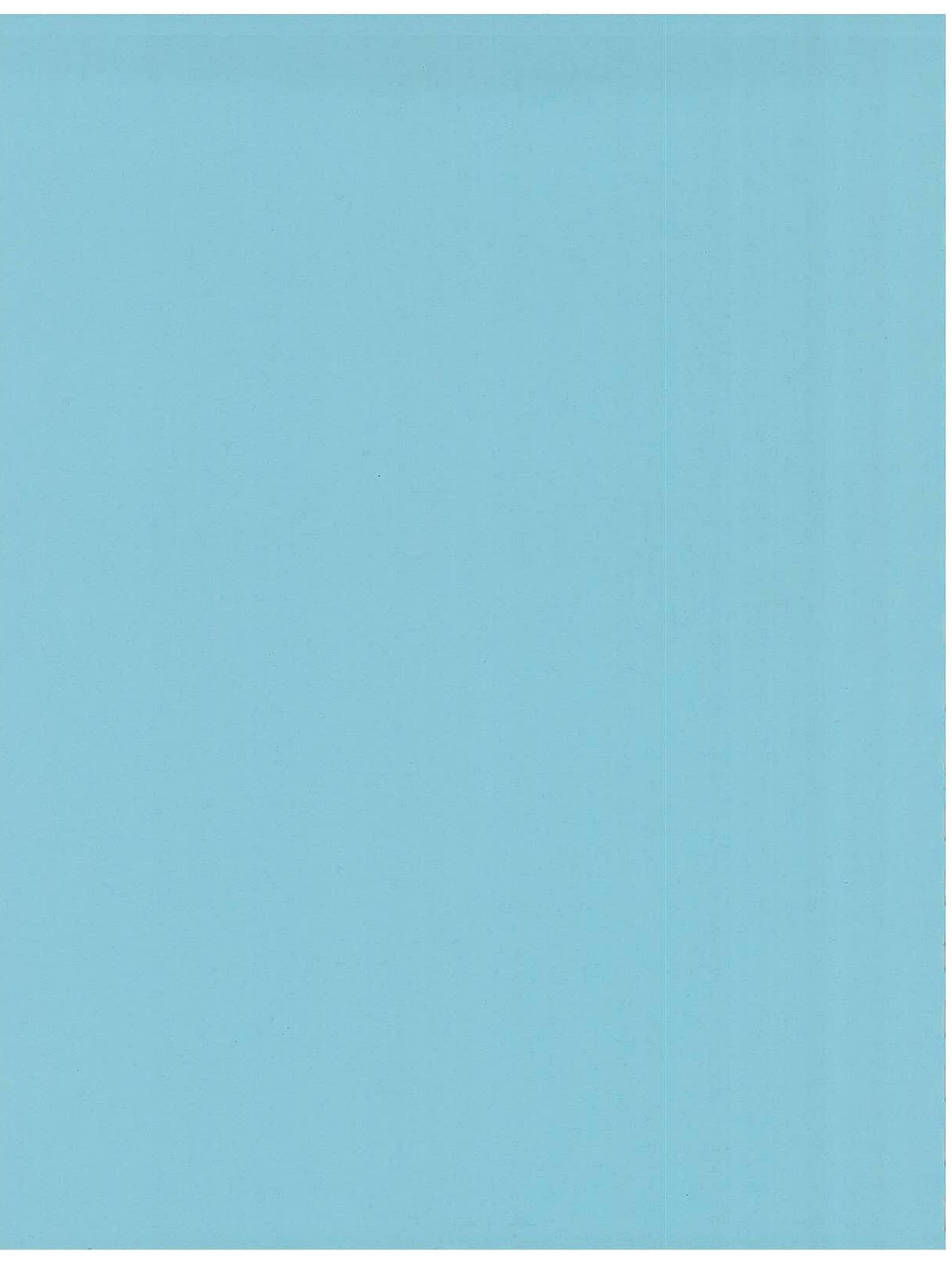
Name	No.	#DUs	Existing LAeq1h	No Barrier				With Barrier				
				LAeq1h		Increase over existing		Type Impact	Calculated LAeq1h	Noise Reduction		Calculated minus Goal
				Calculated	Crit'n	Calculated	Crit'n Sub'l Inc			Calculated	Goal	
			dB	dB	dB	dB		dB	dB	dB	dB	
Building A	1	1	0.0	61.8	66	61.8	10	---	61.8	0.0	8	-8.0

Dwelling Units	# DUs	Noise Reduction		
		Min	Avg	Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	0	0.0	0.0	0.0
All that meet NR Goal	0	0.0	0.0	0.0

Appendix H

Traffic Assessment







EMAIL TRANSMITTED

September 11, 2014

Mr. Doug Hooper
Assistant Planning & Community Development Director
City of Agoura Hills
30001 Ladyface Court
Agoura Hills, CA 91301

RE: Revised Traffic and Parking Assessment for The Park at Ladyface Project, City of Agoura Hills

Dear Mr. Hooper,

Background

Agoura Hills Center Properties, LLC, proposes to develop The Park at Ladyface, a 46-unit senior condominium project at 30800 Agoura Road in the City of Agoura Hills. The project site is approximately one-half mile west of Reyes Adobe Road and east of the city limit of Westlake Village, as shown in attached Figure 1, Project Site Vicinity Map. Crain & Associates has prepared this revised traffic and parking assessment for the project, which supersedes our traffic and parking assessment of December 10, 2009.

Project Description

The project site plan is depicted in attached Figure 2. Buildings A and B are two-story condominium buildings that will be occupied by senior citizens. Building A, next to the western boundary of the site, will have 20 dwelling units, and Building B, on the eastern part of the site, will have 26 dwelling units. Both building include multi-purpose rooms that will be for use of residents only.

300 Corporate Pointe
Suite 470
Culver City, CA 90230
310 473 6508 (main)
310 444 9771 (fax)

www.crainandassociates.com

Subterranean parking for residents and surface parking for guests will be provided at each building. Two driveways on Agoura Road will access the project. The west driveway will access Building A, while the east driveway will access Building B.

Project Trip Generation and Distribution

The vehicle trips expected to be generated by the project on a typical weekday were calculated using trip generation rates in the current 9th Edition of Trip Generation, published in 2012 by the Institute of Transportation Engineers (ITE). This handbook is the standard reference most widely used by traffic engineering professionals regarding trip generation. It has trip generation rates for regular condominium/townhouse units but none for senior condominium units. A senior condominium use would be expected to generate fewer trips than a regular condominium/townhouse use, based on a comparison of the ITE trip generation rates for a senior housing use with the rates for a regular apartment use. Nevertheless, to ensure a conservative analysis, the ITE condominium/townhouse trip generation rates in Table 1 below were assumed for the project.

**Table 1
 ITE Trip Generation Rates for Project**

Residential Condominium/Townhouse - Land Use 230 (trips per dwelling unit)

Daily: T = 5.81 (DU)
 AM Peak Hour: T = 0.44 (DU); I/B = 17%, O/B = 83%
 PM Peak Hour: T = 0.52 (DU); I/B = 67%, O/B = 33%

T = Trips; DU = Dwelling Unit; I/B = Inbound; O/B = Outbound.

Applying the trip generation rates in Table 1, the trip generation calculated for the project is shown in Table 2. It is conservatively estimated that the project will generate 267 trips per day, including 20 trips during the AM peak hour and 24 trips during the PM peak hour.

**Table 2
 Project Trip Generation**

	<u>Daily</u>	<u>AM Peak Hour</u>			<u>PM Peak Hour</u>		
		<u>I/B</u>	<u>O/B</u>	<u>Total</u>	<u>I/B</u>	<u>O/B</u>	<u>Total</u>
Condominiums, 46 DU	267	3	17	20	16	8	24

Letter to Mr. Doug Hooper
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A new 24-hour machine count of Agoura Road, near the project site, was conducted Tuesday, August 26, 2014. Schools in the Las Virgenes Unified School District were back in regular session at the time of the count. The count measured a daily volume of 8,960 vehicles, with 3,995 vehicles (45 percent) traveling eastbound from the west and 4,965 vehicles (55 percent) traveling westbound from the east. Roughly the same distribution "split" occurred during the 7:00-10:00 AM and 3:00-6:00 PM peak-hour periods. (The traffic count sheet is attached.)

Assuming this "45 eastbound/55 westbound" distribution for project traffic, 120 trips per day would be from and to the west, and 146 trips per day would be from and to the east. During the AM peak hour, 1 inbound and 8 outbound trips would be from and to the west, and 2 inbound and 9 outbound trips would be from and to the east. During the PM peak hour, 7 inbound and 4 outbound trips would be from and to the west, and 9 inbound and 4 outbound trips would be from and to.

Agoura Road Project Impact Assessment

Agoura Road in the project site vicinity currently has one through lane eastbound, two through lanes westbound, left-turn channelization and a bike lane in each direction. According to the August 26, 2014 traffic count, the highest directional peak-hour volumes were 393 vehicles eastbound and 450 vehicles westbound, both during the afternoon commute peak period. Based on a roadway capacity of 1,100 vehicles per hour per lane, as adapted from the Highway Capacity Manual, Agoura Road has directional capacities of 1,100 vehicles eastbound and 2,200 vehicles westbound. Using the preceding directional peak-hour volumes, the existing volume-to-capacity (V/C) ratios are 0.357 eastbound and 0.205 westbound, which are indicative that Agoura Road in the site vicinity is operating at an excellent level of service, Level of Service A, when it is experiencing its highest volumes.

The addition of the project's directional PM peak-hour trips, 7 inbound trips from the west and 9 inbound trips from the east, to the existing directional PM peak-hour traffic volumes will have negligible impact on Agoura Road. The resulting "With Project" V/C ratios will increase slightly eastbound to 0.364 [= (393 + 7) ÷ 1,100] and westbound to 0.209 [= (450 + 9) ÷ 2,200], still well within Level of Service A.

The City's Agoura Road Widening Project, which is expected to begin construction shortly, will provide a second through lane in the eastbound direction, including along the project site frontage. The additional capacity from this roadway widening will reduce by one-half the eastbound "With Project" V/C ratio during the PM peak hour, from 0.364 to 0.182, resulting in even better Level of Service A conditions.

Project Parking and Vehicular Access

According to the City of Agoura Hills Municipal Code, residential condominiums are required to provide parking at a ratio of 2.5 spaces per dwelling unit, which includes 0.5 spaces per dwelling unit for guest parking. The project's two condominium buildings will provide all parking for residents underneath in subterranean garages. Guest parking will in surface lots next to the buildings. The parking calculations, presented in Table 3 below, show that project parking will be in compliance with code. It is also anticipated that with senior residents, overall vehicle ownership will less compared to that for non-senior residents. Thus, the project parking supply should be more than adequate for the demand.

**Table 3
Project Parking Summary**

	<u>Code Parking Ratio</u>	<u>Spaces Required</u>	<u>Spaces Provided</u>
Building A, 20 du	2.0 spaces/du	40	40
Guest Parking	0.5 spaces/du	10	11
Building B, 26 du	2.0 spaces/du	52	52
Guest Parking	0.5 spaces/du	13	25

There will be two project driveways, approximately 30 feet wide, on Agoura Road, as shown in Figure 2. The layout of these driveways and the internal roadways is straightforward and unconstrained. Both driveways will provide ingress and egress. The west driveway, which will access Building A, may be restricted to right-turn-only movements. The east driveway, which will access Building B, is not expected to have turning movement restrictions. The widths and configurations of these driveways and internal roadways will adequately serve the intended traffic.

Conclusions

- o The trip generation for the project will be low, conservatively estimated to be 267 trips per day and no more than 24 trips during the highest peak hour.
- o The traffic volumes eastbound and westbound on Agoura Road are relatively low and well within its directional capacities.

Letter to Mr. Doug Hooper
September 11, 2014
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- o Agoura Road is currently operating at Level of Service A, an excellent service level. The addition of project traffic will have negligible impact and Agoura Road will continue to operate at Level of Service A.
- o The imminent Agoura Road Widening Project will provide additional capacity, further improving traffic conditions for project and other traffic.
- o Parking for the condominium buildings will be in compliance with the code requirement, including guest parking, and is expected to be more than adequate for the demand.
- o The widths and configurations of the project driveways and internal roadways will be adequate for project users.

Based on these conclusions, no further traffic, parking or access analysis should be necessary for the project.

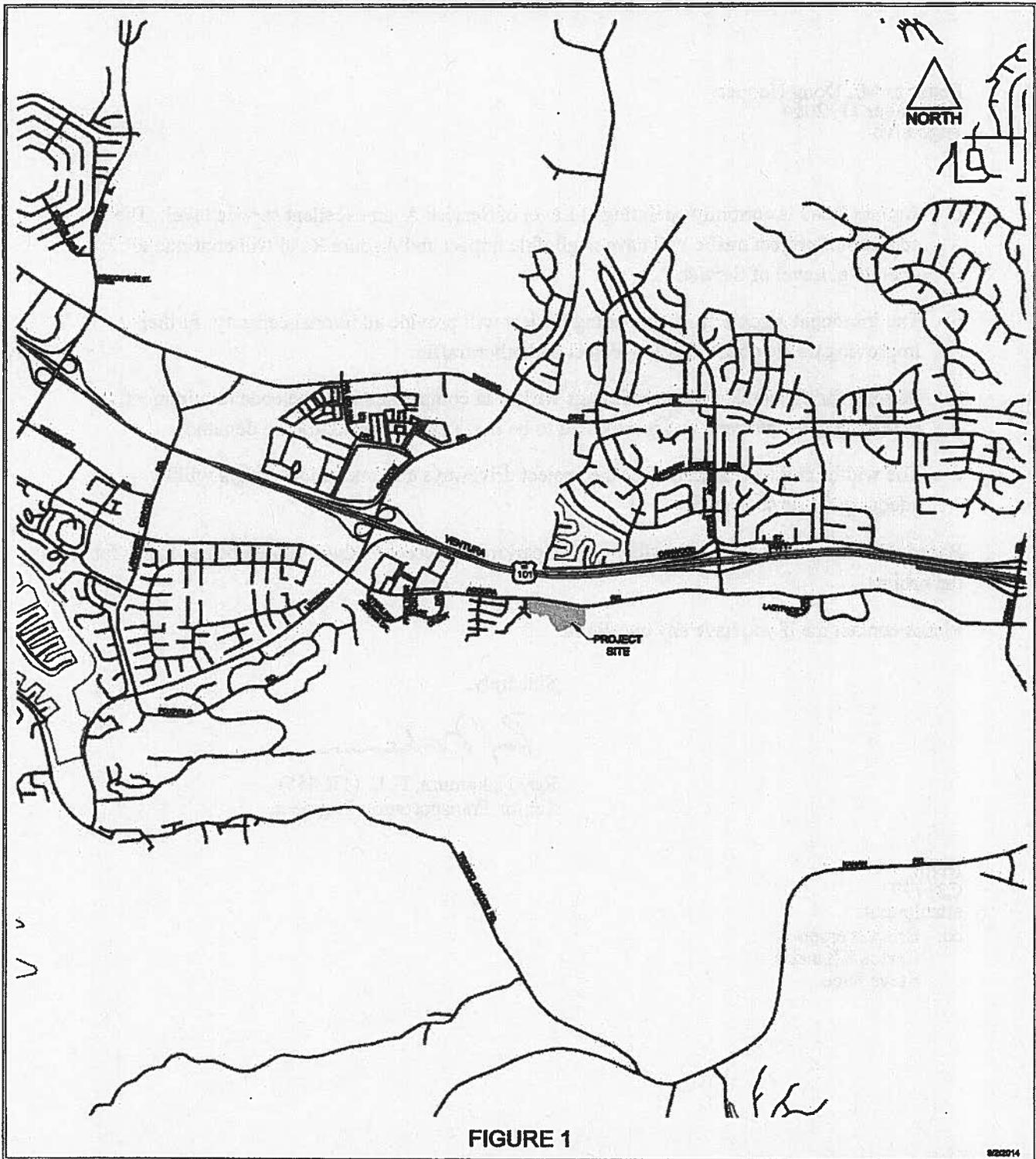
Please contact me if you have any questions.

Sincerely,



Roy Nakamura, P. E. (TR 455)
Senior Transportation Engineer

RN:n
C21777
attachments
cc: Erika Iverson
Carlos Khantzis
Steve Rice



8/22/14

FILE: AGOURA SENIOR CARE HHSITE-VICINITY

PROJECT SITE VICINITY MAP

CA CRAIN Transportation Planning
Traffic Engineering
&
ASSOCIATES www.crainandassociates.com

2007 Sawdust Boulevard
Los Angeles California 90025
PH (310) 473 6008 F (310) 444 9771

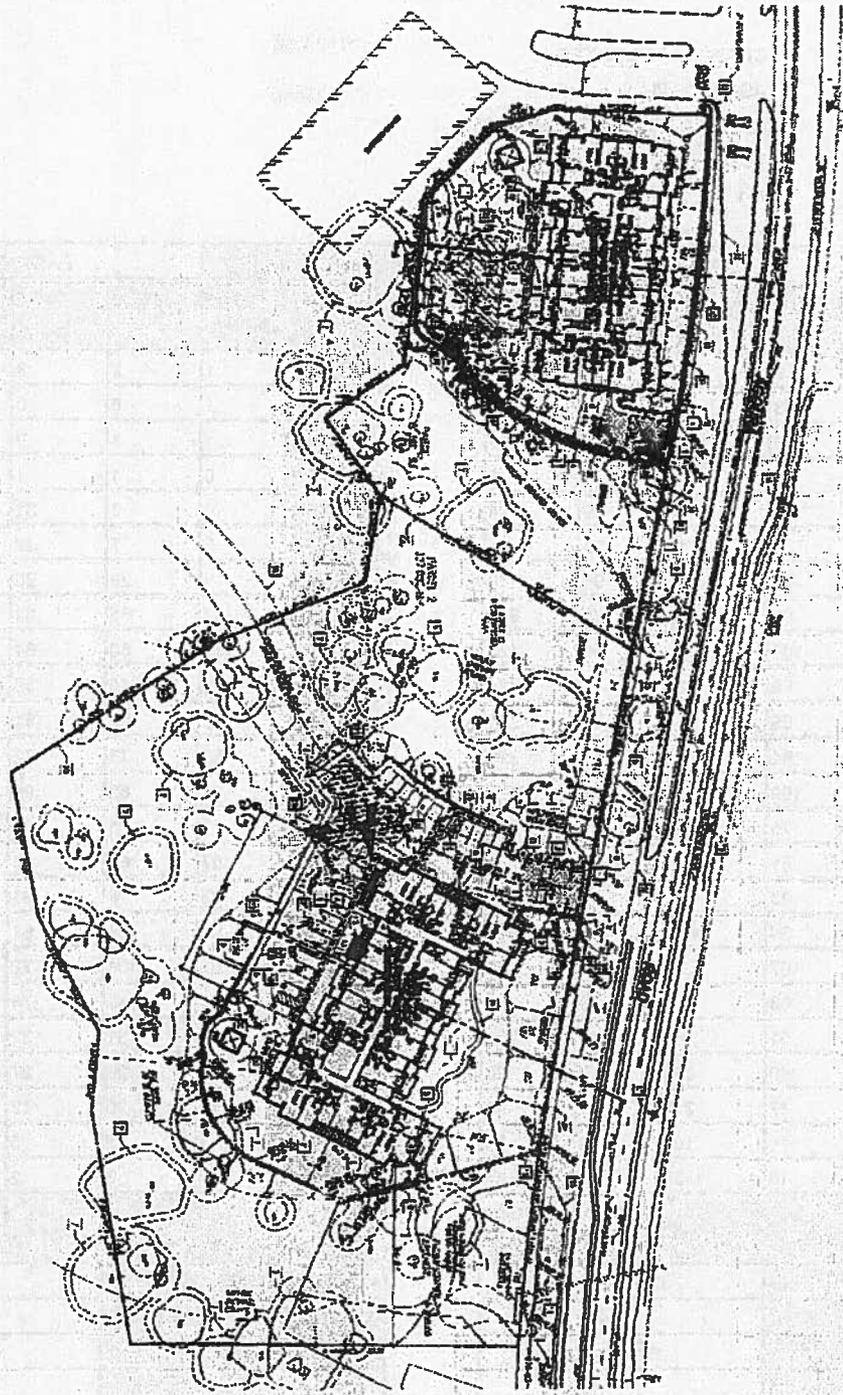


FIGURE 2

03/2014

PR: AGOURA SENIOR CARE HHSR SITE PLAN (2014-0-2)

PROPOSED PROJECT SITE PLAN

CRAIN
ASSOCIATES

Transportation Planning
Traffic Engineering

300 Corporate Pointe, Suite 470
Columbus, California 93230
PH (510) 473-6000 F (510) 444-9771
www.crahandassociates.com

THE TRAFFIC SOLUTION - ADT WORKSHEET

CLIENT: CRAIN & ASSOCIATES
PROJECT: AGOURA HILLS
LOCATION: APPROX. 30801 AGOURA ROAD
DATE: TUESDAY, AUGUST 28, 2014
FILE NO: A-1

DIRECTION:		WESTBOUND				
TIME	00-15	15-30	30-45	45-60	HOUR	TOTALS
00:00	5	3	1	3	12	
01:00	5	3	0	3	11	
02:00	1	0	2	1	4	
03:00	0	0	0	1	1	
04:00	0	2	3	9	14	
05:00	4	5	11	27	47	
06:00	19	34	34	91	178	
07:00	78	68	77	109	330	
08:00	114	101	112	98	423	
09:00	78	79	62	55	274	
10:00	68	65	69	68	268	
11:00	69	61	75	115	320	
12:00	97	100	116	103	418	
13:00	102	75	85	77	339	
14:00	80	81	88	64	311	
15:00	75	83	98	87	343	
16:00	112	84	105	108	407	
17:00	123	107	105	115	450	
18:00	99	88	64	70	321	
19:00	68	51	54	47	220	
20:00	41	40	28	19	128	
21:00	14	17	21	13	65	
22:00	24	14	10	13	61	
23:00	6	10	5	3	24	
TOTAL					4985	
AM PEAK HOUR		07:45-08:45				
VOLUME		438				
PM PEAK HOUR		17:00-18:00				
VOLUME		450				

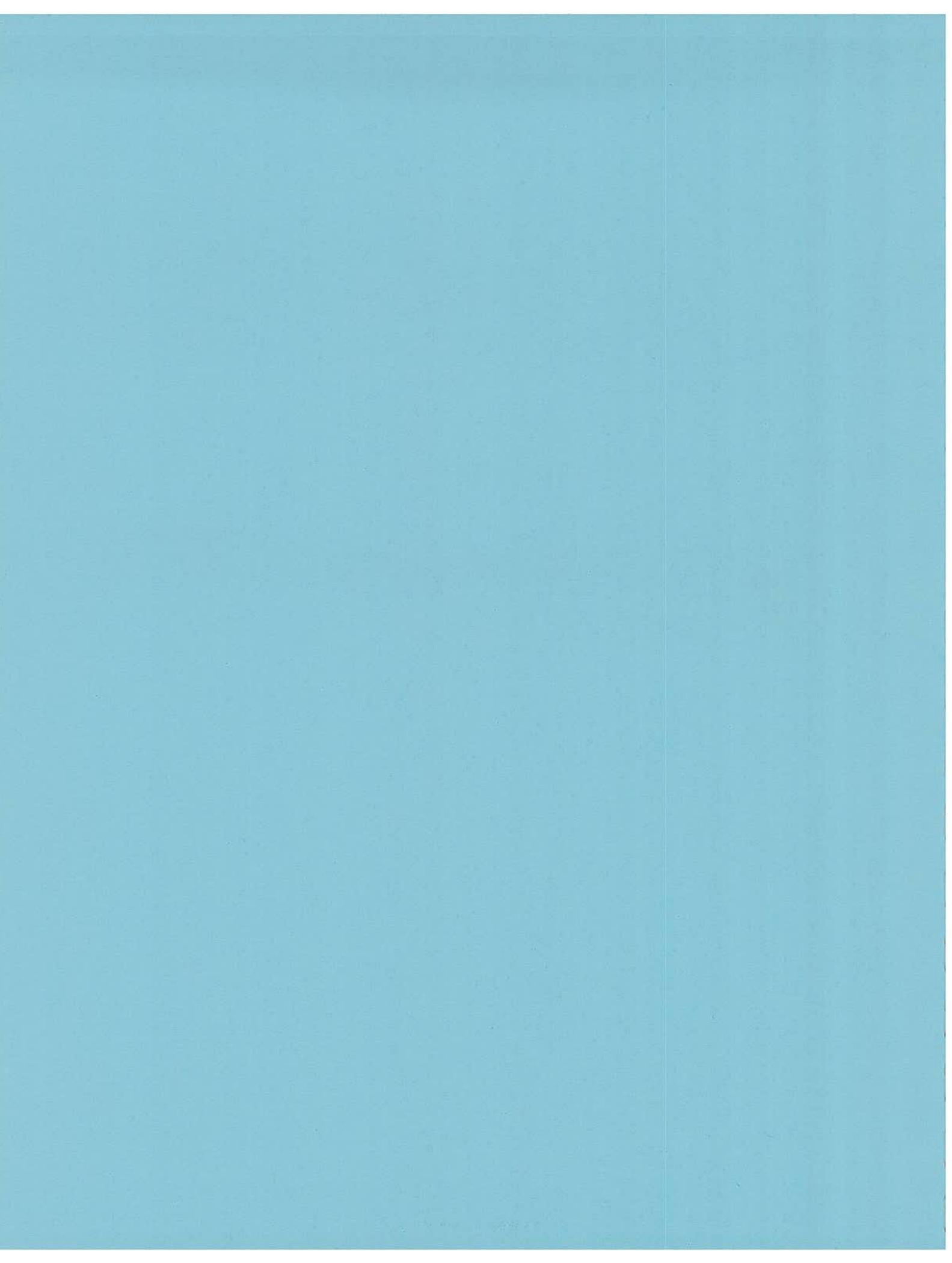
DIRECTION:		EASTBOUND				
TIME	00-15	15-30	30-45	45-60	HOUR	TOTALS
00:00	1	2	3	0	6	
01:00	1	0	0	1	2	
02:00	1	3	0	1	5	
03:00	0	1	1	1	3	
04:00	0	2	31	4	37	
05:00	2	7	17	14	40	
06:00	16	23	28	30	97	
07:00	37	65	61	83	248	
08:00	62	60	64	49	235	
09:00	54	45	56	50	205	
10:00	62	37	61	65	225	
11:00	85	73	72	79	309	
12:00	79	63	68	80	320	
13:00	80	88	66	64	298	
14:00	57	66	77	72	272	
15:00	83	76	91	64	294	
16:00	91	83	91	87	362	
17:00	107	108	72	86	373	
18:00	84	69	74	49	276	
19:00	52	31	32	41	156	
20:00	39	36	27	28	128	
21:00	15	20	13	10	58	
22:00	11	12	5	3	31	
23:00	7	3	2	5	17	
TOTAL					3985	
AM PEAK HOUR		11:00-12:00				
VOLUME		309				
PM PEAK HOUR		16:30-17:30				
VOLUME		393				

TOTAL BI-DIRECTIONAL VOLUME	8980
------------------------------------	-------------

Appendix I

Mitigation Monitoring and Reporting Program (MMRP)





Mitigation Monitoring and Reporting Program

Park at Ladyface Mountain Senior Apartments Project

Prepared by:

**City of Agoura Hills
30001 Ladyface Court
Agoura Hills, CA 91301
Contact: Doug Hooper, Planning Director
(818) 597-7342**

Prepared with the assistance of:

**Rincon Consultants, Inc.
180 North Ashwood Avenue
Ventura, California 93003**

June 2016

Mitigation Monitoring and Reporting Program

This document is the Mitigation Monitoring and Reporting Program (MMRP) for the Park at Ladyface Mountain Senior Apartments Project, proposed in the City of Agoura Hills. The purpose of the MMRP is to ensure that the required mitigation measures identified in the Initial Study - Mitigated Negative Declaration (IS-MND) are implemented as part of the overall project implementation. In addition to ensuring implementation of mitigation measures, the MMRP provides feedback to agency staff and decision-makers during project implementation, and identifies the need for enforcement action before irreversible environmental damage occurs.

The following table summarizes the mitigation measures for each issue area identified for the proposed project in the IS-MND. The table identifies each mitigation measure; the action required for the measure to be implemented; the time at which the monitoring is to occur; the monitoring frequency; and the agency or party responsible for ensuring that the monitoring is performed. In addition, the table includes columns for compliance verification. These columns will be filled out by the monitoring agency or party and would document monitoring compliance. Where an impact was identified to be less than significant, no mitigation measures were required.

This MMRP will be used by City staff or the City's consultant to determine compliance with permit conditions. Violations of these conditions may cause the City to revoke the operating permit.

Mitigation Measure	Action Required	When Monitoring to Occur	Monitoring Frequency	Responsible Agency or Party	Compliance Verification		
					Initial	Date	Comments
BIOLOGICAL RESOURCES							
BIO-1 Pre-construction Botanical Survey. Prior to construction, spring and summer seasonal botanical surveys for special-status plants, including Ojai navarretia, shall be conducted within the impact area development footprint (grading footprint and fuel modification zone) by a qualified botanist. Botanical surveys shall be valid for one year. If any special status plant species are observed, avoidance, minimization and mitigation (described in Measure BIO-2) will be performed to reduce effects. If the species cannot be fully avoided, then the applicant will draft a restoration/revegetation plan to offset impacts to the species as discussed below.	Verify that a qualified botanist has performed spring and summer seasonal botanical surveys for special-status plants. If any special status plant species are observed, confirm that avoidance, minimization and mitigation (described in Measure BIO-2) are performed to reduce effects.	Survey before issuance of grading permits; field verification prior to grading.	Once for survey; once for field verification	Project Applicant, City of Agoura Hills Planning Department, and CDFW.			
BIO-2 Special-status Plant Species Mitigation/Restoration Plan. The applicant shall offset the loss of individual Ojai navarretia plants (approximately seven within the proposed grading footprint, and 40 within the 200-foot fuel modification zone) at a 2:1 ratio by on-site restoration (salvage and replanting), off-site preservation, off-site enhancement, or another method approved by the City of Agoura Hills Planning Director. A Mitigation/Restoration Plan (Plan) shall be submitted to the City of Agoura Hills and CDFW that identifies the location and methodology for satisfying the required offset ratio. On-site restoration is preferred, with off-site preservation permitted only if the applicant demonstrates that on-site preservation is either not feasible or not as likely to be successful. <i>On-site Restoration (Salvage and Replanting).</i> On-site restoration would involve the collection of seed from within the development footprint (grading enveloped and fuel modification zone) and replanting the seed in a suitable area outside the development footprint. If the applicant proposes to undertake on-site restoration, the Plan, prepared by a qualified plant ecologist, shall detail the approach and timing associated with seed salvage, propagation, planting, irrigation, maintenance, coverage requirements, monitoring requirements, and contingency planning to achieve the performance standard of a 2:1	As necessary, verify that the project applicant has prepared a Mitigation/Restoration Plan to offset the loss of individual Ojai navarretia plants at a 2:1 ratio by on-site restoration or off-site preservation. Field verify compliance.	As necessary, verification that the Mitigation/Restoration Plan has been prepared before issuance of grading permits; Field verification of compliance before issuance of occupancy permits.	Once for Mitigation/Restoration Plan; once for field verification	Project Applicant, City of Agoura Hills Planning Department, and CDFW			



The Park at Ladyface Mountain Senior Apartments Project
Mitigation Monitoring and Reporting Program

Mitigation Measure	Action Required	When Monitoring to Occur	Monitoring Frequency	Responsible Agency or Party	Compliance Verification		
					Initial	Date	Comments
<p>replacement. The Plan shall identify several on-site locations for replanting (in the event that one area does not achieve specified success criteria work). The applicant shall maintain and monitor the plants for a minimum of five years. Prior to issuance of the grading permit, the applicant shall obtain approval for the Plan from the City of Agoura Hills, and secure a bond for an amount equal to the cost of the restoration effort. The bond shall be released by the City upon satisfaction of the approved performance criteria.</p> <p><i>Off-Site Preservation.</i> Off-site preservation would consist of locating a population of Ojai Navarretia containing at least two-times the number of individuals and a seed bank by the project and preserving the population in perpetuity via placement of a conservation easement or purchase of the land and dedication to the City or an approved conservation organization. The preserved population should be located on an area of sufficient size to create a preserve core and be located at least 350 feet away from existing or proposed development, paved roads, v-ditches and irrigated areas. Additionally the preserve population should exhibit connectivity to other protected open space or hillside areas (preferably, a minimum of 25 percent of the preserved habitat should connect directly to natural habitat areas. If the applicant proposes to mitigate via off-site preservation of the species, the Plan shall include a Preservation Plan that identifies the number of individual preserved, ownership of the land, parties involved, and the preservation methodology (i.e., conservation easement or dedication to an approved conservation organization). The applicant shall implement the approved off-site preservation and monitor the population for a minimum of five years. Under the preservation approach, the applicant shall obtain approval for the Preservation Plan from the City of Agoura Hills and shall complete the transaction, prior to issuance of the grading permit.</p> <p><i>Off-Site Enhancement.</i> Off-site enhancement would consist of locating disturbed poor quality population of</p>							



Mitigation Measure	Action Required	When Monitoring to Occur	Monitoring Frequency	Responsible Agency or Party	Compliance Verification		
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<p>Ojai navarretia containing at least two-times the number of individuals and occupied habitat impacted by the project and enhancing the conditions of the habitat to prevent further disturbance and/or promote the long-term viability of the population. The applicant shall submit an Enhancement Plan, prepared by a qualified ecologist, which identifies the location of the population and the need for enhancement, as well as the enhancement methodology that details the approach and timing associated with enhancement, maintenance, monitoring requirements, and contingency planning in order to achieve the 2:1 offset ratio performance standard. The applicant shall implement the approved enhancement plan and monitor the enhanced population for a minimum of five years. If the population proposed for enhancement were to be located on land owned by a public agency, or a conservation organization approved by the City of Agoura Hills, the applicant may enter into an in-lieu fee agreement with the conservation organization to implement and monitor the approved Enhancement Plan. Prior to issuance of the grading permit, the applicant shall obtain approval for the Enhancement Plan from the City of Agoura Hills, and secure a bond for an amount equal to the cost of the enhancement effort. The bond shall be released by the City upon satisfaction of the approved performance criteria. If the Enhancement Plan is to be accomplished via an in-lieu fee agreement, the agreement must be executed and fees conveyed prior to issuance of the grading permit. The performance bond shall not be required if the mitigation is accomplished via an in-lieu fee agreement.</p>							
<p>BIO-3 Pre-Construction Sensitive Wildlife Survey and Impact Avoidance. Not more than two weeks prior to ground disturbing construction for Phase 1 and Phase 2, as well as ground disturbing construction during any project phase that would remove native landscaping planted on previously graded areas, a preconstruction survey for sensitive wildlife species shall be conducted by a qualified biologist and submitted to the City Planning Department prior to beginning construction and/or commencement of any disturbance. If a sensitive</p>	<p>Verify that a qualified biologist has performed a pre-construction sensitive wildlife survey. If a sensitive species is found, verify that mitigation and appropriate notifications are undertaken and necessary permits are obtained.</p>	<p>Not more than two weeks prior to ground disturbing construction for Phase 1 and Phase 2 as well as ground disturbing construction during any project</p>	<p>Once</p>	<p>Project Applicant, City of Agoura Hills Planning Department, CDFW, and USFWS</p>			



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Mitigation Measure	Action Required	When Monitoring to Occur	Monitoring Frequency	Responsible Agency or Party	Compliance Verification		
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species is found, avoidance is the preferred mitigation option. If avoidance is not feasible, the species, shall be captured, when possible, and transferred to adjacent appropriate habitat within the open space on-site or directly adjacent to the project site. This shall be performed only by a qualified biologist. The CDFW and City of Agoura Hills shall be formally notified and consulted regarding the presence of any sensitive species on-site. If a federally listed species is found prior to grading of the site, the USFWS shall also be notified and appropriate "take" permits acquired prior to any relocation activity.		phase that would remove native landscaping planted on previously graded areas.					
BIO-4 Bird Nesting Surveys and Nest Avoidance. No earlier than 3 days prior to construction or site preparation activities that would occur during the nesting/breeding season of native bird species potentially nesting on the site (typically February 1 through August 31), the applicant shall have a field survey conducted by a qualified biologist to determine if active nests of any bird species protected by the state or federal Endangered Species Acts, Migratory Bird Treaty Act, and/or the California Fish and Wildlife Code Sections 3503, 3503.5, or 3511 are present in the construction zone or within 300 feet of the construction zone. If active nests are found within the survey area, construction activities shall stop until consultation with the City, CDFW, and USFWS (when applicable) is conducted and an appropriate setback can be established commensurate with the species involved (25 feet for urban-adapted species such as Anna's hummingbird and California towhee and up to 300 feet for certain raptors). A temporary construction fence barrier shall be erected around the buffer and clearing and construction within the fenced area shall be postponed or halted, at the discretion of a biological monitor, until the nest is vacated and juveniles have fledged, as determined by the biologist, and there is no evidence of a second attempt at nesting. The applicant should record the results of the recommended protective measures described above to document compliance with applicable State and federal laws pertaining to the	Verify that a qualified biologist has performed a nesting bird survey CDFW if initial ground disturbing activities occur during the breeding bird nesting season. If active bird nests are located during the pre-construction survey and could be impacted, field verify buffer zones.	Survey before issuance of grading permits and no earlier than 3 days prior to construction or site preparation activities; field verification that buffer zones are maintained during grading and construction.	Once for survey; field verification periodically during construction.	Project Applicant, City of Agoura Hills Planning Department, CDFW, and USFWS			



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Mitigation Monitoring and Reporting Program

Mitigation Measure	Action Required	When Monitoring to Occur	Monitoring Frequency	Responsible Agency or Party	Compliance Verification		
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protection of native birds.							
<p>BIO 5 Agency Consultation. If impacts to drainages and the ephemeral stream cannot be avoided, the applicant shall consult with CDFW, USACE, and the RWQCB and obtain applicable permits for the proposed impacts to jurisdictional waters, or obtain confirmation that permits are not needed. This includes a Clean Water Act Section 404 permit from the USACE for the discharge of fill to any of USACE non-wetland waters of the U. S. onsite, a Section 401 water quality certification or Waste Discharge Requirements from the RWQCB, and a Streambed Alteration Agreement from CDFW. These permits typically require mitigation to reduce impacts to water quality and quantity, vegetation, and wildlife. The project applicant shall demonstrate to the City of Agoura Hills that the requirements of agencies with jurisdiction over waters onsite can be met prior to obtaining grading permits. This will include, but not be limited to, consultation with those agencies, securing the appropriate permits, waivers or agreements, and arrangements with a local or regional mitigation bank including in lieu fees, as needed.</p>	Verify that necessary permits/ agreements for impacts to drainages and the ephemeral stream have been obtained.	Before issuance of grading permits.	Once	Project Applicant, City of Agoura Hills Planning Department, CDFW, USACE, and RWQCB			
<p>BIO-6 Habitat Mitigation and Monitoring Program. The applicant shall implement the requirements of a final approved Habitat Mitigation and Monitoring Program, which shall mitigate for permanent impacts to 0.19 acres (500 linear feet) of CDFW jurisdictional habitat, 0.08 acres (142 linear feet) of USACE "wetland" Waters of the United States, and 0.05 acres (270 linear feet) of USACE "non- wetland" Waters of the United States at a minimum 2:1 ratio. Due to the overlap of the jurisdictional areas that would be permanently impacted, a total of 0.19 acres (500 linear feet) consisting of 0.08 acres of "wetland" Waters of the United States/CDFW jurisdictional habitat and 0.05 acres of "non-wetland" Waters of the United States/CDFW jurisdictional habitat, and 0.06 acres of CDFW jurisdictional habitat shall be mitigated.</p> <p>The Habitat Mitigation and Monitoring Program shall mitigate for permanent impacts to jurisdictional areas by</p>	Verify that a Habitat Mitigation and Monitoring Program has been developed by a qualified biologist, restoration ecologist, or resource specialist and approved by the Planning Department in consultation with USACE, RWQCB, and CDFW, in compliance with Clean Water Act Sections 401 and 404 and California Fish and Game Code 1602 and supporting regulations.	Habitat Mitigation and Monitoring Program verification before issuance of grading permits; annual reports for the first five years following issuance of occupancy permits	Once for Habitat Mitigation and Monitoring Program; annually for annual reports	Project Applicant, City of Agoura Hills Planning Department, CDFW, USACE, and RWQCB			
	Verify that annual reports						



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Mitigation Measure	Action Required	When Monitoring to Occur	Monitoring Frequency	Responsible Agency or Party	Compliance Verification		
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<p>the on-site or off-site restoration of degraded in-kind wetland and riparian habitats, or by a contribution to an in-lieu fee program approved by the City's Planning Department, USACE, RWQCB, and the CDFW. Restoration should be implemented only where suitable conditions exist to support viable wetland and riparian habitat. At the discretion of the USACE, RWQCB, and CDFW, the proposed bio-swales shall provide 316 square feet (632 linear feet) of the required compensatory mitigation for the loss of Waters of the U.S. and 1,264 square feet (632 linear feet) of compensatory mitigation for the loss of CDFW jurisdictional habitat. Due to the overlap of jurisdictional area that would be created by the bio-swales, this shall consist of 316 square feet of "wetland" Waters of the United States/CDFW jurisdictional habitat and 948 square feet that are solely under the jurisdiction of the CDFW. Bio-swales shall be planted with locally indigenous natives.</p> <p>The final Habitat Mitigation and Monitoring Program shall be developed by a qualified biologist, restoration ecologist or resource specialist and approved by the Planning Department in consultation with USACE, RWQCB, and CDFW, in compliance with Clean Water Act Sections 401 and 404 and California Fish and Game Code 1602 and supporting regulations, prior to issuance of a grading permit. The Program shall be based on the USACE Final Mitigation Guidelines and Monitoring (April 19, 2004, or most recent) and the Los Angeles District's Recommended Outline for Draft and Final Compensatory Mitigation and Monitoring Plans. In broad terms this Program shall at a minimum include:</p> <ul style="list-style-type: none"> • Description of the project/impact and mitigation sites; • Specific objectives; • Success criteria; • Plant palette; • Implementation plan; • Maintenance activities; 	<p>are submitted to the Planning Department, USACE, and CDFW for five years.</p>						



The Park at Ladyface Mountain Senior Apartments Project
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Mitigation Measure	Action Required	When Monitoring to Occur	Monitoring Frequency	Responsible Agency or Party	Compliance Verification		
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<ul style="list-style-type: none"> Monitoring plan; and Contingency measures. <p>Success criteria shall at a minimum be evaluated based on appropriate survival rates and percent cover of planted native species, as well as eradication and control of invasive plant and animal species within the restoration area. The target species and native plant palette, as well as the specific methods for evaluating whether the project has been successful at meeting the above-mentioned success criteria shall be determined by the qualified biologist, restoration ecologist, or resource specialist and included in the mitigation program.</p> <p>To the extent possible, the mitigation project or in-lieu fee contribution shall be initiated prior to development of the project. The mitigation project shall be implemented over a five-year period and shall incorporate an iterative process of annual monitoring and evaluation of progress and allow for adjustments to the program, as necessary, to achieve desired outcomes and meet success criteria. Annual reports discussing the implementation, monitoring and management of the mitigation project, and shall be submitted to the Planning Department, USACE, and the CDFW. Five years after project start, a final report shall be submitted to the Planning Department, USACE, and CDFW, which shall at a minimum discuss the implementation, monitoring and management of the mitigation project over the five-year period, and indicate whether the mitigation project has, in part, or in whole, been successful based on established success criteria. The annual reports and the final report shall include as-built plans submitted as an appendix to the report. The project shall be extended if success criteria have not been met at the end of the five-year period to the satisfaction of the Planning Department, in consultation with USACE and the CDFW.</p>							
<p>BIO-7 Lighting Requirements. The project shall incorporate lighting design features to the extent possible that will reduce the amount and intensity of night lighting in open space areas adjacent to the development. This</p>	Review final lighting plans to verify that the project incorporates required lighting design features.	Before issuance of building permits	Once	Project Applicant and City of Agoura Hills Planning			



Mitigation Measure	Action Required	When Monitoring to Occur	Monitoring Frequency	Responsible Agency or Party	Compliance Verification		
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would involve using lighting only to the extent necessary, using low intensity lights, placing lighting close to the ground when possible, using shields to reduce glare and direct lighting downward, and pointing lights away from open space areas. Security lighting from the site shall not exceed one (1) foot-candle at the edge of the fuel modification zone.				Department.			
<p>BIO 8 Oak Tree Replacement. Oak Tree Replacement mitigation for impacts to the sensitive Valley Oak Woodland Alliance shall consist of the protection of oak trees during construction and replacement of oak trees removed for development pursuant to the City of Agoura Hills' oak tree protection ordinance. Every attempt shall be made to mitigate the loss of oak habitat on-site. Four (4) oak trees shall be planted to replace each tree that is approved for removal as follows, per the City Oak Tree Protection Ordinance:</p> <p>a) two (2) twenty-four-inch box specimens; and b) one (1) thirty-six-inch or sixty-inch-box as follows: In the case of landmark trees, (trees whose diameter exceeds forty-eight (48) inches), the applicant shall obtain a nursery-grown oak tree of equivalent caliper to the tree removed or provide two (2) container grown, sixty-inch box trees for each healthy landmark tree approved for removal; and c) one (1) fifteen gallon oak tree.</p> <p>The City may consider the payment of an in-lieu fee, in an amount determined by the City per ISA standards, to mitigate for the loss of oak trees if the City determines there is insufficient space available on-site for oak tree replacement. The in-lieu fee may be paid to the City to be used to acquire land and/or install oak trees on another site, preferably in as close proximity to the area of removal as possible. The trees shall be planted in an area to be preserved as permanent open space. Trees planted for mitigation shall be clustered and planted at an appropriate site such that the trees planted will provide natural habitat and replace the oak woodland habitat removed by the project. Oak trees shall be</p>	Review oak tree replacement plan to verify compliance with the City of Agoura Hills' oak tree protection ordinance; field verify compliance.	Review of oak tree replacement plan before issuance of oak tree permit; field verification of compliance before issuance of occupancy permits	Once for oak tree replacement plan; once for field verification	Project Applicant and City of Agoura Hills Planning Department			



Mitigation Measure	Action Required	When Monitoring to Occur	Monitoring Frequency	Responsible Agency or Party	Compliance Verification		
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planted according to species-specific habitat requirements: valley oaks at lower elevations in alluvial soils and coast live oaks on mesic north-facing slope locations. Oak tree planting shall not cause the removal or destruction of existing native vegetation without replacement in the same locations.							
<p>BIO 9 Oak Tree Preservation Program. The project applicant shall submit an Oak Tree Preservation Program, for review and approval by the Agoura Hills Planning Department oak tree consultant prior to the granting of a grading permit. The project shall be developed and operated in compliance with the approved Oak Tree Preservation Program and any other conditions determined to be necessary by the City oak tree consultant. This program will be developed to control impacts to each tree and to protect them from any unnecessary and unscheduled damage. An "Oak Tree Protection Zone" will be delineated for each tree present within 50 feet of the construction zone.</p> <p>The program shall include but not be limited to the following components:</p> <p>Tree Protection</p> <ul style="list-style-type: none"> • All construction activities shall follow the established "Oak Tree Preservation Program." • Before any site construction commences, all on-site trees shall be protected with a minimum 5' high chain link fence. To minimize damage that might occur due to equipment storage, debris dumping, parking, etc. within oak tree protection zones. This fence shall remain during all phases of construction and shall not be moved or removed without the approval of the City of Agoura Hills Planning Department (Planning Dept.) • Fence posts shall be no closer than 15' from any oak tree trunk as well and no closer than 15' on-center within any dripline. Postholes being dug shall not impact any oak tree roots longer than 2 inches. 	Verify that the project applicant has submitted an Oak Tree Preservation Program that has been approved by the City's oak tree consultant; field verify compliance.	Verification of an approved Oak Tree Preservation Program before issuance of oak tree permits; field verification before issuance of occupancy permits	Once for oak tree replacement plan; once for field verification	Project Applicant and City of Agoura Hills Planning Department			



Mitigation Measure	Action Required	When Monitoring to Occur	Monitoring Frequency	Responsible Agency or Party	Compliance Verification		
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<ul style="list-style-type: none"> Signs of a minimum size of 2'4" shall be installed on the fence equidistant from each other around each tree. Signs shall be posted 50' apart on a grove of trees, where fencing cannot be placed around a single tree. The sign must read: WARNING-THIS FENCE SHALL NOT BE REMOVED OR RELOCATED WITHOUT WRITTEN AUTHORIZATION FROM THE CITY OF AGOURA HILLS PLANNING & COMMUNITY DEVELOPMENT DEPARTMENT. Any brush clearance within the dripline of the tree areas shall be completed by hand only. <p>Pruning and Dead Wood Removal (not anticipated)</p> <ul style="list-style-type: none"> A certified arborist shall perform all pruning cuts according to the International Society of Arborists' Best Management Practices: Tree Pruning and according to American National Standards Institute (ANSI) A300 pruning standard. Work shall be performed in accordance with the ANSI Z133.1 safety standard. <p>Water & Fertilization</p> <ul style="list-style-type: none"> Watering should not be done during the months of June, July, and August unless the root system has been compromised by damage done to some of the roots. If recommended by an arborist, water should be applied no more than once or twice a week and allowed to drain thoroughly before more water is applied. Fertilization of these native oak trees is not ordinarily recommended and should not be done unless approved by the City arborist. <p>Diseases and Pests</p> <ul style="list-style-type: none"> Prior to construction, the vigor of the saved trees shall be assessed. Any trees in a weakened condition shall be treated, as deemed necessary by the City arborist to invigorate them. 							



Mitigation Measure	Action Required	When Monitoring to Occur	Monitoring Frequency	Responsible Agency or Party	Compliance Verification		
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<ul style="list-style-type: none"> During all phases of construction, the health of the trees shall be monitored for signs of disease. These problems, if determined to exist, shall be addressed in order to remedy them. <p>Grading Within the Protected Zone</p> <ul style="list-style-type: none"> Exploratory trenching shall be done by hand or with great care by digging equipment under the observation of the consulting arborist for all trees proposed to be encroached by this project. This shall be done in order to minimize the damage to the root system by digging and to allow the proper pruning of the roots that are found. If any roots 2 inches or larger are encountered, they shall be saved (except in a grading cut situation) and covered with a layer of plastic cloth until backfilled. <p>Other Considerations</p> <ul style="list-style-type: none"> Grade stakes should not be nailed to trees; nothing that causes damages to the tree should be attached the trees No planting, irrigation, or utilities should be installed within 15' of any native oak tree trunk unless approved by the Planning Dept. Chemicals or herbicides should not be applied within 100' of the dripline of any native oak tree. Dust accumulation onto the tree's foliage from construction shall be hosed off periodically during construction under the recommendation on the consulting arborist. Copies of the oak tree report and the oak tress permit and the City approved site plan, as well as landscape and irrigation plans, shall be kept on-site during all site construction for reference. A certification letter should be submitted to the City's Planning Department upon completion of all work to the oak trees. This letter shall be submitted within five (5) working days of project completion. 							



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Mitigation Measure	Action Required	When Monitoring to Occur	Monitoring Frequency	Responsible Agency or Party	Compliance Verification		
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CULTURAL RESOURCES							
<p>CR-1 Archaeological/Paleontological Monitoring. Monitoring of all project related ground disturbing activities of sediments that appear to be in a primary context shall be conducted by a qualified archaeologist and/or paleontologist [and Native American monitor qualified to identify Chumash and Gabrieleno resources] 1 , as approved by the City Planning Department. Archaeological monitoring shall be performed under the direction of an archaeologist meeting the Secretary of the Interior's Professional Qualifications Standards for archaeology (NPS 1983). Paleontological monitoring shall be performed by a paleontologist meeting the Society of Vertebrate Paleontology's Paleontological Resource Monitor (SVP 2010). A cross trained monitor meeting both of these requirements may also be used. Archaeological monitoring is required until excavation is complete or until a soil change to a culturally sterile formation is achieved, to be determined by the archaeologist. The archaeologist and/or paleontologist may reduce or stop monitoring depending on observed conditions. Paleontological monitoring is required until excavation is complete or until ground disturbance is no longer occurring within the Topanga or Monterey Formations, to be determined by the paleontologist. -If archaeological/paleontological resources are encountered during ground-disturbing activities, the City Planning Department shall be notified immediately, and work shall stop within a 100-foot radius until the archaeologist and/or paleontologist has assessed the nature, extent, and potential significance of any remains pursuant to the California Environmental Quality Act (CEQA). In the event such resources are determined to be significant, appropriate actions are to be determined by a qualified archaeologist/paleontologist consistent with CEQA (PRC Section 21083.2) and the City General Plan, in consultation with the City Planning Department.</p>	<p>Verify that a qualified archaeologist and/or paleontologist [and Native American monitor] has been retained. As necessary, confirm that work is halted if archaeological or paleontological resources are encountered during ground disturbing activities until the archaeologist and/or paleontologist has assessed the nature, extent, and potential significance of any remains.</p>	<p>Verify that monitors are retained before issuance of grading permits; if resources are found, verify that appropriate investigation and mitigation are undertaken before work re-start</p>	<p>Once for monitor verification; as necessary for investigation and mitigation of identified resources</p>	<p>City of Agoura Hills Planning Department, qualified archaeologist or paleontologist, Native American monitor, and project applicant.</p>			
<p>CR-2 Unanticipated Discovery of Human Remains. The discovery of human remains is always a possibility during ground disturbing activities. If human remains are found, State of California Health and Safety Code Section 7050.5</p>	<p>If human remains are identified, verify that work in the immediate area is halted and the Coroner's</p>	<p>As necessary during ground disturbing activities.</p>	<p>As necessary throughout ground disturbing</p>	<p>Project Applicant, Los Angeles County</p>			



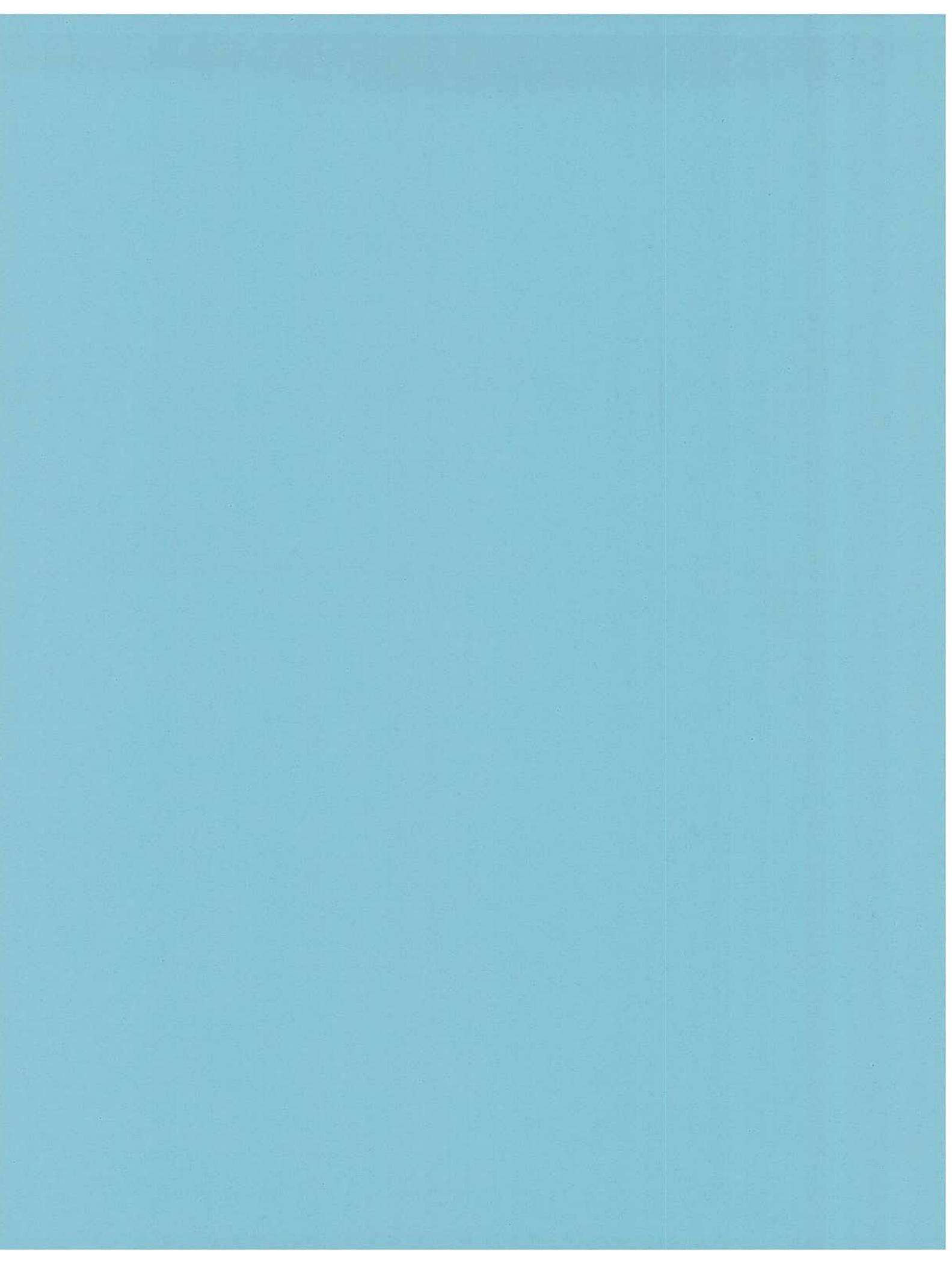
Mitigation Measure	Action Required	When Monitoring to Occur	Monitoring Frequency	Responsible Agency or Party	Compliance Verification		
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states that no further disturbance shall occur until the County Coroner has made the necessary findings as to origin and disposition pursuant to Public Resources Code Section 5097.98. In the event of an unanticipated discovery of human remains, the City Planning Director and the Los Angeles County Coroner must be notified immediately. If the human remains are determined to be prehistoric, the coroner will notify the Native American Heritage Commission (NAHC), which will determine and notify a most likely descendent (MLD). The MLD shall complete the inspection of the site within 48 hours of notification and will then help determine what course of action should be taken in dealing with the remains.	office is notified. No further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent remains shall occur until the Coroner has made the necessary findings as to origin and disposition.		activities.	Coroner, qualified archaeologist or paleontologist, Native American monitor, and project applicant, and the NAHC (if necessary).			
Geology and Soils							
<p>GEO-1 Erosion Control Measures. Prior to issuance of a building permit, the applicant shall comply with the recommendations included in the Preliminary Geotechnical Investigation for the project to reduce the risk of erosion from manufactured slopes. These recommendations include the following:</p> <ul style="list-style-type: none"> • The manufactured slopes shall be planted with dense, deep-rooting, drought-resistant groundcover with shrubs and trees, in accordance with City of Agoura Hills guidelines. • A reliable irrigation system shall be installed, adjusted so that overwatering does not occur, and periodically checked for leakage. • The slopes shall be irrigated such that only sufficient water is applied to the slopes to maintain the vegetation. In addition, prudent irrigation practices shall not allow the slopes to dry out or become overly wet. • The landscape architect shall select the appropriate slope cover and determine the frequency of watering that will be dependent on plant type and seasonal variations. The slopes shall not be overwater and shall not be watered before forecasted rain. • All drainage structures shall be kept in clean condition and remain unobstructed. 	Review final grading/building plans to verify compliance with the recommendations included in the Preliminary Geotechnical Investigation to reduce the risk of erosion from manufactured slopes; field verify compliance.	Plan review before issuance of grading permits; field verification before issuance of occupancy permits	Once for plan review; once for field verification	Agoura Hills Public Works/Engineering			



Appendix J

Responses to Comments on the Draft IS-MND





RESPONSES to COMMENTS on the DRAFT IS-MND

This section includes comments received during the circulation of the Draft Initial Study and Mitigated Negative Declaration (IS-MND) prepared for the Park at Ladyface Mountain Senior Apartments project.

The Draft IS-MND was circulated for a 30-day public review period that began on April 12, 2015 and concluded on May 13, 2016. The City received five comment letters on the Draft IS-MND. The commenter and the page number on which each commenter's letter appears are listed below.

<u>Letter No. and Commenter</u>	<u>Page No.</u>
1. United States Fish and Wildlife Services	1
2. California Department of Transportation	2
3. South Coast Air Quality Management District	3
4. County of Los Angeles Fire Department	4
5. Las Virgenes Municipal Water District	5

The comment letters included herein were submitted by public agencies. Responses to written comments received have been prepared to address the environmental concerns raised by the commenters and to indicate where and how the Draft IS-MND addresses pertinent environmental issues.

Any changes made to the text of the Draft IS-MND correcting information, data or intent, other than minor typographical corrections or minor working changes, are noted in the Final IS-MND as changes from the Draft IS-MND. Where a comment results in a change to the Draft IS-MND text, a notation is made in the response indicating that the text is revised. Changes in text are signified by strikeouts (~~strikeouts~~) where text is removed and by underlined font (underlined font) where text is added.

Each comment letter has been numbered sequentially and each separate issue raised by the commenter, if more than one, has been assigned a number. The responses to each comment identify first the number of the comment letter, and then the number assigned to each issue (Response 1.1, for example, indicates that the response is for the first issue raised in comment Letter 1).

Letter 1

COMMENTER: Stephen P. Henry, Field Supervisor, United States Department of Interior, Fish and Wildlife Service

DATE: May 16, 2016

The commenter states that three listed species, the Braunton's milkvetch (*Astragalus brauntonii*), Lyon's penchaeta (*Pentachaeta lyonii*), and Agoura Hills dudleya (*Dudleya cymosa ssp. agourensis*) have the potential to exist within or near the project site. The commenter recommends that botanical surveys be conducted prior to issuance of permits to ensure that project activities will not directly or indirectly affect these species.

As discussed in Section IV, *Biological Resources*, of the Draft IS-MND, multiple field surveys have been completed on the site, including a rare plant survey in 2014 and springtime field survey in 2013, as well as additional surveys in November 2010, October 2010, and June 2006. These surveys found that the species with the most potential to occur are absent or their potential for occurrence is low. In addition, Mitigation Measure BIO-1 outlined in Section IV, *Biological Resources*, of the Draft IS-MND, requires spring and summer pre-construction seasonal botanical surveys for special-status plants. If any special-status plant species are observed, then avoidance, minimization and mitigation (described in Mitigation Measure BIO-2) will be required to reduce impacts to a less than significant level. If the species cannot be fully avoided, then the applicant will draft and implement a restoration/revegetation plan to offset impacts to the species.



Letter 2

COMMENTER: Dianna Watson, Branch Chief, LD-IGR/CEQA Review, Department of Transportation

DATE: May 10, 2016

The commenter requests review of the project for inclusion of any necessary changes in the zoning, architectural design, and construction requirements that relate to noise levels due to the proximity to the freeway. In addition, the commenter describes requirements related to transportation of heavy construction equipment and/or materials and stormwater run-off.

Page 74 of Section XII, *Noise*, of the Draft IS-MND states that based on the General Plan noise contours, the northwestern and north-central portions of the project site are currently subject to noise levels between 65 and 70 dBA CNEL, due to the sites relative proximity to U.S. 101. The remainder of the site is subject to noise levels between 60 and 65 dBA CNEL (Agoura Hills, General Plan Figure N-1, 2010). These noise contours represent worst case scenario noise levels that only take into account line-of-sight attenuation (noise reduction due to distance), and do not account for additional attenuation from topography and other barriers. Table N-1 of the General Plan indicates that a CNEL of 60-70 dBA is “normally compatible” with multiple-family residences, such as the proposed senior apartments.

Two sound level measurements were taken on-site at the location of the northern edge of proposed Buildings A and B on the site, facing Agoura Road and U.S. 101. These measurements indicated that ambient noise levels in the northwest portion of the site are 62.5 dBA and noise levels in the northeast portion of the site are 54.9 dBA. Thus, actual noise levels in the area proposed for residential development are considerably lower than shown in the Agoura Hills General Plan, due in part to the presence of intervening topography and buildings between U.S. 101 and the project site. Therefore, the project would not expose residential land uses to noise exceeding City noise standards and no mitigation, including the building of sound walls, is warranted.



Letter 3

COMMENTER: Jack Cheng, Air Quality Specialist, South Coast Air Quality Management District

DATE: May 6, 2016

Response 3.1

The commenter recommends that the Lead Agency conduct a mobile source Health Risk Assessment (HRA) to disclose the potential health risks to the residents from vehicles on U.S. 101. The commenter notes that there would be approximately 450 feet between the freeway and the proposed residences based on an aerial map inspection.

The project site is actually approximately 650 feet from the centerline of the freeway, which is outside of the 500-foot buffer zone recommended by CARB in the Land Use Handbook for conducting an HRA. According to the CALINE4 Guidance Manual, the appropriate distance for evaluating a property's proximity to a source of mobile toxic air contaminants should be measured from the centerline of the roadway to the project site boundary (CALINE4, 1989). Even if the freeway edge was used as a conservative point of measurement, the proposed residential units would be approximately 540 feet south. As discussed in Section III, *Air Quality*, of the Draft IS-MND, impacts to air quality would be less than significant and no additional studies or mitigation, including building filtration systems, sound walls, or vegetation barriers, are warranted.

Response 3.2

The commenter states that the effectiveness and feasibility of "enhanced filters," should be examined.

As discussed on page 24 of Section III, *Air Quality*, of the Draft IS-MND the project does not include HVAC filters mitigation measures referenced by the commenter because no adverse impacts to air quality would occur. In addition, as stated in Response 3.1, the project site is not within 500 feet of the freeway. Therefore, as discussed in Section III, *Air Quality*, of the Draft IS-MND, impacts to air quality would be less than significant and no mitigation is warranted.



Letter 4

COMMENTER: Kevin T. Johnson, Acting Chief, Forestry Division Prevention Services Bureau

DATE: May 5, 2016

The commenter requests review and revision of the first sentence under Discussion XIV, *Public Services*. In addition, the commenter states that the project would have to comply with applicable fire code and ordinance requirements. The commenter also describes requirements related to construction, access, water mains, fire hydrants, fire flow, fire sprinklers, and disruption of water service.

The project would comply with applicable fire code and ordinance requirements as outlined in this letter. In addition, the project would comply with all requirements related to construction, access, water mains, fire hydrants, fire flow, fire sprinklers, and disruption of water service. In response to this comment, Page 80 of the Final IS-MND has been revised as follows:

The City of Agoura Hills has secured fire protection and emergency services for residents through a contract with the Los Angeles County Fire Department is within the jurisdiction, and is part of, the Consolidated Fire Protection District of Los Angeles County Los Angeles County (LACoFD).

This text change does not alter the findings or conclusions of the Draft IS-MND.



Letter 5

COMMENTER: Joanne Bodenhamer, Planning and New Development Technician, Las Virgenes Municipal Water District

DATE: April 26, 2016

The commenter advocates inclusion of strict water conservation measures, including the use of drought tolerant plantings, in the project. In addition, the commenter describes requirements related to water and sewer services, including the requirement to hook up to recycled water service for all on-site property irrigation.

The project has adequate water supply. The anticipated demand of 27.4 acre-feet of water per year from the 46 housing units would not exceed available water supplies shown in Table 19 of the Final IS-MND. In addition, the project would comply with state and local water conservation ordinances. However, due to ongoing multiple-year drought conditions in the project area, the City may require the use of strict water conservation measures through drought tolerant plantings, and efficient irrigation systems as conditions of approval for the project. The requirements of LVMWD for development of this project, related to water and sewer services, including the requirement for the project to connect to recycled water service for all on-site property irrigation, are acknowledged and will be the responsibility of the project applicant prior to project occupancy.



Appendix J

Responses to Comments on the Draft IS-MND



RESPONSES to COMMENTS on the DRAFT IS-MND

This section includes comments received during the circulation of the Draft Initial Study and Mitigated Negative Declaration (IS-MND) prepared for the Park at Ladyface Mountain Senior Apartments project.

The Draft IS-MND was circulated for a 30-day public review period that began on April 12, 2015 and concluded on May 13, 2016. The City received five comment letters on the Draft IS-MND. The commenter and the page number on which each commenter's letter appears are listed below.

<u>Letter No. and Commenter</u>	<u>Page No.</u>
1. United States Fish and Wildlife Services	1
2. California Department of Transportation	4
3. South Coast Air Quality Management District	7
4. County of Los Angeles Fire Department	11
5. Las Virgenes Municipal Water District	18

The comment letters included herein were submitted by public agencies. Responses to written comments received have been prepared to address the environmental concerns raised by the commenters and to indicate where and how the Draft IS-MND addresses pertinent environmental issues.

Any changes made to the text of the Draft IS-MND correcting information, data or intent, other than minor typographical corrections or minor working changes, are noted in the Final IS-MND as changes from the Draft IS-MND. Where a comment results in a change to the Draft IS-MND text, a notation is made in the response indicating that the text is revised. Changes in text are signified by strikeouts (~~strikeouts~~) where text is removed and by underlined font (underlined font) where text is added.

Each comment letter has been numbered sequentially and each separate issue raised by the commenter, if more than one, has been assigned a number. The responses to each comment identify first the number of the comment letter, and then the number assigned to each issue (Response 1.1, for example, indicates that the response is for the first issue raised in comment Letter 1).



United States Department of the Interior



FISH AND WILDLIFE SERVICE
Ventura Fish and Wildlife Office
2493 Portola Road, Suite B
Ventura, California 93003

IN REPLY REFER TO:
08EVEN00-2016-CPA-0109

May 16, 2016

Doug Hooper
Planning Director
Planning Department
City of Agoura Hills
30001 Ladyface Court
Agoura Hills, California 91301

CITY OF AGOURA HILLS
2016 MAY 16 PM 4: 27
CITY CLERK

Subject: Draft Initial Study/Mitigated Negative Declaration for the Park at Ladyface Mountain Senior Apartments Project, Agoura Hills, Los Angeles County, California

Dear Mr. Hooper:

We have reviewed the Draft Initial Study/Mitigated Negative Declaration (IS/MND) for the Park at Ladyface Mountain Senior Apartments Project. The Applicant is proposing to construct an apartment complex with 46 units for senior citizens, and is requesting a permit to remove 56 oak trees from the site. The apartment complex would be built on an undeveloped 7.1-acre parcel in the Ladyface Mountain Specific Plan area of Agoura Hills.

The U.S. Fish and Wildlife Service's (Service) mission is to conserve and protect the Nation's fish and wildlife resources and their habitats. To assist in meeting this mandate, the Service provides comments on public notices issued for projects that may have an effect on those resources, especially federally-listed plants and wildlife. The Service's responsibilities also include administering the Endangered Species Act of 1973, as amended (Act). Section 9 of the Act prohibits the taking of any federally listed endangered or threatened wildlife species. "Take" is defined at Section 3(19) of the Act to mean "to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct." The Act provides for civil and criminal penalties for the unlawful taking of listed wildlife species. Such taking may be authorized by the Service in two ways: through interagency consultation for projects with Federal involvement pursuant to section 7, or through the issuance of an incidental take permit under section 10(a)(1)(B) of the Act.

Our review of the proposed project indicates that the area that would be affected may support the following listed species:

Common name	Scientific Name	Threatened or Endangered
Braunton's milk-vetch	<i>Astragalus brauntonii</i>	Endangered
Lyon's pentachaeta	<i>Pentachaeta lyonii</i>	Endangered
Agoura Hills dudleyea	<i>Dudleya cymosa</i> ssp. <i>agourensis</i> (=ovatifolia)	Threatened

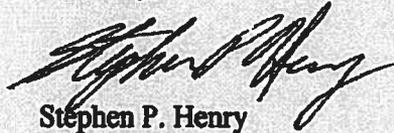
Doug Hooper

2

We recommend that focused surveys for these species be conducted as soon as possible in the appropriate season, following acceptable protocols, if they have not already been completed. If any of these species are detected or are known to be present in the project area, you should contact us to help determine what measures may be appropriate to conserve the species and their habitats. We can also provide guidance on the steps that may be needed to comply with the Act.

If you have any questions, please contact Collette Thogerson of my staff at (805) 644-1766, or by e-mail at collette_thogerson@fws.gov.

Sincerely,



Stephen P. Henry
Field Supervisor

Letter 1

COMMENTER: Stephen P. Henry, Field Supervisor, United States Department of Interior,
Fish and Wildlife Service

DATE: May 16, 2016

The commenter states that three listed species, the Braunton's milkvetch (*Astragalus brauntonii*), Lyon's penchaeta (*Pentachaeta lyonii*), and Agoura Hills dudleya (*Dudleya cymosa ssp. agourensis*) have the potential to exist within or near the project site. The commenter recommends that botanical surveys be conducted prior to issuance of permits to ensure that project activities will not directly or indirectly affect these species.

As discussed in Section IV, *Biological Resources*, of the Draft IS-MND, multiple field surveys have been completed on the site, including a rare plant survey in 2014 and springtime field survey in 2013, as well as additional surveys in November 2010, October 2010, and June 2006. These surveys found that the species with the most potential to occur are absent or their potential for occurrence is low. In addition, Mitigation Measure BIO-1 outlined in Section IV, *Biological Resources*, of the Draft IS-MND, requires spring and summer pre-construction seasonal botanical surveys for special-status plants. If any special-status plant species are observed, then avoidance, minimization and mitigation (described in Mitigation Measure BIO-2) will be required to reduce impacts to a less than significant level. If the species cannot be fully avoided, then the applicant will draft and implement a restoration/revegetation plan to offset impacts to the species.



Letter 2

DEPARTMENT OF TRANSPORTATION
DISTRICT 7-OFFICE OF TRANSPORTATION PLANNING
100 S. MAIN STREET, MS 16
LOS ANGELES, CA 90012
PHONE (213) 897-9140
FAX (213) 897-1337
www.dot.ca.gov

CITY OF AGOURA HILLS
2016 MAY 10 PM 1:51
CITY CLERK



*Serious drought.
Help save water!*

May 10, 2016

Mr. Doug Hooper
City of Agoura Hills
30001 Ladyface Court
Agoura Hills, CA 91301

**RE: The Park at Ladyface Mountain Senior
Apartments Project
Mitigated Negative Declaration
SCH#2016041038, IGR#160428-FL
Vic. LA/ 101/ PM 36.5**

Dear Mr. Hooper:

Thank you for including the California Department of Transportation (Caltrans) in the environmental review process for the above referenced project. The proposed project involves the construction of a 71,206 sq. ft. apartment complex with 46 housing units for senior citizen, on an undeveloped 7.1 acre parcel located in the City of Agoura Hills.

The nearest facilities to the proposed project is US-101. Caltrans does not expect project approval to result into a direct adverse impact to the existing State transportation facilities.

However, the project includes residential development in close proximity to freeway facilities that may potentially be exposed to noise levels exceeding acceptable standards. Please include necessary changes in the zoning, architectural design, and construction requirements. Caltrans will not require nor construct any additional noise mitigation for residential development near its facilities, any sound walls or sound reducing measures shall be responsibility of the City and/or developers.

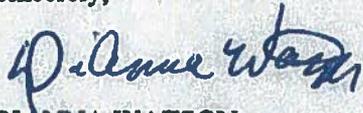
As a reminder, any transportation of heavy construction equipment and/or materials which requires the use of oversized-transport vehicles on State highways will require a Caltrans transportation permit. Caltrans recommends that large size truck trips be limited to off-peak commute periods.

Storm water run-off is a sensitive issue for Los Angeles and Ventura counties. Please be mindful that project needs to be designed to discharge clean run-off water.

Mr. Doug Hooper
05/10/2016
Page 2

If you have any questions or concerns regarding these comments, please contact project coordinator, Frances Lee at (213) 897-0673 or electronically at frances.lee@dot.ca.gov.

Sincerely,



DIANNA WATSON
Branch Chief, LD-IGR/CEQA Review

cc: Scott Morgan, State Clearinghouse

Letter 2

COMMENTER: Dianna Watson, Branch Chief, LD-IGR/CEQA Review, Department of Transportation

DATE: May 10, 2016

The commenter requests review of the project for inclusion of any necessary changes in the zoning, architectural design, and construction requirements that relate to noise levels due to the proximity to the freeway. In addition, the commenter describes requirements related to transportation of heavy construction equipment and/or materials and stormwater run-off.

Page 74 of Section XII, *Noise*, of the Draft IS-MND states that based on the General Plan noise contours, the northwestern and north-central portions of the project site are currently subject to noise levels between 65 and 70 dBA CNEL, due to the sites relative proximity to U.S. 101. The remainder of the site is subject to noise levels between 60 and 65 dBA CNEL (Agoura Hills, General Plan Figure N-1, 2010). These noise contours represent worst case scenario noise levels that only take into account line-of-sight attenuation (noise reduction due to distance), and do not account for additional attenuation from topography and other barriers. Table N-1 of the General Plan indicates that a CNEL of 60-70 dBA is “normally compatible” with multiple-family residences, such as the proposed senior apartments.

Two sound level measurements were taken on-site at the location of the northern edge of proposed Buildings A and B on the site, facing Agoura Road and U.S. 101. These measurements indicated that ambient noise levels in the northwest portion of the site are 62.5 dBA and noise levels in the northeast portion of the site are 54.9 dBA. Thus, actual noise levels in the area proposed for residential development are considerably lower than shown in the Agoura Hills General Plan, due in part to the presence of intervening topography and buildings between U.S. 101 and the project site. Therefore, the project would not expose residential land uses to noise exceeding City noise standards and no mitigation, including the building of sound walls, is warranted.



Letter 3

Doug Hooper

From: Jack Cheng [jcheng@aqmd.gov]
Sent: Friday, May 06, 2016 10:55 AM
To: Doug Hooper
Cc: Jillian Wong
Subject: Draft Mitigated Negative Declaration (Draft MND) for the Proposed Park at Ladyface Mountain Senior Apartments Project
Attachments: LAC160419-06 - Park At Ladyface Mountain - MND.PDF

The South Coast Air Quality Management District (SCAQMD) staff appreciates the opportunity to comment on the attached document. The following comments are meant as guidance for the Lead Agency and should be incorporated into the Final MND. The SCAQMD staff is available to work with the Lead Agency to address these issues and any other questions that may arise. Please contact me if you have any questions regarding these comments.

Jack Cheng - Air Quality Specialist
jcheng@aqmd.gov
(909) 396-2448
South Coast Air Quality Management District
21865 Copley Dr., Diamond Bar, CA 91765



**South Coast
Air Quality Management District**

21865 Copley Drive, Diamond Bar, CA 91765-4178
(909) 396-2000 • www.aqmd.gov

CITY OF AGOURA HILLS

2016 MAY -6 AM 11: 07

CITY CLERK

SENT VIA E-MAIL AND USPS:
dhooper@ci.agoura-hills.ca.us

May 6, 2016

Doug Hooper, Planning Director
City of Agoura Hills – Planning Department
30001 Ladyface Court
Agoura Hills, CA 91301

**Draft Mitigated Negative Declaration (Draft MND) for the Proposed
Park at Ladyface Mountain Senior Apartments Project**

The South Coast Air Quality Management District (SCAQMD) staff appreciates the opportunity to comment on the above-mentioned document. The following comments are meant as guidance for the Lead Agency and should be incorporated into the Final MND.

The Lead Agency proposes to develop a senior apartment complex with 46 dwelling units. The proposed residences will be sited near the Route 101 Freeway. These residences would be approximately 450 feet south of the freeway¹, of which Route 101 has an average daily traffic volume of 220,000 vehicles, which includes more than 12,100 diesel trucks. Because of the close proximity to the existing freeway, residents would be exposed to diesel particulate matter, which is a toxic air contaminant. The SCAQMD staff therefore recommends that the Lead Agency conduct a mobile source health risk assessment (HRA)² to disclose the potential health risks to the residents from vehicles that use the freeway including diesel-fueled vehicles that emit diesel particulate matter, which the California Air Resources Board (CARB) has determined to be carcinogenic.

1

Numerous health studies have demonstrated the potential adverse health effects of living near highly travelled roadways. As a result of these studies, the California Air Resources Board recommended in 2005 avoiding the siting of housing within 500 feet of a freeway in their Land Use Handbook.³ Since the time of that study, additional research has continued to build the case that the near roadway environment also contains elevated levels of many pollutants that adversely affect human health, including some pollutants that are unregulated (e.g., ultrafine particles) and whose potential health effects are still emerging.⁴

While the health science behind recommendations against placing new homes close to freeways is clear, SCAQMD staff recognizes the many factors lead agencies must consider when siting new housing. Further, many mitigation measures have been proposed for other projects to reduce exposure, including building filtration systems, sound walls, vegetation barriers, etc. However, because of the potential health risks involved it is critical that any proposed mitigation must be carefully evaluated prior to determining if those health risks would be brought below recognized significance thresholds.

¹ Aerial map inspection.

² "Health Risk Assessment Guidance for Analyzing Cancer Risk from Mobile Source Diesel Idling Emissions for CEQA Air Quality Analysis"
Accessed at: <http://www.aqmd.gov/home/regulations/ceqa/air-quality-analysis-handbook/mobile-source-toxics-analysis>

³ California Air Resources Board April 2005. "Air Quality and Land Use Handbook: A Community Health Perspective."
Accessed at: <http://www.arb.ca.gov/ch/landusc.htm>

⁴ See Chapter 9 of the 2012 AQMP for further information
Accessed at: <http://www.aqmd.gov/aqmp/2012aqmp/Final-February2013/Ch9.pdf>

Mr. Doug Hooper

May 6, 2016

Limits to Enhanced Filtration Units

The Lead Agency should consider the limitations of the proposed mitigation for this project (enhanced filtration) on housing residents. For example, in a study that SCAQMD conducted to investigate filters⁵ similar to those proposed for this project, costs were expected to range from \$120 to \$240 per year to replace each filter. In addition, because the filters would not have any effectiveness unless the HVAC system is running, there may be increased energy costs to the resident. The proposed mitigation assumes that the filters operate 100 percent of the time while residents are indoors and does not account for the times when the residents have their windows or doors open or are in common space areas of the project. These filters also have no ability to filter out any toxic gasses from vehicle exhaust. The presumed effectiveness and feasibility of this mitigation should therefore be evaluated in more detail prior to assuming that it will sufficiently alleviate near roadway exposures.

2

The SCAQMD staff is available to work with the Lead Agency to address these concerns and any other air quality questions that may arise. Please contact Jack Cheng, Air Quality Specialist at (909) 396-2448, if you have any questions regarding these comments. We look forward to reviewing and providing comments for the Final MND associated with this project.

Sincerely,

Jillian Wong

Jillian Wong, Ph.D.
Program Supervisor
Planning, Rule Development & Area Sources

JW:JC
LAC 160419-06
Control Number

⁵ This study evaluated filters rated MERV 13+ while the proposed mitigation calls for less effective MERV 12 or better filters. Accessed at: <http://www.sqmd.gov/docs/default-source/ceqa/handbook/sqmdpilotstudyfinalreport.pdf>.

Letter 3

COMMENTER: Jack Cheng, Air Quality Specialist, South Coast Air Quality Management District

DATE: May 6, 2016

Response 3.1

The commenter recommends that the Lead Agency conduct a mobile source Health Risk Assessment (HRA) to disclose the potential health risks to the residents from vehicles on U.S. 101. The commenter notes that there would be approximately 450 feet between the freeway and the proposed residences based on an aerial map inspection.

The project site is actually approximately 650 feet from the centerline of the freeway, which is outside of the 500-foot buffer zone recommended by CARB in the Land Use Handbook for conducting an HRA. According to the CALINE4 Guidance Manual, the appropriate distance for evaluating a property's proximity to a source of mobile toxic air contaminants should be measured from the centerline of the roadway to the project site boundary (CALINE4, 1989). Even if the freeway edge was used as a conservative point of measurement, the proposed residential units would be approximately 540 feet south. As discussed in Section III, *Air Quality*, of the Draft IS-MND, impacts to air quality would be less than significant and no additional studies or mitigation, including building filtration systems, sound walls, or vegetation barriers, are warranted.

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As discussed on page 24 of Section III, *Air Quality*, of the Draft IS-MND the project does not include HVAC filters mitigation measures referenced by the commenter because no adverse impacts to air quality would occur. In addition, as stated in Response 3.1, the project site is not within 500 feet of the freeway. Therefore, as discussed in Section III, *Air Quality*, of the Draft IS-MND, impacts to air quality would be less than significant and no mitigation is warranted.

