Exhibit G

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SOIL SURVEYS GROUP INC.

103 CHURCH ST • SALINAS, CALIFORNIA 93901 • TELEPHONE (831) 757-2172

November 27, 2017
Job #6903

Rawnsley Residence
c/o Justin Pauly Architects
Attn: Justin Pauly, AIA
550 Hartnell Street, Suite H
Monterey, CA 93940

Dear Mr. Pauly:

Submitted herewith is the report of our Geotechnical Investigation for the proposed one story residence to be located on Upper Circle, APN 197-081-014, in Carmel Valley, California. Seven borings were drilled on September 27, 2017 for geotechnical investigation purposes. Laboratory tests were subsequently made on driven soil core samples taken from the borings to determine the near surface and subsurface soil conditions and suitability for the construction of the proposed new residence. We find that the project site is suitable for the proposed use with the recommendations made herein.

It is a pleasure working with you on this project. If you have any questions regarding our geotechnical investigation or this report, please contact us.

Very truly yours,

SOIL SURVEYS GROUP, INC.

REGISTERED PROFESSIONAL ENGINEER
BELINDA A. TALUBAN
No. 44217
Exp. 6/30/19
CIVIL
STATE OF CALIFORNIA

Belinda A. Taluban, P.E.
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CERTIFIED ENGINEERING GEOLOGIST
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cc. Monterey County Resource Management Agency Divisions of Planning and Building Inspection

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SOIL SURVEYS GROUP INC.
103 CHURCH ST • SALINAS, CALIFORNIA 93901 • TELEPHONE (831) 757-2172

GEOTECHNICAL INVESTIGATION

FOR THE PROPOSED NEW SINGLE FAMILY RESIDENCE

TO BE LOCATED ON UPPER CIRCLE

APN 197-081-014, CARMEL VALLEY, CALIFORNIA

RAWNSLEY RESIDENCE

NOVEMBER 27, 2017; JOB #6903

I. INTRODUCTION:

This Geotechnical Investigation was made to determine the suitability of the soils at the project site for the proposed one story single family residence to be located on Upper Circle, APN 197-081-014, in Carmel Valley, California. Seven borings were drilled on September 27, 2017 to depths of 10.5, 11.5, 11.33, 19, 20.5, 15, and 16 feet respectively, for geotechnical investigative purposes. Core samples were taken from the borings for laboratory testing. The boring logs, our field observations, and field and laboratory test data were analyzed to determine the following:

1. **Suitability of the soils at the project site for the proposed new residence.**
2. **Expansive, unsuitable or unstable soil conditions, if any.**
3. **Foundation design criteria for the proposed residence.**
4. **Subsurface groundwater and soil moisture considerations.**
5. **Surface drainage considerations.**
6. **Analysis of seismic hazards and seismic design factors per the 2016 California Building Code.**

Site Setting: The undeveloped 22.51 acre parcel is on Upper Circle, in Carmel Valley, approximately 0.24 kilometers southwest of the Carmel River. The proposed construction consisting of a new single family residence with detached guest house with pool and detached garage will be located atop a knoll at the easterly portion of the parcel. The near surface decomposed granitic soils appear consistent with the mapping of the upper portion of the parcel as porphyritic granodiorite as mapped by Clark et al 1997. A slope of approximately 15 percent grade ascends from the westerly third of the main house. A slope descends to the south to the guest house and pool location at an approximate grade of 12 percent. North, east and south of the garage and eastern portion of the main house the slope descends through oak woodland at an undetermined gradient. An existing roadway approximately 12 feet wide has been graded into the descending slope northwesterly of the proposed main house location down to Upper Circle below. The roadway is mostly cut with fill placed on the outboard side. Based on the road cuts, the upper portion of the roadway grades from granodiorite to Monterey Shale formation consistent with the mapping by Dibblee, 1997. The slopes above and below the roadway are greater than 25 percent slope. The slopes above and below the roadway are vegetated with a mixture of shrubs and trees. There are no signs of mass movement or major erosion within the subject parcel.

II. LABORATORY TEST DATA[1]:

Thirty-eight moisture density tests and one moisture test were made from the driven core samples. Standard Penetration Tests (SPT) were performed with a Terzaghi Split Spoon sampler. Core samples were also taken with a 2 ½-inch and 2-inch interior diameter (i.d.) Modified California Sampler. All samplers were driven into the soil by a 140 lb. hammer dropped a vertical distance of 30 inches at the sample location. Results of these tests are shown as follows:

MOISTURE DENSITY TESTS

Boring No.	Depth/ Ft.	Water Content %	Dry Density p.c.f.	Standard penetration Tests, Blows /foot	Pocket Penetrometer Tons S.F.
B-1	2-2.5	12.2	69.9	39	>4.5
B-1	3.42-3.92	26.2	66.6	78/11"	0.25
B-1	5.5-6	21.6	67.6	77	4.25
B-1	10-10.5	23.1	61.1	50/6"	2.0
B-2	2-2.5	3.5	98.0	5	---
B-2	4-4.5	3.2	98.6	12	---
B-2	6-6.5	2.8	98.0	20	---
B-2	11-11.5	5.3	107.1	51	1.5
B-3	2-2.5	3.2	81.9	12	---
B-3	4-4.5	2.4	115.9	42	---
B-3	5-5.5	2.1	45.7	50/6"	---
B-3	10.66-11.33	6.1	100.9	73/9"	4.5
B-4	1.16-1.66	6.1	89.7	65/9"	4.5
B-4	4-4.5	7.5	104.1	94	3.0
B-4	5-5.5	7.3	49.8	26(21)*	0.5
B-4	5.5-6	9.0	112.5	76(61)*	>4.5
B-4	10-10.5	6.1	97.9	50/6"	1.25
B-4	15-15.5	12.3	74.3	50/6"	1.5

[1] Boring Logs are located in Appendix A

MOISTURE DENSITY TESTS					
Boring No.	**Depth/ Ft.**	**Water Content %**	**Dry Density p.c.f.**	**Standard penetration Tests, Blows /foot**	**Pocket Penetrometer Tons S.F.**
B-4	18.5-19	4.9	92.5	67	---
B-5	2-2.5	3.1	90.4	11	---
B-5	4-4.5	7.5	108.5	75	2.75
B-5	5-5.5	5.0	82.1	50/6"	---
B-5	9-9.17	4.6	Bulk	50/2"**	---
B-5	9.17-9.34	6.4	84.7	50/2"	---
B-5	10-10.25	5.2	120.0	50/3"**	0.5
B-5	15-15.42	5.5	95.7	50/5"	4.5
B-5	20-20.5	7.7	88.7	50/6"	0.75
B-6	1.5-2	5.3	107.7	57	4.25
B-6	3.17-3.67	3.1	94.9	93(56)/8"**	1.0
B-6	3.67-4.17	4.3	83.1	50/6"	---
B-6	5-5.5	8.8 +	95.6 +	50(30)/6"**	2.75
B-6	10-10.5	5.0	97.5	50(30)/6"**	1.0
B-6	10.5-11	6.0	97.5	50/6"	2.75
B-6	14.5-15	5.8	92.5	50/6"	3.75
B-7	1.5-2	10.1	86.4	78	0.75
B-7	3-3.5	8.8	77.1	50/6"	---
B-7	5-5.42	5.9	91.9	50/5"	2.0
B-7	10-10.5	4.9	97.4	50/6"	---
B-7	15.5-16	4.6	115.6	90	2.0

**= 2.5-inch mod. Cal not SPT, ( ) = value adjusted to approximate SPT values
* = 2-inch mod. Cal not SPT, ( ) = value adjusted to approximate SPT values
+ = Direct Shear - AverageValues Shown

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Nine Sieve Analysis tests were made on driven core samples. Results of these tests are shown as follows:

A.S.T.M. D 422 SIEVE ANALYSIS TEST-Percent Passing

Boring No.	Depth/ Ft.	Sieve No. 4	Sieve No. 10	Sieve No. 20	Sieve No. 30	Sieve No. 40	Sieve No. 100	Sieve No. 200
B-1	2-2.5	78	71	63	60	57	47	38
B-2	2-2.5	90	76	54	44	37	21	16
B-3	4-4.5	97	80	55	46	39	22	16
B-4	1.16-1.66	98	92	75	65	58	37	29
B-4	5.5-6	93	83	68	62	57	40	30
B-5	4-4.5	99	91	75	68	63	38	28
B-5	10-10.25	99	83	53	43	35	18	12
B-6	10-10.5	92	79	56	47	41	25	18
B-7	1.5-2	88	74	59	53	48	35	30

Nine plasticity index tests were performed on driven core samples. Results of these tests are as follows:

PLASTICITY INDEX TEST

Boring No.	Depth/ Feet	% Passing Sieve No. 40	% Passing Sieve No. 200	Liquid Limit	Plastic Limit	Plasticity Index
B-1	2-2.5	57	38	47	23	24
B-2	2-2.5	37	16	27	21	6
B-3	4-4.5	39	16	27	n/p	n/p
B-4	1.16-1.66	58	29	35	14	21
B-4	5.5-6	57	30	31	15	16
B-5	4-4.5	63	28	34	14	20
B-5	10-10.25	35	12	33	n/p	n/p
B-6	10-10.5	41	18	36	13	23
B-7	1.5-2	48	30	57	20	37

The test results for samples taken from the borings indicate that the fine fraction of the near surface silty, clayey, fine to coarse grained sands encountered in Boring 1 at a depth of 2.0 to 2.5 feet, Boring 4 at depths of 1.66 to 1.66 feet and 5.5 to 6.0 feet, Boring 5 at a depth of 4.0 to 4.5 feet, Boring 7 at a depth of 1.5 to 2.0 feet are slightly plastic and moderately expansive. The sandy silts in Boring 2 at a depth of 2.0 to 2.5 feet, and Boring 6 at a depth of 10.0 to 10.5 feet, are slightly plastic and slightly expansive and the silty sands in Boring 3 at a depth of 4.0 to 4.5 feet and Boring 5 at a depth of 10 to 10.25, are non-plastic non-expansive.

One Direct Shear test was made from driven core samples taken from the borings. Results of these tests are summarized as follows (see Appendix B for full report sheet):

Boring No.	Depth/ Ft.	Internal Frict. Angle, $\varphi°$	Cohesion, C p.s.f.	Soil Weight p.c.f.	Description of soil
B-6	5-5.5	30.6	5	104.0	Reddish brown silty sand with clay

Boring 1 was located within the driveway, as shown on Figure II. The near surface soil consists of dense, silty, fine to coarse grained sand to three feet in depth overlying very dense, silty, fine to coarse grained sand with scattered shale gravels to ten feet in depth. Below this depth, the soil consists of very dense, fine sandy silt to the bottom of the boring at 10.5 feet in depth.

Boring 2 was located near outbound portion of the driveway, as shown on Figure II. The near surface soil consists of loose, silty, fine to coarse grained sand to a depth of three feet, underlain by medium dense to dense, silty fine to coarse grained sand with scattered gravels to the bottom of the boring at 11.5 feet in depth.

Boring 3 was located near the upper portion of the driveway on the outbound edge, as shown on Figure II. The near surface soil consists of medium dense, silty, fine to coarse grained sand with scattered gravels to a depth of four feet, underlain by very dense, silty, fine to coarse grained sand with scattered gravels to a depth of eight feet. Below this depth, the soil consists of very dense, slightly clayey, silty, fine to coarse grained decomposed granitic sand with scattered granitic gravels and cobble to the bottom of the boring at 11.33 feet.

Boring 4 was located near the west portion of the main residence, as shown on Figure II. The near surface soil consists of very dense, silty, fine to coarse grained decomposed granitic sand with scattered decomposed granitic gravels to five feet in depth, overlying very dense, clayey, silty, fine to coarse grained decomposed granitic sand with scattered decomposed granitic gravels to 11 feet in depth. Below this depth, the soil consists of very dense, silty, fine to coarse grained decomposed granitic sand with scattered decomposed granitic gravels to the bottom of the boring at 19 feet.

Boring 5 was located near the front the main residence, as shown on Figure II. The near surface soil consists of medium dense, slightly clayey, silty, fine to coarse grained sand with scattered gravels to three feet in depth, underlain by very dense, silty, fine to coarse grained decomposed granitic sand with scattered gravels to a depth of 15 feet. Below this depth, the soil is composed of very dense, clayey, silty, fine to coarse grained decomposed granitic sand with scattered gravels to the bottom of the boring at 20.5 feet.

Boring 6 was located near the guest residence, as shown on Figure II. The near surface soil consists of loose, silty, fine to medium grained sand to one foot in depth, underlain by very dense, silty, fine to coarse grained

sand to ten feet in depth. Below this depth, the soil is composed of very dense, slightly clayey, silty, fine to coarse grained decomposed granitic sand with scattered gravels to the bottom of the boring at 15 feet.

Boring 7 was located near the garage, as shown on Figure II. The near surface soil consists of loose, silty, fine to medium grained sand to a depth of one foot, overlying very dense, slightly clayey, silty, fine to coarse grained sand with scattered quartz gravels to three feet in depth. Below this depth, the soil is composed of very dense, slightly clayey, silty, fine to coarse grained decomposed granitic sand to a depth of ten feet, underlain by very dense, silty, slightly clayey, fine to coarse grained sand with scattered gravels to the bottom of the boring at 16 feet.

No free groundwater was observed in the borings to a maximum explored depth of 20.5 feet. The actual depth to groundwater during rainy months is unknown, but it should be noted that groundwater fluctuations can occur due to variations in rainfall, temperature and other factors not evident during the time of our investigation.

III. SUITABILITY OF SITE FOR PROPOSED USE:

No unsuitable or unstable soil conditions were found at the boring locations except for loose soil in the upper one to three feet in depth and slightly to moderately expansive soils at footing depth. In our opinion, the site is suitable for the proposed new residence with the recommendations made herein, specifically the recommendations for recompaction of loose soils and mitigation of expansive soils.

IV. RECOMMENDED FOUNDATION DESIGN CRITERIA:

Spread footings may be used for the building foundation after the site is cleared, grubbed and the proposed building pads are graded, compacted and properly prepared. Spread footings shall be installed to a minimum depth of 12 inches for single story and 18 inches for any two story portions of the proposed residence. The minimum depths shall be measured from the **inside building pad soil subgrade**. Mitigation for recompaction of loose soil conditions must be followed.

Allowable foundation pressures after recompaction of the building pad areas are:

Continuous footings	**= 1800p.s.f.**
Isolated rectangular footings	**= 2000 p.s.f.**

Continuous footings shall be reinforced with three #4 steel reinforcement bars, two bars placed near the bottom of the footing and one near the top of the footing. Spread footings shall also meet the minimum requirements of the 2016 California Building Code and the County of Monterey Building ordinances for width, thickness, embedment and reinforcement steel. The new residence and any future building additions shall be designed in strict accordance with the requirements specified in the 2016 California Building Code, or latest approved edition, to resist seismic forces.

All concrete floor and garage slabs-on-grade shall be a minimum of five inches thick and shall be reinforced with a minimum of #3 steel reinforcement bars at 12 inches on center or #4 steel reinforcement bars placed 24 inches on center, each way and shall extend into perimeter foundation. *The reinforcement steel must be firmly held in the vertical center of the slabs during placement and finishing of concrete with pre-cast concrete dobies.* All new concrete floor slabs-on-grade shall be underlain by an approved 15 mil. vapor barrier installed over a minimum four inch thick open graded gravel capillary break with two inches of clean

sand placed over the vapor barrier as recommended in Section VIII-C herein. ***Concrete slabs shall have weakened plane joints a maximum of fifteen feet on center, each way. All concrete shall be properly cured with an approved curing compound or wetted burlap for a minimum of 14 days.***

Soil Surveys Group, Inc. shall inspect and approve the foundation footing excavations and the subgrade beneath concrete floor slabs for suitable soil bearing and proper penetration into competent soil. We also recommend that Soil Surveys Group, Inc. review and approve the grading, drainage and foundation plans prior to building construction.

A. Concrete Sidewalks and Outside Flatwork:
We recommend that any new on-site concrete sidewalks and outside flatwork be at least five inches thick and be placed over a compacted subgrade. All concrete flatwork should be divided into as nearly square panels as possible. Frequent joints should be installed to provide articulation to the concrete panels. Landscaping and planters adjacent to concrete flatwork should be designed in such a manner that positive drainage away from the new project buildings is achieved. It is assumed that the outside concrete flatwork will be subjected only to pedestrian traffic.

V. LOOSE AND EXPANSIVE SOIL MITIGATION:

To mitigate the effects of the loose and the slightly to moderately expansive near surface soil conditions, the following measures are recommended:

1. Existing loose soil within any proposed new building pads and extending a minimum of five feet in all directions outside of the proposed building foundations shall be recompacted **as necessary** to 90 percent relative compaction at the direction of Soil Surveys Group, Inc. prior to placing additional building pad fill or finishing the building pad subgrade. Soil Surveys Group, Inc. shall determine the depth of recompaction within the building perimeter. Subexcavation and recompaction should be extended under any proposed patios or other permanent flatwork.

2. Spread footings shall be constructed a minimum of 12 inches deep for single story and 18 inches for any two story portions of the proposed new buildings as measured from the lowest adjacent grade, and continuous non-retaining footings shall be reinforced with three #4 reinforcement bars, two placed near the bottom and one placed near the top of footing.

3. All new concrete floor slabs-on-grade shall be a minimum of five inches thick and shall be reinforced with a minimum of #3 steel rebars at 12 inches on center or #4 steel rebars at 24 inches on center, each way and shall be bent to extend a minimum of eight inches into the perimeter footing.

4. The foundation excavations shall be flooded with three to four inches of water at least 24 hours prior to pouring concrete, and the subgrade for new concrete slabs and new building foundations should be brought to at least three percent over optimum moisture for a depth of at least eight inches prior to pouring concrete. However, no free water shall remain in the footing excavations during the concrete pour. To achieve the proper moisture conditioning in the subgrade beneath concrete slabs, water should be applied each evening for several days prior to placement of reinforcing steel and concrete.

5. Roof and site rain water should be directed away from the proposed building foundations. Rainfall runoff must not be allowed to collect or flow in a downslope direction against any building foundation.

6. Soil Surveys Group, Inc. shall be retained to inspect and test the recompaction of any loose native soil and new engineered fill within the building pad perimeter and shall inspect and approve foundation footing excavations for soil bearing conditions. Soil Surveys Group, Inc. shall also inspect and approve the subgrade below concrete floor and garage slabs prior to placement of reinforcing steel and shall inspect and approve the installation of all roof and yard drainage facilities

VI. RETAINING WALL DESIGN CRITERIA:

The following design criteria are recommended for any project retaining walls:

Friction Angle	φ	*= 30.6 °*
Cohesion	*c*	*= 5 p.s.f.*
Soil Weight,	*w*	*= 104.0 p.c.f.*
Equivalent fluid pressure, active		*= 34 pounds per square foot per foot of depth for Level Grade*
Equivalent fluid pressure, active		*= 48 p.c.f. with 2:1 slope behind wall*
Equivalent fluid pressure, at rest,		*= 51 p.c.f., restrained condition*
Equivalent fluid pressure, passive		*= 320 p.c.f.*
Sliding friction	*f*	*= 0.35*
Allowable Footing Toe Pressure		*= 2700 p.s.f. plus ⅓ additional for seismic force (if added)*

Retaining walls that are part of or within ten feet of a building should include the seismic force of the soil against the wall. The estimated seismically generated ground accelerations to be used for this area are:
PAGA = 0.42g
RHGA =0.28g = k_h
w = 104.0 p.c.f.

The resultant seismic force is calculated by the formula: 3/8 w H^2 k_h per linear foot of retaining wall, or for this case **10.9 H^2**, ***where H is the height of the retaining wall. These forces, where needed, should be applied at a height of 0.6H above the base of the retaining wall and must be combined with the force produced by active soil pressure.***

These retaining wall design criteria are based on a fully drained condition. Therefore, we recommend that a four-inch diameter perforated NDS or PVC pipe be installed behind or along the top of the footing, holes placed down, behind all walls that retain earth. The pipe shall be covered with a 12-inch wide envelope of ¾-inch drain rock or Class 2 Permeable Material (per Caltrans Standard Specifications Section 68-1.025) which shall extend to within one foot of the level of retained soil. Filter fabric shall be installed over the top of the drain rock. No gravel shall be placed below the pipe. As an alternative to installing drain rock or permeable material, a composite filter material, eg. Miradrain, can be installed with a perforated pipe at the bottom of the material. Clean-out risers must be installed on the perforated pipe at the up-stream ends, every 100-feet, and at 90° angle points. The capped end of the cleanout riser shall be located at the ground surface outside of or behind the retaining walls.

VII. SURFACE AND SUBSURFACE DRAINAGE AND EROSION CONSIDERATIONS:

The near surface soil at the project site has the potential to erode, especially if protective vegetation is removed. Therefore all new cut and fill slopes, as well as disturbed soil areas, must be seeded with grass or landscape plants for erosion control and to prevent sloughing soil from blocking drainage patterns at the project site. Such erosion control measures shall be taken during and at completion of grading and during building construction operations.

Concentrated storm water runoff from the project site should not be allowed to discharge uncontrolled onto sloping ground. Suitable energy dissipation systems shall be designed where rainfall runoff is concentrated, or the drainage water should be collected and piped to flat ground or discharged onto a rocked energy dissipater down slope of the existing building foundations. Rock energy dissipaters consisting of four inch to six inch diameter rock or rubble rip rap should be installed at collection pipe discharge points to reduce soil erosion. Rain gutter downspouts shall discharge onto concrete splash blocks, or shall discharge into collector pipes. The building sites, any new paved areas and ground adjacent to any building shall be graded so that rainfall runoff does not become trapped or flow against any existing project building foundations.

The boring logs do not indicate the need for a subsurface drain system. However, the Geotechnical engineer may recommend a system of subsurface drains should wet subsurface soil conditions be encountered during site preparation or excavations for any new building foundations.

VIII. RECOMMENDED SPECIFICATIONS:

A. GRADING:

The building pads, extending a minimum of five feet in each direction past new foundation footings shall be cleared and grubbed of all surface vegetation, demolition debris, and organic topsoil before recompacting the original ground, placing engineered fill or finishing the subgrade for the new building pads. On site surface or subsurface grass, roots, deleterious material, or brush (if any) within any new building pad areas shall be removed. Soil Surveys Group, Inc. should determine if any subexcavation is necessary after clearing and grubbing are completed. Any subexcavated soil shall then be backfilled in eight inch loose lifts and recompacted to 90 percent relative compaction, prior to placing engineered fill or finishing subgrade of the new building pads.

Any new cut and fill slopes shall be 2:1 or flatter unless retained. The native soil is suitable to be used as engineered fill provided any organics or debris are first removed from the soil to be used as fill. Any native soil used for fill, or any imported fill soil for the new building pads shall be compacted to at least 90 percent relative compaction, and any cut portions of the new building pads, if located within both cut and fill, shall be subexcavated a minimum of two feet, backfilled in eight inch loose lifts and recompacted to a minimum of 90 percent relative compaction. All fills placed on slope grades of 5:1 or greater shall be provided with a keyway excavated a minimum of two feet below grade, a minimum of 10 feet wide and at a 2% slope into the slope. The bottom of the keyway should be moisture conditioned, compacted (if necessary) and approved by Soil Surveys Group, Inc. prior to backfilling in eight inch loose lifts and compacting the backfill to 90 percent relative compaction. ***Grading, filling, compaction operations and foundation excavations shall be inspected and tested by Soil Surveys Group, Inc.***

B. COMPACTION:

Laboratory soils compaction test method shall be *A.S.T.M. D 1557-09.* Subgrade *in existing soil* beneath the new building pads shall be compacted to 90 percent relative compaction unless waived by the Geotechnical engineer. Subgrade soil below any new pavement shall also be compacted to 95 percent relative compaction, and aggregate base beneath new pavement shall be compacted to 95 percent relative compaction. Any imported sandy soil fill placed for the new building pads shall be compacted to a minimum of 95 percent relative compaction.

C. CONCRETE FLOOR SLABS-ON-GRADE:

Subgrade in recompacted soil under any new concrete floor slabs-on-grade shall be brought to at least 2% over optimum moisture prior to placing native or imported sandy soil fill, prior to placing the capillary break rock and moisture proof barrier or prior to pouring concrete. We recommend that a capillary break consisting of:

- a mat of clean, open graded rock, four inches thick, shall be placed over the finished soil subgrade
- a minimum 15 mil. water-proof membrane (such as Stego, Moistop or equal) shall be placed over the open graded rock
- two inches of clean, moistened sand shall be placed between the water-proof membrane and the bottom of the concrete floor slab. The moistened sand will help protect the membrane and will assist in equalizing the concrete curing rate to minimize shrinkage cracking.

Class 2 Aggregate Base or sand should not be used as the capillary break material. Capillary break material shall comply with and be installed according to the following:

1. MATERIAL:

The mineral aggregate for use under the floor slabs shall consist of broken stone, crushed or uncrushed gravel, quarry waste, or a combination of the above. The aggregate shall be free of adobe, vegetable matter, loam, volcanic tuff and other deleterious materials. It shall be of such quality that the absorption of water in a saturated, surface dry condition does not exceed 3% of the oven dry weight of the sample.

2. GRADING:

The mineral aggregate shall be of such size that the percentage composition by dry weight as determined by laboratory sieves (U.S. Sieves) will conform to the following grading:

Sieve Size	Percentage Passing Sieve
⅜" to ½"	100
No. 4	0-10
No. 200	0-2

3. PLACING:

Subgrade, upon which aggregate base, gravel or crushed rock is to be placed, shall be prepared by removing grass and roots. Where loose topsoil is present, it shall be removed and cleaned of debris and recompacted to 90 percent of maximum density.

4. THICKNESS AND STRENGTH:
   Concrete slabs should be at least five inches thick. Concrete shall be five sack minimum (5.5 sack if pumped) and shall achieve a 28 day compressive strength of at least 2500 p.s.i., or as specified by the project engineer.

5. REINFORCEMENT:
   Concrete slabs-on-grade shall be reinforced with a minimum of #3 steel reinforcement bars placed 12 inches on center, each way or #4 reinforcement bars placed 24 inches on center, each way and shall be bent to extend a minimum of eight inches into the perimeter footings.

D. UTILITY TRENCH BACKFILL:

All new on-site utility trenches shall be backfilled with a clean sand having a sand equivalent of 30 or higher. A two feet thick plug of compacted, clayey soil backfill or lean concrete shall be required around the pipe or conduit at places where utility trenches intersect the building perimeter. All trench backfill of imported clean sand or clean native sand shall be compacted to 95 percent relative compaction at all locations. Clean native sand shall be approved by Soil Surveys Group, Inc. prior to using for trench backfill.

E. PAVEMENT DESIGN CRITERIA:

An R-Value Test was taken from one of the borings. The R-Value of the representative test sample is 67. The following are the pavement and baserock thickness recommendations for different traffic indexes:

Traffic Index (T.I.)	Thickness of Hot Mix Asphalt (HMA) (ft)	Aggregate Baserock (ft)
4	0.18 (2.0")	0.5 (6.0")
5	0.2 (2.5")	0.65 (8.0")

The underlying soil subgrade shall be proof rolled and recompacted (if necessary) to a minimum of 95 percent relative compaction. Soil Surveys Group, Inc. shall test and approve the finished soil subgrade and finished subgrade of Class 2 Aggregate Base.

IX. GEOLOGIC AND SEISMIC CONSIDERATIONS:

Monterey County is in a seismically active area of the state of California. The following table provides a list of nearby faults that could produce an earthquake that could impact the project site:

Fault Name	Approximate Distance to Site	Orientation from Site	Data Source
Tularcitos (Concealed)	0.23 km	Southwest	McKittrick, 1987
Stephani (Certain)	0.29 km	South	Fiedler, 1994
Tularcitos	0.49 km	North	McKittrick, 1987
Tularcitos	1.18 km	Northeast	McKittrick, 1987

Fault Name	Approximate Distance to Site	Orientation from Site	Data Source
Tularcitos	1.18 km	Northeast	McKittrick, 1987
Rinconada Fault	20.0 km	East	Uniform Building Code, 1997
San Gregorio Fault (Sur Region)	22.0 km	West	Uniform Building Code, 1997

The residence and any future building additions must be designed in strict compliance with the 2016 California Building Code to help withstand such seismically generated ground accelerations for a reasonably expected duration without suffering major damage.

The following are the project site coordinates and the seismic design criteria/coefficients per the requirements of the 2016 California Building Code (CBC):

Site Class	Latitude	Longitude	S_S	S_1	F_a	F_v
C	36.4697°	-121.7213°	1.357	0.496	1.00	1.30

Frame and semi-rigid structures with proper strengthening connections and hold-down fasteners (where needed) are recommended for the new residence and any future building additions. With proper design parameters, seismic damage to the building can be mitigated for major earthquakes centered near the project area.

Surface rupture, liquefaction, lurch cracking, lateral spreading, and differential settlement are seismic hazards that must be considered at the project site. Surface rupture usually occurs along fault lines, and no known faults have been mapped through the project site. Therefore, the potential for surface rupture or lurch cracking is considered to be low.

Liquefaction and lateral spreading tend to occur in loose, fine saturated sands and in places where the liquefied soils can move toward a free face (e.g. a cliff or ravine). The deeper soils underlying the project site are typically very dense, silty, clayey, sandy soils and no ground water was encountered in the boring to a maximum explored depth of 20.5 feet. Considering the deeper, very dense, silty, clayey, sandy soils and the absence of shallow groundwater, the potential risk for occurrence of damaging liquefaction or lateral spreading is considered to be low during a strong seismic event.

Differential compaction and settlement occur generally in loose, granular or unconsolidated semi-cohesive soils during severe ground vibration. In our opinion, the risk for soil consolidation caused differential compaction and settlement during a major seismic event is considered to be low.

X. UNFORESEEN OR UNUSUAL CONDITIONS:

If any unforseen or unsuitable soils conditions are found during grading or construction of the new residence the Geotechnical engineer shall be notified immediately so that remedial action can be taken. Such unsuitable conditions could be:

1. Wet, soft or unsuitable pockets of sandy soil within the proposed building site.
2. Soil with a high organic content at the finished subgrade of the building pads.
3. Any other unforeseen conditions that would require remedial action by the Geotechnical engineer, project engineer, architect or contractor.

XI. CONCLUSIONS AND RECOMMENDATIONS:

From our field observations, analysis of the test data, and knowledge of the general area soils, the following are concluded:

1. The project soil conditions are suitable for the proposed new residence provided any loose near surface soil is recompacted prior to excavating for the new building foundations or finishing the subgrade of the building pads as recommended in Sections V and VIII herein.

2. Design criteria for a spread footing foundation system for the project building is provided in Sections IV and V. Design criteria for retaining walls is provided in Section VI. Design criteria for concrete slabs-on-grade are provided in Sections IV, V and VIII herein.

3. Surface storm water runoff should be carefully controlled around the proposed building to provide positive drainage away from the new building foundations as discussed in Section VII herein.

4. The Geotechnical engineer should review the building and site grading plans for compliance with the recommendations herein and may provide additional specific recommendations for surface or subsurface drainage. The Geotechnical engineer shall inspect and approve all new foundation footing excavations.

5. Grading and compaction specifications and specifications for new concrete floor slabs-on-grade are provided in Section VIII herein.

6. Seismic considerations are discussed, and geoseismic design coefficients are provided in Section IX herein per the 2016 CBC. The potential for damaging earthquake related liquefaction is considered to be low at the project site.

XII. LIMITATIONS:

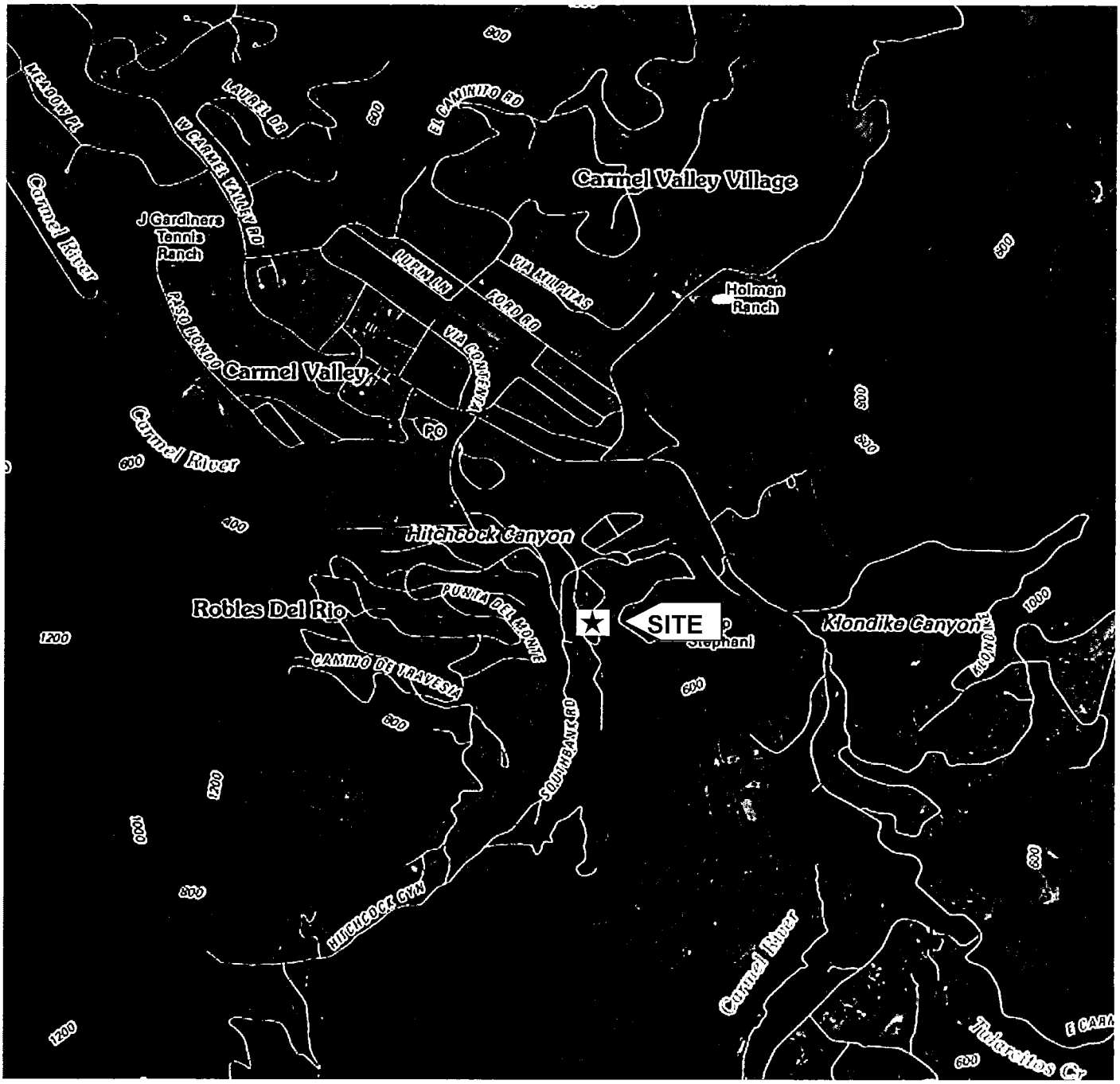
This report necessarily assumes that the subsurface conditions are as found in the borings. It should be recognized that the soil conditions described in this report are based on seven borings and our knowledge of the general area soils. It must be understood that subsurface soil conditions can vary between borings and from site to site. If any unusual soil conditions are found during grading, installation of underground utilities or building construction, the Geotechnical engineer should be notified immediately so that remedial action can be taken (see Section IX).

This report is issued with the understanding that it is the responsibility of the Owners or their representative to ensure that the applicable provisions of the recommendations contained herein are incorporated into the plans and specifications and that the necessary steps are taken to see that contractors and subcontractors carry out such provisions in the field. The use of this report, its contents or any part thereof, by a party or its agents, other than the Rawnsley's, their engineer, architect, contractor or designated agents, is hereby disallowed unless specific permission is given to do so by Soil Surveys Group, Inc. This investigation and

report were prepared with the understanding that a new two story single family residence will be constructed at the project site as shown on the Figure II map enclosed herein. The use of this report, boring logs and laboratory test data shall be restricted to the original use for which they were prepared and publication by any method, in whole or in part, is prohibited without the written consent of Soil Surveys Group, Inc. Title to the designs remains with Soil Surveys Group, Inc. without prejudice. Visual contact with this report and drawings constitutes prima facie evidence of the acceptance of these restrictions.

Soil Surveys Group, Inc. will not take responsibility for or assume any liability for the recommendations made in this report unless Soil Surveys Group, Inc. performs the field inspections and testing mentioned herein.

The findings and recommendations of this report are considered valid at the present date. However, changes in the property conditions can occur with the passage of time on this or adjacent properties, whether due to natural processes or the works of man. Therefore, the findings of this report shall be considered valid for a period of not more than three years without being reviewed and updated by Soil Surveys Group, Inc.



BASE: U.S. Geological Survey, Prunedale 7.5' Quadrangle, Carmel Valley, CA

FIGURE I: VICINITY MAP

SCALE
1" = 2000'

Job #6903

By: Soil Surveys Group, Inc.
103 Church Street
Salinas, CA 93901
831-757-2172

DRAFT

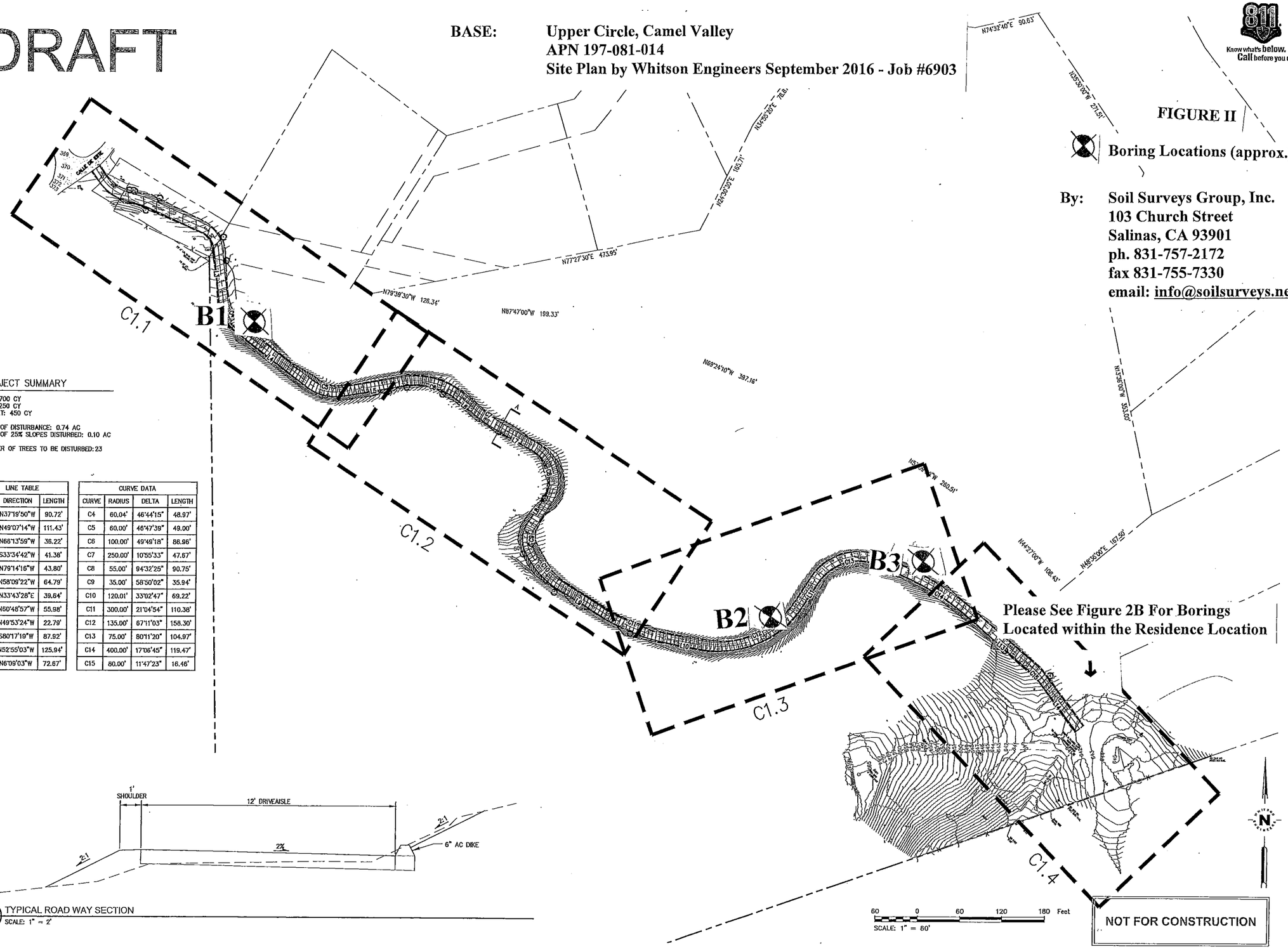
BASE: Upper Circle, Camel Valley
APN 197-081-014
Site Plan by Whitson Engineers September 2016 - Job #6903

Know what's below. Call before you dig.

FIGURE II

Boring Locations (approx.)

By: Soil Surveys Group, Inc.
103 Church Street
Salinas, CA 93901
ph. 831-757-2172
fax 831-755-7330
email: info@soilsurveys.net



PROJECT SUMMARY

CUT: 700 CY
FILL: 250 CY
EXPORT: 450 CY

AREA OF DISTURBANCE: 0.74 AC
AREA OF 25% SLOPES DISTURBED: 0.10 AC

NUMBER OF TREES TO BE DISTURBED: 23

LINE TABLE		
LINE	DIRECTION	LENGTH
L14	N37°19'50"W	90.72'
L13	N49°07'14"W	111.43'
L12	N66°13'59"W	36.22'
L11	S33°34'42"W	41.36'
L10	N79°14'16"W	43.80'
L9	N58°09'22"W	64.79'
L8	N33°43'28"E	39.64'
L7	N60°48'57"W	55.98'
L6	N49°53'24"W	22.79'
L5	S80°17'19"W	87.92'
L4	N52°55'03"W	125.94'
L3	N6°09'03"W	72.67'

CURVE DATA			
CURVE	RADIUS	DELTA	LENGTH
C4	60.04'	46°44'15"	48.97'
C5	60.00'	46°47'39"	49.00'
C6	100.00'	49°49'18"	86.96'
C7	250.00'	10°55'33"	47.67'
C8	55.00'	94°32'25"	90.75'
C9	35.00'	58°50'02"	35.94'
C10	120.01'	33°02'47"	69.22'
C11	300.00'	21°04'54"	110.36'
C12	135.00'	67°11'03"	158.30'
C13	75.00'	80°11'20"	104.97'
C14	400.00'	17°06'45"	119.47'
C15	80.00'	11°47'23"	16.46'

A — TYPICAL ROAD WAY SECTION
SCALE: 1" = 2'

NOT FOR CONSTRUCTION

REVISIONS:			
NO.	BY:	DATE:	DESCRIPTION:

DATE: 9/22/16 | SCALE: 1"=60' | ENGR: KGH | JOB NO.: 3473

REGISTERED PROFESSIONAL ENGINEER * RICHARD P. WEBER No. 53015 * CIVIL * STATE OF CALIFORNIA

WE WHITSON ENGINEERS
9699 Blue Larkspur Lane ▪ Suite 105 ▪ Monterey, CA 93940
831 649-5225 ▪ Fax 831 373-5065
CIVIL ENGINEERING ▪ LAND SURVEYING ▪ PROJECT MANAGEMENT

RAWNSLEY RESIDENCE
MONTEREY COUNTY
CARMEL VALLEY, CA
OVERALL SITE PLAN
APN 197-081-014

SHEET C1.0 OF

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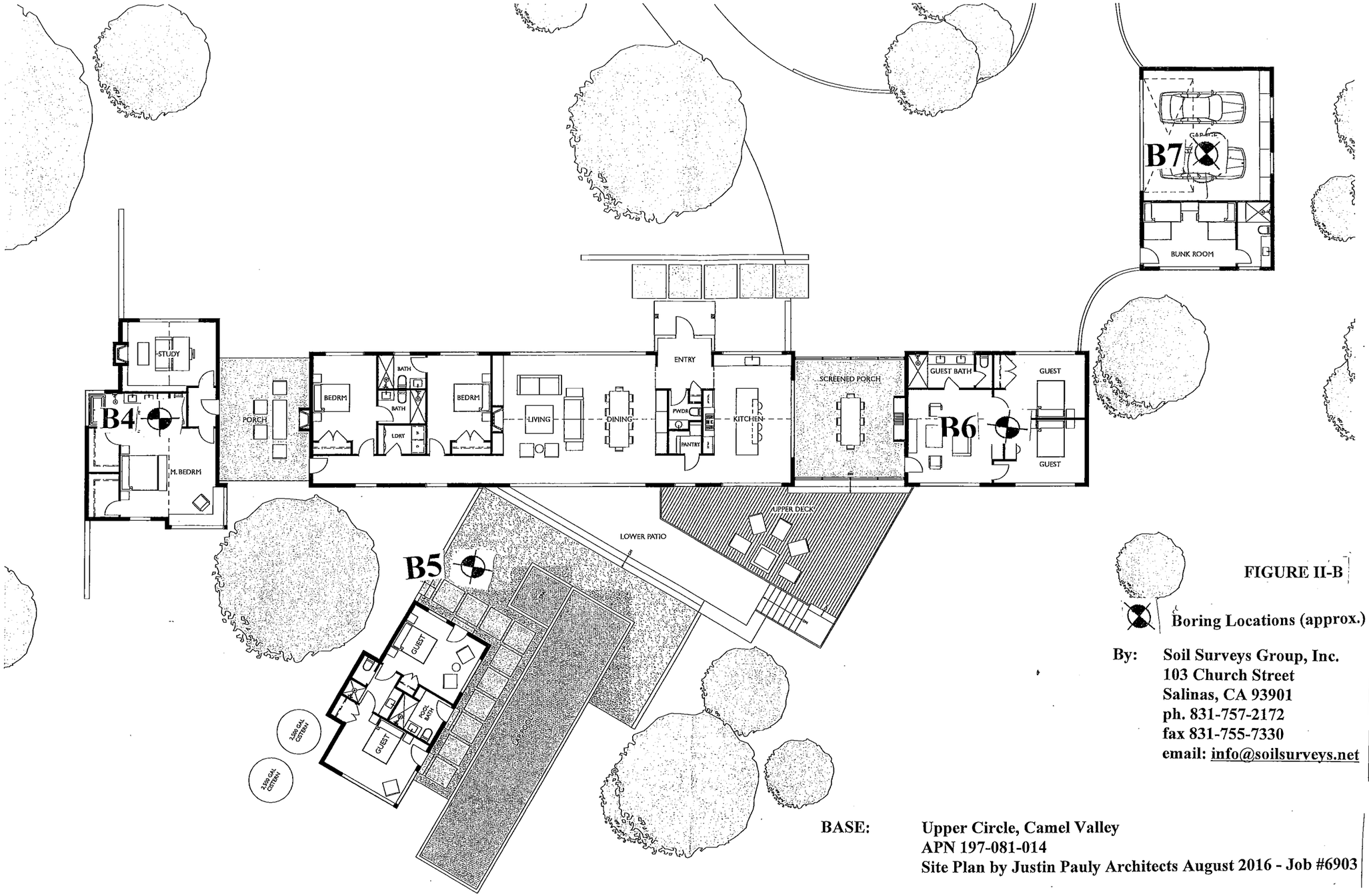


FIGURE II-B

Boring Locations (approx.)

By: **Soil Surveys Group, Inc.**
103 Church Street
Salinas, CA 93901
ph. 831-757-2172
fax 831-755-7330
email: info@soilsurveys.net

BASE: **Upper Circle, Camel Valley**
APN 197-081-014
Site Plan by Justin Pauly Architects August 2016 - Job #6903

1 PROPOSED 1st FLOOR PLAN
SCALE: 1/8" = 1'-0"

0 4' 8' 16'

N

issued: 8/4/16
revised:
drawn by:

JUSTIN PAULY ARCHITECTS
550 hartnell st. suite H
monterey, california 93940
p. 831.655.3040
f. 831.655.3660
jp@justinpaulyarchitects.com

LICENSED ARCHITECT
JUSTIN T. PAULY
No. C-32692
RENEWAL 07/31/2017
STATE OF CALIFORNIA

apn: 197-081-014

a new residence for:
RAWNSLEY
carmel valley, california
upper circle

PROPOSED MAIN LEVEL FLOOR PLAN

sheet 6
A2.1
of - 18 sheets

APPENDIX A

BORING LOGS

PRIMARY DIVISIONS			GROUP SYMBOL	SECONDARY DIVISIONS
COARSE GRAINED SOILS (MORE THAN HALF OF MATERIAL IS LARGER THAN NO. 200 SIEVE SIZE)	GRAVELS (MORE THAN HALF OF COARSE FRACTION IS LARGER THAN NO. 4 SIEVE)	CLEAN GRAVELS (LESS THAN 5% FINES)	GW	Well graded gravels, gravel-sand mixtures, little or no fines.
			GP	Poorly graded gravels or gravel-sand mixtures, little or no fines.
		GRAVEL WITH FINES	GM	Silty gravels, gravel-sand-silt mixtures, non-plastic fines
			GC	Clayey gravels, gravel-sand-clay mixtures, plastic fines.
	SANDS (MORE THAN HALF OF COARSE FRACTION IS SMALLER THAN NO. 4 SIEVE)	CLEAN SANDS (LESS THAN 5% FINES)	SW	Well graded sands, gravelly sands, little or no fines.
			SP	Poorly graded sands or gravelly sands, little or no fines.
		SANDS WITH FINES	SM	Silty sands, sand-silt mixtures, non-plastic fines.
			SC	Clayey sands, sand-clay mixtures, plastic fines.
FINE GRAINED SOILS (MORE THAN HALF OF MATERIAL IS SMALLER THAN NO. 200 SIEVE SIZE)	SILTS AND CLAYS LIQUID LIMIT IS LESS THAN 50%		ML	Inorganic silts and very fine sands, rock flour, silty or clayey fine sands or clayey silts with slight plasticity.
			CL	Inorganic clays of low to medium plasticity, gravelly clays, sandy clays, silty clays, lean clays.
			OL	Organic silts and organic silty clays of low plasticity.
	SILTS AND CLAYS LIQUID LIMIT IS GREATER THAN 50%		MH	Inorganic silts, micaceous or diatomaceous fine sandy or silty soils, elastic silts
			CH	Inorganic clays of high plasticity, fat clays.
			OH	Organic clays of medium to high plasticity, organic silts.
HIGHLY ORGANIC SOILS			Pt	Peat and other highly organic soils.

GRAIN SIZES

U.S STANDARD SERIES SIEVE — CLEAR SQUARE SIEVE OPENINGS

200	40	10	4	3/4"	3"	12"

SILTS AND CLAYS	SAND			GRAVEL		COBBLES	BOULDERS
	FINE	MEDIUM	COARSE	FINE	COARSE		

RELATIVE DENSITY

SANDS AND GRAVELS	BLOWS/FT*
VERY LOOSE	0 - 4
LOOSE	4-10
MEDIUM DENSE	10 - 30
DENSE	30 - 50
VERY DENSE	OVER 50

CONSISTENCY

SILTS AND CLAYS	STRENGTH**	BLOWS/FT*
VERY SOFT	0 - 1/4	0 - 2
SOFT	1/4 - 1/2	2 - 4
FIRM	1/2 - 1	4 - 8
STIFF	1 - 2	8 - 16
VERY STIFF	2 - 4	16 - 32
HARD	OVER 4	OVER 32

*Number of blows of 140 pound hammer falling 30 inches to drive a 2 inch O.D. (1 3/8 inch I.D) split spoon (ASTM D-1586)

**Unconfined compressive strength in tons/ft^2 as determined by laboratory testing or approximated by the standard penetration test (ASTM D-1586), pocket penetrometer, torvane, or visual observation

FIGURE NO. KEY TO LOGS

EXPLORATION DRILL LOG

HOLE NO. B-1

PROJECT Upper Circle Drive, Carmel Valley, Rawnsley Residence Job# 6903 DATE 9.27.17 LOGGED BY JG

DRILL RIG Central Coast B-53 HOLE DIA. 5" Cont. Flight SAMPLER Terzaghi Split Spoon (SPT)

GROUNDWATER DEPTH: INITIAL --- FINAL --- HOLE ELEV. ---

DESCRIPTION	SOIL TYPE	DEPTH	SAMPLE	BLOWS PER FOOT	DRY DENSITY (pcf)	WATER CONTENT %	LIQUID LIMIT	PLASTIC LIMIT	POCKET PEN. (tsf)
Grasses, Light tan silty fine to medium grained	SM								
SAND; slightly moist		1							
Light tan silty fine to coarse grained SAND; slightly	SM		SPT						
moist, dense		2							
			XXX	39	69.9	12.2	47	23	>4.5
		3							
Slightly reddish tan silty fine to coarse grained	SM/ML		SPT						
SAND with light tan shale gravels; slightly moist,		4	XXX	78/11"	55.5	26.2			0.25
very dense									
		5							
Light tan, reddish-yellow tan slightly clayey, fine to	ML/SM		SPT						
coarse grained sandy SILT with scattered fractured		6	XXX	77	67.6	21.6			4.25
SHALE gravels and thin veins of dark brown clay;									
moist, very dense		7							
		8							
		9							
		10							
Light tan slightly sandy SILT; moist, very dense	ML		SPT	50/6"	61.1	23.1			2.0
Bottom of Boring at 10.5'		11							
		12							
		13							
		14							
		15							
		16							
		17							
		18							
		19							
		20							

DEPTH 10.5'

SOIL SURVEYS GROUP, INC.

EXPLORATION DRILL LOG

HOLE NO. B-2

PROJECT Upper Circle Drive, Carmel Valley, Rawnsley Residence Job# 6903 DATE 9.27.17 LOGGED BY JG

DRILL RIG Central Coast B-53 HOLE DIA. 5" Cont. Flight SAMPLER Terzaghi Split Spoon (SPT)

GROUNDWATER DEPTH: INITIAL --- FINAL --- HOLE ELEV. ---

DESCRIPTION	SOIL TYPE	DEPTH	SAMPLE	BLOWS PER FOOT	DRY DENSITY (pcf)	WATER CONTENT %	LIQUID LIMIT	PLASTIC LIMIT	POCKET PEN. (tsf)
Grasses, Light reddish tan silty fine to coarse	SM								
grained SAND; slightly moist		1							
Light reddish-tan silty fine to coarse grained SAND	SM		SPT						
with organics; slightly moist, loose		2							
			XXX	5	98.0	3.5	27	21	---
		3							
Dark brown silty fine to coarse grained SAND with	SM		SPT						
scattered fine gravels; slightly moist, medium dense		4							
			XXX	12	98.6	3.2			---
		5							
Reddish brown silty fine to coarse grained SAND	SM		SPT						
with scattered fine gravels; slightly moist, medium		6							
dense			XXX	20	98.0	2.8			---
		7							
		8							
		9							
		10							
Reddish brown, whitish grey, silty fine to coarse	SM		SPT						
grained SAND with scattered fine gravels; slightly		11							
moist, medium dense. Bottom of boring at 11.5'	SM		XXX	51	107.1	5.3			1.5
		12							
		13							
		14							
		15							
		16							
		17							
		18							
		19							
		20							

DEPTH 11.5'

SOIL SURVEYS GROUP, INC.

EXPLORATION DRILL LOG

HOLE NO. B-3

PROJECT Upper Circle Drive, Carmel Valley, Rawnsley Residence Job# 6903 DATE 9.27.17 LOGGED BY JG

DRILL RIG Central Coast B-53 HOLE DIA. 5" Cont. Flight SAMPLER Terzaghi Split Spoon (SPT)

GROUNDWATER DEPTH: INITIAL --- FINAL --- HOLE ELEV. ---

DESCRIPTION	SOIL TYPE	DEPTH	SAMPLE	BLOWS PER FOOT	DRY DENSITY (pcf)	WATER CONTENT %	LIQUID LIMIT	PLASTIC LIMIT	POCKET PEN. (tsf)
Grasses, Light grey stain	SM								
		1							
Light reddish-tan silty fine to coarse grained SAND	SM		SPT						
with scattered fine gravels and organics; slightly		2							
moist, medium dense			XXX	12	81.9	3.2			---
		3							
Light tan silty fine to coarse micaceous SAND with	SM		SPT						
scattered fine gravels; slightly moist, dense		4							
			XXX	42	115.9	2.4	27	n/p	---
Increase in density, hard drilling		5							
Light whitish-tan silty fine to coarse grained SAND	SM		SPT	50/6"	45.7	2.1			---
with scattered fractured white quartz gravels;		6							
slightly moist, very dense									
		7							
		8							
Fractured granodionite cobble		9							
Reddish-yellow tan slightly clayey, silty, fine to		10							
coarse grained decomposed granitic SAND with	SM/SC		SPT						
scattered fractured granodionite gravel and cobble;		11							
slightly moist, very dense	SM/SC		XXX	73/9"	100.9	6.1			4.5
Bottom of boring at 11.33'		12							
		13							
		14							
		15							
		16							
		17							
		18							
		19							
		20							

DEPTH 11.33'

SOIL SURVEYS GROUP, INC.

EXPLORATION DRILL LOG

HOLE NO. B-4

PROJECT Upper Circle Drive, Carmel Valley, Rawnsley Residence Job# 6903 DATE 9.27.17 LOGGED BY JG

DRILL RIG Central Coast B-53 HOLE DIA. 5" Cont. Flight SAMPLER Terzaghi Split Spoon (SPT) + 2" CAL

GROUNDWATER DEPTH: INITIAL --- FINAL --- HOLE ELEV. ---

DESCRIPTION	SOIL TYPE	DEPTH	SAMPLE	BLOWS PER FOOT	DRY DENSITY (pcf)	WATER CONTENT %	LIQUID LIMIT	PLASTIC LIMIT	POCKET PEN. (tsf)
Grass, Light greyish-tan silty fine to coarse grained	SM								
SAND with organics; dry		1							
Reddish tan slightly clayey, silty fine to coarse	SM		SPT						
grained decomposed granitic SAND; slightly moist,		2	XXX	65/9"	89.7	6.1	35	14	4.5
very dense									
		3							
Reddish yellow, whitish tan silty fine to coarse	SM		SPT						
grained decomposed granitic SAND with scattered		4							
decomposed granitic gravels; slightly moist, very			XXX	94	104.1	7.5			3.0
dense		5							
Reddish-yellow tan, light grey, dark grey clayey,	SM		2" Cal.	26(21)	49.8	7.3			0.5
silty fine to coarse grained decomposed granitic		6	XXX	76(61)	112.5	9.0	31	15	>4.5
SAND; moist, very dense (added water)									
Hard drilling		7							
		8							
		9							
		10							
Dark reddish-yellow brown, whitish tan, dark grey,	SM		SPT	50/6"	97.9	6.1			1.25
slightly clayey, silty fine to coarse grained		11							
micaceous decomposed granitic SAND; slightly									
moist, very dense		12							
		13							
		14							
		15							
Reddish-yellow tan silty fine to coarse grained	SM		SPT	50/6"	74.3	12.3			1.5
decomposed granitic SAND with scattered fine		16							
decomposed granitic subangular gravels; slightly									
moist, very dense		17							
Added water									
Auger Refusal at 18'		18							
Reddish-yellow tan silty fine to coarse grained	SM		SPT						
decomposed granitic SAND with scattered fine	SM	19	XXX	67	92.5	4.9			---
decomposed granitic gravels; slightly moist, very									
dense. Bottom of boring at 19'		20							

DEPTH 19'

SOIL SURVEYS GROUP, INC.

EXPLORATION DRILL LOG

HOLE NO. B-5

PROJECT Upper Circle Drive, Carmel Valley, Rawnsley Residence Job# 6903 DATE 9.27.17 LOGGED BY JG

DRILL RIG Central Coast B-53 HOLE DIA. 5" Cont. Flight SAMPLER Terzaghi Split Spoon (SPT) + 2.5" CAL

GROUNDWATER DEPTH: INITIAL --- FINAL --- HOLE ELEV. ---

DESCRIPTION	SOIL TYPE	DEPTH	SAMPLE	BLOWS PER FOOT	DRY DENSITY (pcf)	WATER CONTENT %	LIQUID LIMIT	PLASTIC LIMIT	POCKET PEN. (tsf)
Grass, Light reddish tan silty									
		1							
Reddish tan, slightly clayey, silty, fine to coarse	SM		SPT						
grained decomposed granitic SAND with scattered		2							
subangular gravels; slightly moist, very dense			XXX	11	90.4	3.1			---
		3							
Light reddish-yellow slightly clayey, silty, fine to	SM		SPT						
coarse grained decomposed granitic SAND with		4							
scattered subangular gravels; slightly moist, very			XXX	75	108.5	7.5	34	14	2.75
dense		5							
Reddish tan silty fine to coarse grained SAND with	SM		SPT	50/6"	82.1	5.0			---
scattered fine subangular gravels; slightly moist,		6							
very dense									
		7							
		8							
Auger refusal. Added water									
Reddish tan silty fine to coarse grained decomposed		9	SPT	50/2"	Bulk	6.4			---
granitic SAND with scattered subangular	SM								
decomposed granitic gravels; moist, very dense		10							
			2.5" Cal.	50(30)/3"	60.0	5.2	33	n/p	0.5
		11							
		12							
		13							
		14							
		15							
Dark reddish tan, light grey, clayey, silty, fine to	SM		SPT	50/5"	79.8	5.8			4.5
coarse grained decomposed granitic SAND with		16							
scattered gravels; slightly moist, very dense									
		17							
		18							
		19							
Same	SM								
		20							

DEPTH 20.5'

SOIL SURVEYS GROUP, INC.

EXPLORATION DRILL LOG

HOLE NO. B-5 CONTINUED

DESCRIPTION	SOIL TYPE	DEPTH	SAMPLE	BLOWS PER FOOT	DRY DENSITY (pcf)	WATER CONTENT %	LIQUID LIMIT	PLASTIC LIMIT	POCKET PEN. (tsf)
Reddish-tan, white, dark grey slightly clayey, silty,	SM		SPT	50/6"	88.7	7.7			0.75
fine to coarse grained decomposed granitic SAND		21							
with scattered decomposed decomposed granitic									
gravel. Bottom of the boring at 20.5'		22							
		23							
		24							
		25							
		26							
		27							
		28							
		29							
		30							
		31							
		32							
		33							
		34							
		35							
		36							
		37							
		38							
		39							
		40							
		41							
		42							

DEPTH 20.5' Job #6903

SOIL SURVEYS GROUP, INC.

EXPLORATION DRILL LOG

HOLE NO. B-6

PROJECT Upper Circle Drive, Carmel Valley, Rawnsley Residence Job# 6903 DATE 9.27.17 LOGGED BY JG

DRILL RIG Central Coast B-53 HOLE DIA. 5" Cont. SAMPLER Terzaghi Split Spoon (SPT) + 2.5" CAL

GROUNDWATER DEPTH: INITIAL --- FINAL --- HOLE ELEV. ---

DESCRIPTION	SOIL TYPE	DEPTH	SAMPLE	BLOWS PER FOOT	DRY DENSITY (pcf)	WATER CONTENT %	LIQUID LIMIT	PLASTIC LIMIT	POCKET PEN. (tsf)
Grass, Reddish tan silty fine to medium grained	SM								
SAND with organics; dry, loose to medium dense		1							
Reddish brown tan silty fine to medium grained	SM		SPT						
SAND with scattered gravels; dry, loose to medium		2	XXX	57	107.7	5.3			4.25
dense									
		3							
			2.5" Cal.	93(57)/8"	94.9	4.3			1.0
Tan brown silty fine to medium grained SAND; dry,	SM	4	SPT	50/6"	83.1	3.1			---
medium dense									
		5							
Tan brown clayey, silty, fine to medium grained			2.5" Cal.	50(30)/6"	95.6	8.8	shear	test	2.75
SAND; slightly moist, medium dense		6							
		7							
		8							
		9							
		10							
Reddish-tan slightly clayey, silty fine to coarse	SM		2.5" CAL	50(30)/6"	97.5	5.0	36	13	1.0
grained decomposed granitic SAND with scattered		11	SPT	50/6"	97.5	6.0			2.75
fine subangular gravels; moist, very dense									
		12							
		13							
		14							
Dark reddish tan silty fine to coarse grained	SM	15	SPT	50/6"	92.5	5.8			3.75
decomposed granitic SAND with white quartz/									
gravels; slightly moist, very dense		16							
Bottom of the boring @15'									
		17							
		18							
		19							
		20							

DEPTH 15'

SOIL SURVEYS GROUP, INC.

EXPLORATION DRILL LOG

HOLE NO. B-7

PROJECT Upper Circle Drive, Carmel Valley, Rawnsley Residence Job# 6903 DATE 9.27.17 LOGGED BY JG

DRILL RIG Central Coast B-53 HOLE DIA. 5" Cont. SAMPLER Terzaghi Split Spoon (SPT)

GROUNDWATER DEPTH: INITIAL --- FINAL --- HOLE ELEV. ---

DESCRIPTION	SOIL TYPE	DEPTH	SAMPLE	BLOWS PER FOOT	DRY DENSITY (pcf)	WATER CONTENT %	LIQUID LIMIT	PLASTIC LIMIT	POCKET PEN. (tsf)
Grass, light reddish silty fine to medium grained									
SAND with organics; dry, loose to 6"		1							
Reddish-tan slightly clayey, silty fine to coarse	SM		SPT						
grained SAND with scattered white quartz gravel;		2	XXX	78	86.4	10.1	57	20	0.75
slightly moist, very dense									
		3							
Reddish tan, dark grey, whitish tan, slightly clayey,	SM		SPT	50/6"	77.1	8.8			---
silty, fine to coarse grained decomposed granitic		4							
SAND; slightly moist, very dense									
		5							
Reddish tan, brown, whitish tan, slightly clayey,	SM		SPT	50/5"	76.6	5.9			2.0
silty, fine to coarse grained decomposed granitic		6							
SAND; slightly moist, very dense									
		7							
		8							
		9							
		10							
Reddish-yellow tan silty fine to coarse grained	SM		SPT	50/6"	97.4	4.9			---
SAND with scattered fractured gravels; slightly		11							
moist, very dense									
		12							
		13							
		14							
Dark reddish tan, light and dark grey, slightly		15							
clayey, silty, fine to coarse grained micaceous	SM		SPT						
SAND with scattered fractured decomposed granitic	SM	16	XXX	90	115.6	4.6			2.0
gravels; slightly moist, very dense									
Bottom of boring at 16'		17							
		18							
		19							
		20							

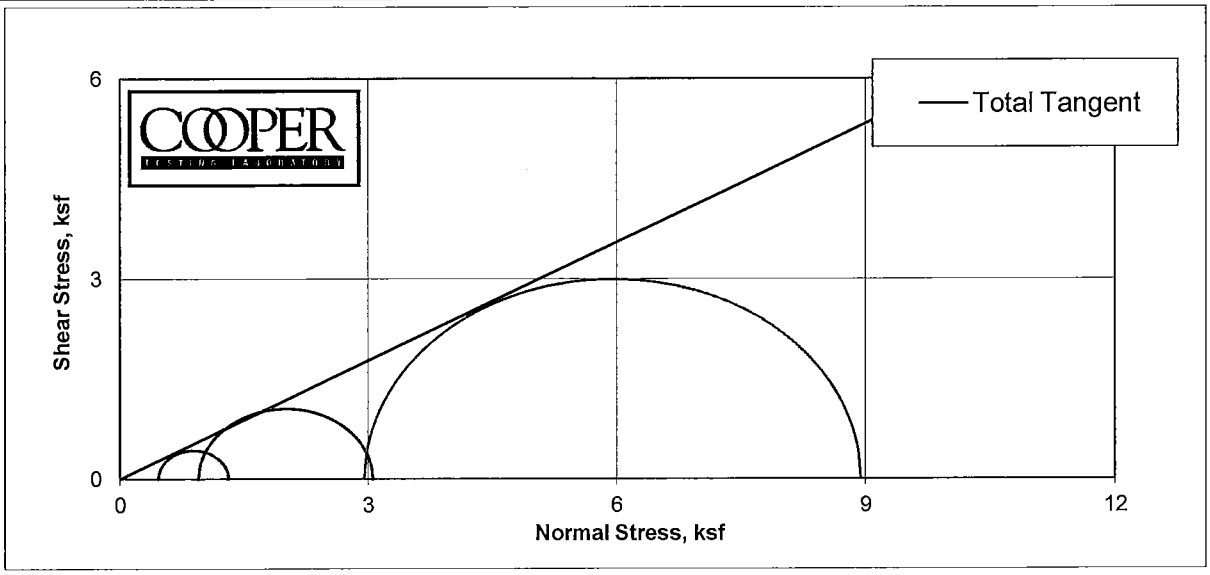
DEPTH 16'

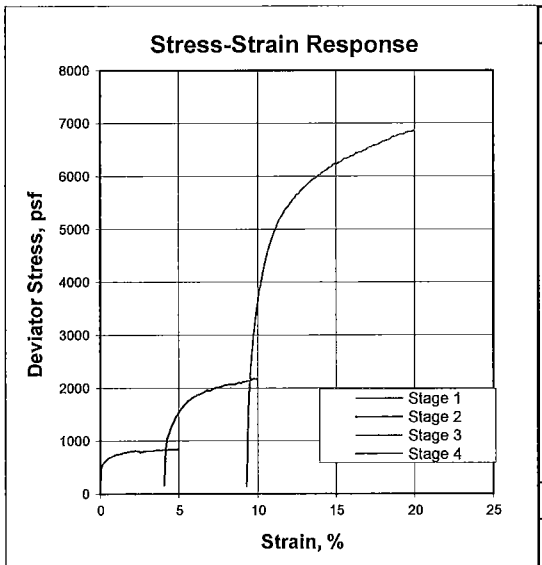
SOIL SURVEYS GROUP, INC.

APPENDIX B

DIRECT SHEAR TEST

Staged Consolidated Undrained Triaxial Compression
ASTM D4767m





CTL Number:	699-074
Client Name:	Soil Surveys Inc
Project Name:	Upper Circle
Project Number:	6903
Date:	10/19/2017 By: MD/DC
Total C	0.000 ksf
Total phi	30.6 degrees
Eff. C	N/A ksf
Eff. Phi	N/A degrees

Stage	1	2	3	4
Boring	B-6			
Sample				
Depth	5-5.5			
Visual Description	Reddish Brown SAND w/ Clay (Cemented) near Clayey SAND			
MC (%)	8.8			
Dry Density (pcf)	95.6			
Saturation (%)	31.9			
Void Ratio	0.730			
Diameter (in)	2.40			
Height (in)	5.01			
	Final			
MC (%)	22.0	20.3	18.1	
Dry Density (pcf)	104.4	107.6	111.8	
Saturation (%)	100.0	100.0	100.0	
Void Ratio	0.584	0.538	0.480	
Diameter (in)	2.30	2.31	2.33	
Height (in)	5.01	4.80	4.55	
Cell Pressure (psi)	52.0	55.4	69.3	
Back Pressure (psi)	48.8	48.8	48.8	
	Total Stresses At:			
Strain (%)	5.0	5.0	5.0	
Deviator (ksf)	0.851	2.108	5.990	
Excess PP (psi)				
Sigma 1 (ksf)	1.312	3.059	8.942	
Sigma 3 (ksf)	0.461	0.950	2.952	
P (ksf)	0.886	2.005	5.947	
Q (ksf)	0.425	1.054	2.995	
Stress Ratio	2.846	3.218	3.029	
Rate (in/min)	0.0248	0.0245	0.0245	

APPENDIX C

R-VALUE TEST

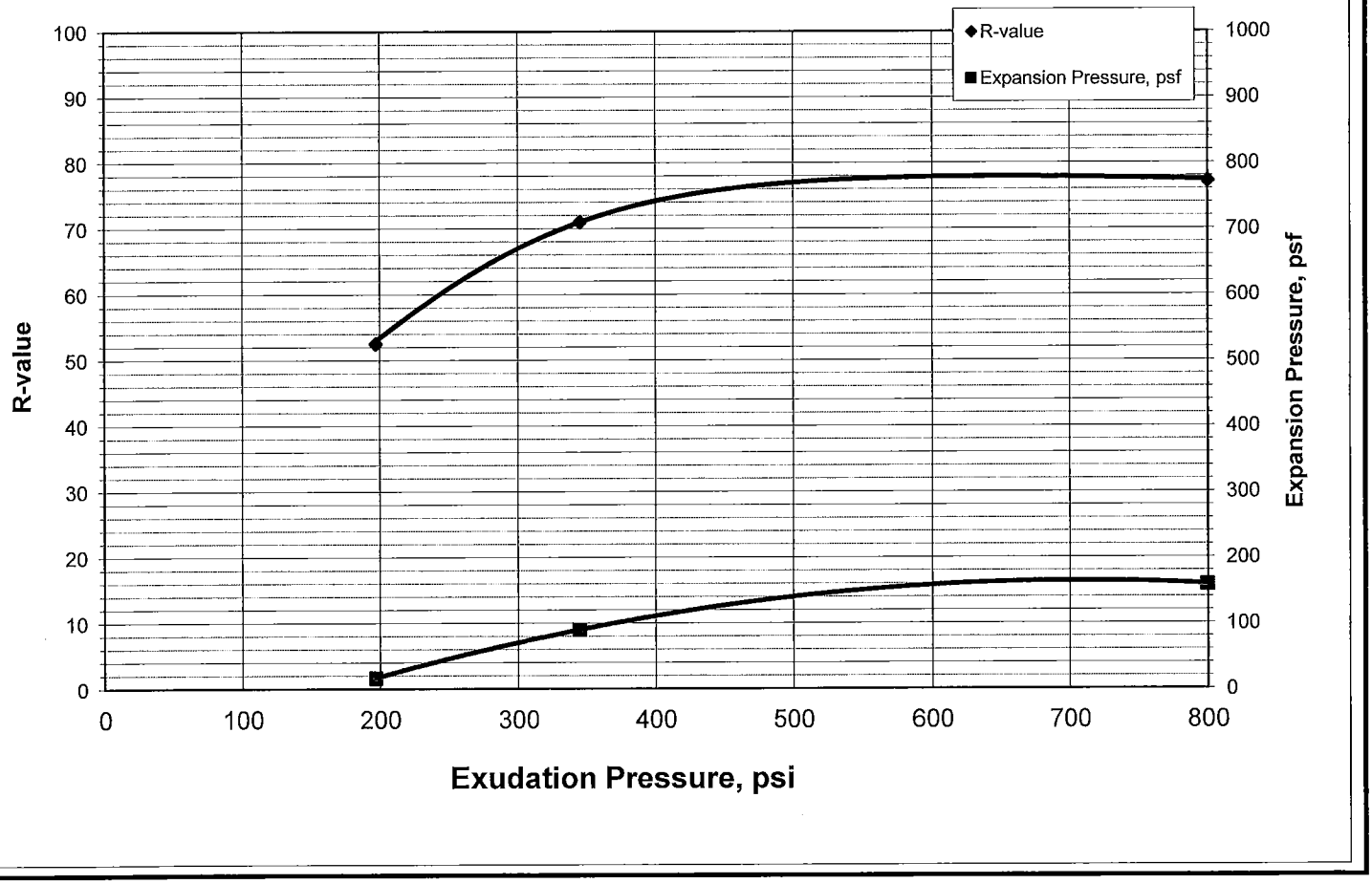
R-value Test Report (Caltrans 301)

COOPER TESTING LABORATORY

Job No.:	699-074	**Date:**	10/12/17	**Initial Moisture,**	8.4
Client:	Soil Surveys Inc	**Tested**	PJ	**R-value**	67
Project:	Upper Circle - 6903	**Reduced**	RU		
Sample	R-1, B1-B3 upper 1'	**Checked**	DC	**Expansion Pressure**	70 psf
Soil Type:	Brown Silty SAND				

Specimen Number	A	B	C	D
Exudation Pressure, psi	197	800	345	
Prepaired Weight, grams	1200	1200	1200	
Final Water Added, grams/cc	37	18	26	
Weight of Soil & Mold, grams	3140	3154	3137	
Weight of Mold, grams	2102	2078	2016	
Height After Compaction, in.	2.35	2.50	2.37	
Moisture Content, %	11.7	10.0	10.8	
Dry Density, pcf	119.8	118.6	129.5	
Expansion Pressure, psf	17	159	90	
Stabilometer @ 1000				
Stabilometer @ 2000	52	26	30	
Turns Displacement	4.00	3.80	3.95	
R-value	53	77	71	

Remarks:



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