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**REPORT
to
MR. PETER FENTON
988 MARKET STREET, 9TH FLOOR
SAN FRANCISCO, CALIFORNIA
94102**

**GEOTECHNICAL REPORT
for the proposed
ADDITIONS & REMODEL
FENTON RESIDENCE
STONERIDGE, HIGHWAY ONE
BIG SUR, CALIFORNIA
A. P. N. 420-191-006**

by

**GRICE ENGINEERING, INC.
561-A BRUNKEN AVENUE
SALINAS, CALIFORNIA
MAY 2018**

GRICE ENGINEERING INC

ENGINEERING GEOTECHNICS SEPTIC HYDROLOGY
FOUNDATIONS SOILS EARTH STRUCTURES

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File No. 6939-18.03
May 01, 2018

Page i

Mr. Peter Fenton
988 Market Street, 9th Floor
San Francisco, California 94102

Project: Additions & Remodel
 Fenton Residence
 Stoneridge, Highway One
 Big Sur, California
 A. P. N. 420-191-006

Subject: Geotechnical Report

Dear Mr. Fenton;

Pursuant to your request, we have completed our geotechnical investigation and evaluation of the above named site. It is our opinion that this site is suitable for the proposed development, provided the recommendations made herein are followed.

In general, the near surface soils are loose and will need to be taken into account during design and construction of the proposed additions and remodel of the existing residence. Recommendations are given relative to this and other characteristics within the report and especially under Special Recommendations.

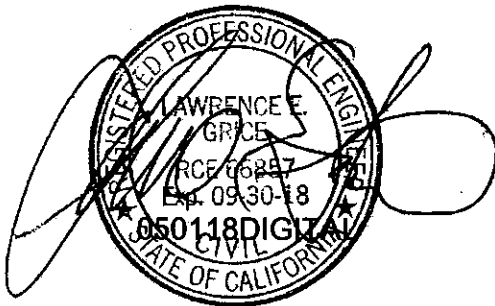
The report contained herein is made with our best efforts to evaluate the site, determine the site's geotechnical conditions and provide recommendations for these conditions. We submit this report with the understanding that it is the responsibility of the owner, or his representative, to ensure incorporation of these recommendations into the final plans, and their subsequent implementation in the field.

In addition, we recommend that GRICE ENGINEERING, INC., be retained to review the project plans and provide the construction supervision and testing required to document compliance with these recommendations. Should any site condition not mentioned in this report be observed, this office should be notified so that additional recommendations can be made, if necessary.

This report and the recommendations herein are made expressly for the above referenced project and may not be utilized for any other site without written permission of GRICE ENGINEERING, INC.

Please feel free to call this office should you have any questions regarding this report.

Very truly yours,
GRICE ENGINEERING, INC.



Lawrence E. Grice, P.E.
R.C.E. 66857

NOTICE TO OWNER

Any earthwork and grading performed without direct engineering supervision and materials testing by Grice Engineering Inc., will not be certified as complete and in accordance with the requirements set forth herein.

Foundations placed without observation of bearing conditions will not be certified as being in accordance with the requirements set forth herein.

Inspection of Work

It is recommended that all site work be inspected and tested during performance by this firm to establish compliance with these recommendations.

NOTIFY:	GRICE ENGINEERING INC.	SALINAS	(831) 422-9619
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A minimum of 48 hours (2 working days) notification is required prior to commencement of work so that scheduling for testing and inspections can be made.

Please be advised that costs incurred during inspection and testing of all site work is separate and not considered part of the fees as charged by Grice Engineering, Inc. for the report contained herein.

TABLE OF CONTENTS

Page No.

LETTER OF TRANSMITTAL

GEOTECHNICAL REPORT	1
Introduction, Method and Scope of Investigation	1
Site Description	1
Field Investigation	2
Site Soil Profile	3
Groundwater	3
Seismic History	4
Regional Faults	4
Local Faults	5
Liquefaction	5
Differential-Total Settlement - Static and Dynamic	5
Hydro-Collapse and Subsidence	5
Slope Stability	6
Slope Stability and Erosion	6
Seismic Strength Loss	8
Chemical Reactivity	8
Expansive Soils	8
Surface Rupture and Lateral Spreading	9
Seismicity	9
2016 California Building Code Geoseismic Classifications	10
CONCLUSIONS OF INVESTIGATION	11
Special Recommendations	11
Foundations and Footings	12
Slabs-on-Grade	13
Specifications for Rock Under Floor Slabs	14
Slope Ratio and Drainage	14
Surface Drainage and Erosion Control	15
Subsurface Drains	16
General Grading Recommendations	17
LIMITATIONS AND UNIFORMITY OF CONDITIONS	21
APPENDIX A	22
Vicinity and Location Map	23
Site Map with Boring Locations	24
APPENDIX B	25
Boring Logs	26
Unified Soil Classification Chart	34
REFERENCES	35

**GEOTECHNICAL REPORT
for the proposed
ADDITIONS & REMODEL
FENTON RESIDENCE
STONE RIDGE, HIGHWAY ONE
BIG SUR, CALIFORNIA
A. P. N. 420-191-006**

Introduction, Method and Scope of Investigation

The purpose of this report is to evaluate the geotechnical properties of the site relative to the construction of additions and remodel of a single family residence. From these findings recommendations are given for the design of the development and subsequent construction.

For this purpose, the site was investigated, and prior information concerning construction and subsurface exploration in this area was examined for soils and materials data. The investigation consisted of a detailed site evaluation, which included: a site inspection; a review of literature made available to GRICE ENGINEERING, INC., including Site Plans from Thom Cowen, Architect, Visual Poetry Studio; geotechnical drilling and soil sampling; materials evaluation; and analysis of the geotechnical properties of the site soils. This report concludes the results of the investigation and provides recommendations based on that work.

The findings and recommendations contained in this report are applicable only to the above named site and its proposed development, and may not be utilized for any other site or purpose without written permission of GRICE ENGINEERING, INC.

Site Description

The project site is located on a private road approximately 1.55 miles northeast of its intersection with State Highway One which is approximately 5.5 miles southeast of Big Sur, in an un-incorporated westernmost area of Monterey County, California. Please refer to the Vicinity and Location Maps and the Site Map in Appendix A for details.

The 10.13 acre site occupies an area containing northeast-southwest trending ridge, bordered by Graves Canyon along the northwest and Castro Canyon along the southeast, in the western foothills of the Santa Lucia Range, ranging in elevations along the ridge line of approximately 1460 to 1510 feet above mean sea level. The majority of the site is covered with grass, brush and Coastal Live Oaks.

Currently a single family residence is situated centrally on the ridge with a utility shed up-slope to the northeast, and a storage shed and carport to the southwest. Access to the lower area below the residence is by way of a combination path and stairs. Access to the carport is from the private road by way of a dirt driveway.

As proposed, the existing residence is to be expanded with an addition to the northwest-north, while the existing deck to the residence's west is to be expanded both to the northwest and southwest. A new deck is to be constructed off the proposed addition to the north, with a new bridge providing access to the existing pathway running parallel to the residence on the northeast. The pathway also connects to the residence via the proposed deck on the north. The existing utility shed is to be replaced by a new bath and utility shed with deck, with access by way of the pathway or bridge.

Additionally the proposed garage and studio with an adjacent utility bunker to the northeast is to replace the existing storage shed and carport. As well, an auto turntable is to be placed in front of the garage, to the northwest.

The approximately 189 square foot addition to the residence, the approximately 100 square foot bath and utility shed, and the approximately 454 square foot garage is to be of conventional wood construction with isolated and/or continuous spread footings. The garage is to have a slab-on-grade floor. The approximately 120 square foot underground utility bunker is to be of typical masonry walls and slab-on-grade floor

Field Investigation

Our field investigation consisted of a site inspection, along with drilling and sampling 8 exploratory bores to establish the subsurface soil profile, and obtain sufficient soil specimens to determine the soil characteristics. Drilling was accomplished by hand auger, with the spoil constantly examined, classified, and logged by field method in accordance with the Unified Soil Classification Chart¹ which is the basis of ASTM D2487-10. In the hand augured bores Penetration Resistance values were obtained through use of a dynamic cone penetrometer (ASTM Special Technical Publication #399). The blow count as measured in this method is Standard Penetration Resistance.

* *In-situ* refers to the in place state of soil. *In-situ* native soils are those which are in-place as deposited by nature and have not been disturbed by man's actions in the historic past.

¹ Adopted 1952 by Corps of Engineers and Bureau of Reclamation. ASTM D2487 was developed as based on the Uniform Soils Classification Chart and System. The methods are equivalent.

Site Soil Profile

As found in the exploratory drilling, the site soils are generally consistent between each of the bores.

Surficial soils are commonly fine to medium grained sands with few amounts of gravel and few to little amounts of silt. Typically these soils were observed to depths of three feet at which depth rock is encountered.

The local metamorphic rock includes some marble and/or limestone outcrops. In general the rock was observed to be moderately fractured but very hard.

Complete soil characteristics and comments are reported on the boring logs at the depths observed. The logs are located in Appendix B.

Groundwater

No groundwater was encountered at this site to the maximum depth of exploration, approximately 9 feet below grade.

Seismic History

Although no fault traces are thought to directly cross the building site, Monterey County is traversed by a number of faults most of which are relatively minor hazards for the purposes of the site development. As such, this site will experience seismic activity of various magnitudes emanating from one or more of the numerous faults in the region.

Various maps presently exist, allowing observation on the site of distinctive geologic features. Some maps, such as that by Burkland and Associates (Reference No. 10) developed for Monterey County, are compilations from various sources detailing the locations of studied faults. Faults have inherent variances within their zones, and discoveries of new fault segments or entire faults is ongoing. There is also some difference in exact fault line location from source map to map, making precise location of said faults difficult. Therefore, relative to the information contained within this report, the following is considered to be as accurate as is currently possible from information made available to Grice Engineering Inc..

Regional Faults

Of most concern are active faults which have tectonic movement in the last 11,000 years and as such are called Holocene Faults and potentially active faults. The following are those nearest listed (Reference No. 12).

The most active is the San Andreas Rift System (Creeping Segment), located approximately 40.0 miles to the northeast. It has the greatest potential for seismic activity with estimated intensities of IV-V Mercalli in this location.

Other fault zones are the San Gregorio-Palo Colorado (Sur) Fault Zone, the center of which is located approximately 1.6 miles to the southwest, the Monterey Bay-Tularcitos Fault Zone, approximately 14.8 miles to the northeast, and the Rinconada Fault Zone, approximately 22.0 miles to the northeast. These zones are not as liable to rupture as the San Andreas and a seismic event at any of the above fault zones would likely produce earth movements of a lesser intensity at the site.

Local Faults

In addition to the fault zones as discussed above, the local faults are as listed below as shown on the following maps, "Geological Map of California, Olaf P. Jenkins edition, Santa Cruz sheet" (Reference No. 28), "Faults, Seismicity and Tsunami Hazards: Monterey County, California" (Reference No. 40), and "Quaternary Fault and Fold Database for the United States" (Reference No. 44) including the USGS overlay on Google Earth Plus.

TABLE OF LOCAL FAULTS		
FAULT, PERPENDICULAR TO SITE	APPROXIMATE DISTANCE FROM SITE	DIRECTION
Sierra Hill Fault, concealed	0.59 miles	southwest
San Gregorio Fault, Sur section, concealed	0.79 miles	southwest

Liquefaction

The site soils column is not considered susceptible to liquefaction as it is comprised of several feet of unsaturated clastic soils over bedrock.

Differential-Total Settlement - Static and Dynamic

The recommendations given in the Geotechnical Report are such that concerns of settlement are negligible. The total settlement is expected to be less than 1/4 inch and the expected differential settlement less than one half that.

Hydro-Collapse and Subsidence

As observed the near surface soils to an approximate depth of one to three feet are loose. These soils possess some capacity to settle under hydraulic loading. However this effect is not common in the area. The recommendations given in this report were established to reduce the potential of this occurring.

The area is not within a known Subsidence Zone.

Slope Stability

Inspection of the site indicates that no landslides are located above or below the building area and the area is generally not susceptible to slope failure. The shallow depth to bedrock generally precludes slope failure in the area.

Slope Stability and Erosion

The parcel was evaluated for landslides located above or below the building area. The site evaluation included the method as delineated in "Special Publication 117A Guidelines for Evaluating and Mitigating Seismic Hazards in California" was reviewed as applicable to this site. The following summarizes the findings.

The following methods and publications were utilized to determine the presence of land movement or excessive erosion above and below the project site.

- A. On site evaluation of land features.
- B. Aerial photographs spanning the time frame from May 12, 1994 to February 2, 2018.
- C. Open File Report 7-718, 1977, Green
- D. Geologic Map of California - Santa Cruz Sheet, 1958, Jennings etc.
- E. Ground Failures in the Monterey Bay Counties Region, Professional Paper 993, Dept. of the Interior.

1. "Are existing landslides, active or inactive, present on, or adjacent (either uphill or downhill) to the project site?"

There are no existing landslides, active or inactive, present on, or adjacent to the project site.

The generally area is considered not susceptible to mass slope failure due to the presence of relatively sound bedrock at a shallow depth.

No features or conditions were visually observed during the site exploration which indicate or suggest landsliding has or will occur above or below the project site.

No recorded features were noted on any of the reviewed publications or images which suggest, imply or note landslides have or will occur above or below the project site.

2. "Are there geologic formations or other earth materials located on or adjacent to the site that are known to be susceptible to landslides?"

There are no geologic formations, or other earth materials located on or adjacent to the site that is known to be susceptible to landslides. The building sites are located on a southwestern slope varying in grade from 5% to 15%.

The natural characteristics of the topsoil these materials are compressible. This characteristic is addressed in the Geotechnical Report.

3. "Do slope areas show surface manifestations of the presence of subsurface water (springs and seeps), or can potential pathways or sources of concentrated water infiltration be identified on or upslope of the site?"

No springs or seeps or the indication of such were observed during the site exploration. Review of the aerial imagery did not indicate any locations of seepage as suggested by increased or more active vegetation or topography (erosion scarp, slump). Spring or seeps within the general area and lithology are not typical.

Drainage over the local terrain is unfocused and directed away from the structures as they are located at the apex of a ridge.

Inspection of areal photographs spanning from May 12, 1994 to February 2, 2018 indicates the terrain and presence of vegetation has been consistent during that period.

These characteristics indicated a low potential for rapid solifluction or debris flow.

4. "Are susceptible land forms and vulnerable locations preset?"

No excessively steep or erodible slopes are located above or below the site.

5. "Given the proposed development, could anticipated changes in the surface and subsurface hydrology (due to watering of lawns, on-site sewage disposal, concentrated runoff from impervious surfaces, etc.) increase the potential for future landsliding in some areas?"

The area is generally fully developed. Future construction within the area will most likely be residential additions or replacement of existing structure. Further mass grading of land is unlikely. Future changes to land use (new septic, increased landscape, use of land) is unlikely. Any changes to drainage conditions will be minor. Only minor changes to drainage and landscaping are proposed for this project.

Seismic Strength Loss

The site soils are considered resistant to seismic strength loss and the resulting momentary liquefaction. The relatively short duration of earthquake loading will not provide a significant number of high amplitude stress cycles to alter the strain characteristics. Additionally the clay-silt fraction is not considered quick nor sensitive, as such it will not have the associated loss of strength.

Chemical Reactivity

The area is well developed with structures, generally found on Portland Cement products. Additionally these structures date back to the 1960's or earlier. Much of the concrete used in these structures has remained as cast. The area soils are not known for sulfate reaction with Portland cement products and as such chemical reactivity is not considered a problem in this area.

Expansive Soils

In general the site soils are silts and clays the combination of which is of low to moderate plasticity. These soils are typical to the area. Expansivity has not been influential to the existing structure as no deformations attributable to expansive soils were observed. Additionally there are no known problems with expansive soils in the area.

Surface Rupture and Lateral Spreading

The project site is located 0.59 miles to the northeast of the Sierra Hill Fault. The site inspection did not reveal any surface features indicating a fault rupture has occurred at the site. The existing structure, driveways and roads do not reveal any strains which would be attributable to subsurface lateral or vertical displacements resulting from fault slip. Therefore surface rupture from fault activity across the site is considered improbable.

The project site is underlain by relatively strong soils and bedrock at a shallow depth. These materials are considered resistant to lateral spreading. As such surface rupture from lateral spreading is considered improbable.

Seismicity

It is recommended that all structures be designed and built in accordance with the requirements of the California Building Code's current edition. All buildings should be founded on undisturbed native soils and/or tested and accepted engineering fill to prevent resonance amplification between soils and the structure.

2016 California Building Code Geoseismic Classifications

The California Building Code, 2016 edition (Reference No. 13), provides for seismic design values. These values are to be utilized when evaluating structural elements. The soils profile determination is based on the penetration resistance data developed from advancement of exploratory bores. Using averaged penetration values per depth and type of materials gives an overall site value of greater than 50 blows/foot penetration resistance as per Equation 20.4-3, ASCE 7-10. The geoseismic character is as listed in the following table.

2015 I.B.C. - 2016 C.B.C. EARTHQUAKE LOADS: SECTION 1613				
LATITUDE	36.223559	SOIL PROFILE	Soft Rock	
LONGITUDE	-121.746156	SITE CLASS	C	
PERIOD	S	F	Sm	Sd
0.2 sec	Ss = 1.211	Fa = 1.000	Sms = 1.211	Sds = 0.808
1.0 sec	S1 = 0.458	Fv = 1.342	Sm1 = 0.614	Sd1 = 0.410
Seismic Design Category to be assigned by structural engineer or designer				

CONCLUSIONS OF INVESTIGATION

In general, the suitable, *in-situ**, native soils and certified engineered fill are acceptable for foundation purposes and display engineering properties adequate for the anticipated soil pressures, providing the recommendations in this report are followed.

Special Recommendations

Due to prior activity on the site, loose and disturbed soils may be encountered, however sound bedrock will most likely be encountered within four feet of grade within the areas of proposed construction.

It is recommended that new foundations be embedded into the underlaying bedrock.

Where loose or otherwise unacceptable soils underlay on-grade engineered structures, eg. interior floor slabs, pavement, etc., it is recommended that those soils be processed as engineered fill. No processing is required where subgrade is developed in bedrock.

The area has been developed and as such underground utilities may be located within the area of proposed construction. In addition, buried objects or deeply disturbed soils may also be encountered. As such all care and practice is to be exercised to observe for and locate any such objects. Where these objects are to be removed or use discontinued, they are to be removed in their entirety and all disturbed soils are to be processed as engineered fill.

The base of all excavations and over-excavations are to be inspected by the Soils Engineer prior to further processing, steel or form placement.

Any further site activity, especially grading and foundation excavations, should be under the direction of a qualified Soils Engineer or their Representative.

Should the spectrum of development change, this office should be notified so that additional recommendations can be made, if necessary.

* Suitable, *in-situ*, native soils are those soils which are in-place as deposited by nature and have characteristics adequate for support of the intended load or application.

Foundations and Footings

Geotechnical evaluation indicates that square, round, and continuous spread footings are satisfactory types of support. The minimum embedment for shallow, spread foundations is 12 inches for single stories and 18 inches for two stories into suitable, *in-situ**, native bedrock. Embedment depths do not take into account the loose upper top soils, disturbed soils or any other unacceptable soils which exist at the site, e.g., any un-engineered fill, landscaping soils, etc.

VERTICAL SOIL PRESSURES ¹	
FOOTING TYPE	DEAD + LL, kips/ft ²
Spread & Isolated	3.5
LATERAL SOIL PRESSURES ¹	
TYPE	VALUE, lbs/ft ²
Active Earth Pressure	30 lbs/ft ³ (Equivalent Fluid Pressure)
Restrained Earth Pressure	50 lbs/ft ³ (Equivalent Fluid Pressure)
Seismic	2 lbs/ft ³ × H ² applied at 0.6H
Friction at Base	0.35 × Dead Load
Passive Earth Pressure	325 lbs/ft ³ × H ² NOTE ²
Uplift Friction	240 lbs/ft ² × H

Notes: LL = Live Load; DL = Dead Load; H = Vertical height of material retained.
One-third increase to be allowed for wind and seismic forces.

¹ For depths into acceptable native materials or engineered fill.

² Excludes near surface 0.5 feet of *in-situ* soils.

Pile and Pier foundation information is not provided as none are required or proposed. All foundation excavations are to be cleaned of debris and loose or otherwise unsuitable soils prior to placement of concrete.

* Suitable, *in-situ*, native soils are those soils which are in-place as deposited by nature and have characteristics adequate for support of the intended load or application.

Slabs-on-Grade

All slabs should be constructed over a prepared sub-grade placed on suitable *in-situ** native material or certified engineered fill. The site exploration observed that the existing surficial soils are loose to depths of approximately 1 to 3 feet. These soils should not be relied upon for support of slabs on grade or other surficial structures.

As such where any unsuitable soils remain after excavation to subgrade they are to be processed as engineered fill prior to further fill placement or construction of the on grade structure. At a minimum the upper 6 inches of subgrade below all surficial structures should be processed as engineered fill in areas of on grade structures.

The sub-grade materials should be observed and accepted by a qualified Soils Engineer or their representative prior to placement of forms, reinforcing or concrete.

On-grade slabs should be placed over a moisture vapor barrier consisting of a waterproof membrane (Moist Stop, 10 mil Visqueen, or equal) with a 2 inch protective sand cover. The waterproof membrane should be placed over a capillarity break consisting of 4 inches of open graded rock; round and sub-round rock is recommended to prevent puncture of the membrane. Open graded crushed aggregate may be utilized, provided the vapor barrier is protected from puncture by a cushion of filter fabric (Mirafi 140N or equal) laid over the aggregate prior to placement of the membrane. Where such concerns are not warranted, alternative underlayment may be utilized at the owners discretion.

All care and practice required to prevent puncture of the membrane during placement and pouring of covering slabs should be utilized during construction. Unless otherwise required for structural purposes, all slabs should be reinforced with a minimum of No.4, Grade 40, deformed steel reinforcing bar, 24 inches o.c., each way, to prevent separation and displacement in cases of cracking.

* Suitable, *in-situ*, native soils are those soils which are in-place as deposited by nature and have characteristics acceptable for support of the intended load or application.

Specifications for Rock Under Floor Slabs

Definition: Graded gravel of crushed rock for use under floor slabs shall consist of a minimum thickness of mineral aggregate placed in accordance with these specifications and in conformance with the dimensions shown on the project plans. The minimum thickness is specified under the section Slabs-on-Grade above.

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

Grading: The mineral aggregate shall be of such size that the percentage composition by dry weight as determined by the use of laboratory sieves, U.S. Standard, in compliance with ASTM C 136-06, Standard Method for Sieve Analysis of Fine and Coarse Aggregates, will conform to the following grading specification:

SIEVE SIZE	PERCENTAGE PASSING SIEVE
3/4 inch	100 %
No. 4	0 - 10 %
No. 200	0 - 2 %

Placing: Sub-grade upon which gravel or crushed rock is to be placed shall be prepared as outlined in the Recommended Grading Specifications. In addition, the Sub-grade shall be kept moist so that no drying cracks appear prior to pouring slabs. If cracks appear, Sub-grade shall be moistened until cracks close.

Slope Ratio and Drainage

Analysis of site soils indicate that cut and fill slope ratios of 2 horizontal to 1 vertical will be satisfactory provided they are landscaped with soil retaining ground covers and are protected against concentrated over slope drainage. Cut slopes exposing the local bedrock or similar stable materials may be allowed to steeper gradients. These conditions should be reviewed on site.

Surface Drainage and Erosion Control

Design and construction of the project should fit the topographic and hydrologic features of the site. It is important to minimize unnecessary grading of or near steep slopes. Disturbing native vegetation and natural soil structure allows runoff velocity and transport of sediments to increase.

General surface drainage should be retained at low velocity by slope, sod or other energy reducing features sufficient to prevent erosion, with concentrated over-slope drainage carried in lined channels, flumes, pipe or other erosion-preventing installations.

Runoff flows should be directed into pipes or lined ditches and then onto an energy dissipater before discharging into streams or drainage ways. De-silting should be provided as necessary and may take form of stilling basins, gravel berms, forested/vegetated screens, etc.

All concentrated roof and area drainage should be collected as separately as possible and conveyed and released to the lower portions of the site as divided and dispersed as possible.

Storm runoff should never be directed to septic tank system leachfields and no collected or concentrated drainage should be allowed to discharge in an uncontrolled fashion to adjacent steep slopes.

A sub-surface dispersal system **MAY NOT** be used.

During construction, never store cut and fill material where it may wash into streams or drainage ways. Keep all culverts and drainage facilities free of silt and debris. Keep emergency erosion control materials such as straw mulch, plastic sheeting, and sandbags on-site and install these at the end of each day as necessary.

Re-vegetate and protect exposed soils by October 15. Use appropriate grass/legume seed mixes and/or straw mulch for temporary cover. Plan permanent vegetation to include native and drought tolerant plants. Seeding and re-vegetation may require special soil preparation, fertilizing, irrigation, and mulching.

Subsurface Drains

Use of spun filter fabric is not recommended for use in construction subsurface drains as this type of fabric typically becomes clogged. Should filter fabric be necessary it is recommended that a woven fabric be used such as Mirafi Filterweave 300. Otherwise we would recommend omission of the fabric and placement of Caltrans Class 1, Type 'A' or "B" drain rock, and that any fabric only be placed near the top of the trench between the gravel and earth backfill or where the gravel extends to grade, 1 foot below finish grade.

CLASS 1		
SIEVE SIZES	PERCENTAGE PASSING	
	TYPE A	TYPE B
50.0-mm/2 inches	----	100
37.5-mm/1.5 inches	----	95-100
19.0-mm/0.75 inches	100	50-100
12.5-mm/0.5 inches	95-100	-----
9.5-mm/0.415 inches	70-100	15-55
4.75-mm/No. 4	0-55	0-25
2.36-mm/No. 8	0-10	0-5
75.0- μ m/No.200	0-3	0-3

General Grading Recommendations

For those items not directly addressed, it is recommended that all earthwork be performed in accordance with the following.

General: This item shall consist of all clearing and grubbing; preparation of land to be filled; excavation and fill of the land; spreading, compaction and control of the fill; and all subsidiary work necessary to complete the graded area to conform with the lines, grades and slopes as shown on the approved plans.

The Contractor shall provide all equipment and labor necessary to complete the work as specified herein, as shown on the approved plans as stated in the project specifications.

Preparation: Site preparation will consist of clearing and grubbing any existing structures and deleterious materials from the site, and the earthwork required to shape the site to receive the intended improvements, in accordance with the recommended grading specifications and the recommendations as provided above.

All vegetable matter, irreducible material greater than 4 inches and other deleterious materials shall be removed from the areas in which grading is to be done. Such materials not suitable for reuse shall be disposed of as directed.

After the foundation for fill has been cleared, it shall be brought to the proper moisture content by adding water or aerating and compacting to a Relative Compaction of not less than 90% or as specified. The soils shall be tested to a depth sufficient to determine quality and shall be approved by the Soils Engineer for foundation purposes prior to placing engineered fill.

General Fill: General fill shall be placed only on approved surfaces, as engineered fill, and shall be compacted to 90% Relative Compaction. Native soils accepted for fill or existing aggregate fill may be used for fill purposes provided all aggregate larger than 6 inches are removed. The material for engineered fill shall be approved by the Soils Engineer before commencement of grading operations.

Each layer shall be compacted to a Relative Compaction of not less than 90% or as specified in the soils report and on the accepted plans. Compaction shall be continuous over the entire area of each layer.

The selected fill material shall be placed in layers which, when compacted, shall not exceed 6 inches in thickness. Each layer shall be spread evenly and shall

be thoroughly mixed during the spreading to ensure uniformity of material in each layer. Fill shall be placed such that cross fall does not exceed 1 foot in 20 unless otherwise directed.

When fill material includes rock or concrete rubble, no irreducible material larger than 4 inches in greatest dimension will be allowed except under the direction of the Soils Engineer.

Imported Materials: Materials imported for fill purposes shall be classified as: SAND, group symbol SW, SP, SC or SM, as given in ASTM 2487-10, "The Classification of Soils For Engineering Purposes." In all cases the portion finer than the No. 200 sieve shall not contain any greatly expansive clays and shall be free from vegetable matter and other deleterious materials. The material for engineered fill shall be approved by the Soils Engineer before commencement of grading operations.

Structural Backfill: Trench, wall and structural backfill shall be placed only on approved surfaces, as engineered fill, and shall be compacted to 95% Relative Compaction. Materials imported for backfill purposes shall have a Sand Equivalent of no less than 30 and shall be classified as Clean Sands as designated in "The Classification of Soils For Engineering Purposes" (ASTM 2487-10).

Pavement Grades: All pavement grades shall be of uniform thickness, density and moisture prior to placement of the next grade. Flexure of each or all grades shall not exceed 0.25 inches in 5 feet under an axial load of 18.5 kip.

Aggregate Base Course: All aggregates used for specified base courses, shall be handled in a manner which prevents segregation and non-uniformity of gradation.

Compaction: All re-compacted soils and/or engineered fill should be placed at a minimum 90% Relative Compaction or at the value required for that portion of the work. All pavement sections should be compacted to a minimum of 95% Relative Compaction.

Field density testing shall be completed by the Soils Engineer on each compacted layer or as determined by the Soils Engineer. At least one test shall be made for each 500 cubic yards or fraction thereof, placed with a minimum of two tests per layer in isolated areas. Where a sheeps'-foot roller is used, the soil may be disturbed to a depth of several inches. Density tests shall be taken in compacted materials below the disturbed surface. When these tests indicate that the density of any layer of fill or portion thereof, is below the required density,

that particular layer or portion shall be reworked until the required density has been obtained.

Moisture: During compaction moisture content of native soils should be that consistent with the moisture relative to 95% Relative Compaction and in no case should these materials be placed at less than 3 percent above the specific optimum moisture content for the soil in question. The engineer may elect to accept high moisture compacted soils provided the materials are at 95% Relative Wet Density at that moisture content.

The moisture content of the fill material shall be maintained in a suitable range to permit efficient compaction. The Soils Engineer may require adding moisture, aerating, or blending of wet and dry soils.

All earth moving and work operations shall be controlled to prevent water from running into and pooling in excavated areas. All such water shall be promptly removed and the site kept drained.

Tests: All materials placed should be tested in accordance with the Compaction Control Tests: "Density of Soil In-Place by Sand Cone Method" (ASTM D-1556-07), "Moisture-Density Relationship of Soils" (ASTM D-1557-09), and "Density of Soils In-Place by Nuclear Method" (ASTM D-6938-10).

The standard test used to define maximum densities of all compaction work shall be the A.S.T.M. D-1557-09, Moisture Density of Soils, using a 10-pound ram and 18-inch drop. All densities shall be expressed as a relative density in terms of the maximum density obtained in the laboratory by the foregoing standard procedure.

Deleterious Materials: Materials containing an excess of 5% (by weight) of vegetative or other deleterious matter may be utilized in areas of landscaping or other non-structural fills. Deleterious material includes all vegetative and non-mineral material, and all non-reducible stone, rubble and/or mineral matter of greater than 6 inches.

Over-Excavations: Over-excavations, when required, should include the foundation and pavement envelopes. Such excavations should extend beyond edge of development a minimum of 5 feet and to an imaginary line extending away and downward at a slope of 45 degrees from the edge of development. The process shall include the complete removal of the required soils and subsequent placement of engineered fill. After removal of the soils to the required depth, the base of the excavation shall be inspected and approved by the Soils Engineer or his representative prior to further soils processing or

placement. Based on this inspection other recommendations may be made.

Existing Conditions: In developed areas underground utilities may be located within the area of proposed construction. In addition, buried objects or deeply disturbed soils may also be encountered. As such all care and practice is to be exercised to observe for and locate any such objects. Where these objects are to be removed or use discontinued, they are to be removed in their entirety and all disturbed soils are to be processed as engineered fill.

Key: All fills on slopes greater than 1 vertical to 6 horizontal shall be keyed into the adjacent soil. The toe of all slopes should be supported by a key cut a minimum of 3 feet into undisturbed soils to the inside of the fills toe. This key should be a minimum of 6 feet in width and slope at no less than 10% into the slope. In addition, as the fill advances up slope benches, 3 feet across, should be scarified into the fill/undisturbed soil interface.

Seasonal Limits: When the work is interrupted by rain, fill operations shall not be resumed until field tests by the Soils Engineer indicate that the moisture content and density of the fill is as previously specified and soils to be placed are in suitable condition

Unusual Conditions: In the event that any unusual conditions are encountered during grading operations which are not covered by the soil investigation or the specifications, the Soils Engineer shall be immediately notified such that additional recommendations may be made.

LIMITATIONS AND UNIFORMITY OF CONDITIONS

The recommendations of this report are based on our understanding of the project as represented by the plans, and the assumption that the soil conditions do not deviate from those represented in this site soils investigation. Therefore, should any variations or undesirable conditions be encountered during construction, or if the actual project will differ from that planned at this time, GRICE ENGINEERING INC. should be notified and provided the opportunity to make addendum recommendations if required.

NOTIFY:	GRICE ENGINEERING INC.	SALINAS	(831) 422-9619
	561-A Brunken Avenue	MONTEREY	(831) 375-1198
	Salinas, California 93901	FAX	(831) 422-1896

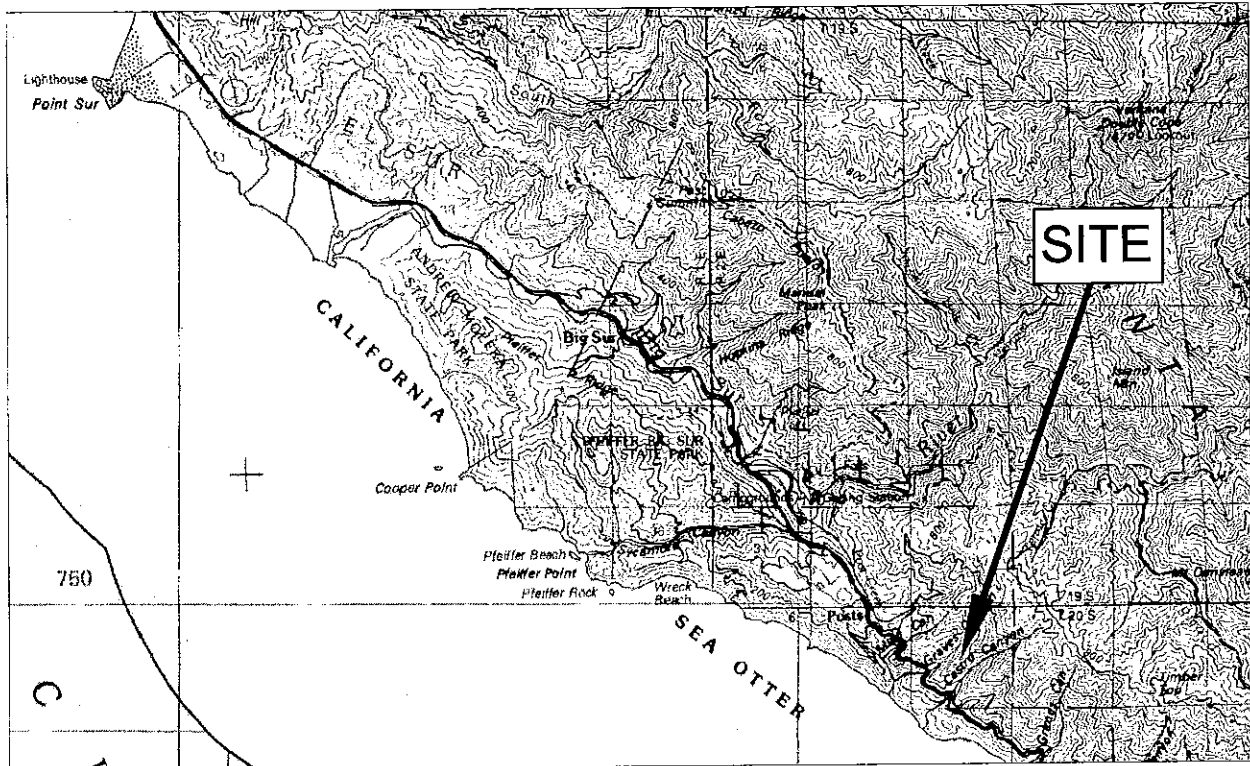
This report is issued with admonishment to the Owner and to his representative(s), that the information contained herein should be made available to the responsible project personnel including the architects, engineers, and contractors for the project. The recommendations contained herein should be incorporated into the plans, the specifications, and the final work.

It is requested that GRICE ENGINEERING INC. be retained to review the project grading and foundation plans to ensure compliance with these recommendations. Further, it is the position of GRICE ENGINEERING INC. that work performed without our knowledge and supervision, or the direction and supervision of a project responsible professional soils engineer renders this report invalid.

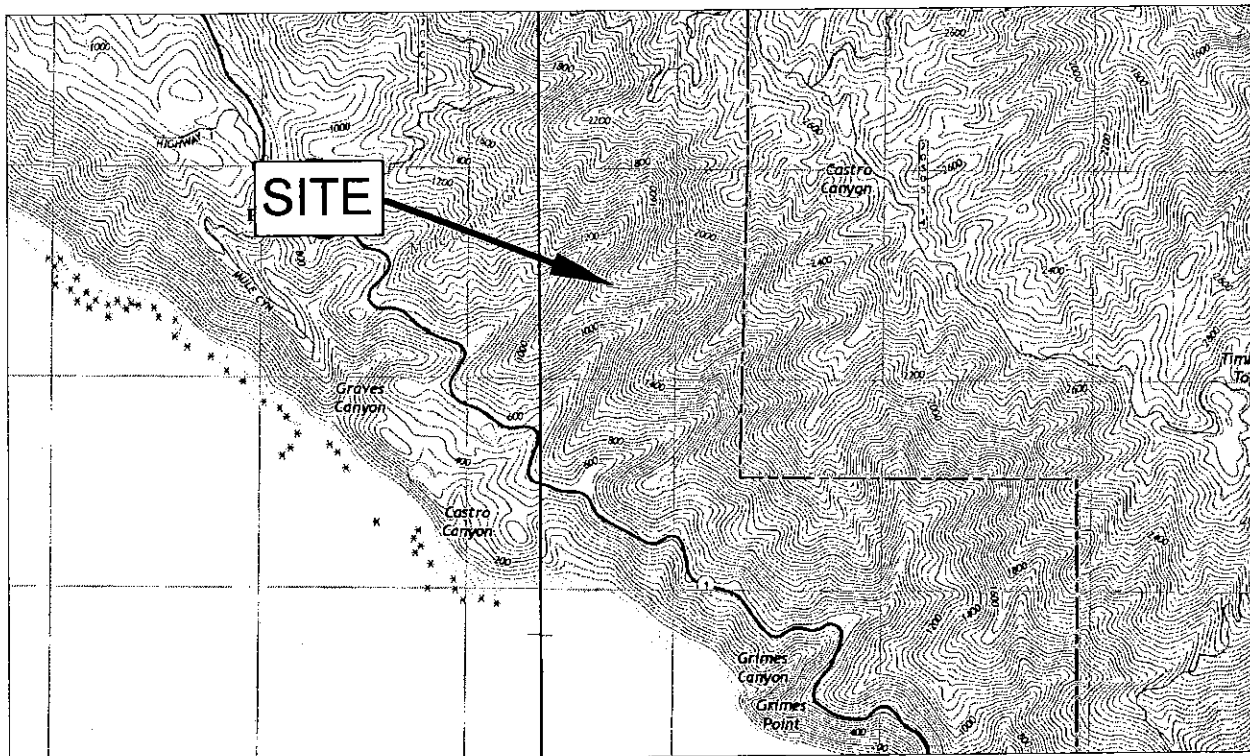
It is our opinion the findings of this report are **valid** as of the **present date**, **however**, changes in the **Codes and Requirements** can occur and change the recommendations given within this report concerning the property. In addition changes in the conditions of a property can occur with the passage of time, due either to natural processes or to the works of man and may effect this property. In addition, changes in **standards** may occur as a result of legislation, or the broadening of knowledge, and these changes may require re-evaluation of the conditions stated herein. Accordingly, the findings of this report may be invalidated wholly, or partially, by changes beyond our control. Therefore, this report is subject to review and should not be relied upon after a period of **three years**.

REVISED 01-07-2011

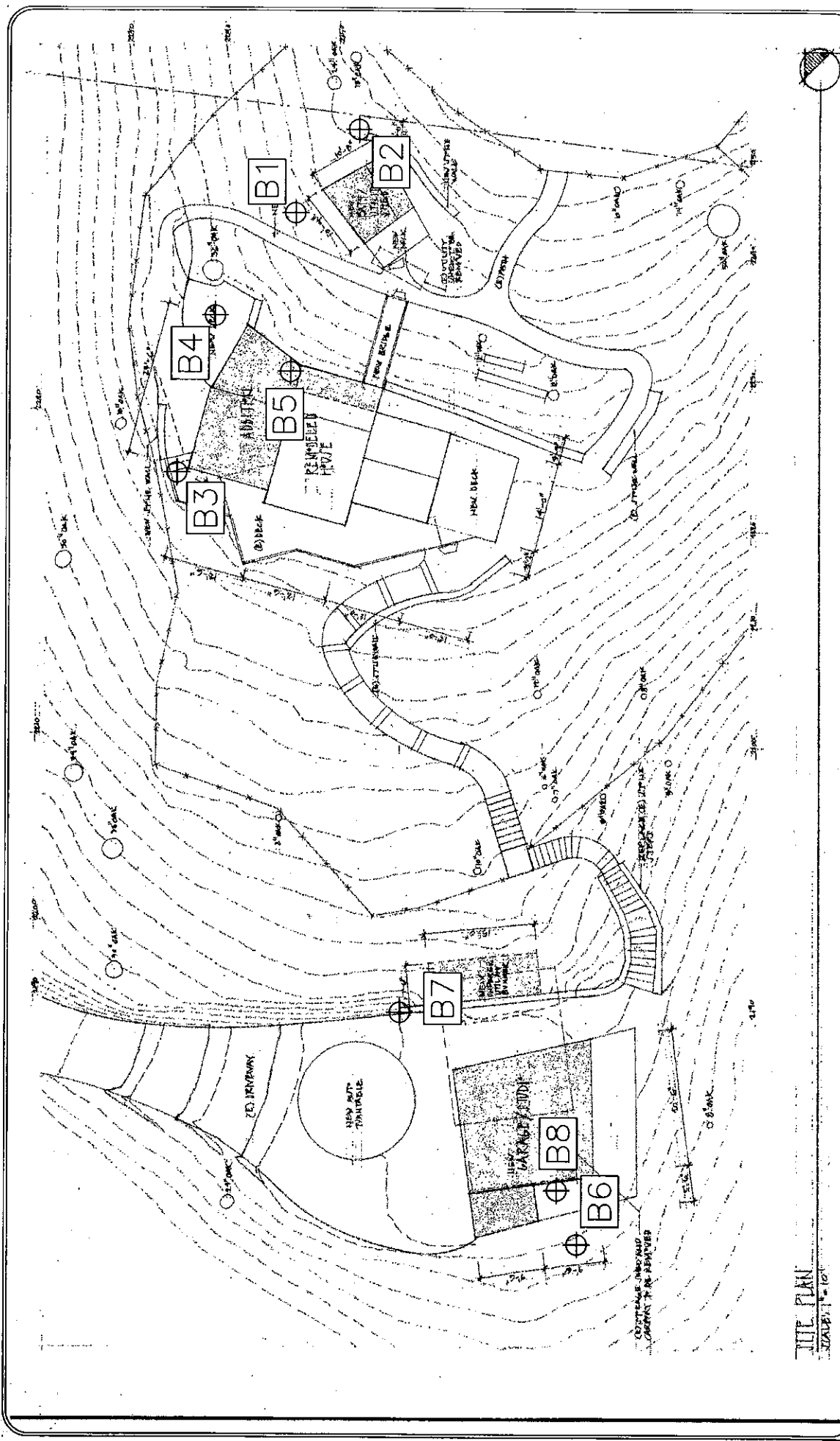
APPENDIX A



Vicinity Map



Location Map



TITLE PLAN
SCALE: 1" = 10'

GRICE ENGINEERING INC
 ENGINEERING • GEOTECHNICAL • HYDROLOGY • SOILS • FOUNDATIONS • EARTH STRUCTURES
 8014 Boulevard Avenue, Suite 100, Carmel, CA 93921-1108 FAX: (831) 422-1965

SITE PLAN with BORE LOCATIONS
 Evans Residence, 38793 Palo Colorado Road, Carmel, CA A.P.N. 418-161-006-000

APPENDIX B

Boring No. 1

January 31, 2018

[illegible]

Boring No. 2 January 31, 2018

[illegible]

January 31, 2018

[illegible]

January 31, 2018

[illegible]

Boring No. 5

January 31, 2018

[illegible]

Boring No. 6

January 31, 2018

[illegible]

January 31, 2018

[illegible]

Boring No. 8

January 31, 2018

[illegible]

FIELD IDENTIFICATION PROCEDURES

PLASTICITY CHART



Highly organic clays have a very weak and soapy feel at the plastic limit.

103.D-347

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