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ENVIRONMENTAL CONSULTANTS

April 23, 2010

George and Jerri Wernette
1039 Mountain Air Court
Reno, NV 89511

Dear George and Jerri,

On March 10 and April 2, 2010, WRA biologists visited your property at 38454 Robinson Reef Drive (APN 145-161-27) in Gualala, Mendocino County, California. The purpose of these visits was to update the potential Environmentally Sensitive Habitat Areas (ESHAs) previously mapped and provided to the Mendocino County Local Coastal Program in 2008.

The attached report, titled "Supplemental Biological Report for California Coastal Commission Appeal A-1-MEN-09-023" is intended to provide the Commission with the most up-to-date information for your parcel. The previous report included the results from surveys conducted in 2008. The results from our most recent surveys will assist the Commission in its upcoming evaluation of the appeal and help it assess contentions by the appellants that there are new occurrences of coastal bluff morning glory, not previously reported, on your parcel and nearby on an appellant's property.

Please do not hesitate to contact me if you have any questions or if you require additional information.

Sincerely,

Timothy R. DeGraff

Tim DeGraff
Senior Vice President

EXHIBIT NO. 16
APPEAL NO.
A-1-MEN-09-023
WERNETTE
APRIL 2010 BIOLOGICAL SUPPLEMENT (1 of 6)

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SUPPLEMENTAL BIOLOGICAL REPORT FOR CALIFORNIA COASTAL COMMISSION APPEAL A-1-MEN-09-023 (WERNETTE)

WERNETTE PROJECT, GUALALA MENDOCINO COUNTY, CALIFORNIA

Prepared For:

George and Jerri Wernette
1039 Mountain Air Court
Reno, NV 89511

Contact:

Tim DeGraff
degraff@wra-ca.com

Date:

April 23, 2010

ENVIRONMENTAL CONSULTANTS

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1.0 INTRODUCTION

On March 10 and April 2, 2010, WRA biologists visited the property at 38454 Robinson Reef Drive (APN 145-161-27) in Gualala, Mendocino County, California. The purpose of the visits was to update the potential Environmentally Sensitive Habitat Areas (ESHAs) previously mapped and provided to the Mendocino County Local Coastal Program in 2008 in WRA's report titled "Biological Report of Compliance for the Mendocino County Coastal Development Permit-Wernette Project, Gualala, Mendocino County, California."

2.0 METHODS

2.1 Wetland Investigation

During the March 10 site visit, the site was surveyed for potential wetland ESHAs. This survey date occurred approximately one day after a period of significant rainfall (at least two inches in nine days). Two sample points were investigated in the vicinity of a small potential wetland identified in 2000 and found in 2002 to no longer exhibit wetland indicators. An additional sample point was investigated near the center of the proposed project. The locations of the sample points are shown in Figure 1. Soil pits were investigated at each sample point to a depth of approximately 18 inches.

2.2 Coastal Bluff Morning Glory

During the March and April site visits, the parcel was surveyed for previously recorded or new special status plant species occurrences. All morning glory (*Calystegia purpurata*) plants on the subject property were mapped using Global Positioning System (GPS) equipment. The accuracy of the GPS locations ranged from less than one meter to approximately two meters, as a result of trees, topography, and satellite availability.

Similar to previous surveys of this species, all morning glory plants were identified as the special status subspecies *C. purpurata* ssp. *saxicola*, the common subspecies *C. purpurata* ssp. *purpurata*, and potential hybrids. All plants observed were re-identified based on features observed in 2010, regardless of how they were labeled in 2008.

The determination of subspecies was based on the treatments and keys in the Jepson Manual (Hickman 1993) and the 2nd edition (not yet published but available online). There has been no substantial revision to the key in the 2nd edition as it relates to *Calystegia purpurata* and subspecies. Since it was early in the growing season, no flowers were present on this species. Many plants were only a few inches tall with only the beginning growth of trailing or climbing stems. As is standard practice among consulting botanists in this region, subspecies determination was based on leaf shape as described in both editions of the Jepson Manual. Plants exhibiting intermediate characteristics or diagnostic leaf shapes of both subspecies were labeled as potential hybrids. Similar to previous reports by WRA, it is recommended that potential hybrids be conservatively treated as the special status subspecies for project planning purposes.

Off-site surveys

To the extent possible from vantage points within the subject property, neighboring properties were surveyed within 50 feet of the proposed building footprint. Some of these areas were not

clearly visible due to the slope or dense weedy vegetation, and the morning glory would not be easily visible at this time of year from far away due to its small size and lack of flowers. A photograph submitted to the Commission in July 2009 showing a morning glory growing under the deck of one of the appellant's homes also guided survey efforts by WRA.

3.0 RESULTS

3.1 Wetland Investigation

No surface ponding or flat areas dominated by hydrophytic vegetation were observed. None of the sample points met any of the wetland criteria of hydric soils, wetland hydrology, or hydrophytic vegetation. No redoximorphic features, free water, or saturated soils were observed in the soil pits.

The two sample points near the former mapped wetland were dominated by coyote brush (*Baccharis pilularis*) and California blackberry (*Rubus ursinus*), with subdominants including iceplant (*Carpobrotus edulis*), Pacific reedgrass (*Calamagrostis nutkaensis*), and cow parsnip (*Heracleum lanatum*). The third sample point, in a grassy area with small paths near the center of the proposed development, contained weedy non-native upland species including rattlesnake grass (*Briza maxima*), dovefoot geranium (*Geranium molle*), and cat's ear (*Hypochaeris radicata*), and scattered natives such as Douglas' iris (*Iris douglasiana*). A previous investigation of this area in January 2008 occurred during heavy rains. WRA biologists observed temporary ponding on the surface of the grassy area due to compacted soils, but unsaturated soils were observed below the surface.

In 2005, a determination that no Section 404 jurisdictional wetlands are present on the parcel was provided by the U.S. Army Corps of Engineers (Corps). An extension of this determination has been requested in 2010 and is currently being processed by the Corps.

3.2 Coastal Bluff Morning Glory

Many new morning glory plants were observed that were not observed during surveys in 2008, including both the special status and common subspecies. Figure 1 shows all plants observed in both 2008 and 2010. Many plants observed and flagged in 2008 were still present, but due to the imprecision of GPS data, the 2010 GPS locations appear in a slightly different location. However, most flags marking plants observed in 2008 had disappeared, and some remaining flags no longer had plants growing near them. This could indicate that the plant is a relatively short-lived perennial, or that additional plants may appear later in the season. No additional special status species were observed on the property during March and April 2010 site visits.

Thirteen coastal bluff morning glory and potential hybrids, and four plants appearing to be the common subspecies were observed on the Wernette parcel during 2008 surveys. Two of the thirteen coastal bluff morning glory plants were located within 50 feet of the proposed project at the north end of the parcel. In 2010 WRA biologists observed approximately 63 coastal bluff morning glory and potential hybrids, and 11 plants appearing to be the common subspecies. Approximately 28 coastal bluff morning glory and potential hybrids, or 44 percent, were observed within 50 feet of the proposed project.

Off-site surveys

All portions of the neighboring properties within 50 feet of the proposed project are heavily disturbed by landscaping, mowing, and non-native species, predominantly the invasive species iceplant and capeweed (*Arctotheca calendula*), as well as redhot poker (*Kniphofia uvaria*). Several morning glory were observed on the slope between the subject property and neighboring residences, some of which were the special status subspecies, while others better fit the definition of the common subspecies (see attached map). In addition, one plant identified as the common subspecies was observed near the end of the driveway in the neighbor's lawn in 2008, and was still present in 2010.

In July 2009, a project appellant submitted photographs of two or three morning glory plants growing under and through the deck of their home. The approximate location of these plants is within 50 feet of the proposed project, as shown in Figure 1 No plants were observed by WRA in this area. However, as described in Section 3.2, any plants present may not have been visible due to the size of the plants and lack of flowers in April, as well as the distance from vantage points within the Wernette property.

4.0 DISCUSSION

The significant increase in both the special status and common morning glory plants may be due to an increase in rainfall in 2009-2010, other natural population fluctuations, or continued vegetation transition in this historically disturbed site. Fifty-foot buffers around all coastal bluff morning glory and potential hybrids observed in both 2008 and 2010 would overlap with the proposed project. However, the proposed project footprint shown in Figure 1 would not directly impact any plants identified in either 2008 or 2010 as the special status species or potential hybrids. The three morning glory plants near the proposed retaining wall at the end of the driveway fall within the work area, but were identified during the April 2010 surveys as the common subspecies.

Implementing the mitigation measures described in WRA's 2008 Biological Report of Compliance for a Mendocino County Coastal Development Permit combined with siting the proposed project on that portion of the parcel dominated by non-native habitat will help ensure impacts to special status plants will be avoided. Recommended mitigation measures include protections for special status plants during construction, landscaping restrictions to avoid introduction of invasive species, and other contingency measures. The Resource Protection Plan, included as Appendix D to the Biological Report referenced above, describes measures to restore and maintain the Native Plant Conservation Area covering 40 percent of the parcel, and will help to protect and enhance ESHAs on the parcel.

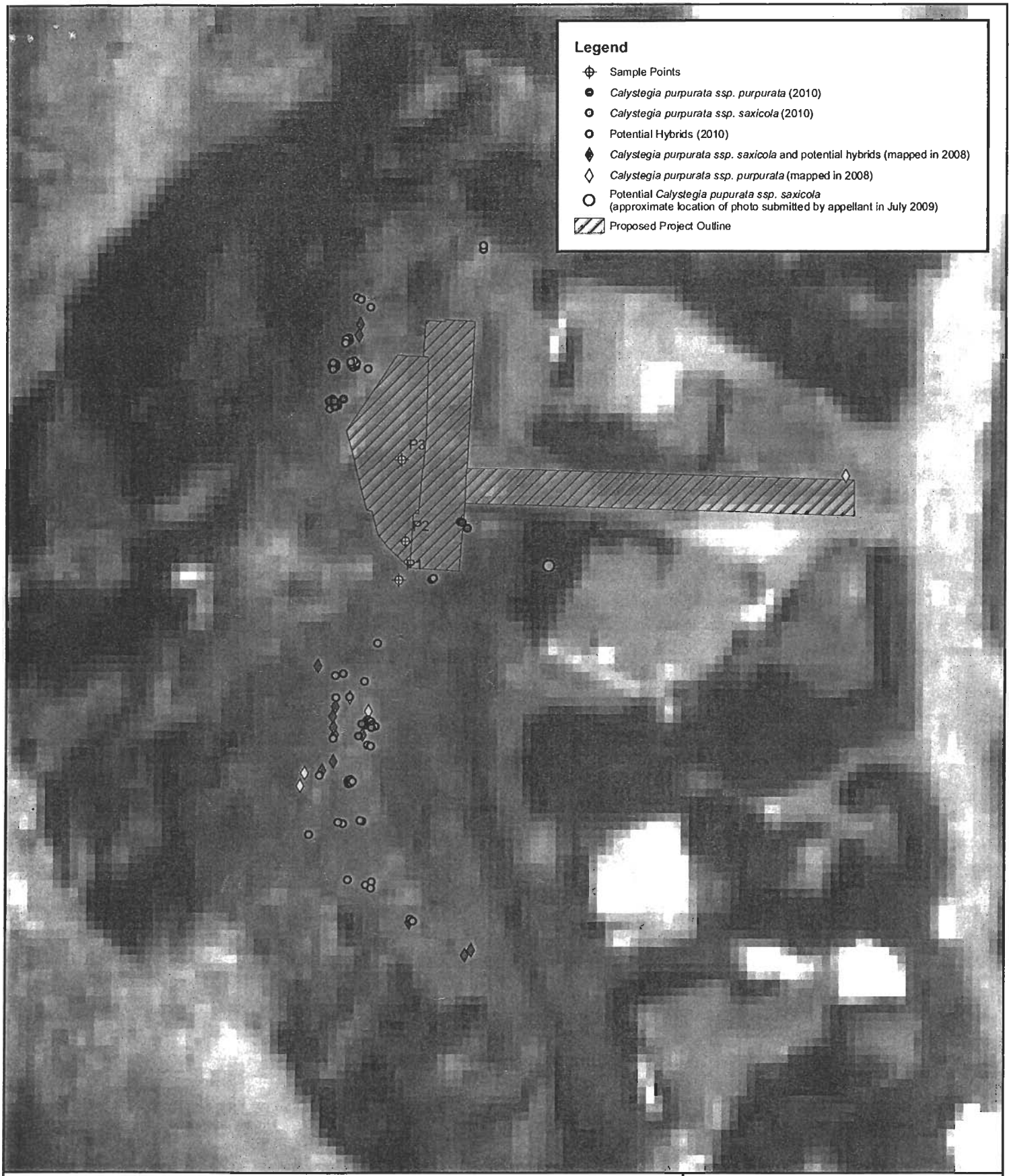

Figure 1. Coastal Bluff Morning Glory
Observed April 2, 2010

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N
W E
S

0 20 40 80 Feet

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Wernette Property
Gualala, California

Map Date: April 2010
Map By: Sundaran Gillespie
Base Source: NAIP, 2005
Filepath: L:\ACAD2000\10083\GIS\ArcMap\RarePlants_20100407.mxd

DELINEATION OF POTENTIAL JURISDICTIONAL WETLANDS UNDER SECTION 404 OF THE CLEAN WATER ACT AND CALIFORNIA COASTAL ACT

WERNETTE PROJECT SITE
GUALALA, MENDOCINO COUNTY, CALIFORNIA

RECEIVED
AUG 2 3 2010
CALIFORNIA
COASTAL COMMISSION

Prepared for:

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EXHIBIT NO. 17
APPEAL NO.
A-1-MEN-09-023
WERNETTE
DECEMBER 2000 WETLAND REPORT (1 of 20)

December, 2000

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1.0 INTRODUCTION

Wetlands Research Associates, Inc. (WRA) conducted a delineation study to describe the location and extent of waters, including wetlands, which may be considered jurisdictional by the U.S. Army Corps of Engineers ("Corps") under Section 404 of the Clean Water Act and State (California Coastal Commission) jurisdiction under the California Coastal Act on the Wernette Property ("Study Area") in Gualala, Mendocino County, California. The Study Area encompasses approximately 0.3 acre and is bordered by Robinson Reef Drive to the east, and bluffs adjacent to the Pacific Ocean to the west.

The Clean Water Act gives the Corps jurisdiction over "Waters of the United States" which include in part: lakes, rivers, streams (including intermittent streams) and wetlands. The Corps has defined the term "wetlands" as follows:

> *Those areas that are inundated or saturated by surface or ground waters at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas.*
>
> (33 CFR 328.3)

The Corps of Engineers has issued a manual for the delineation of wetlands along with standard methods and data reporting forms to determine the presence or absence of wetlands. These procedures and the results of the delineation study are presented in this report.

The California Coastal Act defines wetlands as:

> *"Wetland" means land within the coastal zone which may be covered periodically or permanently with shallow water and include saltwater marshes, freshwater marshes, open or closed brackish water marshes, swamps, mudflats, and fens."*

Generally, the California Coastal Commission (CCC) has utilized the same definition of wetlands adopted by the Department of Fish and Game. The Department's definition is the same as that used by the US Fish and Wildlife Service and requires the presence of wetland hydrology and one of three other attributes: wetland vegetation, undrained wetland (hydric) soils, or in the case of non-soils, saturated and covered with water. The CCC's definition, therefore, includes many non-vegetated areas such as mudflats, playas, and shallow water areas.

> *Wetlands are lands transitional between terrestrial and aquatic systems where the water table is usually at or near the surface or the land is covered by shallow water. For purposes of this classification wetlands must have one or more of the following three attributes: (1) at least periodically, the land supports predominantly hydrophytes, (2) the substrate is predominantly undrained hydric*

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soil, and (3) the substrate is nonsoil and is saturated with water or covered by shallow water at some time during the growing season of each year.

In the CCC's discussion of technical criteria for identifying and mapping wetlands (Appendix D of the *Statewide Interpretive Guideline for Wetlands and Other Wet Environmentally Sensitive Habitat Areas*), it states that:

> *"...the single feature that most wetlands share is soil or substrate that is at least periodically saturated with or covered by water, and this is the feature used to describe wetlands in the Coastal Act. The water creates severe physiological problems for all plants and animals except those that are adapted for life in water or in saturated soil, and therefore only plants adapted to these wet conditions (hydrophytes) could thrive in these wet (hydric) soils. Thus, the presence or absence of hydrophytes and hydric soils make excellent physical parameters upon which to judge the existence of wetland habitat areas for the purposes of the Coastal Act, but they are not the sole criteria. In some cases, proper identification of wetlands will require the skills of a qualified professional."*

2.0 METHODS

This study evaluated the presence or absence of indicators of three wetland parameters described in the *U.S. Army Corps of Engineers Wetlands Delineation Manual* (Corps Manual) (Environmental Laboratory, 1987). The three parameters used to determine the presence of wetlands are: (1) hydrophytic vegetation, (2) wetland hydrology, and (3) hydric soils. According to the Corps Manual (1987):

> *"....[E]vidence of a minimum of one positive wetland indicator from each parameter (hydrology, soil, and vegetation) must be found in order to make a positive wetland delineation."*

The routine method for wetland determination described in the Corps Manual (1987) was used to identify areas potentially subject to Corps jurisdiction within the Study Areas and also to make determinations based on CCC criteria.

Prior to conducting field studies, available reference materials were reviewed. These included USGS 7.5' topographic maps (USGS, 1960) and the Soil Survey of Mendocino County, California (USDA, unpublished). On October 20, 2000, a routine level study of vegetation, soils, and hydrology indicators was conducted. The occurrence of indicators was investigated at sample plots throughout the Study Area. The results were recorded on standard 1987 *Corps Manual* data sheets (Appendix A).

The hydrophytic vegetation, hydric soils, and wetland hydrology indicators used to make wetland determinations are summarized below.

Vegetation

Dominant plant species observed were assigned a wetland indicator status according to the U.S. Fish and Wildlife Service, List of Plant Species that Occur in Wetlands (Reed 1988). This wetland plant classification system is based on the expected frequency of occurrence of plants in wetlands.

Indicator Status	Description	Frequency of Occurrence
OBL	Obligate, always found in wetlands	> 99%
FACW	Facultative wetland, usually found in wetlands	67-99%
FAC	Facultative, equal occurrence in wetland or non-wetlands	34-66%
FACU	Facultative upland, usually found in non-wetlands	1-33%
UPL / NL	Upland / Not Listed, not found in wetlands	<1%

When greater than 50 percent of the dominant plant species have an indicator status of OBL, FACW, and/or FAC, hydrophytic vegetation is present. Dominant herbaceous plant species are those having the greatest percentage of areal cover.

Soils

The Natural Resource Conservation Service defines a hydric soil as:

> *"A hydric soil is a soil that formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper part."*
>
> (Federal Register July 13, 1994, US Department of Agriculture, Natural Resource Conservation Service.)

Soils formed over long periods of time under wetland (anaerobic) conditions sometimes possess characteristics that indicate that they meet the definition of hydric soils. Recently filled areas generally do not have hydric soil indicators as they have not had time to develop (Corps of Engineers Manual 1987).

The Corps Manual provides guidance on the indicators required to determine the presence of a hydric soil. As stated in the Corps' December 12, 1995 guidance letter "NRCS Field Indicators of Hydric Soils" indicators contained in the Field Indicators of Hydric Soils of the United States, Version 4.0, (USDA, 1998) which are correlated to indicators in the 1987 Corps Manual or were developed for use in Problem Areas (e.g. seasonal wetlands) were used as an additional tool for identification of hydric soils.

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Soil profiles were described to at least 10 inches including horizon depths, color, redoximorphic features, and texture. Soil color was determined using a Munsell soil color chart (GretagMacbeth, 2000).

Hydrology

Wetland hydrology is a term, described in the 1987 *Corps Manual,* which encompasses hydrologic characteristics of areas that are periodically inundated or saturated to the surface at some time during the growing season. In coastal California, inundation or saturation to the surface for a minimum of five percent of the growing season (18 days in areas with a 365 day growing season) is considered evidence of wetland hydrology.

When studies are conducted at a time of year when surface water, ground water or saturated soils can not be observed, evidence of wetland hydrology is based on observation of the hydrologic indicators described in the 1987 *Corps Manual.* Evidence of wetland hydrology can include primary indicators, such as visible inundation or saturation, surface sediment deposits, and drift lines, or secondary indicators, such as oxidized root channels and algal mats. If secondary indicators are used, at least two secondary indicators must be present to conclude that an area has wetland hydrology. Depressions and topographic low areas were examined for these hydrological indicators.

3.0 STUDY AREA DESCRIPTION

The Study Area encompasses approximately 0.3 acre and is bordered by Robinson Reef Drive to the east and the Pacific Ocean to the west (Figure 1). The Study Area ranges from approximately 110 to 120 feet elevation. East of the Study Area, residential development dominates, and to the west, undeveloped bluffs slope steeply to the west toward the Pacific Ocean.

Vegetation

The Study Area is dominated by mostly native species such as Douglas-fir (*Pseudotsuga menziesii*, NL), wax myrtle (*Myrica californica*, FAC+), giant horsetail (*Equisetum telmateia* ssp. *braunii*, OBL), California blackberry (*Rubus ursinus*, FACW), hedge nettle (*Stachys ajugoides*, OBL), coyote brush *(Baccharis pilularis*, NL), rush (*Juncus* sp.), cow parsnip (*Heracleum lanatum*, FACU), and yarrow (*Achillea millefolium*, FACU), with non-native ruderal herbs such as wild oat (*Avena* sp.), common velvet grass (*Holcus lanatus*, FAC), quaking grass (*Briza maxima*, NL) and wild radish (*Raphanus sativus*, NL) also present on site.

Figure 1. Study Area Location Map

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Soils

The Soil Survey of Mendocino County, California (NRCS, unpublished report) indicates that two mapping units occur on or adjacent to the Study Area:

370– Dystropepts, 30 to 75 percent slopes
767– Bruhel-Shinglemill complex, 2 to 15 percent slopes

Dystropepts, 30 to 75 percent slopes, is on side slopes of marine terraces, derived from sandstone or shale. Soils in this unit and generally shallow or moderately deep and well drained.

Bruhel-Shinglemill complex, 2 to 15 percent slopes, occurs on marine terraces. The unit ranges from well drained to poorly drained, depending on the components of the unit.

Hydrology

The principal hydrological sources for the Study Area are direct precipitation and runoff from adjacent upslope areas both on and off site. The northern portion of the site dips toward the south to a flat section near the driveway, then gradually slopes to the south and west.

4.0 RESULTS

A routine level jurisdictional wetlands delineation was conducted on the Study Area on October 20, 2000. The site was field reviewed for potential jurisdictional wetland and waters areas. Field data collected at four sample points are presented on Corps data forms in Appendix A. Sample point locations are depicted on the map in Appendix B. Potential jurisdictional areas are described in the following sections and shown on the enclosed map in Appendix B.

Vegetation

A potential jurisdictional wetland was found in a flat section in the middle of the Study Area, which drained into a ditch paralleling the eastern edge of the site. In the depression FACW and OBL species were dominant, including giant horsetail, hedge nettle, and California blackberry, as well as FAC species such as velvet grass. In adjacent upland sites quaking grass, coyote brush, wild oats, wild radish, and velvet grass were dominant.

Soils

Soils observed in the Study Area were mostly gravelly fill material, apparently deposited during construction of an old railroad bed. Soil characteristics varied throughout the site. The potential jurisdictional wetland had very moist 10YR 2/1 sandy clay loam soil with abundant rock fragments and 10YR 5/8 mottles that may have resulted from the sandstone bedrock decomposition. The low chroma matrix, and the observation that soils were moist in October, indicate that these soils are hydric. Adjacent upland soils were dry, 10YR 3/3 sandy clay loam with abundant rock fragments.

Hydrology

The potential jurisdictional wetland area met the primary hydrologic indicator by the presence of saturated soil. The soils were saturated at the driest time of the year, when little appreciable rainfall had occurred for several months. In addition, this area had positive secondary hydrologic indicators of oxidized rhizospheres and FAC-neutral test. Water ponds in the level area adjacent to and south of the driveway during winter and spring months as indicated by positive hydrology indicators. This may be due to a compacted layer of clay loam which prevents water from infiltrating. Upland sampling areas were very dry, mostly sloped, well drained, and lacked indicators of wetland hydrology.

5.0 POTENTIAL SECTION 404 AND COASTAL ACT JURISDICTIONAL AREAS

Within the Wernette Property in Gualala, Mendocino County, California, one potential jurisdictional wetland occurs in the eastern portion of the Study Area (Appendix B) in a level area adjacent to and south of the driveway. This area meets the definition of jurisdictional wetlands for both the Corps of Engineers and the California Coastal Commission. The total area of potential Section 404 jurisdictional wetlands within the Study Area is 0.012 acres (500 ft^2).

The potential jurisdictional area had wetland plants, including two OBL plants (giant horsetail and hedge nettle) and a FACW plant (California blackberry), as well as low-chroma matrix hydric soils and positive wetland hydrology indicators. Water sources for the potential jurisdictional wetland include direct precipitation and runoff from upslope areas to the north, as well as from the driveway and slope immediately to the east. The potential jurisdictional wetland is a level depression that holds water for extended periods. Overflow flows into the ditch running along the eastern boundary of the Study Area, and subsequently off the cliff at the southern boundary of the site.

The potential jurisdictional wetland has overall low to moderate functions and values. It was probably created by compaction from vehicle activity, and, due to its small size, disturbance history, and isolation, probably provides minimal habitat value for wildlife species. It has some value due to the dominance of native species, including two OBL wetland plants.

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6.0 REFERENCES

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Federal Register July 13, 1994, US Department of Agriculture, Natural Resource Conservation Service.

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U.S. Department of Agriculture. 1998. Field Indicators of Hydric Soils in the United States. National Technical Committee for Hydric Soils. National Resources Conservation Service. 30 pp.

U.S. Geological Survey. 1960. Gualala quadrangle. 7.5 minute topographic map.

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Appendix A - Corps Delineation Data Forms

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DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site: **Gualala**	Date: 10/20/2000
Applicant/Owner: George Wernette	County: Mendocino
Investigator: Wetlands Research Associates, Inc.	State: California
Do Normal Circumstances exist on the site? ☒ Yes ☐ No	Community ID:
Is the site significantly disturbed (Atypical Situation)? ☐ Yes ☒ No	Transect ID:
Is the area a potential Problem Area? *seasonal wetland* ☒ Yes ☐ No (if needed explain on reverse.)	Plot ID: 1

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. *Holcus lanatus*	H	FAC	9.		
2. *Equisetum telmateia*	H	OBL	10.		
3. *Stachys ajugoides*	H	OBL	11.		
4. *Rubus ursinus*	S	FACW	12.		
5.			13.		
6.			14.		
7.			15.		
8.			16.		

Percent of Dominant Species that are OBL, FACW and/or FAC: (excluding FAC-) 100%

Remarks : Vegetation has two OBL species and meets the hydrophytic criteria.

HYDROLOGY

Recorded Data
- ☐ Stream, Lake or Tide Gauge
- ☐ Aerial Photographs
- ☐ Other

X No Recorded Data Available

Field Observations :
- Depth of Surface Water : none (in.)
- Depth to Free Water in Pit : not reached (in.)
- Depth To Saturated Soil : 0" (in.)

Wetland Hydrology Indicators :

Primary Indicators :
- ☐ Inundated
- ☒ Saturated in Upper 12 Inches
- ☐ Water Marks
- ☐ Drift Lines
- ☐ Sediment Deposits
- ☐ Drainage patterns in Wetlands

Secondary Indicators (2 or more required) :
- ☒ Oxidized Root Channels in Upper 12 Inches
- ☐ Water-Stained Leaves
- ☐ Local Soil Survey Data
- ☒ FAC-Neutral test
- ☒ Other (Explain in Remarks)

Hydrology Remarks : Some rusty roots, soil was saturated or very moist in upper 12 inches.

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Plot ID: _____

SOILS

Map Unit Name
(Series and Phase) : Dystropepts, 30 To 75 Percent Slopes

Drainage Class: well drained

Taxonomy (Subgroup) : _____

Field Observations
Confirm Mapped Type? ☐ Yes ☒ No

Profile Description:

Depth (Inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance / Contrast	Texture, Concretions, Structure, etc.
0-12	A	10YR 2/1	10YR 5/8	2%	see below

Hydric Soil Indicators :

- ☐ Histosol
- ☐ Histic Epipedon
- ☐ Sulfidic Odor
- ☐ Aquic Moisture Regime
- ☐ Reducing Conditions
- ☒ Gleyed or Low-Chroma Colors
- ☐ Concretions
- ☐ High Organic Content In Surface Layer In Sandy Soils
- ☐ Organic Streaking In Sandy Soils
- ☐ Listed On Local Hydric Soils List
- ☐ Listed On National Hydric Soils List
- ☐ Other (Explain In Remarks)

Profile Remarks:

Soil is fill material, sandy clay loam with abundant rock fragments. 10YR 5/8 mottles may not be redoximorphic features, but may be chunks of sandstone embedded in the matrix. Soil meets low chroma matrix criteria and is therefore hydric.

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	☒ Yes ☐ No	
Wetland Hydrology Present?	☒ Yes ☐ No	
Hydric Soil Present ?	☒ Yes ☐ No	Is this Sampling Point Within a Wetland? ☒ Yes ☐ No

Remarks : Sample point is in a flat area that receives runoff from the adjacent driveway and sloping areas to the north, as well as runoff from the adjacent house and steep berm to the east. Vegetation is strongly hydrophytic, and soil was very moist despite the fact that little rain had occurred in the last four months. Water likely ponds in this flat area, then drains south into a ditch at the eastern edge of the Study Area and off the bluff toward the ocean.

Approved By HQUSACE 3/92

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DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site: **Gualala**	Date: 10/20/2000
Applicant/Owner: George Wernette	County: Mendocino
Investigator: Wetlands Research Associates, Inc.	State: California
Do Normal Circumstances exist on the site? ☒ Yes ☐ No	Community ID:
Is the site significantly disturbed (Atypical Situation)? ☐ Yes ☒ No	Transect ID:
Is the area a potential Problem Area? *seasonal wetland* ☒ Yes ☐ No (if needed explain on reverse.)	Plot ID: 2

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. *Holcus lanatus*	H	FAC	9.		
2. *Rubus ursinus*	S	FACW	10.		
3. *Equisetum telmateia*	H	OBL	11.		
4.			12.		
5.			13.		
6.			14.		
7.			15.		
8.			16.		

Percent of Dominant Species that are OBL, FACW and/or FAC: (excluding FAC-) 100%

Remarks : Vegetation is hydrophytic.

HYDROLOGY

Recorded Data
- ☐ Stream, Lake or Tide Gauge
- ☐ Aerial Photographs
- ☐ Other

X No Recorded Data Available

Field Observations :

Depth of Surface Water : none (in.)

Depth to Free Water in Pit : not reached (in.)

Depth To Saturated Soil : 0" (in.)

Wetland Hydrology Indicators :

Primary Indicators :
- ☐ Inundated
- ☒ Saturated in Upper 12 Inches
- ☐ Water Marks
- ☐ Drift Lines
- ☐ Sediment Deposits
- ☐ Drainage patterns In Wetlands

Secondary Indicators (2 or more required) :
- ☒ Oxidized Root Channels In Upper 12 Inches
- ☐ Water-Stained Leaves
- ☐ Local Soil Survey Data
- ☒ FAC-Neutral test
- ☐ Other (Explain In Remarks)

Hydrology Remarks : Soil had faint rusty roots and oxidized rhizospheres. Wetland hydrology criterion met.

14 of 20

Plot ID: 2

SOILS

Map Unit Name (Series and Phase): Dystropepts, 30 To 75 Percent Slopes

Drainage Class: well drained

Taxonomy (Subgroup):

Field Observations
Confirm Mapped Type? ☐ Yes ☐ No

Profile Description:

Depth (Inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance / Contrast	Texture, Concretions, Structure, etc.
0-12	A	10YR 2/1	10YR 5/8	2%	see below

Hydric Soil Indicators:

- ☐ Histosol
- ☐ Histic Epipedon
- ☐ Sulfidic Odor
- ☐ Aquic Moisture Regime
- ☐ Reducing Conditions
- ☐ Gleyed or Low-Chroma Colors
- ☐ Concretions
- ☐ High Organic Content In Surface Layer In Sandy Soils
- ☐ Organic Streaking In Sandy Soils
- ☐ Listed On Local Hydric Soils List
- ☐ Listed On National Hydric Soils List
- ☐ Other (Explain In Remarks)

Profile Remarks:

Soil is likely old fill material, sandy clay loam with abundant rock fragments. 10YR 5/8 mottles may not be redoximorphic features, but may be chunks of sandstone embedded in the matrix. Soil meets low chroma matrix criteria and is therefore hydric.

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	☒ Yes	☐ No	
Wetland Hydrology Present?	☒ Yes	☐ No	
Hydric Soil Present ?	☒ Yes	☐ No	Is this Sampling Point Within a Wetland? ☒ Yes ☐ No

Remarks: Located near sample point 1. Sample point is meets all three wetland criteria and is considered wetland.

Approved By HQUSACE 3/92

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site: **Gualala**	Date: 10/20/2000
Applicant/Owner: George Wernette	County: Mendocino
Investigator: Wetlands Research Associates, Inc.	State: California
Do Normal Circumstances exist on the site? ☒ Yes ☐ No	Community ID:
Is the site significantly disturbed (Atypical Situation)? ☐ Yes ☒ No	Transect ID:
Is the area a potential Problem Area? *seasonal wetland* ☒ Yes ☐ No (if needed explain on reverse.)	Plot ID: 3

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. *Briza maxima*	H	NL	9.		
2. *Baccharis pilularis*	S	NL	10.		
3. *Holcus lanatus*	H	FAC	11.		
4.			12.		
5.			13.		
6.			14.		
7.			15.		
8.			16.		

Percent of Dominant Species that are OBL, FACW and/or FAC: (excluding FAC-) 33%

Remarks : Hydrophytic criteria not met.

HYDROLOGY

Recorded Data
- ☐ Stream, Lake or Tide Gauge
- ☐ Aerial Photographs
- ☐ Other

X No Recorded Data Available

Field Observations :

Depth of Surface Water : none (in.)

Depth to Free Water in Pit : not reached (in.)

Depth To Saturated Soil : not reached (in.)

Wetland Hydrology Indicators :

Primary Indicators :
- ☐ Inundated
- ☐ Saturated in Upper 12 Inches
- ☐ Water Marks
- ☐ Drift Lines
- ☐ Sediment Deposits
- ☐ Drainage patterns In Wetlands

Secondary Indicators (2 or more required) :
- ☐ Oxidized Root Channels In Upper 12 Inches
- ☐ Water-Stained Leaves
- ☐ Local Soil Survey Data
- ☐ FAC-Neutral test
- ☐ Other (Explain In Remarks)

Hydrology Remarks : Sloped. Wetland hydrology not evident.

10 of 20

Plot ID: 3

SOILS

Map Unit Name (Series and Phase): Dystropepts, 30 To 75 Percent Slopes

Drainage Class: well drained

Taxonomy (Subgroup):

Field Observations
Confirm Mapped Type? ☐ Yes ☐ No

Profile Description:

Depth (Inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance / Contrast	Texture, Concretions, Structure, etc.
0-12	A	10YR 3/3	see below		see below

Hydric Soil Indicators :

- ☐ Histosol
- ☐ Histic Epipedon
- ☐ Sulfidic Odor
- ☐ Aquic Moisture Regime
- ☐ Reducing Conditions
- ☐ Gleyed or Low-Chroma Colors
- ☐ Concretions
- ☐ High Organic Content In Surface Layer In Sandy Soils
- ☐ Organic Streaking In Sandy Soils
- ☐ Listed On Local Hydric Soils List
- ☐ Listed On National Hydric Soils List
- ☐ Other (Explain In Remarks)

Profile Remarks:

Soil is likely old fill material, sandy clay loam with abundant rock fragments. Redoximorphic features were either not present or impossible to see due to the color of the sandstone. Hydrophytic criterion not met.

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	☐ Yes ☒ No	
Wetland Hydrology Present?	☐ Yes ☒ No	
Hydric Soil Present ?	☐ Yes ☒ No	Is this Sampling Point Within a Wetland? ☐ Yes ☒ No

Remarks : Sample point is located in a sloped area with dry soils, abundant bare ground, and mostly upland vegetation. No criteria met; sample point is not in a wetland.

Approved By HQUSACE 3/92

17920

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site: **Gualala**		Date:	10/20/2000
Applicant/Owner: George Wernette		County:	Mendocino
Investigator: Wetlands Research Associates, Inc.		State:	California
Do Normal Circumstances exist on the site?	☒ Yes ☐ No	Community ID:	
Is the site significantly disturbed (Atypical Situation)?	☐ Yes ☒ No	Transect ID:	
Is the area a potential Problem Area? (if needed explain on reverse.) *seasonal wetland*	☒ Yes ☐ No	Plot ID:	4

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. *Briza maxima*	H	NL	9.		
2. *Baccharis pilularis*	S	NL	10.		
3. *Holcus lanatus*	H	FAC	11.		
4.			12.		
5.			13.		
6.			14.		
7.			15.		
8.			16.		

Percent of Dominant Species that are OBL, FACW and/or FAC: (excluding FAC-) 33%

Remarks : Hydrophytic criteria not met.

HYDROLOGY

Recorded Data
- ☐ Stream, Lake or Tide Gauge
- ☐ Aerial Photographs
- ☐ Other

X No Recorded Data Available

Field Observations :

Depth of Surface Water : none (in.)

Depth to Free Water in Pit : not reached (in.)

Depth To Saturated Soil : not reached (in.)

Wetland Hydrology Indicators :

Primary Indicators :
- ☐ Inundated
- ☐ Saturated in Upper 12 Inches
- ☐ Water Marks
- ☐ Drift Lines
- ☐ Sediment Deposits
- ☐ Drainage patterns in Wetlands

Secondary Indicators (2 or more required) :
- ☐ Oxidized Root Channels in Upper 12 Inches
- ☐ Water-Stained Leaves
- ☐ Local Soil Survey Data
- ☐ FAC-Neutral test
- ☐ Other (Explain in Remarks)

Hydrology Remarks : Sloped. Wetland hydrology not evident. No evidence of ponding.

10/20

Plot ID: _____

SOILS

Map Unit Name (Series and Phase): Dystropepts, 30 To 75 Percent Slopes

Drainage Class: well drained

Taxonomy (Subgroup): _____

Field Observations
Confirm Mapped Type? ☐ Yes ☒ No

Profile Description:

Depth (Inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance / Contrast	Texture, Concretions, Structure, etc.
0-12	A	10YR 3/3	see below		see below

Hydric Soil Indicators:

- ☐ Histosol
- ☐ Histic Epipedon
- ☐ Sulfidic Odor
- ☐ Aquic Moisture Regime
- ☐ Reducing Conditions
- ☐ Gleyed or Low-Chroma Colors
- ☐ Concretions
- ☐ High Organic Content In Surface Layer In Sandy Soils
- ☐ Organic Streaking In Sandy Soils
- ☐ Listed On Local Hydric Soils List
- ☐ Listed On National Hydric Soils List
- ☐ Other (Explain In Remarks)

Profile Remarks:

Soil is likely old fill material, sandy clay loam with abundant rock fragments. Redoximorphic features were either not present or impossible to see due to the color of the sandstone. Hydrophytic criterion not met.

WETLAND DETERMINATION

Hydrophytic Vegetation Present? ☐ Yes ☒ No

Wetland Hydrology Present? ☐ Yes ☒ No

Hydric Soil Present ? ☐ Yes ☒ No

Is this Sampling Point Within a Wetland? ☐ Yes ☒ No

Remarks: Sample point is located in a sloped area with dry soils, abundant bare ground, and mostly upland vegetation. No criteria met; sample point is not in a wetland. Similar to sample point 3.

Approved By HQUSACE 3/92

19420

Appendix B - Potential Jurisdictional Wetlands Map

20920

RECEIVED
MAY 28 2010
CALIFORNIA
COASTAL COMMISSION

wra
ENVIRONMENTAL CONSULTANTS

Memorandum

To: Bob Merrill, California Coastal Commission

From: Tim DeGraff
degraff@wra-ca.com
x134

CC: George and Jerri Wernette

Date: May 28, 2010

Subject: Coastal Commission request for additional wetland study documentation

Please find attached WRA's data sheets and field notes for the 2010 wetland investigation at 38454 Robinson Reef Drive. We visited the site on two days in March and April of 2010, during or immediately after rain events. As described in the data sheets and our report dated April 23, 2010, sample points were selected to examine areas previously identified as potential Coastal Act wetlands in 2000. Two points were placed in the potential wetland area, which coincided with low points in the topography. An additional point was placed in the proposed development area which supported non-native grasses and herbs. This third point was also located in a relatively low position on the site, where water was observed to collect during storms, particularly along a small compacted footpath.

During the initial delineation in 2000 on the property, a small potential wetland was identified due to the presence of horsetail (*Equisetum telmateia*) and hedge nettle (*Stachys ajugoides*) and saturated soils in a flat area near the base of the driveway. At that time, two sample points were located in areas with the above listed obligate wetland species, and two upland sample points were located in slightly sloped areas lacking these indicator species. The 2000 delineation occurred approximately a week after an inch of rain fell, and the report describes a ditch to the south that drained the potential wetland. The ditch is no longer visible and the area has been invaded by upland species including iceplant (*Carpobrotus edulis*), coyote brush (*Baccharis pilularis*), and cow parsnip (*Heracleum lanatum*).

Please let me know if you require further details on the site or our results.

Thank you,

Tim DeGraff

EXHIBIT NO. **18**
APPEAL NO.
A-1-MEN-09-023
WERNETTE
MAY 2010 WETLAND MEMO
(1 of 10)

2169-G East Francisco Blvd., San Rafael, CA 94901 (415) 454-8868 tel (415) 454-0129 fax info@wra-ca.com www.wra-ca.com

California Coastal Act Wetland Data Sheet

Project Name: 38454 Robinson Reef Drive
City/Location: Gualala
Applicant/Owner: George and Jerri Wernette
WRA Investigator(s): M. Richmond, J. Mathers
Date: 3/10/10 and 4/2/10

County: Mendocino
LCP (if applicable): Mendocino County
☑ LRR A (Western Mts., Valley, and Coast [WMVC])
☐ LRR C (Arid West)
SAMPLE POINT ID: P1
HABITAT: upland

CCC/LCP WETLAND DETERMINATION

Meets CCC or LCP vegetation criteria? ☐ Yes ☑ No
Meets CCC or LCP hydric soil criteria? ☐ Yes ☑ No
Meets CCC or LCP hydrology criteria? ☐ Yes ☑ No
CCC/LCP WETLAND? ☐ Yes ☑ No

Comments: Located at low point near base of slope to adjacent property. A potential CCC wetland was identified in 2000 in this location, but was later determined to be upland. This point is representative of the entire potential wetland area, and did not exhibit any indicators of wetland conditions. Both visits occurred during or after significant rain events.

VEGETATION

*indicator status from the USFWS 1996 National List of wetland species

TREES - Plot size:	% Cover	Status*	Dominant?
TOTAL			

50% of stratum cover = *20% =*

SAPLING/SHRUBS - Plot size: 5' radius	% Cover	Status*	Dominant?
Baccharis pilularis	40	NL	yes
Rubus ursinus	40	FAC+	yes
TOTAL	80.0		2

50% of stratum cover = *40.0* *20% =* *16.0*

HERBACEOUS - Plot size: 5' radius	% Cover	Status*	Dominant?
Calamagrostis nutkaensis	10	FACW	yes
Heracleum lanatum	5	NL	yes
Galium aparine	1	FACU	no
Carpobrotus edulis	1	NL	no
Equisetum telmateia	<1	OBL	no
TOTAL	17.0		2

50% of stratum cover = *8.5* *20% =* *3.4*

Dominance Test:

Total # of dominant species across all strata: 4

Total # of dominants that are hydrophytic (status of OBL, FACW, or FAC): 2

Percentage of dominants that are hydrophytic: 50%

[Meets dominance test if >50%]

Prevalence Index:

Total % cover of species across all strata:

OBL:	1	x 1 =	1
FACW:	10	x 2 =	20
FAC:	40	x 3 =	120
FACU:	1	x 4 =	4
UPL:	46	x 5 =	230
Total:	98 (A)		375 (B)

Prevalence Index (B/A) = 3.84

[Hydrophytic vegetation dominant if B/A ≤ 3.0]

Meets CCC or LCP hydrophytic vegetation criteria? ☐ Yes ☑ No

Comments: *Carpobrotus* dominant to the east of this point, throughout the low area and up the adjacent slope.

Project Name: 38454 Robinson Reef Drive Sample Point ID: P1

SOILS Slope (%): 0 Soil map unit: Bruhel-Shinglemill complex, 2 to 15% slopes

SOIL PROFILE

Depth	Matrix Color	Redox Color	% and contrast	Redox type	Texture	Comments
0-18"		none		none		uniformly dark profile

All soils:
- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) *[Arid West only]*
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ **Other (explain below)**

Loamy and clayey soils only:
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Vernal Pools (F9) *[Arid West only]*

Sandy soils only:
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)

Meets CCC or LCP hydric soil criteria? ☐ Yes ☑ No

Comments: Soils examined for redox or depleted layers - soil was uniformly dark with no redox to 18". In 2000 and 2003, soils in this area were dark (10YR 2/1 or 2/1.5) but did not exhibit any mottling or oxidized rhizospheres - these conditions do not meet current NRCS (2006) hydric soil definitions.

HYDROLOGY (indicators from Corps Regional Supplements, applicable to coastal California only)

Primary indicators (only 1 needed to meet criteria):
- ☐ Surface water (A1) *Depth (in.):* _____
- ☐ High water table (A2) *Depth (in.):* _____
- ☐ Soil saturation (A3) *Depth (in.):* _____
- ☐ Water marks (B1) *[if in Arid West: Nonriverine only]*
- ☐ Sediment deposits (B2) *[if in Arid West: Nonriverine only]*
- ☐ Drift deposits (B3) *[if in Arid West: Nonriverine only]*
- ☐ Algal mat or crust (B4) *[WMVC only; see B12]*
- ☐ Iron deposits (B5) *[WMVC only]*
- ☐ Surface soil cracks (B6)
- ☐ Inundation visible on aerial imagery (B7)
- ☐ Sparsely vegetated concave surface (B8) *[WMVC only]*
- ☐ Water-stained leaves (B9) *[Arid West and MLRA 5 only]*
- ☐ Salt crust (B11)
- ☐ Biotic Crust (B12) *[Arid West only; see B4]*
- ☐ Aquatic invertebrates (B13)
- ☐ Hydrogen sulfide odor (C1)
- ☐ Oxidized rhizospheres (C3)
- ☐ Presence of reduced iron (C4)
- ☐ Recent iron reduction in tilled soils (C6)
- ☐ Stunted or stressed plants (D1) *[WMVC only]*

Secondary indicators (need 2+ to meet criteria):
- ☐ Water marks (B1) *[Arid West riverine only]*
- ☐ Sediment deposits (B2) *[Arid West riverine only]*
- ☐ Drift deposits (B3) *[Arid West riverine only]*
- ☐ Water-stained leaves (B9) *[WMVC:MLRA 4B only]*
- ☐ Drainage patterns (B10)
- ☐ Dry-season water table (C2)
- ☐ Thin muck surface (C7) *[Arid West only]*
- ☐ Crayfish burrows (C8) *[Arid West only]*
- ☐ Saturation visible on aerial imagery (C9)
- ☐ Geomorphic position (D2) *[WMVC only]*
- ☐ Shallow aquitard (D3)
- ☐ Frost-heave hummocks (D4) *[WMVC only]*
- ☐ Raised ant mounds (D6) *[WMVC only]*
- ☐ **FAC-neutral test (D5)** ☑ (Does not meet test)

☐ **Other (explain below)**

Meets CCC or LCP wetland hydrology criteria? ☐ Yes ☑ No

Comments: On 3/10/10, after a week of several rain events, a soil pit was examined, with no water table observed within 20". On 4/2/10 during a heavy rainstorm, this area exhibited no surface ponding.

California Coastal Act Wetland Data Sheet

Project Name: 38454 Robinson Reef Drive
City/Location: Gualala
Applicant/Owner: George and Jerri Wernette
WRA Investigator(s): M. Richmond, J. Mathers
Date: 3/10/10 and 4/2/10

County: Mendocino
LCP (if applicable): Mendocino County
☑ LRR A (Western Mts., Valley, and Coast [WMVC])
☐ LRR C (Arid West)
SAMPLE POINT ID: P2
HABITAT: upland

CCC/LCP WETLAND DETERMINATION

Meets CCC or LCP vegetation criteria? ☐ Yes ☑ No
Meets CCC or LCP hydric soil criteria? ☐ Yes ☑ No
Meets CCC or LCP hydrology criteria? ☐ Yes ☑ No
CCC/LCP WETLAND? ☐ Yes ☑ No

Comments: Located at low point near base of slope to adjacent property. A potential CCC wetland was identified in 2000 in this location, but was later determined to be upland. This point is representative of the entire potential wetland area, and did not exhibit any indicators of wetland conditions. Both visits occurred during or after significant rain events.

VEGETATION

*indicator status from the USFWS 1996 National List of wetland species

TREES - Plot size:	% Cover	Status*	Dominant?
TOTAL			

50% of stratum cover = *20% =*

SAPLING/SHRUBS - Plot size: 5' radius	% Cover	Status*	Dominant?
Baccharis pilularis	25	NL	yes
Rubus ursinus	45	FAC+	yes
TOTAL	70.0		2

50% of stratum cover = *35.0* *20% =* *14.0*

HERBACEOUS - Plot size: 5' radius	% Cover	Status*	Dominant?
Carpobrotus edulis	15	NL	yes
Heracleum lanatum	5	NL	no
Calamagrostis nutkaensis	2	FACW	no
Galium aparine	2	FACU	no
Pteridium aquilinum	1	FACU	no
Equisetum telmateia	1	OBL	no
TOTAL	26.0		1

50% of stratum cover = *13.0* *20% =* *5.2*

Dominance Test:

Total # of dominant species across all strata: 3

Total # of dominants that are hydrophytic (status of OBL, FACW, or FAC): 1

Percentage of dominants that are hydrophytic: 33%

[Meets dominance test if >50%]

Prevalence Index:

Total % cover of species across all strata:

OBL:	1	x 1 =	1
FACW:	2	x 2 =	4
FAC:	45	x 3 =	135
FACU:	3	x 4 =	12
UPL:	45	x 5 =	225
Total:	96 (A)		377 (B)

Prevalence Index (B/A) = 3.93

[Hydrophytic vegetation dominant if B/A ≤ 3.0]

Meets CCC or LCP hydrophytic vegetation criteria? ☐ Yes ☑ No

Comments: Carpobrotus dominant to the east of this point, throughout the low area and up the adjacent slope.

Project Name: 38454 Robinson Reef Drive Sample Point ID: P2

SOILS Slope (%): 0 Soil map unit: Bruhel-Shinglemill complex, 2 to 15% slopes

SOIL PROFILE

Depth	Matrix Color	Redox Color	% and contrast	Redox type	Texture	Comments
0-18"		none		none		uniformly dark profile

All soils:
- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) *[Arid West only]*
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ **Other (explain below)**

Loamy and clayey soils only:
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Vernal Pools (F9) *[Arid West only]*

Sandy soils only:
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)

Meets CCC or LCP hydric soil criteria? ☐ Yes ☑ No

Comments: Soils examined for redox or depleted layers - soil was uniformly dark with no redox to 18". In 2000 and 2003, soils in this area were dark (10YR 2/1 or 2/1.5) but did not exhibit any mottling or oxidized rhizospheres - these conditions do not meet current NRCS (2006) hydric soil definitions.

HYDROLOGY (indicators from Corps Regional Supplements, applicable to coastal California only)

Primary indicators (only 1 needed to meet criteria):
- ☐ Surface water (A1) *Depth (in.):* _____
- ☐ High water table (A2) *Depth (in.):* _____
- ☐ Soil saturation (A3) *Depth (in.):* _____
- ☐ Water marks (B1) *[if in Arid West: Nonriverine only]*
- ☐ Sediment deposits (B2) *[if in Arid West: Nonriverine only]*
- ☐ Drift deposits (B3) *[if in Arid West: Nonriverine only]*
- ☐ Algal mat or crust (B4) *[WMVC only; see B12]*
- ☐ Iron deposits (B5) *[WMVC only]*
- ☐ Surface soil cracks (B6)
- ☐ Inundation visible on aerial imagery (B7)
- ☐ Sparsely vegetated concave surface (B8) *[WMVC only]*
- ☐ Water-stained leaves (B9) *[Arid West and MLRA 5 only]*
- ☐ Salt crust (B11)
- ☐ Biotic Crust (B12) *[Arid West only; see B4]*
- ☐ Aquatic invertebrates (B13)
- ☐ Hydrogen sulfide odor (C1)
- ☐ Oxidized rhizospheres (C3)
- ☐ Presence of reduced iron (C4)
- ☐ Recent iron reduction in tilled soils (C6)
- ☐ Stunted or stressed plants (D1) *[WMVC only]*

Secondary indicators (need 2+ to meet criteria):
- ☐ Water marks (B1) *[Arid West riverine only]*
- ☐ Sediment deposits (B2) *[Arid West riverine only]*
- ☐ Drift deposits (B3) *[Arid West riverine only]*
- ☐ Water-stained leaves (B9) *[WMVC:MLRA 4B only]*
- ☐ Drainage patterns (B10)
- ☐ Dry-season water table (C2)
- ☐ Thin muck surface (C7) *[Arid West only]*
- ☐ Crayfish burrows (C8) *[Arid West only]*
- ☐ Saturation visible on aerial imagery (C9)
- ☐ Geomorphic position (D2) *[WMVC only]*
- ☐ Shallow aquitard (D3)
- ☐ Frost-heave hummocks (D4) *[WMVC only]*
- ☐ Raised ant mounds (D6) *[WMVC only]*
- ☐ **FAC-neutral test (D5)** ☑ (Does not meet test)

☐ **Other (explain below)**

Meets CCC or LCP wetland hydrology criteria? ☐ Yes ☑ No

Comments: On 3/10/10, after a week of several rain events, a soil pit was examined, with no water table observed within 20". On 4/2/10 during a heavy rainstorm, this area exhibited no surface ponding.

California Coastal Act Wetland Data Sheet

Project Name: 38454 Robinson Reef Drive
City/Location: Gualala
Applicant/Owner: George and Jerri Wernette
WRA Investigator(s): M. Richmond, J. Mathers
Date: 3/10/10 and 4/2/10

County: Mendocino
LCP (if applicable): Mendocino County
☑ LRR A (Western Mts., Valley, and Coast [WMVC])
☐ LRR C (Arid West)
SAMPLE POINT ID: P3
HABITAT: upland

CCC/LCP WETLAND DETERMINATION

Meets CCC or LCP vegetation criteria? ☐ Yes ☑ No
Meets CCC or LCP hydric soil criteria? ☐ Yes ☑ No
Meets CCC or LCP hydrology criteria? ☐ Yes ☑ No
CCC/LCP WETLAND? ☐ Yes ☑ No

Comments: Located in a disturbed grassy area next to a small footpath, where development is proposed. Both visits occurred during or after significant rain events. Compacted trail exhibited ponding during rainstorm, but was dry in March after significant rainfall.

VEGETATION

*indicator status from the USFWS 1996 National List of wetland species

TREES - Plot size:	% Cover	Status*	Dominant?
TOTAL			

50% of stratum cover = *20% =*

SAPLING/SHRUBS - Plot size:	% Cover	Status*	Dominant?
TOTAL			

50% of stratum cover = *20% =*

HERBACEOUS - Plot size: 5' radius	% Cover	Status*	Dominant?
Briza maxima (young - mixed w/ Avena?)	90	NL	yes
Geranium dissectum	1	NL	no
Plantago lanceolata	1	FAC-	no
Raphanus sativus	1	UPL	no
Hypochaeris radicata	1	FACU*	no
Iris douglasiana	1	NL	no
Ranunculus (muricatus?)	1	FACW+?	no
TOTAL	96.0		1

50% of stratum cover = *48.0* *20% =* *19.2*

Dominance Test:

Total # of dominant species across all strata: 1

Total # of dominants that are hydrophytic (status of OBL, FACW, or FAC): 0

Percentage of dominants that are hydrophytic: 0%

[Meets dominance test if >50%]

Prevalence Index:

Total % cover of species across all strata:

OBL:	0	x 1 =	
FACW:	1	x 2 =	2
FAC:	1	x 3 =	3
FACU:	1	x 4 =	4
UPL:	93	x 5 =	465
Total:	96 (A)		474 (B)

Prevalence Index (B/A) = 4.94

[Hydrophytic vegetation dominant if B/A ≤ 3.0]

Meets CCC or LCP hydrophytic vegetation criteria? ☐ Yes ☑ No

Comments: Grass was still young and not clearly identifable, but appeared to be *Briza maxima* with some *Avena barbata*, based on previous observations of this area during 2009 rare plant surveys conducted by WRA. Leaves were not soft like *Holcus lanatus*, the wetland indicator grass that would be most likely to occur in this disturbed area. Subdominant species indicate upland conditions.

Project Name: 38454 Robinson Reef Drive Sample Point ID: P3

SOILS Slope (%): 0 Soil map unit: Bruhel-Shinglemill complex, 2 to 15% slopes

SOIL PROFILE

Depth	Matrix Color	Redox Color	% and contrast	Redox type	Texture	Comments
0-18"		none		none		uniformly dark profile

All soils:
- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) *[Arid West only]*
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ **Other (explain below)**

Loamy and clayey soils only:
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Vernal Pools (F9) *[Arid West only]*

Sandy soils only:
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)

Meets CCC or LCP hydric soil criteria? ☐ Yes ☑ No

Comments: Soils examined for redox or depleted layers - soil was uniformly dark with no redox to 18".

HYDROLOGY (indicators from Corps Regional Supplements, applicable to coastal California only)

Primary indicators (only 1 needed to meet criteria):
- ☐ Surface water (A1) *Depth (in.):* see below
- ☐ High water table (A2) *Depth (in.):*
- ☐ Soil saturation (A3) *Depth (in.):*
- ☐ Water marks (B1) *[if in Arid West: Nonriverine only]*
- ☐ Sediment deposits (B2) *[if in Arid West: Nonriverine only]*
- ☐ Drift deposits (B3) *[if in Arid West: Nonriverine only]*
- ☐ Algal mat or crust (B4) *[WMVC only; see B12]*
- ☐ Iron deposits (B5) *[WMVC only]*
- ☐ Surface soil cracks (B6)
- ☐ Inundation visible on aerial imagery (B7)
- ☐ Sparsely vegetated concave surface (B8) *[WMVC only]*
- ☐ Water-stained leaves (B9) *[Arid West and MLRA 5 only]*
- ☐ Salt crust (B11)
- ☐ Biotic Crust (B12) *[Arid West only; see B4]*
- ☐ Aquatic invertebrates (B13)
- ☐ Hydrogen sulfide odor (C1)
- ☐ Oxidized rhizospheres (C3)
- ☐ Presence of reduced iron (C4)
- ☐ Recent iron reduction in tilled soils (C6)
- ☐ Stunted or stressed plants (D1) *[WMVC only]*

Secondary indicators (need 2+ to meet criteria):
- ☐ Water marks (B1) *[Arid West riverine only]*
- ☐ Sediment deposits (B2) *[Arid West riverine only]*
- ☐ Drift deposits (B3) *[Arid West riverine only]*
- ☐ Water-stained leaves (B9) *[WMVC:MLRA 4B only]*
- ☐ Drainage patterns (B10)
- ☐ Dry-season water table (C2)
- ☐ Thin muck surface (C7) *[Arid West only]*
- ☐ Crayfish burrows (C8) *[Arid West only]*
- ☐ Saturation visible on aerial imagery (C9)
- ☐ Geomorphic position (D2) *[WMVC only]*
- ☐ Shallow aquitard (D3)
- ☐ Frost-heave hummocks (D4) *[WMVC only]*
- ☐ Raised ant mounds (D6) *[WMVC only]*
- ☐ **FAC-neutral test (D5)** ☑ (Does not meet test)

☐ **Other (explain below)**

Meets CCC or LCP wetland hydrology criteria? ☐ Yes ☑ No

Comments: On 3/10/10, after a week of several rain events, a soil pit was examined, with no water table observed within 20". On 4/2/10 during a heavy rainstorm, this area exhibited 1-2" of surface ponding only along a small foot trail, where soils appear to be compacted.

Wernett 10 March 10

Hydro spot check.
- examined the area in question -
  - no standing H_2O
  - no H_2O table obs. in 20" in.
  - no ox. rhizo
  - only 1 or 2 EQU TEL emerging mainly CAR EDU
- mapped three sample pits. where 18" pit & examined for ox rhizo & mottling. → none obs.

CAL PUR SAX
Mapped plts near N end.
- needs a resurvey when in bloom.
- additional plts may be present - should revisit w/ Mathers & DeGraff.

Binoc Botany
N - deck - unlikely - cape ivy, red hot poker 99% cover - may be partially under deck but could not get a complete view
S - Dom. STA ADJ, HOLA, CAR EDU - may be some plts near CAL NUT but none observed
spent 15 min on each side w/ 10+50 bino.

Scale: 1 square = _____

10083 4/2/10 JM

DP - southernmost Matt's flag — no ponding during rain

Veg: BAP I 40
S'rad. RUUR 40
Heracleum lanatum 5
Calamagrostis nut 10
Galium aparine 1
Carpobrotus 1
Equisetum <1

DP middle — no ponding

BAP I 25
Equisetum 1
HELA 5
RUUR 45
CAED 15
GAAP 2
CANU 2
Pteridium 1

DP top - ponded 1-2" in trail (compacted)
all ~~[illegible]~~ Briza? 90%
+ Geranium molle Plantago lanceolata
Raphanus sativa Hypochaeris
IRDO Ranunculus

Calystegia
slope - bad reception [illegible]
vacanium
pteridium, (BAP), [illegible] CANU

no plant at 1 old flag
5 under tree (past GPS point)
[illegible] in shade - reproducing

[illegible] on grassy slope -
[illegible] like [illegible] - ♡ wavy edges
[illegible]
[illegible]
[illegible]
[illegible] RUUR, [illegible]
IRDO, BA[illegible] Holcus
Stachys HELA
Coffeeberry [illegible]

[illegible] 120-124 - plant in [illegible] slope [illegible]
few leaves, no [illegible]
(closest to [illegible])

129 - closest to project [illegible] on [illegible] slope
130-134 - cluster of [illegible]
slope - [illegible]
[illegible]

138-9 clear Capusa - on some leaves only rounded tips,
140 overlapping lobes
(original plant observed on slope

141-142 capupu? on grassy slope
143-144 new plants by data points
- unclear but very rounded tips,
no overlapping lobes - only young leaves
145-147 former wetland - drug
154-160 all same plant - at driveway
entrance - no reniform but lots of
variety - good example ~~[illegible]~~
of ~~Capupu~~ what world key to Capupu?

☆ check notes/reports => I dont think
plants on grassy slope were present -
we gps'd all plants? (on property)

Richard A. Arnold, Ph.D.
President

Entomological Consulting Services, Ltd.

104 Mountain View Court, Pleasant Hill, CA 94523-2188 • (925) 825-3784 • FAX (925) 827-1809
bugdctr@comcast.net • www.ecsltd.com

7 November 2005

EXHIBIT NO. 19
APPEAL NO.
A-1-MEN-09-023
WERNETTE
BUTTERFLY ASSESSMENT
(1 of 5)

Jane Veres, Associate Land Use Consultant
Bud Kamb Real Estate Sales & Services
45100 Main Street
Mendocino, CA 95460

Re: Wernette Property at Robinson Reef Point in Gualala, CA
APN 145-161-27
Habitat Assessment for the Endangered Lotis Blue and Behrens Silverspot Butterflies

Dear Jane:

This letter reports the findings of my habitat assessment survey for Dr. & Mrs. George Wernette's vacant 0.3-acre lot located on Robinson Reef Road in Gualala for two federally-listed endangered butterfly species, namely the Lotis Blue and Behrens Silverspot. I can summarize the findings of my survey by stating that neither of these endangered species is likely to occur at this vacant lot. The remainder of this report provides pertinent background information on both butterflies and describes my survey methods and findings in greater detail.

BACKGROUND INFORMATION

Lotis Blue Butterfly.

One of the rarest butterflies in North America, the Lotis Blue, *Lycaeides idas lotis*, was recognized in 1976 as endangered by the U.S. Fish & Wildlife Service (1976). It formerly occurred at several coastal localities in Mendocino, and possibly Sonoma and northern Marin counties (Tilden 1965). However, during the past several decades, the butterfly has been periodically observed at only one location. Specifically, it was found beneath the Elk-Fort Bragg 60-kV transmission line north of the town of Mendocino that is operated and maintained by Pacific Gas & Electric Company. The butterfly was last observed at this location in 1983 (Arnold 1993).

The Lotis Blue is a member of the butterfly (Lepidoptera) family Lycaenidae, which is commonly referred to as the blues, coppers, and hairstreaks. The species *L. idas* has a holarctic distribution, meaning that it occurs both in Europe and North America. In California, populations are known from the Cascade, central and northern Sierra Nevada, Siskiyou, Yolla Bolly, and Warner mountain ranges. *L. idas lotis* is an extremely rare subspecies whose documented known geographic range (i.e., based on specimens housed in museum collections) is restricted to coastal areas of Mendocino County.

Males have brilliant violet-blue dorsal wings, with a crenulate black border and fringe of white scales along the outer margin. The upper surface of the female's wings are brown, occasionally a bluish-brown, with a wavy band of orange across the subterminal portions of the forewing and hindwing. The outer wing edges are as in the male. Ventral wing surfaces of both sexes have grey ground color with scattered black spots in the distal, subterminal, and terminal areas. Light blue-green scales may be present basally. A wavy band of orange spots border the termen of the hindwings in between two rows of sinuous black lines. Adults have a wingspan of approximately 1 inch.

Circumstantial evidence suggests that the larval food plant is *Lotus formossissimus*, a small legume (Fabaceae) that grows in wet, mucky areas, such as bogs, in wet meadows with soggy soils, and seeps. Several relatives of the Lotis Blue feed on legumes, while some relatives feed on other types of plants. Four other legumes grow along the PG&E right-of-way (ROW), three in wet areas and one in more upland habitats, including *Lotus aboriginum*, *Lotus corniculatus*, *Lotus oblongifolius*, and *Lathyrus vestitus* (Arnold 1991). Until further information becomes available to clarify the specific food plant(s) of the Lotis Blue, all of these legumes are considered potential food plants when they are growing in suitable habitats. Associated native plants of the wet meadow, seep, and boggy areas include: *Campanula californica*, *Carex californica*, *Cornus canadensis*, *Lilium maritimum*, *Sisyrinchium californicum*, and *Sphagnum* sp.

The adult flight season typically ranges from about mid-May through mid-July, although there is some variation in timing between years. Only about 65 preserved specimens are housed in various entomological collections. The vast majority of specimens were collected from the aforementioned transmission line site, a few from the Point Arena area, and several lack specific locality information.

U.S. Fish & Wildlife Service (1977) recognized the historical site north of Mendocino (due east of the Point Cabrillo Lighthouse and Highway 1) as critical habitat. The California Fish & Game Code specifically excludes insects as a type of organism that can be recognized by the state as endangered species. However, under the California Environmental Quality Act (CEQA), the Lotis Blue is treated as a rare species pursuant to section 15380. The California Coastal Act recognizes places that support endangered species as Environmentally Sensitive Habitat Areas (ESHAs).

Behrens Silverspot.

Behrens Silverspot, *Speyeria zerene behrensii*, is a member of the brush-footed family of butterflies (Lepidoptera: Nymphalidae). It is named after the gentleman, James Behrens, who probably captured the original specimens used to describe this subspecies. Silverspots are also sometimes commonly referred to as fritillaries. On the undersides of the wings are several prominent silver spots, hence the common name.

Behrens Silverspot is one of 18 subspecies of *Speyeria zerene*, a species that ranges throughout most of the cordilleran region of the western U.S. and southwestern Canada. This silverspot is associated with coastal prairie communities that grow on the

terraces and headlands along the immediate Sonoma and Mendocino coasts. Small stands of Beach pines (*Pinus contorta*) interspersed throughout the coastal prairie provide shelter from prevailing coastal winds, which would otherwise limit activity of this cold-blooded butterfly. The larval food plant is most likely *Viola adunca* (Violaceae), although other violets, if present, might also be utilized. Adults are fond of composites for nectar and have been observed feeding on *Senecio vulgaris*, *Cirsium vulgare*, *Silybum marianum*, *Aster chilensis*, and *Erigeron glaucus*. Ironically, the first three of the aforementioned nectar plants are invasives. Much of the former coastal terrace prairie habitat of Sonoma and Mendocino counties has been converted to other land uses, especially grazing, which depending upon its timing and intensity often favors invasive, annual plants rather than the bunch grasses and other herbaceous plants that are characteristic of the prairie.

Historically the silverspot was known from eight locations between the Russian River and Mendocino. Historical locations include:

a) Mendocino, presumably the headlands, which is the type locality;
b) Point Arena;
c) Manchester area, which includes records as far as 6 mi. inland (east) of Manchester, primarily along Mountain View Road;
d) ca. 1 mi. south of Anchor Bay;
e) Sea Ranch;
f) Stewart's Point;
g) Salt Point; and
h) Vicinity of Fort Ross.

Of these historical locations, today the silverspot is still known to occur at Point Arena, Manchester, Stewart's Point, and Salt Point. Silverspots from the Russian River area exhibit phenotypes that are somewhat intermediate in appearance with the endangered Myrtle's Silverspot.

The adult flight season is usually about mid-June through August. Adults have a wingspan of approximately 2.25 inches. The upper surfaces are golden brown with numerous black spots and lines. The undersides are brown, orange-brown, and tan with black lines and distinctive silver and black spots. Basal portions of the wings and body are densely pubescent.

Behrens Silverspot was recognized as endangered by the U.S. Fish & Wildlife Service in 1997. To-date, critical habitat has not been proposed. Like the Lotis Blue, Behrens Silverspot is recognized as a rare species under CEQA.

SURVEY METHODS AND RESULTS

Site Description.

The Wernette property was visited on October 23, 2005. I hiked throughout the property to observe the vegetation and soils. I also drove throughout the surrounding neighborhood to examine vegetation types and to determine current land uses. The Wernette property is located between Robinson Reef Drive and the Pacific Ocean.

Prominent vegetation consists of coastal bluff scrub characterized by a number of native shrubs, grasses, and herbs. The report prepared by Wetlands Research Associates, Inc. (2004) provides a more thorough description of the plant communities and lists resident plant species that occur at the site. Botanical surveys described in that report observed a *Viola*, presumably *Viola adunca*, growing at the lot. *Lotus corniculatus* and *Lotus angustissimus* were also observed growing there. The latter has naturalized from the Old World.

Habitat Assessment Findings.

Coastal bluff scrub vegetation at Wernette property does not support suitable habitat for either the endangered Lotis Blue or Behrens Silverspot butterflies. Although one potential food plant for the Lotis Blue occurs at the property, the absence of favored wetland habitats, such as seeps, bogs, or wet meadows greatly reduces the likelihood of the butterfly occurring there. Historically the Lotis Blue butterfly has been associated with the aforementioned wetland habitats rather than with coastal bluff scrub vegetation.

Although a *Viola*, presumably *V. adunca*, was previously observed growing at the Wernette property, the coastal bluff scrub vegetation community is not favored by the Behrens Silverspot, which instead is associated with coastal terrace prairie. Examination of vegetation types in the surrounding neighborhoods revealed that no coastal terrace prairie habitat occurs near the Wernette property. Rather properties at Robinson Reef Point and immediately surrounding areas are characterized by coastal bluff scrub and wooded conditions. Coastal terrace prairie is absent. Also, the extensive residential and commercial development of Robinson Reef Point and surrounding areas substantially reduces the likelihood that either of these butterflies would live nearby.

CONCLUSIONS

Due to the absence of suitable habitat conditions on-site and nearby the Wernette property, I conclude that neither the endangered Lotis Blue butterfly nor the endangered Behrens Silverspot butterfly occur there. Residential development of the vacant lot should not impact these butterflies or their habitats. Thus, no mitigation for the two endangered butterflies should be required.

REFERENCES

Arnold, R.A. 1991. Biological studies of the endangered Lotis Blue butterfly for PG&E's Elk-Fort Bragg 60 kV transmission line. Report prepared for Pacific Gas & Electric Company. 45 pp. & appendices.

Arnold, R.A. 1993. The Lotis Blue, *Lycaeides idas lotis* (Lintner). IN, T.R. New (ed.), Conservation biology of Lycaenidae. Occasional Paper of the IUCN Species Survival Commission, No. 8. pp. 143-145.

Tilden, J.W. 1965. Butterflies of the San Francisco Bay Region. University of California Press. Berkeley, CA. 88 pp.

U.S. Fish & Wildlife Service. 1976. Endangered and threatened wildlife and plants: determination that six species of butterflies are endangered species. Federal Register. 41:22041-22044.

U.S. Fish & Wildlife Service. 1977. Endangered and threatened wildlife and plants: proposed determination of critical habitat for six butterflies and two plants. Federal Register 42:7972-7975.

U.S. Fish & Wildlife Service. 1997. Endangered and threatened wildlife and plants: determination of endangered status for the Callippe Silverspot butterfly and Behrens Silverspot butterfly and threatened status for the Alameda Whipsnake: final rule. Federal Register 62:64306-64320.

Wetlands Research Associates, Inc. 2004. Special status species plant survey and wetlands evaluation. Wernette project site, APN 145-161-27, Robinson Reef Point, Gualala, Mendocino County, California.

If you have any questions about my report, just contact me.

Sincerely,

Richard A. Arnold

Richard A. Arnold, Ph.D.
President

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Arcata Fish and Wildlife Office
1655 Heindon Road
Arcata, California, 95521
Phone: (707) 822-7201 FAX: (707) 822-8411

In Reply Refer To:
AFWO

MAY 0 2 2006

Ms. Jane Veres
Bud Kamb Real Estate Services
101 Boatyard Drive, Suite D
Fort Bragg, CA 95437

Subject: Wernette Construction Project at APN 145-161-27 (AFWO File Number 8-14-TA-2006-2889.1)

Dear Ms. Veres:

This responds to your request for U.S. Fish and Wildlife Service (Service) technical assistance first received in our office August 31, 2005. At issue is compliance with the Endangered Species Act of 1973, as amended (Act), during implementation of the proposed construction project at APN 145-161-27, which is located on Robinson Reef Road in Gualala.

On April 28, 2006 the Service received a report entitled "Habitat Assessment for the Endangered Lotis Blue and Behrens Silverspot Butterflies" that was dated November 7, 2005. That report concluded that due to the absence of suitable habitat conditions on-site and nearby the subject property, neither of the butterflies in question occurs there. The Service concurs with the findings of that report and has determined that the proposed construction project at APN 145-161-27 is not likely to result in incidental take of Behren's silverspot butterfly (*Speyeria zerene behrensii*) or lotis blue butterfly (*Lycaeides argyrognomon lotis*).

If you have any questions regarding this correspondence, please contact Mr. John Hunter of my staff at the above letterhead address or at (707) 822-7201.

Sincerely,

Michael M. Long
Field Supervisor

EXHIBIT NO. **20**
APPEAL NO.
A-1-MEN-09-023
WERNETTE
FISH & WILDLIFE SERVICE LETTER

Tamara Gedik

From: Richard Macedo [RMACEDO@dfg.ca.gov]
Sent: Thursday, September 16, 2010 3:13 PM
To: Tamara Gedik
Subject: Re: Wernette project; CDP 96-2002

Attachments: CDP 96-2002_Email Sent to Teresa Spade_1-23-08.doc

CDP 96-2002_Email Sent to Tere...

Tamara:

As requested in your email below, I've attached a copy of my email to Teresa Spade of the Mendocino County Department of Planning and Building Services re. the subject project.

Regards,

Rick

Rick Macedo
Staff Environmental Scientist
Coastal Conservation Planning
Northern Region
California Department of Fish and Game
P.O. Box 1338
Cobb, California 95426
(707) 928-4369

>>> Tamara Gedik <tgedik@coastal.ca.gov> 9/16/2010 2:44 PM >>>
Greetings, Rick~

It was a pleasure speaking with you today regarding your previous review of the proposed single family residence project on the Wernette parcel in Gualala. As per our discussion, could you please provide me a copy of your correspondence with Mendocino County on this project? I did not see that information in the local record provided to me.

Thanks again for your assistance, and I hope all is well with you.

Sincerely,

~Tamara L. Gedik
Coastal Program Analyst
California Coastal Commission
710 E Street, Suite 200
Eureka, CA 95501

(707)445-7833
tgedik@coastal.ca.gov

EXHIBIT NO. 21
APPEAL NO.
A-1-MEN-09-023
WERNETTE
DEPT. OF FISH & GAME
PROJECT COMMENTS (1 of 2)

Email Sent to Teresa Spade re. Wernette; Gualala lot on cliff; CDP 96-2002

January 23, 2008

Dear Ms. Spade:

This is in response to your January 22, 2008 email requesting a short summary of DFG comments relative to the proposed development and its impacts on ESHAs. In order to have this information for tomorrow's hearing date, you need this response as soon as possible.

Based on our December 13, 2007 site visit, a cursory review of proposed mitigation measures outlined in the January 24, 2008 staff report and the understanding that the project occurs outside a 50-foot setback to all ESHAs, I have no further comments regarding the project's potential impacts on sensitive species and communities. The proposed 50-foot setback should adequately protect the identified sensitive resources.

Please contact me if you have any questions or comments.

Regards,

Rick Macedo
Staff Environmental Scientist
Coastal Conservation Planning
Northern Region
California Department of Fish and Game
P.O. Box 1338
Cobb, California 95426
(707) 928-4369

2 of 2

REDWOOD
COAST
ASSOCIATES

George and Jerri Wernette
1039 Mountain Air Court
Reno, NV 89511

August 12, 2008

Dear George and Jerri,

At the request of Tim Degraff of WRA, I visited your property in Gualala, CA (APN 145-161-27) in order to confirm that the parcel in question is outside of the known Point Arena Mountain Beaver (PAMB) range. Prior to my visit I had a telephone conversation on July 6th with John Hunter of the US Fish & Wildlife office in Arcata, CA. The purpose of my call was to determine if a request for technical assistance regarding a parcel outside of the known PAMB range was necessary. John assured me that the parcel was outside of the known PAMB range and that the USFW Service does not prepare any official response to proposed projects outside of the known PAMB range. Therefore, I have concluded that your proposed project is not within the known PAMB range nor does the proposed project present any threat to the PAMB or its habitat.

Please feel free to contact me with any questions you may have,

Matt Richmond
Biologist (USFWS PAMB approved)
Redwood Coast Associates
707 459 1067
mrichmond@rcaconsulting.net

cc Teresa Spade, John Hunter

EXHIBIT NO. 22
APPEAL NO.
A-1-MEN-09-023
WERNETTE
PAMB LETTER

Jim Glomb

Geotechnical and Environmental Consulting

152 Weeks Way • Sebastopol, CA 95472 • Phone/Fax 707/829-7258

707-829-7258

August 13, 2002
Project 434

EXHIBIT NO. **23**
APPEAL NO.
A-1-MEN-09-023
WERNETTE
2002 GEOLOGIC REPORT
(1 of 20)

Mr. and Mrs. Wernette
c/o Mr. Ed McKinley
237 Morrow Street
Fort Bragg, CA 95437

RE: **Final Engineering Geologic Investigation Report**
APN 145-161-27
Robinson Reef Drive
Gualala, California

Dear Mr. and Mrs. Wernette:

We are pleased to submit our final engineering geologic investigation report for the subject property in Gualala, California. Our work responds to a Coastal Development Permit review letter from Mr. Doug Zanini, Coastal Planner, dated December 28, 1998. On March 31, 1999 we made a geologic reconnaissance of site conditions and performed additional subsurface exploration in the north portion of the site. Subsequent site visits were made on August 3, 2000 and October 2, 2000. This report includes information from our prior Engineering Geologic investigation of the property for a former owner, Mr. Snap Binker, dated June 5, 1992. A topographic survey of the property by Dave Paoli, dated October 27, 1997, was used as a base map for our geologic map. Soils engineering reports and drainage plans by Paoli Engineering were also reviewed. The purpose of our work has been to reevaluate the engineering geologic and seacliff stability conditions and their impacts on proposed residential construction at the site.

SCOPE

The scope of our work consisted of:

1. Review of soil and geologic data pertaining to the site and vicinity (see references attached);
2. Geologic field reconnaissance of the site and vicinity, including geologic mapping on the cliff face with technical climbing gear;
3. Excavation and logging of 3 backhoe test pits;
4. Engineering geologic analysis of field data, including construction of 3 geologic cross sections; and
5. Preparation of this report with our findings, conclusions and recommendations.

SITE CONDITIONS

The subject ±2-acre sea cliff property consists of a pad area, steep cut slope on the east and a steep sea cliff on the west. The pad measures approximately 60 feet wide by 350 feet long. A 10 to 12-foot high ±1:1 (horizontal:vertical) cut slope exists along the east property line. Lots 5 through 8 adjoin the subject property to the east, each with a single-family residence. According to the owner, the cut and pad

area were graded for a railroad in the late 1800's. From the west edge of the pad a sea cliff descends some 110 feet at an average gradient of 1:1 to a bedrock beach and the Pacific Ocean. Bedrock outcrops and several ±50 to 75 foot high bedrock sea stacks exist in the tidal zone.

Site drainage is to the west to an erosion gully in the middle-west portion of the property. Drainage from the east and off site has been recently modified by collection in an underground storm drain pipe that empties midway down the sea cliff on the extreme north end of the property.

Site features are depicted on the Revised Geologic Map and Geologic Cross Sections, Plate 1. Subsurface conditions encountered at the site during this phase of investigation are illustrated on the attached Logs of Test Pits, Plates 2 through 4. Logs of Test Pits from former investigations of the site are also attached. The map and the sections were constructed with the use of a 100-foot tape, Brunton compass, level rods and a hand level. Access down the cliff to the beach was gained with a climbing rope anchored at the cliff top. An assessor's parcel map and verbal information regarding property boundaries and corners were provided by the former owner and neighboring property owners.

GEOLOGIC SETTING

The geology of the region is dominated by the activity of the northwest trending San Andreas Fault system that juxtaposes Coastal Belt Franciscan bedrock on the east with sediments of the Anchor Bay Member of the Gualala Formation on the west. Near coastal and marine sediments were deposited during the Cretaceous to Miocene ages and were subsequently folded and faulted. Marine terraces were deposited upon the bedrock followed by erosion and weathering processes to form the topography of today.

Geologic materials exposed at the site consist of fill, talus, Quaternary marine terrace deposits and Anchor Bay member sedimentary bedrock. Fill consists of very loose to medium dense sand and rock with an estimated maximum depth of 7 feet. The base of the fill is loose and wet. It is assumed that an old drainage gully was filled during grading of the railroad. The fill exists on the middle-north portion of the pad. Talus consisting of loose soil and rock drapes a portion of the sea cliff west of test pit T-3. Terrace deposits consisting of very friable fine to coarse cobbly sand are exposed in the top of the railroad cut slope and in the top of the sea cliff. The terrace thickens to the south to an estimated maximum of 35 feet. Underlying the terrace is a yellow brown thick-bedded friable to moderately well indurated sandstone and moderately well-bedded, weathered clayey siltstone unit of the Anchor Bay member with an estimated thickness of 10 to 15 feet. Underlying the yellow brown upper unit is a dark gray well-bedded silicic mudstone unit of the Anchor Bay member. The mudstone is generally hard, resistant to erosion and is locally faulted and steeply fractured. The sandstone and mudstone are exposed in the sea cliff and sea stacks and were observed in the test pits excavated at the site. The upper bedrock contact with the terrace deposits is unconformable and dips generally to the south at 5 to 12 degrees. Bedding within the bedrock dips in various directions at between 3 and 16 degrees except in test pit T-3 where tight folding and steep dips to the southwest were observed. Steep to sub-vertical bedrock fractures were randomly oriented.

SEACLIFF STABILITY

Like most of the northern California coast, the sea cliff at the subject property is retreating landward due to the processes of wave erosion, erosion from runoff directed over the cliff, shallow landsliding or slumping, rock fall and rock topple. Another possible mode of retreat is from seismic shaking during an

earthquake. Deep-seated landsliding within the bedrock does not appear to have occurred at the site or in the vicinity. The terrace deposits along the top of the sea cliff are very friable, erodible and subject to slumping.

The seacliff, designated -B- on the Revised Geologic Map, is retreating at an estimated rate of 0.5 foot or less per year. The rate is based on analysis of stereo pairs of old aerial photographs of the site and vicinity and comparing the relative position of the top of seacliff in the past with the observed configuration today. Based on air photo analysis, shallow landslides have occurred on the sea cliff at Section 3-3' since 1961, causing about 20 feet of retreat. At Section 1-1', stronger, less friable sandstone bedrock exists to within about 10 feet of the cliff top. At this location, about 10 to 15 feet of retreat has occured since 1961.

The topmost riser, designated -SL- on the Revised Geologic Map, consists of the top of an old fill slope adjacent to the proposed building envelope. Our analyses indicate that this top of slope has retreated 2 feet or less over about 13 years. The estimated retreat rate for this feature is calculated to be 0.15 feet or less per year.

FAULTING AND SEISMICITY

Like most of California, the site will be subject to future strong ground shaking from an earthquake. The intensity of future earthquake shaking will depend on the distance from the site to the earthquake focus, magnitude, and the response of the structures to the underlying soil and/or rock. During the 1906 San Francisco earthquake, structural damage in Gualala was relatively minor in comparison with structural damage in surrounding areas. However, the earthquake caused several landslides and seriously damaged the wagon bridge over the Gualala River south of town (California Geology, February, 1977). The intensity of future earthquake shaking will depend upon the distance from the site to the earthquake focus, magnitude, and the response of the structures to the underlying soil and/or rock. No saturated relatively clean, granular soils considered susceptible to densification or liquefaction are known to exist at the site.

An inactive fault dipping southwest at 58 degrees was observed at the base of the sea cliff. The active San Andreas fault lies 2 miles northeast of the site. The project is not located within a current Alquist-Priolo Special Studies Zone as designated by the State Geologist.

GROUND WATER

Ground water seepage was observed at the base of the fill in test pit T-4. No other evidence of ground water, seeps or springs were observed at the site. The terrace/bedrock contact on the sea cliff was slightly more moist than elsewhere in the terrace, although no seepage was observed. During rainy periods water may percolate through the terrace and travel along the upper bedrock surface of the cliff face.

A small topographic low area exists to the south of the proposed residence where seasonal moisture from rainfall periodically accumulates. The area was the subject of a wetlands evaluation by WRA, dated August 2002. WRA classified the area as a wetland with low to moderate functions and values.

CONCLUSIONS

Our conclusions regarding the proposed construction at the property are as follows:

1. From an engineering geologic viewpoint it is considered feasible to construct a single-family residence at the site. The tentative building footprint is shown on Plate 1, at section 1-1'. Based on our site reconnaissances, subsurface explorations, literature review and analyses, we conclude that the seacliff at the subject property is retreating eastward at an average rate of 0.5 foot or less per year. A combined construction setback line, -SB-, from the top of seacliff, -B-, and the top of fill slope, -SL-, based on a 75-year structure life and retreat rates of 0.5 and 0.15 feet per year, respectively, is shown on the Revised Geologic Map, Plate 1. This estimate is considered conservative because the rate of erosion and retreat is expected to slow due to pumping of a portion of the surface drainage into the storm drain at the north boundary of the site. Therefore, it is our professional opinion that the footprint will most likely not be affected by sea cliff retreat over a design life of 75 years.

2. Factors favorable to future sea cliff stability adjacent to the proposed building are: reduction in the amount of surface drainage directed over the seacliff; the presence of thin (±10 feet) terrace deposits at the cliff top; a talus protected cliff face at Section 1-1'; protection of the bluff from wave action by prominent bedrock sea stacks; and a relatively stable bedrock condition within the sea cliff.

3. The pier foundations that are planned for the residence will act as soldier piles that will have a stabilizing effect on sea cliff stability.

2. Seismic forces from a nearby maximum credible earthquake in the future are likely to accelerate sea cliff retreat. Therefore, the weathered terrace sands and the weathered, fractured bedrock on the outer portion of the cliff face could fail during such an event. However, we conclude that the potential for earthquake-induced cliff retreat to the tentative building footprint is low.

3. The wetland area will be maintained and in our opinion will not cause geotechnical impacts on the planned residential construction, particularly due to the planned construction of deep pier foundations that will not be affected by surface soil moisture.

RECOMMENDATIONS

Our recommendations regarding the proposed construction at the property are as follows:

1. Surface drainage systems (including roof drains) should be installed to intercept surface runoff, except that which flows into the wetlands on the south side of the residence. Drains should outlet so as not to cause sea cliff erosion.
2. The proposed residence should be founded on bedrock or properly compacted engineered fill.
3. We recommend that pier foundations embedded well into bedrock be utilized to support the residence.
4. The engineering geologist or geotechnical engineer should be present on site to observe foundation excavations during construction.

LIMITATIONS

This report has been prepared for the exclusive use of Mr. and Mrs. Wernette and their consultants for the property described in this report. Our services consist of professional opinions and conclusions developed by a certified engineering geologist in accordance with generally accepted engineering geologic principles and practices. We provide no other warranty, either expressed or implied. Our

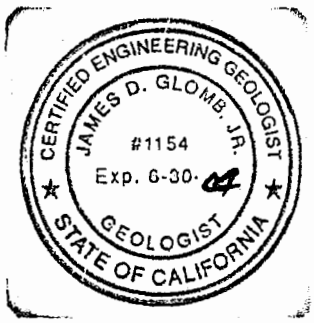
conclusions and recommendations are based upon the information provided us regarding the proposed construction and professional judgment. Verification of our conclusions and recommendations is subject to our review of the project plans and specifications, and our observation of construction,

Site conditions and cultural features described in the text of this report are those existing at the time of our field work and may not necessarily be the same or comparable at other times.

The scope of our services did not include an environmental assessment or an investigation of the presence or absence of hazardous, toxic or corrosive materials in the soil, surface water, groundwater or air, on or below, or around the site, nor did it include an evaluation or investigation of the presence or absence of wetlands.

We trust this provides the information you require at this time. If you have questions or wish to discuss this further, please call.

Yours very truly,
Jim Glomb Consulting



Jim Glomb
Engineering Geologist, C.E.G. 1154

Attachments: References
Revised Geologic Map and Geologic Cross Sections, Plate 1, in pocket
Logs of Test Pits, this investigation, Plates 2, 3 and 4
Logs of Test Pits, former investigations

REFERENCES

1. California Division of Mines and Geology, 1974. State of California Special Studies Zones Fault Map, Gualala Quadrangle.

2. Davenport, Clifton W., 1984, Geology and Geomorphic Features Relating to Landsliding, Gualala 7.5-Minute Quadrangle, Mendocino County, California, DMG Open-File Report 84-48.

3. Geonex Sacramento, 1964, Aerial Photographs, Flights Nos. Men 17-45 and 46.

4. Glomb, Jim, 6/5/92, Engineering Geologic Investigation, Assessor's Parcel No. 145-161-27 of Mendocino Co. Records, Robinson Reef Drive, Gualala, CA.

5. Paoli, David E., 8/13/97, Revised 8/20/98, Geologic and Soils investigation for George and Jeri Wemette, A.P. No. 145-161-27, Robinson Reef Drive, Gualala.

5. Paoli, David E., Grading and Drainage Plan, June 7, 2002.

6. Williams, J.W., 1977, "Coastal Zone Geology near Gualala, California," in *California Geology*, February 1977.

7. Wetlands Research Associates, Inc., August 2002, Delineation of Potential Jurisdictional Wetlands.

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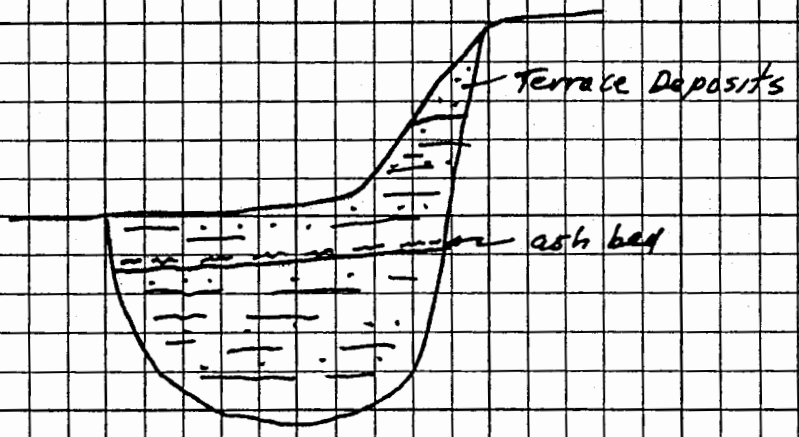
LOG OF TEST PIT

Surface Elevation: 116 Pit Orientation: N68W Pit Dimensions: 9 x 5 x 2 Groundwater Depth: none enc.	Logged by: J. Glomb Date: March 31, 1999 Equipment: Backhoe	Test Pit Number TP-1

Depth (ft).	Samples: Bulk	Samples: Tube	Pocket Pen (ft kips/ft.)	Field Moisture (% of dry weight)	Dry Density (p.c.f.)	Soil Type (USCS)	Geologic/Engineering Description and Remarks	Geologic Attitudes
5							@0-5 Yel. brn. Sandstone & Siltstone; v. moist, well-bedded, thin bedded, w/ash interbeds, friable.	@ 2' bdg: N55W; 17SW on ash bed @ 4' bdg: N54- 64W: 16-20SW
10							Bottom of Test Pit at 5 feet.	
15								



SURFACE GRADIENT: Level

SCALE: 1" = 5'

JIM GLOMB CONSULTING

Sebastopol, California 7 of 20

WERNETTE

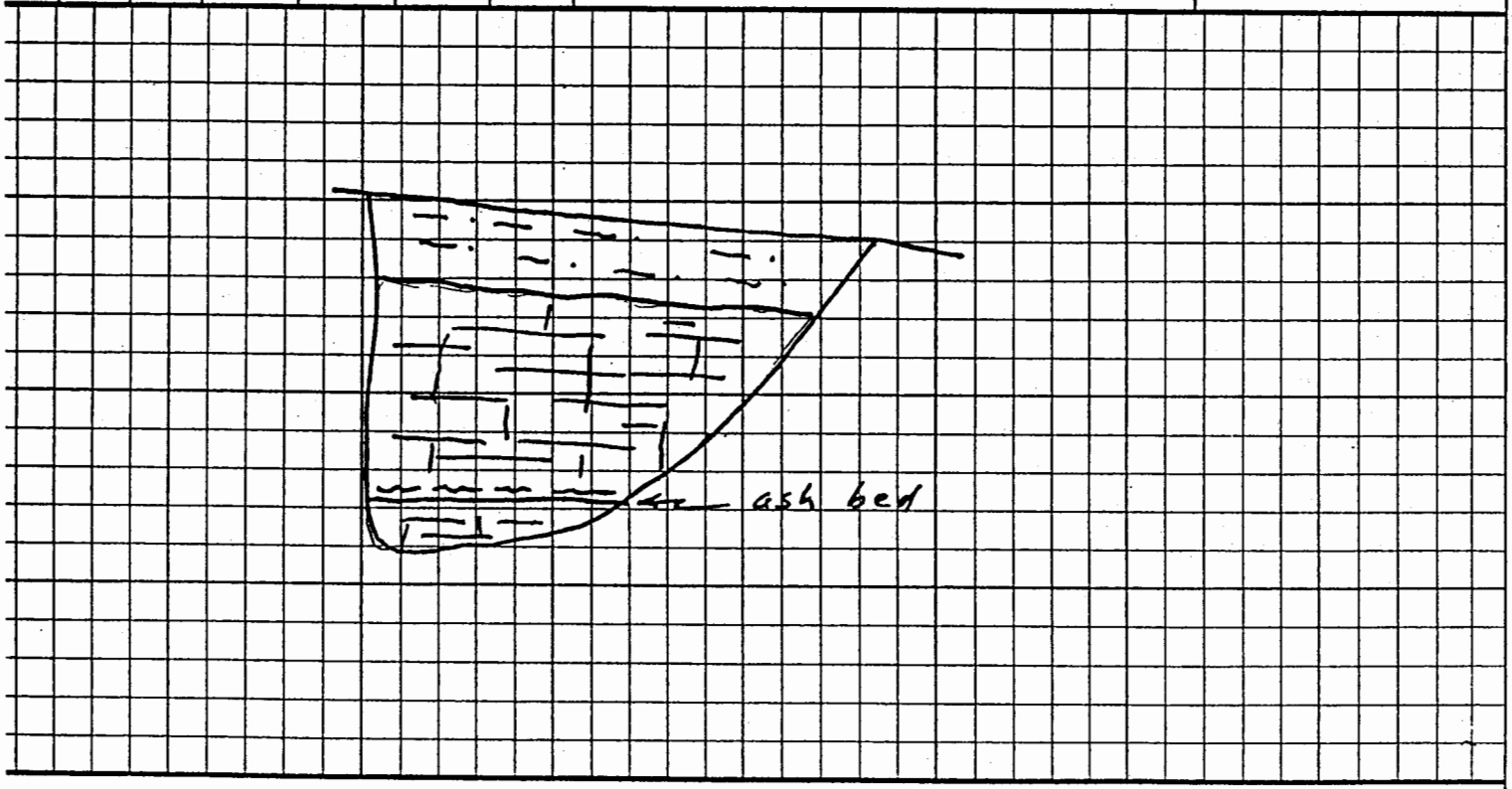
April 1999

Project 434 | PLATE 2

LOG OF TEST PIT

Surface Elevation: 116 Pit Orientation: N5W Pit Dimensions: 13 x 9 x 2 Groundwater Depth: none enc.	Logged by: J. Glomb Date: March 31, 1999 Equipment: Backhoe	Test Pit Number TP-2

Depth (ft.)	Samples: Bulk	Samples: Tube	Pocket Pen (ft kips/ft.)	Field Moisture (% of dry weight)	Dry Density (p.c.f.)	Soil Type (USCS)	Geologic/Engineering Description and Remarks	Geologic Attitudes
5							@0-2 Brown v. silty Sand: v. moist to wet, med. dense, w/ss frags. and roots. @ 2-9 Yel. brown Sandstone & Siltstone: mod. well & thin bedded, w/few ash lenses, well fracts., w/blk mag. staining on fracts., w/well developed N to NW trending steep fracts., closed.	@4' bdg: N36W, 24SW @4' fr: N4E, vert. @5' bdg: NS, 28W
10							Bottom of Test Pit at 9 feet.	@6' fr: N32W, 69NE @ 6.5' bdg: N41W, 24SW @ 8' bdg: N34-37W, 18SW
15								



SURFACE GRADIENT: Level

SCALE: 1" = 5'

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Sebastopol, California 8 of 20

WERNETTE

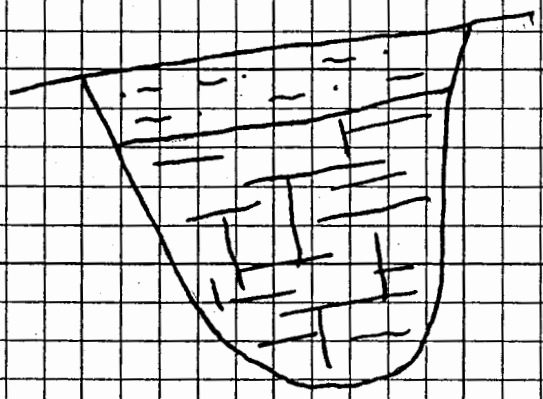
April 1999

Project 434 | PLATE 3

LOG OF TEST PIT

Surface Elevation: 111 Pit Orientation: N31W Pit Dimensions: 9 x 8 x 2 Groundwater Depth: none enc.	Logged by: J. Glomb Date: March 31, 1999 Equipment: Backhoe	Test Pit Number TP-3

Depth (ft).	Samples: Bulk	Samples: Tube	Pocket Pen (ft kips/ft.)	Field Moisture (% of dry weight)	Dry Density (p.c.f.)	Soil Type (USCS)	Geologic/Engineering Description and Remarks	Geologic Attitudes
							@0-2 Brown silty Sand: v. moist. med. dense	
							@ 2-8 Yel. brown Sandstone & Siltstone: mod. to poorly bedded, w/steep clay-healed joints.	
5							@ 6-8' Well and thin bedded with ash seams.	@6' bdg: N30W, 10NE @6' fr: N65E, vert. @6.5' fr: N60W, 50W @7' bdg: NS, 8W @7.5' bdg: N8E, 10W
10							Bottom of Test Pit at 8 feet.	
15								



SURFACE GRADIENT: Level

SCALE: 1" = 5'

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Sebastopol, California 9 of 20

WERNETTE
April 1999
Project 434 | PLATE 4

Other Laboratory Tests	Dry Density (pcf)	Moisture Content (%)	SAMPLE	DEPTH (FEET)	EQUIPMENT: Backhoe	ELEVATION:
					LOGGED BY: VG	START DATE: 5/7/92
						FINISH DATE: 5/7/92

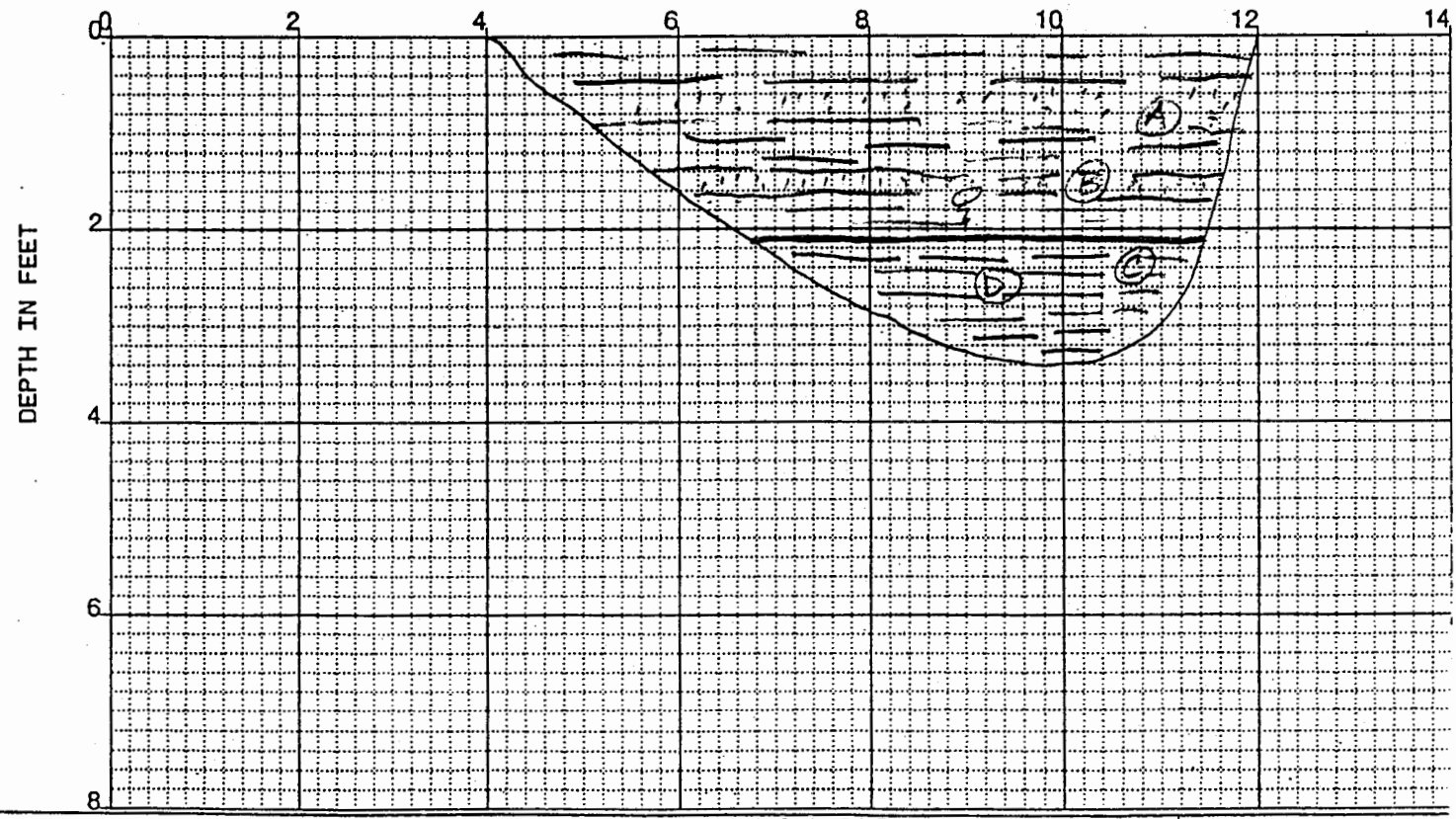
@0-5.2ft.
Yel. brn. and Org. brn.
SANDSTONE and SHALE: well-bedded, strong, hard, unweathered, moist, fractured

(A) bdg.: N9.5W, 9S
(B) bdg.: N63E, 16S and N70W, 10S

@4.5' [illegible]
[illegible]
ANCHOR BAY MEMBER

@5.2ft. DK. gray MUDSTONE: hard, strong, well bedded
(C) bdg.: N15W, 3W
(D) bdg.: N82W, 12S

ANCHOR BAY MEMBER



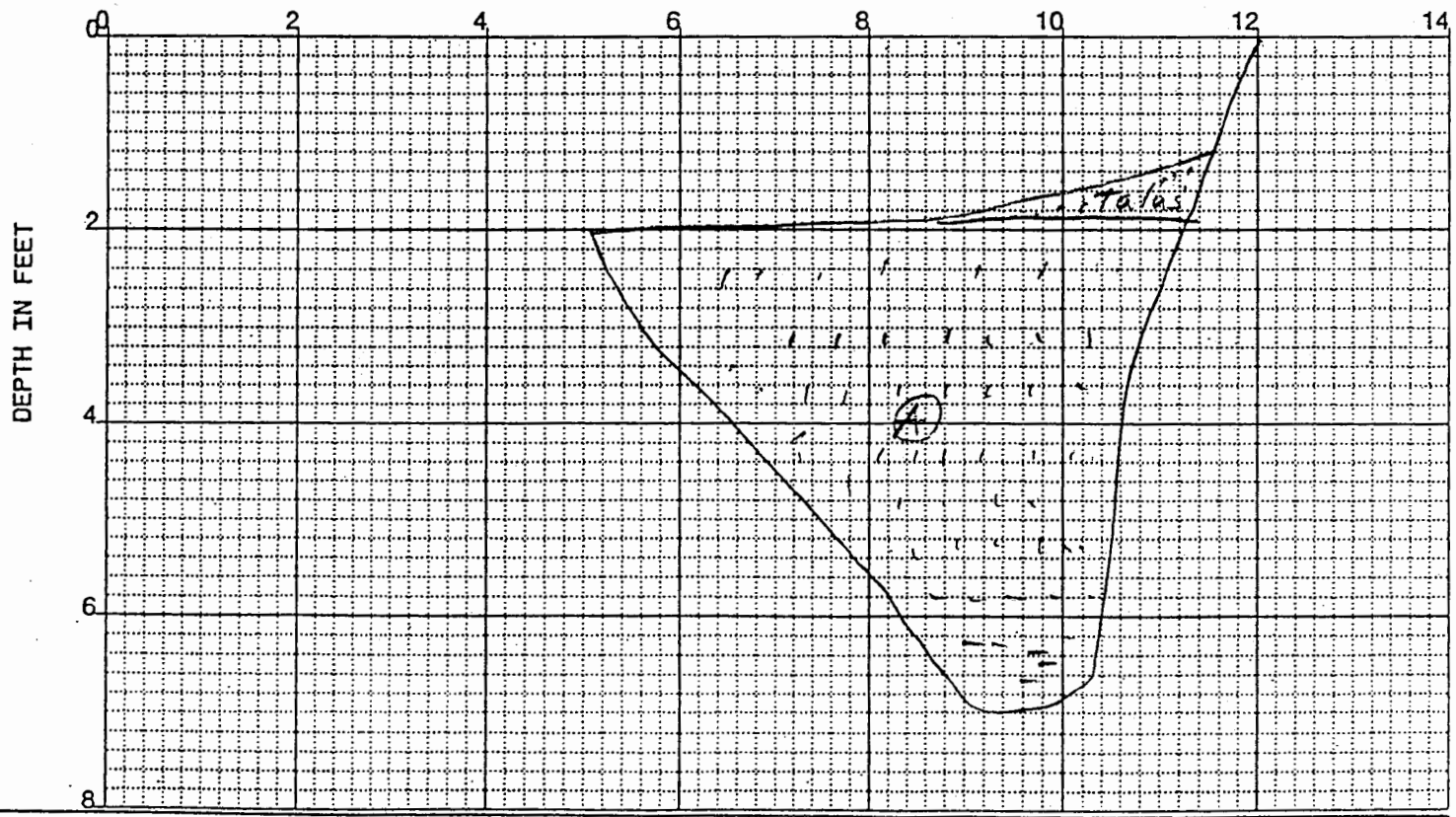
S.L. Binker
Lot 27
Robinson Point
Gualala, CA

10020

LOG OF TEST PIT – 1

Plate 3

Other Laboratory Tests	Dry Density (pcf)	Moisture Content (%)	SAMPLE	DEPTH (FEET)	EQUIPMENT: Backhoe LOGGED BY: JG	ELEVATION: START DATE: 5/7/92 FINISH DATE: 5/7/92
			■	@4ft chunk		Org. brn. SANDSTONE: very thick bedded, w/ few steep [illegible] w/ well developed grain size change [illegible] (A) [illegible] ANCHOR [illegible]



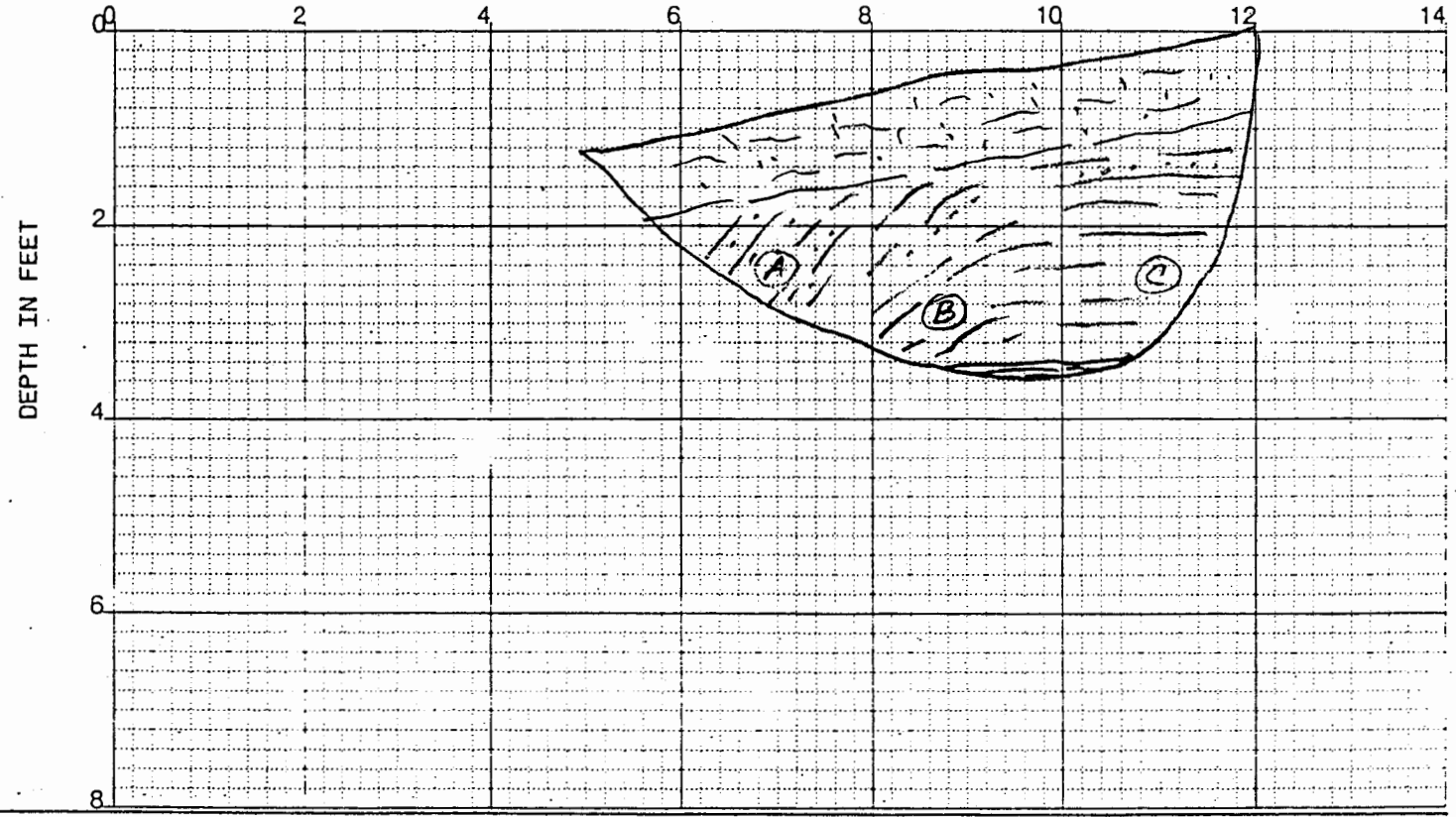
S.L. Binker
Lot 27
Robinson Point
Gualala, CA

11 of 20

LOG OF TEST PIT 2

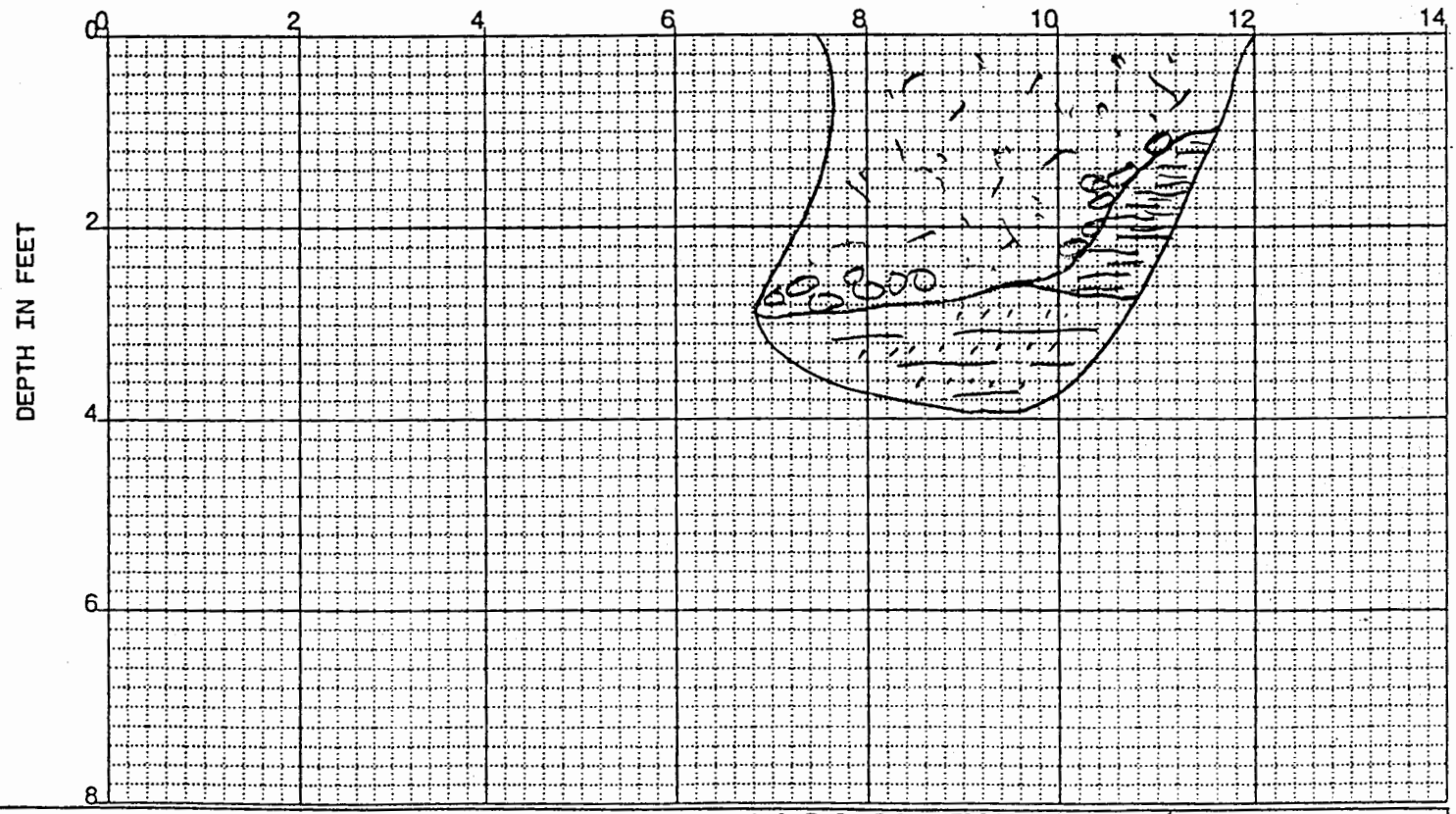
Plate 4

Other Laboratory Tests	Dry Density (pcf)	Moisture Content (%)	SAMPLE	DEPTH (FEET)	EQUIPMENT: Backhoe LOGGED BY: JG	ELEVATION: START DATE: 5/7/92 FINISH DATE: 5/7/92
					@0-3 ft. Dk. brn. Clayey SAND (SC): loose, very moist	
					@3-9 ft. Yel. brn. SANDSTONE and Clayey SILTSTONE: v. weath., mod. well-bedded w/ some plastic clay beds @7 ft. very hard, strong, [illegible] fractured, w/ some dk. gray mudstone interbeds (A) bdg.: [illegible] (B) bdg.: [illegible] (C) bdg.: [illegible] ANCHOR BAY MBR.	



S.L. Binker Lot 27 Robinson Point Gualala, CA	12 of 20	LOG OF TEST PIT - 3	Plate 5

Other Laboratory Tests	Dry Density (pcf)	Moisture Content (%)	SAMPLE	DEPTH (FEET)		EQUIPMENT: Backhoe LOGGED BY: JG ELEVATION: START DATE: 5/7/92 FINISH DATE: 5/7/92
						@ 0-2 ft. Dk. gray Silty SAND (SM): loose, moist FILL
			■	drive @3ft.		@2-7ft. Org. brn. Clayey SAND and Rock: med. dense, very moist, very weathered, @ lower contact very loose, wet, w/ roots and cobbles FILL
						@3-7ft. Yel. Silty CLAY (CH): stiff, v. moist, plastic COLLUVIUM
						@7-10ft. Dk. gray SANDSTONE: platey, fractured, upper contact dips [illegible] west ANCHOR BAY MEMBER



S.L. Binker
Lot 27
Robinson Point
Gualala, CA

13 of 20

LOG OF TEST PIT - 4

Plate 6

DAVID L. PAOLI, P.E.
REGISTERED CIVIL ENGINEER - 18341

EXHIBIT D
SOILS LOGS
Paoli Professional Services

DARLA J. PAOLI
SECRETARIAL SERVICES

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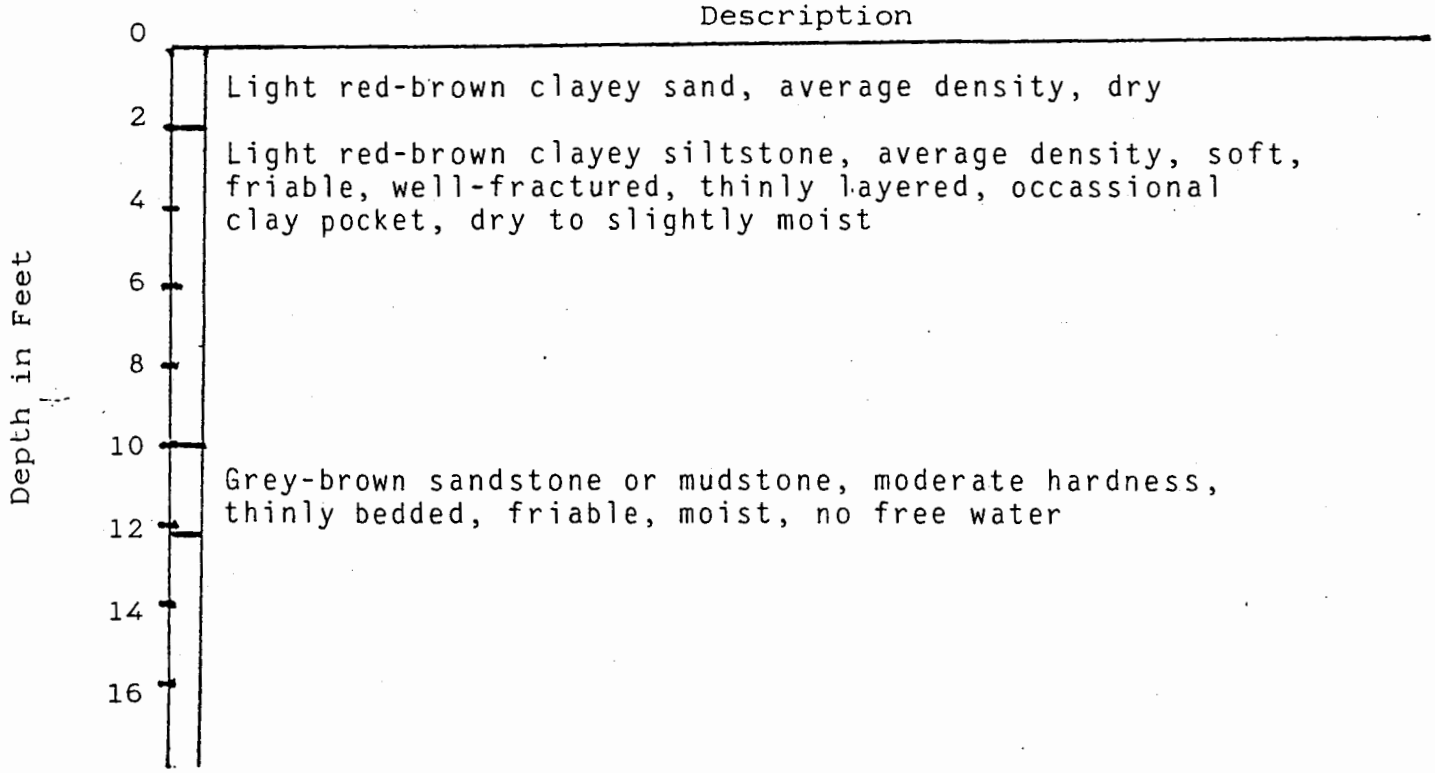
LOG OF TEST PIT NO. P1



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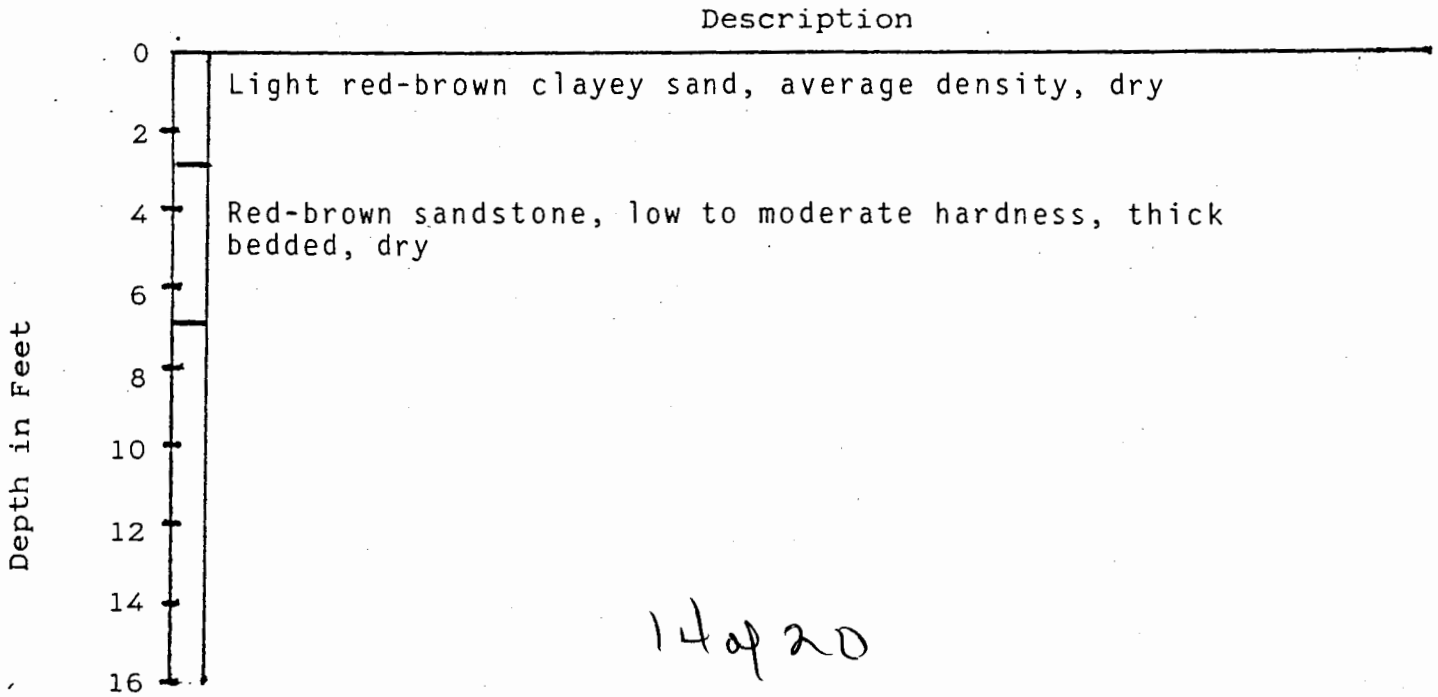

DAVID E. PAOLI, P.E.
REGISTERED CIVIL ENGINEER - 18341

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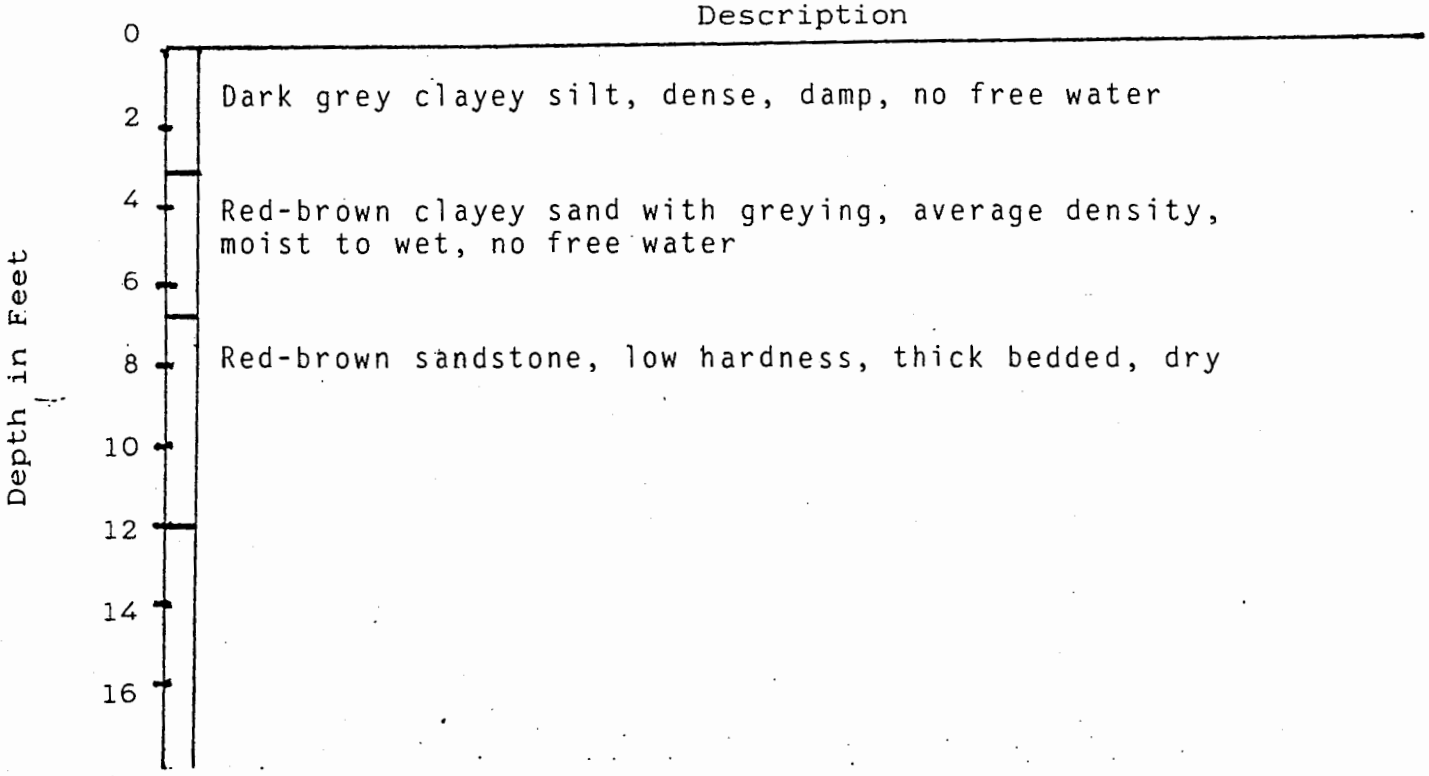
LOG OF TEST PIT NO. P3



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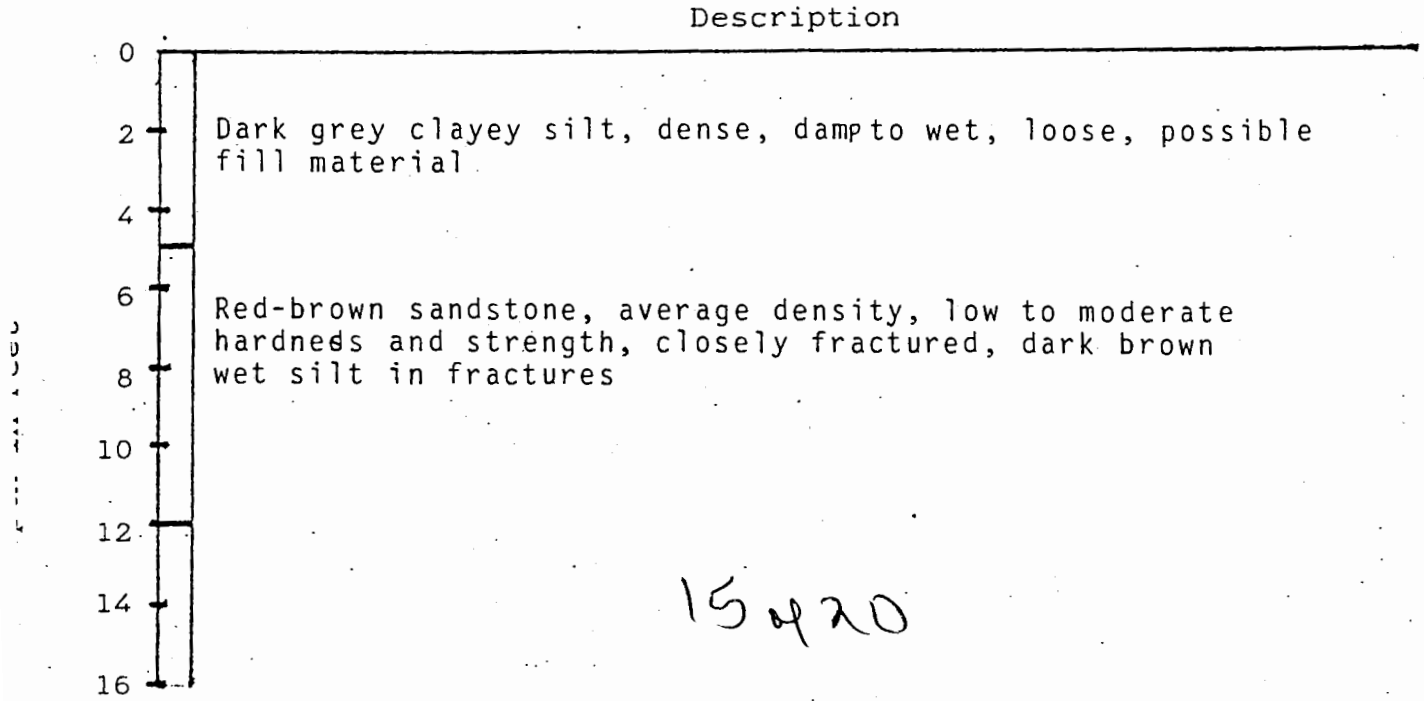

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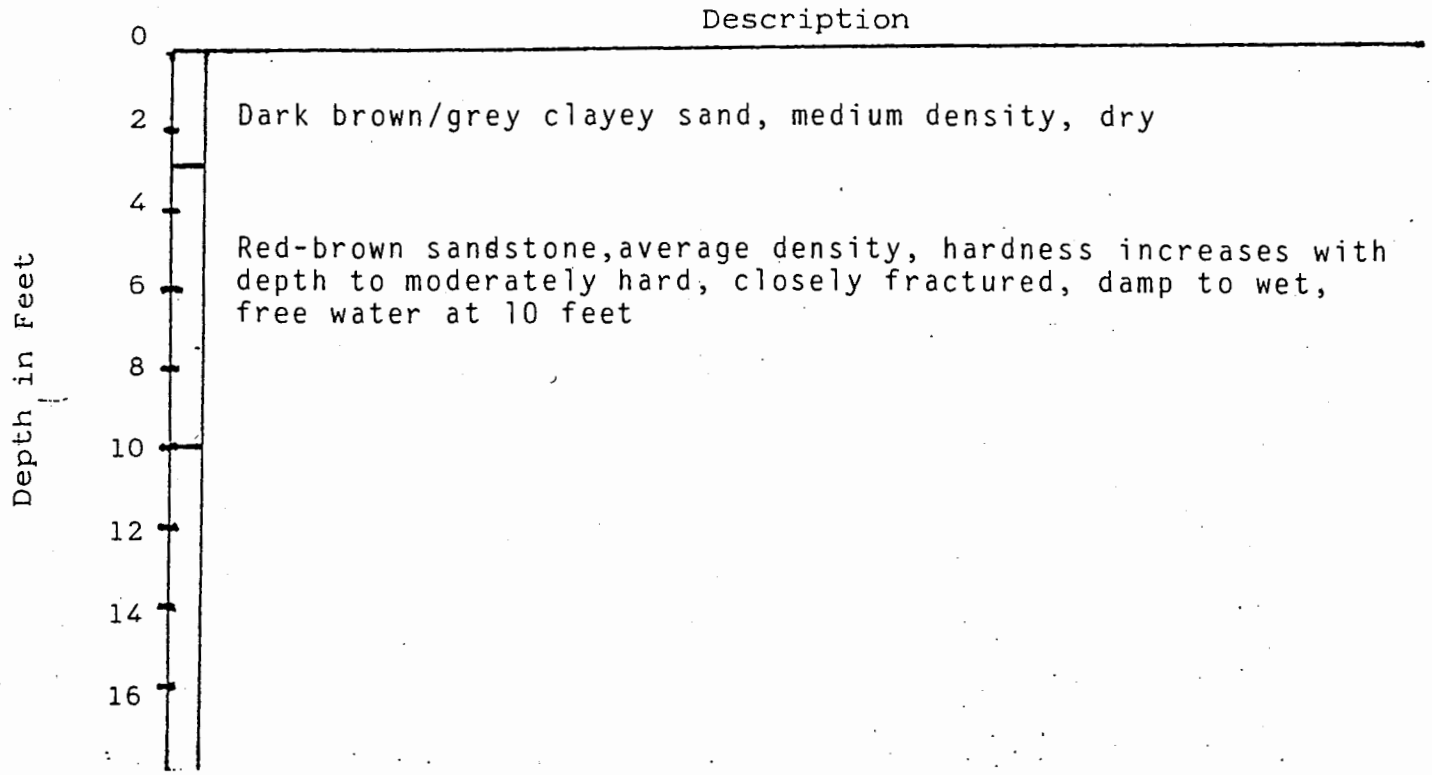
LOG OF TEST PIT NO. P5



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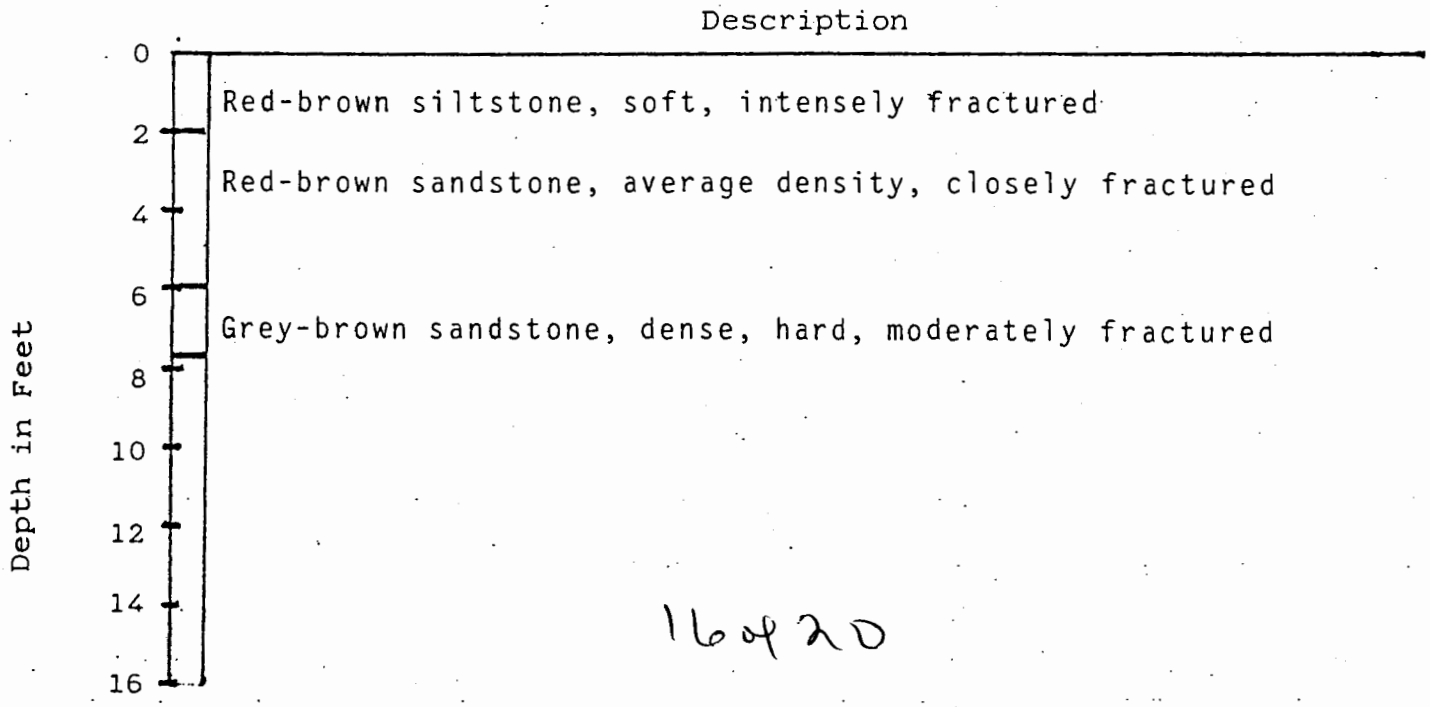

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BOARD FOR GEOLOGISTS AND GEOPHYSICISTS

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License Type: ENGINEERING GEOLOGIST
License Number: 1154
License Status: **CLEAR** Definition
Expiration Date: June 30, 2008
Issue Date: January 27, 1983
Address: 152 WEEKS WAY
City: SEBASTOPOL
State: CA
Zip: 95472
County: SONOMA
Actions: No

Related Licenses/Registrations/Permits

Number	Name	Type	Status	Actions
3773	GLOMB JAMES DICKSON JR	GEOLOGIST	CLEAR	No

Disciplinary Actions or Citations

No records returned

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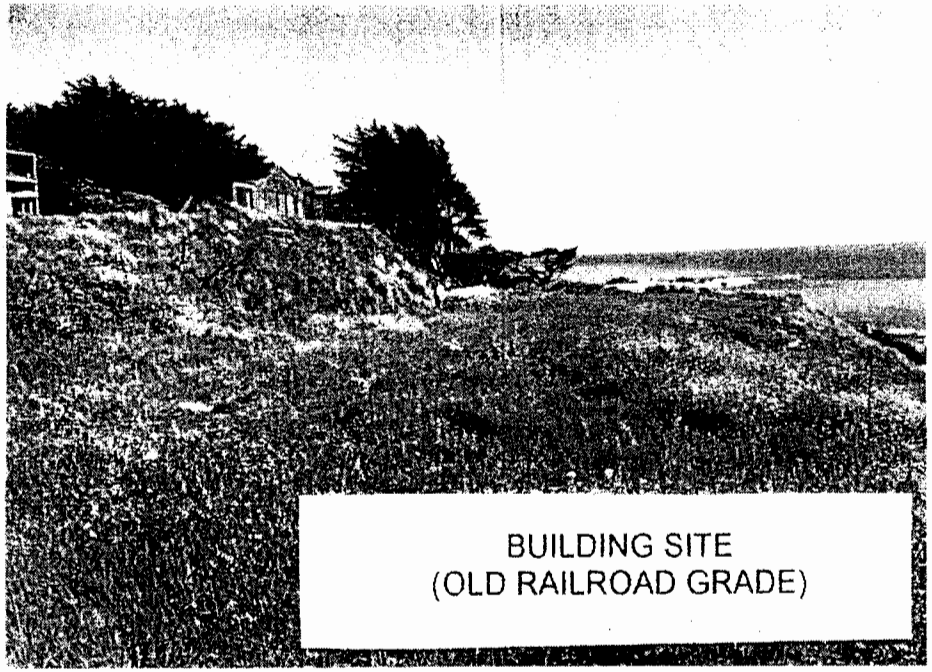
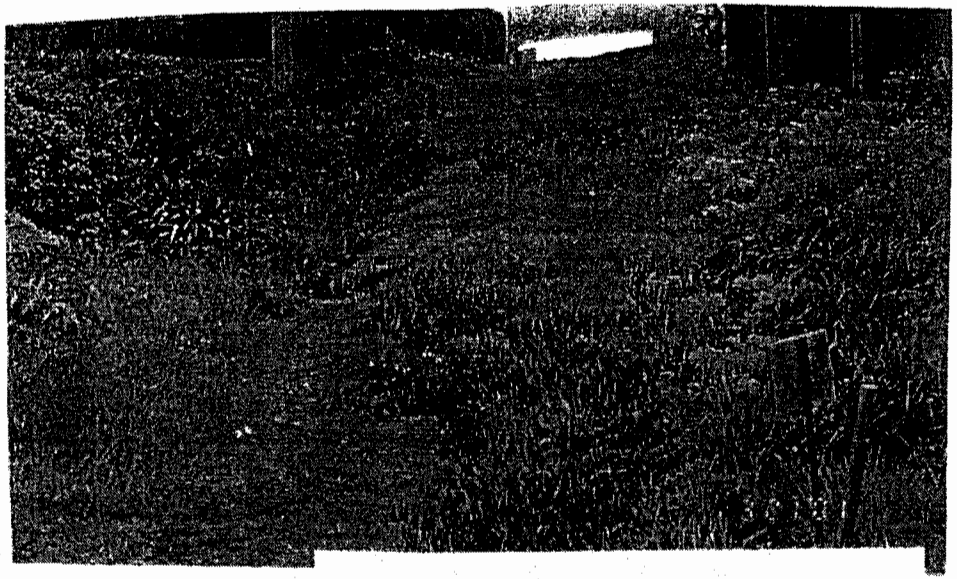


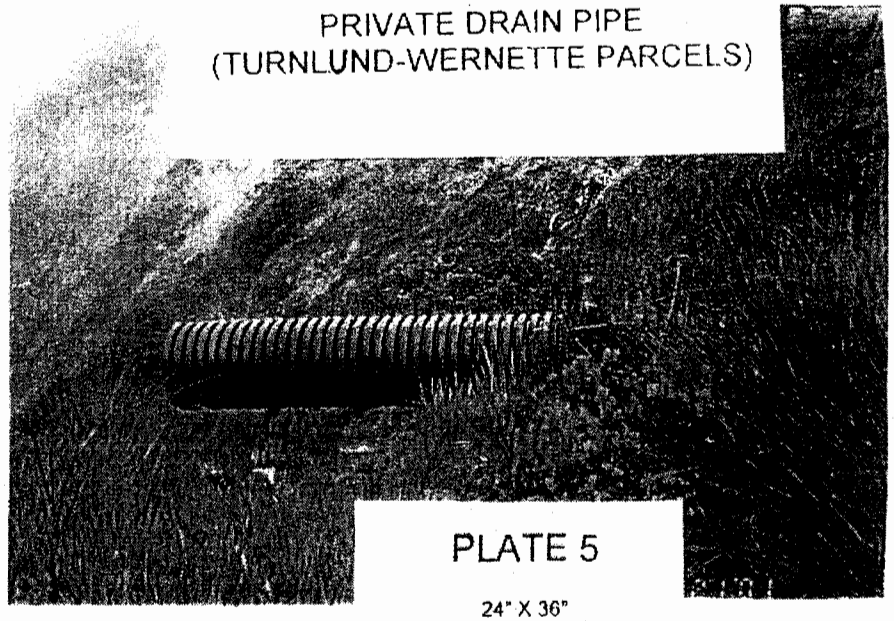
BUILDING SITE
(OLD RAILROAD GRADE)

WETLAND
LOOKING NORTH

184 AD



HINES-WERNETTE DRIVEWAY
LOOKING EAST



PRIVATE DRAIN PIPE
(TURNLUND-WERNETTE PARCELS)

PLATE 5

24" X 36"
PRESENTATION BOARD

TYPICAL PIER AND GRADE BEAM FOUNDATION

PIERS PENETRATE THROUGH FILL SOILS INTO BEDROCK

(EXAGERATED FOR CLARITY)

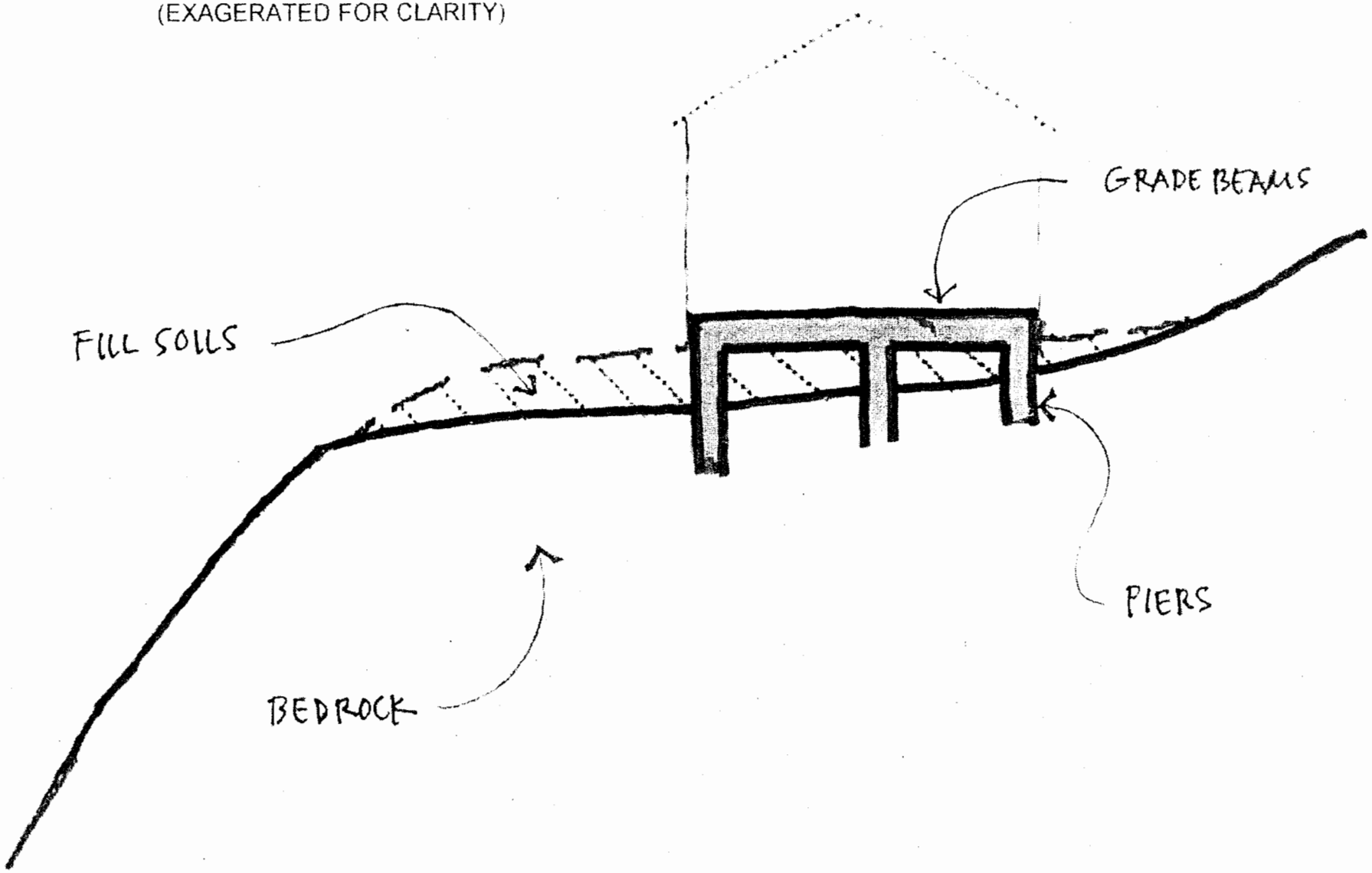


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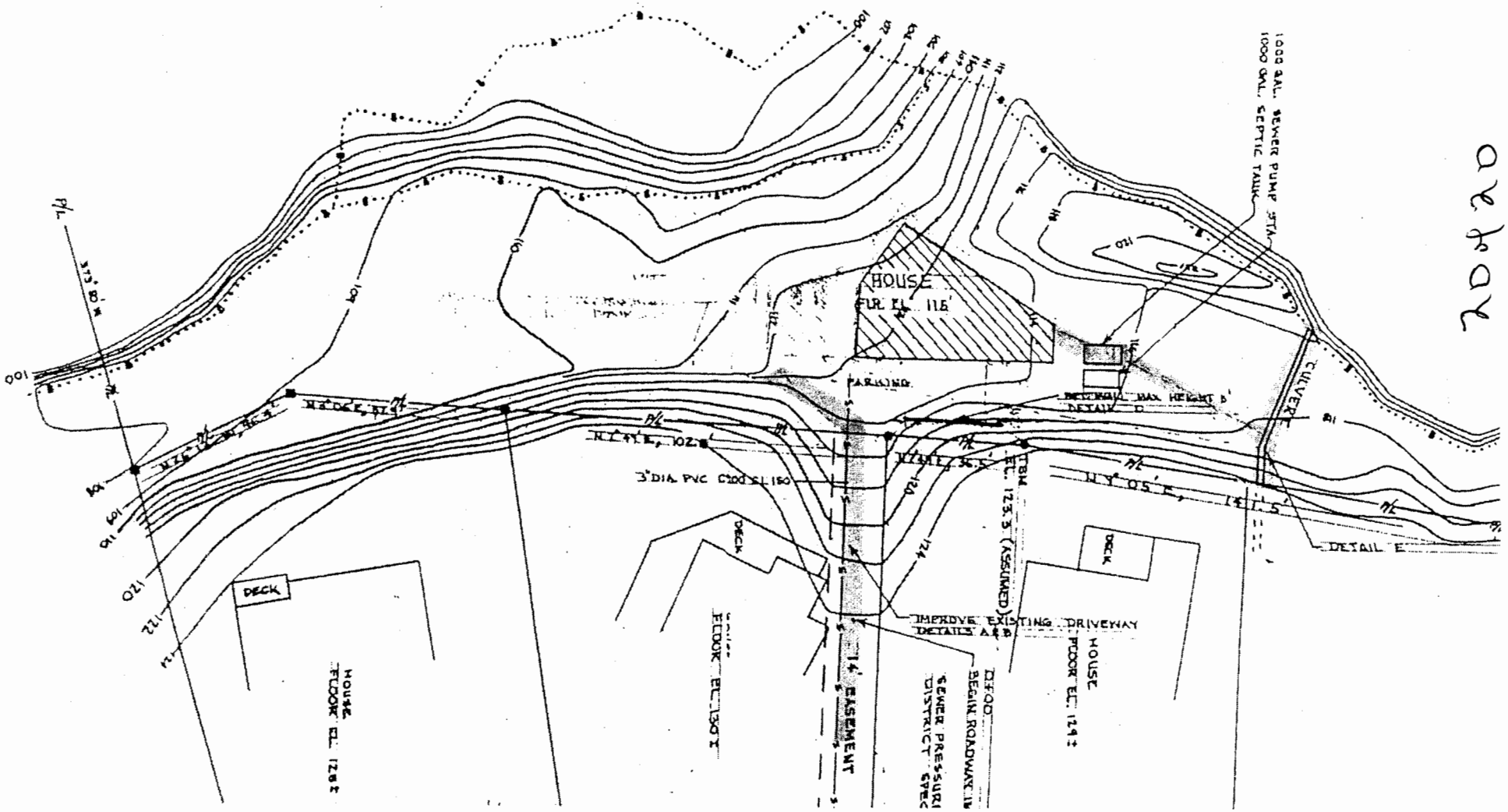
PLATE 4

24" X 36"
PRESENTATION BOARD



GRADING AND DRAINAGE PLAN

PLATE 3

24" X 36"
PRESENTATION BOARD

Jim Glomb

Geotechnical and Environmental Consulting, Inc.

152 Weeks Way, Sebastopol, CA 95472 • Phone 707/237-2703, Fax 707/237-2659
email:jim@jimglomb.com

July 15, 2008
Project 434

Frank Wernette
3041 Sunrise Blvd.
Rancho Cordova, CA 95742

RE: **Supplemental Foundation Recommendations for the Proposed Wernette Project**
APN 145-161-27
38454 Robinson Reef Drive
Gualala, California

Dear Mr. Wernette:

At your request, we are providing the following supplemental foundation recommendations for the proposed construction of a 2-story single-family residence at the subject property. The intent of these recommendations is to address comments received during previous Coastal Development Permit application reviews and provide the information the Coastal Permit Administrator will need to fully evaluate the proposed project.

Subsurface exploration during our prior investigations of the building area identified unengineered fill and loose soils to depths of between 2 and 7 feet. These materials are considered geotechnically unsuitable for foundation support. Underlying the surface fill and soil is hard, strong, competent sandstone bedrock that is considered suitable for foundation support. We therefore recommend that the proposed residence be supported on steel reinforced piers embedded in the bedrock in the manner described as follows.

Pier Foundations

Foundation support for the residence can be achieved by means of drilled, cast-in-place, reinforced concrete piers. It will be necessary for all exterior and interior piers to be structurally tied together with reinforced concrete grade beams and tie beams so that they act as a rigid unit. We recommend that the piers be constructed based on the following design criteria:

EXHIBIT NO. 24
APPEAL NO.
A-1-MEN-09-023
WERNETTE
SUPPLEMENTAL FOUNDATION RECOMMENDATIONS (1 of 3)

DRILLED PIER CRITERIA

Diameter:	Minimum 18 inches
Depth:	Minimum depth of 10 feet into bedrock for rock-socketing, or as determined by the geotechnical engineer during drilling. Final total depths may be greater, depending on subsurface conditions encountered or for structural support as determined by the structural designer.
Friction Value:	Maximum friction value of 800 psf, which may be increased by 1/3 for wind and seismic loads (disregard the upper 2 to 7 feet of native soil and fill layers for support).
Spacing:	Minimum 3 pier diameters center to center; maximum spacing as determined by the structural designer.
Lateral Creep Load:	Minimum of 60 pcf (equivalent fluid pressure) for native soil and fill to depths of 2 to 7 feet (as applicable for each pier) from the ground surface over two times the diameter of the piers.
Lateral Resistance:	Maximum of 350 pcf (equivalent fluid pressure) against the individual piers and below the minimum 2 to 7 feet of soil or fill from the ground surface for 1 ½ times the width of the piers.

The design and reinforcement requirements for the piers and grade beams should be as recommended by the project structural designer in accordance with applicable current CBC or ACI standards. The weight of the drilled pier concrete may be disregarded.

Difficult pier drilling may be encountered due to possible bedrock hardness, which could require pre-drilling with pilot holes or special equipment. If pier shafts will not stand open, temporary casing may be necessary to support the sides of the pier shafts until concrete is placed.

The bottoms of the pier excavations should be dry and free of loose cuttings or slough prior to placement of reinforcement and concrete. It is possible that some or all pier holes may encounter ground water. In such cases, the water should be removed by pumping or the pier concrete should be tremied to "float" the water above the concrete. The tremie hose should maintain a minimum 5-foot head of concrete at all times during hose removal. The structural designer or the permitting agencies may require special inspection of the pier reinforcement and concrete.

In the area of the building envelope, no evidence of seaward movement that would require additional design for lateral resistance has been found nor is anticipated during the life of the proposed structure. Furthermore, the 10-foot minimum pier embedment provides adequate rock-socketing.

LIMITATIONS

This report has been prepared for the exclusive use of the Wernettes and their consultants for the property described in this report. Our services consist of professional opinions and conclusions developed by a certified engineering geologist and a professional engineer in accordance with generally accepted geotechnical engineering principles and practices. We provide no other warranty, either expressed or implied. Our conclusions and recommendations are based upon the information provided us regarding the proposed construction, our field work and professional judgment. Verification of our conclusions and recommendations is subject to our review of the project plans and specifications, and our observation of construction,

The scope of our services did not include an environmental assessment or an investigation of the presence or absence of hazardous, toxic or corrosive materials in the soil, surface water, groundwater or air, on or below, or around the site, nor did it include an evaluation or investigation of the presence or absence of wetlands.

We trust this provides the information you require at this time. If you have questions or wish to discuss this further, please call.

Yours very truly,
Jim Glomb Consulting, Inc.

7/15/08

Jim Glomb
Engineering Geologist, C.E.G. 1154

CERTIFIED ENGINEERING GEOLOGIST
JAMES D. GLOMB, JR.
#1154
Exp. 8-30-08
GEOLOGIST
STATE OF CALIFORNIA

Pyramid Geotechnics

7/15/08

Don Poindexter
Geotechnical Engineer, G.E. 690

REGISTERED PROFESSIONAL ENGINEER
DONALD R. POINDEXTER
No. G-690
Exp.
12-31-09
GEOTECHNICAL
STATE OF CALIFORNIA

Jim Glomb

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email:jim@jimglomb.com

April 30, 2009
Project 434

EXHIBIT NO. 25
APPEAL NO.
A-1-MEN-09-023
WERNETTE
APRIL 2009 SUPPLEMENTAL GEOTECH REVIEW: DRAINAGE & SEPTIC

Duane Hines
627 Marina Blvd.
San Francisco, CA 94123

RE: **Supplemental Geotechnical Review**
Proposed Site Drainage System and Septic Tank
CDP#51-2008 Wernette
APN 145-161-27
38454 Robinson Reef Drive
Gualala, California

Dear Mr. Hines:

This is in follow-up to our phone conversation the day before yesterday during which I agreed, per your request, to summarize in writing my review of the site drainage and septic tank recommendations to confirm their appropriateness for the proposed project. This included a review of drainage system and septic tank details and a discussion of these details with the project civil engineer, Dave Paoli.

The planned drainage system is designed to simulate the existing drainage patterns by evenly distributing roof drainage over the entire building footprint area at or within about 1 foot of the existing ground surface elevation. The driveway/parking area will be paved with permeable concrete to allow for infiltration of runoff along with a surface flow to the south, a condition that also simulates the existing preconstruction drainage pattern. Simulating the preconstruction drainage conditions in our opinion will not increase geologic instability on the site. Instead, a more even distribution of rainfall runoff, as proposed, may improve stability of the site. The drainage system will be designed to disallow ponding within or adjacent to the building and parking areas.

The proposed septic tank will require an approximate 8-foot deep by 15 foot long excavation located behind the construction setback line. In our professional opinion, this will not create geologic instability. Replacing the excavated soil and bedrock with a leakproof tank containing air and septic effluent is also not considered to be a hazard.

We trust this provides the information you require at this time. If you have questions or wish to discuss this further, please call.

Yours very truly,
Jim Glomb Consulting, Inc.

Jim Glomb
Engineering Geologist, C.E.G. 1154

Jim Glomb

Geotechnical and Environmental Consulting, Inc.

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Office 707/237-2703, Fax 707/237-2659
Email jim@jimglomb.com

EXHIBIT NO. **26**
APPEAL NO.
A-1-MEN-09-023
WERNETTE
SEPTEMBER 2009 GEO REPORT EXCERPTS (1 of 19)

September 12, 2009
Project 434

Frank Wernette
3041 Sunrise Blvd.
Rancho Cordova, CA 95742

RE: **Updated Geotechnical and Engineering Geologic Investigation Report**
APN 145-161-27
38454 Robinson Reef Drive
Gualala, California

Dear Mr. Wernette:

At your request we performed a geotechnical investigation update for the proposed Wernette project on the site located at 38454 Robinson Reef Drive, Gualala, California. The purpose of our work was to investigate the geologic and soils conditions on the site and to make updated recommendations for site development using currently acceptable approaches.

Based on our investigation, we judge that the proposed project is feasible from an engineering geologic and geotechnical point of view. Details of our investigation with our conclusions and recommendations are presented in the attached report.

If you have questions or wish to discuss this report further, please call.

Jim Glomb Consulting, Inc.

Jim Glomb
Engineering Geologist, C.E.G. 1154

Pyramid Geotechnics

9/12/09

Don Poindexter
Geotechnical Engineer, G.E. 690

Jim Glomb
Geotechnical and Environmental Consulting
152 Weeks Way, Sebastopol, CA 95472 • Phone 707/237-2703, Fax 707/237-2659

UPDATED GEOTECHNICAL AND ENGINEERING GEOLOGIC INVESTIGATION REPORT

PROPOSED WERNETTE RESIDENCE
38454 ROBINSON REEF DRIVE
APN 145-161-27
GUALALA,
MENDOCINO COUNTY,
CALIFORNIA

Project 434

Prepared for:

George and Jerri Wernette
1039 Mountain Air Court
Reno, NV 89511

September 12, 2009

Jim Glomb Consulting, Inc.

Jim Glomb
Engineering Geologist, C.E.G. 1154

Pyramid Geotechnics

Don Poindexter
Geotechnical Engineer, G.E. 690

INTRODUCTION

This report presents the results of the Updated Geotechnical and Engineering Geologic Investigation that Jim Glomb, Geotechnical and Environmental Consulting, Inc. and Pyramid Geotechnics performed for the proposed Wernette residence at 38454 Robinson Reef Drive, Gualala, California. The parcel, APN 145-161-27, is a bluff top lot 150± feet west of Robinson Reef Drive (CR 527) adjacent to the North Gualala Subdivision No. 3. This report also presents conclusions and recommendations based on those results.

The scope of this investigation included a review of soil and geologic data pertaining to the site and vicinity (see references attached); several geologic field reconnaissances of the site and vicinity, including geologic mapping on the cliff face with technical climbing gear; a review of previous exploration programs, that included excavation and logging of 7 backhoe test pits; an engineering geologic analysis of field data, including construction of 3 geologic cross sections; the performance of a seacliff retreat evaluation; an evaluation of seacliff stability, including computer determination of safety factors against instability; and a determination of site-specific seismic design parameters in accordance with the 2007 California Building Code.

PROPOSED DEVELOPMENT

It is our understanding that proposed project consists of construction of a new two-story, 2,300± sq. foot single family residence with 1,950± sq. feet of living space and a 350± sq. foot attached garage on the first floor and a 150± sq. foot deck on the second story. We further understand that new construction will be at or near the existing grade and that site grading will be minimal.

PREVIOUS INVESTIGATIONS

Our previous site work included an initial site investigation for a former owner, Mr. Binker, in 1992. We performed our initial investigation for the Wernette project in 2002. We made several subsequent site visits to complete our mapping of the homesite and seacliff. Our work includes our response to a Coastal Development Permit review letter from Mr. Doug Zanini, Coastal Planner, dated December 28, 1998. A topographic survey of the property, including property boundaries and corners, by Dave Paoli, dated 6/20/08, was used as a base map for our geologic map. Soils engineering reports and drainage plans by Paoli Engineering were also reviewed. The purpose of our work has been to reevaluate the engineering geologic and seacliff stability conditions and their impacts on proposed residential construction at the site.

SITE CONDITIONS

The subject ±2-acre seacliff property includes a pad area, with a 10 to 12-foot high ±1:1 (horizontal:vertical) cut slope on the east site margin and a steep seacliff on the west site margin. The pad measures approximately 60 feet wide by 350 feet long. Lots 5 through 8 adjoin the subject property to the east, each with a single-family residence. According to our research, the cut and pad area were graded for a railroad in the late 1800s. From the west edge of the pad the seacliff descends some 110 feet at an average inclination of 60 degrees to a bedrock beach and the Pacific Ocean. Bedrock outcrops and several ±50 to 75-foot high bedrock sea stacks exist in the tidal zone.

3 of 19

Site drainage is to the west to an erosion gully in the middle-west portion of the property. Most drainage from the east and off site is collected in an underground storm drain pipe that empties near the top of the sea cliff on the extreme north end of the property. Remaining drainage down the easement, through the drop inlet structure, and from properties immediately to the east flow west across the site.

Site features are depicted on the Geologic Map and Geologic Cross Sections, Plates 1 and 1.1. Subsurface conditions encountered at the site are illustrated on the attached Logs of Test Pits, Plates 2 through 4. Logs of Test Pits from our initial investigation of the site are also attached.

GEOLOGIC SETTING

The geology of the region is dominated by the activity of the northwest trending San Andreas Fault system that juxtaposes Coastal Belt Franciscan bedrock on the east with sediments of the Anchor Bay Member of the Gualala Formation on the west. Near coastal and marine sediments were deposited during the Cretaceous to Miocene ages and were subsequently folded and faulted. Marine terraces were deposited upon the bedrock followed by erosion and weathering processes to form the topography of today.

Geologic materials exposed at the site consist of fill, Quaternary marine terrace deposits and Anchor Bay member sedimentary bedrock. Fill consists of loose to medium dense sand and rock with an estimated maximum depth of 7 feet. The base of the fill is locally loose and wet. It is assumed that an old drainage gully was filled during grading of the railroad. The fill exists on the middle-north portion of the pad. Terrace deposits consisting of very friable fine to coarse cobbly sand and clayey sand are exposed in the top of the railroad cut slope and in the top of the sea cliff near TP-1. Underlying the terrace is yellow brown thick-bedded friable to moderately well indurated steeply fractured sandstone with interbedded moderately well-bedded, weathered, steeply fractured siltstone of the Anchor Bay member with an estimated thickness of 15 to 20 feet. Underlying the yellow brown upper unit is a dark gray well-bedded silicic mudstone unit of the Anchor Bay member. The mudstone is generally hard, resistant to erosion and is locally faulted and steeply fractured. The sandstone and mudstone are exposed in the sea cliff and sea stacks and were observed in the test pits excavated at the site. The upper bedrock contact with the terrace deposits is unconformable and dips generally to the south at 5 to 12 degrees. Bedding within the bedrock is folded and dips in various directions at generally between 7 and 29 degrees to the south and southwest. Steep to sub-vertical bedrock fractures were randomly oriented.

FAULTING AND SEISMICITY

Like most of California, the site will be subject to future strong ground shaking from an earthquake. The intensity of future earthquake shaking will depend on the distance from the site to the earthquake focus, magnitude, and the response of the structures to the underlying soil and/or rock. During the 1906 San Francisco earthquake, structural damage in Gualala was relatively minor in comparison with structural damage in surrounding areas. However, the earthquake caused several landslides and seriously damaged the wagon bridge over the Gualala River south of town (California Geology, February, 1977). The intensity of future earthquake shaking will depend upon the distance from the site to the earthquake focus, magnitude, and the response of the structures to the underlying soil and/or rock. No saturated relatively clean, granular soils considered susceptible to densification or liquefaction are known to exist at the site.

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An inactive fault dipping southwest at 58 degrees was observed at the base of the sea cliff. The active San Andreas fault lies 2 miles northeast of the site. The project is not located within a current Alquist-Priolo Special Studies Zone as designated by the State Geologist.

GEOTECHNICAL/GEOLOGIC HAZARDS

The earth materials encountered were not observed to have significant expansion potential or likelihood of being subject to liquefaction. We did not observe a potential for significant geologic or geotechnical hazards, other than stability or erosion as discussed in this report.

GROUNDWATER

No evidence of a groundwater table, seeps or springs was observed at the site. The terrace/bedrock contact on the seacliff was slightly more moist than elsewhere in the terrace, although no seepage was observed. During rainy periods water may percolate through the terrace and migrate along the upper bedrock surface to the south and southwest.

A small topographic low area exists to the south of the proposed residence where seasonal moisture from rainfall periodically accumulates. The area was the subject of several wetlands evaluations by WRA; one occurring as recently as August 2008 (WRA 2008). WRA, using evaluation methodology following the wetland definition as stated in the Coastal Act and the Mendocino County LCP, found that this area and no other portion of the parcel meets the CCC/LCP definition of a wetland.

SEACLIFF RETREAT EVALUATION

Like most of the northern California coast, the seacliff at the subject property is retreating landward due to the processes of wave erosion, erosion from runoff directed over the cliff, shallow landsliding or slumping, rock fall and rock topple. Another possible mode of retreat is from seismic shaking during an earthquake. Deep-seated landsliding within the bedrock does not appear to have occurred at the site or in the vicinity. The terrace deposits and surficial bedrock along the top of the sea cliff are friable, erodible and subject to slumping.

The seacliff is retreating at an estimated rate of 0.5 foot or less per year. The rate is based on analysis of stereo pairs of old aerial photographs (see attached references) of the site and vicinity and comparing the relative position of the top of seacliff in the past with the observed configuration today. Based on air photo analysis, shallow landslides have occurred on the sea cliff at Section 3-3' since 1961, causing about 20 feet of retreat. At Section 1-1', stronger, less friable sandstone bedrock exists to within about 10 feet of the cliff top. At this location, about 10 to 15 feet of retreat is estimated to have occurred since 1961. A small landslide occurred recently on the north limit of the property at the outlet to a storm drain. The cause of this feature is considered to be from uncontrolled storm drainage.

Seaward and adjacent to the proposed building envelope is the top of an old fill slope, which is also the top of seacliff that has retreated about 2 feet or less over about 13 years. The estimated retreat rate for this feature is calculated to be 0.15 feet or less per year.

SEACLIFF STABILITY EVALUATION

Our approach to the evaluation of the subject seacliff stability was based on the California Coastal Commission "Suggested guidelines for performing quantitative slope stability analyses for review by Coastal Commission staff", dated 28 Feb. 2003, by Dr. Mark J. Johnsson, Staff Geologist. The purpose of this evaluation was to determine the factors of safety against slope failure for both static and pseudostatic conditions for the location of the proposed residence on the subject property.

Site Conditions

The area of slope stability evaluation includes the seacliff and top-of-seacliff within the area of the footprint of the proposed residence. Three seacliff profiles extending from the north, central, and south portions of the residence to the base of the seacliff (see Plate 1.1) were developed based on the surveys and reviewed for purposes of this stability evaluation, along with historical and recent site-specific geologic mapping.

The overall seacliff height averages about 110 feet in height. The seacliff faces were surveyed to have a range in overall slope angle of approximately 50 to 65 degrees. The central profile (Section 2-2') that has an inclination of approximately 65 degrees was used for this evaluation. We assumed that this section would be reasonably representative of the most severe slope condition.

In addition, based on the geologic mapping, the selected profile was adjusted to include relatively adverse bedding and contact dips of 7 to 10 degrees observed at Sections 1-1' and 3-3' by superimposing them onto Section 2-2' for stability analyses so that all observed adverse conditions are included in the composite profile for approximation of assumed worst-case geologic and slope gradient conditions.

Evaluation Methods

We evaluated slope stability using the Ensoft Software Program StablPro 3.0.9 for the existing site slope conditions. The software utilized the Simplified Bishop analysis for circular failure surfaces and Modified Janbu Method for failure surface search/block analysis (sliding block translational failure on assumed weak planes). For slope stability analyses, a minimum Factor of Safety of 1.5 for static conditions and 1.1 for a pseudostatic earthquake loading was required. Although a minimum psuedo-static ground acceleration of 0.15g is generally accepted, our review of site specific data, including the proximity to the San Andreas Fault, warranted use of a more conservative assigned value of 0.25g, as discussed further below.

Strength Parameters

Determination of material strength parameters for the various layers are based on observed site conditions, geologic field mapping, an exploration program consisting of 7 test pits, published strength data for similar materials, selected technical references and our judgment based upon experience.

The stability evaluation was based on the following generalized material layers in the composite profile:

Unit 1: Terrace deposit of dense to medium dense clayey sand and silty sand, which is limited in area and depth in the site vicinity. Based on our observations and various material strengths listed in "Soil Strength

and Slope Stability", by Duncan and Wright (2005), we assigned values of 50 psf for cohesion and 28 degrees for the angle of internal friction.

Unit 2: Sandstone (Anchor Bay Member), hard, moderately well-bedded, very to moderately weathered, moderately fractured, yellow brown. Material strengths were assigned based on methods described in "Engineering Properties of Rocks", by Lianyang Zhang (2005) and other sources. These methods determine rock mass strength by reducing published typical intact rock strengths based on physical characteristics of the material and various empirical relationships. Per Zhang's methods, tables and figures, and our on-site observations, the Geologic Strength Index (GSI) was determined from the Surface Condition Rating (SCR=8) and the Structural Rating (SR=40 to 50) based on the chart presented in Figure 5.2 for the physical characteristics of the sandstone observed at the subject site. The resulting GSI was found to be approximately 38 to 42. Then, using the GSI and a material constant (m_i=17) for sandstone from Table 7.8, the rock mass strength was found to consist of an angle of internal friction of 32 degrees and a cohesion based on 3.8 percent of the unconfined compressive strength of the rock. Table 7.1 indicates a typical range in unconfined compressive strength for sandstone ranging from 67 to 172 MPa (converts to about 9,700 to 24,900 psi (pounds per square inch)). Similar values for relatively strong rock (50 to 100 MPa or 7,250 to 14,500 psi are presented by Wyllie & Mah (2008). However, Zhang's Table 7.12 incidates that typical values of cohesion for sandstone range from about 8 to 27 MPa (1,160 to 3,900 psi). Using 8 MPa and the reduction ratio of 3.8 percent noted above, with conversions, the resulting cohesion is 6,300 psf (pounds per square foot). For comparison, Zhang's Table 5.2-C, Rock Mass Classes and Corresponding Design Parameters and Engineering Properties, which is from other sources, indicates a range in friction angle from 25 to 35 and a cohesion of rock mass of 0.2 to 0.3 MPa (4,100 to 6,200 psf) would be typical of sandstone. Given all the above, we assigned the sandstone stability strength values of 32 degrees friction and 4,000 psf cohesion.

Unit 3: Mudstone (Anchor Bay Member), very hard, strong, well-bedded, slightly weathered, moderately fractured, dark gray. Material strengths for the mudstone bedrock were also assigned based on methods described in "Engineering Properties of Rocks", by Lianyang Zhang (2005) and other sources. Per Zhang's methods, tables and figures, and our on-site observations, the Geologic Strength Index (GSI) was determined from the Surface Condition Rating (SCR=12) and the Structural Rating (SR=60) based on the chart presented in Figure 5.2 for the physical characteristics of the mudstone observed at the subject site. The resulting GSI was found to be approximately 58. Then, using the GSI and a material constant (m_i=9) from Table 7.8, the rock mass strength was found to consist of an angle of internal friction of 30 to 32 degrees and a cohesion based on 5.0 percent of the unconfined compressive strength of the rock. Table 7.1 indicates a typical range in unconfined compressive strength for mudstone (shale similar to mudstone) ranging from 7 to 35 MPa (converts to about 1,000 to 5,000 psi (pounds per square inch). Similar values for similar rock (5 to 25 MPa) are presented by Wyllie & Mah (2008). Using 7 MPa and the reduction ratio of 5.0 percent noted above, with conversions, the resulting cohesion is 7,300 psf (pounds per square foot). For comparison, Zhang's Table 5.2-C, Rock Mass Classes and Corresponding Design Parameters and Engineering Properties, which is from other sources, indicates a range in friction angle from 35 to 45 and a cohesion of rock mass of 0.3 to 0.4 MPa (4,100 to 8,350 psf). Given all the above, we assigned the Unit 3 mudstone stability strength values of 30 degrees friction and 6,000 psf cohesion.

Unit 4: Mudstone (Anchor Bay Member), very hard, very strong, well-bedded, very slightly weathered, moderately fractured, dark gray. In recognition that the strength of the mudstone likely increases with depth, Unit 4 was assigned stability strength values of 30 degrees friction and 8,000 psf cohesion, which is well within the lower end of the range of values determined for mudstone by Zhan's methods of analysis, as described above.

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For the Modified Bishop method of circular failure analyses, the following layer strengths were utilized:

MATERIAL STRENGTH PARAMETERS

Unit (Layer)	In-Situ Density (pcf)	Cohesion (psf)	Friction Angle (degrees)	Description/Comments
1	120	50	28	Terrace deposit clayey sand
2	130	4,200	32	Sandstone bedrock
3	140	6,000	30	Silicic Mudstone, hard bedrock
4	145	8,000	30	Silicic Mudstone, very hard bedrock

The stability analyses were based on potential circular failures at the break in slope near the water's edge at the base of the seacliff (Unit 3/Unit 4 contact) and, separately, at the contact between the Unit 2 sandstone and the underlying Unit 3 mudstone. The analyses were applied to a zone corresponding to the vicinity of the proposed residence.

For the Stablpro Modified Janbu method of sliding block failure surface search, we imposed a hypothetical additional layer of material at the contact between the sandstone and upper mudstone and a separate layer at the assumed contact between the upper mudstone and lower mudstone at the base of the seacliff. These added hypothetic layers were provided with assigned material strengths lower than the adjacent layers (cohesion of 2,000 psf for the +/- 2 foot thick layer at the base of Sandstone Unit 2 and 4,000 psf for the +/- 2 foot thick layer at the base of Mudstone Unit 3) to impose a potential continuous relatively weaker layer that would be vulnerable to planar sliding. Note that we have neither observed indications that such layers exist, based on extensive observations of the exposed seacliff face and the limited exploration performed, nor have we observed indications in the general vicinity that such failure modes have occurred, except for small scale shallow landslides in a few locations along the top of seacliff, as shown on the Geologic Map.

Other sources, included in our References, were reviewed for comparable analytical methods and material strengths.

Phreatic Surfaces

No site-specific piezometric data or well observations were available for this evaluation. However, we observed no groundwater or significant seeps or springs during our site investigations. It is possible that isolated, perched water conditions or water in discontinuous fractures in the bedrock may be present. An assumed phreatic surface was imposed along the top of the contact between the mudstone Units 3 and 4 for the deeper circular failure analyses and along the contact between the Unit 2 sandstone and Unit 3 mudstone for the upper slope analyses.

Seismic (Pseudo-static) Stability Analyses

Using the "Ground Motion Calculator" probabilistic hazard curves analysis provided on the United States Geologic Survey (USGS) web site (http://earthquake.usgs.gov/research/hazmaps/design/) we calculated the site-specific Peak Ground Acceleration (PGA) based upon the site coordinates (longitude and latitude). The value determined by this method was 1.04g PGA for the top of rock, with 2% probability of excedence in 50 years (2500-year return period). In accordance with analytical methods

provided by Duncan and Wright (2005), this reference peak acceleration is reduced by an acceleration multiplier, in this case 0.2 for sites with potential for strong earthquake motion. For the subject site, this computation results in a minimum earthquake coefficient of 0.21. Similar values of earthquake coefficients were reviewed in Robert W. Day (2006) for a large slide mass near faults capable of generating large magnitude earthquakes. In addition, the Duncan and Wright method suggests a strength reduction factor of 0.8 be applied to material strength values in pseudo-static analyses. Therefore, for this evaluation, a 0.25 horizontal pseudo-static earthquake coefficient and a reduction of 20% in the material strengths (cohesion) of the soil/rock layers were imposed on the critical failure surfaces to determine factors of safety against slope failure under seismic loadings.

Results

A summary of stability analysis input and output is attached to this report. For the proposed residence building area, the results of our analysis indicated that Safety Factors for static conditions for both the circular potential failure surfaces and the imposed sliding block analyses for upper slope and global seacliff slopes exceed 1.5. For seismic loadings (0.25 horizontal pseudo-static earthquake coefficient), the results indicate a Safety Factor exceeding the minimum 1.1.

CONCLUSIONS

Our conclusions regarding the proposed construction at the property are as follows:

1. From an engineering geologic viewpoint it is considered feasible to construct a single-family residence at the site. The building footprint is shown on Plate 1. Based on our site reconnaissance efforts, subsurface explorations, literature review and analyses, we conclude that the seacliff at the subject property is retreating eastward at an average rate of 0.5 foot or less per year. A construction setback line 37.5 feet from the top of seacliff, based on a 75-year structure life and a conservative retreat rate of 0.5 feet per year, respectively, is shown on the Geologic Map, Plate 1. Therefore, it is our professional opinion that the footprint, which is proposed to be no closer than 40 feet to the top of seacliff, will not be affected by seacliff retreat over a design life of 75 years.

2. As discussed above, slope stability analyses resulted in safety factors against instability, for the given conditions and assumptions that meet the specified minimum requirements. Therefore, it is our conclusion that the existing slope is adequately stable, for both static and earthquake loading, in its present condition.

3. Factors favorable to future sea cliff stability adjacent to the proposed building are: avoiding concentrated surface drainage directed over the seacliff; protection of the bluff from wave action by prominent bedrock sea stacks; and a relatively stable bedrock condition within the sea cliff.

4. The pier foundations that are planned for the residence may have a stabilizing effect on sea cliff stability.

5. Seismic forces from a nearby maximum credible earthquake in the future may accelerate sea cliff retreat. Therefore, the weathered terrace sands and the weathered, fractured bedrock on the outer portion of the cliff face could fail during such an event. However, based on our stability analyses, we conclude that the potential for earthquake-induced cliff retreat to the tentative building footprint is very low over the expected life of the project.

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RECOMMENDATIONS

We recommend that the following measures be implemented:

Site Preparation and Grading

General

Grading is most economically performed during the summer months when the on-site soils are driest. Delays should be anticipated in site grading performed during the rainy season due to excessive soil moisture. Special and comparatively expensive construction procedures should be anticipated if grading must be completed during the winter.

Clearing

Areas to be graded or receive improvements should be cleared of unwanted tree stumps, debris, or other deleterious material, and then stripped of the upper soils containing root growth and organic matter. We anticipate that the required depth of stripping will be about 2 inches. Deeper stripping will be required to remove localized concentrations of organic matter, such as tree roots. The cleared materials should be removed from the site; strippings may be stockpiled for reuse as topsoil in landscaping areas.

Overexcavation

Surface soil should be overexcavated in areas designated for placement of fill or support of improvements. Difficulty in achieving the recommended minimum degree of compaction described below should be used as a field criterion by the engineering geologist to identify areas of unstable soils that should be removed and replaced as properly moisture conditioned and compacted fill. The depth and extent of overexcavation should be approved in the field by the engineering geologist.

Subgrade Preparation

Exposed soils designated to support improvements or receive engineered fill should be scarified to a minimum depth of 8 inches and compacted to at least 90 percent relative compaction in accordance with ASTM test designation D 1557. Improvements and fill may be placed directly on exposed competent weathered bedrock.

Fill Placement on Slopes

All fill placed on slopes steeper than 5:1 should be placed on level benches cut into the hillside. The benches should be excavated into competent bedrock a minimum depth of 2 feet. Internal subdrainage may be required to reduce the buildup of hydrostatic pressure behind the fill. The engineering geologist will provide recommendations in the field during grading if drainage is required behind fills.

General Engineered Fill

Approved soils should be free of rocks or lumps greater than 4 inches in largest dimension and organic materials. Fill material should be approved by the engineering geologist prior to use.

General engineered fill should be placed in level lifts not exceeding 8 inches in loose thickness. Each lift should be compacted to at least 90 percent relative compaction in accordance with ASTM test designation D 1557. Fill moisture content and density should be verified by the geotechnical consultant.

Temporary Slopes

Temporary slopes should be laid back or shored in conformance with OSHA standards. All temporary slopes and shoring design are the responsibility of the contractor.

Finished Slopes

In general, cut and fill slopes in soil should be constructed at an inclination not exceeding 3:1. Routine maintenance of slopes should be anticipated. The tops of cut slopes should be rounded and compacted to reduce the risk of erosion. Fill and cut slopes should be planted with vegetation to resist erosion, or protected from erosion by other measures, upon completion of grading. Surface water runoff should be intercepted and diverted away from the tops and toes of cut and fill slopes by using berms or ditches.

Seismic Design Parameters

We recommend that the proposed structure be designed to meet current California Building Code (CBC) requirements to limit potential damage from ground shaking. Based on the 2007 California Building Code (2007 CBC), we submit the following discussion and earthquake design parameters for your consideration.

The subject site was observed to be underlain by weathered sandstone and silicic mudstone bedrock. According to United States Geological Survey (USGS) mapping (Soil Type and Shaking Hazard in the San Francisco Bay Area), sedimentary sandstone and mudstone bedrock are typically identified as Site Class C. Therefore, based on the materials encountered during this study, we suggest using Site Class C as per Table 1613.5.2 of the 2007 CBC.

The seismic design criteria are based on the guidelines in ASCE 7 which is the basis of the 2007 CBC. ASCE 7 is based upon a maximum considered earthquake ground motion, defined as the motion caused by an event with a 2% probability of exceedance within a 50 year period (recurrence interval of approximately 2,500 years). The resulting seismic design factors are summarized below.

SUMMARY OF SEISMIC DESIGN FACTORS - ASCE 7*

Site Location: Lat. 38.775 N, Long. 123.541 W; Site Class: C

Factor	Value	Description
S_s	1.825	Mapped maximum considered earthquake spectral response acceleration, 5 % damped, at 0.2-second period for Site Class B (in %g).
S_1	0.941	Mapped maximum considered earthquake spectral response accel-eration, 5 % damped, at 1.0-second period for Site Class B (in %g).
F_a	1.0	Short Period Coefficient to modify 0.2 second period of mapped spectral response accelerations for Site Class C.
Fv	1.3	Long Period Coefficient to modify 1.0 second period of mapped spectral response accelerations for Site Class C.
S_{MS}	1.825	Maximum considered earthquake spectral response acceleration, 5 percent damped, at 0.2-second for Site Class effects (in %g).
S_{M1}	1.224	Mapped maximum considered earthquake spectral response acceleration, 5 % damped, at 1.0-second period for Site Class effects (in %g).
S_{DS}	1.217	Design earthquake spectral response acceleration, 5 percent damped, at 0.2-second period (in %g).
S_{D1}	0.816	Design earthquake spectral response acceleration, 5 percent damped, at 1.0-second period (in %g).

*Based on the "Ground Motion Calculator" provided on the United States Geologic Survey (USGS) web site (http://earthquake.usgs.gov/research/hazmaps/design/) to calculate the site-specific parameters based upon the site

coordinates (longitude and latitude). The project designers should determine the appropriate Occupancy Category and Seismic Design Category per the 2007 CBC.

Conformance to the above criteria for seismic design does not constitute any kind of guarantee or provide any specific assurance that significant structural damage or ground failure will not occur during a significant seismic event. The primary goal of seismic design is to protect life, and not to avoid all damage, since such design may be economically prohibitive. Following a major earthquake, a building may be damaged beyond repair, yet not collapse.

Foundations

Foundation support for the residence can be achieved by means of drilled, cast-in-place, reinforced concrete piers. It will be necessary for all exterior and interior piers to be structurally tied together with reinforced concrete grade beams and tie beams so that they act as a rigid unit. We recommend that the piers be constructed based on the following design criteria:

DRILLED PIER CRITERIA

Diameter:	Minimum 18 inches
Depth:	Minimum of 20 feet deep below the ground surface, or a minimum depth of 10 feet into bedrock for rock-socketing, as determined by the geotechnical engineer during drilling, whichever is deepest. Final total depths may be greater, depending on subsurface conditions encountered or for structural support as determined by the structural designer.
Friction Value:	Maximum friction value of 800 psf, which may be increased by 1/3 for wind and seismic loads (disregard the upper 2 to 7 feet of native soil and fill layers for support).
Spacing:	Minimum 3 pier diameters center to center; maximum spacing as determined by the structural designer.
Lateral Creep Load:	Minimum of 60 pcf (equivalent fluid pressure) for native soil and fill to depths of 2 to 7 feet (as applicable for each pier) from the ground surface over two times the diameter of the piers.
Lateral Resistance:	Maximum of 350 pcf (equivalent fluid pressure) against the individual piers and below the minimum 2 to 7 feet of soil or fill from the ground surface for 1 ½ times the width of the piers.

The design and reinforcement requirements for the piers and grade beams should be as recommended by the project structural designer in accordance with applicable current CBC or ACI standards. The weight of the drilled pier concrete may be disregarded.

Difficult pier drilling may be encountered due to possible bedrock hardness, which could require pre-drilling with pilot holes or special equipment. If pier shafts will not stand open, temporary casing may be necessary to support the sides of the pier shafts until concrete is placed.

The bottoms of the pier excavations should be dry and free of loose cuttings or slough prior to placement of reinforcement and concrete. The tremie hose is required for concrete placement below 5 feet from the ground surface. It is possible that some or all pier holes may encounter ground water. In such cases, the water should be removed by pumping or the pier concrete should be tremied to "float"

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13. United States Geologic Survey (USGS), Susceptibility Map of the San Francisco Bay Area, (http://geomaps.wr.usgs.gov/sfgeo/liquefaction/susceptibility).

14. USGS, Soil Type and Shaking Hazard in the San Francisco Bay Area, (http://earthquake.usgs.gov/regional/nca/soiltype/)

15. USGS, "Ground Motion Parameter Calculator", (http://earthquake.usgs.gov/research/hazmaps/design/).

16. Wetlands Research Associates, Inc., August 2008, Biological Report of Compliance for a Mendocino County Coastal Development Permit, Wernette Project, Gualala, Mendocino County, California.

17. Williams, J.W., 1977, "Coastal Zone Geology near Gualala, California," in *California Geology*, February 1977.

18. Wyllie, Duncan c. and Mah, Christopher W., Rock Slope Engineering, Civil and Mining, 4th Edition, Spon Press, 2004, reprinted 2008.

19. Zhang, Lianyang, "Engineering Properties of Rocks", Elsevier Geo-Engineering Book Series, Series Editor John A. Hudson, Volume 4, 2005.

the water above the concrete. The tremie hose should maintain a minimum 5-foot head of concrete at all times during hose removal. The structural designer or the permitting agencies may require special inspection of the pier reinforcement and concrete.

In the area of the building envelope, no evidence of seaward movement that would require additional design for lateral resistance has been found nor is anticipated during the life of the proposed structure. Furthermore, the 10-foot minimum pier embedment into bedrock should provide adequate rock-socketing.

Retaining Walls

The following criteria may be used to design retaining walls for the proposed project. Retaining walls should be fully backdrained. The backdrains should consist of a 4-inch diameter, rigid perforated pipe surrounded by a drainage blanket. The pipe should slope to drain by gravity to appropriate outlets. Accessible subdrain cleanouts should be provided and maintained on a routine basis. The drainage blanket should consist of clean, free-draining crushed rock or gravel, wrapped in a filter fabric such a Mirafi 140N. Alternatively, the drainage blanket could consist of Caltrans Class 2 "Permeable Material" or a prefabricated drainage structure such as Mirafi Miradrain. The top of the drain pipe should be at least 8 inches below lowest adjacent grade. The drainage blanket should be at least 1 foot in width and extend to within 1 foot of the surface. The uppermost 1 foot should be backfilled with compacted native soil to reduce infiltration of surface water.

Retaining walls supporting level backfill should be designed on the basis of an active earth pressure of 45 pounds per cubic foot (equivalent fluid weight). Retaining walls supporting sloping backfill at an inclination no steeper than 2 (horizontal) to 1 (vertical) should be designed on the basis of an active earth pressure of 60 pounds per cubic foot (equivalent fluid weight). The above design pressures are applicable to cantilever walls which are free to rotate at least 0.005 radian. Walls not capable of this movement should be assumed rigid and designed for higher at-rest pressures of 70 pcf (level backfill) and 85 pcf (3:1 maximum backslope).

Appropriate lateral surcharge loading should be applied if adjacent foundations, structures, fills, or traffic loading will be present within a 1.5 (horizontal) to 1 (vertical) imaginary plane projected up from the lower rear corner or down from the downslope leading bottom edge of the footing. We can provide specific surcharge analysis if necessary once the surcharge loads (if any) have been identified.

Based on the results of our investigation of site conditions and our analysis, the dynamic lateral loading during a seismic event can be assumed as a lateral force (P_E) in units of pounds per linear foot of wall length, as in:

$$P_E = 20 \times H^2$$, Where: H = height of retaining wall in feet

The location of the force P_E is at a distance of 0.6H above the base of the retaining wall. A minimum factor of safety of 1.5 against overturning and sliding should be used in the design of retaining walls for static loads. A minimum factor of safety of 1.2 against overturning and sliding may be used for the combined static and earthquake loads.

Wall backfill should consist of non-expansive soil which is spread in level lifts not exceeding 8 inches in thickness. Each lift should be compacted to not less than 90 percent relative compaction, per ASTM test designation D-1557, or as designated by the geotechnical consultant. Retaining walls will yield slightly during backfilling. Therefore, walls should be properly braced during the backfilling operations.

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Where migration of moisture through retaining walls would be detrimental or undesirable, retaining walls should be waterproofed as specified by the project architect or structural engineer.

We recommend that the exterior retaining walls for the driveway and yard areas be supported on spread footings, as shown on the site development drawings (see References). Spread footings should be embedded in competent bedrock. Footings should be a minimum of 18 inches deep. Foundations so established may be designed for maximum allowable soil contact pressures of 2,000 psf in bedrock for dead and sustained live loads. An increase of 1/3 may be applied when considering load combinations, including wind or seismic forces.

An allowable passive equivalent fluid pressure of 300 pounds per cubic foot and a friction factor of 0.3 may be used to resist lateral forces and sliding. Passive resistance from the upper foot of soil should be neglected unless the soil is confined by slabs or pavements.

Slabs on Grade

Slabs may be supported on either weathered bedrock or non-expansive engineered fill. The subgrade should be be proof-rolled to provide a firm, unyielding surface for slab support. If moisture penetration would be objectionable, slabs could be underlain by a capillary moisture break consisting of at least 4 inches of clean, free-draining crushed rock or gravel graded such that 100 percent will pass the 1-inch sieve and none will pass the No. 4 sieve. Further protection against slab moisture penetration can be provided by means of a moisture vapor membrane, placed between the drain rock and slab. The membrane should be covered with 2 inches of damp, clean sand to protect it during construction. In the event that a fill/bedrock transition occurs in the slab area, the bedrock portion should be overexcavated to 12 inches and replaced with engineered fill to reduce the potential for differential settlement. In addition, the difference in thickness of fill beneath the slab should not exceed 2 feet.

Site Drainage

The potential for erosion, future landslides or slope instability can be significantly reduced by proper collection and disposal of surface water runoff. The site should be graded to provide positive drainage away from building areas as well as sidewalks and driveways. Roofs should be provided with gutters and downspouts that discharge away from the foundations and dispersed, as much as possible, into pre-existing sheet flow areas to prevent concentrated flows. Surface drainage systems should not be connected to subsurface drainage systems. Energy dissipators, such as riprapped stilling basins, may be required to reduce erosion where drains, subdrains or culverts discharge into natural, unlined drainage ways. Drains should outlet so as not to cause sea cliff erosion.

Based on preliminary drainage plans by the project civil engineer, Dave Paoli, the planned drainage system is designed to simulate the pre-existing natural drainage patterns in the area of the proposed residence by evenly distributing roof drainage over the entire building footprint area at or near the existing ground surface elevation. The driveway/parking area will be paved with permeable concrete to allow for infiltration of runoff along with a surface flow to the south, a condition that also simulates the existing preconstruction drainage pattern. Simulating the preconstruction drainage conditions in our opinion will not increase geologic instability on the site. Instead, a more even distribution of rainfall runoff, as proposed, may improve stability of the site. Currently, surface flows down the easement and flows exiting the drop inlet structure result in concentrated drainage flowing south and southwest causing increased gully erosion and focused saturation of the top of seacliff.

In summary, the proposed project's drainage plan will change the distribution of runoff and reduce the concentration of drainage, reducing seacliff erosion. The drainage system will also be designed to disallow ponding within the building footprint or adjacent to the building and parking areas.

Maintenance

Periodic land maintenance will be required. Drains should be checked frequently, and cleaned and maintained as necessary. Permeable concrete should be maintained to preserve its design porosity. If signs of surficial soil instability occur, they should be promptly evaluated by the engineering geologist.

Supplemental Services

A geotechnical consulting firm such as Jim Glomb Consulting should be retained to review the project plans and specifications to determine if they are consistent with the recommendations contained in this report. In addition, this firm should be retained to observe geotechnical construction, particularly site preparation and excavation of foundations, as well as to perform appropriate field observations, fill compaction testing and laboratory tests, if required.

If, during construction, subsurface conditions different from those described in this report are observed, or appear to be present beneath excavations, the geotechnical consulting firm should be advised at once so that these conditions may be reviewed and our recommendations reconsidered. The recommendations made in this report are contingent upon the geotechnical consulting firm being notified and being able to review of the changed conditions.

If more than 18 months have elapsed between the submission of this report and the start of work at the site, or if conditions have changed because of natural causes or construction operations at or adjacent to the site, the recommendations of this report may no longer be valid or appropriate. In such case, we recommend that we review this report to determine the applicability of the conclusions and recommendations considering the time elapsed or changed conditions. The recommendations made in this report are contingent upon such a review. These services are performed on an as-requested basis and are in addition to this geotechnical investigation. We cannot accept responsibility for conditions, situations or stages of construction that we are not notified to observe.

LIMITATIONS

This report has been prepared for the exclusive use of Dr. George and Mrs. Jerri Wernette, Frank Wernette and their consultants for the proposed project described in this report. Our services consist of professional opinions and conclusions developed by a certified engineering geologist and a professional engineer in accordance with generally-accepted engineering geologic and geotechnical engineering principles and practices. We provide no other warranty, either expressed or implied. Our conclusions and recommendations are based upon the information provided us regarding the proposed construction and professional judgment. Verification of our conclusions and recommendations is subject to our review of the project plans and specifications, and our observation of construction. Site conditions and cultural features described in the text of this report are those existing at the time of our field work and may not necessarily be the same or comparable at other times.

The scope of our services did not include an environmental assessment or an investigation of the presence or absence of hazardous, toxic or corrosive materials in the soil, surface water, groundwater or

air, on or below, or around the site, nor did it include an evaluation or investigation of the presence or absence of wetlands.

Attachments: References

Geologic Map and Geologic Cross Sections, Plates 1 and 1.1, in pocket
Logs of Test Pits, this investigation, Plates 2, 3 and 4
Logs of Test Pits, former investigation
Figure 1 - USCS Soil Chart
Summary of Stability Analyses Data and Output

17419

REFERENCES

1. ABAG, Geographic Information Systems, Hazard Maps, (http://gis.abag.ca.gov/website/liq/viewer.)

2. California Division of Mines and Geology, 1974. State of California Special Studies Zones Fault Map, Gualala Quadrangle.

3. Davenport, Clifton W., 1984, Geology and Geomorphic Features Relating to Landsliding, Gualala 7.5-Minute Quadrangle, Mendocino County, California, DMG Open-File Report 84-48.

4. Day, Robert W., 2006, Foundation Engineering Handbook, Design and Construction with the 2006 International Building Code, McGraw-Hill.

5. Duncan, J. Michael and Wright, Stephen G., 2005, "Soil Strength and Slope Stability", John Wiley & Sons, Inc.

6. Farmer, I. W., 1968, Engineering Properties of Rocks, Spon Limited.

7. Geonex Sacramento, 1964, Aerial Photographs, Flights Nos. Men 17-45 and 46.

4. Glomb, Jim, 6/5/92, Engineering Geologic Investigation, Assessor's Parcel No. 145-161-27 of Mendocino Co. Records, Robinson Reef Drive, Gualala, CA.

5. Glomb, Jim, 8/13/02, Final Engineering Geologic Investigation Report, APN 145-161-27, 38454 Robinson Reef Drive, Gualala, California.

6. Glomb, Jim, 7/15/08, Supplemental Foundation Recommendations for the Proposed Wernette Project, 145-161-27, 38454 Robinson Reef Drive, Gualala, California.

7. Glomb, Jim, 4/30/09, Supplemental Geotechnical Review, Proposed Site Drainage System and Septic Tank, DP#51-2008 Wernette, APN 145-161-27, 38454 Robinson Reef Drive, Gualala, California.

8. Kliche, Charles A., 1999, Rock Slope Stability, Society for Mining, Metallurgy, and Exploration, Inc. (SME)

9. Paoli, David E., 8/13/97, Revised 8/20/98, Geologic and Soils investigation for George and Jerri Wernette, A.P. No. 145-161-27, Robinson Reef Drive, Gualala.

10. Paoli, David E., Grading and Drainage Plan, June 7, 2002.

11. Duncan C. Wyllie and Christopher W. Mah, 2004, Rock Slope Engineering, Civil and Mining, 4th Edition, Reprinted 2008. "Table II.3 Classification of rock material strengths".

12. 2007 California Building Code, California Code of Regulations, Title 24.

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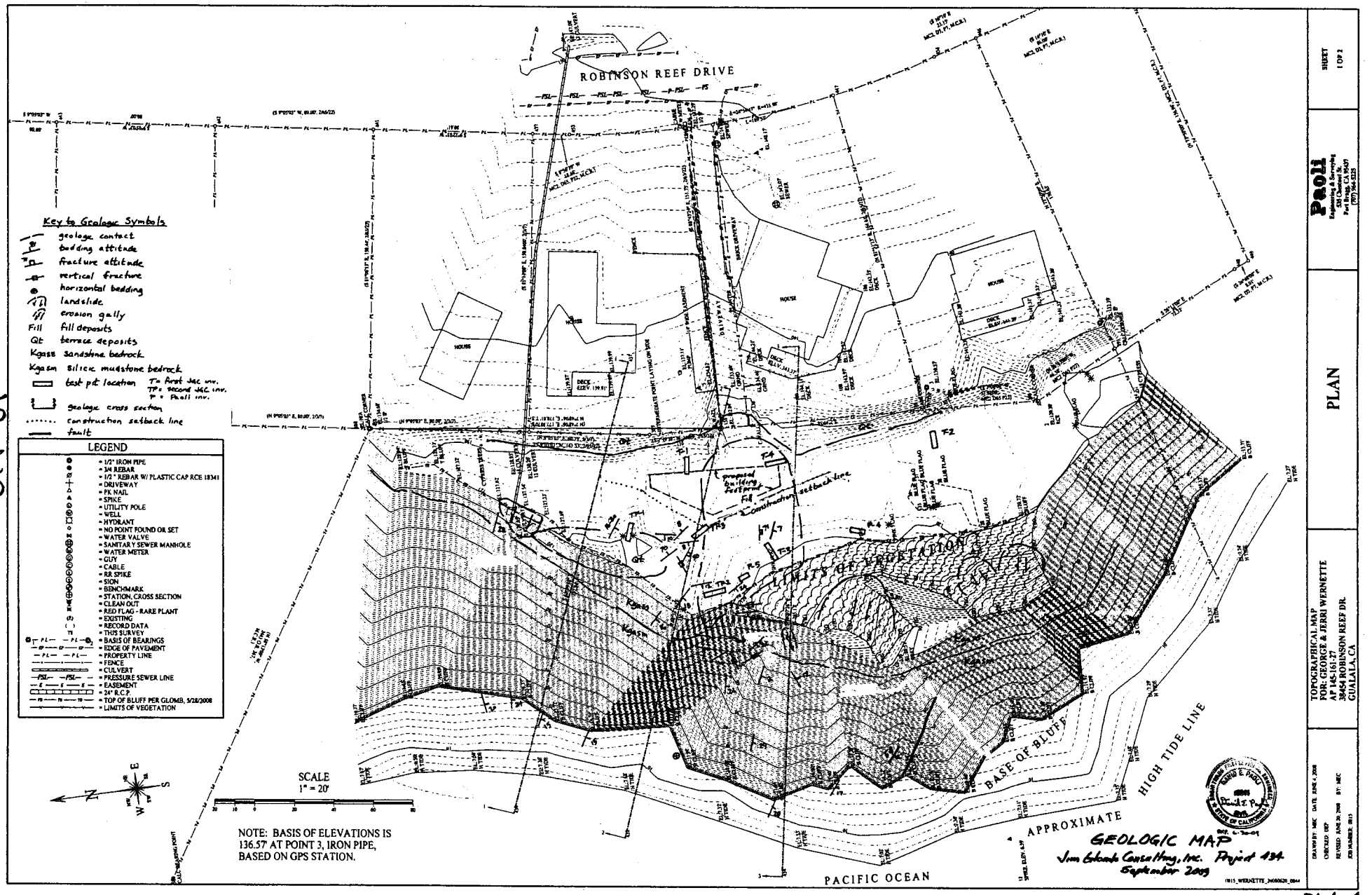

ROBINSON REEF DRIVE
Key to Geologic Symbols
geologic contact
bedding attitude
fracture attitude
vertical fracture
horizontal bedding
landslide
erosion gully
Fill fill deposits
Qt terrace deposits
Kgass sandstone bedrock
Kgasm silicic mudstone bedrock
test pit location
geologic cross section
construction setback line
fault
LEGEND
= 1/2" IRON PIPE
= 3/4 REBAR
= 1/2" REBAR W/ PLASTIC CAP RCE 18341
= DRIVEWAY
= PK NAIL
= SPIKE
= UTILITY POLE
= WELL
= HYDRANT
= NO POINT FOUND OR SET
= WATER VALVE
= SANITARY SEWER MANHOLE
= WATER METER
= GUY
= CABLE
= RR SPIKE
= SIGN
= BENCHMARK
= STATION, CROSS SECTION
= CLEAN OUT
= RED FLAG - RARE PLANT
= EXISTING
= RECORD DATA
= THIS SURVEY
= BASIS OF BEARINGS
= EDGE OF PAVEMENT
= PROPERTY LINE
= FENCE
= CULVERT
= PRESSURE SEWER LINE
= EASEMENT
= 24" R.C.P.
= TOP OF BLUFF PER GLOMB, 5/28/2008
= LIMITS OF VEGETATION
SCALE
1" = 20'
NOTE: BASIS OF ELEVATIONS IS 136.57' AT POINT 3, IRON PIPE, BASED ON GPS STATION.
LIMITS OF VEGETATION
BASE OF BLUFF
HIGH TIDE LINE
APPROXIMATE
PACIFIC OCEAN
Proposed Building Footprint
Fill
Construction setback line
HOUSE
DECK
DRIVEWAY
FENCE
BRICK DRIVEWAY
Paoli
Engineering & Surveying
501 Mendocino Ave.
Santa Rosa, CA 95401
(707) 546-4225
SHEET
1 OF 1
PLAN
TOPOGRAPHICAL MAP
FOR: GEORGE & JERRI WERNETTE
AP 145-161-27
38454 ROBINSON REEF DR.
GUALALA, CA
DRAWN BY: MEC DATE: JUNE 4, 2008
CHECKED BY:
REVISED: JUNE 30, 2008 BY: MEC
JOB NUMBER: 8013
GEOLOGIC MAP
Jim Glomb Consulting, Inc. Project 134
September 2009
Plate 1

CALIFORNIA COASTAL COMMISSION
45 FREMONT, SUITE 2000
SAN FRANCISCO, CA 94105-2219
VOICE AND TDD (415) 904-5200
FAX (415) 904-5400

27 September 2010

GEOTECHNICAL REVIEW MEMORANDUM

EXHIBIT NO. **27**
APPEAL NO.
A-1-MEN-09-023
WERNETTE
SEPTEMBER 2010 GEO MEMO (1 of 2)

To: Tamara Gedik, Coastal Program Analyst
From: Mark Johnsson, Staff Geologist
Re: A-1-MEN-09-023 (Wernette)

With respect to the above referenced appeal, I have reviewed the following documents:

1) Jim Glomb Geotechnical and Environmental Consulting Inc., 2002, "Final engineering geologic investigation report, APN 145-161-27, Robinson Reef Drive, Gualala, California", 5 p. letter report dated 13 August 2002 and signed by J. Glomb (CEG 1154).

2) Jim Glomb Geotechnical and Environmental Consulting Inc., 2008, "Supplemental foundation recommendations for the proposed Wernette project, APN 145-161-27, 38454 Robinson Reef Drive, Gualala, California", 3 p. letter report dated 15 July 2008 and signed by J. Glomb (CEG 1154) and D. Poindexter (GE 690).

3) Jim Glomb Geotechnical and Environmental Consulting Inc., 2009, "Supplemental geotechnical review, proposed site drainage system and septic tank, CDP #51-2008 Wernette, APN 145-161-27, 38454 Robinson Reef Drive, Gualala, California", 4 p. letter report dated 30 April 2009 and signed by J. Glomb (CEG 1154).

4) Jim Glomb Geotechnical and Environmental Consulting Inc., 2009, "Updated geotechnical and engineering geologic investigation report, proposed Wernette residence, 38454 Robinson Reef Drive, APN 145-161-27, Gualala, Mendocino County, California", 17 p. geotechnical report dated 12 September 2009 and signed by J. Glomb (CEG 1154) and D. Poindexter (GE 690)..

The subject parcel is in an old railroad right-of-way, and contains poorly consolidated fill overlying marine terrace deposits that in turn overlie dense sandstones of the Anchor Bay member of the Gualala Formation. The lower part of the seacliff exposes very hard silica-rich mudstone. The fill, and to a lesser degree the marine terrace deposits, are subject to shallow landsliding and slumping, and several small slides are exposed on the bluff face. Reference (4) contains a series of slope stability analyses testing for the global stability of the bluff. No soil strength parameters are available from materials collected at the site. However, values were selected from the literature appropriate for the rock types found at the site. I concur that the values selected are appropriate. A number of analyses were performed making various assumptions regarding the height of the water table and the failure mechanism. In all cases, minimum factors of safety exceeded 1.5 for the static condition and 1.1 for the pseudostatic condition, indicating that the bluff is grossly stable today.

An aerial photograph analysis presented in reference (1) indicates a long-term bluff retreat rate of 0.5 feet per year or less, roughly consistent with the rate measured at other sites in the Gualala

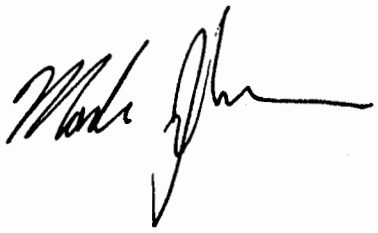
area underlain by similar bedrock. Assuming a 75-year economic life, bluff retreat of about 37 feet may be expected over the life of the structure. The 40 foot setback recommended in reference (4) should thus assure stability of the building envelope.

Concentrated drainage beneath a 12 inch storm drain at the northern end of the property has lead to erosion of the seacliff offsite and at the northern margin of the property. Although ideally this situation should be corrected, it should not affect the proposed building envelope. Nevertheless, because of the poorly consolidated fills, drainage is a serious issue at the site. Currently, much of the site drains to the south via sheetflow. In order to minimize impermeable surface area that might concentrate flow, the drainage plan developed in reference (3) calls for the use of permeable concrete in the driveway and parking area. Although it must be regularly maintained, permeable concrete (and a gravel subbase) should allow for infiltration of rainwater, reducing runoff-induced erosion and having water quality benefits as well. Further, drainage from the roof will be captured and discharged into a layer of gravel beneath the house through perforated pipes. The saturation of soils near foundation elements will not cause structural concerns because the house will be founded on piles penetrating at least ten feet into the dense bedrock of the Anchor Bay Member (Reference 2).

In my opinion, the proposed location, foundation, and drainage plans assure that the proposed development will be stable for its economic life and will not lead to stability issues at the site or adjacent to it.

I hope that this review is helpful. Please do not hesitate to contact me with any further questions.

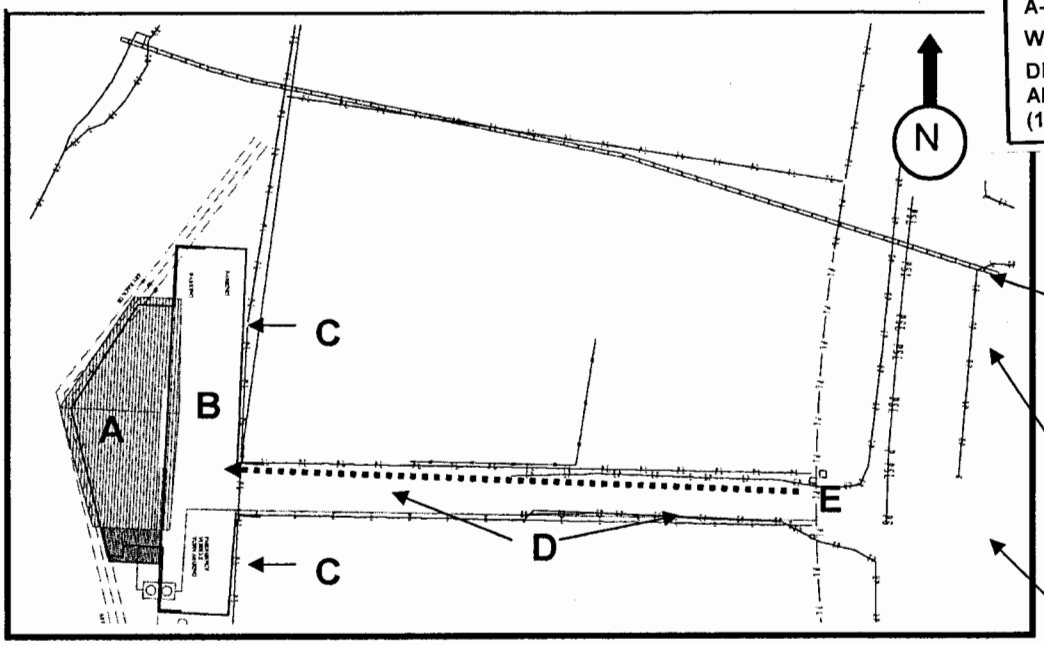
Sincerely,



Mark Johnsson, Ph.D., CEG, CHG
Staff Geologist

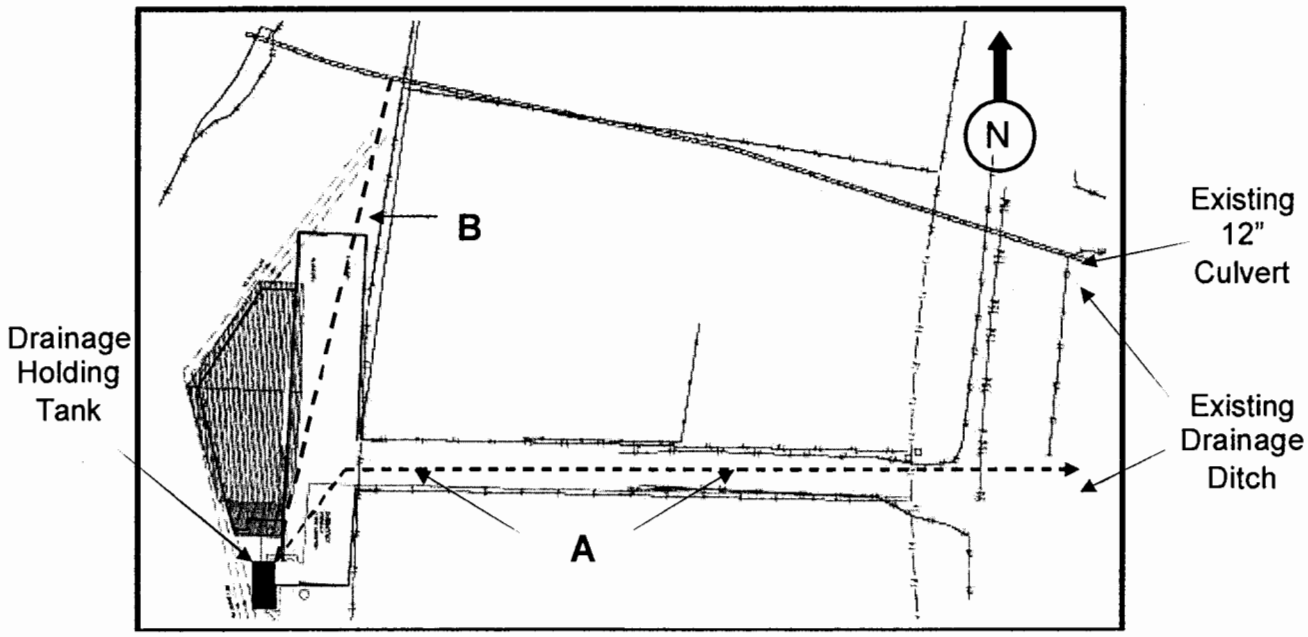
Drainage Overview
A-1-MEN-09-023 (Wernette)

EXHIBIT NO. 28
APPEAL NO.
A-1-MEN-09-023
WERNETTE
DRAINAGE OVERVIEW & ALTERNATIVES ANALYSIS
(1 of 2)



Area	Current Fate	Strategy	Net Change
A. House Foot Print- 1,200 ft^2	Rain onto the footprint or drainage from the east currently percolates into soil or flows laterally west	Rainwater from the roof will be collected and redistributed into the drainage grid under the house	No difference in the distribution or concentration of rainwater or drainage compared to the without project condition; surface and subsurface lateral water flows will be duplicated
B. Parking, Turnaround, and Tanks- 2,100 ft^2	Rain onto this area or drainage from the east currently percolates into soil or flows laterally west	Rainwater and surface runoff from the east will permeate through permeable concrete, excess water will be directed southwest due to the driveway and parking area slope	
C. Surface and subsurface flows from homes east of proposed project	Rainwater and drainage from homes to the east currently saturate the embankment and flow westward as surface or subsurface flows	Surface and subsurface flows will be intercepted by drain along retaining wall and distributed onto permeable concrete	No net change in the fate of surface and subsurface drainage compared to the without project condition; there will be improved slope stability due to engineered retaining walls
D. Surface flows down easement; and, **E.** Surface drainage entering drop inlet from properties to the east- 2,500 ft^2	Surface flows down the easement and flows exiting the drop inlet structure currently result in drainage being concentrated and flowing south and southwest causing increased gully erosion and focused saturation of the bluff edge	Most easement runoff will permeate through the permeable concrete, excess water will be directed southwest due to the driveway and turnaround slope; water entering the drop inlet structure will be redistributed into drainage grid system	Change in the distribution of runoff and reduction in concentration of drainage compared to the without project condition; reduced concentration of drainage will reduce bluff erosion

Alternative Drainage Approaches Evaluated
A-1-MEN-09-023 (Wernette)



Drainage Alternatives Considered

Two alternative approaches were evaluated in addition to the third approach represented by the currently proposed drainage plan. Both of the other alternatives were rejected because of inferior performance, lack of feasibility and increased, redirected erosion impacts from concentrated drainage affecting bluff stability. Below are summaries of the two rejected alternatives and reasons for elimination from further consideration.

Common Features of Alternatives A and B

- Holding Tank
- Pump
- Back up Generator
- Propane Tank
- Non-permeable concrete

Alternative **A** entailed pumping collected drainage uphill and east along the easement and under the county road for discharge into an existing drainage ditch on the east side of Robinson Reef Drive; the ditch drains into the existing 12" culvert which transports drainage for discharge over the bluff at the north end of the property; driveway drainage would flow north and south around the proposed house and then west to the bluff edge

Alternative **B** entailed pumping collected drainage north and injecting the drainage into the existing 12" culvert, which would transport the drainage for discharge over the bluff at the north end of the property; drainage from driveway would flow north and south around the proposed house then west to the bluff edge

Justification for Elimination

- Alternative A- Mendocino County Department of Transportation refused to grant permission to run the drainage line east to the ditch
- Alternatives A and B both increased the concentration of drainage and redirected that drainage to an already sensitive area subject to accelerated erosion
- For both alternatives, surface flows across parking and turnaround areas would concentrate flows at the bluff edge north and south of the proposed home.

2 of 2

THE WERNETTE PROJECT
GUALALA, CALIFORNIA
Figure C-4 Drainage Detail

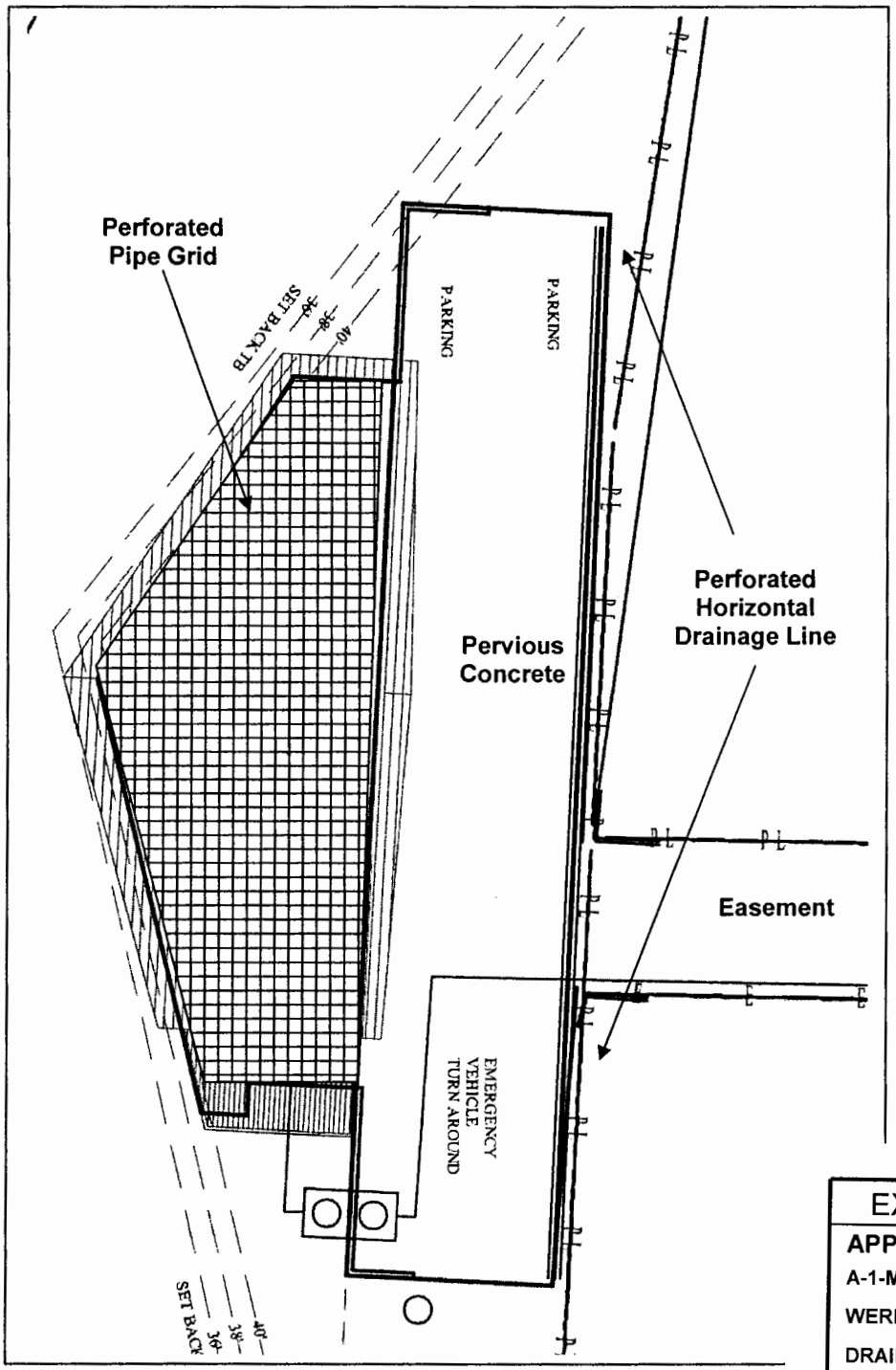


EXHIBIT NO. **29**

APPEAL NO.
A-1-MEN-09-023

WERNETTE

DRAINAGE & RETAINING WALL DETAILS (1 of 3)

THE WERNETTE PROJECT
GUALALA, CALIFORNIA
A-1-MEN-09-023

Figure ____. Drainage Cross-Section Detail

South Elevation

2 of 3

THE WERNETTE PROJECT
GUALALA, CALIFORNIA
Figure C-5 Retaining Walls

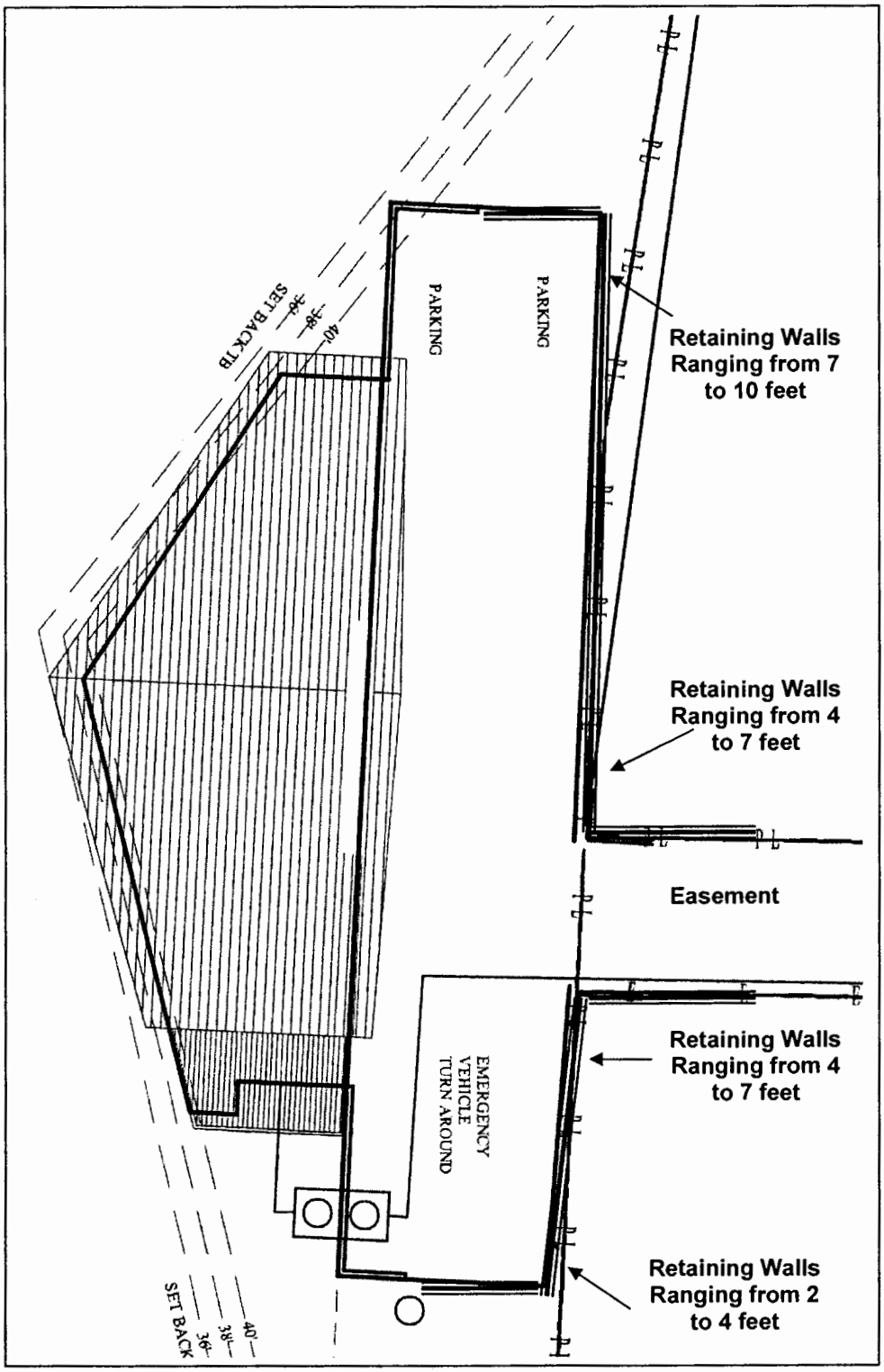


EXHIBIT NO. 30
APPEAL NO.
A-1-MEN-09-023
WERNETTE
PREVIOUS CONCRETE OWNERS MANUAL (1 of 4)

Pervious Concrete

Owners Manual & Maintenance Outline

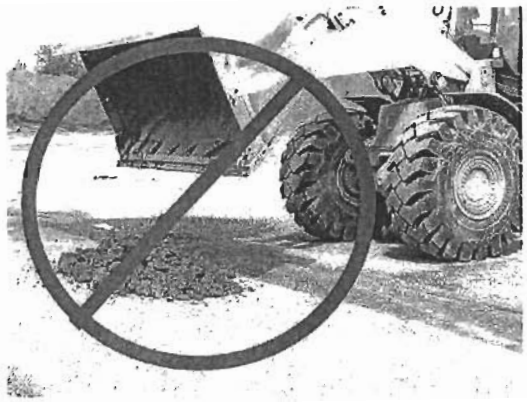
Congratulations!

By installing a Pervious Concrete pavement you have demonstrated your commitment to the environment and the future of our planet. To make sure your pavement continues to help keep streams clean for decades to come, please take a few moments to review this manual.

Protect the Voids!
It is critically important that you protect the voids in your pavement.
Pervious Concrete allows rainwater to pass through the pavement and into the soil. There are several easy but critical steps to protecting voids and insuring a long and effective life for your pavement.

First, do not allow fine materials to be dumped onto the pavement.

Protect pervious surfaces from potential hazards like slopes that could slide or erode onto the pavement and clog up the voids.



Don't Dump Dirt or Bark Mulch on Pervious Concrete

Also, do not allow unfiltered runoff to drain onto your pavement.

Be careful to prevent erosion from landscaping or adjacent properties from running directly onto the pervious pavement.

Be responsible for preventing other sources of outside silts or fine material that may over time clog the voids. For example:

Avoid washing vehicles with heavy accumulations of dirt on your pavement.

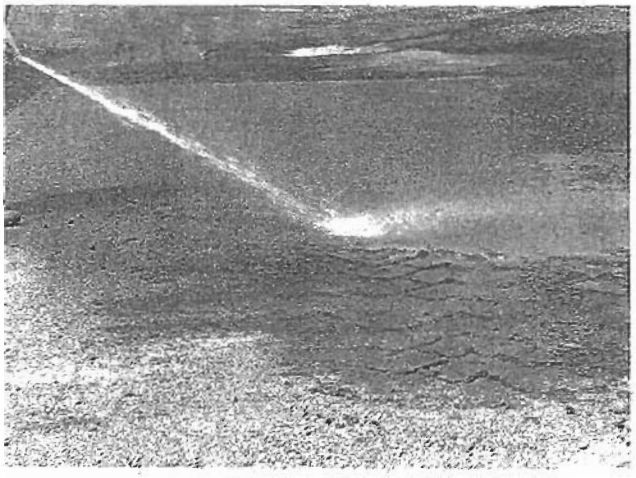
Remove leaves, needles or other vegetation accumulations on the surface.

Scheduled Maintenance
Flush surface at least once per year or as needed to remove normal debris accumulations. Every year a certain amount of dust, vegetation, and other debris will accumulate on and within your pavement. That is normal and nothing to panic about but it is important to perform cleaning operations annually or as needed to protect the voids and extend the useful life of your pavement.

We recommend you contract with local street sweeping and cleaning venders to perform scheduled maintenance so you won't have to worry about it and you won't forget about it. If you have trees or other vegetation that continuously drop leaves or needles onto the surface, you should clean more often to remove debris.

Use Water to Wash off surface
Water tends to dislodge surface material that gets ground into the pavement better than vacuum trucks. High volume - low pressure water has proven to be most effective, so that is what we recommend.

Remove Unusual Debris
Prevent clogging and extend the effective life of your pavement by quickly removing leaves, tightly packed clays, or other fine materials from the surface. Occasional exposure to sticky clay or other fine sediments is not good but generally not fatal. Use common sense and flush the surface as soon as possible for best results.



Abuse, neglect or over exposure to sediments will certainly limit the draining ability of this product. So remember:

1. **Prevent** sediment accumulations.
2. **Clean** debris off quickly.
3. **Schedule regular maintenance** to provide the greatest effectiveness of your pavement.

Owner Maintenance

Protection of voids in **Pervious Concrete** will enhance performance and durability.

1. The ADVANTAGE OF **Pervious Concrete** over regular paving is its ability to allow water to pass through it instead of washing off the surface, drastically reduces pollutants flushed in to streams.
2. A pervious lot will last a very long time if you just use some common sense and follow these simple rules:
    a. Prevent clogging.
        i. Do not allow Landscapers/yard care maintenance personnel to dump materials on surface.
        ii. Mulch, topsoil, and yard debris should never be placed or stored on the surface.
        iii. Do not allow unfiltered runoff from impervious surfaces to drain onto your Pervious Concrete lot.
        iv. Do not volunteer your lot for charity leaf or debris collection.
            1. Car washes are ok.
    b. Regular Cleaning
        i. Like all pavements, Pervious Concrete will look best clean.
            1. Sweeping, using a power blower or vacuuming will help keep your pavement more inviting.
            2. Hydro-washing, high-volume, low pressure deep cleaning (fire hose or water truck) is best.
            3. Clean at least once per year, as necessary to keep free of debris.
            4. We suggest mid Spring to clean out effects of winter and in the Fall after the leaves are off in preparation for winter.
            5. Anytime a visible volume of debris is present on surface.
            6. Protect water-absorbing qualities by quickly flushing potential clogging materials.

3. Subscription Maintenance program suggested through local sweeping companies.
4. Salts and Deicers:
    a. Like all Portland cement products **Avoid use of Salts and Deicers** for a minimum of one year.
5. Avoid misuse of pavement
2. Owner assumes all responsibility for the performance of this parking lot if they fail to protect the surface from unusual abuse or fails keep it free of materials that could plug the voids.
    a. Special care should be used to protect the lot from being overloaded with silt during future facility expansions, remodeling or landscaping.
    b. Warnings should be given to asphalt Seal Coat applicators:
        i. DO NOT let them seal pervious concrete! Don't laugh, it's happened!
    c. Failure to regularly clean or remove debris from this pavement will limit its effectiveness, shorten the useful life of this product and cause expensive consequences that are not the responsibility of the installers or creators of this product.

EXHIBIT NO. 31
APPEAL NO.
A-1-MEN-09-023
WERNETTE
HOUSE SIZE COMPARISONS
(1 of 2)

EXHIBIT 31.
North Gualala Subdivision No.3
House Size Comparisons

	A	B	D	E	H	J	K	L	M	N	O	P	Q	
1	Used in Home Size Comparison Analysis? (Y/N)	APN	NAME	Address	Before (B) or After (A) 1997 parcel buy?	Bluff Parcel ?	2-Story	LOT SIZE (Acres)	LOT SIZE (sf)	TOTAL HOUSE SIZE (sf)	House Ground Cvg (sf)	Garage (sf)	House G.C. + Garage (sf)	Notes
2	N/A	145-161-27	Proposed Wernette Home (applicant)	38454 Robinson Reef Drive		Y	Y	0.72	31,500	1,950	850	350	1,200	
3	N	145-161-11	Hamell	No Address	N/A			0.28	12,196					No address, no improvements
4	N	145-161-16	Vaskelis	No Address	N/A			0.33	14,374					No address, no improvements
5	N	145-161-25	Shinn	38190 Old Coast Highway	N/A			0.72	31,363					No improvements
6	N	145-161-30	Shinn	No Address	N/A			0.12	5,227					No address, no improvements
7	N	145-161-33	Brown	38600 Robinson Reef Drive	N/A	Y		1.02	44,431					No improvements
8	N	145-161-34	Hopkins	No Address	N/A			0.35	15,246					No address, no improvements
9	N	145-162-1	Clement	38411 Robinson Reef Drive	N/A	N	N	0.26	11,325	1,248	1,248	0	1,248	Non-residential structure (restaurant)
10	N	145-162-12	Green	No Address	N/A			0.31	13,503					No address, no improvements
11	N	145-162-15	Francisco	47020 Westward Ho	N/A	N		0.27	11,761				0	No improvements
12	N	145-162-2	Hines	No Address	N/A			0.27	11,761					No address, no improvements
13	N	145-162-3	Rosensteel	38431 Windward Ct.	N/A	N		0.26	11,325				0	No improvements
14	N	145-162-4	Coast Construction Co.	38460 So. Hwy 1	N/A	N		0.28	12,196	2,520	2,520	0	2,520	Non-residential structure
15	N	145-162-5	Balter	No Address	N/A			0.30	13,068					No address, no improvements
16	N	145-162-9	Ford	38461 Robinson Reef Drive	N/A	N		0.25	10,890				0	No improvements
17	N	145-163-5	Talamini	No Address	N/A			0.25	10,890					No address, no improvements
18	N	145-165-1	Hopkins	No Address	N/A			0.27	11,761					No address, no improvements
19	Y	145-161-04	Bobba	38430 Robinson Reef Drive	B	Y	N	0.25	10,890	2,274	2,274	529	2,803	
20	Y	145-161-05	Schnieders	38440 Robinson Reef Drive	B	Y	N	0.25	10,890	1,152	1,152	560	1,712	
21	Y	145-161-06	Hines (formerly Turnlund appellant)	38450 Robinson Reef Drive	B	Y	N	0.27	11,761	1,480	1,480	528	2,008	
22	Y	145-161-07	Hines (appellant)	38460 Robinson Reef Drive	B	Y	Y	0.30	13,068	2,465	1,616	768	2,384	
23	Y	145-161-09	Wernette	38480 Robinson Reef Drive	B	Y	N	0.28	12,196	1,500	1,248	288	1,536	* Includes basement of 252 sf
24	Y	145-161-12	Wolk	38520 Robinson Reef Drive	B	Y	N	0.26	11,325	1,476	1,345	576	1,921	* Includes basement of 131 sf
25	Y	145-161-13	Shumway	38540 Robinson Reef Drive	B	Y	N	0.26	11,325	1,411	1,528	318	1,846	* Total ground cvg includes solar room of 117 sf
26	Y	145-161-14	Hawkins	38550 Robinson Reef Drive	B	Y	Y	0.26	11,325	1,678	1,194	550	1,744	
27	Y	145-161-15	Hickey	38560 Robinson Reef Drive	B	Y	N	0.28	12,196	1,420	1,420	501	1,921	
28	Y	145-161-17	Vaskelis	38600 Robinson Reef Drive	B	Y	Y	0.35	15,246	2,082	1,086	504	1,590	
29	Y	145-161-31	Brown	38570 Coral Ct	B	Y	N	1.56	67,953	2,076	1,507	378	1,885	* Includes basement of 569 sf
30	Y	145-161-32	Brown	38614 Coral Ct	B	Y	Y	0.80	34,848	1,992	1,596	512	2,108	
31	Y	145-162-11	Trost	38481 Robinson Reef Drive	B	N	Y	0.28	12,196	1,102	798	441	1,239	

EXHIBIT 31.
North Gualala Subdivision No.3
House Size Comparisons

	A	B	D	E	H	J	K	L	M	N	O	P	Q	R
1	Used in Home Size Comparison Analysis? (Y/N)	APN	NAME	Address	Before (B) or After (A) 1997 parcel buy?	Bluff Parcel ?	2-Story	LOT SIZE (Acres)	LOT SIZE (sf)	TOTAL HOUSE SIZE (sf)	House Ground Cvg (sf)	Garage (sf)	House G.C. + Garage (sf)	Notes
32	Y	145-162-13	Jarvis	47060 Westward Ho	B	N	N	0.25	10,890	1,176	1,176	528	1,704	
33	Y	145-162-14	Helms	47040 Westward Ho	B	N	N	0.26	11,325	1,418	1,418	480	1,898	
34	Y	145-162-16	Miller	47000 Westward Ho	B	N	N	0.25	10,890	1,520	1,520	576	2,096	
35	Y	145-162-6	Oreno	38447 Windward Ct.	B	N	N	0.26	11,325	952	952	0	952	
36	Y	145-162-7	Simons	38451 Windward Ct.	B	N	N	0.32	13,939	980	980	0	980	
37	Y	145-162-8	Ford	38457 Robinson Reef Drive	B	N	Y	0.26	11,325	1,853	664	564	1,228	
38	Y	145-163-1	Jones	38575 Robinson Reef Drive	B	N	Y	0.31	13,503	1,888	714	460	1,174	
39	Y	145-163-2	Grossman	38551 Robinson Reef Drive	B	N	N	0.27	11,761	1,538	1,230	308	1,538	
40	Y	145-163-3	McDonald (1600)	38525 Robinson Reef Drive	B	N	Y	0.26	11,325	1,608	984	0	984	
41	Y	145-163-4	Talamini	38501 Robinson Reef Drive	B	N	Y	0.26	11,325	1,975	1,012	929	1,941	
42	Y	145-165-21	Carroll	47045 Westward Ho	B	N	N	0.28	12,196	1,360	1,360	440	1,800	
43	Y	145-161-02	Shinn	38410 Robinson Reef Drive	A (B=1040 s.f.)	Y	N	0.29	12,632	1,501	1,501	672	2,173	Studio over Garage- 448 sf; Deck 160 sf. Structure was expanded in 2002, but pre-1997 size was 1,040, which was used in the analysis
44	N	145-161-03	Fischer	38420 Robinson Reef Drive	A	Y	Y	0.25	10,890	1,840	1,450	528	1,978	
45	N	145-161-08	Stein	38470 Robinson Reef Drive	A	Y	N	0.32	13,939	1,368	1,368	484	1,852	
46	N	145-161-10	Giusso	38490 Robinson Reef Drive	A	Y	Y	0.25	10,890	2,280	1,480	576	2,056	
47	N	145-162-10	Healy	38471 Robinson Reef Drive	A	N	Y	0.30	13,068	1,925	1,412	364	1,776	
48							Average Parcel Size[1]:	0.35				Avg. House G.C.+ Garage[2]	1,681	

Total Parcels Used in Analysis: 24

Average total house sizes in subdivision[3]:	1,577
Average house ground cover sizes in subdivision[4]:	1,252
Average garage sizes in subdivision[5]:	447
Average house g.c. plus average garage g.c.[6]:	1,699

Notes:

(1) Average size calculated using the average lot size, in acres, of all developed parcels used in the analysis.

(2) Calculated by adding area of house ground cover (g.c.) and garage for each parcel, then using the average of this total amount for all developed parcels used in the analysis.

(3) Calculated using average of total house sizes from Column L, for developed parcels (includes 2nd story or split level in some instances).

(4) Calculated using average of house ground cover sizes from Column O (excludes consideration of 2nd story or split level that does not affect ground footprint).

(5) Calculated using average garage size for those parcels with garages.

(6) Calculated by adding cell Q53 (average house ground cover size) and Q54 (average garage size) to achieve building footprint consistent with surrounding development (Commission Recommended size for proposed project)

EXHIBIT NO. 32
APPEAL NO.
A-1-MEN-09-023
WERNETTE
PROPERTY INTEREST INFORMATION (1 of 4)

Property Interest Information Summary for the Wernette Project Coastal Commission Appeal A-1-MEN-09-023

4-18-10

The following property interest information is being provided in the event the Commission finds, following a *de novo* hearing, that the isolated coastal bluff morning glory plants at the north end of the Wernette parcel and the morning glory plants growing in the back yards and under the decks of the appellants' homes are ESHA and 50-foot buffers are provided around those plants. If the Commission makes those findings no feasible home can be built on the Wernette parcel and the Commission would need to determine that the project is not approvable consistent with the provisions of the certified LCP. Application of the ESHA protection policies of the LCP would result in the recommendation of denial of a coastal development permit for the project as proposed. However, Coastal Act Section 30010 prohibits the Commission from denying a permit in a manner, which will take private property for public use without just compensation. Section 30010 states as follows:

30010. The Legislature hereby finds and declares that this division is not intended, and shall not be construed as authorizing the commission, port governing body, or local government acting pursuant to this division to exercise their power to grant or deny a permit in a manner that will take or damage private property for public use, without the payment of just compensation therefor. This section is not intended to increase or decrease the rights of any owner of property under the Constitution of the State of California or the United States.

Therefore, to the extent that the proposed project cannot be approved in a manner consistent with the provisions of the certified LCP, the Commission will need to evaluate whether denial of the proposed project would result in an unconstitutional taking of private property for public use. The following additional information is being provided to the Commission by the applicant so the Commission can evaluate both the economic impact of the regulation on the applicant/landowner and the nature of the applicant's/landowner's property interest for the *de novo* hearing on the project.

The following information is being provided for APN 145-161-27 which is the subject of Appeal No. A-1-MEN-09-023. Information is also provided for APN 145-161-09, the location of the applicant's current home, which is adjacent to the southeast corner of parcel APN 145-161-27:

1. When the property interest was acquired, and from whom:

APN 145-161-27 was acquired from Sanford L. Binker on September 11, 1997.

APN 145-161-09 was acquired from Carl Anderson on September 7, 2001.

2.The purchase price paid for the property interest:

The purchase price for APN 145-161-27, the subject property for this appeal, was $160,000.

The purchase price for APN 145-161-09, the adjacent property, was $500,000.

3.The fair market value of the property interest at the time it was acquired and the basis upon which fair market value was derived:

The fair market value of the property interest for APN 145-161-27 at the time it was acquired was estimated to be $189,000 based on comparisons with other properties for sale in the Gualala area. No independent appraisal was conducted.

The fair market value of the property interest for APN 145-161-09 at the time it was acquired was estimated to be $500,000 based on comparisons with other properties for sale in the Gualala area. No independent appraisal was conducted at the time of purchase. An appraisal was completed in May 2005 when the home was refinanced. The appraised value was $785,000.

4. Whether a general plan, zoning, or similar land use designations applicable to the property changed since the time the property interest was purchased. If so, identify the particular designation(s) and applicable change(s):

There has been no general plan, zoning, or similar land use designation change that could apply to either properties since the time the property interests for either parcel were purchased.

5. At the time the property interest was purchased, or at any subsequent time, whether the property interest been subject to any development restriction(s) (e.g., restrictive covenants, open space easements, etc.), other than the land use designations referred to in the preceding question:

The property interests were subject to development restriction associated with the California Coastal Act and Mendocino County LCP at the time the property interests were purchased. The home on APN 145-161-09 was built prior to the passage of the California Coastal Act. Neither of the property interests was subject to any additional development restriction at any subsequent time since then.

6. Whether the size or use of the property interest changed in any way since it was purchased. If so, identify the nature of the change, the circumstances and the relative date(s):

The sales price of APN 145-161-27 was determined based on the knowledge that previous boundary surveys had erroneously indicated a larger parcel. New boundary surveys and a subsequently smaller parcel were documented in a Record of Survey that was submitted to and approved by the County Surveyor. The county parcel maps are now correct and the corrected parcel size is approximately .75 acre.

The uses of APN 145-161-27 or APN 145-161-09 have not changed since their purchase.

7. Whether a portion of, or interest in, the property interest was sold or leased since the time the applicants purchased it, and the relevant date(s), sales price(s), rent assessed, and the nature of the portion or interest sold or leased:

No portion of, or interest in, the property interests were sold or leased since the time the applicants purchased them.

8. A copy of any title report, litigation guarantee or similar document that might have been prepared in connection with all or a portion of the property interest, together with a statement of when the document was prepared and for what purpose (e.g., refinancing, sale, purchase, etc.):

A copy of the title report for APN 145-161-27 was e-mailed to Bob Merrill on October 12, 2009 and December 3, 2009.

A copy of the owner's policy dated September 7, 2001 for APN 145-161-09 was e-mailed to Bob Merrill on February 14, 2010.

9. The approximate date and offered price of any offers to buy all or a portion of the property interest since the time the applicants, landowners, or leaseholders purchased the property interest:

The applicant/landowner has not received any offer to buy all or a portion of the property interests since the time the applicant/landowners purchased the property interests.

10. The costs associated with ownership of the property interest on an annualized basis for the last five calendar years. These costs include, but not necessarily be limited to, the following:

- property taxes
- property assessments
- debt service, including mortgage and interest costs;
- operation, maintenance, and management costs;
- Planning, Geological and Biological surveys, Design, Engineering, Legal, and permitting
- Remodeling

Average Yearly Ownership Costs (for last 5 years)	APN 145-161-27 [1/]	APN 145-161-09 [2/]
Property taxes	$2,122	$6,869
Property assessments	0	0
Debt service, including mortgage and interest costs	0	$23,256
Operation, maintenance, and management costs	0	$4,000
Planning, Geological and Biological surveys, Design, Engineering, Legal, and permitting	$36,000	0
Remodeling	0	$20,000

[1/] - Proposed Project Parcel

[2/] - Applicant's Existing Home on Adjacent Parcel

11. Whether apart from any rent received from leasing all or a portion of the property interest (see question #7 above), current or past use of the property interest generates any income. If the answer is yes, the amount of generated income on an annualized basis for the past five calendar years and a description of the use(s) that generates or has generated such income:

Current uses of the property interests have not generated any income. In the past, uses of the property generated income associated with a local lumber mill. Since the lumber mill burned in 1906, no income has been generated.

12. The historic chain of title for all property interests, both on and adjacent to the site, held by the applicant, landowner, of leaseholder:

Documentation of the historic chain of title for property interests for APN 145-161-27 was e-mailed to Bob Merrill on October 12, 2009 and December 3, 2009.

The deed and owner's policy for APN 145-161-09 was e-mailed to Bob Merrill on February 14, 2010.

13. Information to establish lot legality for all property interests both on and adjacent to the site, held by the applicants, landowners, or leaseholders. Such information shall include copies of Certificates of Compliance and information demonstrating whether the real property in question complies with the provisions of the Subdivision Map Act and the local ordinances enacted pursuant thereto:

Information to establish lot legality for APN 145-161-27 in the form of a Certificate of Compliance (20-2008) was provided to Bob Merrill on October 12, 2009 and December 3, 2009. The Corporation Quitclaim Deed signed February 28, 1972 and recorded on March 2, 1972, documented that the Empire Redwood Company deeded the property out to Richard Foss and recorded the deed two days before the effective date of changes to the Subdivision Map Act, which required local review and oversight.

The deed to the property was subsequently granted to S.L. Binker and Joyce C. Binker on August 24, 1972 and recorded on November 14, 1972. S.L. Binker and Stephen R. Binker/and Susan Jay Bresse, as co-trustees, pursuant to the will of Joyce C. Binker, deceased, granted the deed to George and Jerri Wernette on September 3, 1997. That grant was recorded on September 11, 1997.

Collectively the above chain of title information provided the legal foundation for the County to find that the Wernette parcel (APN 145-161-27-00) was a legal lot and justified the issuance of a Certificate of Compliance for the Wernette parcel.

At Bob Merrill's request, the project proponent obtained additional chain of title information prior to February 28, 1972. That supplemental chain of title information was researched by First American Title Insurance Company, National Commercial Services and goes back to 1883. The Chain of Title report is attached to this Property Interest Information Summary.

The Wernette parcel (APN 145-161-27-00) was originally part of a larger parcel that was the grade for the Gualala Mill Railroad built over 140 years ago to transport lumber from

the Gualala Mill, located near the mouth of the Gualala River, that ran northwest along the coastal bluff to what was later known as Bourne's landing about two miles away. The railroad grade became non-operational after the mill served by the railroad burned in 1906 and was not rebuilt.

Information to establish lot legality for APN 145-161-09 is not necessary for the Commission to complete its takings analysis.

14. For all property owned by the applicants, landowners, or leaseholders including all property on and adjacent to the site, please indicate by overlay on a legal parcel map the location of all ESHA located on the site:

Appeal Figure A-5 depicts the location of ESHAs on APN 145-161-27 along with 50-foot protective buffers. This figure reflects the most current information related to ESHAs on and adjacent to the proposed project site.

No ESHA has been identified on APN 145-161-09 although a portion of the home on this parcel is within 50 feet of known ESHAs on APN 145-161-27.

BLOCK & BLOCK

A PROFESSIONAL CORPORATION

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ALAN ROBERT BLOCK
JUSTIN MICHAEL BLOCK

SENDER'S E-MAIL
alan@blocklaw.net

April 21, 2010

EXHIBIT NO. 33
APPEAL NO.
A-1-MEN-09-023
WERNETTE
LOT LEGALITY ANALYSIS
(1 of 5)

Mr. Frank Wernette
3041 Sunrise Boulevard
Rancho Cordova, California 95742

Re: Coastal Commission Appeal A-1-MEN-09-023 (Wernette)

Dear Frank:

At your request, I have reviewed the chain of title documents compiled by First American Title Insurance Company on your behalf. You asked me to render an opinion regarding the legality of the lot on which your proposed development is sited. I have done so, and conclude that the lot was legal when it was created and retains legal status currently.

CHAIN OF TITLE

The property which is the situs of the proposed development ("subject property") is located in the City of Gualala, County of Mendocino, commonly known as 38454 Robinson Reef Drive, and legally described as follows:

PARCEL ONE:

A portion of the lands of Empire Redwood Company, as recorded in Official Records, Book 374, Page 534, Mendocino County Records; and lying in Section 28, Township 11 North, Range 15 West, M.D.B. & M. and also lying westerly and contiguous to the North Gualala Subdivision No. 3, as recorded in Case 2, Drawer 3, Page 7, Mendocino County Records, and more particularly described as follows:

Commencing at the southwesterly corner of Lot No. 4 of said Gualala Subdivision No. 3, thence South 8° 47' West 140.75 feet to a point, thence South 3° 06' West 197.95 feet to a point, thence South 26° 13' East 45.06 feet to a point which is the Southwesterly Corner of Lot No. 8 of said Gualala Subdivision No. 3; thence South 73° 50' West to a point on the meander line

of the bluff of the Pacific Ocean, thence continuing South 73° 50' West to the high water line of the Pacific Ocean, thence Northwesterly along said high water line to a point which lies North 58° 13' West of the Southerly corner of Lot No. 4 of said Gualala Subdivision No. 3, thence South 58° 13' East to said corner of Lot No. 4, which is the true point of beginning.

Excepting any and all right, title and interest of the State of California, along the shore of the Pacific Ocean below the elevation of natural ordinary high tide and, also, excepting any artificial accretions to said line of natural ordinary high tide, if any.

PARCEL TWO:

A non-exclusive easement, as an appurtenance to Parcel One above, being 14 (fourteen) feet in width along the Northerly line of Lot 7 as designated on the map entitled Map of North Gualala Subdivision No. 3 filed May 6, 1964 in Map Case 2, Drawer 3, Page 7, Mendocino County Records, for utilities, ingress and egress.

It appears from the Chain of Title documents compiled by First American that the subject property was a portion of land owned by the Empire Redwood Company and that Empire Redwood Company took title to all of the lands which include the subject property by grant deed from Gualala Redwoods, a partnership, dated April 6, 1954. At the time Empire Redwood Company took title, the subject property was not separately described.

Empire conveyed title to the subject property by way of a quitclaim deed, which was the first recorded document to separately describe the subject property, to Richard Foss of Los Angeles. The deed was executed on February 28, 1972, and it was recorded on March 2, 1972. These dates, as will appear below, are significant for purposes of determining whether the subject property is a legal lot under the California Subdivision Map Act.

Richard Foss then conveyed the subject property to Mr. and Mrs. Steven L. Binker of Gualala by grant deed, dated August 24, 1972, and recorded on November 14, 1972, as Instrument No. 15442, Book 1529, Page 217, Official Records of Mendocino County, California. The Binkers subsequently conveyed the subject property to George J. Wernette and Jerri Wernette, your parents, by grant deed dated August 25, 1997, and recorded on September 11, 1997, as Instrument No. 15154, Book 2443, Page 367, Official Records of Mendocino County, California. Title to the subject property is still currently vested in your

parents' names.

LEGAL ANALYSIS

In order to determine whether the subject property is a legal lot, it is necessary to first ascertain the requirements of the California Subdivision Map Act. It should be noted that a lot's legality does not alone determine its ability to be developed. However, in performing a takings analysis, it is understood that the owner of a legal lot is entitled to some use of his property that is consistent with the property's zone and general plan designation

Under the California Subdivision Map Act, a lot is created by the filing of a parcel map, for the creation of four lots or less, and by the filing of a tentative tract map and final map for subdivisions of five or more lots. Government Code §66426. Government Code§ 66412.6 relevantly provides:

> (a) For purposes of this division or of a local ordinance enacted pursuant thereto, any parcel created prior to March 4, 1972, shall be conclusively presumed to have been lawfully created if the parcel resulted from a division of land in which fewer than five parcels were created and if at the time of the creation of the parcel, there was no local ordinance in effect which regulated divisions of land creating fewer than five parcels.
>
> (b) For purposes of this division or of a local ordinance enacted pursuant thereto, any parcel created prior to March 4, 1972, shall be conclusively presumed to have been lawfully created if any subsequent purchaser acquired that parcel for valuable consideration without actual or constructive knowledge of a violation of this division or the local ordinance. Owners of parcels or units of land affected by the provisions of this subdivision shall be required to obtain a certificate of compliance or a conditional certificate of compliance pursuant to Section 66499.35 prior to obtaining a permit or other grant of approval for development of the parcel or unit of land. For purposes of determining whether the parcel or unit of land complies with the provisions of this division and of local ordinances enacted pursuant thereto, as required pursuant to subdivision (a) of Section 66499.35, the presumption declared in this subdivision shall not be operative.
>
> (c) This section shall become operative January 1, 1995.

For purposes of compliance with the foregoing statute, a lot is conclusively deemed to be a legal lot if it was created prior to March 4, 1972, and there was no local ordinance governing the lot's creation. Even if there was an applicable local ordinance, the lot is still conclusively deemed to be a legal lot if title was taken by a subsequent purchaser without actual or constructive notice of any violation of said local ordinance and the subsequent purchaser obtains a certificate of compliance or conditional certificate of compliance from the local agency having jurisdiction over the lot at the time that any other development approvals are obtained.

With respect to the subject property, it appears that both subsection (a) and (b) create a conclusive presumption that the subject property is a legal lot. The subject property meets the requirements of subsection (a). The subject property was created as a separate lot on February 28, 1972, and the quitclaim deed which created the lot was recorded on March 2, 1972, two days prior to the cut-off for compliance with the Subdivision Map Act's map requirements.

Additionally, from our research, it appears that Mendocino County did not have a local ordinance in 1972 regulating the creation of new lots. An article appearing in a local Mendocino publication, the Mendocino Country Independent, written by former Mendocino County Fifth District Supervisor, Norman L. de Vall, regarding the haphazard development of Mendocino County in the 1960s and 70s, relevantly states:

> "Throughout the 1960's and most of the 1970's, property owners could simply redraw their Assessor's Parcel Map and divide up their property as they wished. The County did not have either a Minor or Major meaningful sub-division process. By the early 1970's, the county was mired in both a deluge of owner-builders providing for their families and so many illegal subdivisions that in 1973 the then Board of Supervisors declared an amnesty program and made all "kitchen table top" subdivisions "legal". However, there wasn't any resolve to the Building Code War and it continued for another 10 years."

[Mr. de Vall was Fifth District Supervisor from 1979 to 1995.]

Although it may not have actually been required, the subject property was given a Certificate of Compliance from the County of Mendocino at the time it approved the proposed development for the subject property. According to Frank Lynch, the County's Chief Planner, the County issued a Certificate of Compliance for the subject property for the

following reasons:

> "The County issued the CC [Certificate of Compliance] based on our review of the chain of title, noting we found a separate tittle history that created the lot. This chain of title pre-dates the Coastal Act and hence our recognition merely acknowledges that we recognize it as separate land for the purpose of Map Act compliance. Our CC states on it that the issuance of the CC does not guarantee issuance of subsequent permits. In essence we are merely recognizing that which already exists. The issuance of any new entitlements on the land are subject to the Local Coastal Plan.
>
> * * *
>
> Our files indicate that the Empire Redwood Company deeded the property out and recorded the deed on March 2, 1972 (two days before the effective date of changes to the Map Act requiring local review and oversight)."

Mr. Lynch's analysis is consistent with ours. The County's issuance of a Certificate of Compliance, whether or not required by Government Code §66412.6, creates a conclusive presumption that the subject property is a legal lot. While the subject property's coastal development permit approval was appealed to the California Coastal Commission, no challenge was made to the County's approval of the Certificate of Compliance and the time in which to seek judicial review of the County's issuance of said certificate expired, pursuant to Code of Civil Procedure §1094.6, 90 days after its approval.

If you have any questions regarding any of the foregoing, please feel free to contact me at your earliest convenience.

Very truly yours,

BLOCK & BLOCK
A Professional Corporation

ALAN ROBERT BLOCK

HOWARD N. DASHIELL
DIRECTOR OF TRANSPORTATION

FUNCTIONS
Administration & Business Services
Airports
County Surveyor
Engineering
Land Improvement
Roads and Bridges
Solid Waste

COUNTY OF MENDOCINO
DEPARTMENT OF TRANSPORTATION

340 LAKE MENDOCINO DRIVE
UKIAH, CALIFORNIA 95482-9432
(707) 463-4363 FAX (707) 463-5474

8 December 2008

EXHIBIT NO. 34
APPEAL NO.
A-1-MEN-09-023
WERNETTE
MENDOCINO COUNTY DEPT. OF TRANSPORTATION RECOMMENDATIONS (1 of 3)

TO: Rick Miller, Supervising Planner
Department of Planning and Building Services, Fort Bragg

FROM: Tom Peters, Deputy Director
Department of Transportation

SUBJECT: COASTAL DEVELOPMENT PERMIT NO. CDP 51-08 (WERNETTE)
PROJECT COORDINATOR – TERESA SPADE

We have reviewed the proposed project driveway access and application again for the above referenced Coastal Development Permit, and offer the following comments for your consideration:

1. Please refer to our previous memorandum dated 15 October 2008. We are revising our comments regarding the proposed driveway access and the conditions recommended in our memo dated 15 October 2008.

2. There is a large hedge located within the County Maintained Road Right of Way for Robinson Reef Road which totally obscures sight distance to the south from the proposed project access (an existing driveway which also serves the existing residence at 38460 Robinson Reef Drive). We recommend that the comments and conditions in item 2a. and 2b. of our memo dated 15 October 2008 be deleted and replaced with the following:

3. We recommend construction of a standard private driveway approach, in accordance with the following condition of approval:

   Prior to commencement of construction activities for the residence, applicant shall obtain an encroachment permit from the Mendocino County Department of Transportation (DOT) and improve the sight distance at the existing driveway to a minimum distance of 165 feet. Prior to final occupancy, applicant shall complete, to the satisfaction of the Department of Transportation, a standard private driveway approach onto Robinson Reef Drive (CR 527), to a minimum width of ten (10) feet, area to be improved fifteen (15) feet from the edge of the County road, all in accordance with Mendocino County DOT Standard No. A51A, A51C, A52 and A53.

If you have any questions regarding this, please contact me at your convenience.

cc: George and Jerri Wernette
Frank Wernette
Paul Tyner, Permit Technician, Department of Transportation
CDP 51-08

RECEIVED
DEC 10 2008
PLANNING & BUILDING SERVICES
FORT BRAGG CA

RECEIVED
OCT 16 2008
PLANNING & BUILDING SERVICES
FORT BRAGG, CA

COUNTY OF MENDOCINO
DEPARTMENT OF TRANSPORTATION
LAND IMPROVEMENT DIVISION
340 LAKE MENDOCINO DRIVE
UKIAH, CA 95482
(707) 463-4075

MEMORANDUM

Date: **October 15, 2008**

To: **Rick Miller, Senior Planner**
Planning and Building Services Fort Bragg

From: **Tom Peters, Deputy Director**
Department of Transportation

Subject: **Coastal Development Use Permit No. CDP #51-2008**
Project Coordinator, Teresa Spade

We have reviewed the application for the above referenced coastal development use permit received under cover of your referral dated September 11, 2008 and offer the following comments for your consideration:

1. The applicant proposes to construct a two-story single-family residence with attached garage. Install sewage pump tank and connect to off-site septic disposal services, connect to community water, install driveway, retaining wall, LPG tank, generator, on-site drainage infrastructure, and connect to utilities. Located in the Coastal Zone approx. ½ mile north of downtown Gualala, on a bluff top lot, 150 feet west of Robinson Reef Drive (CR 527), 400+- feet north of its intersection with Westward Ho (CR 529), at 38454 Robinson Reef Drive, Gualala (APN 145-161-27).

2. Access to the subject property is provided from Robinson Reef Drive We recommend that the applicant apply for and complete a Standard Private Driveway Encroachment Application to serve this parcel according to the following condition of approval:

a. We recommend that this application not be approved until and unless the applicant shows that sight distance is available and permanent, in addition the easement may not be wide enough to serve multiple parcels. These concerns could be addressed by amending the site plan prepared by a Civil Engineer or a Land Surveyor to show that the driveway and entrance onto Robinson Reef Drive will meet five safe standards and may require vegetation removed for sight distance and related easements. When these issues are satisfactorily addressed then we recommend part (b) be a stipulation of any permit.

b. Prior to commencement of construction activities, applicant shall obtain an encroachment permit from the Mendocino County Department of Transportation. Prior to final occupancy, applicant shall complete, to the satisfaction of the Department of Transportation, a Private Road Approach onto Robinson Reef Drive (CR 527), to a minimum width of eighteen (18) feet, area to be improved fifteen (15) feet from the edge of the County road, to be surfaced with asphalt concrete, according to the stipulations of the encroachment permit.

For questions regarding issuance of the encroachment permit, the applicant may contact Paul Tyner at (707) 463-6828.

cc: George & Jerri Wernette

Permits DOT
(CR 527)

STATE OF CALIFORNIA THE RESOURCES AGENCY GRAY DAVIS, Governor

DEPARTMENT OF FORESTRY AND FIRE PROTECTION
Mendocino Ranger Unit
17501 North Highway 101
Willits, CA 95490
(707) 459-7414

Ed McKinley
237 Morrow Street
Fort Bragg, Ca. 95437

December 14, 2000

RE: CDF file # 22-98

Attention Ed McKinley

Dear Ed McKinley,

After reviewing the information regarding your parcel being less than an acre and the driveway less than 300'. CDF finds that no exemption is needed for the driveway and no turnaround is necessary. The setbacks fall on local jurisdiction due to the fact that said property is under an acre.

Please send a copy of this letter to Mendocino County Building and planning to add to your file.

If you have further questions, please contact me.

Tracy Boudreaux
Fire Prevention Specialist II

EXHIBIT NO. 35
APPEAL NO.
A-1-MEN-09-023
WERNETTE
FIRE WAIVER DOCUMENTS
(1 of 4)

South Coast Fire Protection District
P O Box 334
Gualala Ca. 95445
707-884-4700
December 12, 2005

To Whom It May Concern:

In regards to the allegations by Mr. Hines about the Wernette property located at 38454 Robinson Reef Drive Gualala California, The Uniform Fire Code in most areas, state," when required by Chief". Again, after reviewing said project I believe the South Coast Volunteer Fire Department can effectively and efficiently fight a fire on this property and protect adjacent properties.

Leighton Nelsen
Leighton Nelsen
Fire Chief

TRI TOOL INC.
3041 Sunrise Blvd. Rancho Cordova, CA 95742-6569 USA • 888.TRITOOL • 916-288-6100 • Fax 916-288-6160
www.tritool.com

Frank Wernette
3041 Sunrise Blvd.
Rancho Cordova, CA 95742

July 9, 2008

Leighton Nelsen, Chief
South Coast Fire Protection District
P.O. Box 334
Gualala, CA 95445

Chief Nelsen:

The purpose of this letter is, pursuant to Section 103.1.3 of the Fire Code, to apply for a waiver from the following provisions of the code due to the practical difficulties related to implementing the proposed Wernette Project at 38454 Robinson Reef Drive in Gualala, California.

Geologic and access limitations and required environmental safeguards have restricted the allowable building footprint to an extent that the following Uniform Fire Code and State Fire Code sections pose significant barriers to implementing the project:

- 902.2.1 – Required Access – If greater than 150' approved route around building is required.
- 902.2.2.1 – Dimensions – Fire apparatus access roads shall have a width of 20'
- 902.2.2.4 – Dead Ends – If greater than 150' approved provisions for turning around shall be provided
- 903.2- Required Water Supply for Fire Protection – Hydrants are required where property is more than 150 ft. from a public street
- 1223.02 – Roadway surfaces shall be capable of supporting a 40,000-pound load.
- 127.03 – Roadway grades - The grade for all roads, streets, private lanes, and driveways shall not exceed 16%.
- 1273.05 – Roadway turnarounds - All dead end roads should have a turnaround; minimum radius to be 40 feet. In the case of a hammerhead turnaround, the "T" shall be 60 feet in length.

We recognize that any waiver must ensure that the spirit of the code shall be complied with and public safety secured. We would appreciate your approval to waive these provisions, your decision being entered into your department records, and a signed copy furnished to us at the letter head address.

Thank you for your consideration of this request.

If you have any questions or require additional information please contact me at 916-288-6100 or at fwernette@tritool.com.

Sincerely,

Frank Wernette

South Coast Fire Protection District
P O Box 334
Gualala Calif. 95445
707-884-4700
07-28-2008

To Whom It May Concern:

This letter is to inform anyone with interest in the Wernette Project located at 38454 Robinson Reef Drive in Gualala, California, that the South Coast Fire Protection District is granting a waiver as requested in writing by Mr. Frank Wernette. Uniform Fire Code sections 902.2.1 902.2.2.1 902.2.2.4 903.2 1223.02 127.03 1273.05 are to be covered in this wavier.

Leighton Nelsen

Fire Chief

4 of 4

THE WERNETTE PROJECT
GUALALA, CALIFORNIA
Appeal Figure A-2 – Habitat Types on Wernette Parcel

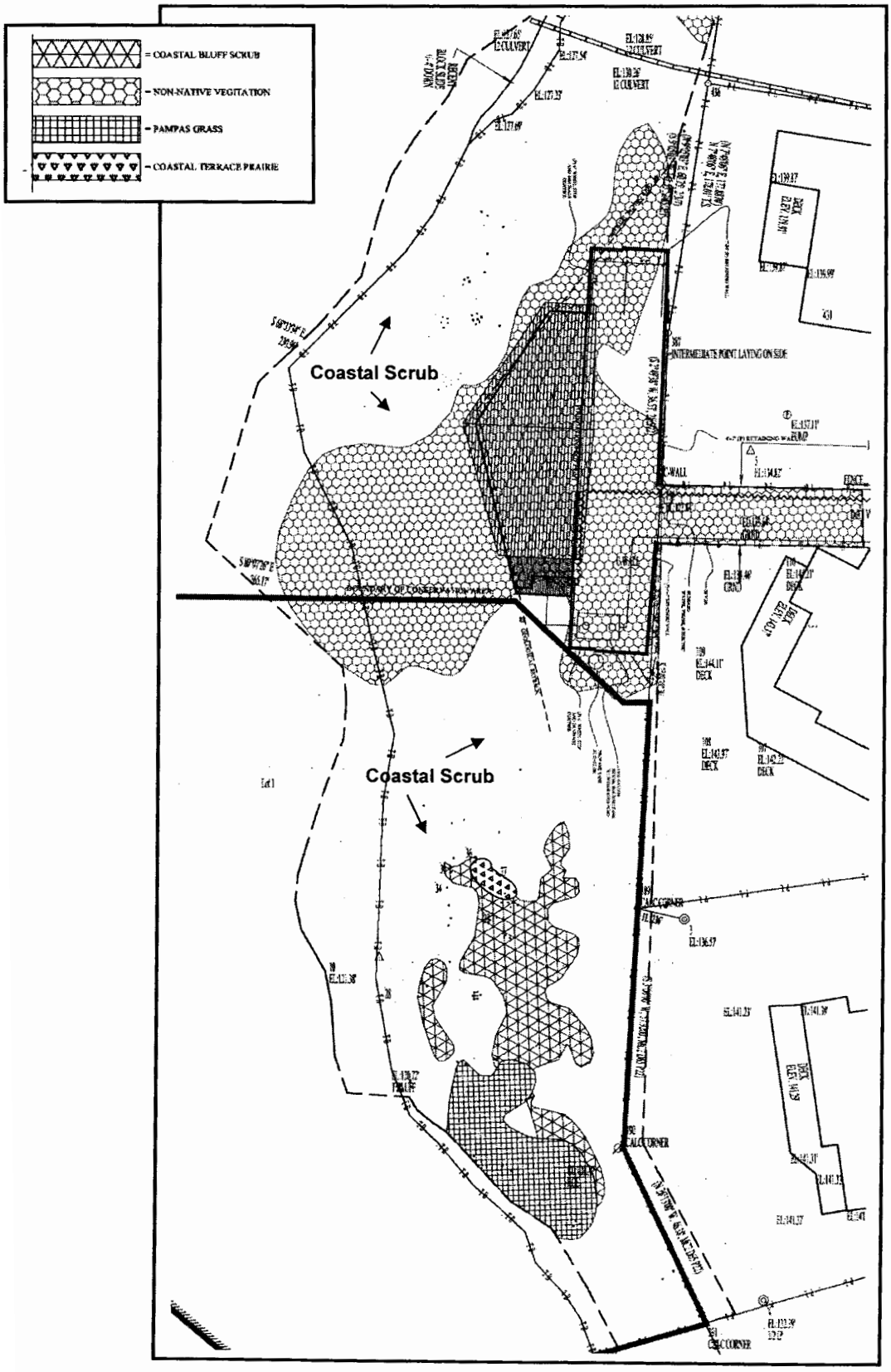
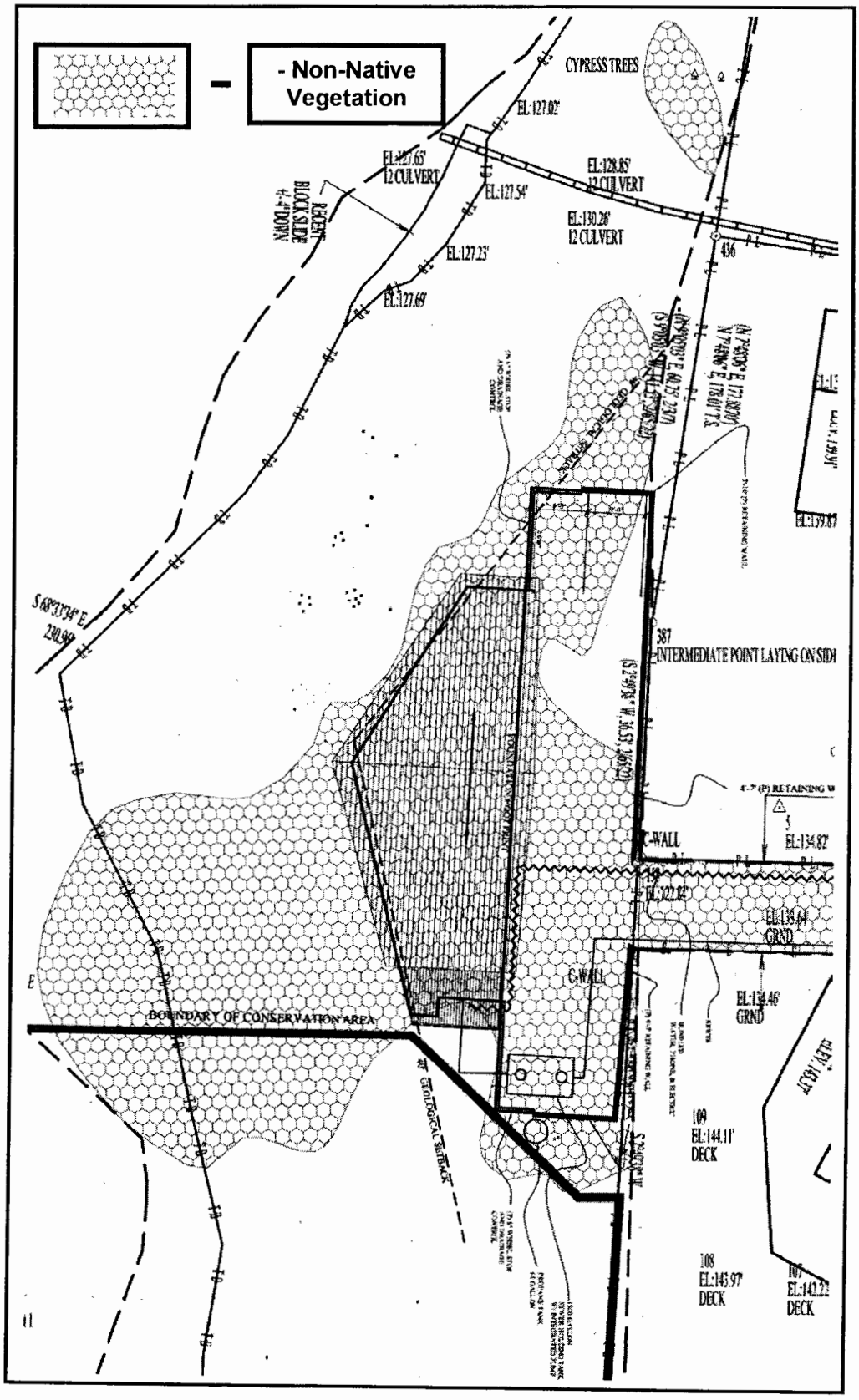


EXHIBIT NO. **36**

APPEAL NO.
A-1-MEN-09-023
WERNETTE
HABITAT TYPES (1 of 2)

THE WERNETTE PROJECT
GUALALA, CALIFORNIA
Appeal Figure A-3 – Proposed Home and Habitat Types



THE WERNETTE PROJECT
A-1-MEN-09-023
Construction Zone Figure

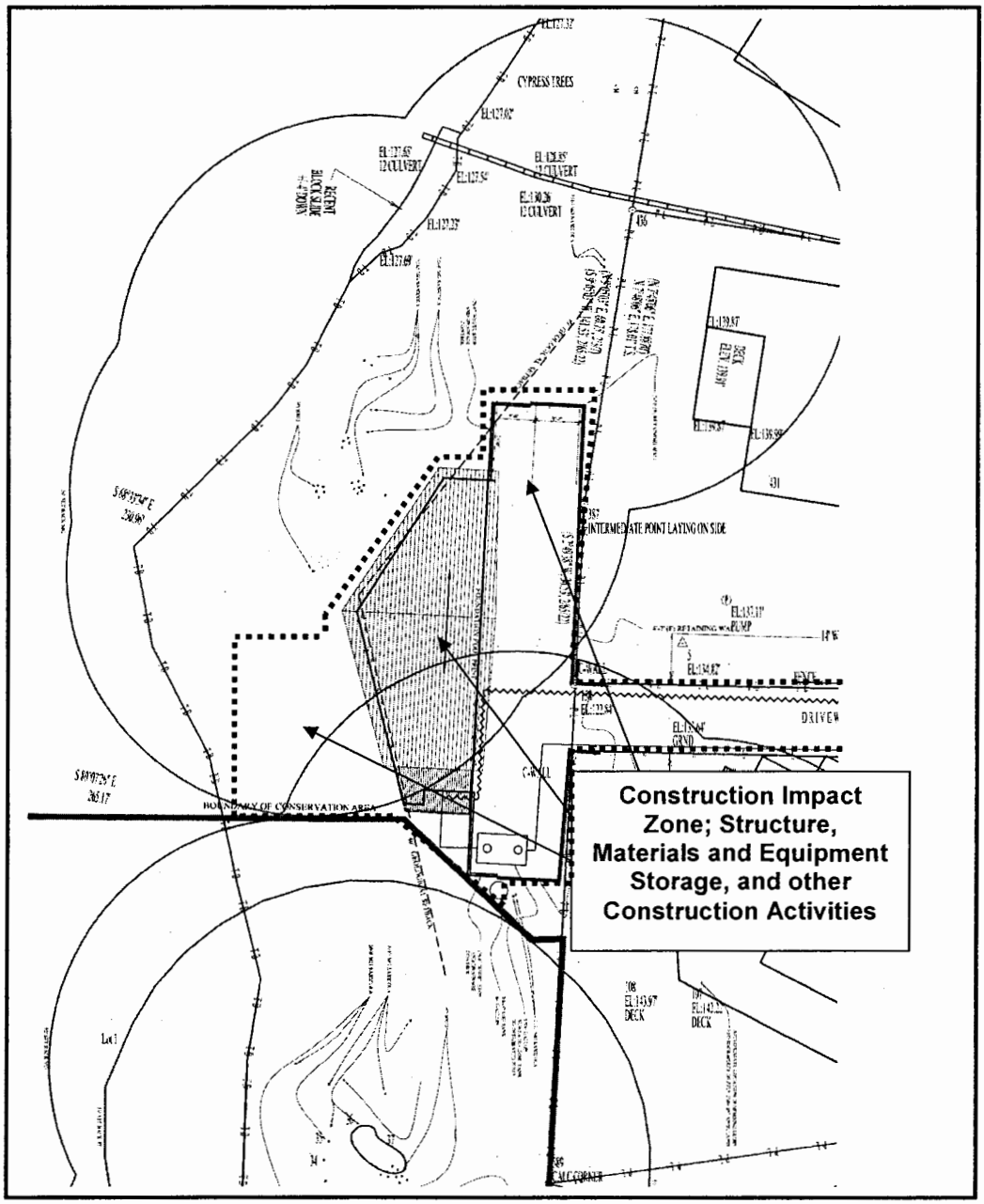


EXHIBIT NO. **37**

APPEAL NO.
A-1-MEN-09-023
WERNETTE
CONSTRUCTION ZONE