APPS 11710

LINDBERG GEOLOGIC CONSULTING
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ENGINEERING GEOLOGIC (R-2) SOILS EXPLORATION REPORT

Proposed Trailer or Mobile Home Site,
New Pond and Cultivation Site Relocation
28829 Alderpoint Road, Blocksburg
Humboldt County, California

Assessor's Parcel Number 217-255-002

Prepared for:
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ENGINEERING GEOLOGIC (R-2) SOILS EXPLORATION REPORT

Existing and Proposed Developments

28829 Alderpoint Road, Blocksburg, California

Assessors' Parcel Number: 217-255-002

1.0 INTRODUCTION

1.1 Site and Project Description

This report presents the results of our engineering-geologic soils exploration conducted for a mobile home (or trailer), a pond, and relocation of cultivation sites on the parcel noted above. We also observed the foundations of two existing commercial processing structures. Located north of Blocksburg, (Figure 1), access to existing and proposed developments on this parcel is from Alderpoint Road. Humboldt County Assessor's Parcel Number is 217-255-002 (Figure 2). Selected pertinent project site location information is listed in Table 1 below.

TABLE 1 - PROJECT LOCATION INFORMATION	
Assessor's Parcel Number: 217-255-002	
Address	28829 Alderpoint Road, Blocksburg
Latitude and Longitude*	40.2885° N, 123.6448° W
Legal Description	SW ¼, Section 14, Township 2 S, Range 5 E; HB&M.
Parcel Size	102 acres (approximately)

* Centroid of parcel per Humboldt County Web GIS

Lindberg Geologic Consulting (LGC) was retained to conduct a soils investigation and prepare this Engineering-Geologic R-2 soils report for the existing structures, pond, and proposed areas for construction of new hoop green houses for cannabis cultivation (Figure 3). Historically, land use on this parcel was agriculturally-based with use as hayfields and grazing for livestock. The parcel is gently to moderately sloping, and is roughly one-third grassland and two-thirds timberland. A site plan from Project Engineer, Omsberg and Preston, is appended to this report.

Included in this report are assessments of the potential soils and geologic hazards associated with the site, and recommendations to help mitigate some of the potential effects of such hazards. Also provided in this report are recommendations which design professionals (architects and engineers) could utilize for planning site developments.

1.2 Scope of Work

The Scope of Services included confirmation of the viability of the existing and proposed site developments, identification of potential geologic hazards that could affect those developments, subgrade soil characterization, and preparation of this R-2 Soils Report. The following information is presented in this report:

- Description of site terrain and local geology.
- Interpretation of subsurface soil and groundwater conditions based on our explorations.

- Logs of soil profile characteristics observed within backhoe-pit test excavations.
- Assessment of potential earthquake-related geologic and geotechnical hazards including surface fault rupture, liquefaction, differential settlement, and site slope instability.
- Discussion of potential geologic-hazard mitigation measures, as appropriate.
- Seismic design parameters per the applicable sections of the 2013 California Building Code (CBC); Seismic Design Category, Site Class.
- Spectral Response Accelerations.
- Discussion of appropriate foundation design options.
- Recommendations regarding foundation elements, including:
    - Allowable bearing pressures (dead, live, and seismic loads)
    - Evaluation of potential foundation settlement
    - Minimum foundation embedment
- Recommendations for earthwork; site and subgrade preparation; fill material; fill placement and compaction requirements; and criteria for temporary excavation support.
- Recommendations for construction materials testing and inspection, as appropriate.

An environmental site assessment for the presence or absence of any hazardous materials is specifically excluded from our scope of work. Although we have explored subsurface conditions, we have not conducted any analytical laboratory testing for the presence of hazardous material of samples obtained.

1.3 Limitations

This report has been prepared for specific application to this site's existing and proposed developments as described here, and is intended for the exclusive use of our client the owner, his contractors, and appropriate public authorities. LGC has endeavored to comply with generally accepted engineering geologic practice common to our local area at the time this report was prepared. LGC makes no other warranty, express or implied.

Analyses and recommendations contained in this report are based on data obtained from subsurface exploration, readily-available published information, and unpublished information in our files. Our methods indicate subsurface soil and groundwater conditions only at specific locations where explorations were conducted, only at the time they were conducted, and only to the actual depths penetrated. Hand-augered test borings and observation of soil samples cannot always be relied on to accurately reflect stratigraphic variations that may commonly exist between boring locations, nor do they necessarily represent subsurface conditions at any other time.

The recommendations included in this report are based, in part, on assumptions about subsurface conditions that may only be verified during earthwork for construction. Accordingly, the validity of these recommendations is contingent upon LGC being retained to provide a complete professional service. LGC can not assume any responsibility or liability for the adequacy of the recommendations when they are applied in the field unless LGC is retained to review grading and foundation plans, and to observe excavations prepared for foundation construction. We will be happy to discuss the cost and a schedule of such observations required to provide assurance of the validity of our recommendations.

Do not apply any of this report's conclusions or recommendations if the nature, design, or locations of the proposed new developments are changed. When new developments may be contemplated, LGC should be consulted to review their impact on the applicability of the recommendations in this report. LGC is not responsible for any claims, damages, or liability associated with any third party's interpretation of the subsurface data, or reuse of this report for any future projects or at other locations without our express written authorization.

2.0 FIELD EXPLORATION

2.1 Field Exploration Program

A Certified Engineering Geologist from our office visited the project site on September 30, 2016. A field investigation was performed to assess the site and its *in-situ* soil and groundwater conditions, and to estimate the engineering characteristics of the subsurface materials at the site. Our exploration included observation of soils in three, hand augered exploratory test borings at the site of a future trailer, mobile, or manufactured home (HB-1) and proposed new hoop greenhouse locations (HB-2 and HB-3)

Soils observed in the field were classified in general accordance with ASTM D-2488 visual-manual procedures. The exploratory boring locations are presented approximately on the site plan (Figure 3). Logs of the soil profile are attached as Figures 5 through 7.

2.2 Laboratory Testing

Collection of soil samples for laboratory analysis was not within the scope of this investigation. No laboratory analyses were performed by LGC for this project. Based on our exploratory borings and experience in the area, we infer the stratigraphy of the subsurface to consist of approximately one foot or less of topsoil composed of soft silt with fine sand and gravel (ML). At foundation load-bearing depths, soils graded to fine sand with silt and gravel (SM). Soils graded from thin, organic-rich silty topsoil, to fine sand with silt and gravel at a depth of six-inches below the ground surface (bgs) in the borings. In color, soils were dark brown at the surface, and graded to strong brown and yellowish, or grayish brown at depth. Soils were medium dense in the upper one-foot of the profile; and dense by three feet below grade.

3.0 SITE AND SUBSURFACE CONDITIONS

3.1 Topography and Site Conditions

The subject parcel has an area of approximately 102 acres, and is located north of Blocksburg (Figure 1). Site elevation ranges from approximately 1,400 to 1,890 feet above mean sea level, based on the USGS Blocksburg topographic quadrangle map. Located on the northeast side of

Larabee Creek with slopes that range from less than 15 percent to greater than 30 percent, and more, the portions of the parcel explored consist of undulating, gently-sloping ground, well-suited for the developments made and proposed. The existing and proposed developments are located on portions of the parcel with slopes averaging less than five to ten percent. While there are some steeper (50%) slopes on the parcel, the proposed and existing developments are not close to any hazardous or unstable slopes.

3.2 Geologic Setting

Blocksburg and the surrounding region are located within California's northern Coast Ranges Geomorphic Province, a seismically active region in which large earthquakes will occur during the economic life span (50 years) of any developments on the subject property. As mapped by McLaughlin *et al.*, (2000), the site is underlain by mélange of the Central Belt of the Franciscan Complex (cm1, Figure 4), of early Tertiary to late Cretaceous age (Figure 4a).

The near-surface native soils are composed of silty sand with fine angular gravel and clay. Based on the on-site exploratory backhoe test excavations, and our experience in the region, soils are interpreted to be uniform across the existing and proposed development sites on this parcel. Isolated blocks of hard bedrock could be encountered during excavation work. In general, the soil profile consists of a thin layer of organic-rich, silt with fine sand topsoil. Our exploratory hand auger borings extended to a maximum depth of approximately 5.5 feet below ground surface (bgs). Soil mottling was not observed in the backhoe test excavations, nor was free groundwater encountered to 5.5 feet bgs in late September. Soils were moist from a few inches below the ground surface to the total depth explored.

3.3 Seismicity

Blocksburg and vicinity is located within a seismically active region in which large earthquakes from a variety of sources have the potential to occur during the economic life span (50-years) of a typical structure. In this region north of Cape Mendocino and the Mendocino triple junction, the regional tectonic framework is dominated by the interaction of the San Andreas fault, the Mendocino fault and the Cascadia subduction zone (CSZ), wherein the Gorda and Juan de Fuca oceanic plates are being actively subducted beneath the North American continental plate.

Regionally, the San Andreas fault and the Cascadia subduction zone mark the boundary between the North American plate, the Pacific plate and the subducting Gorda and Juan De Fuca plates. The San Andreas fault forms a transform boundary between the North American and the Pacific plates. Similarly, the Mendocino fault forms another transform plate boundary between the Pacific Plate, and the Gorda and Juan de Fuca plates. Recent and ongoing research into the seismicity of the Pacific Northwest has shown that both the San Andreas fault and the CSZ are capable of generating large to great earthquakes. The CSZ, which extends from offshore of Cape Mendocino in Humboldt County, to Victoria Island in British Columbia, is considered capable of generating an upper-bound earthquake with a M_w of 8.3 on its southern Gorda segment. Based on

Japanese tsunami records, and geophysical modelling, the CSZ has been interpreted to have ruptured over its entire length in the year 1700 A.D. in a 9.0 M_w earthquake event (Satake, *et. al.*, 2003).

Based on the record of historical earthquakes (~150 years), faults within the plate boundary zone and internally-deforming Gorda Plate have produced numerous small-magnitude and several moderate to large (i.e. M>6) earthquakes affecting the project area. Several active regional seismic sources, in addition to the San Andreas fault and the Mendocino fault, are proximal to the project site and could also have the potential to produce relatively strong ground motions.

3.4 Subsurface Conditions

To characterize soil and groundwater conditions, three exploratory hand augered test borings were extended to a maximum depth of 5.5 feet bgs. In the field, the soil profile was described in general accordance with ASTM D 2488 standards. Below the uppermost three to four inches of loose topsoil, the soil profile consisted of medium dense to dense, brown, sand with silt and gravel to the total depths achieved. Descriptions of the soil encountered in the test borings are provided in the attached soil profile logs (Figures 5 through 7).

3.5 Groundwater Conditions

Groundwater was not encountered to the depth of 5.5 feet bgs during our field explorations. Soil mottling, potentially-indicative of transient high groundwater conditions, was not observable. Groundwater levels do fluctuate with seasonal or long-term climatic variations, and with changes in land use. However, due to this area of the subject parcel being underlain by materials which appeared well drained, groundwater is not expected to be encountered at foundation depths during dry-season (May through September) earthwork.

Earthwork during the wet season (October through May) is not recommended, and can be expected to be adversely affected by saturated soils at typical foundation bearing depths. Wet season earthwork should be avoided to the extent feasible. Groundwater conditions are not anticipated to negatively affect foundation performance, or construction during the dry season.

4.0 GEOLOGIC HAZARDS

The focus of our geologic hazard assessment for this project site primarily included seismic ground shaking due to near and far seismic sources, potential for slope instability, and differential settlement. Our assessment of these and other common potential geologic hazards is presented below.

4.1 Seismic Ground Shaking and Surface Fault Rupture

The un-named faults shown striking northwest to southeast along Larabee Creek in Figure 4, are not considered to be active faults. However; as noted in Section 3.3, the project site is in a seismically active region proximal to several seismic sources capable of generating moderate to strong ground motions; especially given the proximity of the Little Salmon fault, and other more-distant significant active faults (the San Andreas fault to the south, the Mendocino fault offshore to the southwest, and the Cascadia subduction zone offshore to the west). These, as well as other active faults in the region, will affect the project site. During the economic life span of the proposed developments (<50 years), they will experience moderate to strong ground shaking.

The Little Salmon fault is located approximately 25 miles northwest of Blocksburg and is the nearest recognized active fault (CDMG, 1998 and 2000). The subject parcel is not located within any Alquist-Priolo earthquake fault zone, in which the state requires special studies to be conducted for construction of structures for human occupancy. Site-specific fault-rupture hazard investigations are not required. Due to the distance from the building site to the surface trace of the Little Salmon fault, and based on the information available, the potential for ground surface fault rupture to occur within the proposed new parcel is considered minimal.

4.2 Liquefaction

Liquefaction is a phenomenon involving loss of soil strength, and resulting in fluid mobility through the soil. Liquefaction typically occurs when loose, uniformly-sized, saturated sands or silts are subjected to repeated shaking in areas where the groundwater is less than 50 feet bgs. In addition to the necessary soil and groundwater conditions, the ground acceleration must be high enough, and the duration of the shaking must be sufficient for liquefaction to occur. Strong ground shaking is expected to occur, and groundwater appears to be shallow at this site. Special Publication 115, (CDMG, 1995), shows the project location to be located out of any zones of liquefaction potential. Lateral spreading due to liquefaction is not anticipated to affect the site, given that the liquefaction potential is minimal.

4.3 Settlement

Medium dense to dense silty sand with gravel soils at typical foundation depths have low potential to compress and result in settlement. Most settlement will occur closely with the application of structural loads. Foundations should be embedded into the dense, undisturbed native brown sand with silt and gravel at approximately 12-inches below existing grade.

Potential settlement may be mitigated through foundation design. For a foundation system designed in accordance with our recommendations, and the standard of care for architecture and civil engineering, we estimate that total and differential settlement in the medium dense to dense on-site subsoils may be reasonably limited through prudent design and construction.

4.4 Landsliding

Areas of existing and proposed developments on the subject parcel are located on gently sloping ground surface at elevations of approximately 1,550 to 1,680 feet above mean sea level. In terms of slope stability, Humboldt County has zoned the slopes on this parcel as having "High Instability". In our explorations, we found no observable slope failures or indications of instability in the vicinity of the existing or proposed developments. This existing and proposed development locations do not appear to be in proximity of, or underlain, by active slope failures. With appropriate grading and erosion control, slope instability is not anticipated to impact the proposed work.

4.5 Flooding

According to the Humboldt County Web GIS, the subject parcel is outside of any 100 year flood zones. Developments proposed on this parcel are not subject to a hazard of flood inundation.

4.6 Tsunami

The site is outside of any mapped Tsunami Hazard zones (CGS, 2009).

4.7 Soil Swelling or Shrinkage Potential

Subsurface soils at foundation load bearing depths consist predominantly of silt with fine sand, angular gravel, and clay. Soils were moist from the ground surface to the total depth explored. Saturated soils and free groundwater were not encountered. Soils appeared permeable and well-drained. Based on the moisture content, soils at anticipated foundation load-bearing depths do not appear to be subject to shrink and swell associated with cyclic seasonal wetting and desiccation. Soils are unlikely to desiccate to a depth sufficient to affect a typical foundation system built according to current codes. The hazard associated with shrink-swell soils is estimated to be low.

5.0 CONCLUSIONS AND DISCUSSION

Based on the results of our explorations, and provided that our recommendations are adhered to, it is our opinion that the project site is suitable for the existing and proposed new developments as proposed. The two existing 6,000 square-foot one story wood frame (processing) structures appear to be founded on suitably-embedded, reinforced concrete footings. Pre-cast concrete piers were embedded into the concrete footings; posts atop the piers support the floors.

There are no building plans; therefore our recommendations are somewhat hypothetical. We assume only building loads typical of light wood-frame structures will be imposed by any new construction. Foundations should be designed to bear on undisturbed native soils in accordance with our recommendations, and the requirements of the currently in-force building code. Continuous perimeter spread footings with interior spread footings are acceptable and appropriate foundation types for construction on this parcel. Slab on grade foundations with a thickened perimeter footing are also suitable and acceptable.

6.0 RECOMMENDATIONS

6.1 Setback Recommendations

Existing and proposed developments on parcel 217-255-002 are situated on gently to moderately sloping, somewhat undulating ground. From an engineering geologic viewpoint, we recommend maintaining a ten-foot setback from the face of footings to slopes greater than 30 percent; beyond this, we have no setback recommendations to mitigate geologic hazards for the existing or proposed developments.

No developments are proposed within the streamside management area (SMA) of Larabee Creek, at the southwestern parcel border. Existing and proposed developments are outside of the SMA. One ephemeral stream flows through this parcel more than 200 feet southeast of all existing and proposed developments. Other large rural undeveloped and lightly-developed parcels surround this project site. There are both gently ascending and descending slopes in the vicinity of the existing and proposed developments. Apart from maintaining the ten-foot setback from the face of footings to downhill slopes steeper than 30 percent, no other slope setbacks, beyond those required by code and regulation, are necessary for this proposed project.

6.2 Site Preparation

The proposed development sites are in gently-sloping portions of the parcel, and will require only minimal clearing, grubbing and grading to create sites suitable for the developments proposed (mobile home site, relocated greenhouses, and pond). At least three to four inches of topsoil are anticipated within these proposed new development areas near HB-2 and HB-3 (Figure 3). Stockpile stripped topsoil on-site for later use as landscaping material or non-structural fill. Reuse the stripped, stockpiled topsoils constructively where feasible.

6.3 Subgrade Preparation

If the native soils exposed are soft or disturbed after excavation of the topsoil and subsoils to a depth of one foot bgs, then they should be overexcavated to expose more-competent native soils. Our investigation suggests that suitable firm, undisturbed native bearing soil occurs within approximately six inches of existing grade at the sites explored.

Excavations left by removal of any soft, unsuitable soils below the one-foot depth, should be backfilled with engineered (compacted) fill, or controlled low-strength material (CLSM), commonly referred to as "sand and concrete slurry". If necessary, place CLSM to two feet below existing grade, at the elevation of the bottom of the spread footings.

6.4 Temporary Excavations

Temporary construction slopes are not anticipated for the project as currently proposed. If used, temporary construction slopes should be designed and excavated in strict compliance with applicable local, state, and federal safety regulations including the current OSHA Excavation and Trench Safety Standards.

Construction equipment, building materials, excavated soil, vehicular traffic, and other loads should not be allowed near any unshored or unbraced excavations. Where the stability of adjoining improvements is, or may be endangered by excavation operations, support systems such as shoring, bracing, or underpinning, may be required to provide structural stability and to protect personnel working in the excavations.

Since excavation operations are dependent on construction methods and scheduling, the contractor should be solely responsible for the design, installation, maintenance, and performance of all shoring, bracing, underpinning, and other similar systems. LGC assumes no responsibility for temporary excavations, the safety thereof, or the design, installation, maintenance, and performance of any shoring, bracing, underpinning, or other similar systems.

6.5 Cut and Fill Slopes

New cut and fill slopes are anticipated for the pond. Structural fill on sloping ground (e.g., pond berm) should be placed on a suitably prepared "benched" subgrade surface that is firm and level, or has a slope no greater than 10 percent. Spread fill in loose lifts and compact mechanically with heavy equipment to reduce the potential for excessive settlement or seepage as described below.

6.6 Fill Materials

Aggregate Base

Aggregate base material should be used for pavement subgrade, placed beneath footings or floor slabs, or used as trench backfill. This material should be compacted mechanically, and should meet the requirements in the Caltrans Standard Specifications for Class 2 Aggregate Base (1 ½-inch maximum particle size). Other materials may be substituted with the approval of the project engineer.

Select Fill

In the case of new construction requiring select fill, that select fill should consist of granular material that may be used as non-expansive fill beneath floor slabs and for the upper portion of pavement subgrade. Select fill should be a well-graded soil/rock mixture free of organic material and other deleterious material; if placed at optimal moisture, on-site native soils appear suitable for use as select fill.

Select fill material should contain low plasticity clay, well-graded sand, and/or gravel. The material should contain no more than three percent by weight of rocks larger than 3 inches in greatest dimension, or more than 15 percent larger than 2-inches. Additionally, the material should be tested and meet the following specifications:

Plasticity index (PI):	<12
Liquid Limit (LL):	<30
Percent passing No. 200 sieve:	50 maximum, 5 minimum

6.7 Compaction Standard

Where compacted fill is required, that structural fill and backfill material should be placed in accordance with the specifications in Table 2 below. Material should be placed in horizontal lifts that do not exceed 8-inches in uncompacted thickness. A qualified field technician should be present to observe fill placement and to perform field density tests at random locations throughout each lift to verify that the specified compaction is being achieved by the contractor.

Where trenches closely parallel a foundation footing and the trench bottom is within a two horizontal to one vertical plane, projected outward and downward from any structural element, concrete slurry should be utilized to backfill that portion of the trench below this plane. The use of slurry backfill is not required where a narrow trench crosses a foundation footing at or near a right angle.

TABLE 2 – STRUCTURAL FILL PLACEMENT SPECIFICATIONS		
Fill Placement Location	**Compaction Recommendation (ASTM D 1557-Modified Proctor)**	**Moisture Content (Percent of Optimum)**
Earthen-Fill Pond Berm	90%	-1 to +3 percent
Granular cushion beneath Floor Slab	90%	-1 to +3 percent
Structural fill supporting Footings	90%	-1 to +3 percent
Structural fill placed within 5-feet of the perimeter of the building pad	90%	-1 to +3 percent
Utility trenches within building and pavement areas	95%	-1 to +3 percent
Utility trenches beneath Landscape Areas	90%	-1 to +3 percent

6.8 Seismic Design Parameters

We recommend that the designers utilize the following site-specific spectral response spectrum as obtained from the United States Geological Survey and 2010 ASCE 7 (w/March 2013 errata). The USGS ground motion calculator uses spectral acceleration values (S_S and S_1) based on site-specific geographic coordinates, the seismic database maintained by the USGS, the site classification, site coefficients, and adjusted maximum considered earthquake values (F_a, F_v, S_{Ms} and S_{M1}).

Given their intended uses, existing and proposed developments will be in Risk Category II (Table 1604.5, 2013 CBC). Due to the fact that the site-specific spectral acceleration S_1 is less than 0.75, the project parcel is assigned to Seismic Design Category D (1613.3.5, 2013 CBC). Based on the observed site conditions and an assumption of the soils within 100-feet of the ground surface, we classify the site as Site Class D consisting of a "stiff soil profile" (Section 1613.3.2, 2013 CBC). The parameters in Table 3 below are based on this classification.

Table 3 - Spectral Response Accelerations		
Situs Information: APN 217-255-002 28829 Alderpoint Road, Blocksburg	Latitude / Longitude	40.2885° / -123.6448°
	Risk/Occupancy Category	II
	Seismic Design Category	D
	Site Class	D
Spectral Acceleration	S_s (Site Class B)	1.500 g
	S_1 (Site Class B)	0.703 g
Site Coefficients	F_a / F_v	1.0 / 1.5
Response Accelerations	S_{MS}	1.500 g
	S_{M1}	1.055 g
	S_{DS}	1.000 g
	S_{D1}	0.703 g

6.9 Allowable Soil Bearing Pressures

Per Section 1806.2 of the 2013 CBC, for undisturbed native Silty Sand (SM) soils, or a documented engineered fill resting on such material, the following may be used for design: an allowable soil bearing value of 2,000 psf; a lateral bearing pressure of 150 psf per foot below natural grade; and a lateral sliding resistance coefficient of friction of 0.25 multiplied by the dead load, as limited by CBC Section 1806.3.2. An increase of one-third may be permitted where used with the alternate basic load combinations in CBC Section 1605.3.2 (2013) which includes wind or earthquake loads.

6.10 Foundation Design

Foundation design recommendations presented here assume that any new structure will be supported on a new reinforced concrete foundation system embedded into undisturbed native soil as exposed by our hand augered exploratory test borings. In our opinion, a one-, or two-story wood framed residential structure can be supported by foundation systems designed according to the 2013 CBC. A perimeter spread footing with interior footings appears suitable for a new commercial or residential structure. A monolithic, reinforced concrete slab-on-grade foundation system is recommended for a detached garage or shop, if any.

The reinforced concrete foundation system should be constructed on the firm undisturbed native silty sand with gravel soil encountered at approximately six inches below existing grade. Summarizing, foundation excavations should extend through the upper six inches of soft topsoil and subsoil; and new foundations should be embedded into firm undisturbed native soils.

Designers of new structures should use the foundation types described above. These foundation types are considered suitable for site conditions, provided that they are constructed in accordance with our recommendations, and designed to meet the standards of the current building codes. Hoop greenhouse "foundations" should be constructed per the manufacturer's recommendations.

Footings

- Foundation systems for this site should be reinforced and designed to limit potential structural damage due to differential settlement.
- Where (or if) necessary to mitigate undocumented fill soils, excavate and replace with suitable engineered fill, placed and compacted as recommended, or use controlled low strength material such as concrete sand slurry.
- Trenches to be backfilled with controlled low strength material should be at least 24 inches wide.
- Foundations should be embedded a minimum of 12 inches below existing grade, or 10 inches below the stripped ground surface.
- Minimum width of footings should be 15 inches, and the minimum thickness should be 6 inches, per CBC Section 1809.
- Support any deck(s) on new reinforced concrete drilled piers embedded at least three feet below existing grade.

Floor Slab Design

- Where (or if) any concrete floor slabs are proposed (e.g., permanent greenhouses), we recommend a reinforced concrete floor slab-on-grade. The slab should have a minimum thickness to be strong enough to bear the loads generated by the anticipated use. Floor slabs should be underlain by at least eight-inches of compacted select fill consisting of at least 6 inches of Class 1, Type A permeable material or Class-2 aggregate base (per Caltrans), or an approved equivalent, to act as a capillary moisture break, and two-inches of sand as described below.
- To reduce the potential for moisture migration through any floor slab-on-grade, a minimum six-mil plastic membrane (vapor retarder) should be placed on the prepared Class 1, Type A gravel or Class-2 aggregate base subgrade.
- Joints between the sheets and utility piping openings should be lapped and taped.
- Care should be taken during construction to protect the plastic membrane against punctures. To protect the membrane during steel and concrete placement, and to provide for a better concrete finish, cover the membrane within at least 2-inches of clean sand.
- Any difference between the 8 inches of select fill and sand under the slab, and the depth to firm undisturbed native soil at approximately 12 inches bgs, may be made up with additional select fill, or engineered fill that is placed and compacted as specified in the Structural Fill section of this report.

6.11 Grading and Drainage

Finished grading at this site should provide positive drainage away from all foundation elements. No water should ever be allowed to pond anywhere on the site, nor to migrate beneath any structures.

- At minimum, a five percent gradient away from the foundation should be maintained for landscaped areas within 15-feet of the structures.
- A minimum gradient of two percent away from foundations should be maintained for all hardscaped (asphalt or concrete) areas within 15-feet of the structures.
- Finished grading of the site should be designed and executed to avoid concentrating runoff, and promote drainage by sheet flow.
- All roof storm drainage should be controlled with the installation of gutters and downspouts. Downspouts should be connected to tightlines to convey roof storm runoff away from foundations and fills to suitable outlet points where no erosion, flooding or sediment deposition will occur.
- Runoff from any hardscaped areas, like sidewalks and parking areas, and other impermeable surfaces should also be contained, controlled, and directed to suitable outlet points where no erosion, flooding or sediment deposition will occur.
- Construct the pond and access to avoid concentrated runoff and erosion.
- Limit pond interior slopes to less than 3:1, and exterior slopes to 2:1 (H:V) or less.
- Seal (i.e., line) the pond to conserve water and to avoid saturating the underlying soils.
- Use bentonite to seal the pond; synthetic liners are also suitable in this application.

6.12 Erosion and Sediment Control Recommendations

Wet weather conditions can occur any time but may be expected predominantly from October through April. Storm water erosion and pollution prevention measures should be taken as soon as possible prior to the onset of the winter rains. To the extent feasible for this project, Humboldt County Erosion Control Standards and the project engineer's erosion control recommendations should be incorporated into the project design and adhered to during construction.

Erosion and sedimentation control measures:

- Revegetate all disturbed areas as soon as possible following earthwork.
- Spread stockpiled topsoils over exposed bare soils areas.
- Lightly compact the replaced topsoil by and wheel or track packing.
- Mulch exposed soil areas with straw and grass seed to protect against erosion.
- Cover soil stockpiles with plastic sheeting, thickness 6 mil, minimum.
- Anchor stockpile covers securely to prevent wind disturbance.
- Lightly regrade the access road to drain to the outboard side by sheet flow where feasible.
- Resurface the access road with rock to limit erosion and sediment production.
- Extend gravel-surfaced driveways to the processing buildings and cultivation sites.
- Maintain the all road drainage structures annually; keep in good condition.
- Drive no vehicles off road when the soils are wet or soft, use gravel or paved areas only.
- Owner or owner's agent should monitor site before and after runoff-generating rainfall events to verify functioning of erosion control measures and to repair them as needed.

6.13 Pavement Design Recommendations

While not required, new pavements may be desired for the driveway and parking areas for this development. We recommend stripping at least the upper six-inches of soils, and proof-rolling to compact the exposed material to a firm and unyielding surface, then placing a minimum of 0.5 feet of compacted Class-2 aggregate base, and 0.2 foot of asphalt concrete (if desired). If (or where) asphalt paving is not used, place 0.75 feet of compacted Class-2 aggregate base, or other suitable materials as approved by the project engineer.

7.0 ADDITIONAL SERVICES

7.1 Review of Grading, Foundation, and Drainage Plans

Conclusions and recommendations provided in this report are based on the assumption that soil conditions encountered during earthwork will be essentially the same as those exposed during our explorations, and that the general nature of the grading, and use of the property will be as described above.

LGC should provide inspection services to assure conformance with the recommendations in this report including:

- Review and approval of any foundation drawings, prior to issuance for construction.
- Observation of foundation excavations prior to placement of any fill, concrete formwork, or reinforcing steel.
- Observation of the stripped and benched ground surface, prior to placement of berm fill.

8.0 REFERENCES

McLaughlin, R. J., S. D. Ellen, M. C. Blake Jr., A. S. Jayko, W. P. Irwin, K. R. Aalto, G. A. Carver, and S. H. Clarke, Jr., 2000, Geology of the Cape Mendocino, Eureka, Garberville, and Southwestern Part of the Hayfork 30 x 60 Minute Quadrangles and Adjacent Offshore Area, Northern California.

CBC [California Building Code], 2013 edition, California Code of Regulations, Title 24, California Building Standards Commission.

CDMG [California Division of Mines and Geology], 2000, Digital Images of Official Maps of Alquist-Priolo Earthquake Fault Zones of California, Northern and Eastern Region.

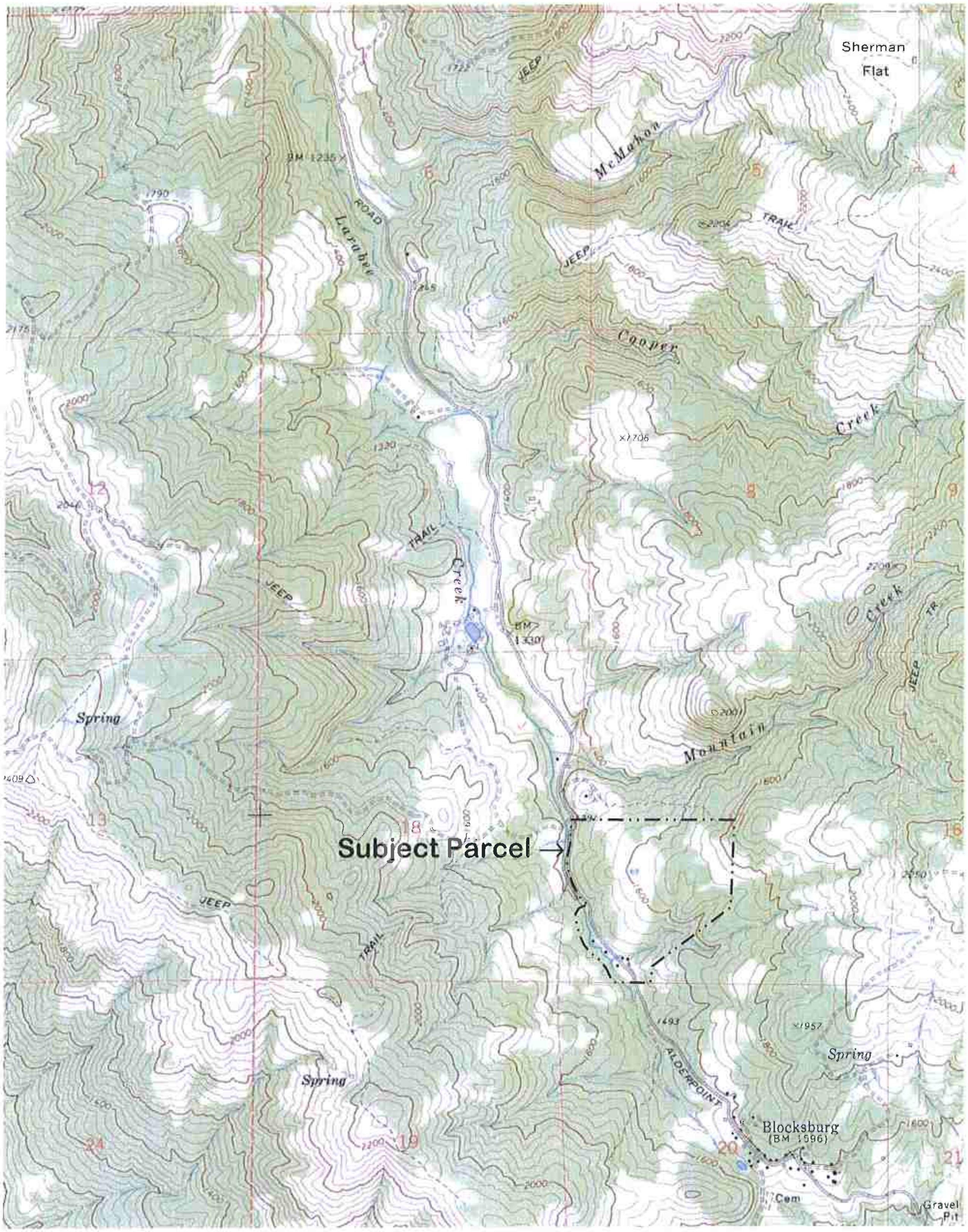
CDMG, 1996, Probabilistic Seismic Hazard Assessment for the State of California. Mark D. Petersen, William A. Bryant, Chris H. Cramer, Tianqing Cao, and Michael Reichle, California. Department of Conservation, Division of Mines and Geology, Arthur D. Frankel, U.S. Geological Survey, Denver, Colorado. James J. Lienkaemper, Patricia A. McCrory, and David P. Schwartz, U.S. Geological Survey, Menlo Park, California, Open-File Report 96-08, Maps of Known Active Fault Near-Source Zones in California and Adjacent Portions of Nevada.

Satake, K., Wang, K., Atwater, B., 2003, Fault slip and seismic moment of the 1700 Cascadia earthquake inferred from Japanese tsunami descriptions. Journal of Geophysical Research, Vol. 108, No. B11, 2535.

USGS, 2016, U.S. Seismic Design Maps, website, URL: http://earthquake.usgs.gov/designmaps /us/application.php

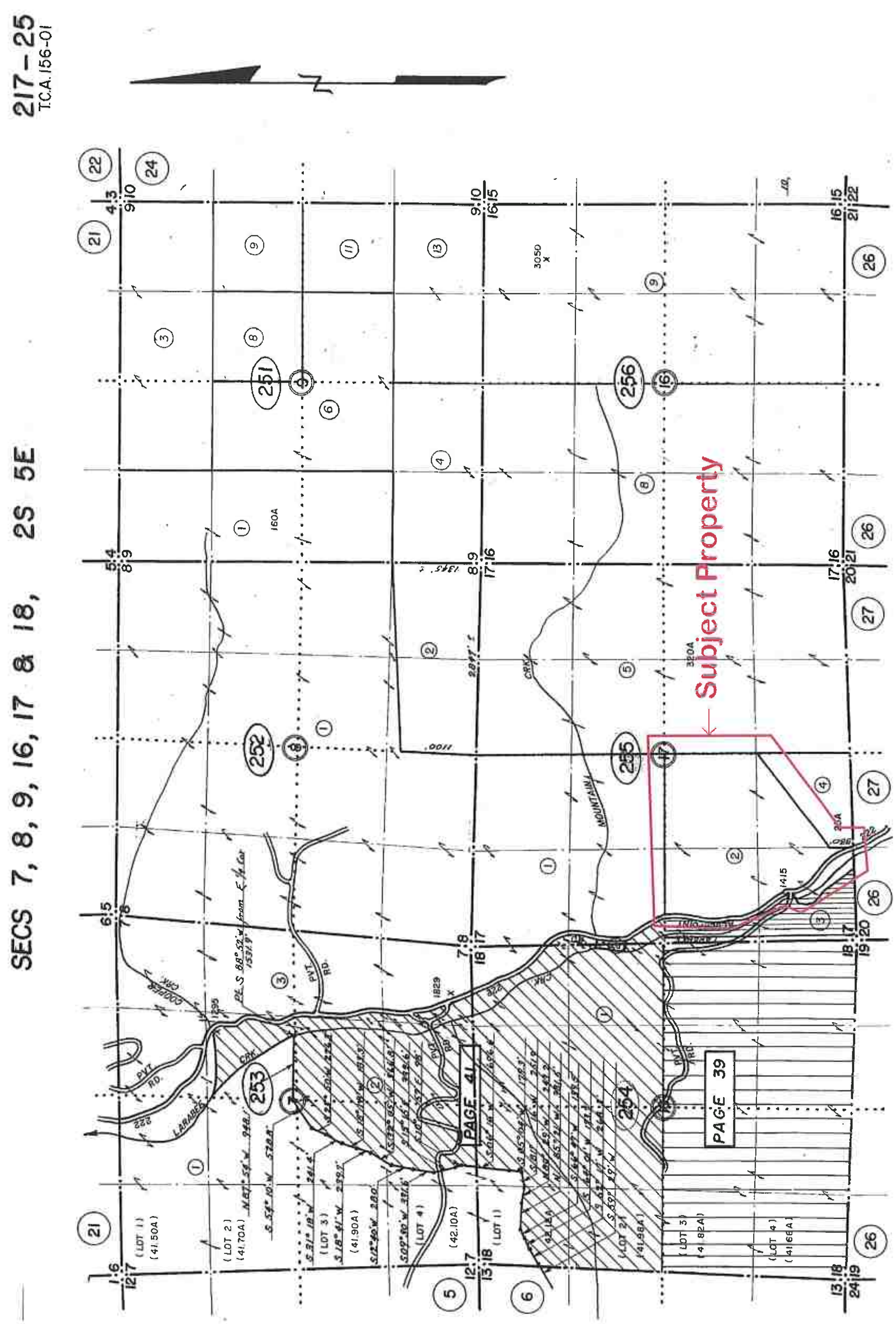
9.0 LIST OF FIGURES

Lindberg Geologic Consulting	Preliminary Engineering Geologic R-2 Soils Exploration Report	Figure 1
P. O. Box 306	28829 Alderpoint Road, Blocksburg, Humboldt County	December 20, 2016
Cutten, CA 95534	APN: 217-255-002, Mr. Daniel Williams, Client	Project 0196.00
(707) 442-6000	Project Area Topographic Map; All Locations Approximate	1 inch ≅ 0.42 miles

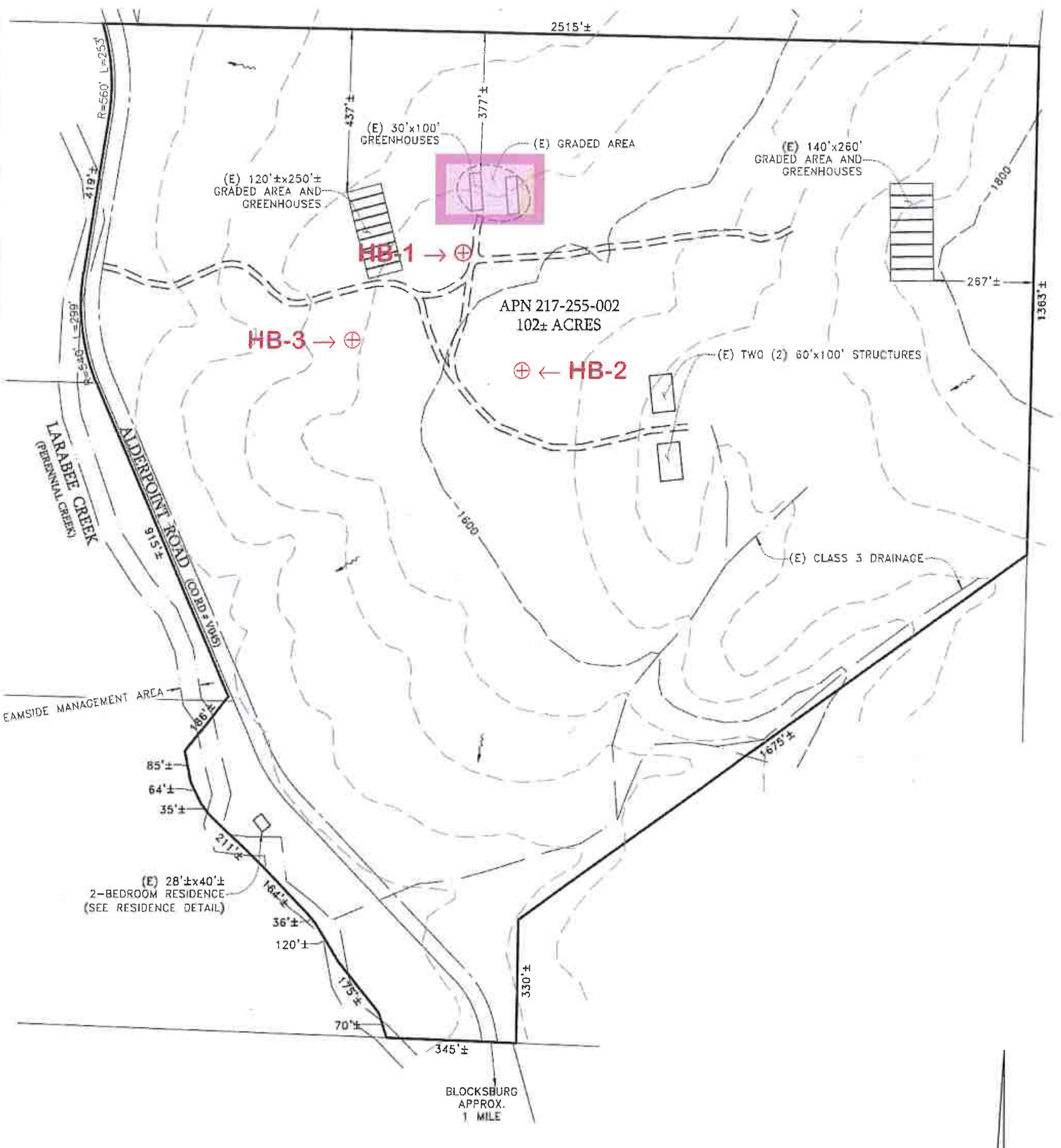


From: USGS 7.5' Blocksburg, Calif., Quadrangle Map, 1969. N ≅

Lindberg Geologic Consulting	Preliminary Engineering Geologic R-2 Soils Exploration Report	Figure 2
P. O. Box 306	28829 Alderpoint Road, Blocksburg, Humboldt County	December 20, 2016
Cutten, CA 95534	APN: 217-255-002, Mr. Daniel Williams, Client	Project 0196.00
(707) 442-6000	Humboldt County Assessor's Parcel Map; All Locations Approximate	Not to Scale

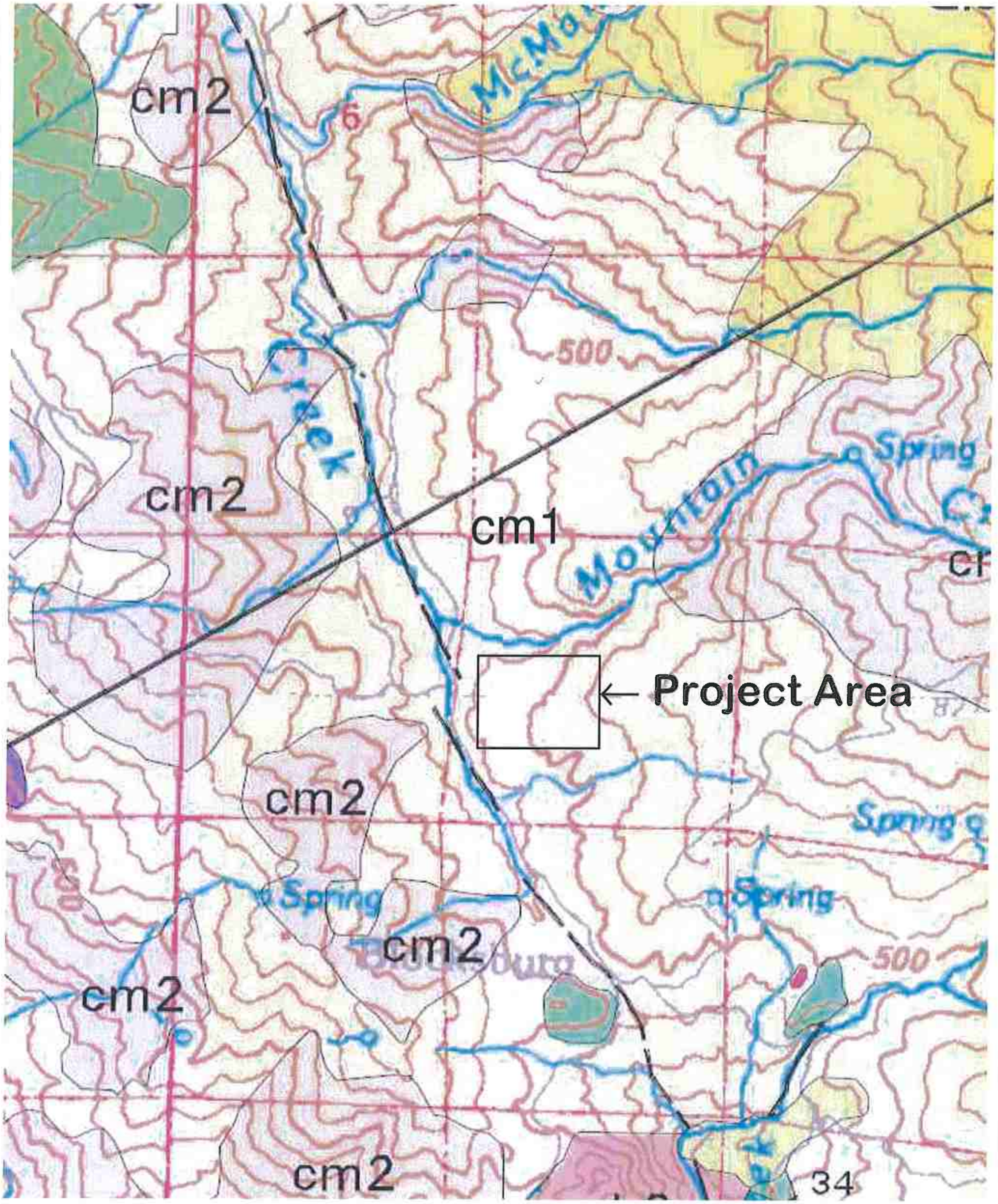


Lindberg Geologic Consulting	Preliminary Engineering Geologic R-2 Soils Exploration Report	Figure 3
P. O. Box 306	28829 Alderpoint Road, Blocksburg, Humboldt County	December 20, 2016
Cutten, CA 95534	APN: 217-255-002, Mr. Daniel Williams, Client	Project 0196.00
(707) 442-6000	Project Preliminary Plot Plan Detail; All Locations Approximate	Not to Scale



Modified From: "Preliminary Plot Plan for Daniel Williams", Omsberg & Preston, October 26, 2016.

Lindberg Geologic Consulting	Preliminary Engineering Geologic R-2 Soils Exploration Report	Figure 4
P. O. Box 306	28829 Alderpoint Road, Blocksburg, Humboldt County	December 20, 2016
Cutten, CA 95534	APN: 217-255-002, Mr. Daniel Williams, Client	Project 0196.00
(707) 442-6000	Project Area Geologic Map; All Locations Approximate	1 inch ≅ 0.5 miles



From: McLaughlin and Others, 2000. N ≅

Lindberg Geologic Consulting	Preliminary Engineering Geologic R-2 Soils Exploration Report	Figure 4a
P. O. Box 306	28829 Alderpoint Road, Blocksburg, Humboldt County	December 20, 2016
Cutten, CA 95534	APN: 217-255-002, Mr. Daniel Williams, Client	Project 0196.00
(707) 442-6000	Geologic Map Explanation	No Scale

DESCRIPTION OF MAP UNITS

QUATERNARY AND TERTIARY OVERLAP DEPOSITS

- Qal — Alluvial deposits (Holocene and late Pleistocene?)
- Qm — Undeformed marine shoreline and aolian deposits (Holocene and late Pleistocene)
- Qt — Undifferentiated nonmarine terrace deposits (Holocene and Pleistocene)
- Qls — Landslide deposits (Holocene and Pleistocene)
- QTog — Older alluvium (Pleistocene and (or) Pliocene)
- QTw — Marine and nonmarine overlap deposits (late Pleistocene to middle Miocene)
- Volcanic rocks of Fickle Hill (Oligocene)

COAST RANGES PROVINCE

FRANCISCAN COMPLEX

-- Coastal Belt --

Coastal terrane (Pliocene to Late Cretaceous)

Sedimentary, igneous, and metamorphic rocks of the Coastal terrane (Pliocene to Late Cretaceous):

- co1 — Melange
- co2 — Melange
- co3 — Broken sandstone and argillite
- co4 — Intact sandstone and argillite
- cob — Basaltic Rocks (Late Cretaceous)
- cols — Limestone (Late Cretaceous)
- Undivided blueschist (Jurassic?)

King Range terrane (Miocene to Late Cretaceous)

- Krp — Igneous and sedimentary rocks of Point Delgada (Late Cretaceous)
- Undivided blueschist blocks (Jurassic?)

Sandstone and argillite of King Peak (middle Miocene to Paleocene(?)):

- krk1 — Melange and (or) folded argillite
- krk2 — Highly folded broken formation
- krk3 — Highly folded, largely unbroken rocks
- krl — Limestone
- krc — Chert
- krb — Basalt

False Cape terrane (Miocene? to Oligocene?)

- fc — Sedimentary rocks of the False Cape terrane (Miocene? to Oligocene?)

Yager terrane (Eocene to Paleocene?)

Sedimentary rocks of the Yager terrane (Eocene to Paleocene?):

- y1 — Sheared and highly folded mudstone
- y2 — Highly folded broken mudstone, sandstone, and conglomeratic sandstone
- y3 — Highly folded, little-broken sandstone, conglomerate, and mudstone
- Ycgl — Conglomerate

-- Central belt --

Melange of the Central belt (early Tertiary to Late Cretaceous):

Unnamed Metasandstone and meta-argillite (Late Cretaceous to Late Jurassic):

- cm1 — Melange
- cm2 — Melange
- cb1 — Broken formation
- cb2 — Broken formation
- cwr — White Rock metasandstone of Jayko and others (1989) (Paleogene and (or) Late Cretaceous)
- chr — Haman Ridge graywacke of Jayko and others (1989) (Cretaceous?)
- cfs — Fort Seward metasandstone (age unknown)
- cls — Limestone (Late to Early Cretaceous)
- Chert (Late Cretaceous to Early Jurassic)
- bs — Basaltic rocks (Cretaceous and Jurassic)
- Undivided blueschist blocks (Jurassic?)
- gs — Greenstone
- Metachert
- yb — Metasandstone of Yolla Bolly terrane, undivided
- b — Melange block, lithology unknown

-- Eastern Belt --

Pickett Peak terrane (Early Cretaceous or older)

Metasedimentary and metavolcanic rocks of the Pickett Peak terrane (Early Cretaceous or older):

- ppsm — South Fork Mountain Schist
- mb — Chinquapin Metabasalt Member (Irwin and others, 1974)
- ppv — Valentine Springs Formation
- mv — Metabasalt and minor metachert

Yolla Bolly terrane (Early Cretaceous to Middle Jurassic?)

Metasedimentary and metaigneous rocks of the Yolla Bolly terrane (Early Cretaceous to Middle Jurassic?):

- ybt — Taliaferro Metamorphic Complex of Suppe and Armstrong (1972) (Early Cretaceous to Middle Jurassic?)
- ybc — Chicago Rock melange of Blake and Jayko (1983) (Early Cretaceous to Middle Jurassic)
- gs — Greenstone
- Metachert
- ybh — Metagraywacke of Hammerhorn Ridge (Late Jurassic to Middle Jurassic)
- Metachert
- gs — Greenstone
- sp — Serpentinite
- ybd — Devils Hole Ridge broken formation of Blake and Jayko (1983) (Early Cretaceous to Middle Jurassic)
- Radiolarian chert
- ybi — Little Indian Valley argillite of McLaughlin and Ohlin (1984) (Early Cretaceous to Late Jurassic)

Yolla Bolly terrane

- yb — Rocks of the Yolla Bolly terrane, undivided

GREAT VALLEY SEQUENCE AND COAST RANGE OPHIOLITE

Elder Creek(?) terrane

- ecms — Mudstone (Early Cretaceous)

Coast Range ophiolite (Middle and Late Jurassic):

- ecg — Layered gabbro
- ecsp — Serpentinite melange

Del Puerto(?) terrane

Rocks of the Del Puerto(?) terrane:

- dpms — Mudstone (Late Jurassic)

Coast Range ophiolite (Middle and Late Jurassic):

- dpt — Tuffaceous chert (Late Jurassic)
- dpb — Basaltic flows and keratophyric tuff (Jurassic?)
- dpd — Diabase (Jurassic?)
- dpsp — Serpentinite melange (Jurassic?)
- sp — Undivided Serpentinized peridotite (Jurassic?)

KLAMATH MOUNTAINS PROVINCE

Undivided Great Valley Sequence:

- Ks — Sedimentary rocks (Lower Cretaceous)

GREAT VALLEY SEQUENCE OVERLAP ASSEMBLAGE

Hayfork terrane

Eastern Hayfork subterrane:

- eh — Melange and broken formation (early? Middle Jurassic)
- ehls — Limestone
- ehsp — Serpentinite

Western Hayfork subterrane:

- whu — Hayfork Bally Meta-andesite of Irwin (1985), undivided (Middle Jurassic)
- whwg — Wildwood (Chanchelulla Peak of Wright and Fahan, 1988) pluton (Middle Jurassic)
- whwp — Clinopyroxenite
- whp — Diorite and gabbro plutons (Middle? Jurassic)

Rattlesnake Creek terrane

- rcm — Melange (Jurassic and older)
- rcls — Limestone
- rcc — Radiolarian chert
- rcis — Volcanic Rocks (Jurassic or Triassic)
- rcic — Intrusive complex (Early Jurassic or Late Triassic)
- rcp — Plutonic rocks (Early Jurassic or Late Triassic)
- rcum — Ultramafic rocks (age uncertain)
- rcpd — Blocky peridotite

Western Klamath terrane

Smith River subterrane:

- srs — Galice? formation (Late Jurassic)
- srv — Pyroclastic andesite
- srgb — Glen Creek gabbro-ultramafic complex of Irwin and others (1974)
- srpd — Serpentinized peridotite

MAP SYMBOLS

- Contact
- Fault
- Thrust fault
- Trace of the San Andreas fault associated with 1906 earthquake rupture

Strike and dip of bedding:

- Inclined
- Vertical
- Horizontal
- Overturned
- Approximate
- Joint
- Strike and dip of cleavage

Shear foliation:

- Inclined
- Vertical

Folds:

- Synclinal or synformal axis
- Anticlinal or antiformal axis
- Overturned syncline
- Landslide

Melange Blocks:

- Serpentinite
- Chert
- Blueschist
- Greenstone
- Fossil locality and number

GEOLOGY OF THE CAPE MENDOCINO, EUREKA, GARBERVILLE, AND SOUTHWESTERN PART OF THE HAYFORK 30 X 60 MINUTE QUADRANGLES AND ADJACENT OFFSHORE AREA, NORTHERN CALIFORNIA (McLaughlin et al., 2000)

LABORATORY				FIELD					
Dry Density (pcf)	Moisture Content (%)	Cohesion; Friction Angle (psf; degrees)	Other Tests	Blows/foot*	Sample	Depth (feet)	Graphic Lithology	U.S.C.S. Designation	SOIL DESCRIPTION
								ML	Topsoil, silty, brown, dry, fine roots.
						1		SM	Silty sand and gravel, strong brown, medium dense, dry to moist, friable, structureless to fine granular crumb structure, occasional charcoal grains, few roots, gravel content and density increase with depth.
						2			
						3			
								SM	Silty sand with fine gravel, yellowish brown, dense, moist, friable, fine granular crumb structure. Auger refusal on a cobble at 5 feet.
						4			
						5			No groundwater or soil mottling encountered. Boring backfilled with cuttings on completion.

* The blow counts have been converted to standard N-value blow counts

SURFACE ELEVATION: 1,585 Feet

TOTAL DEPTH: 5 Feet

GROUNDWATER DEPTH: > 5 Feet

LOGGED BY: David N. Lindberg, CEG

BOREHOLE DIAMETER: 3.5 Inches

EQUIPMENT: Hand Auger

HAMMER TYPE: None

LINDBERG GEOLOGIC CONSULTING

PROJECT NUMBER: 0196.00 DATE: Sept. 30, 2016

LOG OF TEST EXCAVATION / BORING

HB-1 **Dan Williams' Soils**

Figure No. 5

LABORATORY				FIELD					
Dry Density (pcf)	Moisture Content (%)	Cohesion; Friction Angle (psf; degrees)	Other Tests	Blows/foot*	Sample	Depth (feet)	Graphic Lithology	U.S.C.S. Designation	SOIL DESCRIPTION
								ML	Topsoil, silty, brown, dry, fine roots.
						1 2		SM	Sand with silt and fine gravel, strong brown, medium dense, dry to moist, friable, structureless to fine granular crumb structure, few roots, density and gravel content increase with depth.
						3 4 5		SM	Sand with silt and gravel, strong brown to yellowish brown, dense, moist, friable, fine to medium granular crumb structure. Auger refusal on gravel at 5.5 feet.
									No groundwater or soil mottling encountered. Boring backfilled with cuttings on completion.

* The blow counts have been converted to standard N-value blow counts

SURFACE ELEVATION: 1,620 Feet

TOTAL DEPTH: 5.5 Feet

GROUNDWATER DEPTH: > 5.5 Feet

LOGGED BY: David N. Lindberg, CEG

BOREHOLE DIAMETER: 3.5 Inches

EQUIPMENT: Hand Auger

HAMMER TYPE: None

LINDBERG GEOLOGIC CONSULTING

PROJECT NUMBER: 0196.00 DATE: Sept. 30, 2016

LOG OF TEST EXCAVATION / BORING

HB-2 **Dan Williams' Soils**

Figure No. **6**

LABORATORY				FIELD					
Dry Density (pcf)	Moisture Content (%)	Cohesion; Friction Angle (psf; degrees)	Other Tests	Blows/foot*	Sample	Depth (feet)	Graphic Lithology	U.S.C.S. Designation	SOIL DESCRIPTION
								ML	Topsoil, silty, brown, dry, abundant fine roots.
						1 2		SM	Sand with silt and fine gravel, strong brown to grayish brown, medium dense, dry to moist, friable, structureless to fine granular crumb structure. Fine roots decrease in abundance with depth, density and gravel content increase with depth.
						3 4		SM	Sand with silt and fine gravel, grayish brown, dense, moist, friable, fine granular crumb structure. Auger refusal on cobble at five feet below grade.
						5			No groundwater or soil mottling encountered. Bore hole backfilled with cuttings on completion.

* The blow counts have been converted to standard N-value blow counts

SURFACE ELEVATION: 1,570 Feet

TOTAL DEPTH: 5.0 Feet

GROUNDWATER DEPTH: > 5.0 Feet

LOGGED BY: David N. Lindberg, CEG

BOREHOLE DIAMETER: 3.5 Inches

EQUIPMENT: Hand Auger

HAMMER TYPE: None

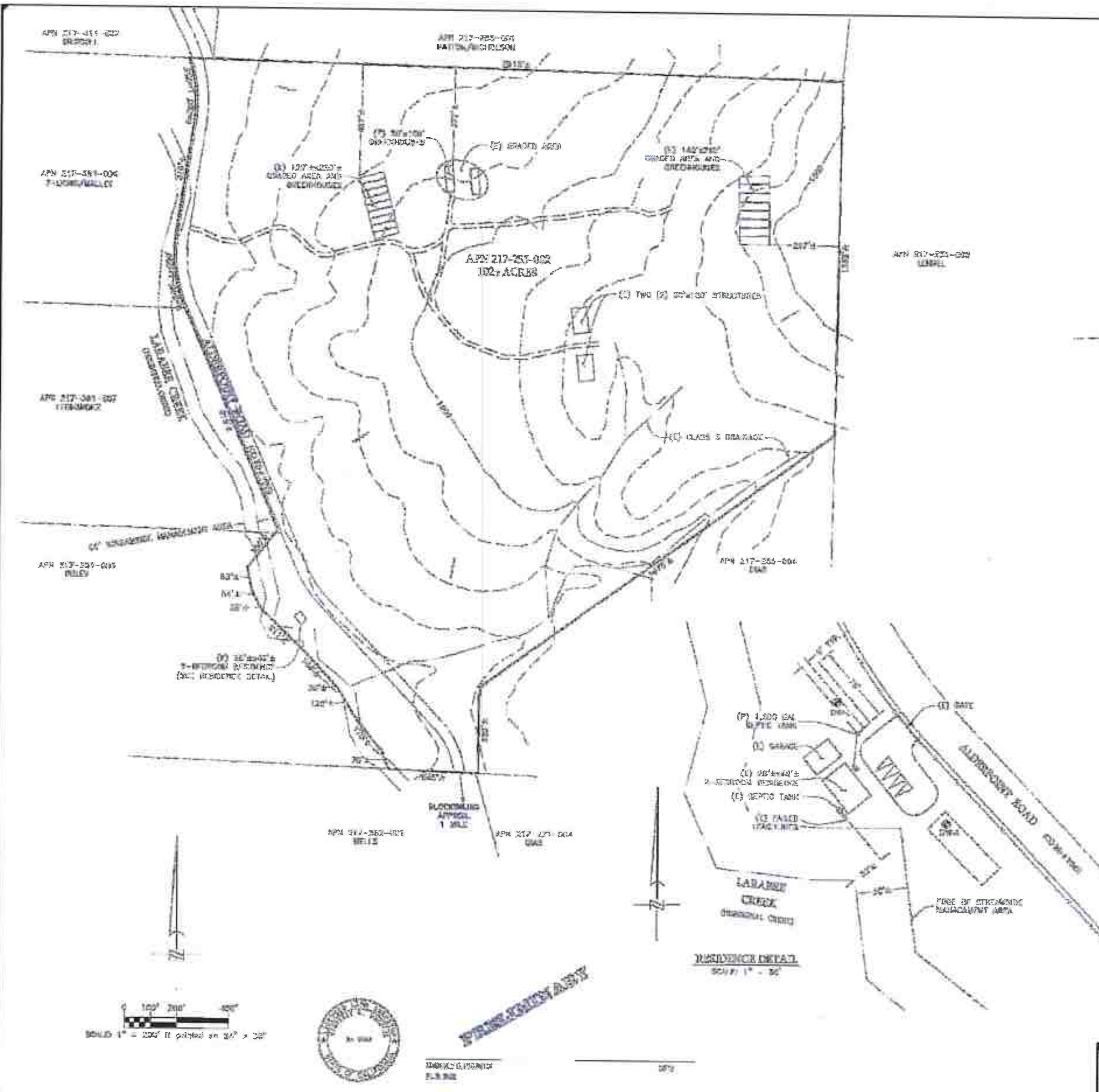
LINDBERG GEOLOGIC CONSULTING

PROJECT NUMBER: 0196.00 DATE: Sept. 30, 2016

LOG OF TEST EXCAVATION / BORING

HB-3 **Dan Williams' Soils**

Figure No. **7**



UTILITIES

WATER & SEWER	ON-SITE
GAS	ON SITE (PROPANE)
ELECTRIC	PG&E
TELEPHONE	CELLULAR SERVICE
T.V.	SATELLITE DISH

LEGEND

SYMBOL	MEANING
◁	PARKING SPACE
↘	DIRECTION OF SURFACE WATER RUNOFF
(P)	PROPOSED
(E)	EXISTING
TYP.	TYPICAL
—1600—	CONTOUR AT 40 FOOT INTERVALS
⊕	SEWAGE DISPOSAL TEST HOLE LOCATION

NOTES

1. THIS PLOT PLAN, FOR APN 217-255-002, HAS BEEN PREPARED IN ACCORDANCE WITH HUMBOLDT COUNTY'S COMMERCIAL MEDICAL MARIJUANA LAND USE ORDINANCE (CMMLUO) NO. 2559, AND FOR THE PURPOSE OF ENROLLING AND/OR CERTIFYING THE SITE'S AGRICULTURAL OPERATIONS UNDER THE NORTH COAST REGIONAL WATER QUALITY CONTROL BOARD ORDER NO. R1-2015-0023.
2. THE PROPERTY HAS A GENERAL PLAN DESIGNATION OF [illegible] AND IS CURRENTLY [illegible] ZONED [illegible].
3. THIS PLOT MAP IS BASED ON RECORD INFORMATION ONLY, AND SHALL NOT BE CONSIDERED A SURVEY. THE BEARINGS AND DISTANCES SHOWN HEREON HAVE BEEN COMPILED FROM RECORD DATA ONLY, SUCH AS ASSESSOR'S MAP, DEEDS, ETC., AND SHOULD BE CONSIDERED APPROXIMATE IN NATURE. IF REQUIRED FOR COMPLIANCE WITH STATE LAW, A FIELD SURVEY SHALL BE PERFORMED AT A LATER DATE, FOLLOWING APPROVAL OF THE PROJECT.
4. THE SITE'S EXISTING AND PROPOSED IMPROVEMENTS, COMMERCIAL AGRICULTURAL OPERATIONS/ACTIVITIES, SETBACKS AND EASEMENTS/ENCUMBRANCES AFFECTING THE PROPERTY ARE APPROXIMATE.
5. NO SCHOOLS, SCHOOL BUS STOPS, PLACES OF WORSHIP, OR PUBLIC PARKS ARE LOCATED WITHIN SIX HUNDRED FEET (600') OF THE CULTIVATION SITE.
6. CONTOURS SHOWN HEREON ARE AT 40 FOOT INTERVALS AND ARE BASED ON [illegible] USGS QUAD.
7. THE APPROXIMATE LOCATION OF LARABEE CREEK, TOGETHER WITH THE STREAMSIDE MANAGEMENT AREA (SMA), IS AS SHOWN HEREON. NO OTHER WET AREAS OR SENSITIVE HABITAT ARE KNOWN TO EXIST ON THE PROPERTY.
8. THE PROJECT IS NOT LOCATED WITHIN AN AREA WHERE KNOWN CULTURAL RESOURCES HAVE BEEN LOCATED. HOWEVER, AS THERE EXISTS THE POSSIBILITY THAT UNDISCOVERED CULTURAL RESOURCES MAY BE ENCOUNTERED, MITIGATION MEASURES MAY BE REQUIRED UNDER FEDERAL AND STATE LAW.
9. NO TREES GREATER THAN 12" DBH ARE TO BE REMOVED IN CONJUNCTION WITH THIS PROJECT.
10. A TOTAL OF APPROXIMATELY 15,400 CUBIC YARDS OF GRADING IS PROPOSED, AND A GRADING PERMIT IS BEING APPLIED FOR IN CONJUNCTION WITH THIS PROJECT. [illegible] CUBIC YARDS OF GRADING HAVE ALREADY BEEN COMPLETED, AND [illegible] CUBIC YARDS OF GRADING REMAIN TO BE COMPLETED.
11. SEWAGE DISPOSAL FOR THE SITE'S AGRICULTURAL OPERATIONS SHALL BE ON-SITE. A SEPTIC TESTING, DESIGN AND REPORT HAS BEEN PREPARED BY [illegible], DATED OCTOBER [illegible], 2016.
12. WATER FOR THE PARCEL IS FROM A PERMITTED WELL, AS SHOWN HEREON. ALL WATER SOURCES ARE/WILL BE PROPERLY PERMITTED. WATER STORAGE REQUIRED FOR THE SITE'S AGRICULTURAL OPERATIONS WILL BE EXPANDED OVER THE NEXT YEAR TO PROVIDE FOR IRRIGATION THROUGHOUT THE [illegible] PERIOD. ALL EXISTING/PLANNED STORAGE WILL BE IN TANKS AND PROPOSED PONDS.
13. A WATER REPORT IS BEING PREPARED BY [illegible] GEOLOGIC CONSULTING, WHICH WILL DETAIL THE SITE'S SPECIFIC [illegible] RECOMMENDATIONS.
14. INFORMATION REGARDING PROPERTY LINE LOCATION AND LENGTH IS FROM BOOK [illegible] OF PARCEL MAPS, PAGES [illegible], BOOK [illegible] OF SURVEYS, PAGES [illegible], AND BOOK [illegible] OF SURVEYS, PAGE [illegible], HUMBOLDT COUNTY RECORDS AND DOES NOT CONSTITUTE A SURVEY.
15. ACCESS TO THE SITE IS FROM ALDERPOINT ROAD (COUNTY ROAD NO. [illegible]), OFF OF HIGHWAY 36.
16. THIS PROJECT IS IN THE STATE RESPONSIBILITY AREA (SRA), AND CURRENT SRA FIRE SAFE STANDARDS FOR ROADWAYS, DRIVEWAYS, TURNOUTS, TURNAROUNDS, ETC. SHALL BE ADHERED TO.
17. THIS PLAN IS NOT INTENDED TO BE USED FOR CONSTRUCTION PURPOSES.

OWNER / APPLICANT
DANIEL WILLIAMS
21882 BEAR CREEK WAY
LOS GATOS, CA 95033
(408) 550-9198

APN 217-255-002

ASSOCIATED AD DESIGN	DESIGNED BY: S.G.S.	DATE: 10/28/16	PLOT PLAN
	DRAWN BY: C.R.B.	DATE: 10/28/16	DANIEL WILLIAMS
	CHECKED BY: ASSOCIATED & DESIGN	DATE	