



Mail
PO Box 5310
Stateline, NV 89449-5310

Location
128 Market Street
Stateline, NV 89449

Contact
Phone: 775-588-4547
Fax: 775-588-4527
www.trpa.org

STAFF REPORT

Date: January 14, 2021

To: TRPA Hearings Officer

From: TRPA Staff

Subject: Eget Land Capability Challenge; 45 East Tuscarora Road, Washoe County, Nevada; APN 123-136-02; TRPA No. LCAP2020-0422

Staff Recommendation:

Staff recommends the TRPA Hearings Officer review approve the proposed land capability challenge on the subject parcel. The challenge changes Class 1a (RcF, 30 to 50 percent slopes and RtF, 30 to 50 percent slopes) 8,351 sq. ft. (100 percent of parcel) to Class 4 (XXX, 9 to 30 percent slopes) 5,058 sq. ft. (61 percent of parcel) and Class 6 (XXX, 0 to 16 percent slopes) 3,293 sq. ft. (39 percent of parcel).

Background:

The subject parcel is shown as Class 1a on TRPA Land Capability Overlay Maps (aka Bailey Land Capability maps). The Soil Survey of Tahoe Basin Area, California-Nevada (Rogers, 1974) places the majority of the subject parcel in the RcF, Rock outcrop- Cagwin complex, 30 to 50 percent slopes with a small area of RtF, Rock outcrop- Toem complex, 30 to 50 percent slopes. The updated Soil Survey of Tahoe Basin Area, California, and Nevada (NRCS, 2007) places this parcel in mapunit 7412, Cagwin-Rock outcrop complex, 15 to 30 percent slopes. A site assessment completed in 1999 maps the parcel as Capability Class 1a. This parcel has a geomorphic mapping of C2- Stream cut granitic slopes, strongly dissected lands (high hazard lands). The Cagwin soils are moderately deep, somewhat excessively drained soils that formed in material weathered from granitic rock. Cagwin soils have loamy coarse sand textures in the A-horizon, with loamy coarse sand or coarse sand subsurface textures in the upper 27 inches. Weathered granitodiorite grus is encountered between 20 and 40 inches below ground surface. The Toem soils have gravelly coarse sand surface textures throughout. They are shallow soils with 8 to 20 inches of soil over weathered granodiorite grus.

A land capability challenge (LCAP2020-0422) was filed by the land owner, Jeff Eget, on October 19, 2020. Wayne Ford is representing the owners. Private soil consultant, Davis² Consulting Earth Scientists, was hired to develop a land capability challenge assessment and report. TRPA consultant, Marchel Munnecke, visited the site on November 5, 2020. She reviewed one soil pit that was logged by described Mr. Davis and noted one spot observation.

Findings:

One soil pit was excavated by backhoe to 72 inches. The pit was located west of the residence on natural hillslope. The soil is characterized by a gravelly loamy coarse sand surface texture, gravelly sandy loam, very gravelly sandy loam, and gravelly sandy clay loam subsurface textures. This soil formed in colluvium from volcanic parent material with older lake deposits below 48 inches. This soil is very deep, well drained, and is

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a member of Soil Hydrologic Group B. This parcel has an open forest composed of Jeffrey pine, incense cedar and white fir with a few montane shrubs such as greenleaf manzanita, huckleberry oak, antelope bitterbrush and prostrate ceanothus in the understory. There is also a variety of horticultural species. The surface is covered with mulch and native litter and duff.

A spot observation was taken by Davis Consulting near the south east corner of the parcel. Ms. Munnecke observed the small road cut in this area, and it indicates that the soil is similar to the soil described in the pit and is also deeper than 40 inches in this area.

The soil at this site is not the Cagwin or Toem soil that was mapped on the parcel in the Soil Survey of Tahoe Basin Area, California-Nevada (Rogers, 1974). This soil is deeper than 70 inches, and the Cagwin soils are 20 to 40 inches deep, and the Toem soils are less than 20 inches deep over decomposed granitic bedrock. In addition, this soil formed in colluvium from volcanic parent material over old lake deposits, rather than in granitic grus material. This soil is dissimilar to the Inville soils because they have finer textures in the lower horizons. This soil is most similar to the Jorge soil, but has old lake deposits in the lowest horizon rather than volcanic residuum. Therefore, this soil is not a mapped soil in the Soil Survey of the Tahoe Basin Area, California-Nevada (Rogers, 1974) and is an unnamed (XXX) soil.

Table 4 in the Land-Capability Classification of the Lake Tahoe Basin, California and Nevada is utilized to classify unnamed soils. Based on Table 4, this parcel is Class 6- XXX, 0- 9 percent slopes and Class 4- XXX, 16-30 percent slopes. A small area along East Tuscarora Road and Goshute Road, where the slope has been altered by road cut, and an area off Theresa Court, where fill was placed for parking, were adjusted to represent the historic slope classes.

The table below summarizes the changes in land capability as concluded by this land capability challenge.

Land Capability District	Area (sq. ft.) 2020 LCV	Area (sq. ft.)	2020 LCC
Class 1a (RcF and RtF, 30 to 50% slopes)	8,351		0
Class 6 (XXX, 0 to 16% slopes)	0		3,293
Class 4 (XXX, 9 to 30 % slopes)	0		5,058
Total Parcel Area	8,351		8,351

BAILEY LAND CAPABILITY CHALLENGE FINDINGS

Site Information	
Assessor's Parcel Numbers: (APN)	123-136-02
TRPA File No. / Submittal Date:	LCAP2020-0442 / 10/19/2020
Owner or Applicant:	Jeff Eget
Address:	45 E. Tuscarora Road, Crystal Bay, NV 89451

Environmental Setting	
Bailey Soil Mapping Unit¹ / Hydrologic Soil Group (HSG) / Land Class / Geomorphic Hazard Unit	RcF, Rock outcrop- Cagwin complex, 30 to 50 percent slopes / HSG C/ C2 (Stream cut granitic slopes, strongly dissected lands (high hazard lands) and RtF, Rock outcrop - Toem complex, 30 to 50 percent slopes / HSG C/ C2 (Stream cut granitic slopes, strongly dissected lands (high hazard lands)
Soil Parent Material	Volcanic colluvium over old lake deposits.
Slopes and Aspect	13 to 50 percent; sloping to the east.
Elevation and Datum	6,522 to 6,555 feet, Wayne Ford Residential Designer, 10/14/20 site plan.
Rock Outcrops and Surface Configuration	There is no evidence of bedrock near the surface. A few boulders are on the surface. They are identified on the site plan.
SEZ and Hydrology Source	NA
Vegetation	This parcel has an open forest composed of Jeffrey pine, incense cedar, and white fir with some montane shrubs such as greenleaf manzanita, huckleberry oak, antelope bitterbrush and prostrate ceanothus in the understory.
Ground Cover Condition	Good (vegetation 50%, duff/mulch 75% cover)
Site Features	Residence, detached garage, cabin, paved driveway, skirted deck, two sheds, rock walls, stone paths, gravel areas, and compacted dirt driveways.

Field Investigation and Procedures	
Consultant and Address	Davis ² Consulting Earth Scientists
TRPA Staff Field Dates	October 5, 2020
SEZ Mapping / NRCS Hydric Soil	None present
Number of Soil Pits or Auger Holes and Description Depth	1 backhoe pit to about 72 inches and a spot observation.
Additional or Repetitive TRPA Sample Locations	NA
Representative Soil Profile Descriptions	See Attachment B, Land Capability Challenge, Eget Project, Incline Village, Nevada.
Areas Not Examined	Residence, detached garage, cabin, paved driveway, skirted deck, two sheds, rock walls, stone paths, gravel areas, and compacted dirt driveways.

TRPA Findings	
2006 Soil Survey Map Unit	7412, Cagwin-Rock outcrop complex, 15 to 30 percent slopes (Class 2).

¹ TRPA currently relies upon the [Soil Survey of Tahoe Basin, California-Nevada](#) (Rogers and Soil Conservation Service, 1974), which the Bailey Land Capability system is predicated upon.

<p>Consultant Soil Mapping Determination and Rationale</p>	<p>The soil at this site is not the Cagwin or Toem soil that was mapped on the parcel in the <u>Soil Survey of Tahoe Basin Area, California-Nevada</u> (Rogers, 1974). This soil is deeper than 70 inches, and the Cagwin soils are 20 to 40 inches deep, and the Toem soils are less than 20 inches deep over decomposed granitic bedrock. In addition, this soil formed in colluvium from volcanic parent material over old lake deposits, rather than in granitic grus material. This soil is dissimilar to the Inville soils because they have finer textures in the lower horizons. This soil is most similar to the Jorge soil, but has old lake deposits in the lowest horizon rather than volcanic residuum. Therefore, this soil is not a mapped soil in the <u>Soil Survey of the Tahoe Basin Area, California-Nevada</u> (Rogers, 1974) and is an unnamed (XXX) soil.</p> <p>Table 4 in the <u>Land-Capability Classification of the Lake Tahoe Basin, California and Nevada</u> is utilized to classify unnamed soils. Based on Table 4, this parcel is Class 6- XXX, 0- 9 percent slopes and Class 4- XXX, 16-30 percent slopes. A small area along East Tuscarora Road and Goshute Road, where the slope has been altered by road cut, and an area off Theresa Court, where fill was placed for parking, were adjusted to represent the historic slope classes.</p>
<p>Slope Determination</p>	<p>13 to 50 percent slopes.</p>
<p>TRPA Conclusion(s)</p>	<p>TRPA concurs with consultants' determination and rationale above.</p>
<p>Applicable Area</p>	<p>See parcel map for soil delineations.</p>

Contact Information:

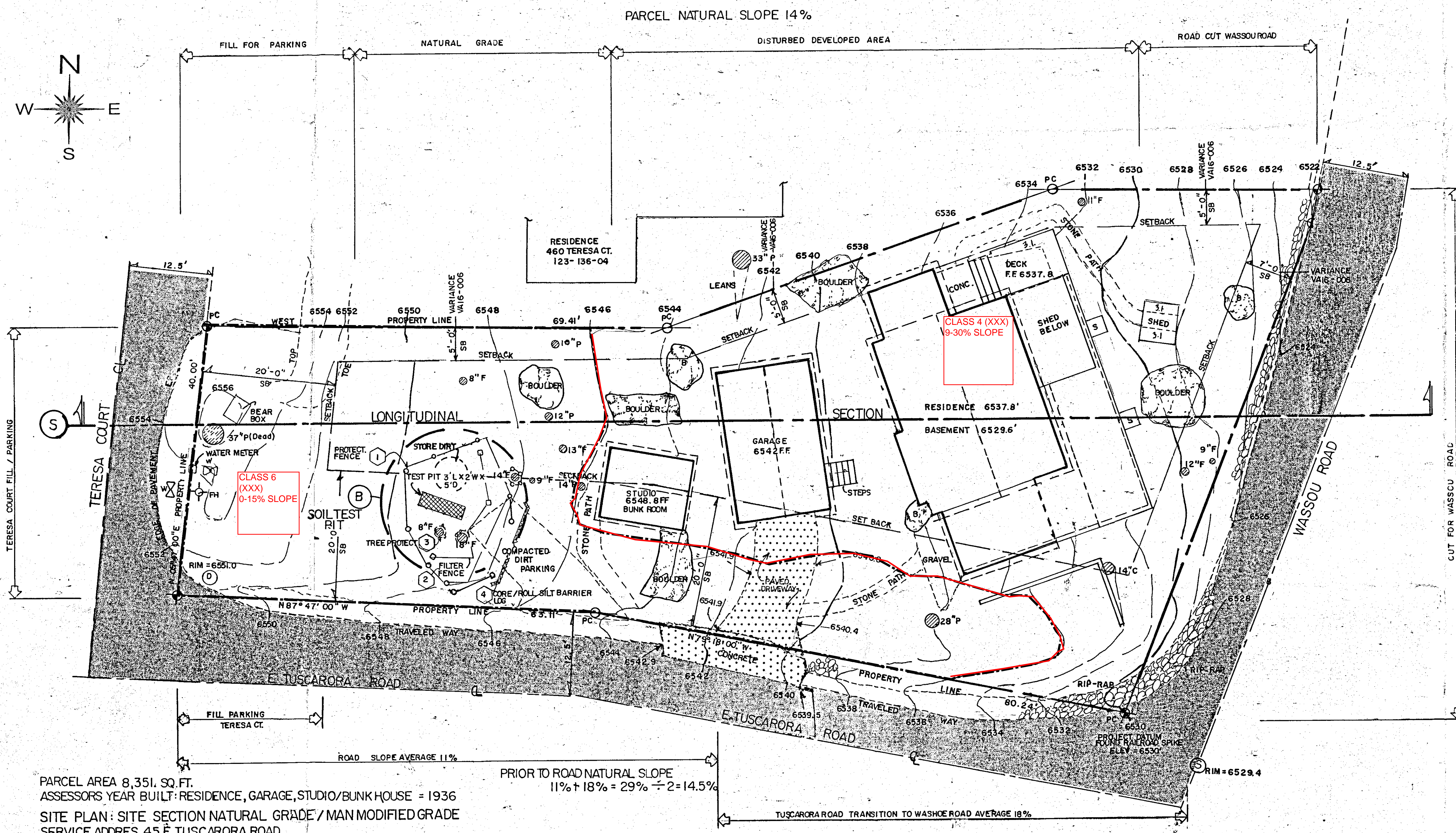
This staff report was jointly prepared by TRPA consultant, Marchel Munnecke (Pyramid Botanical Consultants) and TRPA Senior Planner, Julie Roll. For questions regarding this agenda item, please contact Julie Roll at (775) 589-5247 or jroll@trpa.org.

Attachments:

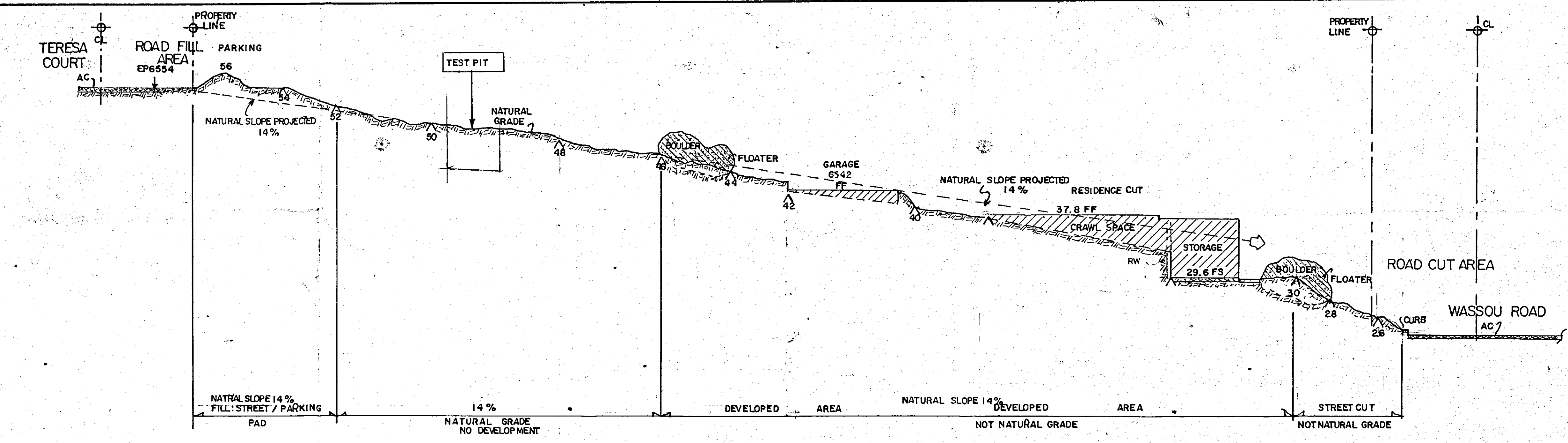
- A. Parcel Map with Soil Map Units Delineated
- B. Land Capability Challenge, Eget Property, Incline Village, Nevada
- C. Site Photographs

Attachment A

Parcel Map with Soil Map Units Delineated

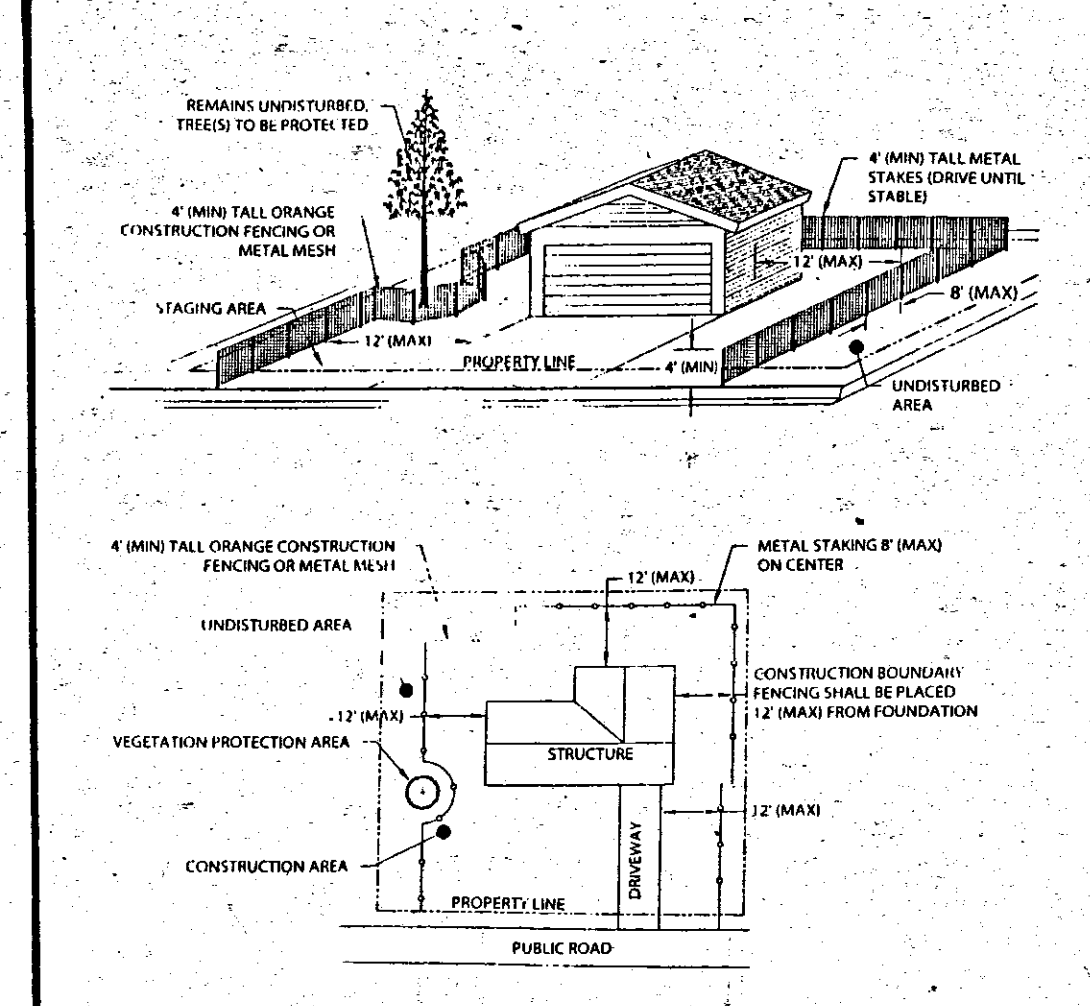


PARCEL AREA 8,351. SQ. FT.
 ASSESSORS YEAR BUILT: RESIDENCE, GARAGE, STUDIO/BUNK HOUSE = 1936
 SITE PLAN: SITE SECTION NATURAL GRADE / MAN MODIFIED GRADE
 SERVICE ADDRESS 45 E TUSCARORA ROAD
 APN: 123-136-02 WASHOE COUNTY NEVADA LANDS DESCRIBED IN DOC. NO. 4533271 SURVEY OF RECORD KEN ARNETT JOB 16-05-07 / REDRAWN W.FORD 8/10/2020

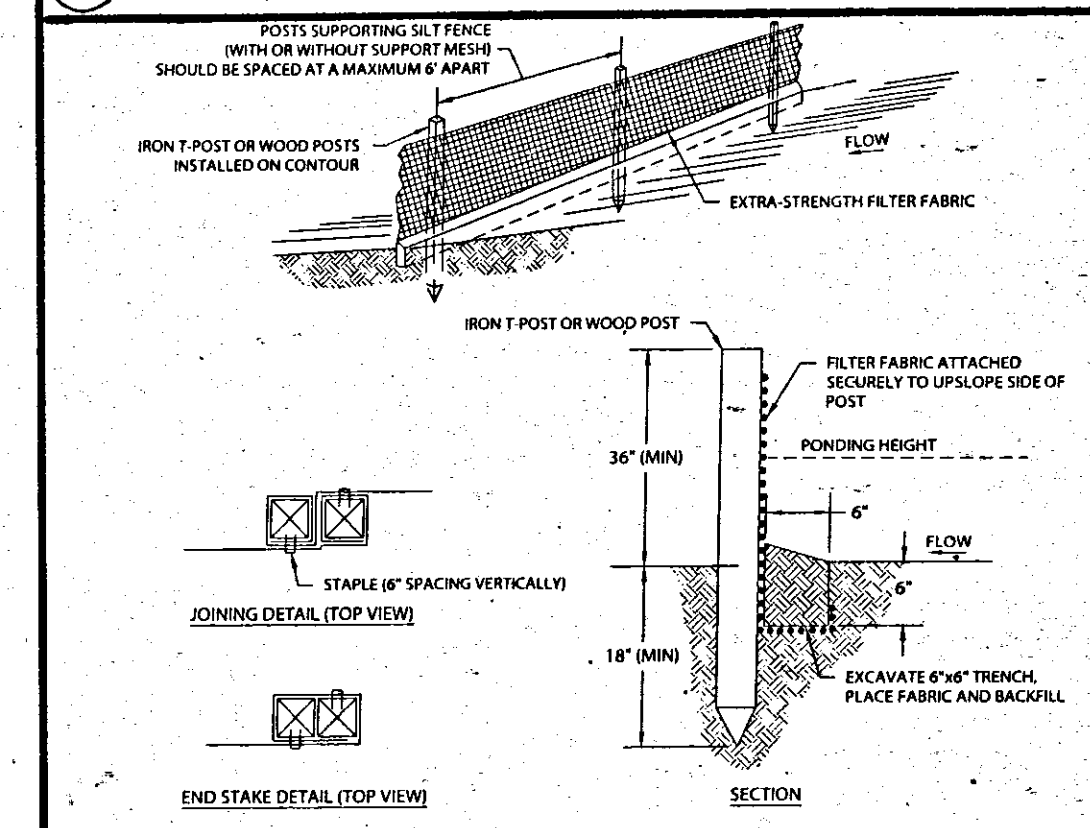


LONGITUDINAL SITE SECTION 1/8" = 1'-0"

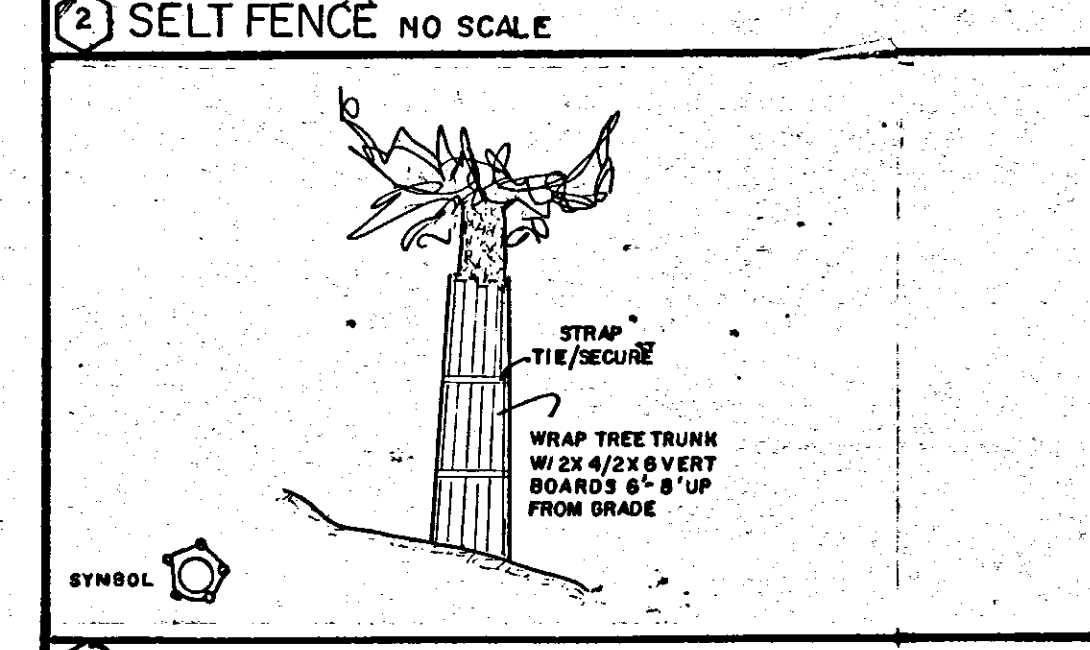
M. Munnecke
 ICC
 11-5-2020



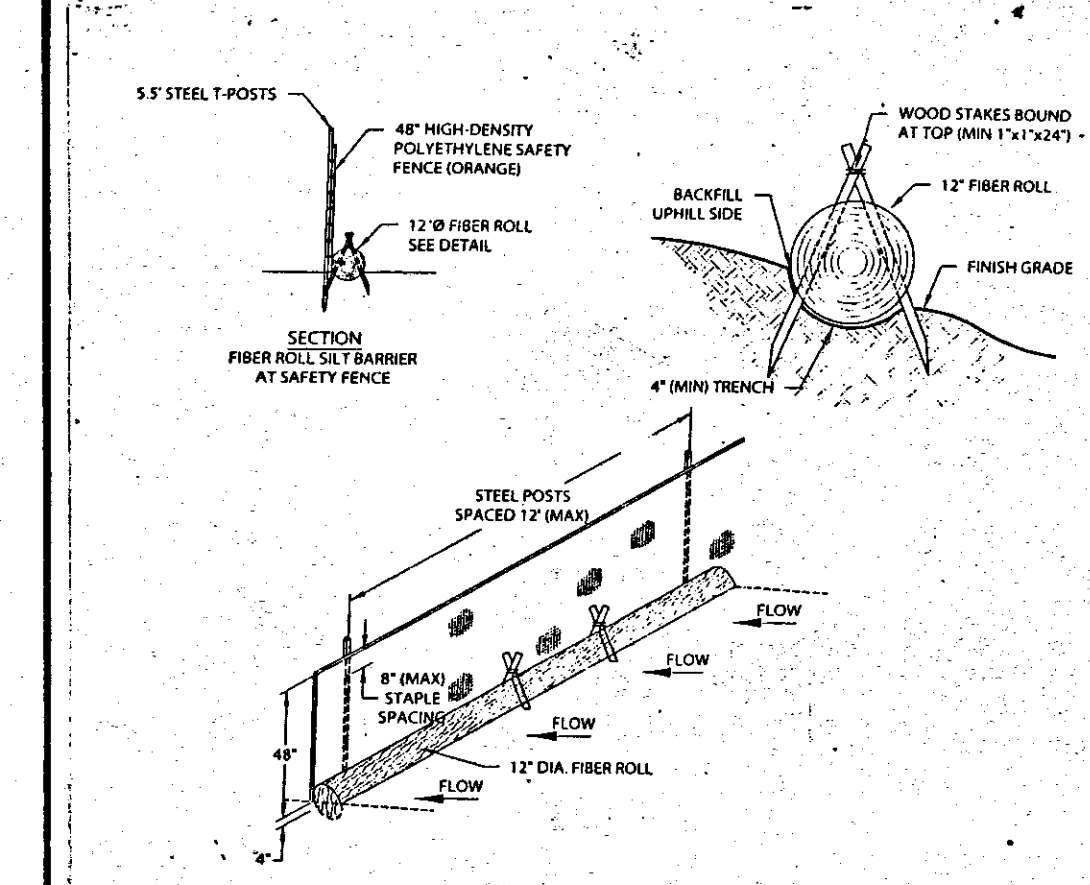
NOTES:
 1. METAL OR WIRE MESH FENCING MAY BE REQUIRED FOR SITES THAT CONSISTENTLY FAIL TO MAINTAIN PERMITTED FENCING REQUIREMENTS.
 2. ALL FENCING SHALL BE MAINTAINED AND DOWNED SECTIONS REPAIRED IMMEDIATELY.
 3. ALL DISTURBED SOIL WITHIN THE CONSTRUCTION AREA MUST BE RECONNECTED AND RESTORED PLANT WITH NATIVE AND ADAPTED PLANTS FOR LOCAL CLIMATE.
 4. Temporary Boundary Construction Fencing



NOTES:
 1. ALL AREAS WHERE SHEET FLOW OCCURS.
 2. DO NOT USE IN STREAM CHANNEL OR ANYWHERE FLOW IS CONCENTRATED. DO NOT USE SILT FENCES TO DIVERT FLOW.
 3. DO NOT USE IN AREAS SUBJECT TO WIND OR SAND DUST.
 4. SILT FENCE SHOULD BE INSTALLED WITH A MINIMUM WIDTH OF 36 INCHES AND A MINIMUM TENSILE STRENGTH OF 100 LB PER LINEAL FOOT.
 5. THE MAXIMUM LENGTH OF SLOPE DRAINAGE TO ANY POINT ALONG THE SILT FENCE SHOULD BE 200 FEET OR LESS.
 6. PROVIDE SUFFICIENT ROOM FOR MOUNTING TO BEHIND THE FENCE AND TO ALLOW SEDIMENT REMOVAL EQUIPMENT TO ACCESS THE FENCE LINE AND THE SLOPE UP/DOWNSTREAM.
 7. TURN THE ENDS OF THE FILTER FABRIC UP TO PREVENT STORMWATER FROM FLOWING AROUND THE FENCE.
 8. LEAVE AN UNDISTURBED OR STABILIZED AREA IMMEDIATELY DOWN SLOPE FROM THE FENCE WHERE FEASIBLE.
 9. SILT FENCES SHOULD REMAIN IN PLACE UNTIL THE DISTURBED AREA IS PERMANENTLY STABILIZED.
 10. REMOVE SEDIMENT WHEN DEPOSITS REACH APPROXIMATELY 1/3 HEIGHT OF BARRIER.
 11. SEE FENCE



NOTES:
 1. FIBER ROLL SHALL NOT BE MADE FROM STRAW. FIBER ROLL SHALL BE BOUND BY HIGH STRENGTH COB NETTING AND HAVE A MINIMUM WEIGHT OF 1.5 LBS PER LINEAL FOOT.
 2. CHANGE SAFETY FENCE TO REDUCE TO FIBER ROLL FROM CONSTRUCTION BY SPACING CONSTRUCTION EQUIPMENT AT A MINIMUM HEIGHT OF 4 FEET. SAFETY FENCE MAY BE LIMITED TO FLOW TRAFFIC AREAS.
 3. FIBER ROLL SILT BARRIER SHALL BE INSTALLED ALONG CONTOUR AND ON SLOPES SHY OR FLATTER UNLESS OTHERWISE APPROVED BY TRPA.
 4. FIBER ROLL SILT BARRIER SHALL BE INSTALLED FROM LEAVING THE SITE OR ENTERING A WATER COURSE WITHOUT FACING THROUGH A SILT BARRIER.
 5. THE MAXIMUM LENGTH OF SLOPE DRAINAGE TO ANY POINT ALONG THE SILT BARRIER SHALL BE 200 FEET OR LESS.
 6. FIBER ROLL SHALL BE INSTALLED BY STAPLING A 4 INCH DEEP FURROW TO MATCH THE SHAPE OF THE LOG, SECURING IN FURROW WITH WOOD STAKES, AND TAMPING THE GROUND AROUND THE FIBER ROLL TO FILL VOID BETWEEN THE LOG AND THE GROUND.
 7. FLOW FROM SIDE DRAINAGE



NOTES:
 1. THE GROUND SURFACE ON ONE SIDE OF THE TEST PIT MUST BE LEFT UNDISTURBED (i.e. NO DISTURBANCE OF SURFACE SOIL AND VEGETATION).
 2. VERIFY UNDERGROUND USA B11.
 3. TEST PIT 3 FEET IN LENGTH, 2 FEET IN WIDTH, AND 5' IN DEPTH.
 4. IF GROUND WATER IS ENCOUNTERED DURING EXCAVATION, NOTIFY TRPA BY PHONE.
 5. EXCAVATED GROUND MATERIAL COVER WITH 6 MILL PLASTIC.
 6. PROPERLY FLAG AND COVER THE TEST PIT TO PREVENT ACCIDENTS OR INJURY.
 7. BACKFILL THE TEST PITS WITHIN 48 HOURS OF TRPA REVIEW.

TRPA TEMPORARY EROSION
 1. THE GROUND SURFACE ON ONE SIDE OF THE TEST PIT MUST BE LEFT UNDISTURBED (i.e. NO DISTURBANCE OF SURFACE SOIL AND VEGETATION).
 2. VERIFY UNDERGROUND USA B11.
 3. TEST PIT 3 FEET IN LENGTH, 2 FEET IN WIDTH, AND 5' IN DEPTH.
 4. IF GROUND WATER IS ENCOUNTERED DURING EXCAVATION, NOTIFY TRPA BY PHONE.
 5. EXCAVATED GROUND MATERIAL COVER WITH 6 MILL PLASTIC.
 6. PROPERLY FLAG AND COVER THE TEST PIT TO PREVENT ACCIDENTS OR INJURY.
 7. BACKFILL THE TEST PITS WITHIN 48 HOURS OF TRPA REVIEW.

RESIDENTIAL DESIGN

WYOMING LAND RESIDENTIAL DESIGN
 100 BOX 4725 INDIAN VILLAGE, NV 89450
 (775) 772-2495
 www.residentialdesigner.com

RECEIVED
 OCT 11 2020
 TRPA REGIONAL PLANNING AGENCY

LAND CAPABILITY CHALLENGE

OWNER: MR. AND MRS. EGERT
 45 E. TUSCARORA ROAD
 CRYSTAL BAY, NEVADA 89402
 PROJECT LOCATION: 45 E. TUSCARORA ROAD
 CRYSTAL BAY, NEVADA
 APN: 123-136-02

10/14/20

Attachment B

Land Capability Challenge, Eget Property
Incline Village, Nevada

DAVIS²

CONSULTING EARTH SCIENTISTS

P.O. Box 734 · Georgetown, CA 95634 · Tel. (530) 559-1405; davis2consulting@sbcglobal.net

Land Capability Challenge

Eget Project

Incline Village, Nevada

APN 125-136-02

October 5, 2020

INTRODUCTION

A soil investigation was conducted on the parcel on the Eget parcel on 45 East Tuscarora Road, Incline Village, Washoe County, Nevada. The objective of the study was to identify soils and other features and relate them to Land Capability, which is administered by the Tahoe Regional Planning Agency (TRPA) for the purpose of impervious coverage regulation, by Chapter 30 of the Code of Ordinances.

The parcel supports an existing single-family residential dwelling on 0.19 acres of land, located at 45 E. Tuscarora Road. This work is advanced at the request of Mr. Jeff Eget.

Soil information contained in this report is for the strict use of land capability and it should not be used for building foundation design, slope stability, hazard waste assessment or seismic analyses.

ENVIRONMENTAL SETTING

The site is located at 45 E. Tuscarora Road, Incline Village, Nevada. Vegetation consists of Jeffrey pine, white fir, manzanita and squaw carpet. Slopes range between 11 and 18 percent on easterly aspect. There are no stream environment zones (SEZ) influencing this parcel.

Soils are shown on TRPA maps as R_cF (Rock outcrop – Cagwin, 30 to 50 percent slopes) and R_tF (Rock outcrop – Toem, 30 to 50 percent slopes). Geology (Bennett, 1968) is characterized as T_v^a (Andesite). Bailey's (1974) geomorphic analysis shows the parcel within D₂ (Headlands).

METHODOLOGY

The parcel was surveyed as well as areas nearby. A site considered representative of the landform was chosen and an excavation was placed to open and examine the soil profile in detail. Standards of the National Cooperative Soil Survey were used to describe and interpret soil physical properties. Information gathered at the site was compared to the *Soil Survey of the Lake Tahoe Basin, California-Nevada* (Rogers et al, 1974) and to the *Land-Capability Classification of the Lake Tahoe Basin, California-Nevada* (Bailey, 1974) for proper placement in the appropriate land capability class. A detailed topographic base map supplied by X was available in the field for ground control and slope analysis. Information pertaining to land capability districts is shown on the base map.

FINDINGS

Soils are found to be very deep and well drained, members of Soil Hydrologic Group B. They can be characterized having dark brown loamy coarse sand top soil approximately 15 inches thick, over brown very gravelly sandy loam or sandy clay loam subsoils to 72 inches depth. These soils have developed in colluvium over older lake terrace.

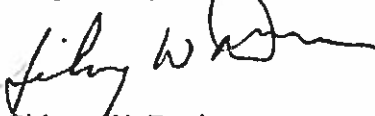
These soils are different than those shown on the TRPA map sheet because they developed from other than a rock outcrop complex or residual parent rock of granitic composition, instead developed in colluvium of andesitic parent materials. These soils are unnamed in the Incline Village area. Slopes across the parcel are less steep than either the RcF or RtF units, they vary from the Inville series because they have a clay loam subsoil as opposed to loamy coarse sand and they are unlike the Jorge or Tahoma series which are derived from residual volcanic parent materials.

CONCLUSIONS AND RECOMMENDATIONS

Soils found are unnamed (XXX) and place in Bailey's (1974) Land Capability Classification of Lake Tahoe Lands, California-Nevada Class 6 where slopes range between 0-16 percent slopes; Class 4 where slopes range between 16 and 30 percent slope.

Please refer to the following soil profile description(s) that support the findings and the attached map showing the spatial distribution of the appropriate land capability classes on the parcel.

Respectfully submitted,



Sidney W. Davis,
CPSS /SC No. 1031

Representative Soil Profile Description

- Oi 0 to 1 inches, chipped vegetative material.
- A 1 to 6 inches, brown (10YR 5/3) gravelly loamy coarse sand, dark brown (10YR 3/3) moist; moderate fine granular structure; soft, loose, nonsticky and nonplastic; many very fine, fine roots; many very fine and fine interstitial pores; 15 percent gravel; clear wavy boundary.
- AB 6 to 15 inches, yellowish brown (10YR 5/4) gravelly sandy loam, near loamy sand, dark brown (10YR 3/4) moist; weak fine subangular blocky structure; hard,

friable, nonsticky and nonplastic; many fine, medium and coarse roots; many fine and medium interstitial pores; 15 percent gravel; gradual wavy boundary.

- Bt1 15 to 36 inches, pale brown (10YR 6/3) very gravelly sandy loam, dark brown (10YR 4/3), moist; strong medium subangular blocky structure; hard, friable, nonsticky and slightly plastic; common fine, medium and coarse roots; many fine and medium tubular and interstitial pores; many moderately thick clay films on ped faces and lining pores; 30 percent gravel and 15 percent stone; clear wavy boundary.
- Bt2 36 to 48 inches, pale brown (10YR 6/3) very gravelly sandy loam, dark brown (10YR 4/3), moist; strong medium subangular blocky structure; hard, friable, nonsticky and slightly plastic; common fine and medium, few coarse roots; many medium thick clay films on ped faces, lining pores and bridging sand grains; 30 percent gravel, 5 percent stone; clear smooth boundary.
- 2Bt3 48 to 72 inches, light yellowish brown (10YR 6/4) gravelly sandy clay loam, dark yellowish brown (10YR 4/4), moist; strong coarse subangular blocky structure; hard, firm, sticky and plastic; few fine, medium and coarse roots; many thick clay films on ped faces and lining pores; 15 percent gravel, 5 percent stone.

Notes: Colluvium over old lake terrace (?). Skeletal control section. Roots penetrate to beyond 72 inches depth.

Soil Series: Unnamed (XXX)

Soil Classification: Loamy-skeletal, mixed, frigid, Typic Haploxeralfs

Soil Drainage Class: Well drained

Hydrologic Soil Group: B

Site Photos:



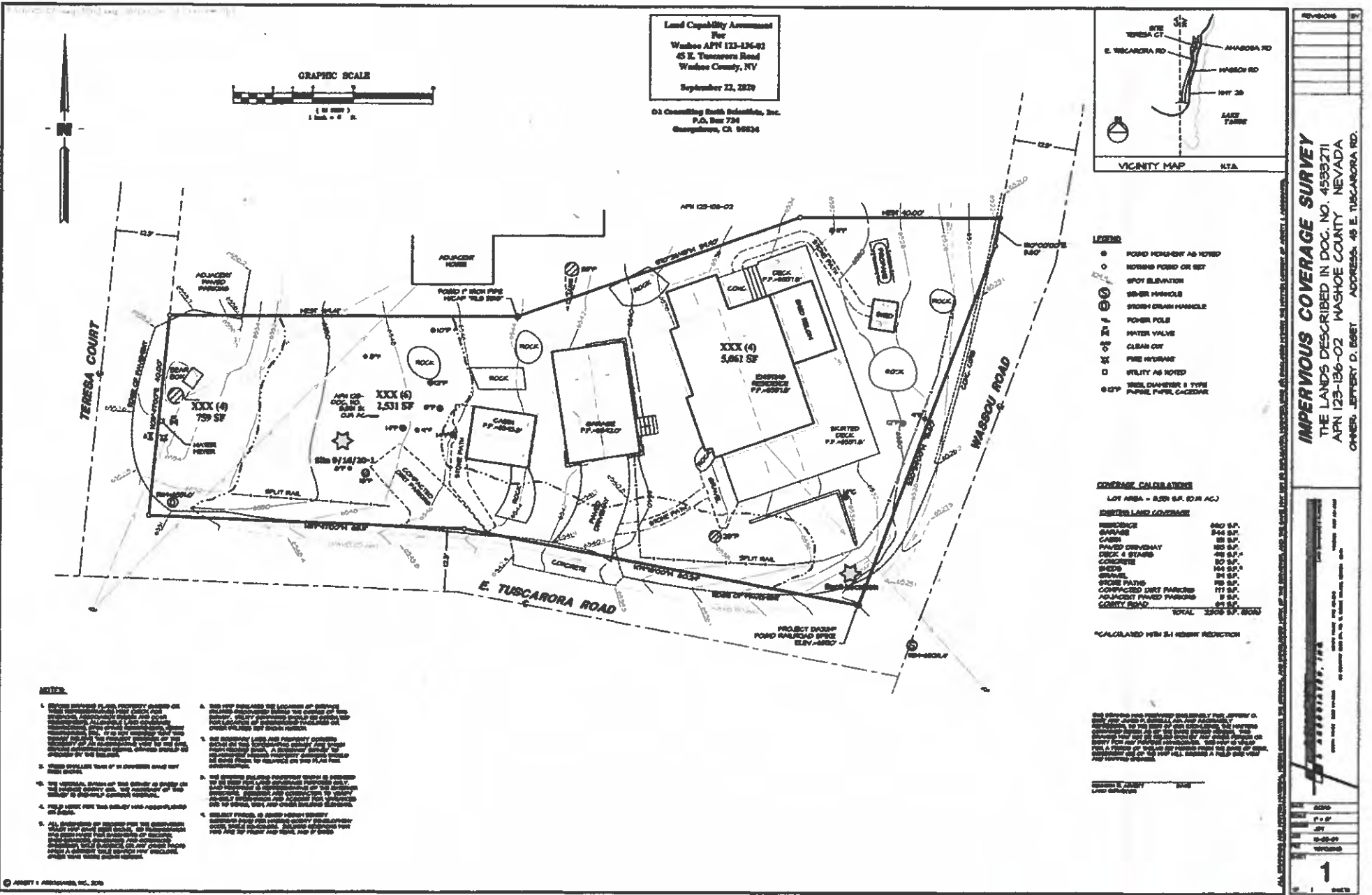
Figure 1 - Soil profile.



Figure 2 - Road cut on E. Tuscarora Road



Figure 3 - Landscape looking west from intersection of Wassou and Tuscarora Roads.



IMPERIOUS COVERAGE SURVEY
 THE LANDS DESCRIBED IN DOC. NO. 45882711
 APN 123-196-02 WASHOE COUNTY NEVADA
 OWNER: JEFFERY D. BRET ADDRESS: 48 E. TUSCARORA RD.

REVISIONS

NO.	DATE	DESCRIPTION
1	09-22-20	ISSUED

1

Attachment C

Site Photographs

SITE PHOTOGRAPHS



Photo 1 – a. Pit. Photo 1- b. View looking toward pit to northeast.



Photo 2 – a. View of pit towards Theresa Court.



Photo 3 – a. View across driveway to east, along the southern edge of the parcel. Photo 3- b. View looking east along north boundary of parcel.



Photo 4– a. View of residence from East Tuscoara Ave and Goshute Road Junction.

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