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MEMORANDUM

Date: February 22, 2018

To: TRPA Hearings Officer

From: TRPA Staff

Subject: Johnathan Lieberman Land Capability Challenge; 1394 Sequoia Avenue, Placer County, California; Assessor's Parcel No: 083-210-021; TRPA File No: LCAP2017-0419

Proposed Action: Hearings Officer review and approve the proposed Land Capability Challenge.

Staff Recommendation: Staff recommends the TRPA Hearings Officer approve the land capability challenge on the subject parcel. This challenge results in a change from Capability Class 3 (5% cover) to Capability Class 4- XXX (20% cover) for the entire parcel (10,890 square feet).

Background: The subject parcel is shown as Class 3 on TRPA Land Capability Overlay Maps (aka Bailey Land Capability maps). The Soil Conservation Service Soil Survey of Tahoe Basin Area, California-Nevada (Rogers, 1974) places the subject parcel in the TeE, Tallac very stony coarse sandy loam, 5 to 15 percent slope map unit. The updated Soil Survey of Tahoe Basin Area, California and Nevada (NRCS, 2007) places this parcel in map unit 7182, Paige medial sandy loam, 15 to 30 percent slopes. This parcel has a geomorphic mapping of E-1 moraine lands, undifferentiated (moderate hazard lands). Tallac soils have gravelly coarse sandy loam surface textures. Subsurface textures are gravelly coarse sandy loam and very cobbly sandy loam. A weakly silica-cemented duripan occurs at depths of 40 to 70 inches.

A land capability challenge (LCAP2017-0419) was filed with TRPA on December 1, 2017. Gary Furumoto is representing the owner Johnathan Lieberman. A private soil consultant was not hired for this project. TRPA consultant, Marchel Munnecke visited the site on December 11, 2017. One hand excavated pit was described to 150 cm.

Findings: One soil pit was excavated on the parcel, located east of the front steps of residence. The pit was hand excavated to 150 cm (59 inches), and was fully described. This soil is characterized by gravelly loamy coarse sandy surface texture. Subsurface textures are gravelly loamy coarse sand, gravelly coarse sandy loam, coarse sandy loam, very gravelly loamy coarse sand, and silty clay loam. Argillic horizons are present between 39 and 138 cm. Below 138 cm, a layer of root-restrictive lacustrine deposits is present. This soil is deep, well drained, and is a member of Soil Hydrologic Group B. The forest is dominated by Jeffrey pine and white fir, with scattered incense cedar. The understory is composed of mixed montane shrubs, such as greenleaf manzanita and huckleberry oak.

The soils on this parcel are dissimilar to the Tallac soils, because they have less than 35% rock fragments, there was no evidence of a silica cemented layer or till, and this soil has argillic soil horizons. This soil is similar to the Inville soils, but the Inville soils also have higher rock fragments (>35%). Inville soils are on outwash and Tallac soils are on moraines. This parcel is situated in a transitional area between moraine and outwash. Neither the Tallac or Inville soils have a lacustrine layer at depth. This soil is also similar to the Jabu soil, but it does not have a root-restrictive, dense, fragipan beginning at 45 inches. Therefore, this soil is an unmapped soil (XXX) in the 1974 Soil Survey of the Tahoe Basin. The 2007 Soil Survey of the Lake Tahoe Basin maps this parcel as 7182, Paige medial sandy loam, 15 to 30 percent slopes. This soil is dissimilar to the Paige soil because it has argillic soil development and dense till was not encountered. The new soil survey mapped most of the soils in this watershed as andic soils. Based on this mapping, this soil was described as an Andisol, and classified as Medial, mixed, frigid Humic Vitrixerands.

Based on slopes, this soil has Land Capability Class 4, XXX, 9 to 30 percent slopes for the entire parcel.

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

Land Capability District	Area (sq. ft.) 1974 soil survey	Area (sq. ft.) 2017 LCC
Class 3 (TeE, 15 to 30 percent slopes)	10,890	0
Class 4 (XXX, 9 to 30 % slopes)	0	10,890
Total Parcel Area	10,890	10,890

This memorandum was jointly prepared by TRPA consultant, Marchel Munnecke (Pyramid Botanical Consultants) and TRPA Associate Planner, Julie Roll. If you have questions on this Hearings Officer item, please contact Julie Roll, 775-589-5247, or email at jroll@trpa.org.

BAILEY LAND CAPABILITY CHALLENGE FINDINGS

Site Information	
Assessor's Parcel Numbers: (APN)	083-210-021
TRPA File No. / Submittal Date:	LCAP2017-0419 / 12/1/2017
Owner or Applicant:	Gary Furumoto
Address:	PO Box 6214, Tahoe City, CA 96145

Environmental Setting	
Bailey Soil Mapping Unit¹ / Hydrologic Soil Group (HSG) / Land Class / Geomorphic Hazard Unit	TeE, Tallac very stony coarse sandy loam, 15 to 30 percent slopes/ HSG B/ E1, Depositional Lands; moraine lands undifferentiated (Moderate hazard lands).
Soil Parent Material	Volcanic colluvium over outwash and alluvium
Slopes and Aspect	20 to 28 percent; sloping to south
Elevation and Datum	6395 to 6444, Webb Land Surveying
Rock Outcrops and Surface Configuration	None present
SEZ and Hydrology Source	NA
Vegetation	Jeffrey pine, white fir, incense cedar, greenleaf manzanita, huckleberry oak, and other shrubs.
Ground Cover Condition	Good (vegetation 80%, duff/mulch 75% cover)
Site Features	Residence, garage, stairs, deck, asphalt driveway, decks, and retaining walls.

Field Investigation and Procedures	
Consultant and Address	Marchel Munnecke PO Box 1015 Twin Bridges, CA 95735
TRPA Staff Field Dates	December 11, 2017
SEZ Mapping / NRCS Hydric Soil	None present
Number of Soil Pits or Auger Holes and Description Depth	1 hand excavate pit, described to 60 inches.
Additional or Repetitive TRPA Sample Locations	NA
Representative Soil Profile Descriptions	Ms. Munnecke's soil profile descriptions- attached
Areas Not Examined	Residence, garage, stairs, deck, asphalt driveway, decks, and retaining walls.

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.

TRPA Findings	
2006 Soil Survey Map Unit	7182, Paige medial sandy loam, 15 to 30 percent slopes, Class 4 (based on slopes), HSG B
Consultant Soil Mapping Determination and Rationale	<p>XXX- Capability Class 4, 9 to 30 percent slopes.</p> <p>The soils on this parcel are dissimilar to the Tallac soils, because they have less than 35% rock fragments, there was no evidence of a silica cemented layer or till, and this soil has argillic soil horizons. This soil is similar to the Inville soils, but Inville soils also have higher rock fragments. Neither the Tallac or Inville soils have a lacustrine layer. This soil is also similar to the Jabu soil, but does not have a root restrictive, dense fragipan beginning at 45 inches. This soil is dissimilar to the Paige soil because it has argillic soil development and dense till was not encountered.</p> <p>These soils are deep and well drained and place this soil in Soil Hydrologic Group B, with low to moderately low runoff potential. Based on slopes, this entire parcel is XXX- Class 4, with 20 percent allowable land coverage.</p>
Slope Determination	20 to 29 percent slopes
TRPA Conclusion(s)	TRPA concurs with consultants' determination and rationale above.
Applicable Area	See parcel revised map, February 9, 2018

Attachments:

- A. Parcel map, February 9, 2018
- B. Ms. Munnecke's, soil profile description (1 pit)

Attachment A

Parcel Map, February 9, 2018

Attachment B

Ms. Munnecke's, soil profile description (1 pit)

Johnathan Lieberman Land Capability Challenge

1394 Sequoia Ave.,
Tahoe City, Placer County, CA 96145.
APN 083-210-021, LCAP2017-0419

Soil Profile Descriptions

Marchel Munnecke

Field Date: 12-11-2017



Pit 083-210-021:

Soil Classification: Medial, mixed, frigid Humic Vitrixerands (Some assumptions, made due to lack of lab analysis, based on soils mapped in this area in 2007 Soil Survey of the Tahoe Basin Area, California and Nevada.)

Soil Series: XXX, Capability Class 4 based on slopes.

Drainage Class: Well Drained

Hydrologic Group: B

Parent Material: Colluvium from volcanic parent material over lacustrine deposits.

Slope: 24 % **Aspect:** South

Description:

- Oi 0 to 1 centimeter; slightly decomposed pine needles and shrub leaves.
- A 1 to 6 centimeters; medial gravelly loamy coarse sand, very dark greyish brown (10YR 3/2) moist; moderate medium granular structure; soft, very friable, nonsticky and nonplastic; many very fine and fine roots; many very fine and fine interstitial pores; 20 percent gravels; gradual wavy boundary.
- AB 6 to 39 centimeters; medial gravelly loamy coarse sand, dark brown (7.5YR 3/3) moist; moderate medium subangular blocky structure parting to moderate medium granular; soft, very friable, nonsticky and nonplastic; many very fine to medium and common coarse roots; many very fine and fine interstitial pores; 15 percent gravel and 5 percent cobbles; gradual wavy boundary.
- Bt1 39 to 80 centimeters; medial gravelly coarse sandy loam, brown (10YR 4/3) moist; moderate medium subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; common very fine, many fine to medium, and few coarse roots; common, distinct clay films on faces of peds; many very fine and fine interstitial pores; 15 percent gravel and 10 percent cobbles; gradual wavy boundary.
- Bt2 80 to 130 centimeters; medial coarse sandy loam, brown (10YR 5/3) moist; weak medium subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; few very fine and coarse and many fine to medium roots; common, distinct clay films on faces of peds; many very fine and fine interstitial pores; 10 percent gravel and 2 percent cobbles; clear smooth boundary.
- Bt3 130 to 138 centimeters; very gravelly loamy coarse sand, brown (10YR 5/3) moist; weak coarse subangular blocky structure; moderately hard, firm, brittle, weakly cemented, nonsticky and nonplastic; common fine and medium roots; common, distinct clay films bridging sand grains; few very fine and fine interstitial pores; 40 percent gravels; clear smooth boundary.
- C 138 to 150+ centimeters; silty clay loam, brown (10YR 5/3) moist; massive; moderately hard, extremely firm, moderately cemented, moderately sticky and moderately plastic; no roots; 40 percent 2 percent gravels.