



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

MEMORANDUM

Date: December 7, 2017

To: TRPA Hearings Officer

From: TRPA Staff

Subject: McMillan House LLC, Land Capability Challenge; 1228 HWY 50, Douglas County, NV; Assessor's Parcel No: 1418-34-201-003; TRPA File No: LCAP2017-0173

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

Staff Recommendation: Staff recommends the TRPA Hearings Officer approve the land capability challenge on the subject parcel; specifically, changing the land capability from Class 2 (29,447 square feet) and Class 4 (89,879 square feet) to primarily Class 6 (95,347 square feet) and Class 4 (14,666 square feet). A new area is mapped as 1c (7,635 square feet) and the backshore, Class 1b, is 1,678 square feet. Please see table below for more details.

Background: The subject parcel is shown as Class 2 and Class 4 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 this parcel in the Cagwin-Rock outcrop complex, 15 to 30 (CaE) and 0 to 15 percent slope (CaD) map units. This parcel has a geomorphic mapping of C1 for Streamcut granitic mountain slopes, granitic foothills (moderate 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 granitic bedrock is encountered between 20 and 40 inches below ground surface. The updated Soil Survey of Tahoe Basin Area, California and Nevada (NRCS, 2007) this parcel is mapped as mapunit 7421- Cassenai- gravelly loamy coarse sand, 15 to 30 percent slopes.

A land capability challenge (LCAP2017-0173) was filed with TRPA on August 23, 2017. Midkiff and Associates is representing the owner, McMillan House LCC, and hired Denny Churchill to prepare a land capability analysis. Two soil pits were excavated and described by Mr. Churchill on May 19, 2017. On August 30, TRPA consultant, Marchel Munnecke examined two confirmatory auger holes. The auger observations were at Mr. Churchill's soil descriptions (5/19/17-1 and 5/19/17-2).

Findings: Two soil pits were excavated on the parcel. Pit 5/19/17-1 was located within the Class 6 polygon, to the east of the residence. Pit 5/19/17-2 was located within the Class 4 polygon, east of the residence, close to Highway 50. The soils at these pits are very similar. They are both very deep, with loamy coarse sand and gravelly loamy coarse sand textures. They are somewhat

excessively drained with moderately rapid permeability, and place in Hydrologic Soil Group A. These soils are classified as Mixed, frigid, Dystric Xeropsamments.

These soils are deeper than 20 to 40 inches, so do not meet the range in characteristics for the Cagwin soil component. They are an unmapped soil (XXX) in the 1974 Soil Survey. These soils are similar to the Cassenai soil component, as mapped in the 2006 Soil Survey.

Slopes on this parcel range from 7 percent to 60 percent. Based on slopes, the soils of the subject parcel fall within two capability classes; Class 4 (5 to 15 percent slopes), and Class 6 (0 to 16 percent slopes). Backshore was previously delineated as wave run up plus 10 feet (1987 building application), which is also at the top of the break in slope. The Backshore area is classified as Class 1b (SEZ).

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

Land Capability District	Area (sq. ft.)	
	From LCV* approx.	2016 LCC
Class 2 (CaE, 15 to 30% slopes)	29,447	0
Class 4 (CaD, 5 to 15% slopes)	89,879	0
Class 1c (Ra)	0	7,678
Class 1b (Backshore)	0	1,678
Class 4 (XXX, 9 to 30 % slopes)	0	14,666
Class 6 (XXX, 0 to 16 % slopes)	0	95,347
Total Parcel Area	119,326	119,326

This memorandum was jointly prepared by TRPA subcontractor Marchel Munnecke (Pyramid Botanical Consultants) and TRPA Associate Environmental Specialist II, 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)	1418-34-201-003
TRPA File No. / Submittal Date:	LCAP2017-0173 / 8/23/2017
Owner or Applicant:	McMillan House LLC
Address:	4501 Frances Court, Sacramento, CA, 95822

Environmental Setting	
Bailey Soil Mapping Unit¹ / Hydrologic Soil Group (HSG) / Land Class / Geomorphic Hazard Unit	Cagwin-Rock outcrop complex, 5 to 15 % slope map unit (CaD), Cagwin-Rock outcrop complex, 15 to 30 % slopes (CaE), / HSG B/ C1 (Streamcut granitic mountain slopes, granitic foothills, moderate hazard lands)
Soil Parent Material	Colluvium over residuum from granitic rock
Slopes and Aspect	7 to 60 percent; sloping to the west
Elevation and Datum	6229 to 6225 (Resource Concepts Inc.)
Rock Outcrops and Surface Configuration	Large boulders are dispersed along the north portion of parcel, towards the lake. This area is delineated on the map as Ra- Rock land unit.
SEZ and Hydrology Source	None present
Vegetation	Jeffrey pine, white fir, antelope bitterbrush, greenleaf manzanita, and prostrate ceanothus.
Ground Cover Condition	Good (vegetation 75%, duff/mulch 85% cover)
Site Features	Residence, secondary building, AC driveway, AC parking, gravel parking, stone steps, decks, rock armor beneath deck, compacted dirt paths, stone steps and stairs to lake.

Field Investigation and Procedures	
Consultant and Address	Denny Churchill 145 Cottonwood Ct. Quincy, CA 95971
TRPA Staff Field Dates	August 30 2017
SEZ Mapping / NRCS Hydric Soil	None present
Number of Soil Pits or Auger Holes and Description Depth	2 pits hand excavated pits by Mr. Churchill to 30 and 25 inches, then augured to 60 inches.
Additional or Repetitive TRPA Sample Locations	2 augur observations at pits 5/19/17-1 and 5/19/17-2 by Mrs. Munnecke.
Representative Soil Profile	Mr. Churchill's land capability report includes two soil

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.

Descriptions	profile descriptions.
Areas Not Examined	Residence, secondary building, AC driveway, AC parking, gravel parking, stone steps, decks, rock armor beneath deck, compacted dirt paths, stone steps and stairs to lake.

TRPA Findings	
2006 Soil Survey Map Unit	7421- Cassenai- gravelly loamy coarse sand, 15 to 30 percent slopes.
Consultant Soil Mapping Determination and Rationale	XXX- These soils are all very deep, somewhat excessively drained, with moderately rapid permeability, and are in HSG A. These soils are similar to the Cassenai soil component. Based on slopes, these soils place into land capability Class 4 (9 to 30 % slope), Class 6 (0-16 % slope). An area of boulders along the northern boundary is delineated as Ra. Backshore was previously delineated as wave run up plus 10 feet (1987 building application), which is also at the top of the break in slope.
Slope Determination	8 to 60 percent slopes
TRPA Conclusion(s)	TRPA concurs with consultants' determination and rationale above, with the exception that one area mapped as CaE Class 2 was changed to Backshore, Class 1b.
Applicable Area	See map in Mr. Churchill's Land Capability Assessment Report.

Attachments:

- A. Site Plan (Included in Mr. Churchill's report, May 26, 2017)
- B. Mr. Churchill's Land Capability Analysis Report

Attachment A

Site Plan (Included in Mr. Churchill's report, May 26, 2017)

REVISION	DATE

APN: 1418-34-201-003
 1228 HWY 50
 DOUGLAS COUNTY, NEVADA

MIDKIFF & ASSOCIATES, INC.
 FOR
TOPOGRAPHIC AND COVERAGE MAP

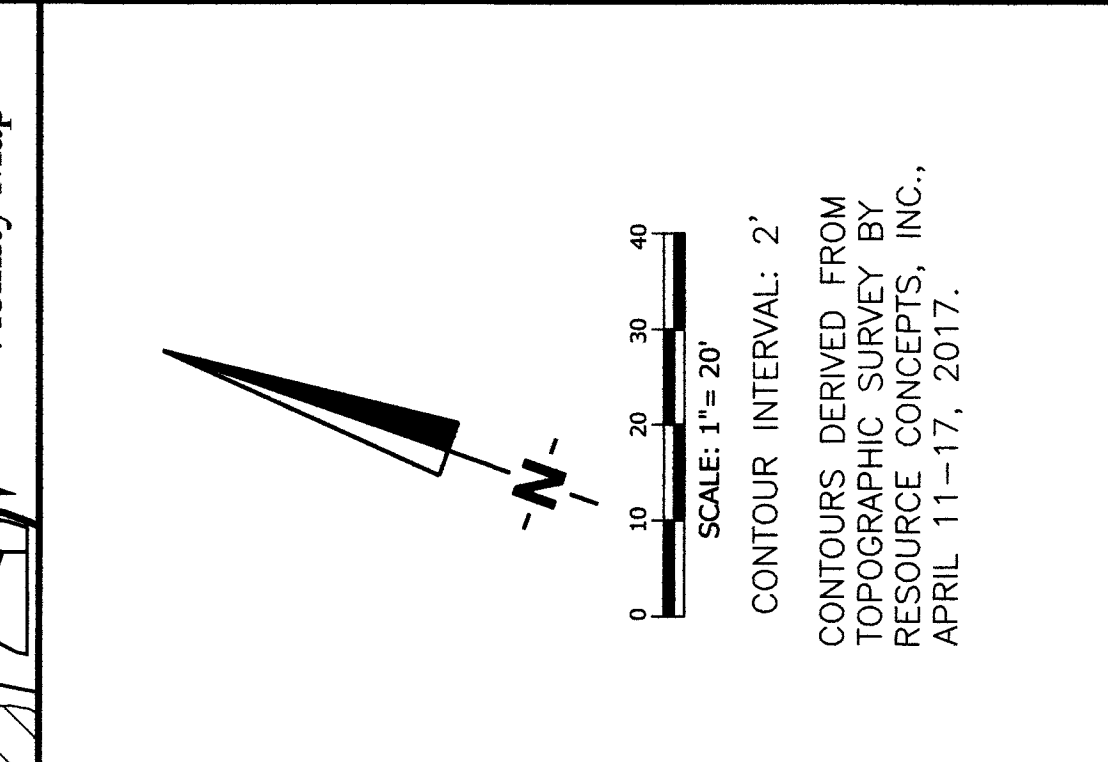
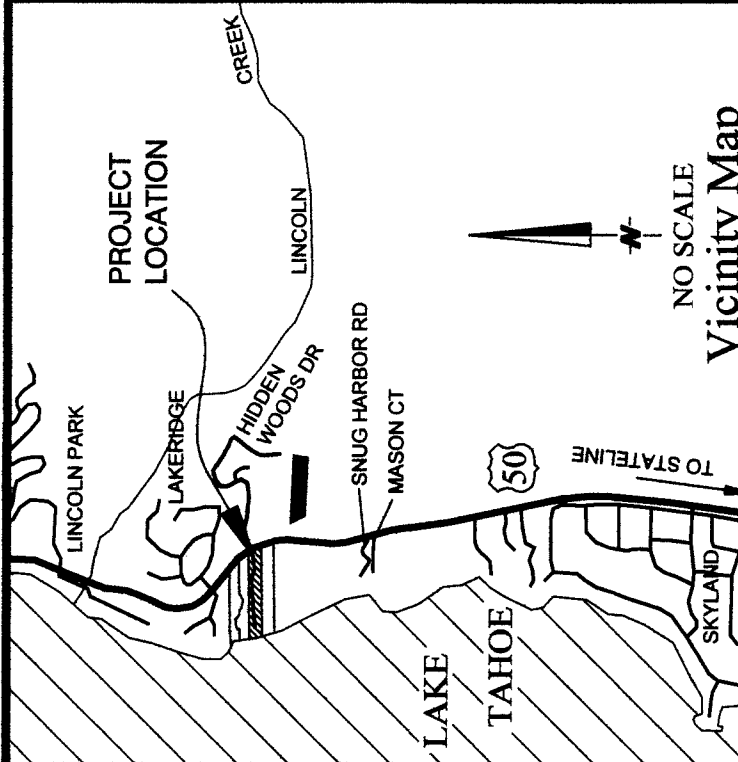
RECEIVED
 JUN 23 2017
 TAJANE BEZINA
 PLANNING SUPERVISOR

BMP APPROVAL
 LETTER OF AUG. 29, 1990,
 FILE NO. 19870477STD
 APN: 03-191-02

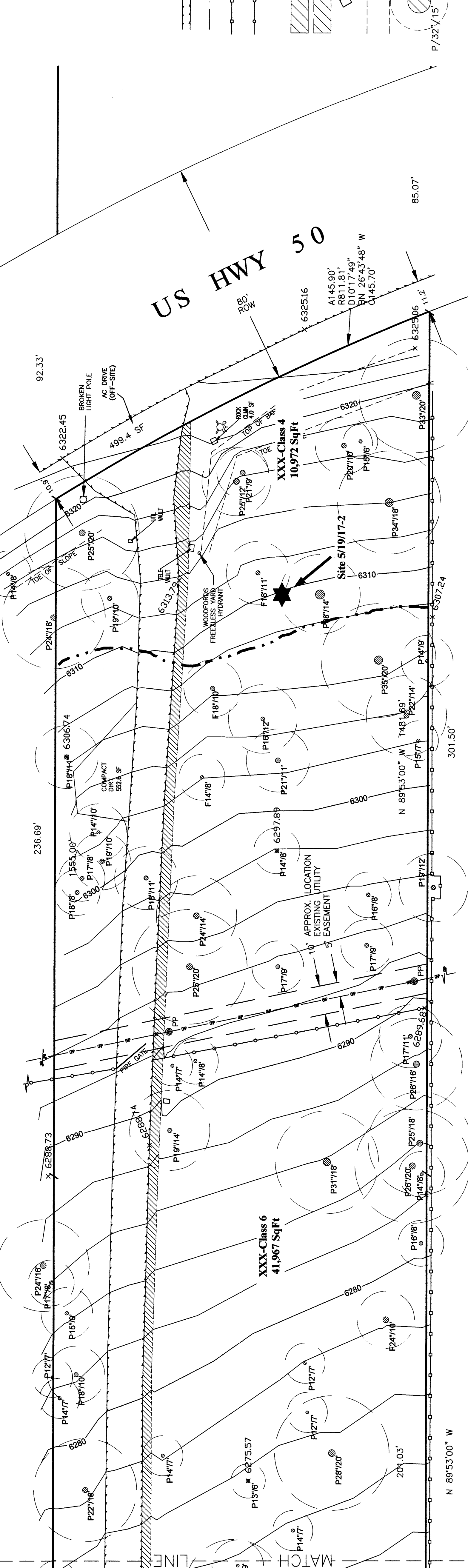
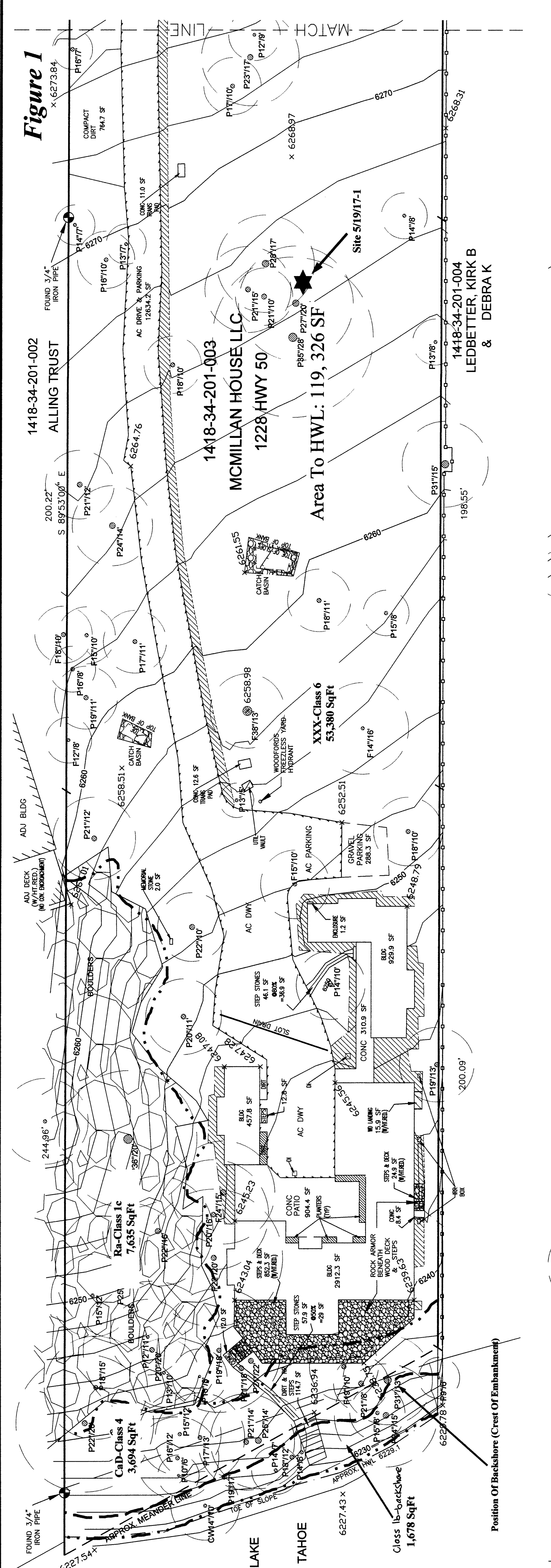
APN: 1418-34-201-003
 (OLD APN: 03-191-02)
 OWNER OF RECORD:
 MCMILLAN HOUSE LLC
 C/O VINTON HAWKINS
 4501 FRANCIS CT
 SACRAMENTO, CA 95822

JOB NO.: 17-146.1
 DATE: 4/18/17
 DESIGNED: CNU
 DRAWN: RBB
 CHECKED: RBB

SHEET 1 OF 1



- LEGEND**
- FOUND 3/4" IRON PIPE, NO TAG
 - NOTHING FOUND, NOTHING SET
 - LIGHT POLE
 - POWER POLE
 - WOODFORDS TYPE HOSE BIB
 - EDGE OF PAVEMENT
 - APPROX. HIGH WATER LINE, 6229.1
 - DECORATIVE METAL FENCE
 - CH. LINK FENCE
 - SPOT ELEVATION
 - 3:1 HEIGHT REDUCTION
 - BMP INFILTRATION TREATMENT
 - VARIOUS BOXES/Vaults AS NOTED
 - TOP OF BANK
 - TOE OF SLOPE
 - TREE TYPE/DIA. / DRIP RADIUS:
 F=FIR, P=PINE



Land Capability Assessment
 For
Douglas APN 1418-34-201-003
1228 Highway 50, Zephyr Cove, NV
May 26, 2017

Summary Of Capability Classes

Class 1c = 7,635 S.F.
 Class 1b = 1,678 S.F.
 Class 4 = 14,666 S.F.
 Class 6 = 95,347 S.F.

Land Capability Assessment For
 Midkiff and Associates, Inc.
 PO Box 12427
 Zephyr Cove, NV 89448

Land Capability Assessment By
 Denny M. Churchill
 Consulting Soil Scientist, CPSS, CPESC
 145 Cottonwood Court
 Quincy, CA 95971

EXISTING ON-SITE COVERAGE FOR APN: 1418-34-201-003

ASPHALT	=	12,634.2 S.F.
BUILDINGS	=	4,301.2 S.F.
CONCRETE/ROCK	=	1,261.3 S.F.
COLUMN	=	905.9 S.F.
WOOD DECK/STEP	=	288.3 S.F.
(WATER PROOF)	=	1,432.0 S.F.
SOFT COVER/SR	=	20,822.9 S.F.
TIE & DIRT STEPS	=	91,509 S.F.
TOTAL COVERAGE	=	141,805.8 S.F.
PARCEL AREA TO HWL	=	119,326 S.F.

EXISTING OFF-SITE COVERAGE FOR APN: 1418-34-201-003

ASPHALT	=	499.4 S.F.
TOTAL (OFF-SITE)	=	499.4 S.F.

Attachment B

Mr. Churchill's Land Capability Analysis Report

**Land Capability Assessment
For
Douglas Parcel APN 1418-34-201-003**

May 26, 2017

INTRODUCTION

A soil investigation was conducted by Denny M. Churchill, Consulting Soil Scientist on Douglas County Parcel APN 1418-34-201-003 on May 19, 2017. 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, as defined in Chapter 30 of the Code of Ordinances.

The parcel supports a single-family dwelling in a mixed residential setting on approximately 2.09 acres of land located at 1228 Highway 50, Douglas County, NV. This work is advanced at the request of Mr. Gary Midkiff, principle of Midkiff and Associates, Inc., agents for the McMillan House, LLC.

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 or seismic analysis.

ENVIRONMENTAL SETTING

The parcel is located at T14N R18E, SW/4 of the NW/4 of section 34. Vegetation consists of Type 17- Mixed conifer and composed of Jefferey pine, white fir, bitter brush, rabbit brush, greenleaf manzanita, squaw carpet, snow brush and mixed grasses. There are no stream environment zones (SEZ) influencing this parcel.

Soils are shown on the TRPA GIS Data Base (<http://gis.trpa.org/datadownloader/>) as CaD-Cagwin-Rock outcrop complex, 5 to 15 percent slopes, and CaE-Cagwin-Rock outcrop complex, 15 to 30 percent slopes. Geology (Grose, 1985) is characterized as Keg-Granodiorites. Bailey's geomorphic analysis (1974) shows the parcel as E2-Outwash, till, and lake deposits (low hazard lands).

METHODOLOGY

The parcel was surveyed based on slope delineations and landscape position. Two sites considered representative of the landform were chosen and excavations were placed to open and examine the soil profiles 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 map was available (Resource Concepts, Inc., 4/17) for site location and slope control. Information pertaining to land capability districts is shown on Figure 1.

FINDINGS

Referring to Figure 1 attached site map, soils at site 5/19/17-1 are found to be deep, somewhat excessively drained, and members of Soil Hydrologic Group A. They can be characterized as having brown or yellowish brown loamy coarse sand top soil approximately 16 inches thick, over a brown gravelly loamy coarse sand subsoil to a depth of 56 inches. Vegetation at this site is Type 17-Mixed conifer. Soils were moist beginning at 36 inches at the time of excavation. No static ground water was observed. Soils at this location are deeper than 40 inches, placing them outside the range of characteristics for Cagwin loamy coarse sand.

Soils at site 5/19/17-2 are found to be deep, somewhat excessively drained, and members of Soil Hydrologic Group A. They can be characterized as having brown or dark grayish brown loamy coarse sand top soil approximately 22 inches thick, over a brown or yellowish brown gravelly loamy coarse sand subsoil to a depth of 60+ inches. Vegetation at this site is representative of Type 17-Mixed conifer. Soils were moist beginning at 35 inches at the time of excavation. No static ground water was observed. Soils at this location are deeper than 40 inches, placing them outside the range of characteristics for Cagwin loamy coarse sand.

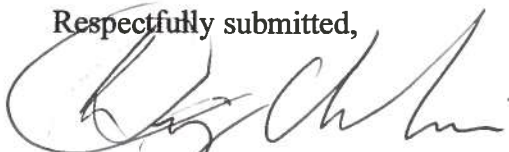
CONCLUSIONS AND RECOMMENDATIONS

Soils found at site 5/19/17-1 are deeper than the Cagwin loamy coarse sand soils presently mapped at this site, are considered unmapped inclusions within the CaD map unit, and place in land capability class 6.

Soils found at site 5/19/17-2 are deeper than the Cagwin loamy coarse sand soils presently mapped at this site, are considered unmapped inclusions within the CaE map unit, and place in land capability class 4.

Please refer to the following soil profile descriptions that support the findings and the attached map Figure 1 showing the spatial distribution of the appropriate land capability classes on the parcel.

Respectfully submitted,



Denny M. Churchill

Certified Professional Soil Scientist No. 0755

Representative Soil Profile Descriptions

Site 5/19/17-1: Excavated pit to 30 inches, auger to 56+ inches.

Location: 39° 02' 03.00" N. Latitude; 119° 56' 56.26" W. Longitude (WG84 datum)

Elevation: 6268 feet (from Resource Concepts, Inc. 4/2017)

Landform: Out sloped terrace (slopes to the north west).

Vegetation: Jeffery pine, white fir, bitter brush, greenleaf manzanita, squaw carpet, mixed grasses.

- Oi 0 to 2 inches, pine needles, duff and root mass.
- A1 2 to 8 inches, brown (10YR 5/3) loamy coarse sand, brown (10YR 4/3) moist; weak fine granular structure; soft, very friable, nonsticky and nonplastic; common very fine to medium and few coarse roots throughout; common fine interstitial pores; 5 percent small subangular gravels; slightly acid (pH 6.2); clear wavy boundary.
- A2 8 to 16 inches, yellowish brown (10YR 5/4) loamy coarse sand, brown (10YR 4/3) moist; weak fine granular structure; soft, very friable, nonsticky and nonplastic; many very fine to medium and few coarse roots throughout; common fine interstitial pores; 10 percent small subangular gravels; slightly acid (pH 6.2); clear wavy boundary.
- A/C1 16 to 28 inches, dark yellowish brown (10YR 4/4) gravelly loamy coarse sand, dark brown (10YR 3/3) moist; moderate fine to medium granular structure loose, loose, nonsticky and nonplastic; few to common fine to medium and common coarse roots; many fine interstitial pores; 15 percent small subangular gravels; slightly acid (pH 6.2); clear wavy boundary.
- C2 28 to 56 inches, yellowish brown (10YR 5/4) gravelly loamy coarse sand, dark yellowish brown (10YR 4/4) moist; massive; slightly hard, friable, nonsticky and nonplastic; common fine to medium and few coarse roots; many fine interstitial pores; 15-20 percent small subangular gravels; moderately acid (pH 6.0); clear wavy boundary.
- 2Cd 56+ inches, dense coarse sands with angular gravels of granitic origin. Possible outwash shoreline materials.

Parent material: Colluvium over alluvium.

Drainage class: Somewhat excessively drained. Moderately rapid permeability.

Slope: 6-12 percent sloping north 70 degrees west.

1974 soil series: None. Deeper than Toem or Cagwin soils.

2003 soil series: Cassenai gravelly loamy coarse sand.

Soil classification: Mixed, frigid Dystric Xeropsamments
Hydrologic Soil Group: A
Soil was moist beginning at 25 inches. No evidence of static ground water.

Site 5/19/17-2: Excavated pit to 25 inches, auger to 60 inches.

Location: 39° 02' 02.91" N. Latitude; 119° 56' 51.73" W. Longitude (WG84 datum)

Elevation: 6290 feet (from Resource Concepts, Inc. 4/2017)

Landform: Out sloped terrace (slopes to the north west).

Vegetation: Jeffery pine, white fir, bitter brush, snow brush, squaw carpet and mixed grasses.

Oi 0 to 4 inches, pine needles, duff and decomposed bark.

A1 4 to 12 inches, dark yellowish brown (10YR 4/4) loamy coarse sand, dark brown (10YR 3/3) moist; weak fine granular structure; soft, very friable, nonsticky and nonplastic; common to many very fine to medium and few coarse roots throughout; common fine interstitial pores; 5 percent small subangular gravels; slightly acid (pH 6.2); clear wavy boundary.

A2/C1 12 to 22 inches, dark yellowish brown (10YR 4/4) loamy coarse sand, dark brown (10YR 3/3) moist; moderate fine granular structure; soft, very friable, nonsticky and nonplastic; many very fine to medium and few coarse roots throughout; common fine interstitial pores; 10 percent small subangular gravels; slightly acid (pH 6.2); clear wavy boundary.

C2 22 to 50 inches, yellowish brown (10YR 5/4) gravelly loamy coarse sand, dark yellowish brown (10YR 4/4) moist; moderate fine to medium granular structure grading to massive; loose, loose, nonsticky and nonplastic; many fine to medium and few coarse roots; many fine interstitial pores; 10 percent small subangular gravels; moderately acid (pH 6.0); clear wavy boundary.

C3 50 to 60 inches, yellowish brown (10YR 5/4) gravelly loamy coarse sand, dark yellowish brown (10YR 3/4) moist; massive; loose, loose, nonsticky and nonplastic; few fine to medium roots; many fine interstitial pores; 15-20 percent small subangular gravels; moderately acid (pH 6.0); clear wavy boundary.

2Cd 60+ inches; Dense fractured layer of gravels and angular rock fragments, refusal at this depth. Possible outwash shoreline deposits.

Beginning at 40-50 inches, gravels and coarse sands heavily coated with iron oxides. No static ground water was observed with the soil moist beginning at 35 inches. Proximity to Highway 50 may account for concentrated flows due to snow melt and rainfall events. This same high level of mineralization is evident at the shoreline below the house and in subsurface waters day-lighting from the shore bank.

Parent material: Colluvium over alluvium.

Drainage class: Somewhat excessively drained. Moderately rapid permeability.

Slope: 18 to 20 percent sloping north 80 degrees west.

1974 soil series: None. Deeper than Toem or Cagwin soils.

2003 soil series: Cassenai gravelly loamy coarse sand.

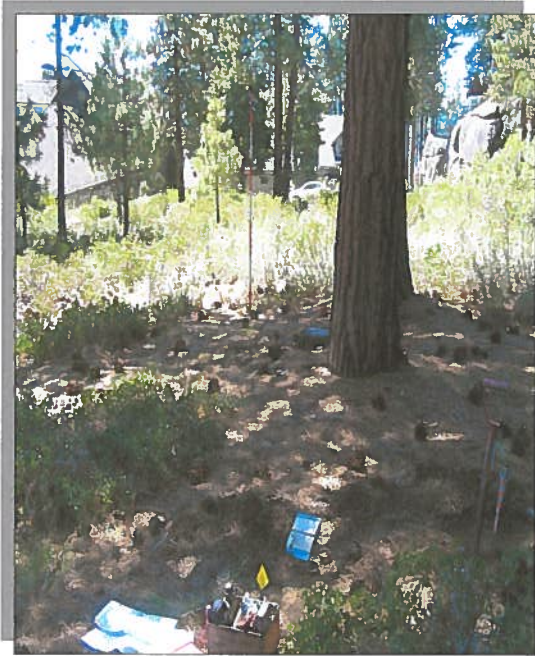
Soil classification: Mixed, frigid Dystric Xeropsamments

Hydrologic Soil Group: A

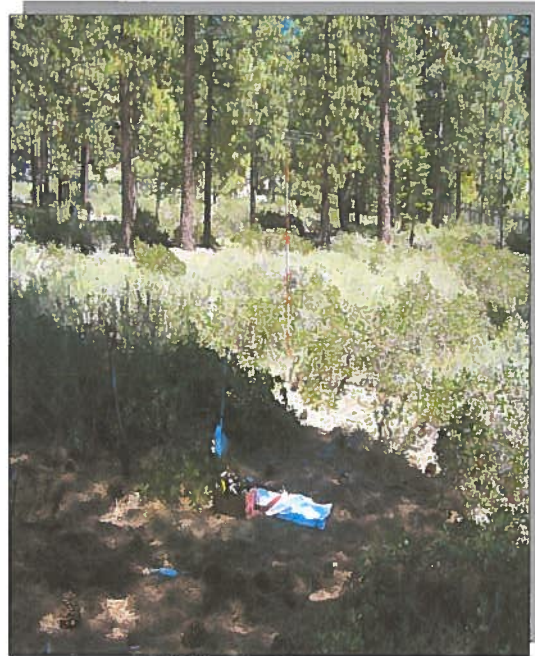
Soil was moist beginning 35 inches at the time of excavation.

Photo Series

Site 5/19/17-1



Down Slope Towards Residence



Up Slope Towards Highway 50

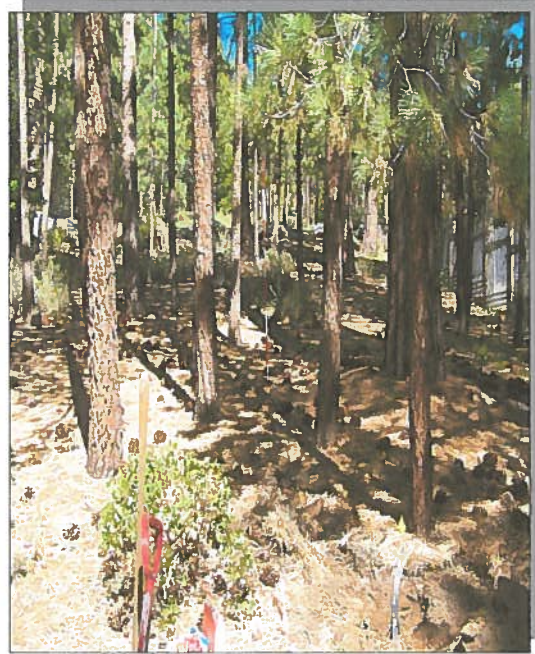


Representative Soil Profile

Site 5/19/17-2



Down Slope Towards Residence



Up Slope towards Highway 50



Representative Soil profile