

Exhibit E

SOIL LOSS ANALYSIS
PROPOSED NEW VINEYARD
RED DIRT GRAPES, LLC
LONG RANCH ROAD
ST. HELENA, CA
APN 032-030-071, 032-560-038
JANUARY 24, 2022

The following analysis evaluates a proposed, approximately 28.4-acre development of mixed new vineyard, located on two assessor's parcels totaling approximately 54 acres, in the area known as Pritchard Hill, southeast of Lake Hennessey and northwest of Rector Reservoir in Napa County, California. The purpose of this exercise is to determine the proposal's potential to increase sediment delivery from the site. The analysis also compares predicted soil loss with the USDA soil loss tolerance standard ("T"). The analysis was prepared by David Steiner, CPESC, CPSWQ, at the request of and in consultation with Mike Muelrath of Applied Civil Engineering. This analysis has adapted the Universal Soil Loss Equation (USLE) protocol developed by the Napa RCD, with guidance from the NRCS (SCS) Field Office Technical Guide, to requirements of the Napa County Engineering Division. Modeled transects are drawn on the accompanying map, provided by Applied Civil Engineering. The accompanying Excel spreadsheet¹, along with an explanatory MS Word Addendum, incorporates USLE principles and formulas, as follows:

- The "R" value is derived from the median of the predicted range of 2-year/6-hour storms for this site, according to NOAA Atlas 14. A printout of the NOAA Atlas 14 table accompanies this submittal.
- The "LS" value is calculated per algorithms based on USDA empirical data, using plotted slope lengths and gradients, over eight representative transects through the proposed vineyard block.
- The "K" (soil erosivity) and "T" (soil loss tolerance) values were taken from the Napa County Web Soil Survey. Copies of the NCWSS printouts accompany this submittal. Where Mapping Unit (soil type) boundaries cross modeled transects, the slope segment protocol is used to determine appropriately weighted values of these factors, as well.
- Pre-project "C" value: To account for varying levels of vegetation and ground cover, USDA segmenting protocols—again, assigning greater influence to downslope segments—have also been applied to "C" factor determinations. Values assigned to each segment were selected from Table 5 of the "Special Applications for Napa County" USLE pamphlet, based on examination of imagery from Google Earth and the "Onxhunt" GPS application, and on observations during field visits on November 9 and December 2, 2021. The plotted flowpaths of Transects 2 and 4 deliberately avoid two dirt roads that

¹ *This Excel format segments modeled transects according to the most complex variable or USLE factor describing conditions along the transect. For example, a transect with five different types or levels of canopy or vegetative cover—but with uniform slope throughout—would nonetheless be assigned five separate slope entries (even though they were all the same), as the transect's segmentation (for all factors) would be based on cover, its most complex variable. (The algorithm progressively weights the influence of downslope segments on overall soil loss predictions.)*

capture and concentrate significant pre-project runoff, as USLE does not predict soil loss from concentrated flow. Normal site preparation will obliterate the roads, under post-project conditions.

- Post-project “C” values were assigned to reflect the cover crop specifications in the Erosion Control Plan: non-tilled management with 75% cover will be established and maintained in all new and replanted vineyard blocks, in order to (1) avoid soil loss increase and (2) comply with the USDA “T”, soil loss tolerance. Specifications for cover maintenance on vineyard avenues are the same as those within vineyard blocks; supplementary practices such as annual applications of seed and straw mulch, per specifications in the Erosion Control Plan, may be necessary to compensate for ground disturbance related to tractor and equipment traffic.
- For the most part, “P” (practice) factors are assigned the default maximum value (1). However, an appropriate reduction of this factor is assigned to Transects 8, where the proposed layout specifies non-tilled, cross-slope farming.

Conclusion: With the assumption that the specified cover levels will be maintained, calculations predict that soil loss levels in proposed new and replanted vineyard blocks will exceed neither current levels nor the USDA soil loss tolerance (“T”). (Please see accompanying Excel printouts, and explanatory addendum of pre-project “C” factors.)

Transect Identification		Red Dirt #3 West Northwest, Pre-project				
Acres	0.4 acres					
Total Slope Length	158 feet					
Number of Segments	1 segment					
	1	2	3	4	5	
R	65.87	65.87	65.87	65.87	65.87	
Factor (F)	1.00	0.00	0.00	0.00	0.00	
Slope Length	158					
Slope %	17.8					
LS	3.74	0.00	0.00	0.00	0.00	
K	0.10	0.10	0.10			
C	0.038					
P	1.00	1.00	1.00	1.00		
T	1.00	1.00	1.00	1.00	1.00	
(F) (LS) (K) (C)	0.014218	0.0000	0.0000	0.0000	0.0000	
A = (R) (F) (LS) (K) (C) (P)	0.94	0.00	0.00	0.00	0.00	

0.94 tons/acre/year
0.37 tons/year

Transect Identification		Red Dirt #3 West Northwest, Post-project				
Acres	0.4 acres					
Total Slope Length	158 feet					
Number of Segments	1 segment					
	1	2	3	4	5	
R	65.87	65.87	65.87	65.87	65.87	
Factor (F)	1.00	0.00	0.00	0.00	0.00	
Slope Length	158					
Slope %	17.8					
LS	3.74	0.00	0.00	0.00	0.00	
K	0.10	0.10	0.10			
C	0.034				75NT	
P	1.00	1.00	1.00			
T	1.00	1.00	1.00			
(F) (LS) (K) (C)	0.012722	0.0000	0.0000	0.0000	0.0000	
A = (R) (F) (LS) (K) (C) (P)	0.84	0.00	0.00	0.00	0.00	

0.84 tons/acre/year
0.34 tons/year

Transect Identification		Red Dirt #4 Northeast, Pre-project				
Acres	6.1 acres					
Total Slope Length	714 feet					
Number of Segments	3 segments					
	1	2	3	4	5	
R	65.87	65.87	65.87	65.87	65.87	
Factor (F)	0.19	0.35	0.46	0.00	0.00	
Slope Length	714	714	714			
Slope %	2.1	5.6	16.1			
LS	0.38	1.64	6.95	0.00	0.00	
K	0.10	0.10	0.10			
C	0.048	0.020	0.046			
P	1.00	1.00	1.00	1.00	1.00	
T	1.00	1.00	1.00	1.00	1.00	
(F) (LS) (K) (C)	0.00034	0.0012	0.0147	0.0000	0.0000	
A = (R) (F) (LS) (K) (C) (P)	0.02	0.08	0.97	0.00	0.00	

1.07 tons/acre/year
6.51 tons/year

Transect Identification		Red Dirt #4 Northeast, Post-project				
Acres	6.1 acres					
Total Slope Length	714 feet					
Number of Segments	3 segments					
	1	2	3	4	5	
R	65.87	65.87	65.87	65.87	65.87	
Factor (F)	0.19	0.35	0.46	0.00	0.00	
Slope Length	714	714	714			
Slope %	2.1	5.6	16.1			
LS	0.38	1.64	6.95	0.00	0.00	
K	0.10	0.10	0.10			
C	0.034	0.034	0.034		75NT	
P	1.00	1.00	1.00			
T	1.00	1.00	1.00			
(F) (LS) (K) (C)	0.000243	0.0020	0.0109	0.0000	0.0000	
A = (R) (F) (LS) (K) (C) (P)	0.02	0.13	0.72	0.00	0.00	

0.86 tons/acre/year
5.25 tons/year

Transect Identification		Red Dirt #7 South-West, Pre-project				
Acres		2.8 acres				
Total Slope Length		182 feet				
Number of Segments		1 segment				
		1	2	3	4	5
R		65.87	65.87	65.87	65.87	65.87
Factor (F)		1.00	0.00	0.00	0.00	0.00
Slope Length		182				
Slope %		4.7				
LS		0.67	0.00	0.00	0.00	0.00
K		0.10	0.10	0.10		
C		0.038				
P		1.00	1.00	1.00	1.00	
T		1.00	1.00	1.00	1.00	1.00
(F) (LS) (K) (C)		0.002545	0.0000	0.0000	0.0000	0.0000
A = (R) (F) (LS) (K) (C) (P)		0.17	0.00	0.00	0.00	0.00

0.0025 tons/acre/year
0.47 tons/year

Transect Identification		Red Dirt #7 South-West, Post-project				
Acres		2.8 acres				
Total Slope Length		182 feet				
Number of Segments		1 segment				
		1	2	3	4	5
R		65.87	65.87	65.87	65.87	65.87
Factor (F)		1.00	0.00	0.00	0.00	0.00
Slope Length		182				
Slope %		4.7				
LS		0.67	0.00	0.00	0.00	0.00
K		0.10	0.10	0.10		
C		0.034				75NT
P		1.00	1.00	1.00		
T		1.00	1.00	1.00		
(F) (LS) (K) (C)		0.002277	0.0000	0.0000	0.0000	0.0000
A = (R) (F) (LS) (K) (C) (P)		0.15	0.00	0.00	0.00	0.00

0.0023 tons/acre/year
0.42 tons/year

Transect Identification		Red Dirt #8 South-East, Pre-project				
Acres		1.2 acres				
Total Slope Length		122 feet				
Number of Segments		1 segment				
		1	2	3	4	5
R		65.87	65.87	65.87	65.87	65.87
Factor (F)		1.00	0.00	0.00	0.00	0.00
Slope Length		122				
Slope %		3.7				
LS		0.40	0.00	0.00	0.00	0.00
K		0.10	0.10	0.10		
C		0.046				70NT
P		1.00	1.00	1.00	1.00	
T		1.00	1.00	1.00	1.00	1.00
(F) (LS) (K) (C)		0.001828	0.0000	0.0000	0.0000	0.0000
A = (R) (F) (LS) (K) (C) (P)		0.12	0.00	0.00	0.00	0.00

0.0018 tons/acre/year
0.14 tons/year

Transect Identification		Red Dirt #8 South-East, Post-project				
Acres		1.2 acres				
Total Slope Length		122 feet				
Number of Segments		1 segment				
		1	2	3	4	5
R		65.87	65.87	65.87	65.87	65.87
Factor (F)		1.00	0.00	0.00	0.00	0.00
Slope Length		122				
Slope %		3.7				
LS		0.40	0.00	0.00	0.00	0.00
K		0.10	0.10	0.10		
C		0.034				75NT
P		0.37	1.00	1.00		Cross, NT
T		1.00	1.00	1.00		
(F) (LS) (K) (C)		0.001351	0.0000	0.0000	0.0000	0.0000
A = (R) (F) (LS) (K) (C) (P)		0.03	0.00	0.00	0.00	0.00

0.0014 tons/acre/year
0.04 tons/year

NOAA's National Weather Service
Hydrometeorological Design Studies Center
 Precipitation Frequency Data Server (PFDS)



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NOAA ATLAS 14 POINT PRECIPITATION FREQUENCY ESTIMATES: CA

Data description

Data type: Precipitation depth Units: English Time series type: Partial duration

Select location

1) Manually:

a) By location (decimal degrees, use "-" for S and W): Latitude: Longitude:

b) By station (list of CA stations):

c) By address

2) Use map (if ESRI interactive map is not loading, try adding the host: <https://ls.arcgis.com/> to the firewall, or contact us at hdsc.questions@noaa.gov):



a) Select location
Move crosshair or double click

b) Click on station icon
 Show stations on map

Location information:
 Name: Napa, California, USA*
 Latitude: 38.4640°
 Longitude: -122.3380°
 Elevation: 1371.75 ft**

* Source: ESRI Maps
 ** Source: USGS

POINT PRECIPITATION FREQUENCY (PF) ESTIMATES
 WITH 90% CONFIDENCE INTERVALS AND SUPPLEMENTARY INFORMATION
 NOAA Atlas 14, Volume 6, Version 2

[PF tabular](#)

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PDS-based precipitation frequency estimates with 90% confidence intervals (in inches) ¹										
Duration	Average recurrence interval (years)									
	1	2	5	10	25	50	100	200	500	1000
5-min	0.142 (0.126-0.161)	0.173 (0.154-0.197)	0.215 (0.190-0.245)	0.249 (0.219-0.287)	0.297 (0.251-0.356)	0.336 (0.277-0.411)	0.375 (0.301-0.473)	0.417 (0.324-0.543)	0.477 (0.353-0.650)	0.525 (0.374-0.744)
10-min	0.203 (0.181-0.231)	0.248 (0.221-0.282)	0.308 (0.273-0.351)	0.357 (0.314-0.411)	0.426 (0.360-0.510)	0.481 (0.397-0.589)	0.538 (0.431-0.678)	0.598 (0.465-0.778)	0.684 (0.507-0.932)	0.752 (0.536-1.07)
15-min	0.246 (0.219-0.279)	0.300 (0.267-0.341)	0.372 (0.330-0.424)	0.432 (0.379-0.497)	0.516 (0.436-0.617)	0.582 (0.480-0.712)	0.651 (0.522-0.819)	0.724 (0.562-0.941)	0.827 (0.613-1.13)	0.910 (0.649-1.29)
30-min	0.356 (0.317-0.404)	0.434 (0.386-0.494)	0.539 (0.477-0.614)	0.626 (0.549-0.720)	0.746 (0.630-0.893)	0.842 (0.694-1.03)	0.942 (0.755-1.19)	1.05 (0.814-1.36)	1.20 (0.887-1.63)	1.32 (0.939-1.87)
60-min	0.522 (0.464-0.592)	0.637 (0.566-0.724)	0.790 (0.700-0.900)	0.917 (0.805-1.06)	1.09 (0.924-1.31)	1.23 (1.02-1.51)	1.38 (1.11-1.74)	1.54 (1.19-2.00)	1.75 (1.30-2.39)	1.93 (1.38-2.74)
2-hr	0.793 (0.706-0.900)	0.968 (0.861-1.10)	1.20 (1.06-1.37)	1.39 (1.22-1.59)	1.64 (1.39-1.96)	1.84 (1.51-2.25)	2.03 (1.63-2.56)	2.24 (1.74-2.91)	2.52 (1.87-3.43)	2.74 (1.95-3.88)
3-hr	1.02 (0.907-1.16)	1.25 (1.11-1.42)	1.54 (1.36-1.76)	1.78 (1.56-2.04)	2.10 (1.77-2.51)	2.34 (1.93-2.87)	2.59 (2.07-3.26)	2.84 (2.20-3.69)	3.17 (2.35-4.33)	3.43 (2.45-4.86)
6-hr	1.54 (1.37-1.75)	1.89 (1.68-2.15)	2.34 (2.07-2.67)	2.70 (2.37-3.10)	3.17 (2.68-3.79)	3.53 (2.91-4.32)	3.89 (3.12-4.89)	4.25 (3.30-5.52)	4.72 (3.50-6.44)	5.08 (3.62-7.20)
12-hr	2.19	2.72	3.41	3.95	4.66	5.19	5.72	6.25	6.95	7.47

	(1.95-2.48)	(2.42-3.10)	(3.02-3.88)	(3.46-4.54)	(3.94-5.57)	(4.28-6.36)	(4.59-7.20)	(4.85-8.13)	(5.15-9.47)	(5.32-10.6)
24-hr	3.07 (2.76-3.48)	3.89 (3.49-4.41)	4.93 (4.42-5.61)	5.75 (5.12-6.59)	6.84 (5.93-8.05)	7.65 (6.51-9.16)	8.45 (7.05-10.3)	9.25 (7.54-11.6)	10.3 (8.12-13.3)	11.1 (8.49-14.8)
2-day	4.03 (3.62-4.57)	5.14 (4.62-5.84)	6.57 (5.89-7.47)	7.70 (6.85-8.82)	9.19 (7.96-10.8)	10.3 (8.77-12.3)	11.4 (9.52-13.9)	12.5 (10.2-15.7)	14.0 (11.0-18.1)	15.1 (11.5-20.1)
3-day	4.69 (4.22-5.33)	6.02 (5.41-6.83)	7.70 (6.90-8.77)	9.04 (8.05-10.4)	10.8 (9.37-12.7)	12.1 (10.3-14.5)	13.5 (11.2-16.5)	14.8 (12.1-18.5)	16.6 (13.0-21.5)	17.9 (13.7-23.9)
4-day	5.22 (4.69-5.92)	6.70 (6.02-7.60)	8.58 (7.69-9.77)	10.1 (8.98-11.5)	12.1 (10.4-14.2)	13.5 (11.5-16.2)	15.0 (12.5-18.3)	16.5 (13.4-20.6)	18.4 (14.5-23.9)	19.9 (15.2-26.6)
7-day	6.43 (5.79-7.30)	8.26 (7.42-9.38)	10.6 (9.48-12.0)	12.4 (11.0-14.2)	14.8 (12.8-17.4)	16.5 (14.1-19.8)	18.3 (15.3-22.4)	20.0 (16.3-25.1)	22.3 (17.6-28.9)	24.0 (18.4-32.0)
10-day	7.26 (6.53-8.24)	9.32 (8.38-10.6)	11.9 (10.7-13.6)	13.9 (12.4-16.0)	16.6 (14.4-19.5)	18.5 (15.8-22.2)	20.4 (17.0-25.0)	22.3 (18.2-27.9)	24.8 (19.5-32.1)	26.6 (20.3-35.4)
20-day	9.50 (8.55-10.8)	12.2 (11.0-13.9)	15.6 (14.0-17.7)	18.2 (16.2-20.8)	21.5 (18.6-25.3)	23.9 (20.3-28.6)	26.2 (21.8-32.0)	28.4 (23.2-35.5)	31.3 (24.6-40.5)	33.4 (25.5-44.5)
30-day	11.5 (10.3-13.0)	14.8 (13.3-16.8)	18.7 (16.8-21.3)	21.8 (19.4-24.9)	25.6 (22.2-30.1)	28.3 (24.1-33.9)	30.9 (25.8-37.8)	33.5 (27.3-41.9)	36.7 (28.9-47.5)	39.0 (29.8-52.0)
45-day	14.0 (12.6-15.9)	17.8 (16.0-20.3)	22.5 (20.2-25.6)	26.0 (23.1-29.8)	30.4 (26.3-35.8)	33.5 (28.5-40.1)	36.4 (30.4-44.5)	39.2 (32.0-49.1)	42.7 (33.6-55.3)	45.2 (34.6-60.3)
60-day	16.7 (15.0-18.9)	21.1 (19.0-24.0)	26.4 (23.7-30.0)	30.4 (27.0-34.8)	35.3 (30.6-41.5)	38.7 (33.0-46.4)	41.9 (35.0-51.3)	45.0 (36.7-56.3)	48.8 (38.5-63.3)	51.5 (39.4-68.7)

¹ Precipitation frequency (PF) estimates in this table are based on frequency analysis of partial duration series (PDS). Numbers in parenthesis are PF estimates at lower and upper bounds of the 90% confidence interval. The probability that precipitation frequency estimates (for a given duration and average recurrence interval) will be greater than the upper bound (or less than the lower bound) is 5%. Estimates at upper bounds are not checked against probable maximum precipitation (PMP) estimates and may be higher than currently valid PMP values. Please refer to NOAA Atlas 14 document for more information.

Estimates from the table in CSV format: [Precipitation frequency estimates](#)

Main Link Categories:
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US Department of Commerce
 National Oceanic and Atmospheric Administration
 National Weather Service
 Office of Water Prediction (OWP)
 1325 East West Highway
 Silver Spring, MD 20910
 Page Author: [HDSC webmaster](#)
 Page last modified: April 21, 2017

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Soil Erosion Factors

K Factor, Rock Free

K Factor, Whole Soil

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Map

Table

Description of Rating

Rating Options

Detailed Description

Advanced Options

Aggregation Method **Dominant Condition** ▼

Component Percent Cutoff

Tie-break Rule

Lower
 Higher

Layer Options

Surface Layer (Not applicable)

Depth Range (Weighted Average)

Top Depth

Bottom Depth

Inches

Centimeters

All Layers (Weighted Average)

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T Factor

Wind Erodibility Group

Wind Erodibility Index

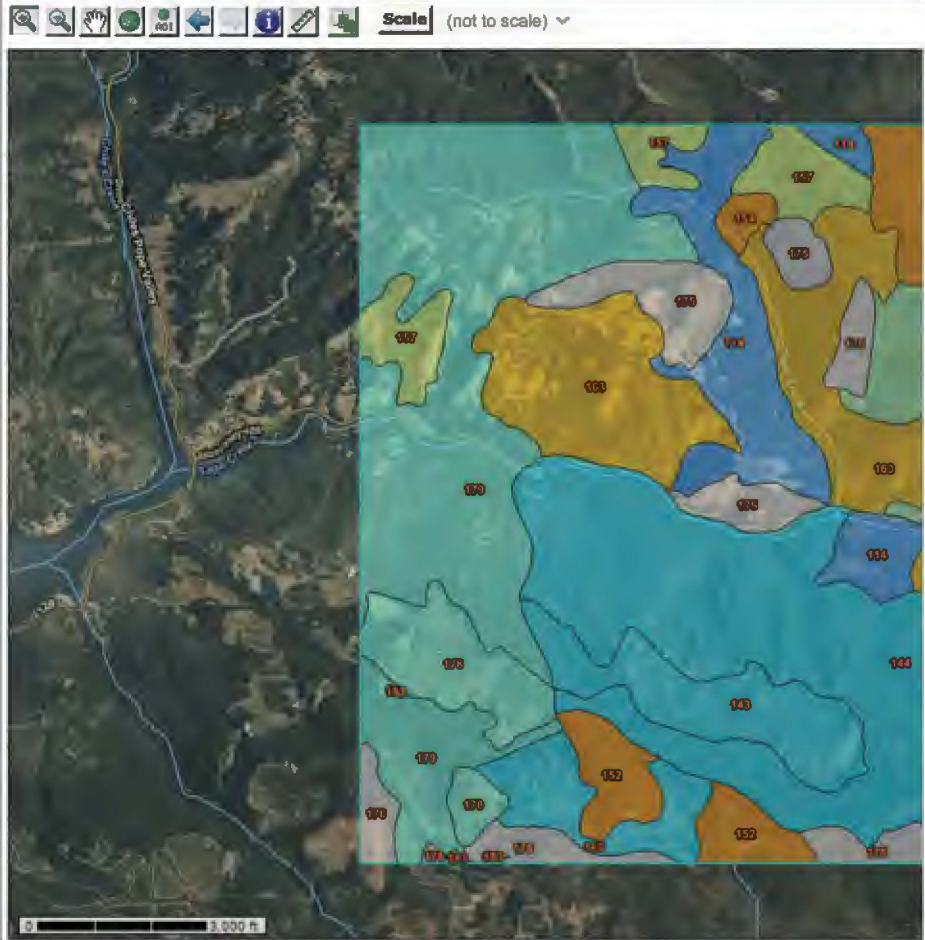
Soil Health Properties

Soil Physical Properties

Soil Qualities and Features

Water Features

Map — K Factor, Whole Soil



Tables — K Factor, Whole Soil — Summary By Map Unit

Summary by Map Unit — Napa County, California (CA055)

Summary by Map Unit — Napa County, California (CA055)

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
114	Bressa-Dibble complex, 30 to 50 percent slopes	.43	245.7	6.4%
143	Guenoc-Rock outcrop complex, 5 to 30 percent slopes	.37	254.5	6.6%
144	Guenoc-Rock outcrop complex, 30 to 75 percent slopes	.37	780.0	20.2%
152	Hambright rock-Outcrop complex, 30 to 75 percent slopes	.10	100.2	2.6%
154	Henneke gravelly loam, 30 to 75 percent slopes	.10	251.4	6.5%
157	Lodo-Maymen-Felton association, 30 to 75 percent slopes	.24	133.3	3.5%
158	Los Gatos loam, 5 to 30 percent slopes	.28	11.9	0.3%
160	Los Gatos loam, 50 to 75 percent slopes	.28	213.5	5.5%
161	Maxwell clay, 2 to 9 percent slopes	.24	5.4	0.1%

Totals for Area of Interest

3,861.8 100.0%

Summary by Map Unit — Napa County, California (CA055)				
Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
163	Maymen-Millsholm-Lodo association, 30-75 percent slopes	.15	704.3	18.2%
166	Montara clay loam, 5 to 30 percent slopes	.28	5.0	0.1%
171	Pleasanton loam, 2 to 5 percent slopes, MLRA 14	.28	20.4	0.5%
175	Rock outcrop		162.1	4.2%
176	Rock outcrop-Hambright complex, 50 to 75 percent slopes		90.8	2.4%
178	Sobrante loam, 5 to 30 percent slopes	.32	136.1	3.5%
179	Sobrante loam, 30 to 50 percent slopes	.32	738.4	19.1%
180	Tehama silt loam, 0 to 5 percent slopes	.55	4.3	0.1%
183	Water		4.3	0.1%
Totals for Area of Interest			3,861.8	100.0%
Description — K Factor, Whole Soil				
<p>Erosion factor K indicates the susceptibility of a soil to sheet and rill erosion by water. Factor K is one of six factors used in the Universal Soil Loss Equation (USLE) and the Revised Universal Soil Loss Equation (RUSLE) to predict the average annual rate of soil loss by sheet and rill erosion in tons per acre per year. The estimates are based primarily on percentage of silt, sand, and organic matter and on soil structure and saturated hydraulic conductivity (Ksat). Values of K range from 0.02 to 0.69. Other factors being equal, the higher the value, the more susceptible the soil is to sheet and rill erosion by water.</p> <p>"Erosion factor Kw (whole soil)" indicates the erodibility of the whole soil. The estimates are modified by the presence of rock fragments.</p> <p>Factor K does not apply to organic horizons and is not reported for those layers.</p>				
Rating Options — K Factor, Whole Soil				
<p>Aggregation Method: Dominant Condition Component Percent Cutoff: <i>None Specified</i> Tie-break Rule: Higher Layer Options (Horizon Aggregation Method): Surface Layer (Not applicable)</p>				



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Properties and Qualities Ratings

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Soil Chemical Properties

Soil Erosion Factors

K Factor, Rock Free

K Factor, Whole Soil

[View Description](#) [View Rating](#)

View Options

Map

Table

Description of Rating

Rating Options

Detailed Description

Advanced Options

Aggregation Method Dominant Condition

Component Percent Cutoff

Tie-break Rule

Lower
 Higher

Layer Options (Horizon Aggregation Method)

Surface Layer (Not applicable)
 Depth Range (Weighted Average)

Top Depth 0
Bottom Depth 12

Inches
 Centimeters

All Layers (Weighted Average)

[View Description](#) [View Rating](#)

T Factor

Wind Erodibility Group

Wind Erodibility Index

Soil Health Properties

Soil Physical Properties

Soil Qualities and Features

Water Features

Soil Map

Scale (not to scale)



Warning: Soil Map may not be valid at this scale.

You have zoomed in beyond the scale at which the soil map for this area is intended to be used. Maps that comprise your AOI were mapped at 1:24,000. The design of map units and the level of detail is at that scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of maps. Small areas of contrasting soils that could have been shown at a more detailed scale.



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Properties and Qualities Ratings

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Soil Chemical Properties

Soil Erosion Factors

K Factor, Rock Free

K Factor, Whole Soil

T Factor

[View Description](#) | [View Rating](#)

View Options

Map

Table

Description of Rating

Rating Options

Detailed Description

Advanced Options

Aggregation Method **Dominant Condition** ▼

Component Percent Cutoff

Tie-break Rule Lower Higher

Interpret Nulls as Zero Yes No

[View Description](#) | [View Rating](#)

Wind Erodibility Group

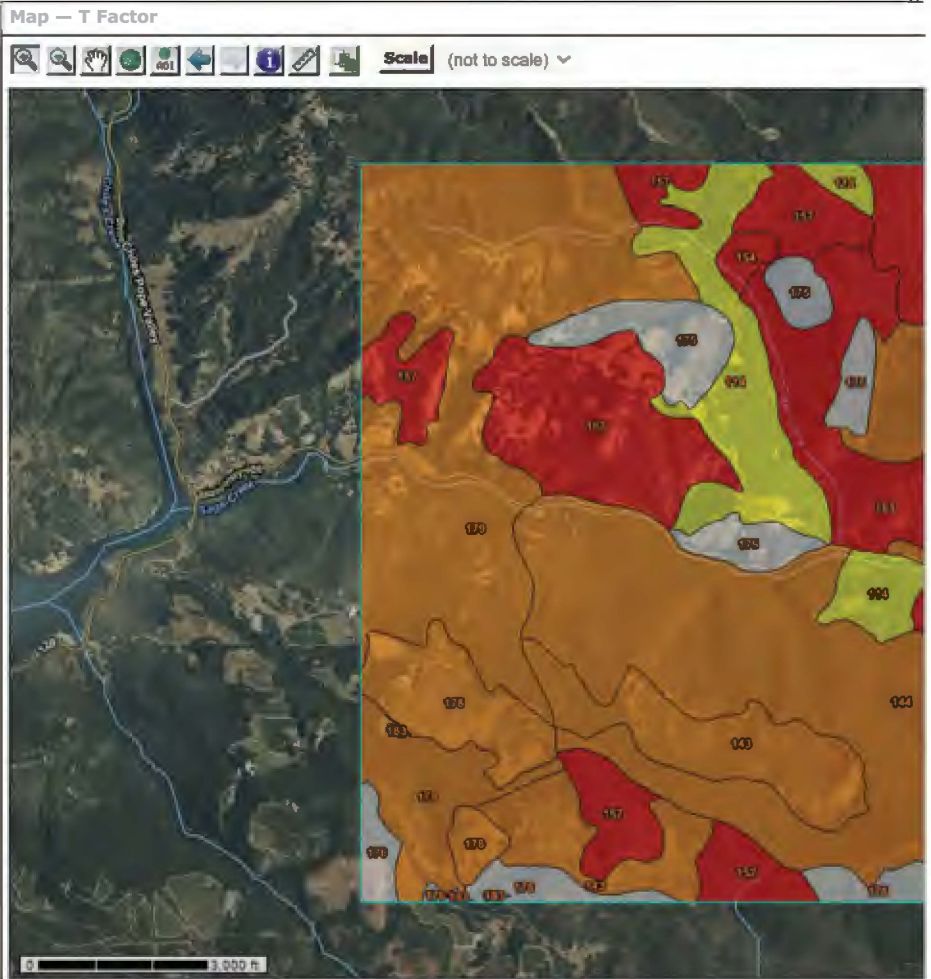
Wind Erodibility Index

Soil Health Properties

Soil Physical Properties

Soil Qualities and Features

Water Features



Tables — T Factor — Summary By Map Unit

Summary by Map Unit — Napa County, California (CA055)				
Summary by Map Unit — Napa County, California (CA055)				
Map unit symbol	Map unit name	Rating (tons per acre per year)	Acres in AOI	Percent of AOI
114	Bressa-Dibble complex, 30 to 50 percent slopes	3	245.7	6.4%
143	Guenoc-Rock outcrop complex, 5 to 30 percent slopes	2	254.5	6.6%
144	Guenoc-Rock outcrop complex, 30 to 75 percent slopes	2	780.0	20.2%
152	Hambright rock-Outcrop complex, 30 to 75 percent slopes	1	100.2	2.6%
154	Henneke gravelly loam, 30 to 75 percent slopes	1	251.4	6.5%
157	Lodo-Maymen-Felton association, 30 to 75 percent slopes	1	133.3	3.5%
158	Los Gatos loam, 5 to 30 percent slopes	2	11.9	0.3%
160	Los Gatos loam, 50 to 75 percent slopes	2	213.5	5.5%
Totals for Area of Interest			3,861.8	100.0%

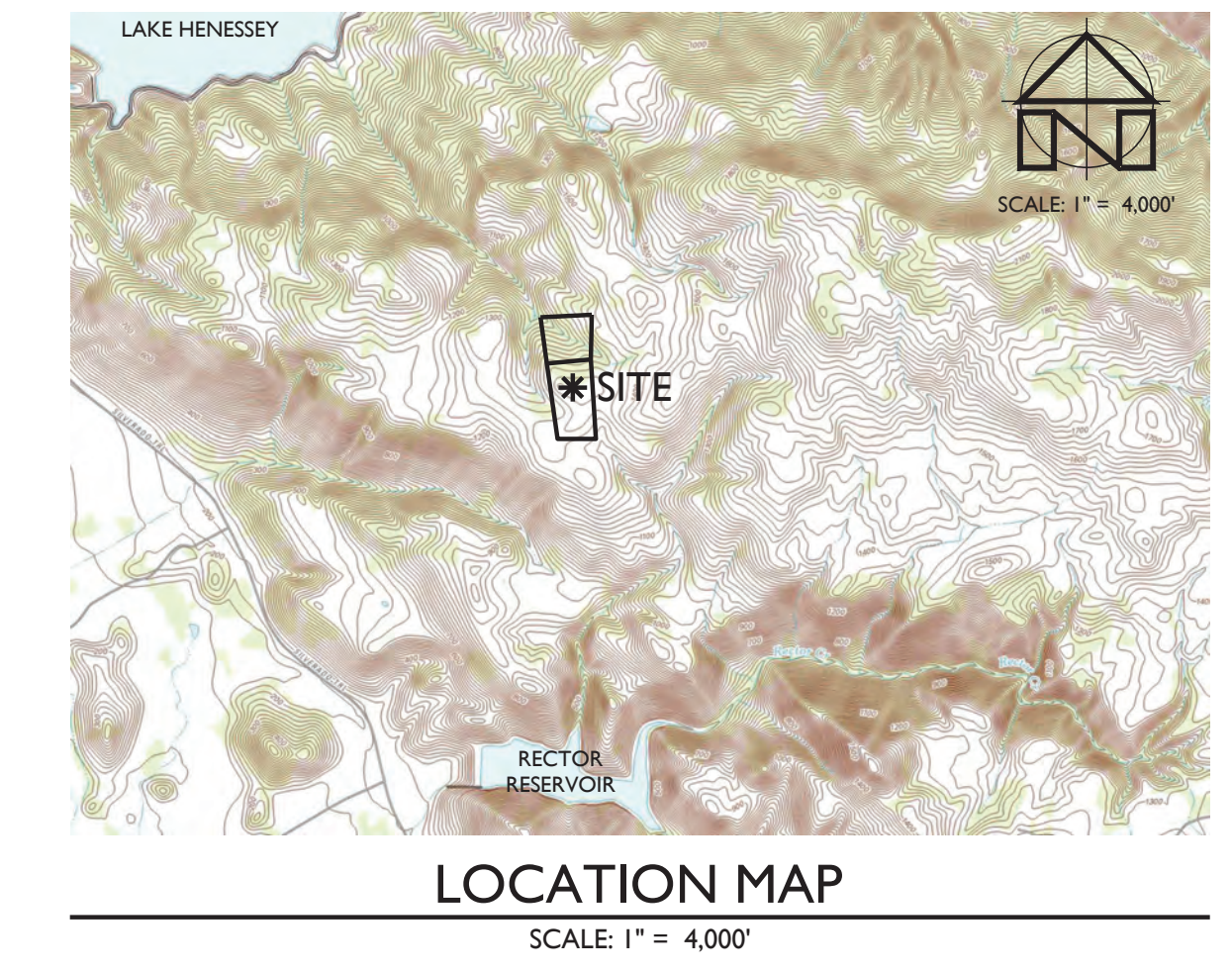
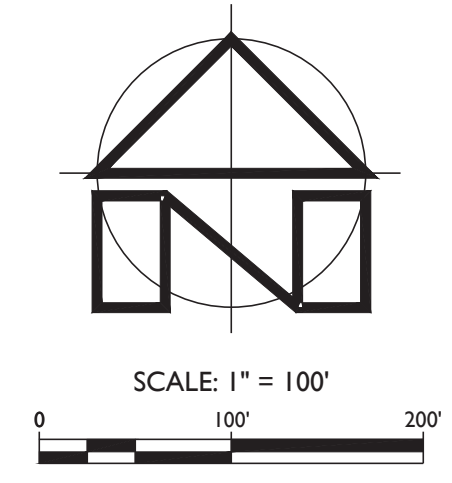
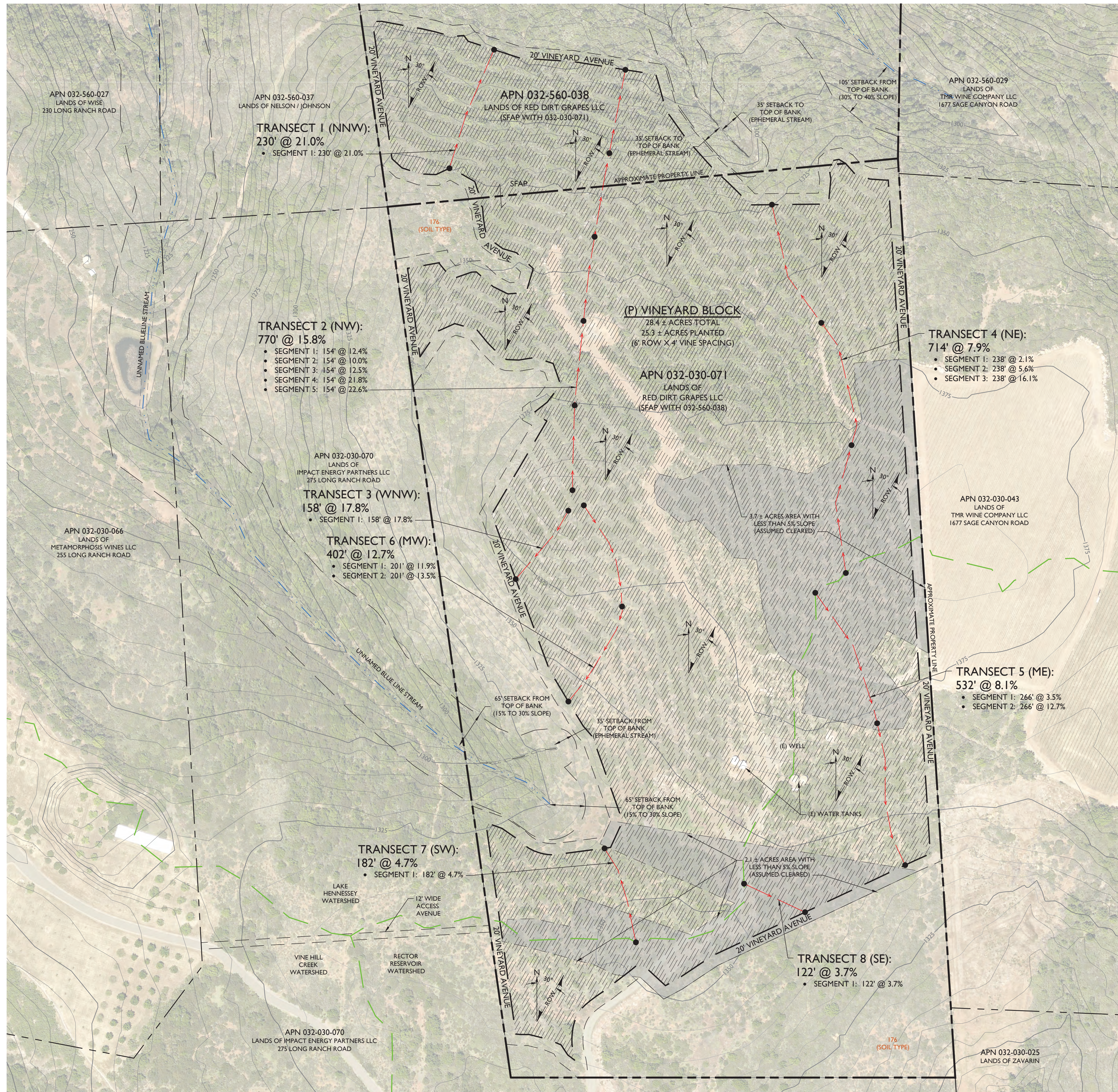
Summary by Map Unit — Napa County, California (CA055)				
Map unit symbol	Map unit name	Rating (tons per acre per year)	Acres in AOI	Percent of AOI
161	Maxwell clay, 2 to 9 percent slopes	5	5.4	0.1%
163	Maymen-Millsholm-Lodo association, 30-75 percent slopes	1	704.3	18.2%
166	Montara clay loam, 5 to 30 percent slopes	1	5.0	0.1%
171	Pleasanton loam, 2 to 5 percent slopes, MLRA 14	4	20.4	0.5%
175	Rock outcrop		162.1	4.2%
176	Rock outcrop-Hambright complex, 50 to 75 percent slopes		90.8	2.4%
178	Sobrante loam, 5 to 30 percent slopes	2	136.1	3.5%
179	Sobrante loam, 30 to 50 percent slopes	2	738.4	19.1%
180	Tehama silt loam, 0 to 5 percent slopes	5	4.3	0.1%
183	Water		4.3	0.1%
Totals for Area of Interest			3,861.8	100.0%

Description — T Factor
The T factor is an estimate of the maximum average annual rate of soil erosion by wind and/or water that can occur without affecting crop productivity over a sustained period. The rate is in tons per acre per year.

Rating Options — T Factor
Units of Measure: tons per acre per year
Aggregation Method: Dominant Condition
Component Percent Cutoff: <i>None Specified</i>
Tie-break Rule: Lower
Interpret Nulls as Zero: No

RED DIRT GRAPES LLC

UNIVERSAL SOIL LOSS EQUATION EXHIBIT



PROJECT INFORMATION:
PROPERTY OWNER & APPLICANT:
 RED DIRT GRAPES LLC
 9000 CAMERON PARKWAY
 OKLAHOMA CITY, OK 73114
SITE ADDRESS:
 LONG RANCH ROAD
ASSESSOR'S PARCEL NUMBERS:
 032-030-071 & 032-560-038 (SFAP)
PARCEL SIZES:
 32.3 ± ACRES & 21.7 ± ACRES, RESPECTIVELY
ZONING:
 AGRICULTURAL WATERSHED (AW)

FLOOD HAZARD NOTE:
 ACCORDING TO THE FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA) FLOOD INSURANCE RATE MAP (FIRM) MAP NUMBER 06055C0405E, EFFECTIVE SEPTEMBER 26, 2008, THE PROJECT SITE IS NOT LOCATED IN A SPECIAL FLOOD HAZARD AREA.

- NOTES:**
- FADED BACKGROUND REPRESENTS EXISTING TOPOGRAPHIC FEATURES. TOPOGRAPHIC INFORMATION WAS TAKEN FROM THE NAPA COUNTY GEOGRAPHIC INFORMATION SYSTEM DATABASE. APPLIED CIVIL ENGINEERING INCORPORATED ASSUMES NO LIABILITY REGARDING THE ACCURACY OR COMPLETENESS OF THE TOPOGRAPHIC INFORMATION.
 - AERIAL PHOTOGRAPHS WERE OBTAINED FROM THE NAPA COUNTY GEOGRAPHIC INFORMATION SYSTEM (GIS) DATABASE, TAKEN APRIL TO JUNE 2018 AND MAY NOT REPRESENT CURRENT CONDITIONS.
 - CONTOUR INTERVAL: TWO (2) FEET, HIGHLIGHTED EVERY TEN (10) FEET.
 - BENCHMARK: NAVD 88
 - THE PROPERTY LINES SHOWN ON THESE PLANS DO NOT REPRESENT A BOUNDARY SURVEY. THEY ARE APPROXIMATE AND ARE PROVIDED FOR GENERAL INFORMATIONAL PURPOSES ONLY.
 - STREAM SETBACKS ARE ESTIMATED BASED ON INTERPRETATION OF 5' CONTOUR INTERVALS MAPS. SETBACKS MUST BE CONSIDERED APPROXIMATE AND BE FIELD VERIFIED PRIOR TO FINAL DESIGN.

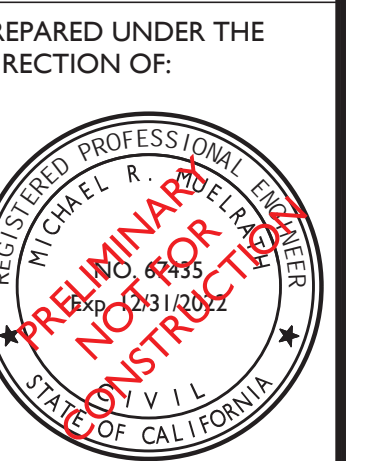
SOIL TYPE LEGEND:

176 ROCK OUTCROP - HAMBRIGHT COMPLEX, 50% TO 75% SLOPES.
 179 SOBRIANTE LOAM, 30% TO 50% SLOPES.

SOIL TYPE BOUNDARIES SHOWN ON THIS MAP ARE BASED ON THE NAPA COUNTY GEOGRAPHIC INFORMATION SYSTEM DATA AND SHOULD BE CONSIDERED APPROXIMATE.

LEGEND:

	APPROXIMATE PROPERTY LINE
	VINEYARD CLEARING LIMITS / VINEYARD AVENUE
	LIMIT OF VINEYARD BLOCK
	VINE ROWS & ROW DIRECTION
	BLUELINE STREAM
	SOIL TYPE BOUNDARY
	TRANSECT SEGMENTS



PREPARED UNDER THE DIRECTION OF:

DRAWN BY: PowerCAD
 CHECKED BY: MRM
 DATE: JANUARY 2022
 REVISIONS: BY:

JOB NUMBER: 21-113
 FILE: 21-113EXH_USLE.DWG
 ORIGINAL SIZE: 24" X 36"
 SHEET NUMBER: 1 OF 1