

PRINEVILLE-TO-RENO FIBER OPTIC PROJECT

Botanical Resources Report
September 16, 2020

FIGURES

CONTAINS CONFIDENTIAL INFORMATION – NOT FOR GENERAL DISTRIBUTION

Vegetation Communities in the Study Area

Alliance	Association	Sensitive Natural Community	Map ID	Area (Acres)
¹ A Manual of California Vegetation Alliances and Associations				
Forests and Woodlands				
Western juniper woodland	⁶ <i>Juniperus occidentalis</i> / <i>Artemisia arbuscula</i> – <i>Purshia tridentata</i> / <i>Festuca idahoensis</i>	⁶ No	16.01	19.9
	⁶ <i>Juniperus occidentalis</i> / <i>Artemisia arbuscula</i> / <i>Poa secunda</i>	⁶ No	16.02	117.3
	⁶ <i>Juniperus occidentalis</i> / <i>Artemisia arbuscula</i> / <i>Stipa thurberiana</i>	⁶ No	16.03	0.4
	⁶ <i>Juniperus occidentalis</i> / <i>Artemisia tridentata</i> – <i>Purshia tridentata</i>	⁶ No	16.04	232.2
	<i>Juniperus occidentalis</i> – (<i>Pinus jeffreyi</i> – <i>Pinus ponderosa</i>) / <i>Cercocarpus ledifolius</i>	No	16.05	3.4
	⁶ <i>Juniperus occidentalis</i> / <i>Poa secunda</i> – <i>Elymus elymoides</i>	⁶ No	16.06	4.7
	<i>Juniperus occidentalis</i>	No	16.07	43.5
	<i>Juniperus occidentalis</i> - <i>Pinus jeffreyi</i> / (<i>Purshia tridentata</i>)	No	16.08	12.0
	Jeffrey pine forest	<i>Pinus jeffreyi</i> / <i>Purshia tridentata</i>	Yes	19.01
aspen groves	<i>Populus tremuloides</i> / <i>Symphoricarpos rotundifolius</i>	Yes	21	0.5
black cottonwood forest	<i>Populus trichocarpa</i>	Yes	22	0.2
Shrublands				
little sagebrush scrub	⁶ <i>Artemisia arbuscula</i> ssp. <i>arbuscula</i> / <i>Bromus</i> spp. – ⁸ <i>Elymus caput-medusae</i>	⁶ No	5.01	83.5
	³ <i>Artemisia arbuscula</i> ssp. <i>arbuscula</i> / <i>Poa secunda</i>	³ Yes	5.02	192.0
silver sagebrush scrub	² <i>Artemisia cana</i> (ssp. <i>bolanderi</i> , ssp. <i>viscidula</i>) / <i>Poa secunda</i>	² Yes	6	0.9
big sagebrush	⁶ <i>Artemisia tridentata</i> – <i>Ephedra viridis</i> / <i>Pseudoroegneria spicata</i>	⁶ No	7.01	17.2
	⁶ <i>Artemisia tridentata</i> – <i>Ericameria nauseosa</i> / <i>Bromus tectorum</i>	⁶ No	7.02	997.2

Alliance	Association	Sensitive Natural Community	Map ID	Area (Acres)
¹ A Manual of California Vegetation Alliances and Associations				
	⁶ <i>Artemisia tridentata</i> / <i>Bromus tectorum</i>	⁶ No	7.04	131.1
	⁶ <i>Artemisia tridentata</i> / <i>Distichlis spicata</i>	⁶ No	7.05	0.8
	<i>Artemisia tridentata</i>	No	7.06	860.1
	⁶ <i>Artemisia tridentata</i> ssp. <i>wyomingensis</i> – <i>Peraphyllum ramosissimum</i>	⁶ No	7.08	2.2
	⁶ <i>Artemisia tridentata</i> ssp. <i>wyomingensis</i> / <i>Stipa thurberiana</i> – <i>Poa secunda</i>	⁶ No	7.09	22.0
mountain big sagebrush	<i>Artemisia tridentata</i> ssp. <i>vaseyana</i>	No	36	29.6
rubber rabbitbrush scrub	⁶ <i>Ericameria nauseosa</i> / <i>Bromus tectorum</i>	⁶ No	14.01	121.3
	<i>Ericameria nauseosa</i>	No	14.02	18.5
bitter cherry thickets	<i>Prunus emarginata</i>	No	23	1.0
³ Klamath plum thickets	³ <i>Prunus subcordata</i> / ⁷ <i>Elymus cinereus</i>	³ No	24	0.2
bitterbrush scrub	² <i>Purshia tridentata</i> – <i>Artemisia arbuscula</i>	² Yes	25.01	22.5
	<i>Purshia tridentata</i> – <i>Artemisia tridentata</i> – <i>Tetradymia canescens</i>	Yes	25.02	37.0
	² <i>Purshia tridentata</i> – <i>Artemisia tridentata</i> / <i>Bromus tectorum</i>	² Yes	25.03	4.5
	<i>Purshia tridentata</i> – <i>Artemisia tridentata</i>	Yes	25.04	431.7
	² <i>Purshia tridentata</i> – <i>Prunus subcordata</i>	² Yes	25.05	1.3
interior rose thickets	<i>Rosa woodsii</i>	Yes	26	7.6
sandbar willow thickets	⁶ <i>Salix exigua</i> / <i>Juncus balticus</i>	⁶ No	27.01	10.1
	<i>Salix exigua</i>	No	27.02	35.8
shining willow groves	² <i>Salix lucida</i> – <i>Rosa woodsii</i> / <i>Mixed Herbs</i>	² Yes	28	3.6
greasewood scrub	³ <i>Sarcobatus vermiculatus</i> – <i>Artemisia tridentata</i>	³ Yes	29.01	198.0
	<i>Sarcobatus vermiculatus</i>	No	29.02	11.1

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Alliance	Association	Sensitive Natural Community	Map ID	Area (Acres)
¹ A Manual of California Vegetation Alliances and Associations				
Herbaceous Vegetation				
crested wheatgrass rangelands	<i>Agropyron cristatum</i>	No	2	33.1
⁶ meadow foxtail meadows	⁶ <i>Alopecurus pratensis</i>	⁶ No	3	263.1
cheatgrass grassland	⁵ <i>Bromus tectorum</i> – <i>Agropyron cristatum</i>	⁵ No	8.01	11.0
	<i>Bromus tectorum</i> – ⁸ <i>Elymus caput-medusae</i>	No	8.02	70.1
	⁵ <i>Bromus tectorum</i>	⁵ No	8.03	302.4
³ Sheldon's sedge patch	³ <i>Carex sheldonii</i> – ⁷ <i>Elymus cinereus</i>	³ Yes	9	3.4
³ one spike oat grass meadows	³ <i>Danthonia unispicata</i> – <i>Poa secunda</i>	³ Yes	10	7.5
ashy ryegrass meadows	^{2,7} <i>Elymus cinereus</i> – <i>Alopecurus geniculatus</i>	² Yes	11.01	22.6
	⁷ <i>Elymus cinereus</i>	Yes	11.02	43.6
blue wild rye montane meadows	⁶ <i>Elymus glaucus</i> – <i>Medicago sativa</i>	⁶ No	12	45.5
⁵ blue bunch wheat grass meadows	<i>Pseudoroegneria spicata</i> – <i>Poa secunda</i>	Yes	13	15.3
Baltic rush marshes	<i>Juncus arcticus</i> ssp. <i>balticus</i>	No	15	46.1
reed canary grass swards	<i>Phalaris arundinacea</i>	No	18	0.03
hardstem bulrush marshes	<i>Schoenoplectus acutus</i>	Yes	30	0.1
American bulrush marsh	<i>Schoenoplectus americanus</i>	Yes	31	0.1
³ needle-and-thread grassland	³ <i>Stipa comata</i>	³ Yes	32	0.7
³ tansyleaf evening primrose patch	³ <i>Taraxia tanacetifolia</i> – <i>Iva axillaris</i>	³ Yes	33	70.3
broadleaf cattail marsh	<i>Typha latifolia</i>	No	34	0.3
Other				
⁶ agriculture	No Association	⁶ No	1	42.7
⁵ anthropogenic areas of little or no vegetation	No Association	⁵ No	4	1275.5
⁵ perennial stream channel (open water)	No Association	⁵ No	17	21.3
⁵ planted trees and shrubs	No Association	⁵ No	20	1.5
⁵ Western North American sparsely vegetated rivershore	No Association	⁵ No	35	6.7

Notes:

¹A Manual of California Vegetation (California Native Plant Society 2019)

²Association not described in the MCV but is included within an existing alliance in MCV that is designated as sensitive

³Association not described in the MCV but is presumed sensitive because it is similar to other sensitive associations under the alliance or is dominated by uncommon native species.

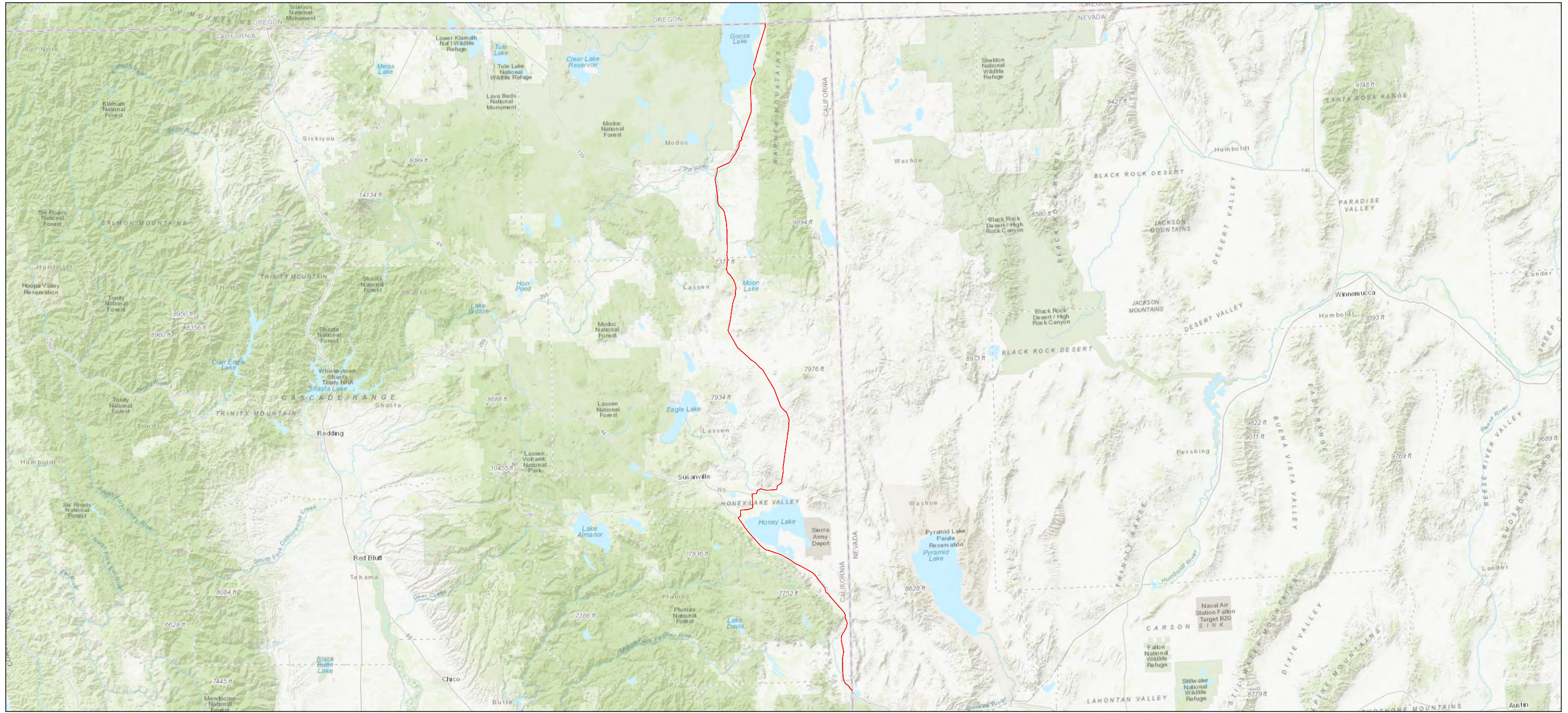
⁴Not described in MCV, corresponds to a vegetation type in Holland.

⁵Not described in MCV and dominated by invasive/non-native species (or barren, urban, or open water).

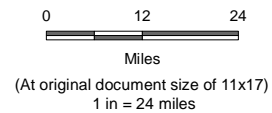
⁶Not described in MCV or in Holland. Insufficient data to determine sensitivity.

⁷*Leymus cinereus* is no longer an active name, though it is still used in the MCV. *Elymus cinereus* is used exclusively to reflect current nomenclature.

⁸*Taeniatherum caput-medusae* is no longer an active name, though it is still used in the MCV. *Elymus caput-medusae* is used here to reflect current nomenclature.



Study Area



Project Location
 Modoc, Lassen, and Sierra Counties, California

Client/Project
 Zayo Group LLC
 Prineville to Reno Fiber Optic Project (California)
 Botanical Resources Report

Figure No.
 1

Title
 Project Location

Notes
 1. Coordinate System: NAD 1983 UTM Zone 10N
 2. Background: ESRI World Topographic Map web mapping service

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Soil Map Units Within the Study Area

SOIL MAP UNIT	SOIL MAP UNIT NAME
486378	Alturas loam
486379	Balman loam
486381	Barnard gravelly loam, 0 to 9 percent slopes
486382	Barnard cobbly loam, 0 to 9 percent slopes
486383	Barnard clay loam, 9 to 15 percent slopes
486384	Bieber gravelly loam, 0 to 9 percent slopes
486386	Bieber cobbly loam, 2 to 15 percent slopes, eroded
486387	Buntingville clay loam, 0 to 2 percent slopes
486389	Calimus loam, 0 to 2 percent slopes, high precip, MLRA 21
486390	Calimus loam, 2 to 9 percent slopes
486391	Calimus gravelly loam, 2 to 5 percent slopes
486393	Casuse sandy loam, 2 to 9 percent slopes
486396	Daphnedale stony loam, 30 to 50 percent slopes
486398	Daphnedale very cobbly loam, deep variant, 5 to 15 percent slopes
486399	Daphnedale very cobbly loam, deep variant, 30 to 50 percent slopes
486401	Delma loam, 15 to 30 percent slopes, eroded
486402	Delma loam, 30 to 50 percent slopes
486403	Delma cobbly loam, 0 to 9 percent slopes
486404	Delma cobbly loam, 9 to 30 percent slopes
486407	Deven-Rock outcrop complex, 2 to 30 percent slopes
486408	Donica gravelly clay loam, 2 to 9 percent slopes
486409	Drews loam, 0 to 5 percent slopes, goose lake valley, southern part, mlra 21
486410	Drews gravelly loam, 0 to 9 percent slopes
486411	Drews gravelly loam, 15 to 30 percent slopes
486412	Drews clay loam, 2 to 5 percent slopes
486413	Drews clay loam, wet, 0 to 2 percent slopes
486418	Gravel pits
486420	Jenny silty clay, 0-5% slopes
486422	Karcal-Ninekar complex, 0 to 9 percent slopes
486423	Kinkel loam, 2 to 15 percent slopes
486425	Ladd sandy loam, 0 to 2 percent slopes
486426	Ladd sandy loam, 2 to 9 percent slopes
486427	Lakeview loam, 0 to 2 percent slopes, pit river area, mlra 21
486430	Lorella loam, 5 to 30 percent slopes
486431	Lorella loam, 5 to 30 percent slopes, eroded
486432	Lorella loam, 30 to 50 percent slopes
486434	Lorella cobbly clay loam, 30 to 50 percent slopes
486443	Modoc sandy loam, 0 to 9 percent slopes

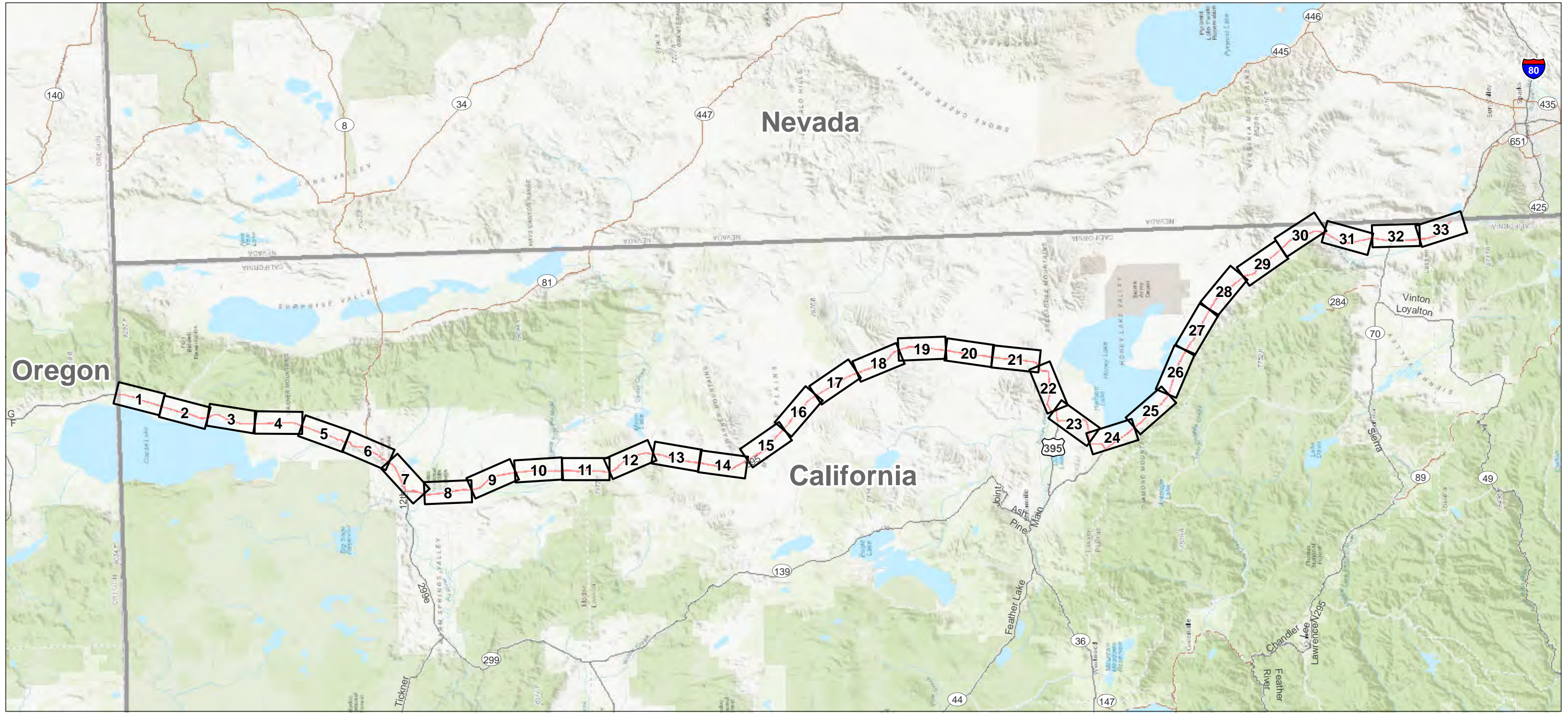
SOIL MAP UNIT	SOIL MAP UNIT NAME
486444	Modoc gravelly loam, 0 to 9 percent slopes
486448	Pasquetti silty clay loam, partially drained
486449	Pasquetti silty clay loam, drained
486450	Pineal silt loam
486451	Pit silty clay loam, 0 to 2 percent slopes
486452	Pit clay, 2 to 5 percent slopes
486454	Puls extremely stony clay loam, 0 to 9 percent slopes
486458	Rock outcrop-Lithic Xerorthents complex
486460	Rumbo loam, 0 to 2 percent slopes
486462	Salisbury very fine sandy loam, 0 to 9 percent slopes
486463	Salisbury gravelly loam, 0 to 9 percent slopes
486465	Salisbury clay loam, 9 to 15 percent slopes
486467	Thoms-Exel complex
486468	Tuff outcrop-Casuse, eroded complex, 2 to 15 percent slopes
486474	Woodcock stony loam, 30 to 50 percent slopes
486475	Xerofluvents, occasionally flooded
486519	Galeppi loamy coarse sand, 2 to 5 percent slopes
486520	Galeppi loamy coarse sand, 5 to 30 percent slopes
486551	Reba sandy loam, 2 to 30 percent slopes
486554	Rough broken land
486555	Saralegui sandy loam, 2 to 15 percent slopes
487324	Ardep sandy loam, 0 to 2 percent slopes
487334	Artray sandy loam, 2 to 9 percent slopes
487336	Badenaugh stony sandy loam, 5 to 15 percent slopes
487341	Barnard stony sandy loam, 2 to 15 percent slopes
487345	Bieber cobbly loam, 2 to 9 percent slopes
487353	Blickenstaff sandy loam, 0 to 2 percent slopes
487355	Honeylake clay loam, 0 to 1 percent slopes
487357	Bobert sandy loam, 0 to 2 percent slopes
487361	Bonta coarse sandy loam, 9 to 15 percent slopes
487379	Buckbay-Orhood-Fredonyer association, 5 to 30 percent slopes
487393	Calpine sandy loam, 0 to 2 percent slopes
487394	Calpine sandy loam, 2 to 5 percent slopes
487396	Calpine, warm, 0 to 15 percent slopes
487402	Cewat-McConnel-Toulon association, 2 to 15 percent slopes
487407	Chimney gravelly loamy coarse sand, 2 to 9 percent slopes
487413	Chimney-Waterman association, 9 to 30 percent slopes
487419	Cleghorn sandy loam, 2 to 5 percent slopes

Soil Map Units Within the Study Area

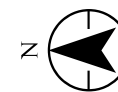
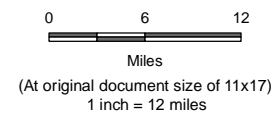
SOIL MAP UNIT	SOIL MAP UNIT NAME
487423	Cochran very cobbly loam, 5 to 15 percent slopes
487429	Corral sandy loam, 5 to 15 percent slopes
487436	Corral-Glenbrook complex, 15 to 50 percent slopes
487449	Devada-Petes creek-Fiddler association, 2 to 30 percent slopes
487450	Devada-Rock outcrop association, 2 to 50 percent slopes
487456	Dryvalley silt loam, sandy substratum, 0 to 2 percent slopes
487458	Dryvalley-Playas complex, 0 to 2 percent slopes
487479	Fiddler-Orhood-Petes creek association, 5 to 30 percent slopes
487480	Fivesprings-Longcreek association, 9 to 30 percent slopes
487485	Fluents-Riverwash complex, 0 to 1 percent slopes
487489	Fordney loamy fine sand, wet, 0 to 2 percent slopes
487493	Fortsage fine sandy loam, 0 to 2 percent slopes
487495	Fortsage silt loam, 0 to 2 percent slopes
487503	Galeppi sandy loam, 2 to 5 percent slopes
487504	Galeppi sandy loam, 5 to 30 percent slopes
487511	Gerlach cobbly silty clay, 2 to 9 percent slopes
487512	Gerlach-Ravendale complex, 0 to 4 percent slopes
487522	Glenbrook-Graufels-Rock outcrop complex, 30 to 60 percent slopes
487524	Graufels-Glenbrook complex, 5 to 30 percent slopes
487532	Herjun loamy sand, 0 to 2 percent slopes
487538	Honlak loam, 0 to 2 percent slopes
487541	Horsecamp-Brubeck association, 2 to 9 percent slopes
487545	Humboldt silty clay, 0 to 1 percent slopes, occasionally flooded
487547	Humboldt silty clay loam, saline, 0 to 2 percent slopes, occasionally flooded
487553	Indiano-Searles association, 5 to 30 percent slopes
487565	Lakeview loam, 0 to 2 percent slopes, madeline plains area, mlra 21
487578	Longcreek-Devada-Rubble land complex, 9 to 30 percent slopes
487583	Loomis-Fivesprings association, 5 to 30 percent slopes
487594	McConnel-Mottsville complex, 2 to 9 percent slopes
487597	Modoc-Truax complex, 0 to 2 percent slopes
487598	Mottsville loamy coarse sand, 0 to 2 percent slopes
487599	Mottsville loamy coarse sand, 2 to 9 percent slopes
487600	Mottsville gravelly loamy coarse sand, 0 to 2 percent slopes
487601	Mottsville gravelly loamy coarse sand, 2 to 9 percent slopes
487603	Mottsville gravelly loamy coarse sand, 9 to 15 percent slopes
487605	Mottsville gravelly loamy coarse sand, 15 to 30 percent slopes
487606	Mottsville-Galeppi association, 15 to 50 percent slopes
487657	Pit clay, 0 to 2 percent slopes

SOIL MAP UNIT	SOIL MAP UNIT NAME
487659	Pits and Dumps
487662	Plinco gravelly sandy loam, 0 to 2 percent slopes
487663	Plinco loam, 2 to 9 percent slopes
487670	Ravendale silty clay, 0 to 2 percent slopes
487671	Ravendale silty clay, 0 to 2 percent slopes, occasionally flooded
487673	Ravendale silty clay, 0 to 2 percent slopes, ponded
487675	Ravendale silty clay, saline, 0 to 1 percent slopes
487683	Rose Creek loam, 0 to 1 percent slopes
487685	Rose Creek loam, sodic, 0 to 2 percent slopes
487687	Rubble land-Longcreek-Fivesprings association, 30 to 60 percent slopes
487692	Saddlerock silty clay, 0 to 2 percent slopes
487703	Searles-Devada-Fivesprings association, 2 to 30 percent slopes
487709	Searles-Orhood-Devada association, 5 to 30 percent slopes
487711	Shinnpeak very cobbly loam, 2 to 15 percent slopes
487712	Smocreek silt loam, sodic, 0 to 2 percent slopes
487713	Smocreek silty clay loam, 0 to 2 percent slopes
487716	Springmeyer sandy loam, 0 to 5 percent slopes
487717	Springmeyer sandy clay loam, 0 to 2 percent slopes
487720	Standish fine sandy loam, 0 to 2 percent slopes
487728	Susanville-Smocreek complex, 0 to 2 percent slopes
487740	Termo-Playas complex, 0 to 1 percent slopes
487741	Termo-Springmeyer-Smocreek complex, 0 to 2 percent slopes
487749	Truax sandy loam, 0 to 5 percent slopes
487750	Truckee loam, 0 to 2 percent slopes
487752	Tunnison very cobbly clay, 2 to 9 percent slopes
487755	Tunnison-Devada association, 2 to 9 percent slopes
487761	Verdico-Chalco association, 2 to 30 percent slopes
487780	Zorravista loamy sand, 0 to 5 percent slopes
487993	Water
723269	Galeppi sandy loam, 2 to 5 percent slopes
723270	Galeppi sandy loam, 5 to 30 percent slopes
723276	Northmore sandy loam, 4 to 8 percent slopes
723277	Northmore sandy loam, 8 to 15 percent slopes
1897431	Drews gravelly loam, 0 to 9 percent slopes
1897450	Kinkel loam, 2 to 15 percent slopes
1897467	Lorella cobbly clay loam, 30 to 50 percent slopes

Source: U.S. Department of Agriculture, Natural Resources Conservation Service. 2020. USDA Web Soil Survey. Available at <http://websoilsurvey.sc.egov.usda.gov>. Accessed August 2020.



Study Area



Project Location
Modoc, Lassen, and Sierra Counties, California

Prepared by TM on 2020-08-14
TR by ST on 2020-08-18
IR by CS on 2020-08-18

Client/Project
Zayo Group LLC
Umatilla to Reno Fiber Optic Project (California)
Botanical Resources Report

2272020011

Figure No.

2

Title

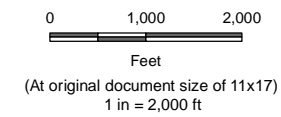
Soils

Notes
1. Coordinate System: NAD 1983 UTM Zone 10N
2. Background: ESRI World Topographic Map web mapping service

Overview



▭ Study Area
▭ Soil Unit Boundary
 (See Table 1 for Soil Unit Descriptions)



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Figure No.

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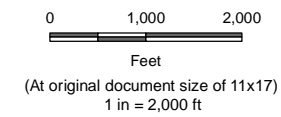
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 3. Soils Data Source: USDA Natural Resources Conservation Service SSURGO Soils Database (Downloaded 8-13-2020)



▭ Study Area
▭ Soil Unit Boundary
 (See Table 1 for Soil Unit Descriptions)



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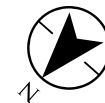
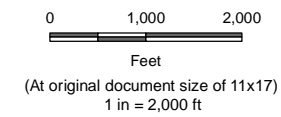
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2272020011

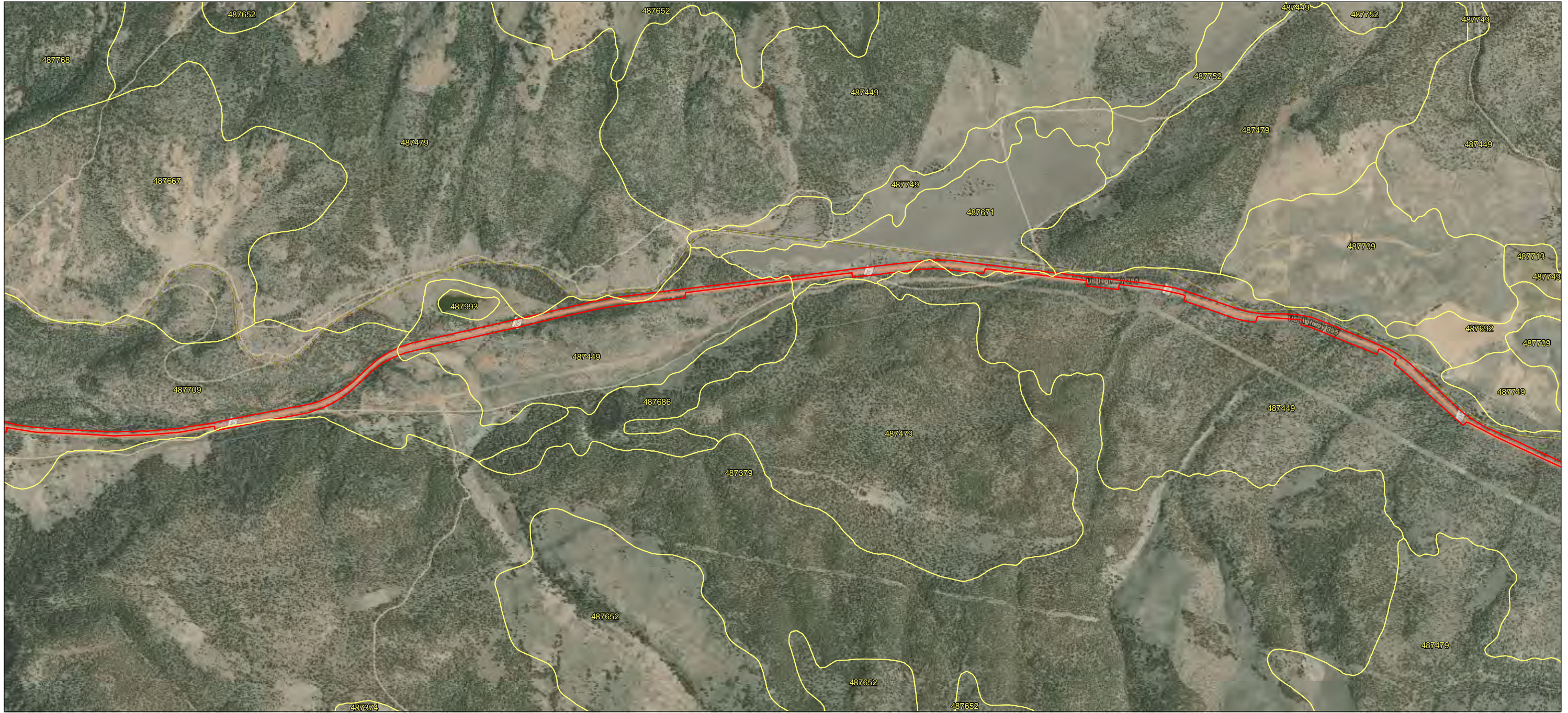
Botanical Resources Report

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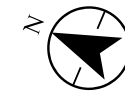
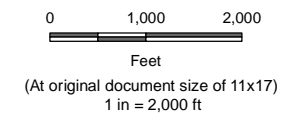
2

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Soils

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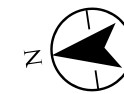
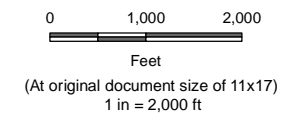
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▭ Study Area
▭ Soil Unit Boundary
 (See Table 1 for Soil Unit Descriptions)



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 Modoc, Lassen, and Sierra Counties, California

Client/Project
 Zayo Group LLC
 Umatilla to Reno Fiber Optic Project (California)
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2

Title
Soils

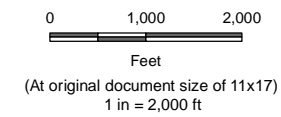
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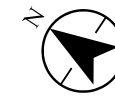
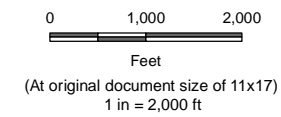
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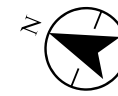
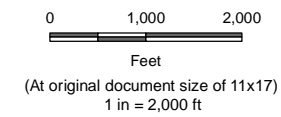
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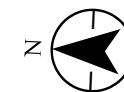
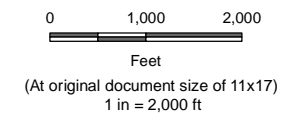
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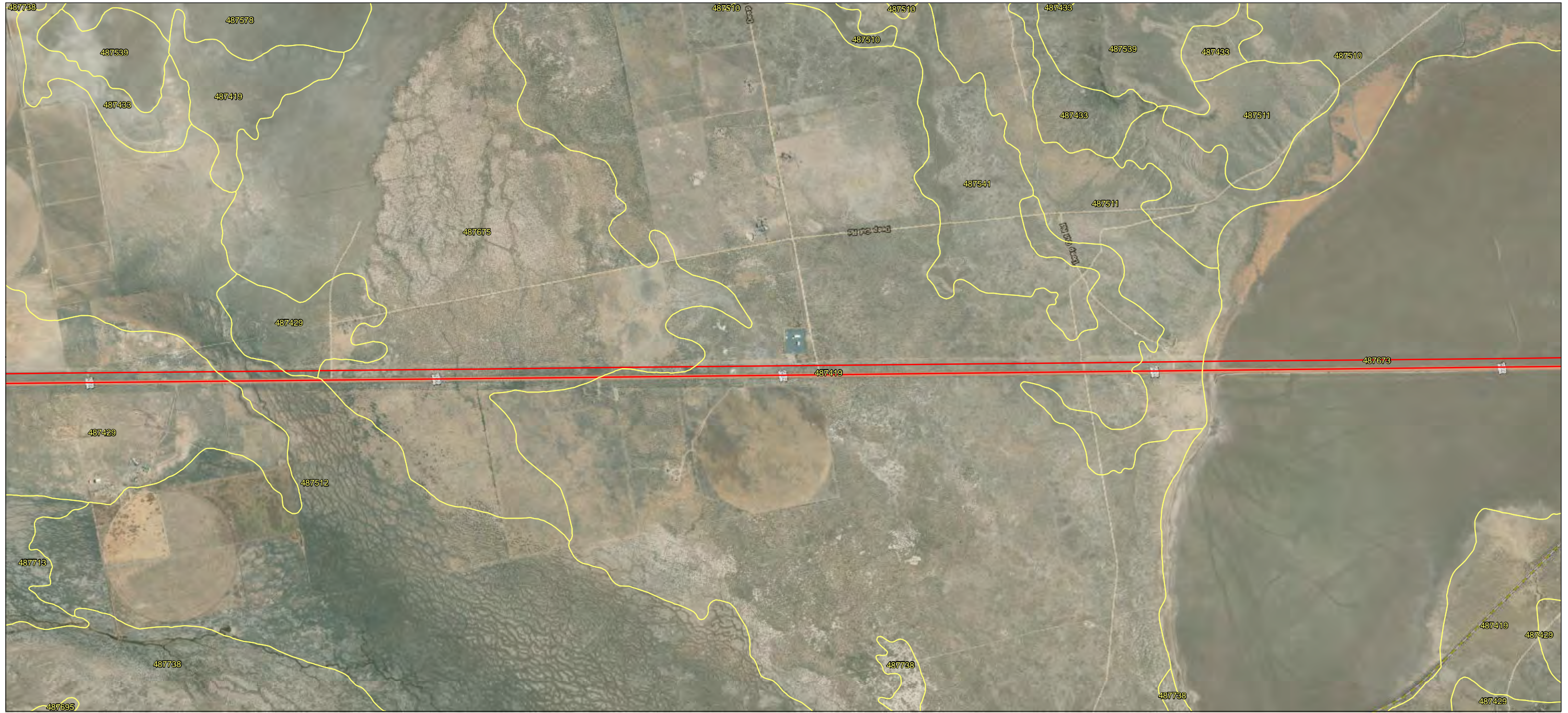
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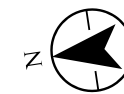
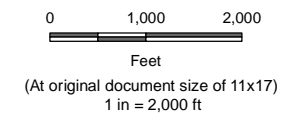
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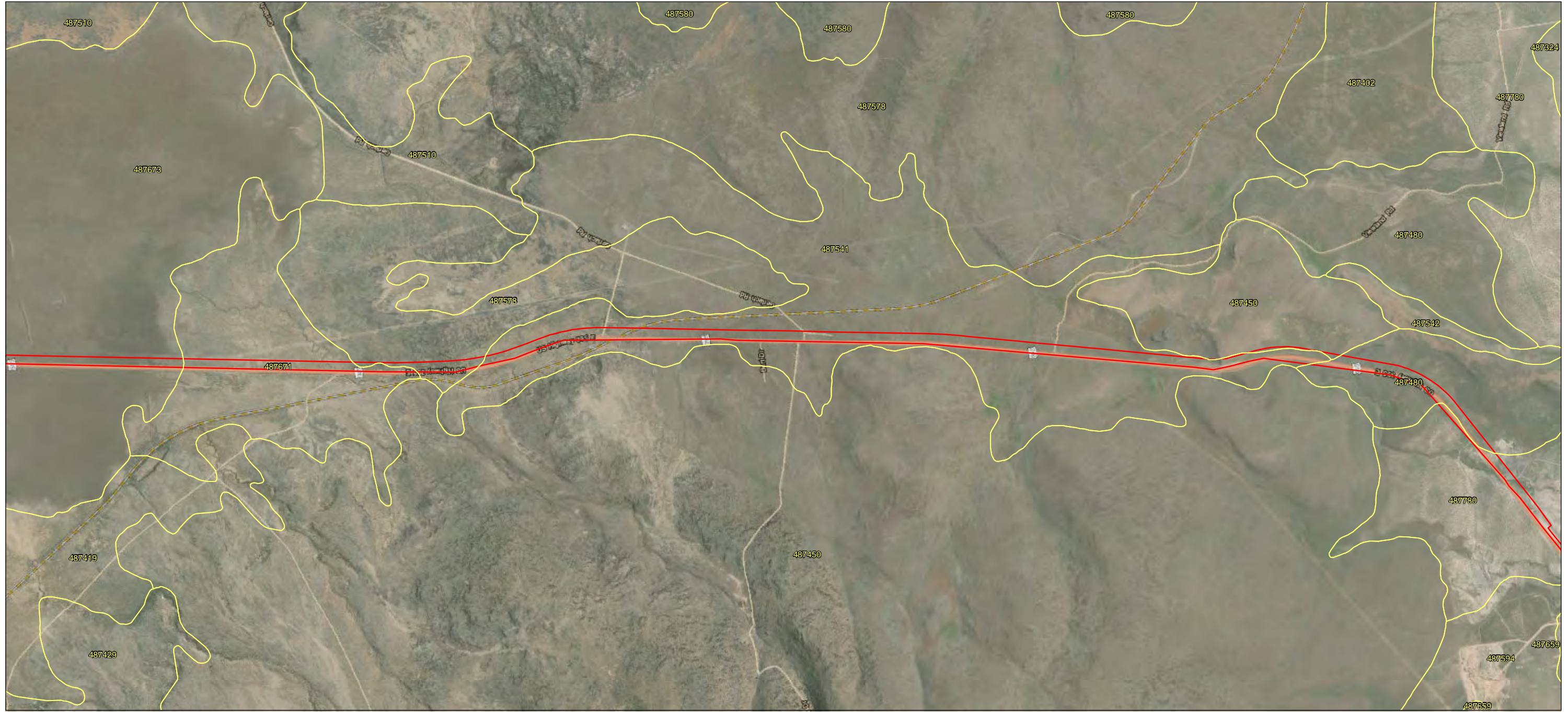
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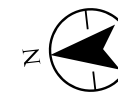
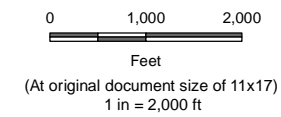
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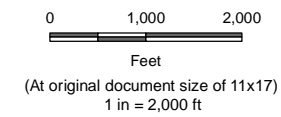
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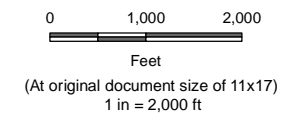
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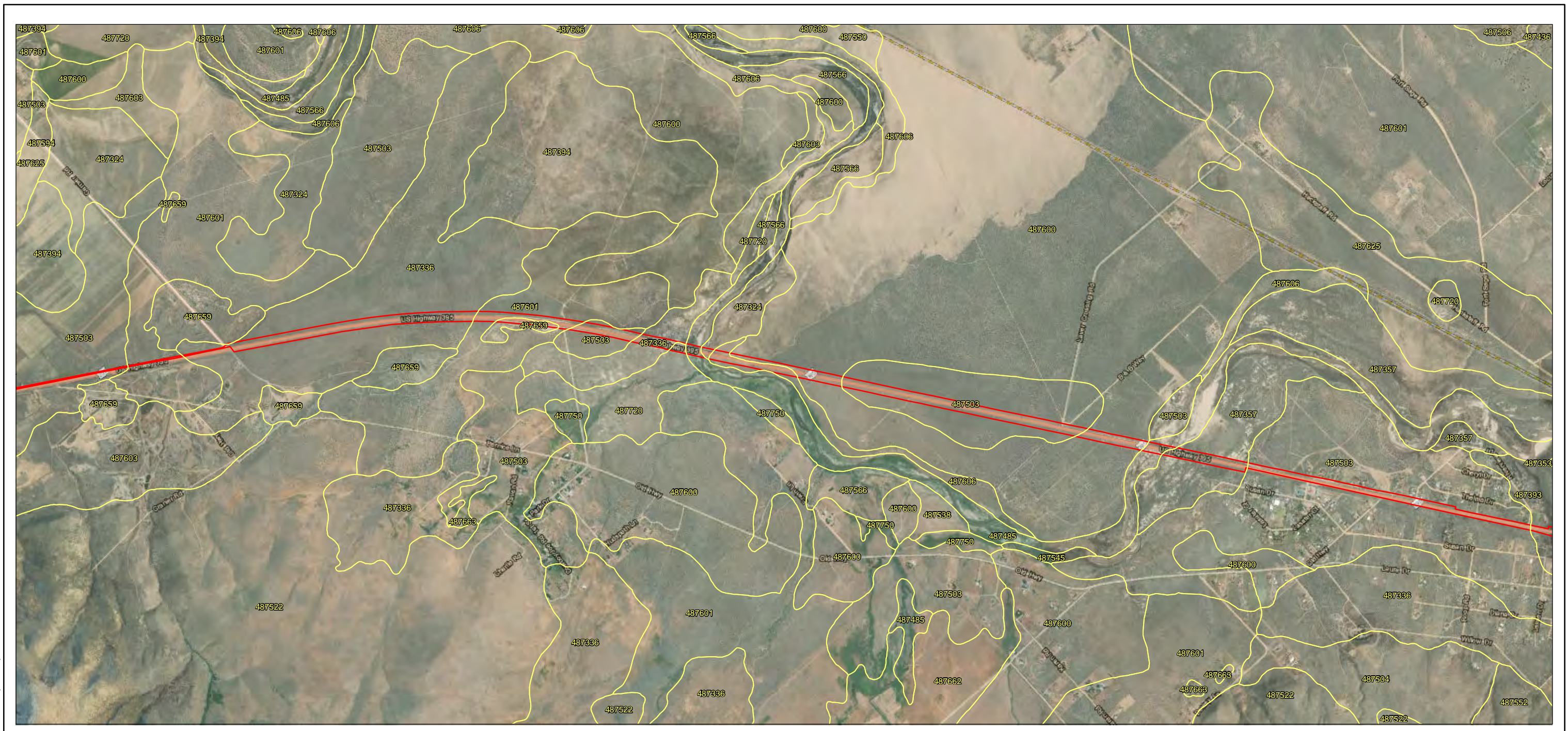
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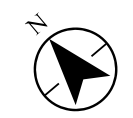
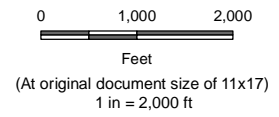
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Study Area
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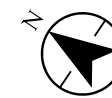
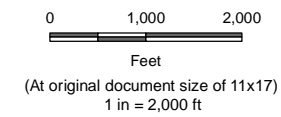
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Title **Soils**

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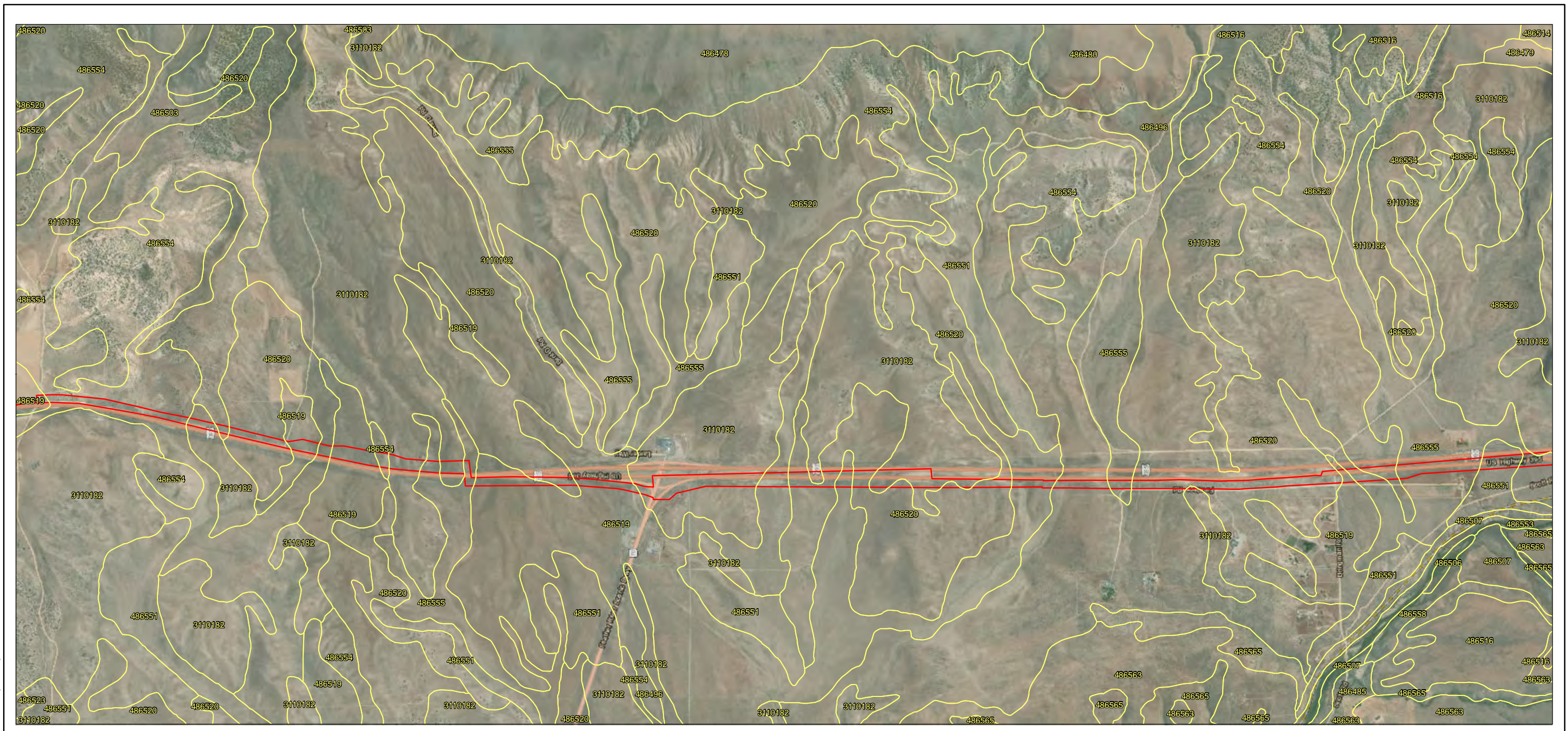
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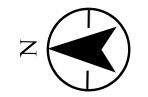
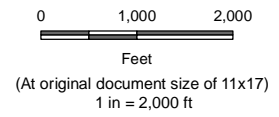
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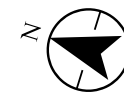
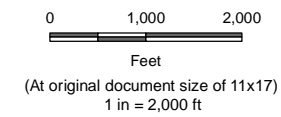
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