

# ON SITE WASTEWATER TREATMENT SYSTEM REPORT

## **POENITSCH SUBDIVISION**

THE S1/2 SE1/4 SE1/4 S.8, T.12S., R.65W., 6<sup>TH</sup> P.M.  
EL PASO COUNTY

January 16, 2019

Revised  
September 26, 2019

Prepared for  
Tom Poenitsch

Oliver E. Watts, Consulting Engineer, Inc.  
Colorado Springs, Colorado

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**Celebrating over 40 years in business**

September 26, 2019

El Paso County Land Use  
2880 International Circle  
Colorado Springs, CO 80910

ATTN: Christy Mullins

SUBJECT: Poenitsch Sub.

Gentlemen

Enclosed is the On Site Wastewater Treatment System (OWYS) report for subject subdivision. The information necessary is included in the attached reports and maps enclosed herewith. It has been revised per your review comments and our subsequent meeting

Oliver E. Watts, Consulting Engineer, Inc.

BY: 

Oliver E. Watts, President

Encl:

Parr Engineering STA Soil Evaluation, 4 pages  
Engineering Properties, NRCS, 5 pages  
Web Soil Survey, NRCS, 5 Pages  
Soils Map and 4 interpretation Sheets  
Vicinity Map  
OWTS Plan, 2 sheets  
Parr Engineering OWTS Site Plan



# PARR ENGINEERING & CONSULTING, INC.

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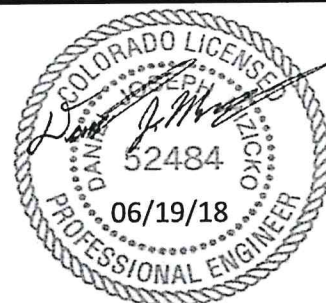
## STA SOIL EVALUATION

**Date:** June 19, 2018 **Job:** JN: 18.258

**Site Location:** 7680 Shoup Road,  
Colorado Springs, CO 80908

**Purpose of Investigation:** To determine general subsurface soil conditions at the site location & to formulate design criteria for the proposed On-Site Wastewater Treatment system (OWTS)

**Field Procedure:** The materials in the various strata of the soil profile pit were visually classified in accordance with the U.S. Department of Agriculture (USDA) standards.



Profile Pit	Yes
Perc Test	-

**Date: (Profile Eval)** June 11, 2018  
**Excavator** Contractor  
**Evaluator** J.Dumke

**Depth to Groundwater (permanent or seasonal) Pit #1:** Not Reached  
**Depth to Groundwater (permanent or seasonal) Pit #2:** Not Reached

**Depth to Bedrock - Pit #1:** Not Reached  
**Depth to Bedrock - Pit #2:** Not Reached

**Other Terrain Features or Soil Conditions:** See Attached Site Map

**Endorsement:** Daniel J. Mizicko P.E.

Profile Pit 1	
<b>Latitude:</b>	39° 0'49.16"N
<b>Longitude:</b>	104°41'8.71"W
<b>Layer</b>	<b>Soil Type &amp; LTAR</b>
0 - 0'-6"	Topsoil
0'-6" - 8'-0"	Type 2 (LTAR= 0.60)
-	-
-	-

Profile Pit 2	
<b>Latitude:</b>	39° 0'49.58"N
<b>Longitude:</b>	104°41'8.30"W
<b>Layer</b>	<b>Soil Type &amp; LTAR</b>
0 - 0'-6"	Topsoil
0'-6" - 4'-0"	Type 1 (LTAR= 0.80)
4'-0" - 6'-0"	Type 2 (LTAR= 0.60)
6'-0" - 7'-6"	Type 3 (LTAR= 0.35)

Location	
<b>Latitude:</b>	<b>Longitude:</b>
-	-
-	-
-	-

Perc #1	N/A	Min./In.
Perc #2	N/A	Min./In.
Perc #3	N/A	Min./In.
Average:	N/A	Min./In.

**Recommendations:** (1) A conventional, non-engineered On-Site Wastewater Treatment system (OWTS) is acceptable for this site.





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Christopher L. Parr, P.E. Principal

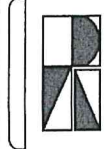
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## Google Site Map





 <b>Parr Engineering &amp; Consulting, Inc.</b> 11590 Black Forest Road, Suite 10 Colorado Springs, Colorado 80908 Phone: 719-494-0404		<b>Profile Pit - Log</b>						
		Job Number:		18.258				
		Date Evaluated:		06/11/18				
		Profile Pit#:		Pit #1				
Excavator:		Contractor		Total Depth:		8'-0"		
Logged By:		J.Dumke		STA Slope & Direction:		S 60° W @ 3%		
Method:		Profile Pit		Latitude:		39° 0'49.16"N		
Equipment:		Mini Excavator		Longitude:		104°41'8.71"W		
<b>7680 Shoup Road, 80908</b>								
Depth (ft.)	Sample Interval	USDA Soil Texture	USDA Soil Structure - Shape	Soil Structure Grade	Redoximorphic Features Present? (Y/N)	Soil Type (from Table 9 in O-14)	% Rock Frag.	Color
Topsoil								
2		Sandy Loam	Granular	Moderate	No	Type 2 (LTAR= 0.60) Treatment Level 1	<35%	10YR 6/4 (Moist)
4								
6								
8								
Total Depth= 8'-0"								
10								
Evidence of Groundwater:				Not Reached				
Depth to Bedrock:				Not Reached				
Additional Notes:								

 <b>Parr Engineering &amp; Consulting, Inc.</b> 11590 Black Forest Road, Suite 10 Colorado Springs, Colorado 80908 Phone: 719-494-0404		<b>Profile Pit - Log</b>						
		Job Number:	18.258					
		Date Evaluated:	06/11/18					
		Profile Pit#:	Pit #2					
Excavator:		Contractor		Total Depth:		7'-6"		
Logged By:		J.Dumke		STA Slope & Direction:		S 60° W @ 3%		
Method:		Profile Pit		Latitude:		39° 0'49.58"N		
Equipment:		Mini Excavator		Longitude:		104°41'8.30"W		
<b>7680 Shoup Road, 80908</b>								
Depth (ft.)	Sample Interval	USDA Soil Texture	USDA Soil Structure - Shape	Soil Structure Grade	Redoximorphic Features Present? (Y/N)	Soil Type (from Table 9 in O-14)	% Rock Frag.	Color
Topsoil								
2		Loamy Sand	--	Single Grain	No	Type 1 (LTAR= 0.80) Treatment Level 1	<35%	10YR 5/4 (Moist)
4		Sandy Loam	Granular	Moderate	No	Type 2 (LTAR= 0.60) Treatment Level 1	<35%	10YR 6/6 (Moist)
6		Sandy Clay Loam	Granular	Strong	No	Type 3 (LTAR= 0.35)	<35%	2.5Y 6/3 (Moist)
8	Total Depth= 7'-6"							
10								
Evidence of Groundwater:				Not Reached				
Depth to Bedrock:				Not Reached				
Additional Notes:								

## Engineering Properties

This table gives the engineering classifications and the range of engineering properties for the layers of each soil in the survey area.

*Hydrologic soil group* is a group of soils having similar runoff potential under similar storm and cover conditions. The criteria for determining Hydrologic soil group is found in the National Engineering Handbook, Chapter 7 issued May 2007(<http://directives.sc.egov.usda.gov/OpenNonWebContent.aspx?content=17757.wba>). Listing HSGs by soil map unit component and not by soil series is a new concept for the engineers. Past engineering references contained lists of HSGs by soil series. Soil series are continually being defined and redefined, and the list of soil series names changes so frequently as to make the task of maintaining a single national list virtually impossible. Therefore, the criteria is now used to calculate the HSG using the component soil properties and no such national series lists will be maintained. All such references are obsolete and their use should be discontinued. Soil properties that influence runoff potential are those that influence the minimum rate of infiltration for a bare soil after prolonged wetting and when not frozen. These properties are depth to a seasonal high water table, saturated hydraulic conductivity after prolonged wetting, and depth to a layer with a very slow water transmission rate. Changes in soil properties caused by land management or climate changes also cause the hydrologic soil group to change. The influence of ground cover is treated independently. There are four hydrologic soil groups, A, B, C, and D, and three dual groups, A/D, B/D, and C/D. In the dual groups, the first letter is for drained areas and the second letter is for undrained areas.

The four hydrologic soil groups are described in the following paragraphs:

*Group A.* Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

*Group B.* Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

*Group C.* Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

*Group D.* Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

*Depth* to the upper and lower boundaries of each layer is indicated.



*Texture* is given in the standard terms used by the U.S. Department of Agriculture. These terms are defined according to percentages of sand, silt, and clay in the fraction of the soil that is less than 2 millimeters in diameter. "Loam," for example, is soil that is 7 to 27 percent clay, 28 to 50 percent silt, and less than 52 percent sand. If the content of particles coarser than sand is 15 percent or more, an appropriate modifier is added, for example, "gravelly."

*Classification* of the soils is determined according to the Unified soil classification system (ASTM, 2005) and the system adopted by the American Association of State Highway and Transportation Officials (AASHTO, 2004).

The Unified system classifies soils according to properties that affect their use as construction material. Soils are classified according to particle-size distribution of the fraction less than 3 inches in diameter and according to plasticity index, liquid limit, and organic matter content. Sandy and gravelly soils are identified as GW, GP, GM, GC, SW, SP, SM, and SC; silty and clayey soils as ML, CL, OL, MH, CH, and OH; and highly organic soils as PT. Soils exhibiting engineering properties of two groups can have a dual classification, for example, CL-ML.

The AASHTO system classifies soils according to those properties that affect roadway construction and maintenance. In this system, the fraction of a mineral soil that is less than 3 inches in diameter is classified in one of seven groups from A-1 through A-7 on the basis of particle-size distribution, liquid limit, and plasticity index. Soils in group A-1 are coarse grained and low in content of fines (silt and clay). At the other extreme, soils in group A-7 are fine grained. Highly organic soils are classified in group A-8 on the basis of visual inspection.

If laboratory data are available, the A-1, A-2, and A-7 groups are further classified as A-1-a, A-1-b, A-2-4, A-2-5, A-2-6, A-2-7, A-7-5, or A-7-6. As an additional refinement, the suitability of a soil as subgrade material can be indicated by a group index number. Group index numbers range from 0 for the best subgrade material to 20 or higher for the poorest.

*Percentage of rock fragments* larger than 10 inches in diameter and 3 to 10 inches in diameter are indicated as a percentage of the total soil on a dry-weight basis. The percentages are estimates determined mainly by converting volume percentage in the field to weight percentage. Three values are provided to identify the expected Low (L), Representative Value (R), and High (H).

*Percentage (of soil particles) passing designated sieves* is the percentage of the soil fraction less than 3 inches in diameter based on an oven-dry weight. The sieves, numbers 4, 10, 40, and 200 (USA Standard Series), have openings of 4.76, 2.00, 0.420, and 0.074 millimeters, respectively. Estimates are based on laboratory tests of soils sampled in the survey area and in nearby areas and on estimates made in the field. Three values are provided to identify the expected Low (L), Representative Value (R), and High (H).

*Liquid limit and plasticity index* (Atterberg limits) indicate the plasticity characteristics of a soil. The estimates are based on test data from the survey area or from nearby areas and on field examination. Three values are provided to identify the expected Low (L), Representative Value (R), and High (H).

#### References:

American Association of State Highway and Transportation Officials (AASHTO). 2004. Standard specifications for transportation materials and methods of sampling and testing. 24th edition.

American Society for Testing and Materials (ASTM). 2005. Standard classification of soils for engineering purposes. ASTM Standard D2487-00.

## Report—Engineering Properties

Absence of an entry indicates that the data were not estimated. The asterisk <sup>1</sup> denotes the representative texture; other possible textures follow the dash. The criteria for determining the hydrologic soil group for individual soil components is found in the National Engineering Handbook, Chapter 7 issued May 2007 (<http://directives.sc.egov.usda.gov/OpenNonWebContent.aspx?content=17757.wba>). Three values are provided to identify the expected Low (L), Representative Value (R), and High (H).

Engineering Properties—El Paso County Area, Colorado														
Map unit symbol and soil name	Pct. of map unit	Hydrologic group	Depth	USDA texture	Classification		Pct Fragments		Percentage passing sieve number—				Liquid limit	Plasticity index
					Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
			<i>In</i>				<i>L-R-H</i>	<i>L-R-H</i>	<i>L-R-H</i>	<i>L-R-H</i>	<i>L-R-H</i>	<i>L-R-H</i>	<i>L-R-H</i>	<i>L-R-H</i>
40—Kettle gravelly loamy sand, 3 to 8 percent slopes														
Kettle	85	B	0-16	Gravelly loamy sand	SC-SM, SM, SW-SM	A-1-b, A-2	0-0-0	0-8-15	60-73-85	55-65-75	30-43-55	10-15-20	20-23-25	NP-3-5
			16-40	Gravelly sandy loam	GM, SC-SM, SM	A-1-b, A-2	0-0-0	0-8-15	60-70-80	50-63-75	35-43-50	20-25-30	20-23-25	NP-3-5
			40-60	Extremely gravelly loamy sand, extremely gravelly loamy coarse sand	GP, GW	A-1	0-5-10	0-10-20	15-23-30	10-18-25	5-13-20	0-3-5	—	NP

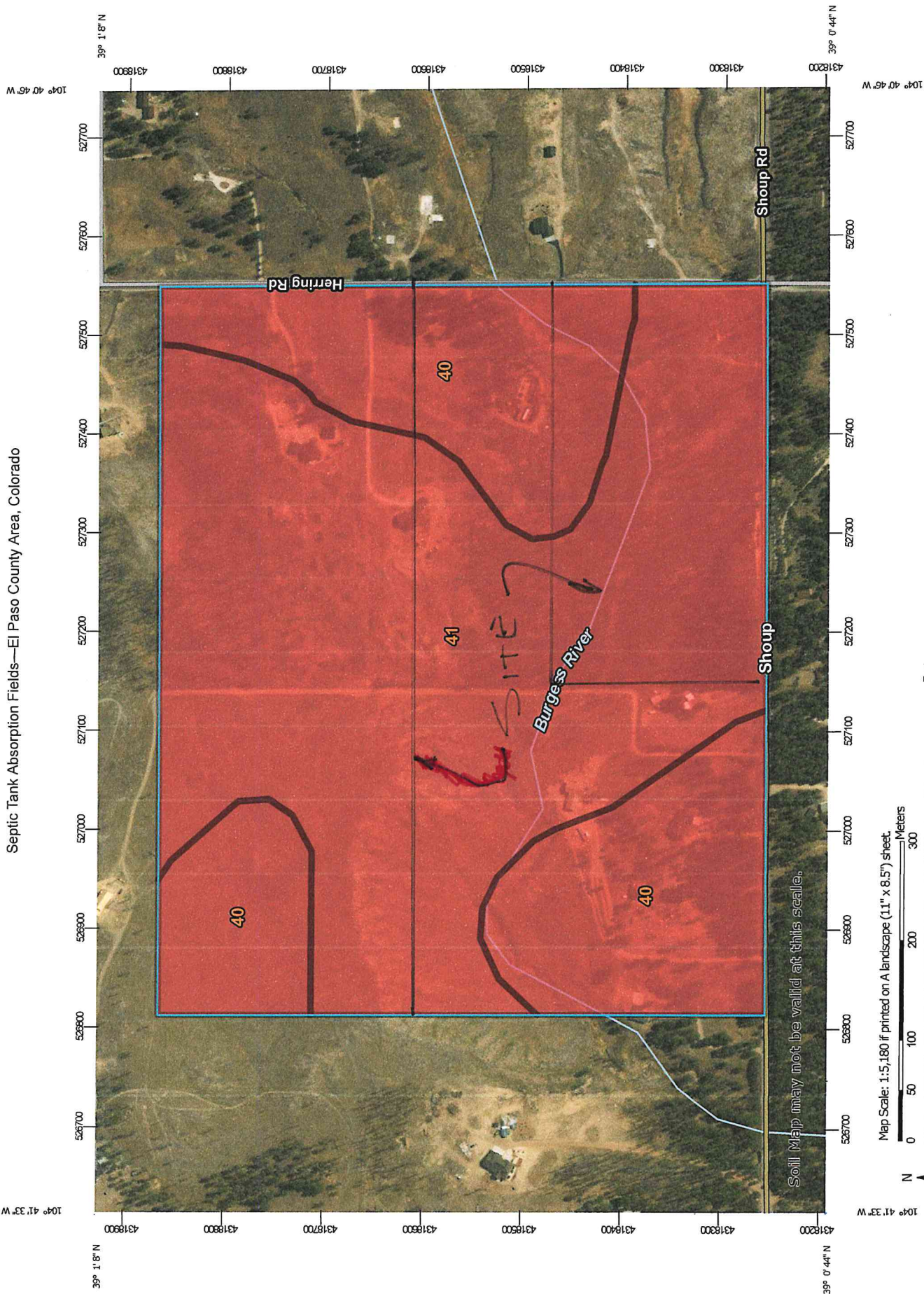


Engineering Properties—El Paso County Area, Colorado														
Map unit symbol and soil name	Pct. of map unit	Hydrologic group	Depth	USDA texture	Classification		Pct Fragments		Percentage passing sieve number—				Liquid limit	Plasticity index
					Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
41—Kettle gravelly loamy sand, 8 to 40 percent slopes			In				L-R-H	L-R-H	L-R-H	L-R-H	L-R-H	L-R-H	L-R-H	L-R-H
Kettle	85 B		0-16	Gravelly loamy sand	SC-SM, SM, SW-SM	A-1-b, A-2	0-0-0	0-8-15	60-73-85	55-65-75	30-43-55	10-15-20	20-23-25	NP-3-5
			16-40	Gravelly sandy loam	GM, SC-SM, SM	A-1-b, A-2	0-0-0	0-8-15	60-70-80	50-63-75	35-43-50	20-25-30	20-23-25	NP-3-5
			40-60	Extremely gravelly loamy sand, extremely gravelly loamy coarse sand	GP, GW	A-1	0-5-10	0-10-20	15-23-30	10-18-25	5-13-20	0-3-5	—	NP

## Data Source Information

Soil Survey Area: El Paso County Area, Colorado  
Survey Area Data: Version 15, Oct 10, 2017

# Septic Tank Absorption Fields—El Paso County Area, Colorado



Map Scale: 1:5,180 if printed on A landscape (11" x 8.5") sheet.

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 13N WGS84

Soil Map may not be valid at this scale.

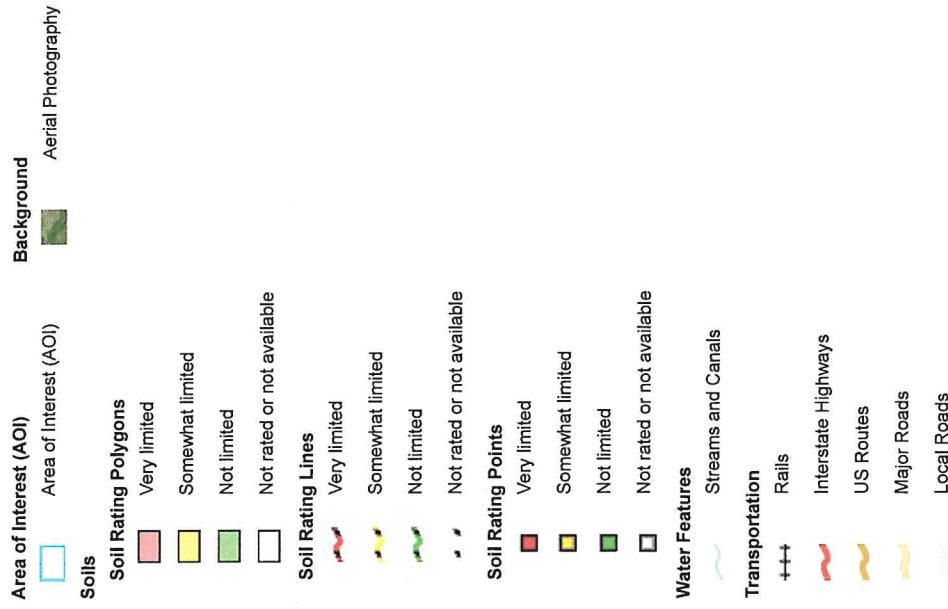


Natural Resources  
Conservation Service

Web Soil Survey  
National Cooperative Soil Survey



## MAP LEGEND



## MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

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

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service  
 Web Soil Survey URL:  
 Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: El Paso County Area, Colorado  
 Survey Area Data: Version 15, Oct 10, 2017

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: May 22, 2016—Mar 9, 2017

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.



## Septic Tank Absorption Fields

Map unit symbol	Map unit name	Rating	Component name (percent)	Rating reasons (numeric values)	Acres in AOI	Percent of AOI
40	Kettle gravelly loamy sand, 3 to 8 percent slopes	Very limited	Kettle (85%)	Seepage, bottom layer (1.00)	40.2	35.9%
41	Kettle gravelly loamy sand, 8 to 40 percent slopes	Very limited	Kettle (85%)	Seepage, bottom layer (1.00)	71.7	64.1%
				Slope (1.00)		
<b>Totals for Area of Interest</b>					<b>111.9</b>	<b>100.0%</b>

Rating	Acres in AOI	Percent of AOI
Very limited	111.9	100.0%
<b>Totals for Area of Interest</b>	<b>111.9</b>	<b>100.0%</b>

## Description

Septic tank absorption fields are areas in which effluent from a septic tank is distributed into the soil through subsurface tiles or perforated pipe. Only that part of the soil between depths of 24 and 60 inches is evaluated. The ratings are based on the soil properties that affect absorption of the effluent, construction and maintenance of the system, and public health. Saturated hydraulic conductivity (Ksat), depth to a water table, ponding, depth to bedrock or a cemented pan, and flooding affect absorption of the effluent. Stones and boulders, ice, and bedrock or a cemented pan interfere with installation. Subsidence interferes with installation and maintenance. Excessive slope may cause lateral seepage and surfacing of the effluent in downslope areas.

Some soils are underlain by loose sand and gravel or fractured bedrock at a depth of less than 4 feet below the distribution lines. In these soils the absorption field may not adequately filter the effluent, particularly when the system is new. As a result, the ground water may become contaminated.

The ratings are both verbal and numerical. Rating class terms indicate the extent to which the soils are limited by all of the soil features that affect the specified use. "Not limited" indicates that the soil has features that are very favorable for the specified use. Good performance and very low maintenance can be expected. "Somewhat limited" indicates that the soil has features that are moderately favorable for the specified use. The limitations can be overcome or minimized by special planning, design, or installation. Fair performance and moderate maintenance can be expected. "Very limited" indicates that the soil has one or more features that are unfavorable for the specified use. The limitations generally cannot be overcome without major soil reclamation, special design, or expensive installation procedures. Poor performance and high maintenance can be expected.

Numerical ratings indicate the severity of individual limitations. The ratings are shown as decimal fractions ranging from 0.01 to 1.00. They indicate gradations between the point at which a soil feature has the greatest negative impact on the use (1.00) and the point at which the soil feature is not a limitation (0.00).

The map unit components listed for each map unit in the accompanying Summary by Map Unit table in Web Soil Survey or the Aggregation Report in Soil Data Viewer are determined by the aggregation method chosen. An aggregated rating class is shown for each map unit. The components listed for each map unit are only those that have the same rating class as listed for the map unit. The percent composition of each component in a particular map unit is presented to help the user better understand the percentage of each map unit that has the rating presented.

Other components with different ratings may be present in each map unit. The ratings for all components, regardless of the map unit aggregated rating, can be viewed by generating the equivalent report from the Soil Reports tab in Web Soil Survey or from the Soil Data Mart site. Onsite investigation may be needed to validate these interpretations and to confirm the identity of the soil on a given site.

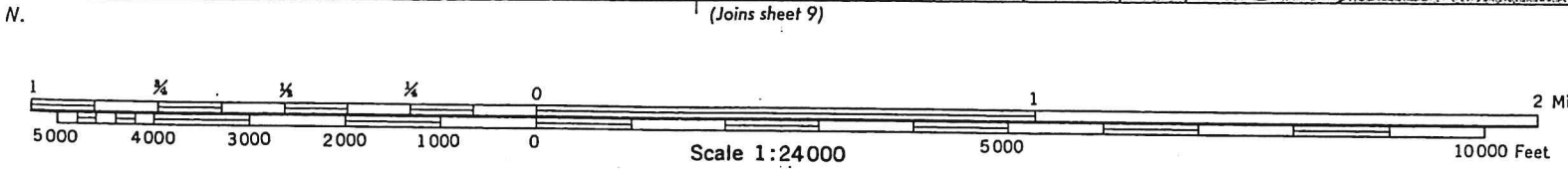
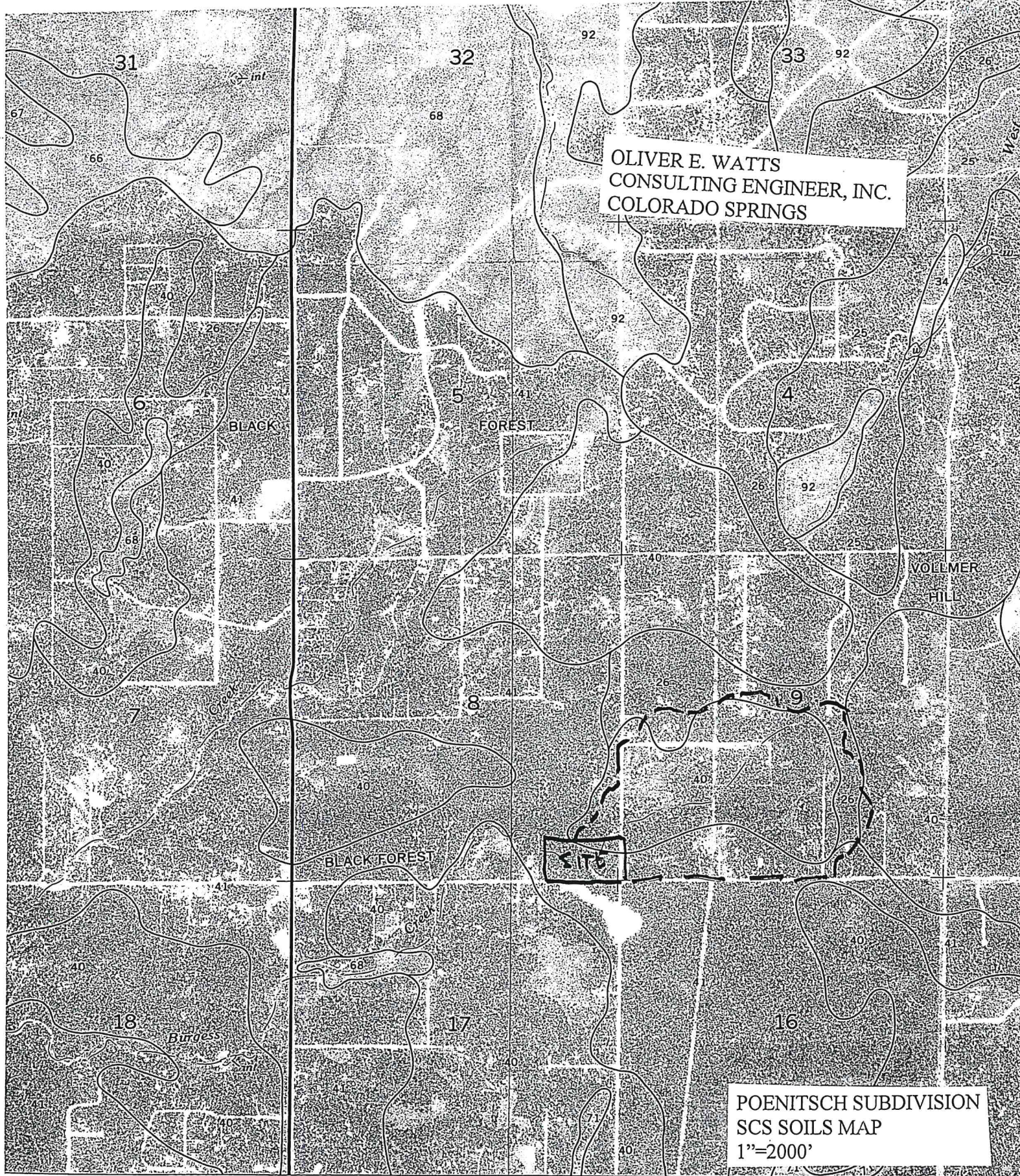
## Rating Options

*Aggregation Method:* Dominant Condition

*Component Percent Cutoff:* None Specified

*Tie-break Rule:* Higher







## EL PASO COUNTY AREA, COLORADO

TABLE 16.--SOIL AND WATER FEATURES

[Absence of an entry indicates the feature is not a concern. See "flooding" in Glossary for definition of terms as "rare," "brief," and "very brief." The symbol > means greater than]

Soil name and map symbol	Hydro-logic group	Flooding		Months	Bedrock		Potential frost action
		Frequency	Duration		Depth In	Hardness	
Alamosa: 1-----	C	Frequent-----	Brief-----	May-Jun	>60	---	High.
Ascalon: 2, 3-----	B	None-----	---	---	>60	---	Moderate:
Badland: 4-----	D	---	---	---	---	---	---
Bijou: 5, 6, 7-----	B	None-----	---	---	>60	---	Low.
Blakeland: 8-----	A	None-----	---	---	>60	---	Low.
19: Blakeland part-----	A	None-----	---	---	>60	---	Low.
Fluvaquentic Haplaquolls part-----	D	Common-----	Very brief----	Mar-Aug	>60	---	High.
Blendon: 10-----	B	None-----	---	---	>60	---	Moderate.
Bresser: 11, 12, 13-----	B	None-----	---	---	>60	---	Low.
Brussett: 14, 15-----	B	None-----	---	---	>60	---	Moderate.
Chaseville: 16, 17-----	A	None-----	---	---	>60	---	Low.
118: Chaseville part-----	A	None-----	---	---	>60	---	Low.
Midway part-----	D	None-----	---	---	10-20	Rippable	Moderate.
Columbine: 19-----	A	None to rare	---	---	>60	---	Low.
Connerton: 120: Connerton part-----	B	None-----	---	---	>60	---	High.
Rock outcrop part-----	D	---	---	---	---	---	---
Cruckton: 21-----	B	None-----	---	---	>60	---	Moderate.
Cushman: 22, 23-----	C	None-----	---	---	20-40	Rippable	Moderate.
124: Cushman part-----	C	None-----	---	---	20-40	Rippable	Moderate.
Kutch part-----	C	None-----	---	---	20-40	Rippable	Moderate.
Elbeth: 25, 26-----	<u>B</u>	None-----	---	---	>60	---	Moderate.
127: Elbeth part-----	B	None-----	---	---	>60	---	Moderate.

See footnote at end of table.

## SOIL SURVEY

TABLE 16.--SOIL AND WATER FEATURES--Continued

Soil name and map symbol	Hydro- logic group	Flooding			Bedrock		Potential frost action
		Frequency	Duration	Months	Depth In	Hardness	
Elbeth: Pring part-----	B	None-----	---	---	>60	---	Moderate.
Ellicott: 28-----	A	Frequent-----	Brief-----	Mar-Jun	>60	---	Low.
Fluvaquentic Haplaquolls: 29-----	B/D	Frequent-----	Brief-----	Mar-Jul	>60	---	High.
Fort Collins: 30, 31-----	B	None to rare	---	---	>60	---	Moderate.
Fortwingate: 132: Fortwingate part-----	C	None-----	---	---	20-40	Hard	Low.
Rock outcrop part-----	D	---	---	---	---	---	---
Heldt: 33-----	C	None-----	---	---	>60	---	Moderate.
Holderness: 34, 35, 36-----	C	None-----	---	---	>60	---	Moderate.
Jarre: 37-----	B	None-----	---	---	>60	---	Moderate.
138: Jarre part-----	B	None-----	---	---	>60	---	Moderate.
Tecolote part--	B	None-----	---	---	>60	---	Moderate.
Keith: 39-----	B	None-----	---	---	>60	---	High.
Kettle: 40, 41-----	B	None-----	---	---	>60	---	Moderate.
142: Kettle part-----	B	None-----	---	---	>60	---	Moderate.
Rock outcrop part-----	D	---	---	---	---	---	---
Kim: 43-----	B	None-----	---	---	>60	---	Moderate.
Kutch: 44, 45-----	C	None-----	---	---	20-40	Rippable	Moderate.
Kutler: 146: Kutler part-----	C	None-----	---	---	20-40	Rippable	Low.
Broadmoor part-	C	None-----	---	---	20-40	Rippable	Low.
Rock outcrop part-----	D	---	---	---	---	---	---
Limon: 47-----	C	Occasional-----	Brief-----	May-Sep	>60	---	Moderate.
Louviers: 48-----	D	None-----	---	---	10-20	Rippable	Moderate.
49-----	D	None-----	---	---	10-20	Rippable	Low.

See footnote at end of table.



TABLE 16.--SOIL AND WATER FEATURES--Continued

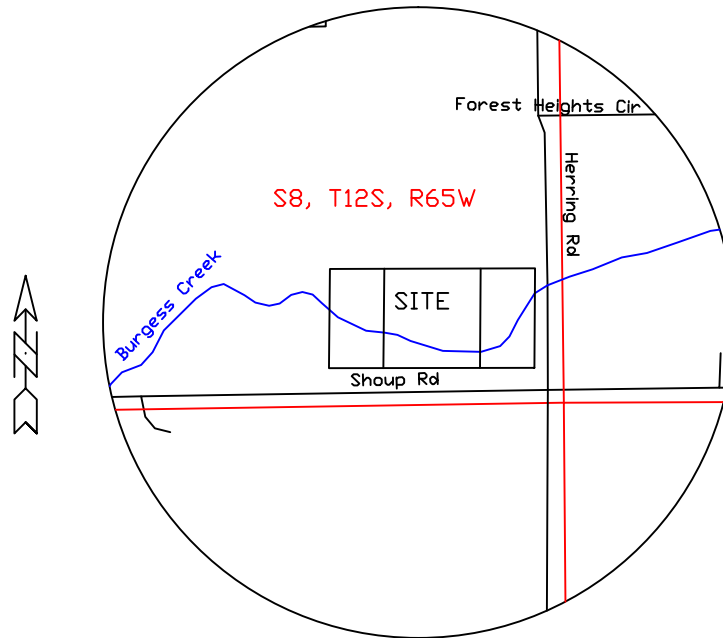
Soil name and map symbol	Hydro-logic group	Flooding			Bedrock		Potential frost action
		Frequency	Duration	Months	Depth In	Hardness	
Manvel: 50-----	C	None-----	---	---	>60	---	High.
Manzanola: 51, 52, 53-----	C	None to rare	---	---	>60	---	Moderate.
Midway: 54-----	D	None-----	---	---	10-20	Rippable	Moderate.
Nederland: 55-----	B	None-----	---	---	>60	---	Moderate.
Nelson: 156: Nelson part----	B	None-----	---	---	20-40	Rippable	Low.
Tassel part----	D	None-----	---	---	10-20	Rippable	Low.
Neville: 57-----	B	None-----	---	---	>60	---	High.
158: Neville part----	B	None-----	---	---	>60	---	High.
Rednun part----	C	None-----	---	---	>60	---	Moderate.
Nunn: 59-----	C	None-----	---	---	>60	---	Moderate.
Olney: 60, 61-----	B	None-----	---	---	>60	---	Moderate.
162: Olney part----	B	None-----	---	---	>60	---	Moderate.
Vona part----	B	None-----	---	---	>60	---	Moderate.
Paunsaugunt: 163: Paunsaugunt part-----	D	None-----	---	---	10-20	Hard	Moderate.
Rock outcrop part-----	D	---	---	---	---	---	---
Penrose: 164: Penrose part----	D	None-----	---	---	10-20	Rippable	Low.
Manvel part----	C	None-----	---	---	>60	---	High.
Perrypark: 65-----	B	None-----	---	---	>60	---	Moderate.
Peyton: 66, 67-----	B	None-----	---	---	>60	---	Moderate.
168, 169: Peyton part----	B	None-----	---	---	>60	---	Moderate.
Pring part----	B	None-----	---	---	>60	---	Moderate.
Pits, gravel: 70-----	A	---	---	---	---	---	---
Pring: 71, 72-----	B	None-----	---	---	>60	---	Moderate.
Razor: 73, 74-----	C	None-----	---	---	20-40	Rippable	Moderate.

See footnote at end of table.

TABLE 16.--SOIL AND WATER FEATURES--Continued

Soil name and map symbol	Hydro-logic group	Flooding			Bedrock		Potential frost action
		Frequency	Duration	Months	Depth	Hardness	
					In		
Tomah: 192, 193:	B						
Tomah part-----		None-----	---	---	>60	---	Moderate.
Crowfoot part--	B	None-----	---	---	>60	---	Moderate.
Travessilla: 194:							
Travessilla part-----	D	None-----	---	---	6-20	Hard	Low.
Rock outcrop part-----	D	---	---	---	---	---	---
Truckton: 95, 96, 97-----	B	None-----	---	---	>60	---	Moderate.
198:							
Truckton part--	B	None-----	---	---	>60	---	Moderate.
Blakeland part-	A	None-----	---	---	>60	---	Low.
199, 1100:							
Truckton part--	B	None-----	---	---	>60	---	Moderate.
Bresser part---	B	None-----	---	---	>60	---	Low.
Ustic Torrifluvents: 101-----	B	Occasional---	Very brief---	Mar-Aug	>60	---	Moderate.
Valent: 102, 103-----	A	None-----	---	---	>60	---	Low.
Vona: 104, 105-----	B	None-----	---	---	>60	---	Moderate.
Wigton: 106-----	A	None-----	---	---	>60	---	Low.
Wiley: 107, 108-----	B	None-----	---	---	>60	---	Low.
Yoder: 109, 110-----	B	None-----	---	---	>60	---	Low.

<sup>1</sup>This map unit is made up of two or more dominant kinds of soil. See map unit description for the composition and behavior characteristics of the map unit.



# VICINITY MAP

1"=1000'

DRAWN BY: D.E. WATTS

DATE: 1-16-19

DWG. NO.:

APPROVED BY: D.E. WATTS, CONSULTING ENGR.

PROJECT

POENITSCH SUB.  
S.8, T.12S., R.65W.  
EL PASO COUNTY

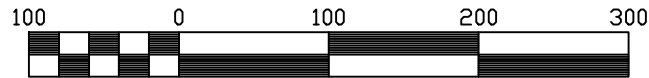
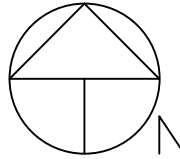
SHT. NAME

VICINITY MAP

SHT. NO.

1  
OF  
1





Scale 1" = 100'  
Contour Interval: 2'  
ELEV. DATUM: NGVD, 1929 ADJUSTMENT

LEGEND:



NO-BUILD EASEMENT  
(FLOOD-PRONE AREAS  
AND SLOPES OVER 30%)



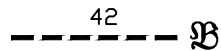
LIMIT OF 100-YEAR FLOOD



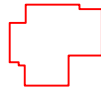
EXISTING WELL



SOILS TEST PIT



LIMIT OF SOILS TYPE AND GROUP



BUILDING SITE (TYPICAL ONLY)



GARAGE SITE (TYPICAL ONLY)



OWTS TEST LOCATION NO. 1



OWTS TEST LOCATION NO. 2

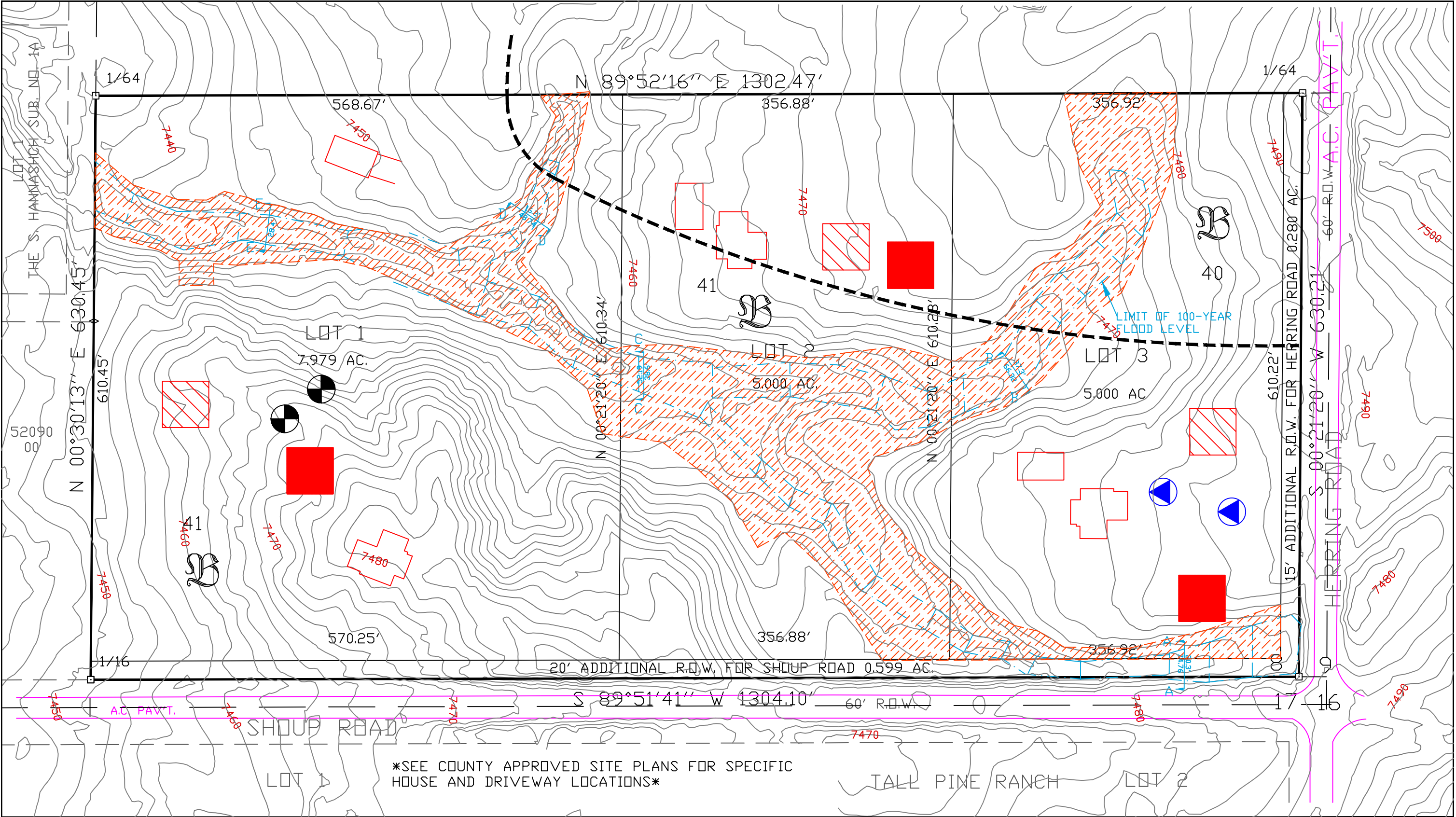
9-26-19

DRAWN BY: O.E. WATTS  
DATE: 1-16-19  
DWG. NO.: 19-5184-11  
OLIVER E. WATTS, CONSULTING ENGR.

PROJECT  
POENITSCH SUB.  
S.8, T.12S., R.65W.  
EL PASO COUNTY

SHT. NAME  
**OWTS PLAN**

SHT. NO.  
2  
OF  
2

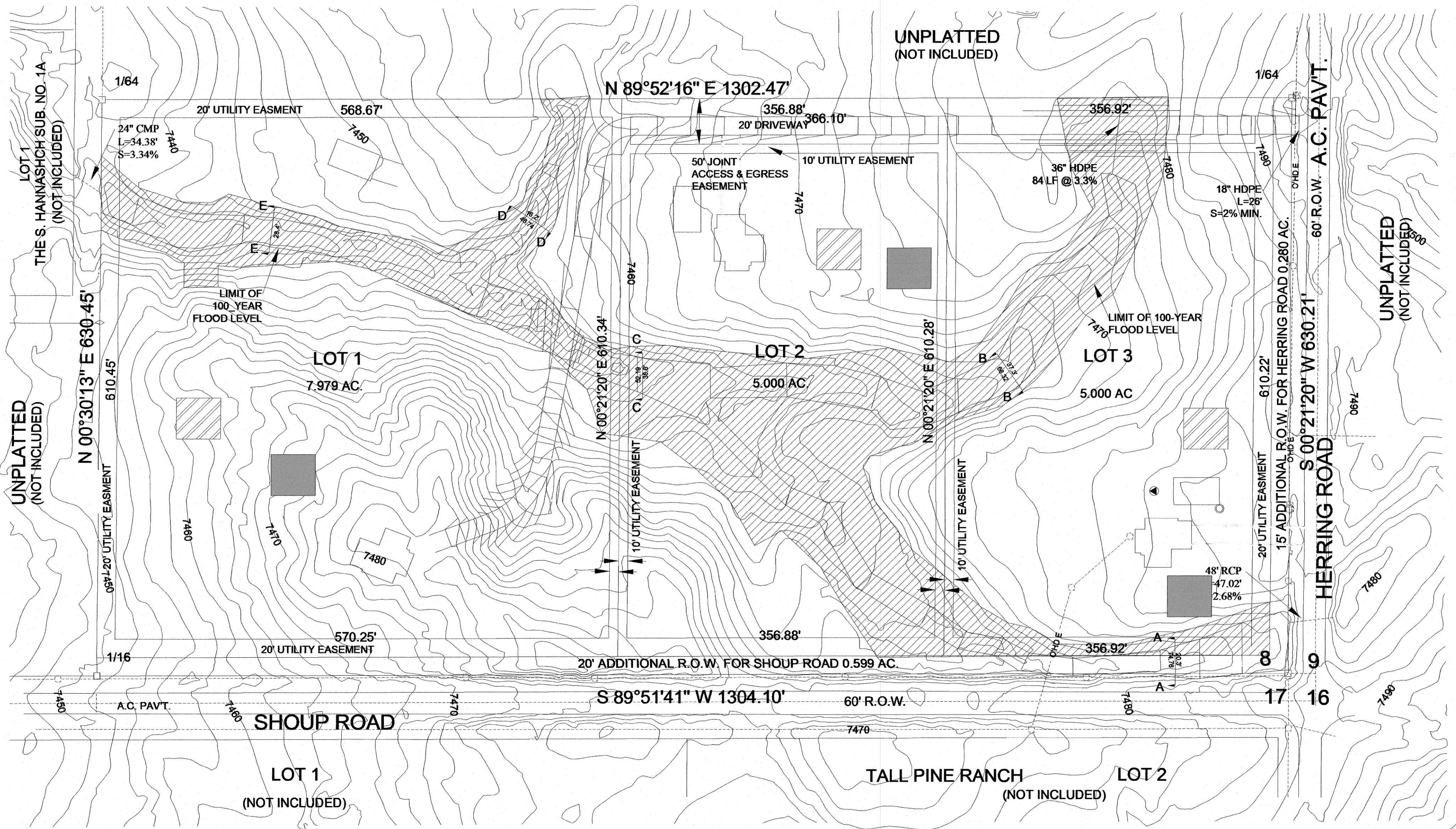


<div>DRAWN BY: O.E. WATTS</div> <div>DATE: 1-16-19</div> <div>DWG. NO.: 18-5184-10</div>	<div>REVISIONS</div> <div>9-26-19 DEW</div> <div>11-14-19 ESW</div>	<div>OLIVER E. WATTS</div> <div>CONSULTING ENGINEER</div> <div>COLORADO SPRINGS</div>	<div>PROJECT</div> <div>POENITSCH SUB.</div> <div>S,SE,SE S8, T .12S., R.65W.</div> <div>EL PASO COUNTY</div>	<div>SHT. NAME</div> <div>OWTS PLAN</div>	<div>SHT. NO.</div> <div>1 OF 2</div>
------------------------------------------------------------------------------------------	---------------------------------------------------------------------	---------------------------------------------------------------------------------------	---------------------------------------------------------------------------------------------------------------	-------------------------------------------	---------------------------------------



# PRELIMINARY PLAN POENITSCH SUBDIVISION

A SUBDIVISION OF THE S1/2, SE1/4, SE1/4 SECTION 8, T.12S., R.65W. OF THE 6TH P.M.  
EL PASO COUNTY, COLORADO



OWTS TEST LOCATION #1

OWTS TEST LOCATION #2

OWTS LOCATION PROVIDED BY PARR ENGINEERING & CONSULTING, INC. SITE MAP PREPARED BY THE OFFICE OF: OLIVER E. WATTS PE-LS

01 - OWTS Locations  
1" = 80'-0"

See County approved Site Plans for specific house and driveway locations

Parr Engineering & Consulting, Inc.  
11590 Black Forest Road, Suite 10  
Colorado Springs, Colorado 80908  
Phone: 719-494-0404



OWTS SITE MAP

A SUBDIVISION OF THE S1/2, SE1/4, SE1/4 SECTION 8, T.12S., R.65W. OF THE 6TH P.M.  
EL PASO COUNTY, COLORADO

JN: 19.050, 051, 052  
SCALE: 1" = 80'-0"  
ISSUE DATE: 07/09/19

DSG BY: D.MIZICKO  
CHK BY: D.MIZICKO

REVISION:  
DATE:  
DRW BY:  
CHK BY:  
REVISION:  
DATE:  
DRW BY:  
CHK BY:

S1 OF  
01