See notes on OWTS report and Figure 1 below, no direct access to Herring from Lot 1, a shared access at the north side of the property. The secondary is located in the path of where the driveway should be located

Soils and Geology

Evaluation

For

Poenitsh Minor Subdivision
Shoup Road and Herring Road

E Paso County
July 26, 2019
FINAL

Julia M. Murphy MS, PG
Principal, Professional Geologist

PROFESSIONAL GEOLOGIST
JULIA M. MURPHY
12/31/19
No. 6964
STATE OF CALIFORNIA

GWI
Groundwater Investigations LLC
11590 Black Forest Road Ste 15
Colorado Springs, CO 80908
(719) 338-1805

PROJECT DESCRIPTION

The following presents Soils, Geology, and Geologic Hazards assessment for the proposed Poenitsch Minor Subdivision (Project Site) located on the northwest corner of Shoup and Herring Roads in Black Forest, El Paso County, Colorado. The property has schedule number 5208000041 and the legal description:

The S1/2 of the SE1/4 of the SE1/4 of Section 8, Township 12 South, Range 65 West of the 6th P.M., El Paso County, Colorado, except the East 30 feet and the South 30 feet.

The Project Site is vacant land comprised of 18.858 acres to be subdivided into 3 single-family residential lots consisting of 7.97 acres (Lot 1), 5.00 acres (Lot 2) and 5.00 acres (Lot 3), (Figure 1). Water will be supplied by wells and wastewater will be treated using on-site wastewater treatment systems (OWTS).

GEOLOGY

The Project Site is located within the Black Forest Quadrangle near the western edge of a geologic structural depression known as the Denver Basin. This asymmetrical structural basin is shallow-dipping toward the northeast within Black Forest. The uppermost materials are that of the Dawson Formation deposited during the early to possibly middle Eocene (Figure 2). Historically, braided streams that flowed toward the east and carried and deposited gravel, sand, silt and clays derived from weathered Precambrian Pike Peak Granite from the uplifted areas to the west (Thorson, 2003).

Facies Unit 5 (TKda5) is the uppermost facies of the Dawson Formation and is mapped over the entire area of the Project Site (Figure 2). Materials encountered during the field investigation and soils sampling and analysis is consistent with the description this Facies: light-tan fine to medium grained feldspathic friable sandstone. The sandstone is poorly sorted and interbedded with lenses of sandy clays. Facies Unit 5 is described as generally permeable, well drained, with good foundation characteristics (Thorson 2003).

The elevation across the Project Site ranges from 7436 to 7492 feet above mean sea level (amsl). The current topography of the Project Site varies considerably from shallow

dipping/nearly flat to moderately sloping towards Burgess Creek and other drainage ways which traverses all three lots. The steepest slopes (26%) are located on Lot 1.

SOILS

The National Resource Conservation Service (NRCS) has identified two soil types on the Project Site that differ only in regard to percent slope.

Type	Description
40	Kettle gravely loamy sand, 3 to 8 % slopes
41	Kettle gravely loamy sand, 8 to 40% slopes

Attachment 1 provides a complete description of the soils. The natural drainage class is "somewhat extensively drained". Runoff potential is low for Type 40 and moderate for Type 41. Estimated coverage of 3 to 8% slopes is 14.5% and 8 to 40% is 85.5% (NRCS, 2018).

Field investigations at the Project Site consisted of excavating four profile pits at each proposed lot (12 total) to identify two viable onsite wastewater treatment system locations per lot (PARR 2019). The profile pits were excavated to a maximum depth of 9.5 feet below ground surface. Samples were collected from select intervals and evaluated for soil properties. Table 1 summarizes the results of these tests. In addition to the profile pits, a 4-inch diameter boring was drilled to about 12-feet below ground surface (bgs) coupled with standard penetration testing at proposed Lot 1 for the purpose of evaluating the soils for foundation design. Samples collected for the foundation analysis were analyzed for standard properties, natural water content, Atterberg limits and Expansion Index (Attachment 2)(PARR 2018). Figure 2 show the Profile pits and foundation soil sampling locations. Soils descriptions varied from sandy clay to sandy loam.

HYDROLOGY

Burgess Creek is located in the Kettle Creek Drainage Basin and forms the headwaters of Kettle Creek (JR Eng. 2015). Burgess Creek (aka: Burgess River) crosses the Property in a northwesterly direction. The creek bed is incised and forms a broad flat bottom in the central portion of the Project Site supporting thick bladed grasses and a couple willows (shrub). The presence of a few Rocky Mountain willows in the main drainage indicates the presence of a persistent shallow groundwater source. The creek collects water from the drainages to the east

and northeast of the Project Site. Reportedly, heavy rain events have resulted in sheet flow across the wider width of creek (Von Ahlefeldt, 2019).

TABLE 1
Soil Profile Pits
Onsite Wasterwater Treatment System

LOT 1

Site	Test Pit	Depth (ft)	USDA Soil Texture	USDA Soil Structure-Shape	Soil Structure Grade	Soil Type	Test Pit	Depth (ft)	USDA Soil Texture	USDA Soil Structure-Shape	Soil Structure Grade	Soil Type
1 6/19/2018)	1	0.5-8.0	Sandy Loam	Grandular	Moderate	2	2 (06/19/2018)	0.5-4.0	Loamy Sand	-	Single Grain	1
								4.0-6.0	Sandy Loam	Grandular	Moderate	2
								6.0-7.5	Sandy Clay Loam	Grandular	Strong	3
2	1	1.0-6.0	Sandy Clay Loam	Grandular	Strong	3	2	0.5-7.5	Sandy Clay Loam	Grandular	Strong	3
		6.9-9.0	Sandy Clay Loam	Grandular	Strong	3						

LOT 2

Site	Test Pit	Depth (ft)	USDA Soil Texture	USDA Soil Structure-Shape	Soil Structure Grade	Soil Type	Test Pit	Depth (ft)	USDA Soil Texture	USDA Soil Structure-Shape	Soil Structure Grade	Soil Type
1	1	0.5-2.0	Sandy Clay Loam	Blocky	Moderate	3	2	0.5-3.0	Sandy Clay	Grandular	Strong	4
		2.0-4.0	Sandy Clay	Grandular	Strong	4		3.0-6.0	Sandy Clay Loam	Grandular	Strong	3
		4.0-6.5	Sandy Clay Loam	Grandular	Strong	3						
		6.5-9.0	Sandy Clay Loam	Grandular	Moderate	3		6.0-9.5	Sandy Clay Loam	Grandular	Moderate	3
2	3	0.5-2.0	Sandy Loam	Grandular	Strong	2	4	1.0-2.0	Sandy Loam	Grandular	Strong	2
		2.0-6.0	Sandy Clay Loam	Grandular	Moderate	3		2.0-6.0	Sandy Clay Loam	Grandular	Moderate	3
		6.0-9.0	Sandy Clay Loam	Grandular	Moderate	3		6.0-9.0	Sandy Clay Loam	Grandular	Moderate	3

LOT 3

Site	Test Pit	Depth (ft)	USDA Soil Texture	USDA Soil Structure-Shape	Soil Structure Grade	Soil Type	Test Pit	Depth (ft)	USDA Soil Texture	USDA Soil Structure-Shape	Soil Structure Grade	Soil Type
1	1	0.5-3.0	Sandy Clay	Grandular	Strong	4	2	0.5-3.0	Sandy Clay	Grandular	Strong	4
		3.0-7.0	Sandy Clay Loam	Grandular	Strong	3		3.0-7.5	Sandy Clay Loam	Grandular	Strong	3
2	3	0.5-6.0	Sandy Clay Loam	Grandular	Moderate	3	4	0.5-4.5	Sandy Clay Loam	Grandular	Moderate	3
		6.0-8.5	Sandy Clay Loam	Grandular	Strong	3		4.5-9.0	Sandy Clay Loam	Grandular	Strong	3

TABLE 1
Soil Profile Pits
Onsite Wasterwater Treatment System

LOT 1

Site	Test Pit	Depth (ft)	USDA Soil Texture	USDA Soil Structure-Shape	Soil Structure Grade	Soil Type	Test Pit	Depth (ft)	USDA Soil Texture	USDA Soil Structure-Shape	Soil Structure Grade	Soil Type
1 6/19/2018)	1	0.5-8.0	Sandy Loam	Grandular	Moderate	2	2 (06/19/2018)	0.5-4.0	Loamy Sand	-	Single Grain	1
								4.0-6.0	Sandy Loam	Grandular	Moderate	2
			-					6.0-7.5	Sandy Clay Loam	Grandular	Strong	3
2	1	1.0-6.0	Sandy Clay Loam	Grandular	Strong	3	2	0.5-7.5	Sandy Clay Loam	Grandular	Strong	3
		6.9-9.0	Sandy Clay Loam	Grandular	Strong	3						

LOT 2

Site	Test Pit	Depth (ft)	USDA Soil Texture	USDA Soil Structure-Shape	Soil Structure Grade	Soil Type	Test Pit	Depth (ft)	USDA Soil Texture	USDA Soil Structure-Shape	Soil Structure Grade	Soil Type
1	1	0.5-2.0	Sandy Clay Loam	Blocky	Moderate	3	2	0.5-3.0	Sandy Clay	Grandular	Strong	4
		2.0-4.0	Sandy Clay	Grandular	Strong	4		3.0-6.0	Sandy Clay Loam	Grandular	Strong	3
		4.0-6.5	Sandy Clay Loam	Grandular	Strong	3						
		6.5-9.0	Sandy Clay Loam	Grandular	Moderate	3		6.0-9.5	Sandy Clay Loam	Grandular	Moderate	3
2	3	0.5-2.0	Sandy Loam	Grandular	Strong	2	4	1.0-2.0	Sandy Loam	Grandular	Strong	2
		2.0-6.0	Sandy Clay Loam	Grandular	Moderate	3		2.0-6.0	Sandy Clay Loam	Grandular	Moderate	3
		6.0-9.0	Sandy Clay Loam	Grandular	Moderate	3		6.0-9.0	Sandy Clay Loam	Grandular	Moderate	3

LOT 3

Site	Test Pit	Depth (ft)	USDA Soil Texture	USDA Soil Structure-Shape	Soil Structure Grade	Soil Type	Test Pit	Depth (ft)	USDA Soil Texture	USDA Soil Structure-Shape	Soil Structure Grade	Soil Type
1	1	0.5-3.0	Sandy Clay	Grandular	Strong	4	2	0.5-3.0	Sandy Clay	Grandular	Strong	4
		3.0-7.0	Sandy Clay Loam	Grandular	Strong	3		3.0-7.5	Sandy Clay Loam	Grandular	Strong	3
2	3	0.5-6.0	Sandy Clay Loam	Grandular	Moderate	3	4	0.5-4.5	Sandy Clay Loam	Grandular	Moderate	3
		6.0-8.5	Sandy Clay Loam	Grandular	Strong	3		4.5-9.0	Sandy Clay Loam	Grandular	Strong	3

Groundwater was not encountered in any of the testing and there was no groundwater in the Profile pits a week after they were excavated. There is one existing well in the property having Permit 163813A located on the southeast portion of Lot 3 at an elevation of about 7280 ft amsl. The 1992 driller's log records indicate saturated soils were encountered at about 40 feet bgs (7240 ft amsl).

GEOLOGIC HAZARDS

The Project Site was evaluated for geologic hazards that may impact development. Hazards identified in the El Paso County Land Development Code including: Mining, highwater table or polluted water, landfills, fill areas, contamination; airports and major utility facilities, and landslides were evaluated and not identified on the Project Site. Other hazards evaluated and determined to not impact the site includes subsidence and abandoned mines and collapsible soils.

Flooding

The National Flood Hazard map delineated the Property and surrounding area an "area of Minimal Flood Hazard" (FEMA 2018). The drainage report completed by the applicant's engineer has delineated a 100 year flood level to occur at the central portion of Burgess Creek (Figure 1) (Watts, 2019).

Erosion

On June 11, 2013 the Black Forest fire significantly changed the landscape across the Project Site. Once covered with mature ponderosa pines with a canopy covering a significant area of the property. the fire reduced the canopy and trees by more than 80 %. In addition, the pine needles, vegetation, and other organic material that once covered the forest floor is no longer present and the majority of the standing dead trees have been recently cut down. Unimpeded rainfall and snow melt will likely result in surface erosion and scouring of the weathered sandstone bedrock particularly on the steeper slopes which are as much as 26%. The services of a geotechnical consultant should be used to evaluate adequate building setbacks and other methods to reduce potential hazards associated with possible slope instabilities from erosion as arkoses are easily eroded on exposed weathered outcrops.

Expansive Soils

Within the 12 profile pits and foundation boring expansive soils were not encountered. However, variability in the local soils within the Dawson Formation indicate there is a potential for expansive soils, thus additional borings will be necessary prior to foundation excavation and subsequentially re-evaluated upon completion of the foundation excavation and prior to the placement of any framework.

Shallow/Perched Groundwater

Conditions at the Project Site indicate a potential for periodically high moisture conditions and/or frost heave. A study at Tall Pine Subdivision located on the other side of Shoup Road from the Project Site stated there was a spring on the property and a 20-foot boring drilled to assess the soils filled with water (a day after it was drilled) to a little over 8-feet bgs (K&A 2000). The elevations of the base of the boring was at 7480 ft amsl, indicating it was likely perched groundwater. Feasibility of a full walkout basement will need to be evaluated to insure adequate subsurface drainage.

Radon

Radon is a naturally occurring radioactive gas. Radon gas in excess of the Environmental Protection Agency's Action Level of 4 picoCuries per liter is noted to occur in structures throughout Colorado. Testing for radon gas following home construction is needed to determine the in home levels prior to implementing a mitigation system.

MINERAL RESOURCES

Colorado Geological Mineral Resources Derivative Map indicates a low potential to contain economically viable mineral resources at the Project Site.

ONSITE WASTEWATER SYSTEM

NCRS soil survey data gave the Project Site a "very limited" rating based on granular soils with high bottom layer seepage and due to areas of high slope. On Site excavation of profile pits to identify two OSWT locations was conducted on February 7, 2019. The evaluation consisted of the excavation of two profile pits for each of the three proposed lots to depths between 7 ft bgs and 9.5 feet bgs and evaluated for suitability for an in individual non-evaporative septic system leach field (PARR 2018 and 2019). Both locations on Lots 1 and 2 and one location on Lot 3 were determined to be suitable a Standard Conventional, Non-Engineered On-Site Wastewater Treatment system. Site 1 on lot Lot 3 was identified as requiring an engineered OWTS would be required due to encountering USDA Soil Type 4, Sandy Clay, occurring at 6" to 3' interval in

both profile pits (Table 1).The OWTS reports from the Parr Engineering are provided as Attachment 4.

REFERENCES

Colorado Geological Survey. Coloradogeologicalsurvey.org./geologic-hazards/abandoned-mine-lands/maps

Federal Emergency Management Agency (FEMA). December 12, 2018. https://www.fema.gov/national-flood-hazard-layer-nfhl; nfhl Viewer.

Kumar & Associated Inc., September 28, 2002. Geology and Soils Study Proposed Tall Pine Ranch Subdivision.

Mineral Resources. https://cologeosurvey.maps Mineral Resource Potential Derivative Mapping

Natural Resource Conservation Service (NRCS), August 21, 2017. Web Soil Survey. United States Department of Agriculture: https://websoilsurvey.nrcs.usda.gov

JR Engineering LLC, May 5, 2015 Drainage Basin Planning Study for Kettle Creek Basin prepared for High Valley Land Company Inc. http//Coloradosprings.gov/dbps

Parr Engineering and Consulting Inc. June 19, 2018. Subsurface Soil Investigation JN 18.258

Parr Engineering and Consulting Inc. February 07, 2019. Profile Pits Poenitsch Subdivision JN 19.051, 19.052, 19.053

Thorson, Jon P., 2003. *Geologic Map of the Black Forest Quadrangle, El Paso County, Colorado*. Colorado Geological Survey Open -File Report 03-06.

Von Ahlefeldt, Judith Dr., Landscape Ecologist, Site Visit 26, February 2019.

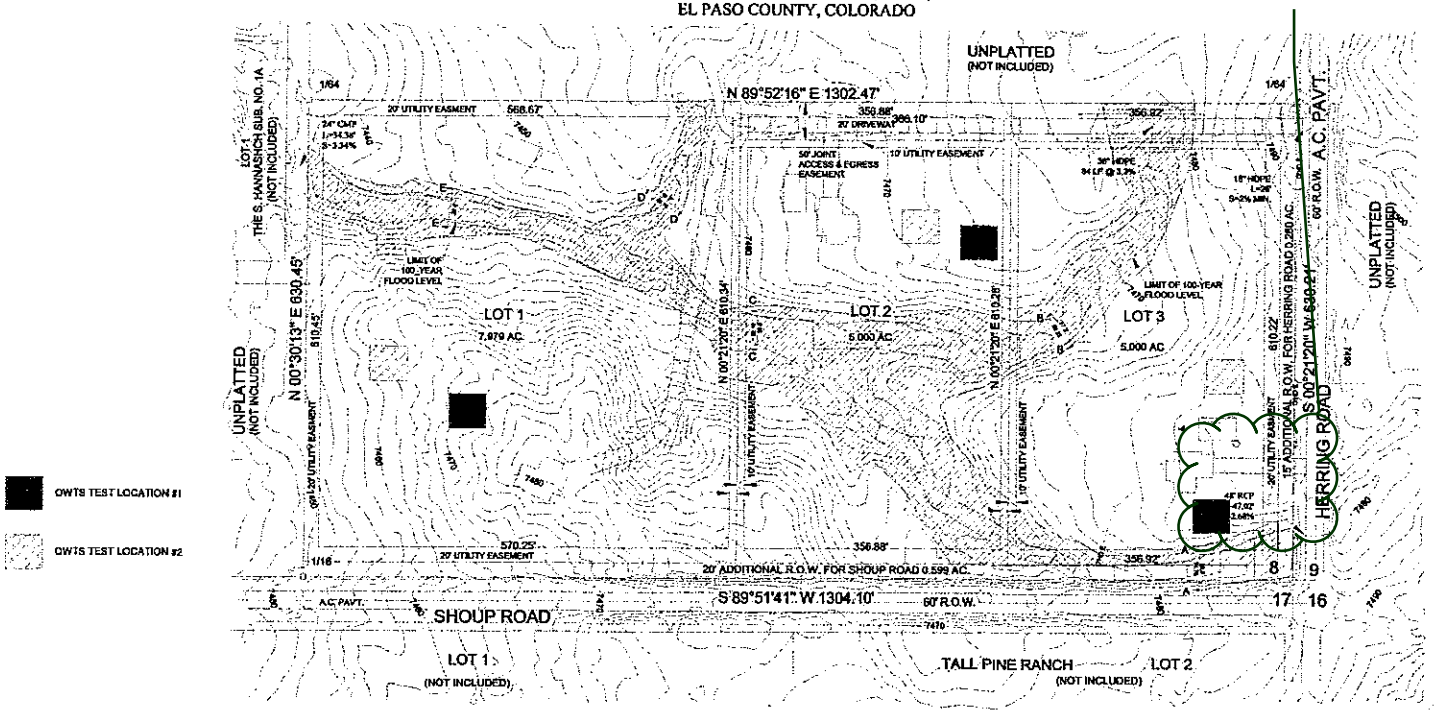
Watts, Oliver Consulting Engineer inc.,January 16, 2019. Preliminary and Final Drainage Plan and Report Poenitsch Subdivision, El Paso County.

Figures
Soils and Geology Report
Poenitsch Subdivision

Direct access to Herring not permitted, access is on the north side of property which puts driveway over one of the owts areas.

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

① 01 - OWTS Locations
1" = 80'-0"

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

OWTS SITE MAP

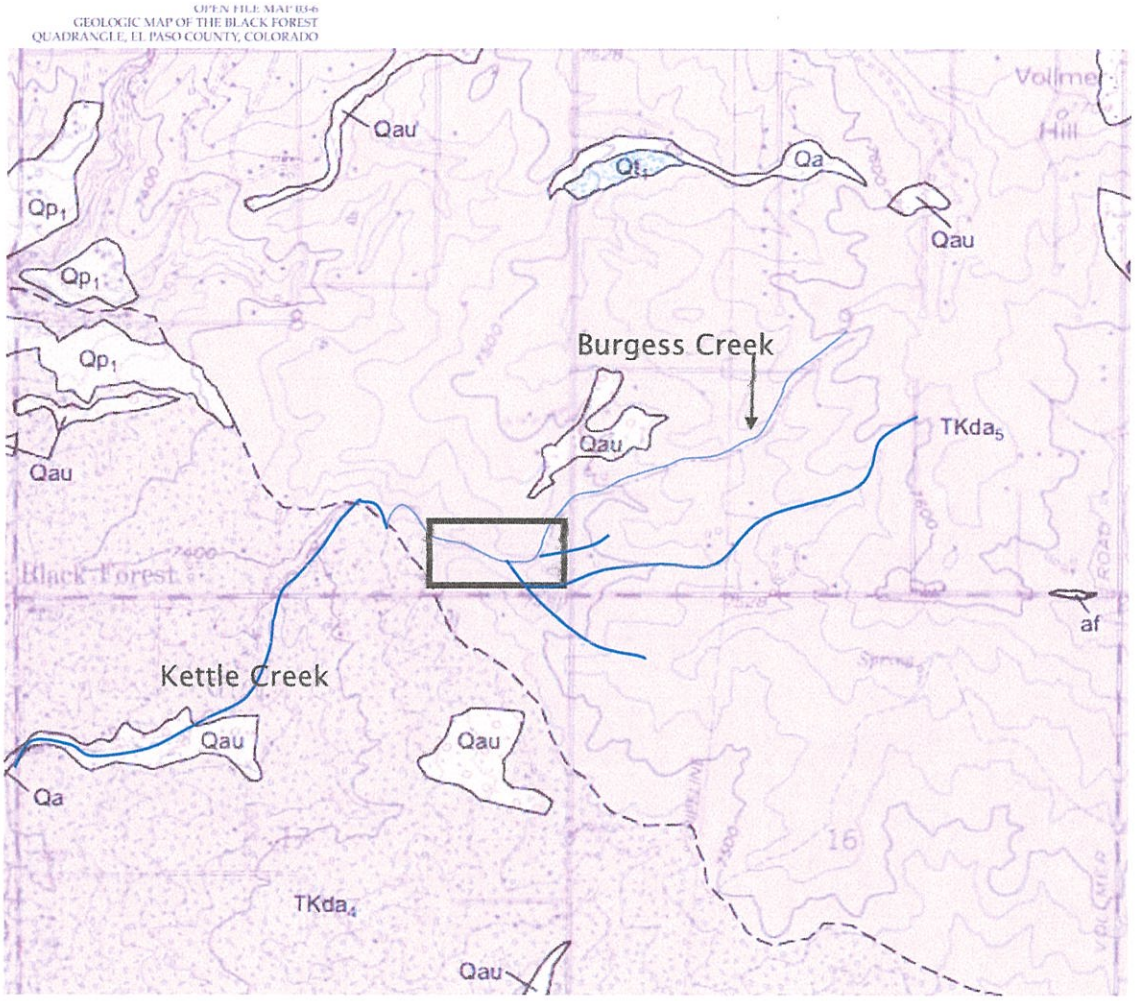
A SUBDIVISION OF THE S1/2, SE1/4, SE1/4 SECTION 8, T.12S., R.65W. OF THE 6TH P.M.
EL PASO COUNTY, COLORADO

S1 OF 01

FIGURE 1

Geology

Poenitsch Subdivision



Geology mapped in 2002
Cartography by Jason Wilson

ALLUVIAL DEPOSITS

Qau — Alluvium, undivided (Holocene and Pleistocene)

BEDROCK DEPOSITS

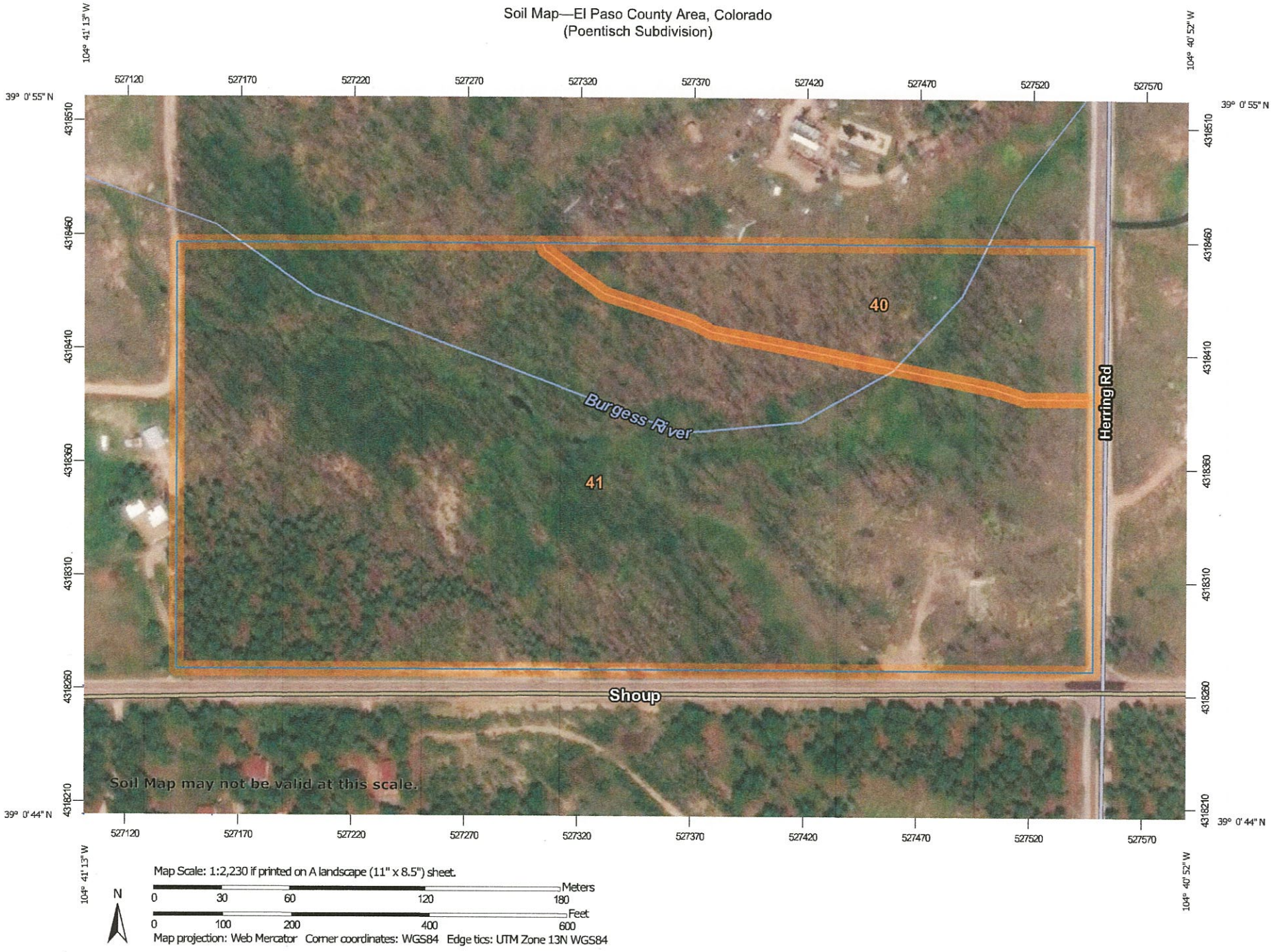
TKda$_5$ — Facies unit five (early to middle? Eocene)

TKda$_4$ — Facies unit four (Paleocene)

FIGURE 2

Attachments
Soils and Geology Report
Poenitsch Subdivision

Soil Map—El Paso County Area, Colorado
(Poentisch Subdivision)



Map Scale: 1:2,230 if printed on A landscape (11" x 8.5") sheet.

N

Meters: 0 30 60 120 180

Feet: 0 100 200 400 600

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

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

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 16, Sep 10, 2018

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

Date(s) aerial images were photographed: Jun 7, 2016—Aug 17, 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.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
40	Kettle gravelly loamy sand, 3 to 8 percent slopes	3.2	15.9%
41	Kettle gravelly loamy sand, 8 to 40 percent slopes	16.6	84.1%
Totals for Area of Interest		19.8	100.0%

El Paso County Area, Colorado

40—Kettle gravelly loamy sand, 3 to 8 percent slopes

Map Unit Setting

National map unit symbol: 368g
Elevation: 7,000 to 7,700 feet
Farmland classification: Not prime farmland

Map Unit Composition

Kettle and similar soils: 85 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Kettle

Setting

Landform: Hills
Landform position (three-dimensional): Side slope
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Sandy alluvium derived from arkose

Typical profile

E - 0 to 16 inches: gravelly loamy sand
Bt - 16 to 40 inches: gravelly sandy loam
C - 40 to 60 inches: extremely gravelly loamy sand

Properties and qualities

Slope: 3 to 8 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Somewhat excessively drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): High (2.00 to 6.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Low (about 3.4 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 4e
Hydrologic Soil Group: B
Hydric soil rating: No

Minor Components

Other soils

Percent of map unit:
Hydric soil rating: No

El Paso County Area, Colorado

41—Kettle gravelly loamy sand, 8 to 40 percent slopes

Map Unit Setting

National map unit symbol: 368h
Elevation: 7,000 to 7,700 feet
Farmland classification: Not prime farmland

Map Unit Composition

Kettle and similar soils: 85 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Kettle

Setting

Landform: Hills
Landform position (three-dimensional): Side slope
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Sandy alluvium derived from arkose

Typical profile

E - 0 to 16 inches: gravelly loamy sand
Bt - 16 to 40 inches: gravelly sandy loam
C - 40 to 60 inches: extremely gravelly loamy sand

Properties and qualities

Slope: 8 to 40 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Somewhat excessively drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): High (2.00 to 6.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Low (about 3.4 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7e
Hydrologic Soil Group: B
Hydric soil rating: No

Minor Components

Other soils

Percent of map unit:
Hydric soil rating: No

Pleasant
Percent of map unit:
Landform: Depressions
Hydric soil rating: Yes

Data Source Information

Soil Survey Area: El Paso County Area, Colorado
Survey Area Data: Version 13, Sep 22, 2015

PARR ENGINEERING
& CONSULTING, INC.

Christopher L. Parr, P.E. Principal
11590 Black Forest Road, Suite 10
Colorado Springs, Colorado 80908
Office: 719-494-0404

Structural Engineering & Consulting
Geotechnical Engineering
Percolation Testing & Septic Design
Inspections & Technical Reports

June 19, 2018

JN 18.258

Project: **Subsurface Soil Investigation**
7680 Shoup Road,
Colorado Springs, CO 80908

Attached is a formal soils report for the project referenced above. Included in this report is a review of the soils investigation and analysis for this location. The purpose of our investigation was to evaluate the conditions of the subsurface soil in order to establish design and construction criteria for the proposed structure(s). A discussion of the results of our investigation with construction recommendations is also included. If revisions to the design of the proposed structure take place, it is advised that our firm be contacted immediately to review the changes and to determine if the revised plans are acceptable.

If you have any questions concerning this report, please feel free to contact our office at 719-494-0404.

Sincerely,

COLORADO LICENSED DANIEL J. MIZICKO 52484 06-19-18 PROFESSIONAL ENGINEER

Daniel J. Mizicko P.E.

Table of Contents

Purpose and Scope of Study

This report presents the results of a subsurface exploration program to provide foundation recommendations for the proposed structure to be located on the parcel of land referenced above.

The exploration program was conducted in order to obtain information regarding the subsurface conditions. Soil samples were retrieved from a soil boring(s) and analyzed to provide data on the classification and engineering characteristics of the on-site soils. The results of the field and laboratory investigation are presented herein.

This report has been prepared to summarize the data obtained and to present our conclusion and recommendations based on the proposed construction and the subsurface conditions encountered. Design criteria and a discussion of the geotechnical engineering considerations related to the construction of the proposed structure are included.

Proposed Construction

Based on the information provided, the proposed construction will consist of a wood framed, single family residential structure supported on a reinforced concrete foundation system. We anticipate maximum structural loadings of 3000 pounds per lineal foot for distributive wall loads and 15 kips for concentrated column loads.

If the project features or loadings differ significantly from those above, our firm should be contacted to reevaluate the recommendations contained herein.

Field Investigation

The field investigation for this project was conducted on June 11, 2018.

A 4" diameter exploratory boring was drilled to approximately 12 feet below grade in the area of the proposed construction. Standard penetration testing (SPT) was conducted during the drilling process.

The SPT measures resistance to penetration of a standard split-spoon sampler that is driven by a 140 lbm hammer dropped from a height of 30 in. The number of blows required to drive the sampler a distance of 12 in. after an initial penetration of 6 in. is referred to as the N-value or standard penetration resistance in blows per foot.

The representative samples obtained from the SPT split-spoon sampler are saved for subsequent laboratory examination and testing.

Laboratory Investigation

The field samples obtained were analyzed and classified in the laboratory. Laboratory testing included standard property tests, natural water content, Atterberg limits and Expansion Index tests.

The laboratory testing was conducted in general accordance with ASTM specifications.

Subsurface Conditions

The following tables summarize information obtained about the subsurface conditions encountered:

Soil Classification	Sample Depth	Gravel	Sand	Fines	LL[1]	PI[2]	EI[3]	Expansive Potential
Clayey Sand (SC)	10 ft.	1.5%	52.9%	45.6%	32	20	**26**	**Low**

LL – Liquid Limit [1] PI – Plasticity Index [2] EI – Expansion Index [3] NP[4] – Non Plastic

Soil Classification	Sample Depth	SPT N-Value	Relative Density	Moisture Content	Clay Content	Expansive Index	Expansion Potential
Clayey Sand (SC)	5 ft.	Grab	Very Dense	6.9%	Medium	N/A	Low
Clayey Sand (SC)	10 ft.	50+	Very Dense	7.0%	Medium	**26**	**Low**
Clayey Sand (SC)	12 ft.	Grab	Very Dense	9.2%	Medium	N/A	N/A

Ground water was not encountered during the time of our investigation. This may be due to lack of moisture received in the area and subsequently may rise due to seasonal changes, degree of irrigation and/or other factors.

Foundation Recommendations

Considering the subsurface conditions encountered on-site and the nature of the proposed construction, we recommend that the proposed structure be founded on a reinforced concrete shallow foundation system with footings placed on native undisturbed soil. **Foundation elements shall be designed for a maximum allowable bearing pressure of 3000 lb/ft^2.**

Existing topsoil, silt or deleterious materials if encountered below the foundation must be removed.

Foundation Walls

Foundation walls which are laterally supported and can be expected to undergo a minimal amount of deflection ("at-rest condition") may be designed for a lateral earth pressure computed on the basis of an **equivalent fluid unit weight of 55 pcf for onsite material.**

All foundation walls should be designed for appropriate hydrostatic and surcharge pressures such as adjacent buildings, traffic and construction materials and equipment. The pressures recommended above assume a relatively horizontal backfill surface.

The onsite excavated materials may be used as foundation wall backfill. Backfill shall be carefully placed in uniform lifts and properly compacted near optimum moisture content. Care should be taken

not to over compact the backfill since this could cause excessive lateral pressure on the walls. Some settlement of deep foundation wall backfill will occur even if the material is placed correctly.

Open Excavation Observation

It is assumed that the results in this report are representative of the subsurface conditions throughout the site. However, variations across the site are a possibility and will not become evident until the foundation excavation is complete.

A representative of Parr Engineering & Consulting shall be contacted to inspect the completed foundation excavation prior to the placement of any formwork. Please contact our office a minimum of 24 hours prior to the requested site visit. This report may be rendered null and void if the open excavation observation is not completed.

Floor System Recommendations

Floor Slabs should be provided with control joints to reduce damage that may occur as a result of shrinkage cracking. We suggest the spacing of the joints to be no more than 15 feet centers. The actual joint spacing should be based on the slab reinforcing design.

Surface Drainage

The following drainage precautions should be observed during the construction and maintained at all times after the residence has been completed.

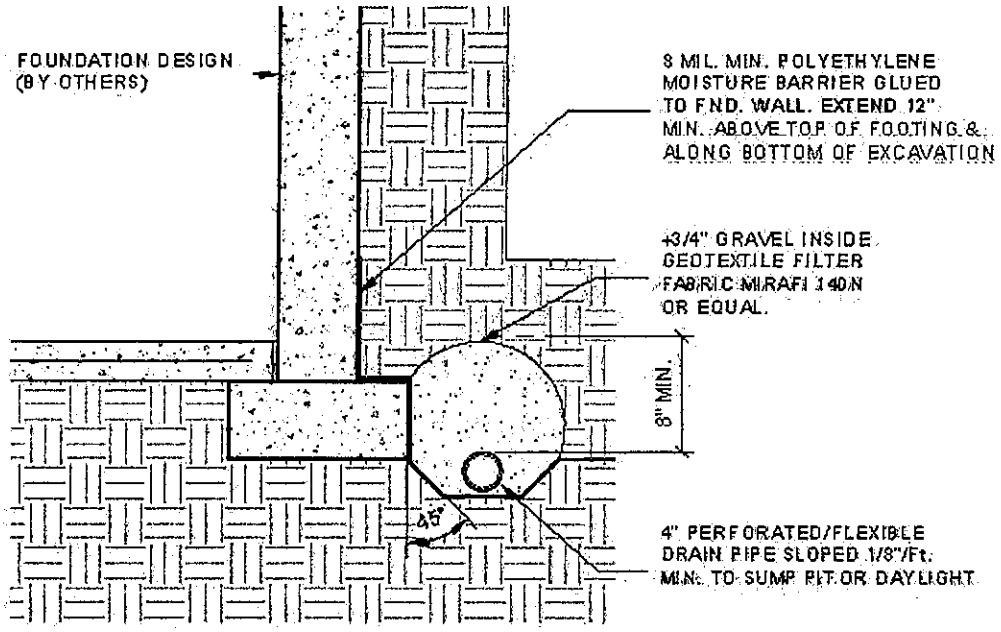
1) Excessive wetting and drying of the foundation excavations and under slab areas should be avoided during construction.
2) The ground surface surrounding the exterior of the building should be sloped to drain away from the foundation in all directions. We recommend a minimum slope of 12 inches in the first 10 feet.
3) Roof downspouts and drains should discharge well beyond the limits of the backfill.
4) Landscaping which requires excessive watering should be located at least 10 feet from the house.
5) Plastic membranes should not be used to cover the ground surface adjacent to the foundation walls.

Subsurface Drainage

A subsurface foundation drain or equivalent protection measure is required around the perimeter of all habitable or storage spaces located below grade (including crawlspace areas).

A subsurface drain is designed to redirect moisture around and away from the foundation system. However, it should be noted that a properly functioning drain does not completely eliminate the potential for foundation movement if exposed to subsurface moisture.

Subsurface Drainage – Continued



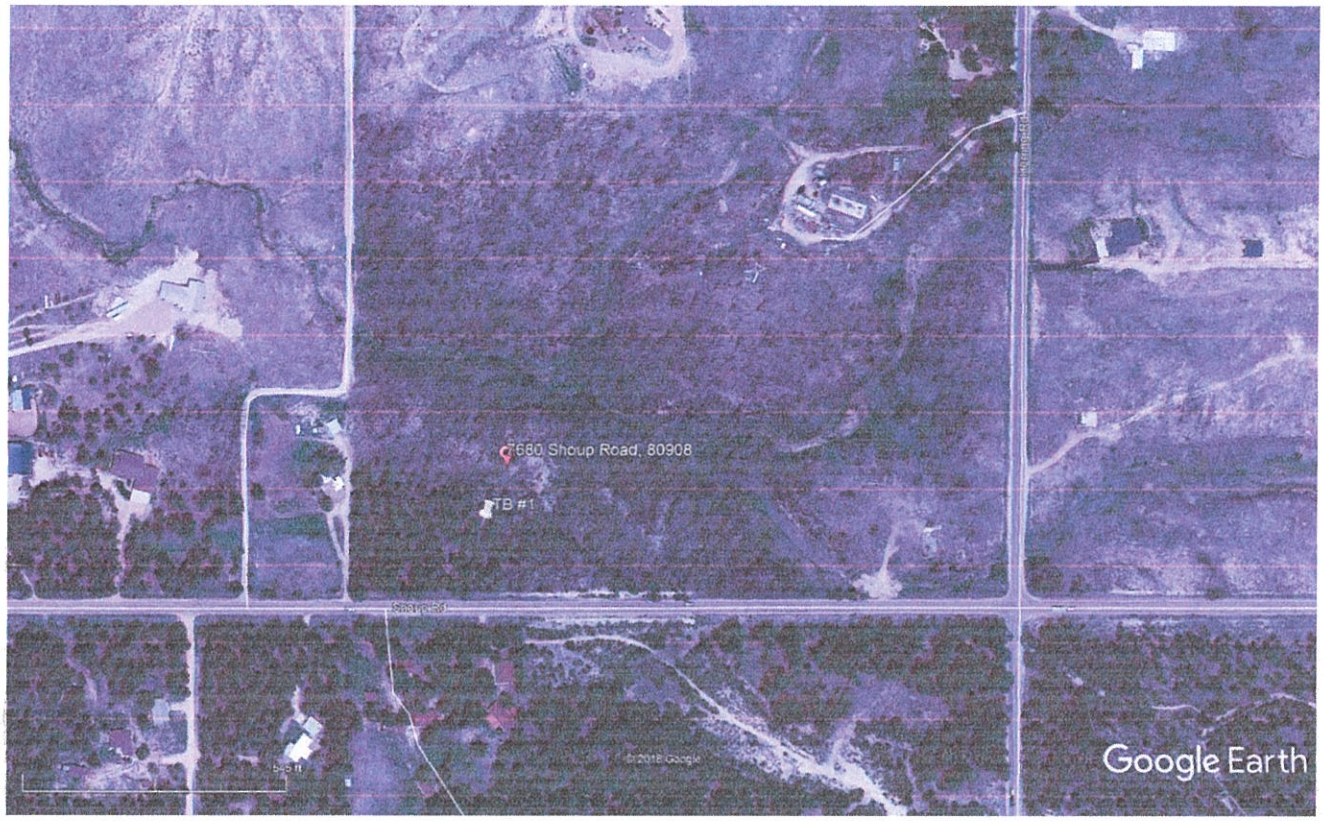
Limitations

This report has been prepared with generally accepted soil and foundation engineering practices in this area for use by the client for design purposes. The conclusions and recommendations presented are based on data obtained from the exploratory boring. The nature and extent of variation from the boring may not become evident until excavation is performed. If during construction, soil, rock and groundwater conditions appear to be different from those described herein, our office should be advised immediately so that reevaluation of the recommendations may be made.

Although all laboratory procedures were performed under optimal conditions, it should be noted that precautions should be taken to accommodate for certain sources of failure such as inconsistencies in the properties/characteristics of the on-site soil, variations in groundwater levels due to seasonal changes, etc.

This report DOES NOT address the potential for geologic hazards or constraints (i.e., slope stability, landslides). It must be emphasized that such hazards and constraints are outside the scope of this investigation and must be investigated independently.

Site Map



Laboratory Analysis – Sieve Analysis

SOIL CLASSIFICATION

Location of Site	7680 Shoup Road, 80908	Tested By:	H.Lacerda
		Date Tested	05/14/18
Legal Description	N/A		
		Collected By	J.Dumke
Job Number	18.258	Date Collected	06/11/18

SITE INVESTIGATION

Test Hole Depth	12'	Groundwater Table	N/A
Surface Layer Thickness	-	Volume of Soil Sample	1/2 cu.ft.
Soil System	Uniform	Visual Moisture Observation	Moist

Layer	Soil Type/Depth
Surface	-
No. 1	SC/0 - 12'-0"
No. 2	-
No. 3	-

Critical Layer	No. 1
Coloration	Tan
Gravel	Trace
Organic Content	Little-None

SIEVE ANALYSIS

Test Bore #:	TB #1
Layer	No. 1
Depth of Sample	10'

Bulk	Wet Weight of Soil (g)	454.8
	Dry Weight of Soil (g)	424.9
	Natural Moisture Content	7.0%

Sieve #	Thickness (mm)	Mass Ret. (g)	% Ret.	%Pass	
4	4.750	6.3	1.5%	98.5%	Gravel
10	2.000	53.7	12.6%	85.9%	Sand
40	0.425	82.7	19.5%	66.4%	
60	0.250	26.8	6.3%	60.1%	
100	0.150	27.8	6.5%	53.6%	
200	0.075	33.8	8.0%	45.6%	
Pan	0.000	193.8	45.6%	0.0%	Fines
Pan	0.000		0.0%	0.0%	Organic
Totals		424.8	100.0%		

% Gravel	1.5%	Retained on #200
% Sand	52.9%	
% Fines	45.6%	Passes #200
% Organic	0.0%	
Check	100.0%	

$C_u = D_{60}/D_{10} =$ N/A

$C_c = D_{30}^2/(D_{10})(D_{60}) =$ N/A

Laboratory Analysis – Atterberg Limits

ATTERBERG LIMITS

LIQUID LIMIT - LL

	Tin Mass(g)						
Cup #	Empty	Wet Soil	Dry Soil	# Drops	Water Mass (g)	Solids Mass (g)	Water Content
1	13.6	56.7	45.5	12	11.2	31.9	0.35
2	13.5	48.9	39.2	5	9.7	25.7	0.38
3	13.5	62.6	50.5	19	12.1	37.1	0.33

Liquid Limit (from plot)	0.32

PLASTIC LIMIT - PL

	Tin Mass(g)					
Cup #	Empty	Wet Soil	Dry Soil	Water Mass (g)	Solids Mass (g)	Plastic Limit (PL)
1	13.6	23.6	22.6	1.03	8.97	0.11
2	13.5	25.5	24.2	1.30	10.71	0.12
					Average	0.12

Plastic Limit	0.12

Note: Liquid Limit, Plastic Limit and Plasticity Index values have been rounded to nearest whole number when expressing as a percentage.

PLASTICITY INDEX - PI

Plasticity Index = Liquid Limit - Plastic Limit

Plasticity Index	0.20

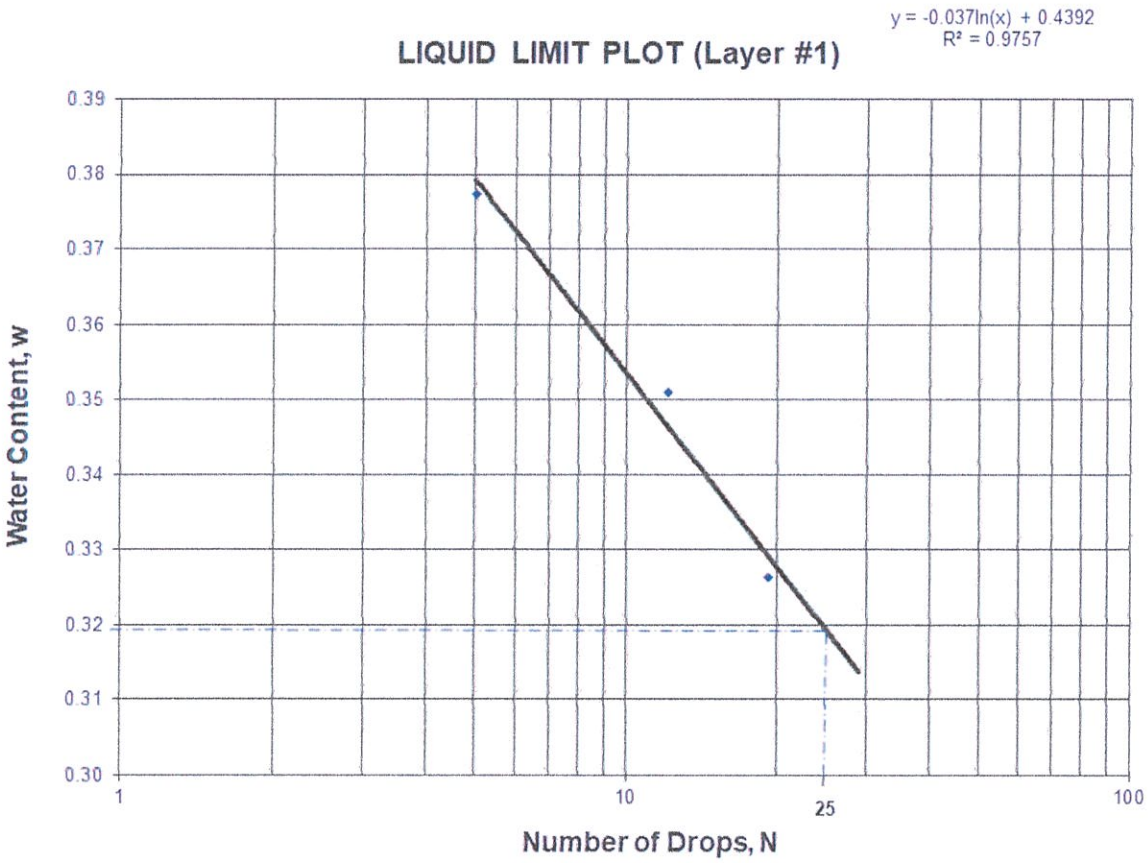
MOISTURE CONTENT

	Tin Mass(g)					
Depth	Empty	Wet Soil	Dry Soil	Water Mass (g)	Solids Mass (g)	Water Content
5'-0"	13.6	66.4	63.0	3.4	49.5	6.9%
15'-0"	13.5	51.2	48.0	3.2	34.5	9.2%

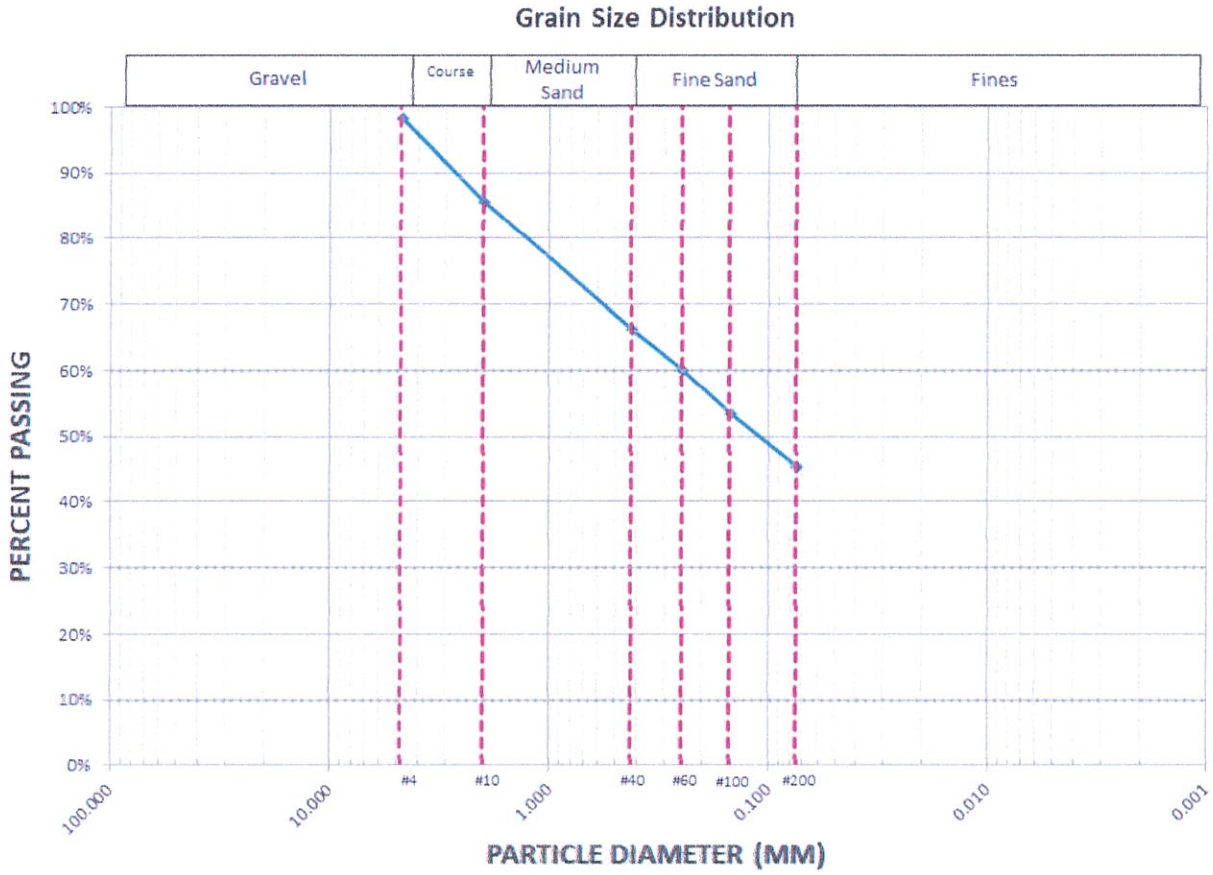
CLASSIFICATION

Plasticity	High Plasticity
Group Symbol	SC
Group Name	Clayey Sand

Laboratory Analysis – Liquid Limit Plot



Laboratory Analysis – Grain Size Distribution



Drill Log – Test Bore #1

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

BORING LOG

Job Number:	18.258
Date Drilled:	06/11/18
Boring #:	TB #1

Driller:	J.Dumke	Total Depth:	12'-0"
Logged By:	J.Dumke	Groundwater Elevation:	N/A
Method:	Boring	Latitude:	39° 0'48.18"N
Auger & Size:	4" Solid Stem	Longitude:	104°41'7.85"W

Depth (ft.)	Sample Interval	SPT Blows/12"	7680 Shoup Road, 80908	Additional Notes
			Sand, fine grained, Clay, Trace gravel, Very dense, Moist, Tan, (SC)	
5		Grab		
10		50+		
		Grab		
			Total Depth= 12'-0"	
15				
20				
25				

Attachment 4
Engineer's Soils Evaluation for
OnSite Wastewater Treatment Systems
Soils and Geology Report
Poenitsch Subdivision

PARR ENGINEERING & CONSULTING, INC.

Christopher L. Parr, P.E. Principal
11590 Black Forest Road, Suite 10, Colorado Springs, CO 80908
Office: 719-494-0404 Cell: 719-659-1313

PROFILE PIT EVALUATION

Date: February 13, 2019 **Job:** JN: 19.050

Site Location: Lot 1, Poenitsch Subdivision, 2nd Location, 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.*

COLORADO LICENSED DANIEL JOSEPH MIZICKO 52484 02-13-19 PROFESSIONAL ENGINEER

Profile Pit	Yes
Perc Test	-

Date: (Profile Eval) February 7, 2019
Excavator Contractor
Evaluator R.J. & J.D.

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	
Latitude:	**39° 0'50.01"N**
Longitude:	**104°41'9.30"W**
Layer	Soil Type & LTAR
0 - 1'-0"	Topsoil
1'-0" - 6'-0"	**Type 3 (LTAR=0.35)**
6'-0" - 9'-0"	**Type 3 (LTAR=0.35)**
-	-

Profile Pit 2	
Latitude:	**39° 0'49.99"N**
Longitude:	**104°41'9.45"W**
Layer	Soil Type & LTAR
0 - 0'-6"	Topsoil
0'-6" - 7'-6"	**Type 3 (LTAR=0.35)**
-	-
-	-

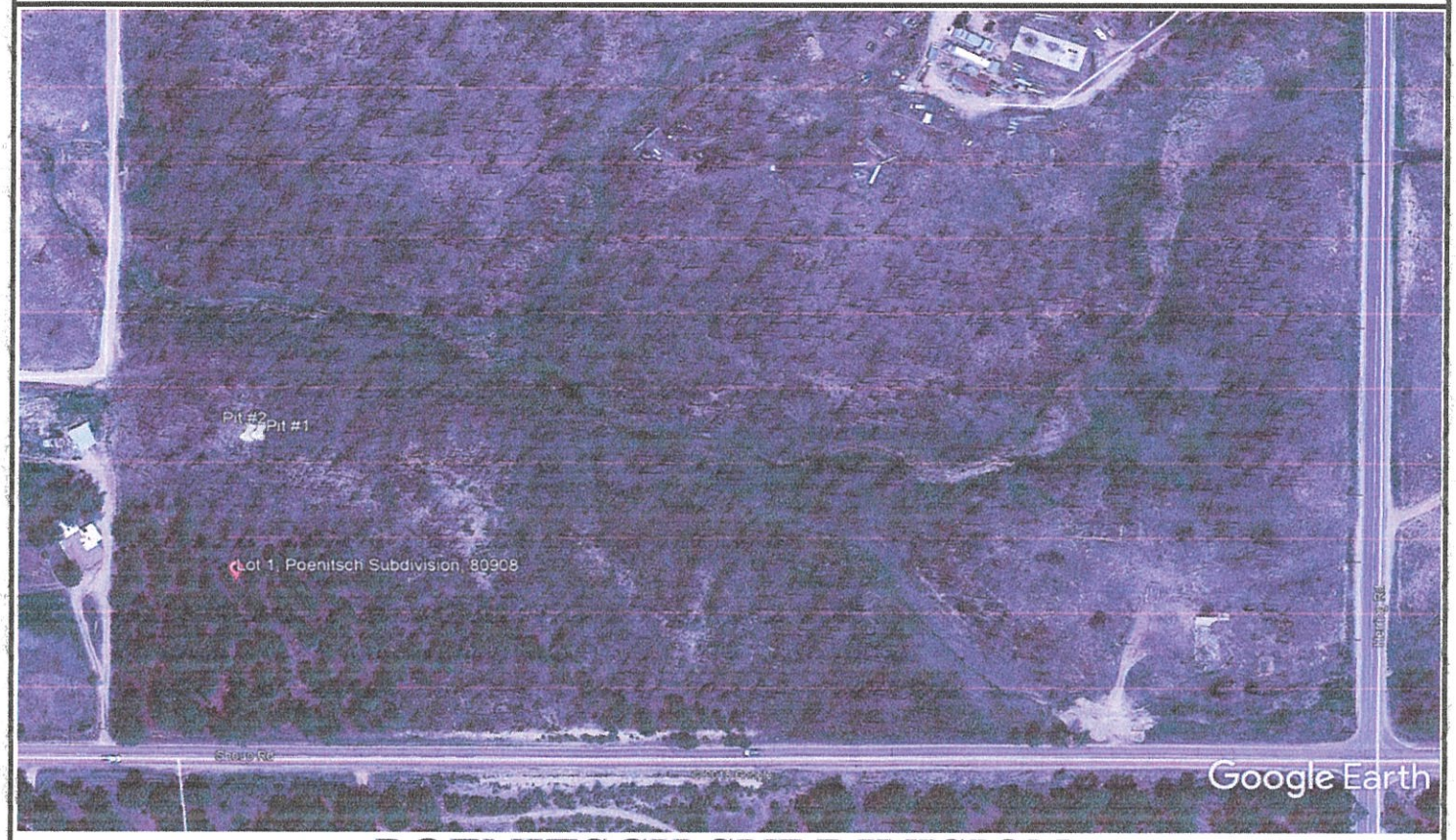
			Location	
			Latitude:	Longitude:
Perc #1	N/A	Min./In.	-	-
Perc #2	N/A	Min./In.	-	-
Perc #3	N/A	Min./In.	-	-
	Average: N/A	Min./In.		

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

PARR ENGINEERING & CONSULTING, INC.

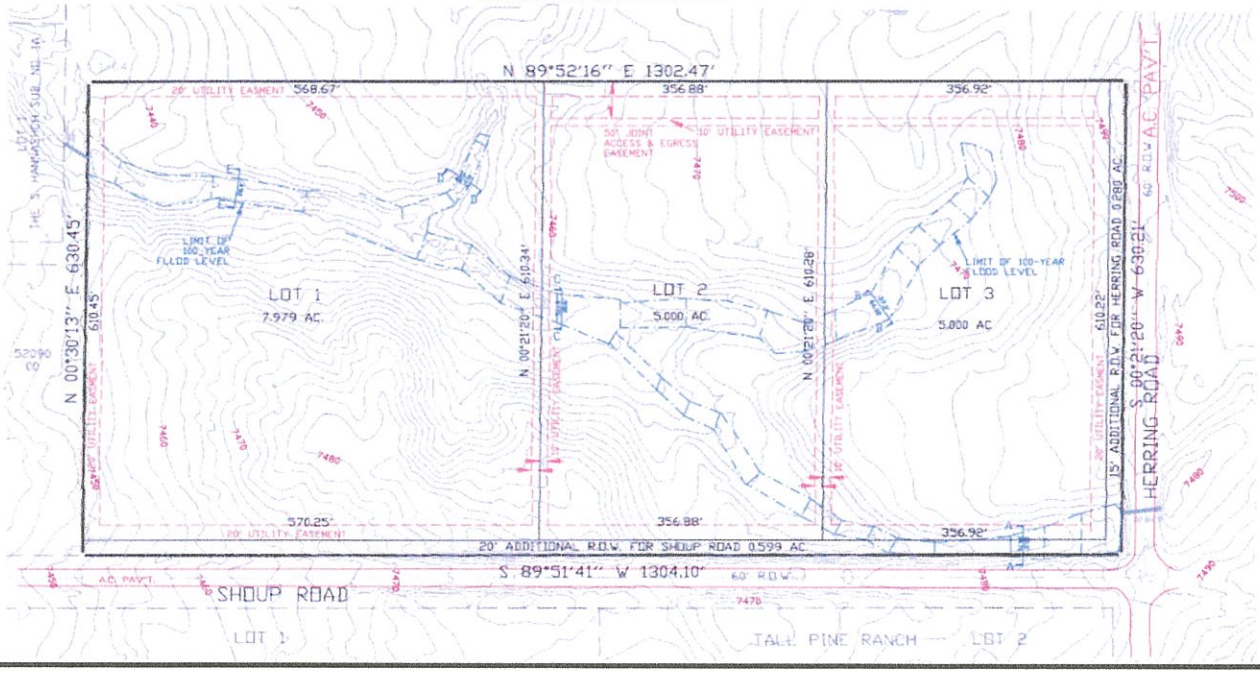
Christopher L. Parr, P.E. Principal
11590 Black Forest Road, Suite 10, Colorado Springs, CO 80908
Office: 719-494-0404 Cell: 719-659-1313

Google Site Map



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



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

Profile Pit - Log

Job Number:	19.050
Date Evaluated:	02/07/19
Profile Pit#:	Pit #1

Excavator:	Contractor	Total Depth:	9'-0"
Logged By:	R.J. & J.D.	STA Slope & Direction:	N @ 15%
Method:	Profile Pit	Latitude:	39° 0'50.01"N
Auger & Size:	Mini Excavator	Longitude:	104°41'9.30"W

Lot 1, Poenitsch Subdivision, 2nd Location, 80908

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 Clay Loam	Granular	Strong	No	**Type 3 (LTAR = 0.35) Treatment Level 1**	<35%	2.5Y 7/2 (Moist)
4								
6								
8		Sandy Clay Loam	Granular	Strong	No	**Type 3 (LTAR = 0.35) Treatment Level 1**	<35%	2.5Y 6/4 (Moist)
10		**Total Depth= 9'-0"**						

Evidence of Groundwater:	**Not Reached**
Depth to Bedrock:	**Not Reached**

Additional Notes:

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

Profile Pit - Log

Job Number:	19.050
Date Evaluated:	02/07/19
Profile Pit#:	Pit #2

Excavator:	Contractor	Total Depth:	7'-6"
Logged By:	R.J. & J.D.	STA Slope & Direction:	N 70° W @ 10%
Method:	Profile Pit	Latitude:	39° 0'49.99"N
Auger & Size:	Mini Excavator	Longitude:	104°41'9.45"W

Lot 1, Poenitsch Subdivision, 2nd Location, 80908

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 Clay Loam	Granular	Strong	No	**Type 3 (LTAR = 0.35) Treatment Level 1**	<35%	2.5Y 7/2 (Moist)
4								
6								
8		**Total Depth= 7'-6"**						
10								

Evidence of Groundwater:	**Not Reached**
Depth to Bedrock:	**Not Reached**

Additional Notes:

PARR ENGINEERING
& CONSULTING, INC.

Christopher L. Parr, P.E. Principal
11590 Black Forest Road, Suite 10, Colorado Springs, CO 80908
Office: 719-494-0404 Cell: 719-659-1313

PROFILE PIT EVALUATION REPORT - General Notes, Regulations & Limitations

General Notes:

This report presents the data obtained pertaining to a Profile Pit Evaluation conducted at the locations indicated on the included Site Map. The purpose of this investigation was to evaluate subsurface soil-profile(s) in the area of the proposed Soil Treatment Area (STA) and to establish design criteria for an On-Site Wastewater Treatment system (OWTS).

Board of Health Regulations & Regulation No. 43 - Engineered Systems:

At proposed soil treatment area locations where any of the following conditions are present, the system shall be designed by a professional engineer and approved by the Health Department:

1. For soil types 3A, 4, 4A, 5, R-0, R-1 and R-2, and Treatment Levels TL2, TL2N, TL3, and TL3N as specified in Tables 10-1 and 10-1A of this regulation;

2. The maximum seasonal ground water surface is less that four feet below the bottom of the proposed absorption system.

3. A restrictive layer exists less that four feet below the bottom of the proposed absorption system

4. The ground slope is in excess of thirty percent

5. Pressure distribution is used.

Limitations:

The data presented in this report is specific to the locations of the Profile Pit locations evaluated. It must be understood and accepted that subsurface conditions can, and often do vary across any given area. These variations may not become evident until the time of system installation. If the subsurface conditions are discovered to vary anywhere across the system footprint, Parr Engineering AND the Design Engineer must be notified immediately for further evaluation. If another individual or party relies on this report, they shall indemnify and hold Parr Engineering & Consulting, Inc. harmless for any damages, losses, or expenses that may incur as a result of its use, except as allowed by law.

PARR ENGINEERING & CONSULTING, INC.

Christopher L. Parr, P.E. Principal
11590 Black Forest Road, Suite 10, Colorado Springs, CO 80908
Office: 719-494-0404 Cell: 719-659-1313

PROFILE PIT EVALUATION

Date: February 13, 2019 **Job:** JN: 19.051

Site Location: Lot 2, Poenitsch Subdivision, 1st Location, 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.

COLORADO LICENSED JARED ROBERT DUMKE 54410 PROFESSIONAL ENGINEER 02/13/19

Profile Pit	Yes
Perc Test	-

Date: (Profile Eval) February 7, 2019
Excavator Contractor
Evaluator R.J. & J.D.

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: Jared R. Dumke, P.E.

Profile Pit 1	
Latitude:	39° 0'51.55"N
Longitude:	104°40'59.72"W
Layer	Soil Type & LTAR
0 - 0'-6"	Topsoil
0'-6" - 2'-0"	Type 3 (LTAR=0.35)
2'-0" - 4'-0"	Type 4 (LTAR=0.20)
4'-0" - 6'-6"	Type 3 (LTAR=0.35)
6'-6" - 9'-0"	Type 3 (LTAR=0.35)

Profile Pit 2	
Latitude:	39° 0'51.56"N
Longitude:	104°40'59.92"W
Layer	Soil Type & LTAR
0 - 0'-6"	Topsoil
0'-6" - 3'-0"	Type 4 (LTAR=0.20)
3'-0" - 6'-0"	Type 3 (LTAR=0.35)
6'-0" - 9'-6"	Type 3 (LTAR=0.35)

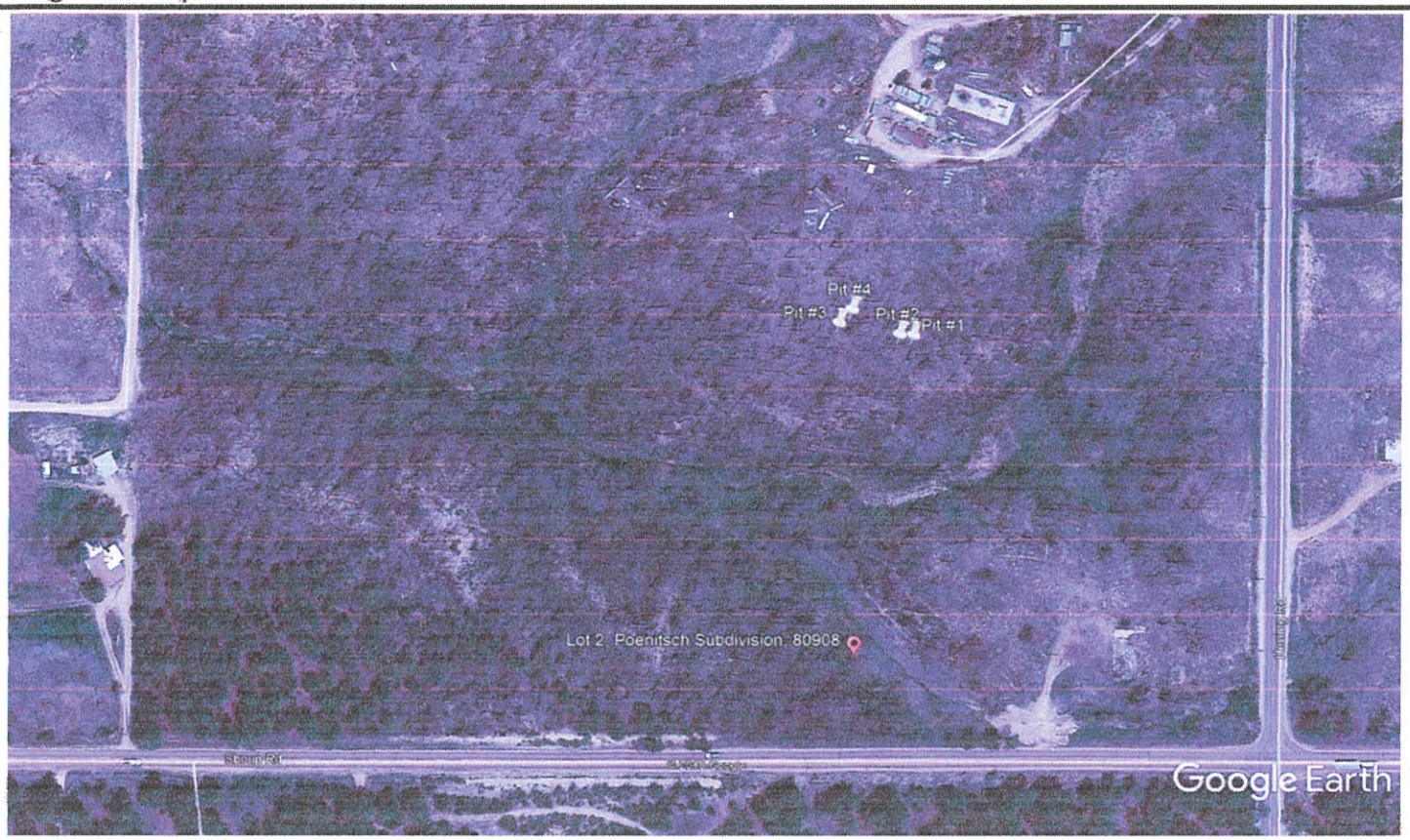
			Location	
			Latitude:	Longitude:
Perc #1	N/A	Min./In.	-	-
Perc #2	N/A	Min./In.	-	-
Perc #3	N/A	Min./In.	-	-
Average:	N/A	Min./In.		

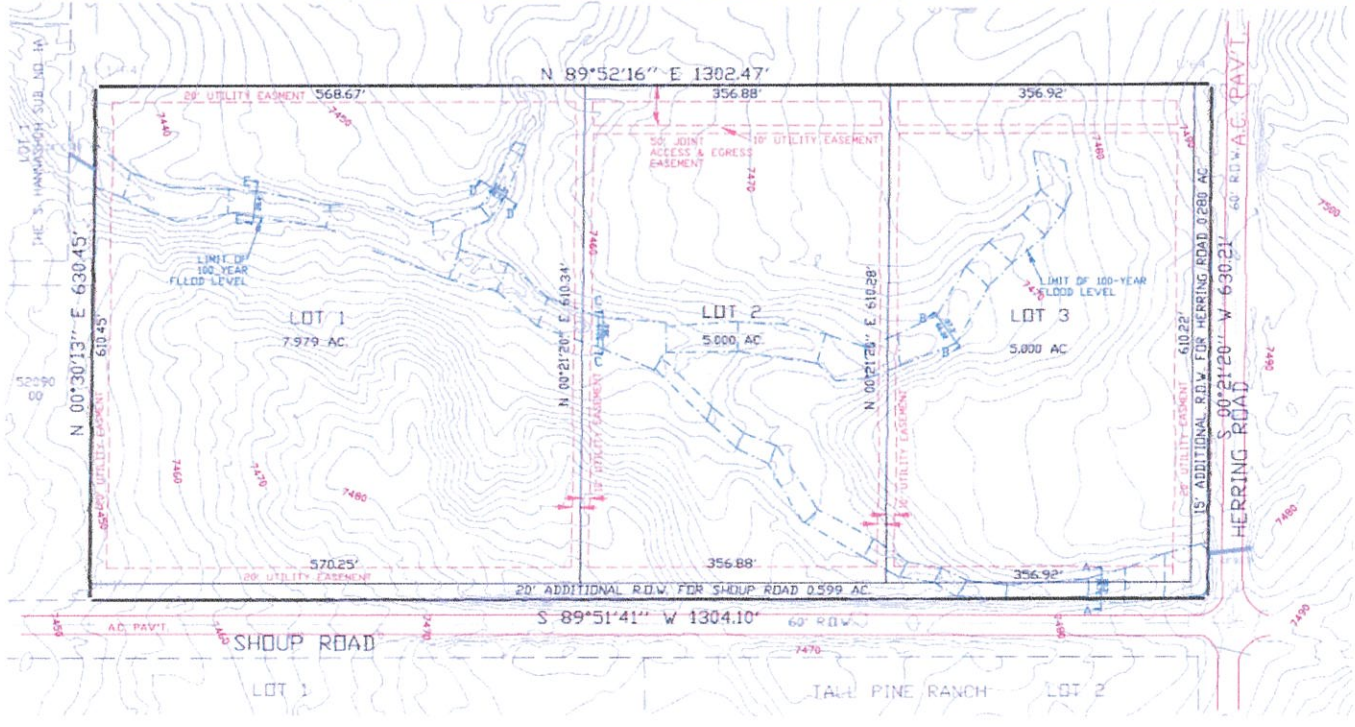
Recommendations: (1) An Engineered On-Site Wastewater Treatment system (OWTS) is required for this location due to:
(a) Soil Type 4 identified in the treatment zone of Profile Pit #1 & Profile Pit #2.

PARR ENGINEERING & CONSULTING, INC.

Christopher L. Parr, P.E. Principal
11590 Black Forest Road, Suite 10, Colorado Springs, CO 80908
Office: 719-494-0404 Cell: 719-659-1313

Google Site Map





Parr Engineering & Consulting, Inc. 11590 Black Forest Road, Suite 10 Colorado Springs, Colorado 80908 Phone: 719-494-0404	**Profile Pit - Log**	
	Job Number:	19.051
	Date Evaluated:	02/07/19
	Profile Pit#:	Pit #1

Excavator:	Contractor	Total Depth:	9'-0"
Logged By:	R.J. & J.D.	STA Slope & Direction:	N 80° W @ 3%
Method:	Profile Pit	Latitude:	39° 0'51.55"N
Auger & Size:	Mini Excavator	Longitude:	104°40'59.72"W

Lot 2, Poenitsch Subdivision, 1st Location, 80908

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 Clay Loam	Blocky	Moderate	No	**Type 3 (LTAR = 0.35)**	<35%	10YR 5/4 (Moist)
4		Sandy Clay	Granular	Strong	No	**Type 4 (LTAR = 0.20) Treatment Level 1**	<35%	10YR 6/6 (Moist)
6		Sandy Clay Loam	Granular	Strong	No	**Type 3 (LTAR = 0.35) Treatment Level 1**	<35%	2.5Y 6/4 (Moist)
8		Sandy Clay Loam	Granular	Moderate	No	**Type 3 (LTAR = 0.35) Treatment Level 1**	<35%	2.5Y 6/3 (Moist)
10		**Total Depth= 9'-0"**						

Evidence of Groundwater:	**Not Reached**
Depth to Bedrock:	**Not Reached**

Additional Notes:

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

Profile Pit - Log

Job Number:	19.051
Date Evaluated:	02/07/19
Profile Pit#:	Pit #2

Excavator:	Contractor	Total Depth:	9'-6"
Logged By:	R.J. & J.D.	STA Slope & Direction:	N 80° W @ 3%
Method:	Profile Pit	Latitude:	39° 0'51.56"N
Auger & Size:	Mini Excavator	Longitude:	104°40'59.92"W

Lot 2, Poenitsch Subdivision, 1st Location, 80908

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 Clay	Granular	Strong	No	**Type 4 (LTAR = 0.20) Treatment Level 1**	<35%	10YR 6/6 (Moist)
4		Sandy Clay Loam	Granular	Strong	No	**Type 3 (LTAR = 0.35) Treatment Level 1**	<35%	2.5Y 6/4 (Moist)
6								
8		Sandy Clay Loam	Granular	Moderate	No	**Type 3 (LTAR = 0.35) Treatment Level 1**	<35%	2.5Y 6/3 (Moist)
10		**Total Depth= 9'-6"**						

Evidence of Groundwater:	**Not Reached**
Depth to Bedrock:	**Not Reached**

Additional Notes:

PARR ENGINEERING & CONSULTING, INC.

Christopher L. Parr, P.E. Principal
11590 Black Forest Road, Suite 10, Colorado Springs, CO 80908
Office: 719-494-0404 Cell: 719-659-1313

PROFILE PIT EVALUATION

Date: February 13, 2019 **Job:** JN: 19.051

Site Location: Lot 2, Poenitsch Subdivision, 2nd Location, 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.

COLORADO LICENSED JARED R. DUMKE 54410 PROFESSIONAL ENGINEER 02/13/19

Profile Pit	Yes
Perc Test	-

Date: (Profile Eval) February 7, 2019
Excavator Contractor
Evaluator R.J. & J.D.

Depth to Groundwater (permanent or seasonal) Pit #3: Not Reached
Depth to Groundwater (permanent or seasonal) Pit #4: Not Reached

Depth to Bedrock - Pit #3: Not Reached
Depth to Bedrock - Pit #4: Not Reached

Other Terrain Features or Soil Conditions: See Attached Site Map

Endorsement: Jared R. Dumke, P.E.

Profile Pit 3	
Latitude:	39° 0'51.70"N
Longitude:	104°41'0.81"W
Layer	Soil Type & LTAR
0 - 0'-6"	Topsoil
0'-6" - 2'-0"	Type 2 (LTAR=0.60)
2'-0" - 6'-0"	Type 3 (LTAR=0.35)
6'-0" - 9'-6"	Type 3 (LTAR=0.35)

Profile Pit 4	
Latitude:	39° 0'51.86"N
Longitude:	104°41'0.62"W
Layer	Soil Type & LTAR
0 - 1'-0"	Topsoil
1'-0" - 2'-0"	Type 2 (LTAR=0.60)
2'-0" - 6'-0"	Type 3 (LTAR=0.35)
6'-0" - 9'-0"	Type 3 (LTAR=0.35)

			Location	
			Latitude:	Longitude:
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 location.

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

Profile Pit - Log

Job Number:	19.051
Date Evaluated:	02/07/19
Profile Pit#:	Pit #3

Excavator:	Contractor	Total Depth:	9'-6"
Logged By:	R.J. & J.D.	STA Slope & Direction:	N 80° W @ 3%
Method:	Profile Pit	Latitude:	39° 0'51.70"N
Auger & Size:	Mini Excavator	Longitude:	104°41'0.81"W

Lot 2, Poenitsch Subdivision, 2nd Location, 80908

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	Strong	No	**Type 2 (LTAR = 0.60)**	<35%	10YR 5/6 (Moist)
4		Sandy Clay Loam	Granular	Moderate	No	**Type 3 (LTAR = 0.35) Treatment Level 1**	<35%	10YR 6/6 (Moist)
6								
8		Sandy Clay Loam	Granular	Moderate	No	**Type 3 (LTAR = 0.35) Treatment Level 1**	<35%	2.5Y 6/3 (Moist)
10		**Total Depth= 9'-6"**						

Evidence of Groundwater:	**Not Reached**
Depth to Bedrock:	**Not Reached**

Additional Notes:

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

Profile Pit - Log

Job Number:	19.051
Date Evaluated:	02/07/19
Profile Pit#:	Pit #4

Excavator:	Contractor	Total Depth:	9'-0"
Logged By:	R.J. & J.D.	STA Slope & Direction:	N 80° W @ 3%
Method:	Profile Pit	Latitude:	39° 0'51.86"N
Auger & Size:	Mini Excavator	Longitude:	104°41'0.62"W

Lot 2, Poenitsch Subdivision, 2nd Location, 80908

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	Strong	No	**Type 2 (LTAR = 0.60)**	<35%	10YR 5/6 (Moist)
4		Sandy Clay Loam	Granular	Moderate	No	**Type 3 (LTAR = 0.35) Treatment Level 1**	<35%	10YR 6/6 (Moist)
6								
8		Sandy Clay Loam	Granular	Moderate	No	**Type 3 (LTAR = 0.35) Treatment Level 1**	<35%	2.5Y 6/3 (Moist)
10		**Total Depth= 9'-0"**						

Evidence of Groundwater:	**Not Reached**
Depth to Bedrock:	**Not Reached**

Additional Notes:

PARR ENGINEERING
& CONSULTING, INC.

Christopher L. Parr, P.E. Principal
11590 Black Forest Road, Suite 10, Colorado Springs, CO 80908
Office: 719-494-0404 Cell: 719-659-1313

PROFILE PIT EVALUATION REPORT - General Notes, Regulations & Limitations

General Notes:

This report presents the data obtained pertaining to a Profile Pit Evaluation conducted at the locations indicated on the included Site Map. The purpose of this investigation was to evaluate subsurface soil-profile(s) in the area of the proposed Soil Treatment Area (STA) and to establish design criteria for an On-Site Wastewater Treatment system (OWTS).

Board of Health Regulations & Regulation No. 43 - Engineered Systems:

At proposed soil treatment area locations where any of the following conditions are present, the system shall be designed by a professional engineer and approved by the Health Department:

1. For soil types 3A, 4, 4A, 5, R-0, R-1 and R-2, and Treatment Levels TL2, TL2N, TL3, and TL3N as specified in Tables 10-1 and 10-1A of this regulation;

2.The maximum seasonal ground water surface is less that four feet below the bottom of the proposed absorption system.

3. A restrictive layer exists less that four feet below the bottom of the proposed absorption system

4. The ground slope is in excess of thirty percent

5. Pressure distribution is used.

Limitations:

The data presented in this report is specific to the locations of the Profile Pit locations evaluated. It must be understood and accepted that subsurface conditions can, and often do vary across any given area. These variations may not become evident until the time of system installation. If the subsurface conditions are discovered to vary anywhere across the system footprint, Parr Engineering AND the Design Engineer must be notified immediately for further evaluation. If another individual or party relies on this report, they shall indemnify and hold Parr Engineering & Consulting, Inc. harmless for any damages, losses, or expenses that may incur as a result of its use, except as allowed by law.

PARR ENGINEERING & CONSULTING, INC.

Christopher L. Parr, P.E. Principal
11590 Black Forest Road, Suite 10, Colorado Springs, CO 80908
Office: 719-494-0404 Cell: 719-659-1313

PROFILE PIT EVALUATION

Date: February 13, 2019 **Job:** JN: 19.052

Site Location: Lot 3, Poenitsch Subdivision, 1st Location, 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.

COLORADO LICENSED JARED ROBERT DUMKE 54410 PROFESSIONAL ENGINEER 02/13/19

Profile Pit	Yes
Perc Test	-

Date: (Profile Eval) February 7, 2019
Excavator Contractor
Evaluator R.J. & J.D.

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: Jared R. Dumke, P.E.

Profile Pit 1	
Latitude:	39° 0'47.96"N
Longitude:	104°40'56.99"W
Layer	Soil Type & LTAR
0 - 0'-6"	Topsoil
0'-6" - 3'-0"	Type 4 (LTAR=0.20)
3'-0" - 7'-0"	Type 3 (LTAR=0.35)
-	-

Profile Pit 2	
Latitude:	39° 0'47.97"N
Longitude:	104°40'57.31"W
Layer	Soil Type & LTAR
0 - 0'-6"	Topsoil
0'-6" - 3'-0"	Type 4 (LTAR=0.20)
3'-0" - 7'-6"	Type 3 (LTAR=0.35)
-	-

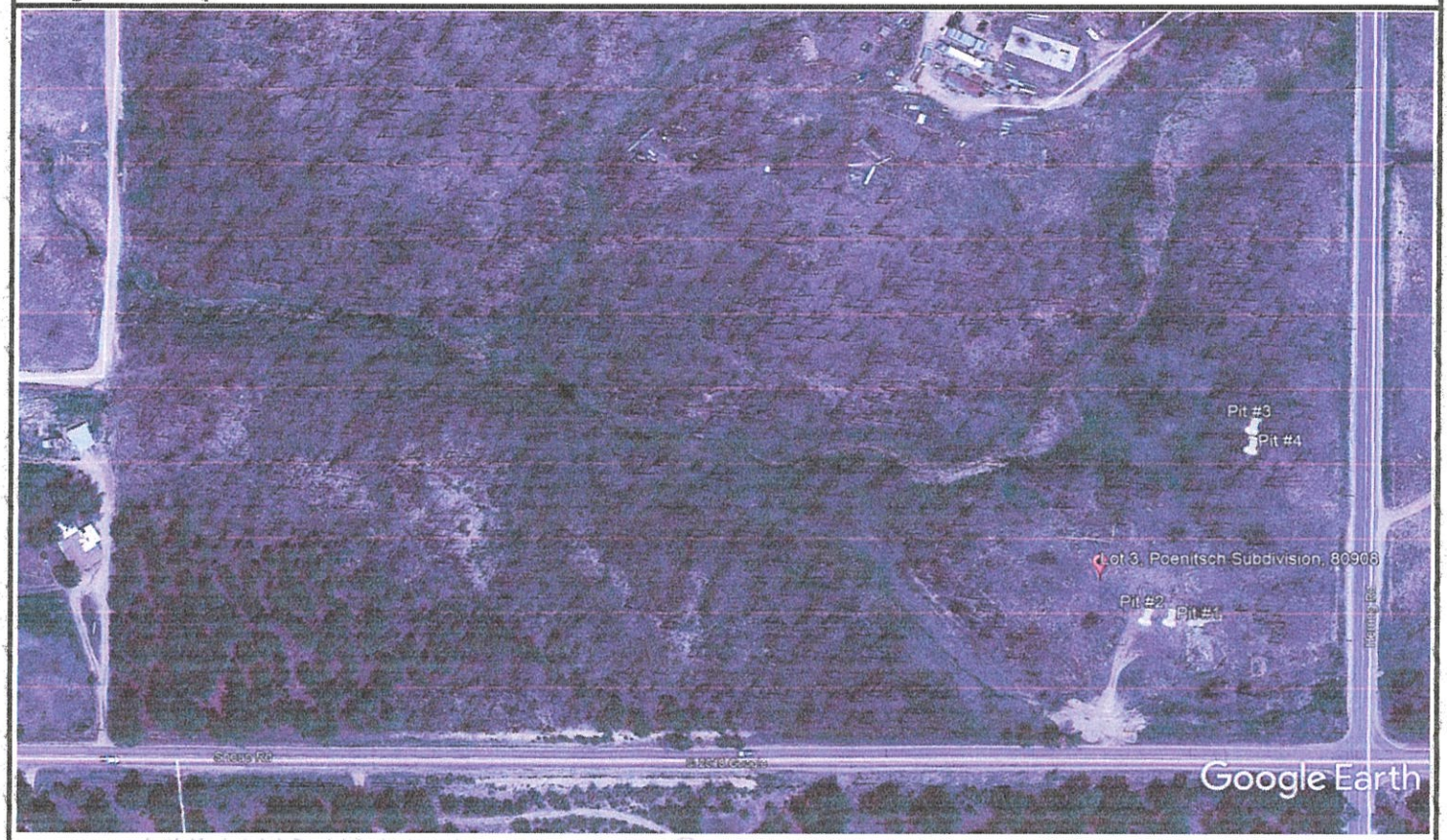
			Location	
			Latitude:	Longitude:
Perc #1	N/A	Min./In.	-	-
Perc #2	N/A	Min./In.	-	-
Perc #3	N/A	Min./In.	-	-
Average:	N/A	Min./In.		

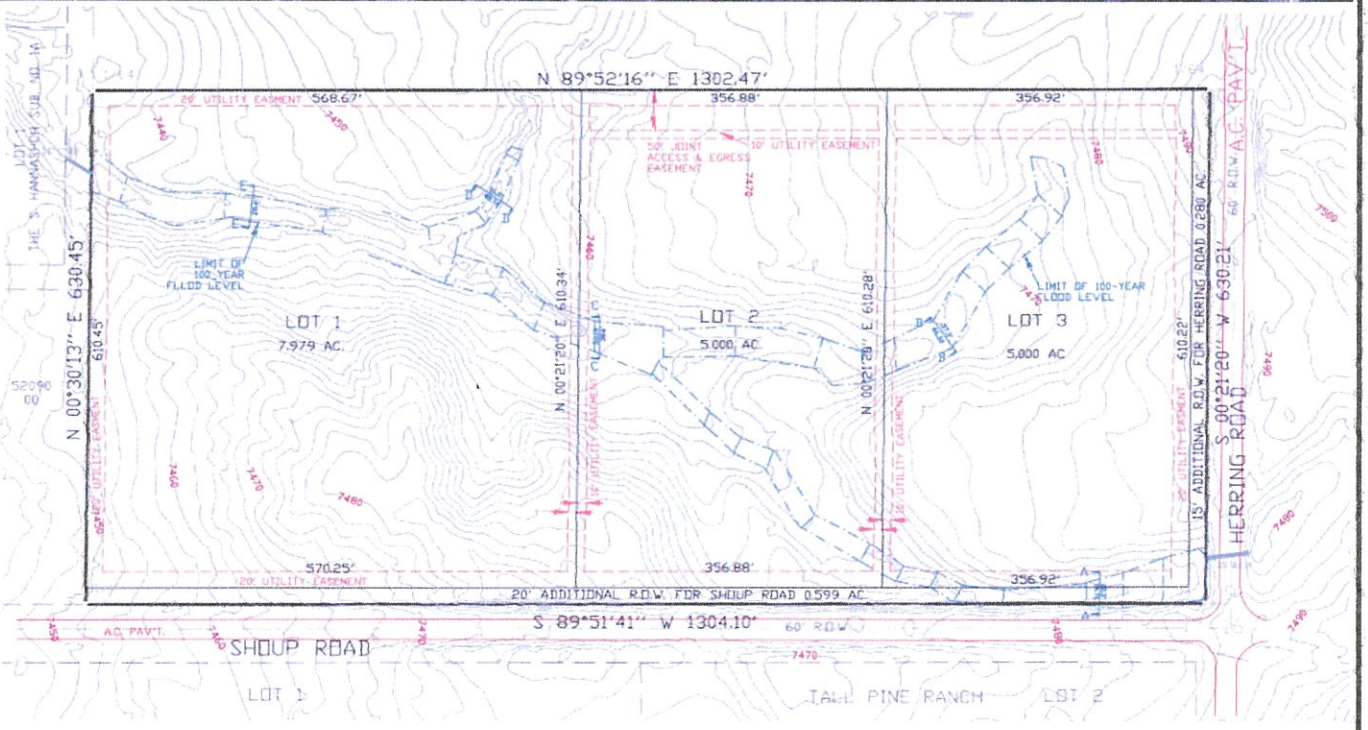
Recommendations: (1) An Engineered On-Site Wastewater Treatment system (OWTS) is required for this location due to:
(a) Soil Type 4 identified in the treatment zone of Profile Pit #1 & Profile Pit #2.

PARR ENGINEERING
& CONSULTING, INC.

Christopher L. Parr, P.E. Principal
11590 Black Forest Road, Suite 10, Colorado Springs, CO 80908
Office: 719-494-0404 Cell: 719-659-1313

Google Site Map





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

Profile Pit - Log

Job Number:	19.052
Date Evaluated:	02/07/19
Profile Pit#:	Pit #1

Excavator:	Contractor	Total Depth:	7'-0"
Logged By:	R.J. & J.D.	STA Slope & Direction:	W @ 3%
Method:	Profile Pit	Latitude:	39° 0'47.96"N
Auger & Size:	Mini Excavator	Longitude:	104°40'56.99"W

Lot 3, Poenitsch Subdivision, 1st Location, 80908

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 Clay	Granular	Strong	No	Type 4 (LTAR = 0.20) Treatment Level 1	<35%	2.5Y 5/3 (Moist)
4		Sandy Clay Loam	Granular	Strong	No	Type 3 (LTAR = 0.35) Treatment Level 1	<35%	2.5Y 5/3 (Moist)
6								
8		Total Depth= 7'-0"						
10								

Evidence of Groundwater:	**Not Reached**
Depth to Bedrock:	**Not Reached**

Additional Notes:

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

Profile Pit - Log

Job Number:	19.052
Date Evaluated:	02/07/19
Profile Pit#:	Pit #2

Excavator:	Contractor	Total Depth:	7'-6"
Logged By:	R.J. & J.D.	STA Slope & Direction:	W @ 3%
Method:	Profile Pit	Latitude:	39° 0'47.97"N
Auger & Size:	Mini Excavator	Longitude:	104°40'57.31"W

Lot 3, Poenitsch Subdivision, 1st Location, 80908

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 Clay	Granular	Strong	No	Type 4 (LTAR = 0.20) Treatment Level 1	<35%	2.5Y 5/3 (Moist)
4		Sandy Clay Loam	Granular	Strong	No	Type 3 (LTAR = 0.35) Treatment Level 1	<35%	2.5Y 5/3 (Moist)
6								
8		**Total Depth= 7'-6"**						
10								

Evidence of Groundwater:	**Not Reached**
Depth to Bedrock:	**Not Reached**

Additional Notes:

PARR ENGINEERING & CONSULTING, INC.

Christopher L. Parr, P.E. Principal
11590 Black Forest Road, Suite 10, Colorado Springs, CO 80908
Office: 719-494-0404 Cell: 719-659-1313

PROFILE PIT EVALUATION

Date: February 13, 2019 **Job:** JN: 19.052

Site Location: Lot 3, Poenitsch Subdivision, 2nd Location, 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.

COLORADO LICENSED JARED R. DUMKE 54410 PROFESSIONAL ENGINEER 02/13/19

Profile Pit	Yes
Perc Test	-

Date: (Profile Eval) February 7, 2019
Excavator Contractor
Evaluator R.J. & J.D.

Depth to Groundwater (permanent or seasonal) Pit #3: Not Reached
Depth to Groundwater (permanent or seasonal) Pit #4: Not Reached

Depth to Bedrock - Pit #3: Not Reached
Depth to Bedrock - Pit #4: Not Reached

Other Terrain Features or Soil Conditions: See Attached Site Map

Endorsement: Jared R. Dumke, P.E.

Profile Pit 3	
Latitude:	39° 0'50.09"N
Longitude:	104°40'55.92"W
Layer	Soil Type & LTAR
0 - 0'-6"	Topsoil
0'-6" - 6'-0"	Type 3 (LTAR=0.35)
6'-0" - 8'-6"	Type 3 (LTAR=0.35)
-	-

Profile Pit 4	
Latitude:	39° 0'49.87"N
Longitude:	104°40'55.94"W
Layer	Soil Type & LTAR
0 - 0'-6"	Topsoil
0'-6" - 4'-6"	Type 3 (LTAR=0.35)
4'-6" - 9'-0"	Type 3 (LTAR=0.35)
-	-

			Location	
			Latitude:	Longitude:
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.

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

Profile Pit - Log

Job Number:	19.052
Date Evaluated:	02/07/19
Profile Pit#:	Pit #3

Excavator:	Contractor	Total Depth:	8'-6"
Logged By:	R.J. & J.D.	STA Slope & Direction:	N 45° W @ 15%
Method:	Profile Pit	Latitude:	39° 0'50.09"N
Auger & Size:	Mini Excavator	Longitude:	104°40'55.92"W

Lot 3, Poenitsch Subdivision, 2nd Location, 80908

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 Clay Loam	Granular	Moderate	No	**Type 3 (LTAR = 0.35) Treatment Level 1**	<35%	2.5Y 4/3 (Moist)
4								
6								
8		Sandy Clay Loam	Granular	Strong	No	**Type 3 (LTAR = 0.35) Treatment Level 1**	<35%	2.5Y 6/4 (Moist)
10		**Total Depth= 8'-6"**						

Evidence of Groundwater:	**Not Reached**
Depth to Bedrock:	**Not Reached**

Additional Notes:

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

Profile Pit - Log

Job Number:	19.052
Date Evaluated:	02/07/19
Profile Pit#:	Pit #4

Excavator:	Contractor	Total Depth:	9'-0"
Logged By:	R.J. & J.D.	STA Slope & Direction:	N 45° W @ 15%
Method:	Profile Pit	Latitude:	39° 0'49.87"N
Auger & Size:	Mini Excavator	Longitude:	104°40'55.94"W

Lot 3, Poenitsch Subdivision, 2nd Location, 80908

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 Clay Loam	Granular	Moderate	No	**Type 3 (LTAR = 0.35) Treatment Level 1**	<35%	2.5Y 4/3 (Moist)
4								
6		Sandy Clay Loam	Granular	Strong	No	**Type 3 (LTAR = 0.35) Treatment Level 1**	<35%	2.5Y 6/4 (Moist)
8								
		Total Depth= 9'-0"						
10								

Evidence of Groundwater:	**Not Reached**
Depth to Bedrock:	**Not Reached**

Additional Notes:

PARR ENGINEERING
& CONSULTING, INC.

Christopher L. Parr, P.E. Principal
11590 Black Forest Road, Suite 10, Colorado Springs, CO 80908
Office: 719-494-0404 Cell: 719-659-1313

PROFILE PIT EVALUATION REPORT - General Notes, Regulations & Limitations

General Notes:

This report presents the data obtained pertaining to a Profile Pit Evaluation conducted at the locations indicated on the included Site Map. The purpose of this investigation was to evaluate subsurface soil-profile(s) in the area of the proposed Soil Treatment Area (STA) and to establish design criteria for an On-Site Wastewater Treatment system (OWTS).

Board of Health Regulations & Regulation No. 43 - Engineered Systems:

At proposed soil treatment area locations where any of the following conditions are present, the system shall be designed by a professional engineer and approved by the Health Department:

1. For soil types 3A, 4, 4A, 5, R-0, R-1 and R-2, and Treatment Levels TL2, TL2N, TL3, and TL3N as specified in Tables 10-1 and 10-1A of this regulation;

2. The maximum seasonal ground water surface is less that four feet below the bottom of the proposed absorption system.

3. A restrictive layer exists less that four feet below the bottom of the proposed absorption system

4. The ground slope is in excess of thirty percent

5. Pressure distribution is used.

Limitations:

The data presented in this report is specific to the locations of the Profile Pit locations evaluated. It must be understood and accepted that subsurface conditions can, and often do vary across any given area. These variations may not become evident until the time of system installation. If the subsurface conditions are discovered to vary anywhere across the system footprint, Parr Engineering AND the Design Engineer must be notified immediately for further evaluation. If another individual or party relies on this report, they shall indemnify and hold Parr Engineering & Consulting, Inc. harmless for any damages, losses, or expenses that may incur as a result of its use, except as allowed by law.

PARR ENGINEERING & CONSULTING, INC.

Christopher L. Parr, P.E. Principal
11590 Black Forest Road, Suite 10, Colorado Springs, CO 80908
Office: 719-494-0404 Cell: 719-659-1313

PROFILE PIT EVALUATION

Date: February 13, 2019 **Job:** JN: 19.050

Site Location: Lot 1, Poenitsch Subdivision, 2nd Location, Colorado Springs, CO 80908

COLORADO LICENSED DANIEL JOSEPH MIZICKO 52484 02-13-19 PROFESSIONAL ENGINEER

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) February 7, 2019
Excavator Contractor
Evaluator R.J. & J.D.

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	
Latitude:	**39° 0'50.01"N**
Longitude:	**104°41'9.30"W**
Layer	Soil Type & LTAR
0 - 1'-0"	Topsoil
1'-0" - 6'-0"	**Type 3 (LTAR=0.35)**
6'-0" - 9'-0"	**Type 3 (LTAR=0.35)**
-	-

Profile Pit 2	
Latitude:	**39° 0'49.99"N**
Longitude:	**104°41'9.45"W**
Layer	Soil Type & LTAR
0 - 0'-6"	Topsoil
0'-6" - 7'-6"	**Type 3 (LTAR=0.35)**
-	-
-	-

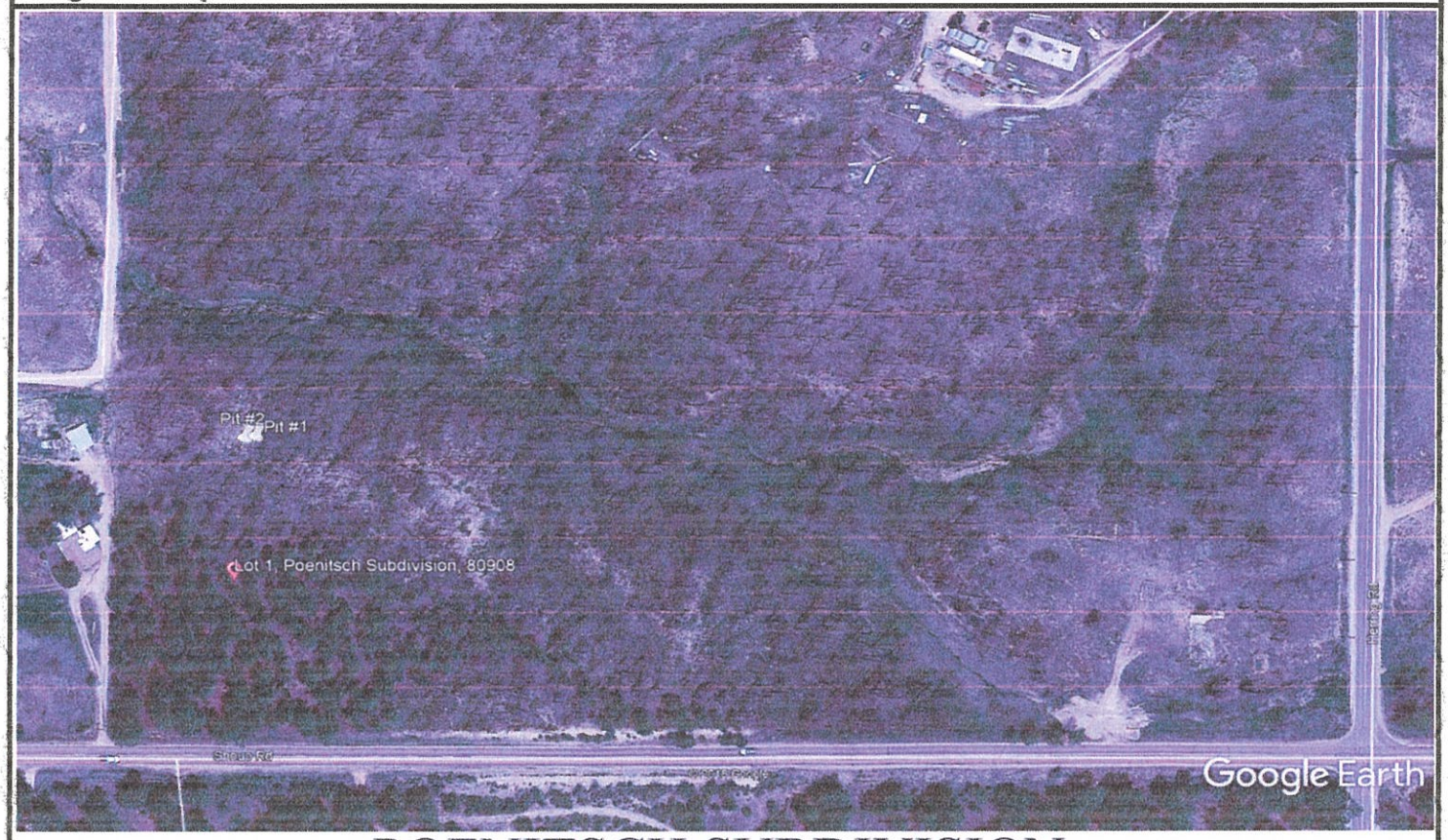
			Location	
			Latitude:	Longitude:
Perc #1	N/A	Min./In.	-	-
Perc #2	N/A	Min./In.	-	-
Perc #3	N/A	Min./In.	-	-
	Average: N/A	Min./In.		

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

PARR ENGINEERING
& CONSULTING, INC.

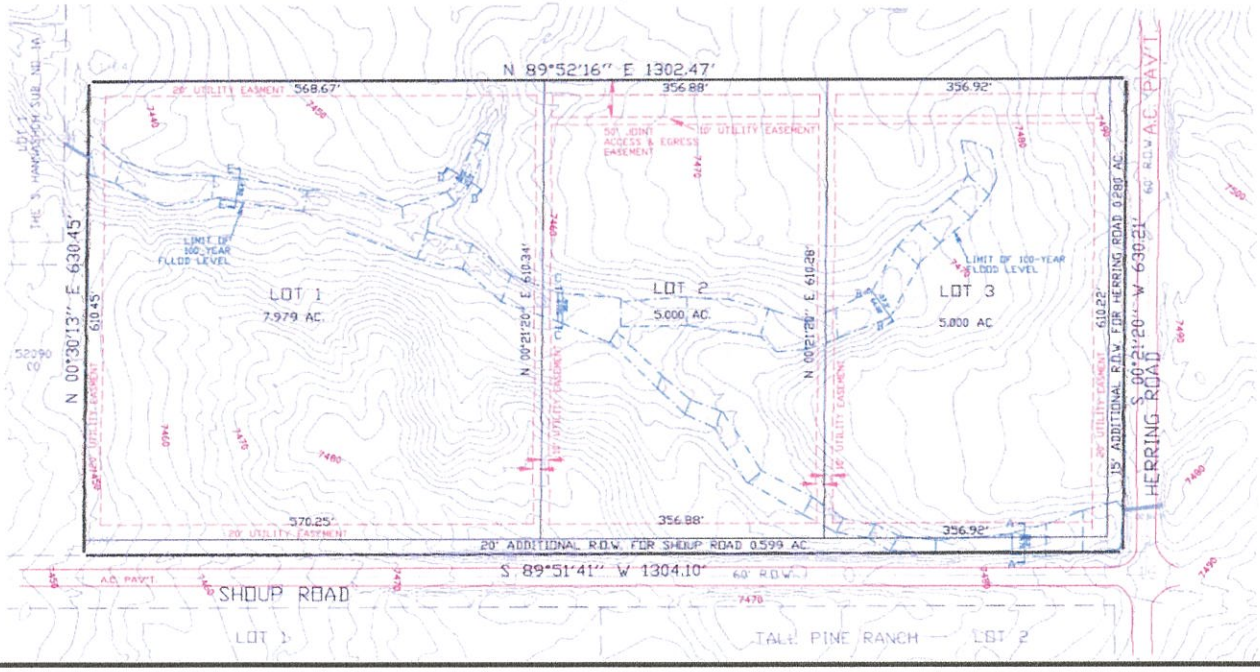
Christopher L. Parr, P.E. Principal
11590 Black Forest Road, Suite 10, Colorado Springs, CO 80908
Office: 719-494-0404 Cell: 719-659-1313

Google Site Map



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



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

Profile Pit - Log

Job Number:	19.050
Date Evaluated:	02/07/19
Profile Pit#:	Pit #1

Excavator:	Contractor	Total Depth:	9'-0"
Logged By:	R.J. & J.D.	STA Slope & Direction:	N @ 15%
Method:	Profile Pit	Latitude:	39° 0'50.01"N
Auger & Size:	Mini Excavator	Longitude:	104°41'9.30"W

Lot 1, Poenitsch Subdivision, 2nd Location, 80908

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 Clay Loam	Granular	Strong	No	**Type 3 (LTAR = 0.35) Treatment Level 1**	<35%	2.5Y 7/2 (Moist)
4								
6								
8		Sandy Clay Loam	Granular	Strong	No	**Type 3 (LTAR = 0.35) Treatment Level 1**	<35%	2.5Y 6/4 (Moist)
10		**Total Depth= 9'-0"**						

Evidence of Groundwater:	**Not Reached**
Depth to Bedrock:	**Not Reached**

Additional Notes:

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

Profile Pit - Log

Job Number:	19.050
Date Evaluated:	02/07/19
Profile Pit#:	Pit #2

Excavator:	Contractor	Total Depth:	7'-6"
Logged By:	R.J. & J.D.	STA Slope & Direction:	N 70° W @ 10%
Method:	Profile Pit	Latitude:	39° 0'49.99"N
Auger & Size:	Mini Excavator	Longitude:	104°41'9.45"W

Lot 1, Poenitsch Subdivision, 2nd Location, 80908

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 Clay Loam	Granular	Strong	No	**Type 3 (LTAR = 0.35) Treatment Level 1**	<35%	2.5Y 7/2 (Moist)
4								
6								
8		**Total Depth= 7'-6"**						
10								

Evidence of Groundwater:	**Not Reached**
Depth to Bedrock:	**Not Reached**

Additional Notes:

PARR ENGINEERING
& CONSULTING, INC.

Christopher L. Parr, P.E. Principal
11590 Black Forest Road, Suite 10, Colorado Springs, CO 80908
Office: 719-494-0404 Cell: 719-659-1313

PROFILE PIT EVALUATION REPORT - General Notes, Regulations & Limitations

General Notes:

This report presents the data obtained pertaining to a Profile Pit Evaluation conducted at the locations indicated on the included Site Map. The purpose of this investigation was to evaluate subsurface soil-profile(s) in the area of the proposed Soil Treatment Area (STA) and to establish design criteria for an On-Site Wastewater Treatment system (OWTS).

Board of Health Regulations & Regulation No. 43 - Engineered Systems:

At proposed soil treatment area locations where any of the following conditions are present, the system shall be designed by a professional engineer and approved by the Health Department:

1. For soil types 3A, 4, 4A, 5, R-0, R-1 and R-2, and Treatment Levels TL2, TL2N, TL3, and TL3N as specified in Tables 10-1 and 10-1A of this regulation;

2. The maximum seasonal ground water surface is less that four feet below the bottom of the proposed absorption system.

3. A restrictive layer exists less that four feet below the bottom of the proposed absorption system

4. The ground slope is in excess of thirty percent

5. Pressure distribution is used.

Limitations:

The data presented in this report is specific to the locations of the Profile Pit locations evaluated. It must be understood and accepted that subsurface conditions can, and often do vary across any given area. These variations may not become evident until the time of system installation. If the subsurface conditions are discovered to vary anywhere across the system footprint, Parr Engineering AND the Design Engineer must be notified immediately for further evaluation. If another individual or party relies on this report, they shall indemnify and hold Parr Engineering & Consulting, Inc. harmless for any damages, losses, or expenses that may incur as a result of its use, except as allowed by law.

PARR ENGINEERING & CONSULTING, INC.

Christopher L. Parr, P.E. Principal
11590 Black Forest Road, Suite 10, Colorado Springs, CO 80908
Office: 719-494-0404 Cell: 719-659-1313

PROFILE PIT EVALUATION

Date: February 13, 2019 **Job:** JN: 19.051

Site Location: Lot 2, Poenitsch Subdivision, 1st Location, 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.

COLORADO LICENSED JARED ROBERT DUMKE 54410 PROFESSIONAL ENGINEER 02/13/19

Profile Pit	Yes
Perc Test	-

Date: (Profile Eval) February 7, 2019
Excavator Contractor
Evaluator R.J. & J.D.

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: Jared R. Dumke, P.E.

Profile Pit 1	
Latitude:	39° 0'51.55"N
Longitude:	104°40'59.72"W
Layer	Soil Type & LTAR
0 - 0'-6"	Topsoil
0'-6" - 2'-0"	Type 3 (LTAR=0.35)
2'-0" - 4'-0"	Type 4 (LTAR=0.20)
4'-0" - 6'-6"	Type 3 (LTAR=0.35)
6'-6" - 9'-0"	Type 3 (LTAR=0.35)

Profile Pit 2	
Latitude:	39° 0'51.56"N
Longitude:	104°40'59.92"W
Layer	Soil Type & LTAR
0 - 0'-6"	Topsoil
0'-6" - 3'-0"	Type 4 (LTAR=0.20)
3'-0" - 6'-0"	Type 3 (LTAR=0.35)
6'-0" - 9'-6"	Type 3 (LTAR=0.35)

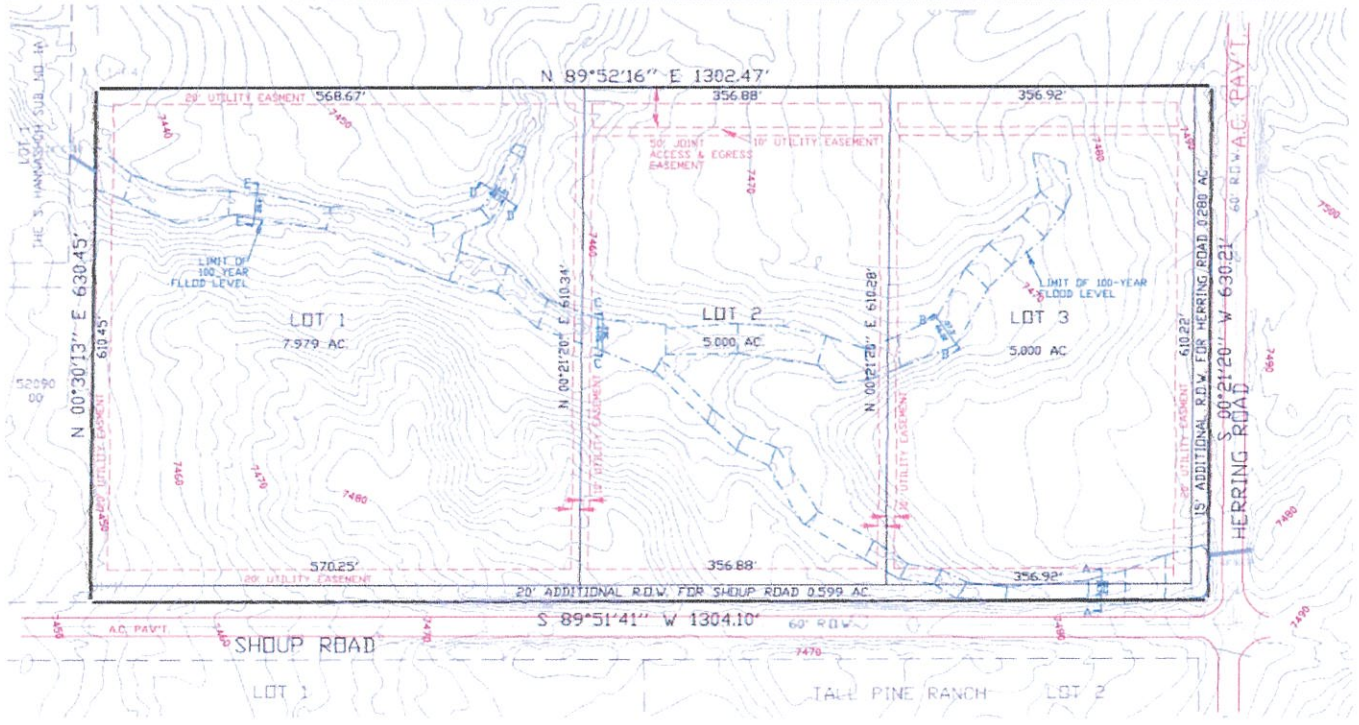
			Location	
			Latitude:	Longitude:
Perc #1	N/A	Min./In.	-	-
Perc #2	N/A	Min./In.	-	-
Perc #3	N/A	Min./In.	-	-
	Average: N/A	Min./In.		

Recommendations: (1) An Engineered On-Site Wastewater Treatment system (OWTS) is required for this location due to:
(a) Soil Type 4 identified in the treatment zone of Profile Pit #1 & Profile Pit #2.

PARR ENGINEERING
& CONSULTING, INC.

Christopher L. Parr, P.E. Principal
11590 Black Forest Road, Suite 10, Colorado Springs, CO 80908
Office: 719-494-0404 Cell: 719-659-1313

Google Site Map



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

Profile Pit - Log

Job Number:	19.051
Date Evaluated:	02/07/19
Profile Pit#:	Pit #1

Excavator:	Contractor	Total Depth:	9'-0"
Logged By:	R.J. & J.D.	STA Slope & Direction:	N 80° W @ 3%
Method:	Profile Pit	Latitude:	39° 0'51.55"N
Auger & Size:	Mini Excavator	Longitude:	104°40'59.72"W

Lot 2, Poenitsch Subdivision, 1st Location, 80908

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 Clay Loam	Blocky	Moderate	No	**Type 3 (LTAR = 0.35)**	<35%	10YR 5/4 (Moist)
4		Sandy Clay	Granular	Strong	No	**Type 4 (LTAR = 0.20) Treatment Level 1**	<35%	10YR 6/6 (Moist)
6		Sandy Clay Loam	Granular	Strong	No	**Type 3 (LTAR = 0.35) Treatment Level 1**	<35%	2.5Y 6/4 (Moist)
8		Sandy Clay Loam	Granular	Moderate	No	**Type 3 (LTAR = 0.35) Treatment Level 1**	<35%	2.5Y 6/3 (Moist)
10		**Total Depth= 9'-0"**						

Evidence of Groundwater:	Not Reached
Depth to Bedrock:	Not Reached

Additional Notes:

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

Profile Pit - Log

Job Number:	19.051
Date Evaluated:	02/07/19
Profile Pit#:	Pit #2

Excavator:	Contractor	Total Depth:	9'-6"
Logged By:	R.J. & J.D.	STA Slope & Direction:	N 80° W @ 3%
Method:	Profile Pit	Latitude:	39° 0'51.56"N
Auger & Size:	Mini Excavator	Longitude:	104°40'59.92"W

Lot 2, Poenitsch Subdivision, 1st Location, 80908

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 Clay	Granular	Strong	No	**Type 4 (LTAR = 0.20) Treatment Level 1**	<35%	10YR 6/6 (Moist)
4		Sandy Clay Loam	Granular	Strong	No	**Type 3 (LTAR = 0.35) Treatment Level 1**	<35%	2.5Y 6/4 (Moist)
8		Sandy Clay Loam	Granular	Moderate	No	**Type 3 (LTAR = 0.35) Treatment Level 1**	<35%	2.5Y 6/3 (Moist)
10		**Total Depth= 9'-6"**						

Evidence of Groundwater:	**Not Reached**
Depth to Bedrock:	**Not Reached**

Additional Notes:

PARR ENGINEERING
& CONSULTING, INC.

Christopher L. Parr, P.E. Principal
11590 Black Forest Road, Suite 10, Colorado Springs, CO 80908
Office: 719-494-0404 Cell: 719-659-1313

PROFILE PIT EVALUATION

Date: February 13, 2019 **Job:** JN: 19.051

Site Location: Lot 2, Poenitsch Subdivision, 2nd Location, 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.

COLORADO LICENSED JARED ROBERT DUMKE 54410 PROFESSIONAL ENGINEER 02/13/19

Profile Pit	Yes
Perc Test	-

Date: (Profile Eval) February 7, 2019
Excavator Contractor
Evaluator R.J. & J.D.

Depth to Groundwater (permanent or seasonal) Pit #3: Not Reached
Depth to Groundwater (permanent or seasonal) Pit #4: Not Reached

Depth to Bedrock - Pit #3: Not Reached
Depth to Bedrock - Pit #4: Not Reached

Other Terrain Features or Soil Conditions: See Attached Site Map

Endorsement: Jared R. Dumke, P.E.

Profile Pit 3	
Latitude:	**39° 0'51.70"N**
Longitude:	**104°41'0.81"W**
Layer	Soil Type & LTAR
0 - 0'-6"	Topsoil
0'-6" - 2'-0"	**Type 2 (LTAR=0.60)**
2'-0" - 6'-0"	**Type 3 (LTAR=0.35)**
6'-0" - 9'-6"	**Type 3 (LTAR=0.35)**

Profile Pit 4	
Latitude:	**39° 0'51.86"N**
Longitude:	**104°41'0.62"W**
Layer	Soil Type & LTAR
0 - 1'-0"	Topsoil
1'-0" - 2'-0"	**Type 2 (LTAR=0.60)**
2'-0" - 6'-0"	**Type 3 (LTAR=0.35)**
6'-0" - 9'-0"	**Type 3 (LTAR=0.35)**

			Location	
			Latitude:	Longitude:
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 location.

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

Profile Pit - Log

Job Number:	19.051
Date Evaluated:	02/07/19
Profile Pit#:	Pit #3

Excavator:	Contractor	Total Depth:	9'-6"
Logged By:	R.J. & J.D.	STA Slope & Direction:	N 80° W @ 3%
Method:	Profile Pit	Latitude:	39° 0'51.70"N
Auger & Size:	Mini Excavator	Longitude:	104°41'0.81"W

Lot 2, Poenitsch Subdivision, 2nd Location, 80908

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	Strong	No	**Type 2 (LTAR = 0.60)**	<35%	10YR 5/6 (Moist)
4		Sandy Clay Loam	Granular	Moderate	No	**Type 3 (LTAR = 0.35) Treatment Level 1**	<35%	10YR 6/6 (Moist)
6								
8		Sandy Clay Loam	Granular	Moderate	No	**Type 3 (LTAR = 0.35) Treatment Level 1**	<35%	2.5Y 6/3 (Moist)
10		**Total Depth= 9'-6"**						

Evidence of Groundwater:	**Not Reached**
Depth to Bedrock:	**Not Reached**

Additional Notes:

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

Profile Pit - Log

Job Number:	19.051
Date Evaluated:	02/07/19
Profile Pit#:	Pit #4

Excavator:	Contractor	Total Depth:	9'-0"
Logged By:	R.J. & J.D.	STA Slope & Direction:	N 80° W @ 3%
Method:	Profile Pit	Latitude:	39° 0'51.86"N
Auger & Size:	Mini Excavator	Longitude:	104°41'0.62"W

Lot 2, Poenitsch Subdivision, 2nd Location, 80908

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	Strong	No	**Type 2 (LTAR = 0.60)**	<35%	10YR 5/6 (Moist)
4		Sandy Clay Loam	Granular	Moderate	No	**Type 3 (LTAR = 0.35) Treatment Level 1**	<35%	10YR 6/6 (Moist)
6								
8		Sandy Clay Loam	Granular	Moderate	No	**Type 3 (LTAR = 0.35) Treatment Level 1**	<35%	2.5Y 6/3 (Moist)
10		**Total Depth= 9'-0"**						

Evidence of Groundwater:	**Not Reached**
Depth to Bedrock:	**Not Reached**

Additional Notes:

PARR ENGINEERING
& CONSULTING, INC.

Christopher L. Parr, P.E. Principal
11590 Black Forest Road, Suite 10, Colorado Springs, CO 80908
Office: 719-494-0404 Cell: 719-659-1313

PROFILE PIT EVALUATION REPORT - General Notes, Regulations & Limitations

General Notes:

This report presents the data obtained pertaining to a Profile Pit Evaluation conducted at the locations indicated on the included Site Map. The purpose of this investigation was to evaluate subsurface soil-profile(s) in the area of the proposed Soil Treatment Area (STA) and to establish design criteria for an On-Site Wastewater Treatment system (OWTS).

Board of Health Regulations & Regulation No. 43 - Engineered Systems:

At proposed soil treatment area locations where any of the following conditions are present, the system shall be designed by a professional engineer and approved by the Health Department:

1. For soil types 3A, 4, 4A, 5, R-0, R-1 and R-2, and Treatment Levels TL2, TL2N, TL3, and TL3N as specified in Tables 10-1 and 10-1A of this regulation;

2.The maximum seasonal ground water surface is less that four feet below the bottom of the proposed absorption system.

3. A restrictive layer exists less that four feet below the bottom of the proposed absorption system

4. The ground slope is in excess of thirty percent

5. Pressure distribution is used.

Limitations:

The data presented in this report is specific to the locations of the Profile Pit locations evaluated. It must be understood and accepted that subsurface conditions can, and often do vary across any given area. These variations may not become evident until the time of system installation. If the subsurface conditions are discovered to vary anywhere across the system footprint, Parr Engineering AND the Design Engineer must be notified immediately for further evaluation. If another individual or party relies on this report, they shall indemnify and hold Parr Engineering & Consulting, Inc. harmless for any damages, losses, or expenses that may incur as a result of its use, except as allowed by law.

PARR ENGINEERING & CONSULTING, INC.

Christopher L. Parr, P.E. Principal
11590 Black Forest Road, Suite 10, Colorado Springs, CO 80908
Office: 719-494-0404 Cell: 719-659-1313

PROFILE PIT EVALUATION

Date: February 13, 2019 **Job:** JN: 19.052

Site Location: Lot 3, Poenitsch Subdivision, 1st Location, 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) February 7, 2019
Excavator Contractor
Evaluator R.J. & J.D.

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: Jared R. Dumke, P.E.

Profile Pit 1	
Latitude:	**39° 0'47.96"N**
Longitude:	**104°40'56.99"W**
Layer	Soil Type & LTAR
0 - 0'-6"	Topsoil
0'-6" - 3'-0"	**Type 4 (LTAR=0.20)**
3'-0" - 7'-0"	**Type 3 (LTAR=0.35)**
-	-

Profile Pit 2	
Latitude:	**39° 0'47.97"N**
Longitude:	**104°40'57.31"W**
Layer	Soil Type & LTAR
0 - 0'-6"	Topsoil
0'-6" - 3'-0"	**Type 4 (LTAR=0.20)**
3'-0" - 7'-6"	**Type 3 (LTAR=0.35)**
-	-

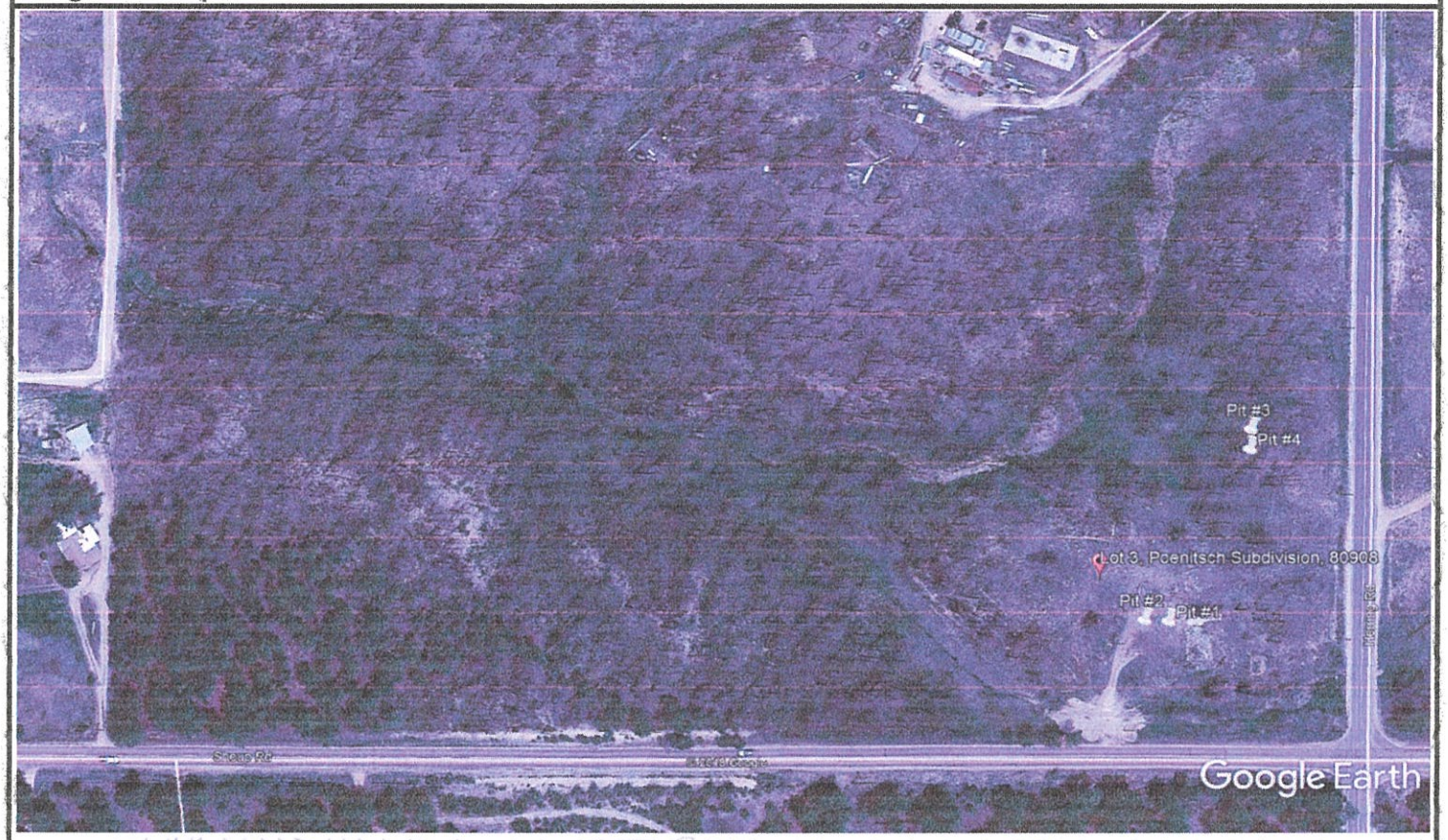
			Location	
			Latitude:	Longitude:
Perc #1	N/A	Min./In.	-	-
Perc #2	N/A	Min./In.	-	-
Perc #3	N/A	Min./In.	-	-
	Average: N/A	Min./In.		

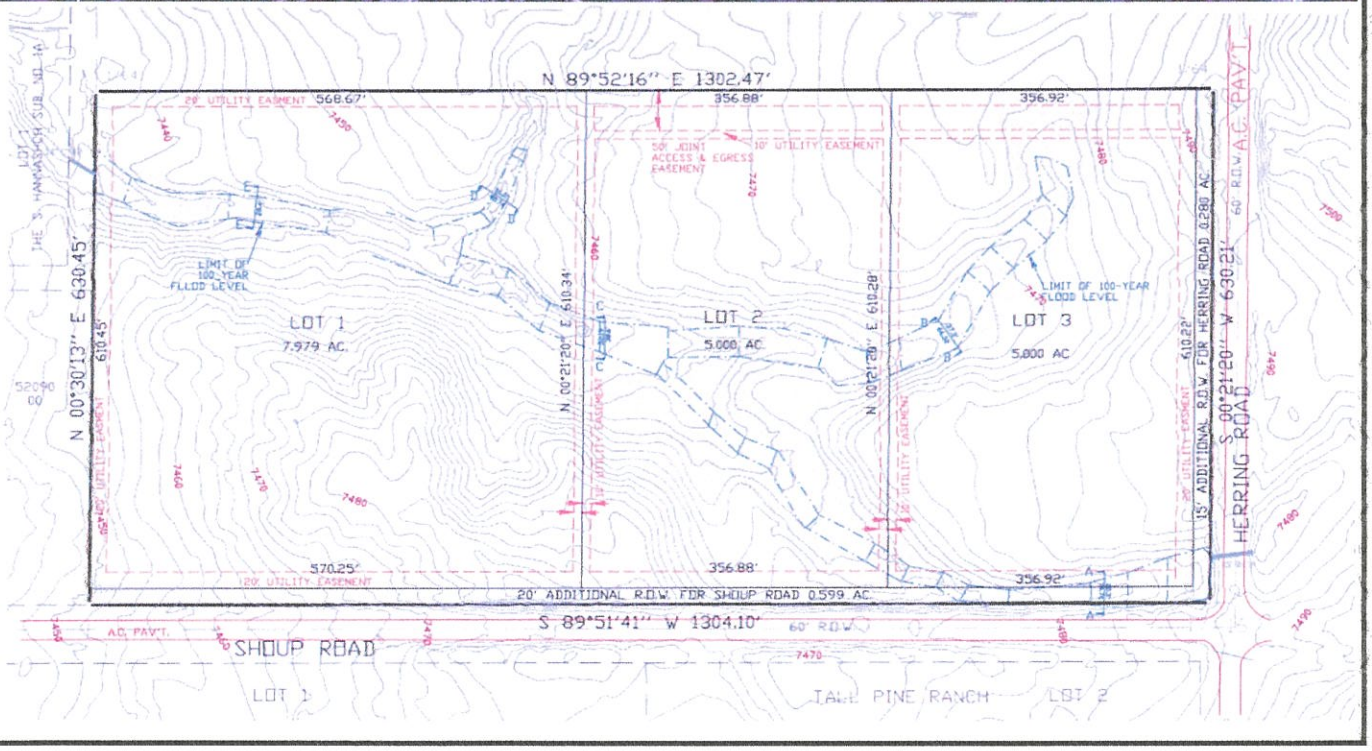
Recommendations: **(1) An Engineered On-Site Wastewater Treatment system (OWTS) is required for this location due to: (a) Soil Type 4 identified in the treatment zone of Profile Pit #1 & Profile Pit #2.**

PARR ENGINEERING
& CONSULTING, INC.

Christopher L. Parr, P.E. Principal
11590 Black Forest Road, Suite 10, Colorado Springs, CO 80908
Office: 719-494-0404 Cell: 719-659-1313

Google Site Map





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

Profile Pit - Log

Job Number:	19.052
Date Evaluated:	02/07/19
Profile Pit#:	Pit #1

Excavator:	Contractor	Total Depth:	7'-0"
Logged By:	R.J. & J.D.	STA Slope & Direction:	W @ 3%
Method:	Profile Pit	Latitude:	39° 0'47.96"N
Auger & Size:	Mini Excavator	Longitude:	104°40'56.99"W

Lot 3, Poenitsch Subdivision, 1st Location, 80908

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 Clay	Granular	Strong	No	Type 4 (LTAR = 0.20) Treatment Level 1	<35%	2.5Y 5/3 (Moist)
4		Sandy Clay Loam	Granular	Strong	No	**Type 3 (LTAR = 0.35) Treatment** Level 1	<35%	2.5Y 5/3 (Moist)
6								
		Total Depth= 7'-0"						
8								
10								

Evidence of Groundwater:	**Not Reached**
Depth to Bedrock:	**Not Reached**

Additional Notes:

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

Profile Pit - Log

Job Number:	19.052
Date Evaluated:	02/07/19
Profile Pit#:	Pit #2

Excavator:	Contractor	Total Depth:	7'-6"
Logged By:	R.J. & J.D.	STA Slope & Direction:	W @ 3%
Method:	Profile Pit	Latitude:	39° 0'47.97"N
Auger & Size:	Mini Excavator	Longitude:	104°40'57.31"W

Lot 3, Poenitsch Subdivision, 1st Location, 80908

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 Clay	Granular	Strong	No	Type 4 (LTAR = 0.20) Treatment Level 1	<35%	2.5Y 5/3 (Moist)
4		Sandy Clay Loam	Granular	Strong	No	Type 3 (LTAR = 0.35) Treatment Level 1	<35%	2.5Y 5/3 (Moist)
6								
8		**Total Depth= 7'-6"**						
10								

Evidence of Groundwater:	**Not Reached**
Depth to Bedrock:	**Not Reached**

Additional Notes:

PARR ENGINEERING & CONSULTING, INC.

Christopher L. Parr, P.E. Principal
11590 Black Forest Road, Suite 10, Colorado Springs, CO 80908
Office: 719-494-0404 Cell: 719-659-1313

PROFILE PIT EVALUATION

Date: February 13, 2019 **Job:** JN: 19.052

Site Location: Lot 3, Poenitsch Subdivision, 2nd Location, 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.

COLORADO LICENSED JARED ROBERT DUMKE 54410 PROFESSIONAL ENGINEER 02/13/19

Profile Pit	Yes
Perc Test	-

Date: (Profile Eval) February 7, 2019
Excavator Contractor
Evaluator R.J. & J.D.

Depth to Groundwater (permanent or seasonal) Pit #3: Not Reached
Depth to Groundwater (permanent or seasonal) Pit #4: Not Reached

Depth to Bedrock - Pit #3: Not Reached
Depth to Bedrock - Pit #4: Not Reached

Other Terrain Features or Soil Conditions: See Attached Site Map

Endorsement: Jared R. Dumke, P.E.

Profile Pit 3	
Latitude:	39° 0'50.09"N
Longitude:	104°40'55.92"W
Layer	Soil Type & LTAR
0 - 0'-6"	Topsoil
0'-6" - 6'-0"	Type 3 (LTAR=0.35)
6'-0" - 8'-6"	Type 3 (LTAR=0.35)
-	-

Profile Pit 4	
Latitude:	39° 0'49.87"N
Longitude:	104°40'55.94"W
Layer	Soil Type & LTAR
0 - 0'-6"	Topsoil
0'-6" - 4'-6"	Type 3 (LTAR=0.35)
4'-6" - 9'-0"	Type 3 (LTAR=0.35)
-	-

			Location	
			Latitude:	Longitude:
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.

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

Profile Pit - Log

Job Number:	19.052
Date Evaluated:	02/07/19
Profile Pit#:	Pit #3

Excavator:	Contractor	Total Depth:	8'-6"
Logged By:	R.J. & J.D.	STA Slope & Direction:	N 45° W @ 15%
Method:	Profile Pit	Latitude:	39° 0'50.09"N
Auger & Size:	Mini Excavator	Longitude:	104°40'55.92"W

Lot 3, Poenitsch Subdivision, 2nd Location, 80908

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 Clay Loam	Granular	Moderate	No	**Type 3 (LTAR = 0.35) Treatment Level 1**	<35%	2.5Y 4/3 (Moist)
4								
6								
8		Sandy Clay Loam	Granular	Strong	No	**Type 3 (LTAR = 0.35) Treatment Level 1**	<35%	2.5Y 6/4 (Moist)
10		**Total Depth= 8'-6"**						

Evidence of Groundwater:	**Not Reached**
Depth to Bedrock:	**Not Reached**

Additional Notes:

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

Profile Pit - Log

Job Number:	19.052
Date Evaluated:	02/07/19
Profile Pit#:	Pit #4

Excavator:	Contractor	Total Depth:	9'-0"
Logged By:	R.J. & J.D.	STA Slope & Direction:	N 45° W @ 15%
Method:	Profile Pit	Latitude:	39° 0'49.87"N
Auger & Size:	Mini Excavator	Longitude:	104°40'55.94"W

Lot 3, Poenitsch Subdivision, 2nd Location, 80908

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 Clay Loam	Granular	Moderate	No	**Type 3 (LTAR = 0.35) Treatment Level 1**	<35%	2.5Y 4/3 (Moist)
4								
6		Sandy Clay Loam	Granular	Strong	No	**Type 3 (LTAR = 0.35) Treatment Level 1**	<35%	2.5Y 6/4 (Moist)
8								
10		**Total Depth= 9'-0"**						

Evidence of Groundwater:	**Not Reached**
Depth to Bedrock:	**Not Reached**

Additional Notes: