

June 15, 2021



**ENTECH**  
ENGINEERING, INC.

505 ELKTON DRIVE  
COLORADO SPRINGS, CO 80907  
PHONE (719) 531-5599  
FAX (719) 531-5238

Ramses II Properties, LLC  
7985 Burgess Road  
Colorado Springs, CO 80909

Attn: Donnie Wisenbaker

Re: OWTS – Wastewater Study  
Skyfall Subdivision  
Parcel No. 52212-00-027  
7985 Burgess Road  
El Paso County, Colorado

Dear Mr. Wisenbaker:

## **GENERAL SITE CONDITIONS AND PROJECT DESCRIPTION**

The site is located in a portion of the E½ of the NW¼ of Section 21 Township 12 South, Range 65 West of the 6<sup>th</sup> Principal Meridian in El Paso County, Colorado. The site is located immediately north of Colorado Springs city limits, north of Old Ranch Road and approximately 1 mile west of Burgess Road and Vollmer Road, in El Paso County, Colorado. The location of the site is as shown on the Vicinity Map, Figure 1.

The topography of the site is gradually to moderately sloping to the south-southeast. A minor drainage swale is located in the northern portion of the property. Water was not observed in the drainages at the time of this investigation. The site boundaries are indicated on the USGS Map, Figure 2. Previous land uses have included undeveloped and rural residential. The site contains field grasses, weeds, and ponderosa pines. The existing house with a water well and septic system located on Lot 2, will remain. Site photographs were taken and site mapping was completed on April 22, 2021. Site photographs are included in appendix A. Test Borings and Test Pits were performed on April, 29, 2021.

Total acreage involved in the proposed subdivision is 20-acres. Three rural residential lots are proposed as part of the subdivision. The proposed lot sizes range from 5.0-acres to 9.1-acres. The existing house located on Lot 2 will remain. The new lots will be serviced by individual wells and on-site wastewater treatment systems. The Site Plan is presented in Figure 3.

## **SCOPE OF THE REPORT**

The scope of the report will include the following:

- A general geologic analysis utilizing published geologic data. Detailed site-specific mapping will be conducted to obtain general information in respect to major geographic and geologic features, geologic descriptions and their effects on the development of the property.

Ramses II Properties, LLC  
OWTS – Wastewater Study  
Skyfall Subdivision  
Parcel No. 52212-00-027  
7985 Burgess Road  
El Paso County, Colorado

## FIELD INVESTIGATION

Our field investigation consisted of the preparation of a geologic map of bedrock features and significant surficial deposits. The Natural Resource Conservation Service (NRCS), previously the Soil Conservation Service (SCS) survey was also reviewed to evaluate the site. The position of mappable units within the subject property are shown on the Geologic Map. Our mapping procedures involved both field reconnaissance and measurements, and aerial photo reconnaissance and interpretation. The same mapping procedures have also been utilized to produce the Geology/Engineering Geology Map which identified pertinent geologic conditions affecting development. The field mapping was performed by personnel of Entech Engineering, Inc. on April 22, 2021.

Two test borings were drilled, and two test pits were excavated on the site to determine general suitability of the soil characteristics for residential construction. The locations of the test borings/pits are indicated on the Site Plan/Test Boring Location Map, Figure 3. The Test Boring and Test Pit Logs are presented in Appendix B. Results of this testing will be discussed later in this report.

Laboratory testing was also performed on some of the soils to classify and determine the soils engineering characteristics. Laboratory tests included grain-size analysis, ASTM D-422. Results of the laboratory testing are included in Appendix C.

## SOIL AND GEOLOGIC CONDITIONS

### Soil Survey

The Natural Resource Conservation Service (NRCS) (Reference 1, Figure 4), previously the Soil Conservation Service (Reference 2) has mapped one soil type on the site. Complete descriptions of the soil type are presented in Appendix D. In general, the soils consist of sandy loam to gravelly loamy sand. The soils are described as follows:

<u>Type</u>	<u>Description</u>
41	Kettle gravelly, loamy sand, 8 – 40% Slopes

The soils have been described to have rapid permeabilities. The soils are described as well suited for use as home sites. Possible hazards with soils erosion are present on the site. The erosion potential can be controlled with vegetation. The soils have been described to have moderate erosion hazards (Reference 2).

### Soils

The soils encountered in the test borings consisted of silty to very clayey sand overlying silty to very silty sandstone. Bedrock was encountered at depths of 1 to 4 feet in the test borings. The upper sands were encountered at medium dense states and moderate moisture conditions. The sandstone was encountered at very dense states and moderate moisture conditions. The samples

Ramses II Properties, LLC  
OWTS – Wastewater Study  
Skyfall Subdivision  
Parcel No. 52212-00-027  
7985 Burgess Road  
El Paso County, Colorado

of very clayey sand tested had 49 percent of the soil size particles passing the No. 200 sieve. FHA Swell Testing resulted in an expansion pressure of 670 psf, indicating a low expansion potential. The samples of sandstone tested had 17 to 41 percent of the soil size particles passing the No. 200 sieve. The silty sand and sandstone typically have low expansion potential. Highly expansive claystone and siltstone lenses are commonly interbedded in the sandstone in the area.

### Groundwater

Groundwater was not encountered in the test borings which were drilled to depths of 15 to 20 feet. Groundwater is not anticipated to affect shallow foundations on the majority of the site. Fluctuations in groundwater conditions may occur due to variations in rainfall or other factors not readily apparent at this time. Isolated sand layers within the soil profile can carry water in the subsurface. Contractors should be cognizant of the potential for the occurrence of subsurface water features during construction.

### Geology

Approximately 12¼ miles west of the site is a major structural feature known as the Rampart Range Fault. This fault marks the boundary between the Great Plains Physiographic Province and the Southern Rocky Mountain Province. The site exists within a large structural feature known as the Denver Basin. Bedrock in the area is typically gently dipping in a northerly direction (Reference 3). The bedrock underlying the site consists of the Dawson Formation of Tertiary to Cretaceous Age. The Dawson Formation typically consists of coarse-grained arkosic sandstone with interbedded layers of claystone or siltstone.

The geology of the site was evaluated using the *Geologic Map of the Falcon NW Quadrangle*, by Madole in 2003, (Reference 4, Figure 5). The Geology Map for the site is presented in Figure 6. One mappable unit was identified on this site which is described as follows:

**Qc/Tkd Colluvium of Quaternary Age overlying Dawson Formation of Tertiary to Cretaceous Age:** The materials consist of colluvial or residual soils overlying the bedrock materials on-site. The colluvial soils were deposited by the action of sheetwash and gravity. The residual soils were derived from the in-situ weathering of the bedrock on site. These materials typically consist of silty to clayey sand with potential areas of sandy clays. The bedrock consists of the Dawson Formation. The Dawson Formation typically consists of coarse-grained, arkosic sandstone with interbedded lenses of fine-grained sandstone, siltstone and claystone.

The soils listed above were mapped from site-specific mapping, the *Geologic Map of the Falcon NW Quadrangle* distributed by the Colorado Geologic Survey in 2003 (Reference 4, Figure 5), the *Geologic Map of the Colorado Springs-Castle Rock Area*, distributed by the US Geological Survey in 1979 (Reference 5), and the *Geologic Map of the Pueblo 1° x 2° Quadrangle*, distributed by the US Geological Survey in 1978 (Reference 6). The test borings were used in evaluating the site and are included in Appendix B. The Geology Map prepared for the site is presented in Figure 6.

Ramses II Properties, LLC  
OWTS – Wastewater Study  
Skyfall Subdivision  
Parcel No. 52212-00-027  
7985 Burgess Road  
El Paso County, Colorado

### Drainage Areas

Minor drainage areas exist in the southwestern portion of Lot 1 and the southern portion of Lot 3. No water was observed flowing in the drainage at the time of the investigation, however, these areas have the potential for seasonal shallow groundwater. These areas are indicated on the Geology/Engineering Geology Map (Figure 6). Due to the size of the proposed lots, these areas can either be avoided or redirected around proposed structures or proposed soil treatment areas. The anticipated OWTS locations are not affected by these areas. The site does not lie within any floodplain zones according to the FEMA Map No. 08041CO535G dated December 7, 2018 (Figure 7, Reference 7). Exact locations of floodplain and specific drainage studies are beyond the scope of this report. Individual wastewater treatment systems must be located a minimum of 25 feet from dry gulches and 50 feet from water courses or floodplains.

### **ON-SITE WASTEWATER TREATMENT**

The Natural Resource Conservation Service (Reference 1), previously the Soil Conservation Service (Reference 2) has been mapped with three soil descriptions. The Soil Survey Map (Reference 1) is presented in Figure 4, and the Soil Survey Descriptions (Reference 2) are presented in Appendix C. The soils are described as having rapid percolation rates. The existing septic system is located on Lot 2. Observations of the leach area indicated that the system is operating properly. Records for the existing septic system located on Lot 2 are included in Appendix D.

Soils encountered in the tactile test pits consisted of sandy loam, sandy clay loam, sandy clay, and silty sandstone. The limiting layers encountered in the test pits are the very gravelly sandy loam, sandy clay loam, and the sandstone, which corresponds with USDA Soil Types 3A and 4A, with an LTAR values of 0.30 and 0.20 gallons per day per square foot. Formational sandstone was encountered at approximately 4 to 6 feet in the test pits.

Signs of seasonally occurring groundwater were not observed in the test pits. Absorption fields must be maintained a minimum of 4 feet above groundwater, bedrock, or confining layers. Should groundwater or bedrock be encountered within 6 feet of the surface, designed systems will be required. Designed systems are anticipated on the lots due to shallow bedrock and restrictive clay soils. Areas where conventional systems can be utilized may be determined with additional testing. Testing will be required on each lot to determine the site characteristics prior to construction.

In summary, it is our opinion the site is suitable for individual on-site wastewater treatment systems (OWTS) and that contamination of surface and subsurface water resources should not occur provided the OWTS sites are evaluated and installed according to El Paso County and State Guidelines and properly maintained. Based on the testing performed designed systems are anticipated for the majority of the lots, depending on soils encountered. The Septic Suitability Map is presented in Figure 8. Potential house locations, water wells, and two septic sites for the new lots are indicated on Figure 8. Absorption fields must be located a minimum of 100 feet from any well, including those on adjacent properties. Absorption fields must also be located a minimum of 50 feet from any drainages, floodplains or ponded areas and 25 feet from dry gulches.

Ramses II Properties, LLC  
OWTS – Wastewater Study  
Skyfall Subdivision  
Parcel No. 52212-00-027  
7985 Burgess Road  
El Paso County, Colorado

## CLOSURE

This report has been prepared for Ramses II Properties, LLC, for application to the proposed project in accordance with generally accepted geologic soil and engineering practices. No other warranty expressed or implied is made.

We trust that this report has provided you with all the information that you required. Should you require additional information, please do not hesitate to contact Entech Engineering, Inc.

Respectfully Submitted,

ENTECH ENGINEERING, INC.



Logan L. Langford, P.G.  
Geologist

LLL

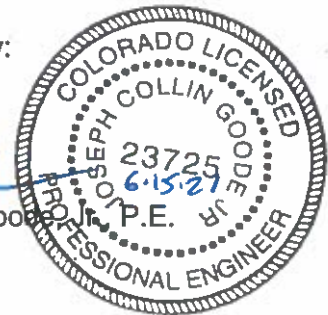
Encl.

Entech Job No. 210901  
A\projects\2021\210901 wws

Reviewed by:



Joseph C. Goode, Jr.  
President



Ramses II Properties, LLC  
OWTS – Wastewater Study  
Skyfall Subdivision  
Parcel No. 52212-00-027  
7985 Burgess Road  
El Paso County, Colorado

## BIBLIOGRAPHY

1. Natural Resource Conservation Service, September 13, 2019. *Web Soil Survey*. United States Department Agriculture, <http://websoilsurvey.sc.egov.usda.gov/App/HomePage.htm>.
2. United States Department of Agriculture Soil Conservation Service. June 1981. *Soil Survey of El Paso County Area, Colorado*.
3. Scott, Glen R.; Taylor Richard B.; Epis, Rudy C; and Wobus, Reinhard A. 1978. *Geologic Structure Map of the Pueblo 1° x 2° Quadrangle, South-Central Colorado*. Sheet 2. U.S. Geologic Survey. Map I-1022, Sheet 2.
4. Madole, Richard F., 2003. *Geologic Map of the Falcon NW Quadrangle, El Paso County, Colorado*. Colorado Geological Survey. Open-File Report 03-08.
5. Trimble, Donald E. and Machette, Michael N. 1979. *Geologic Map of the Colorado Springs-Castle Rock Area, Front Range Urban Corridor, Colorado*. USGS, Map I-857-F.
6. Scott, Glen R.; Taylor Richard B.; Epis, Rudy C; and Wobus, Reinhard A. 1978. *Geologic Structure Map of the Pueblo 1° x 2° Quadrangle, South-Central Colorado*. Sheet 2. U.S. Geologic Survey. Map I-1022.
7. Federal Emergency Management Agency. December 7, 2018. *Flood Insurance Rate Maps for the City of Colorado Springs, Colorado*. Map Number 08041CO535G

## TABLE

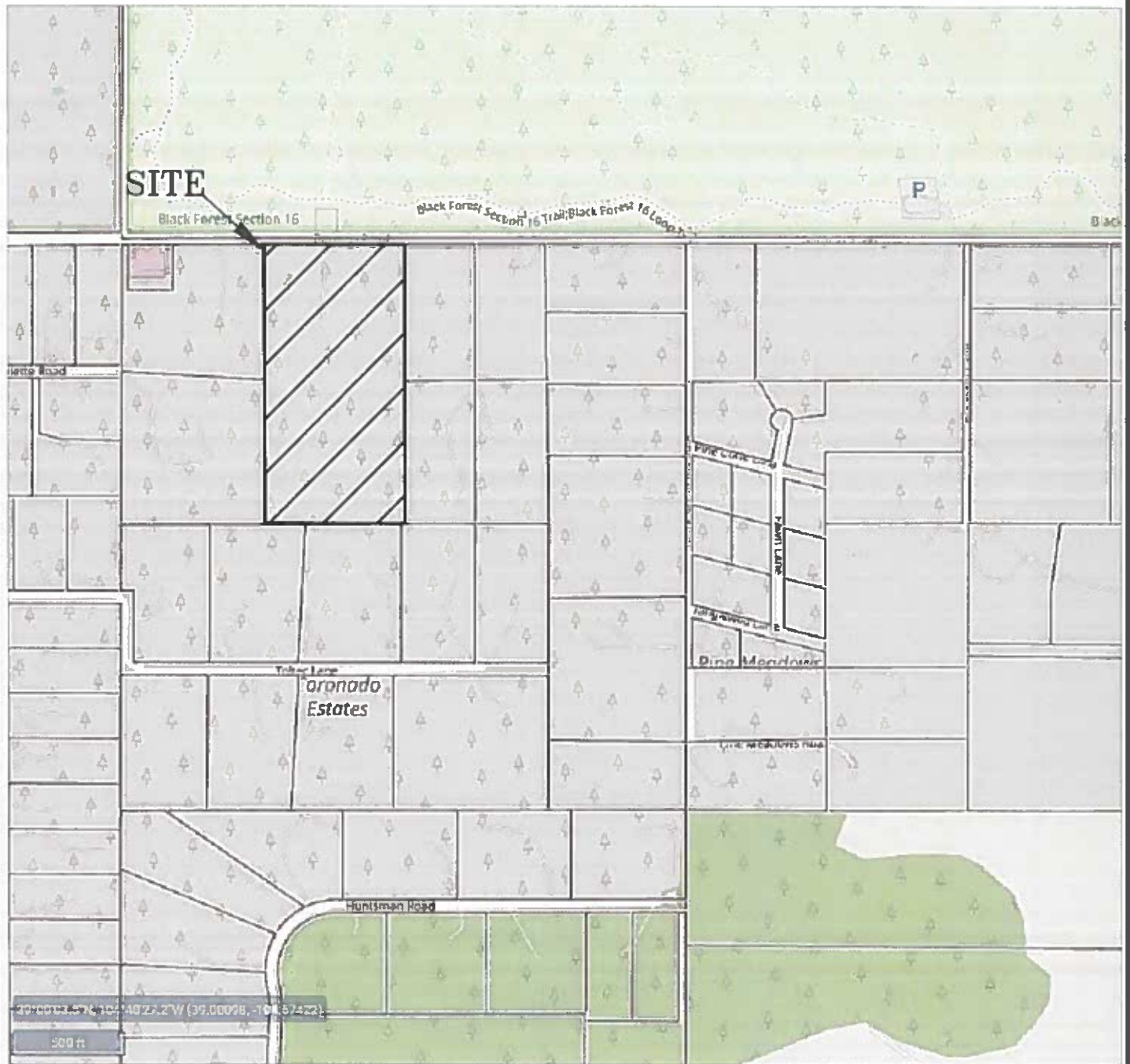
**Table 1: Summary Test Pit Results**

<b>Test Pit No.</b>	<b>Depth to Bedrock (ft.)</b>	<b>Depth to Groundwater (ft.)</b>	<b>USDA Soil Type</b>	<b>LTAR Value</b>
1	4	>4	3A*	0.30*
2	6	>6	4*	0.20*

\*- Conditions that will require an engineered OWTS



## FIGURES



**ENTECH**  
ENGINEERING, INC.  
305 ELKTON DRIVE  
COLORADO SPRINGS, CO 80907 (719) 531-5599

VICINITY MAP  
SKYFALL SUBDIVISION  
7985 BURGESS ROAD  
EL PASO COUNTY, CO.  
FOR: RAMSES II PROPERTIES, LLC

DRAWN:  
LLL

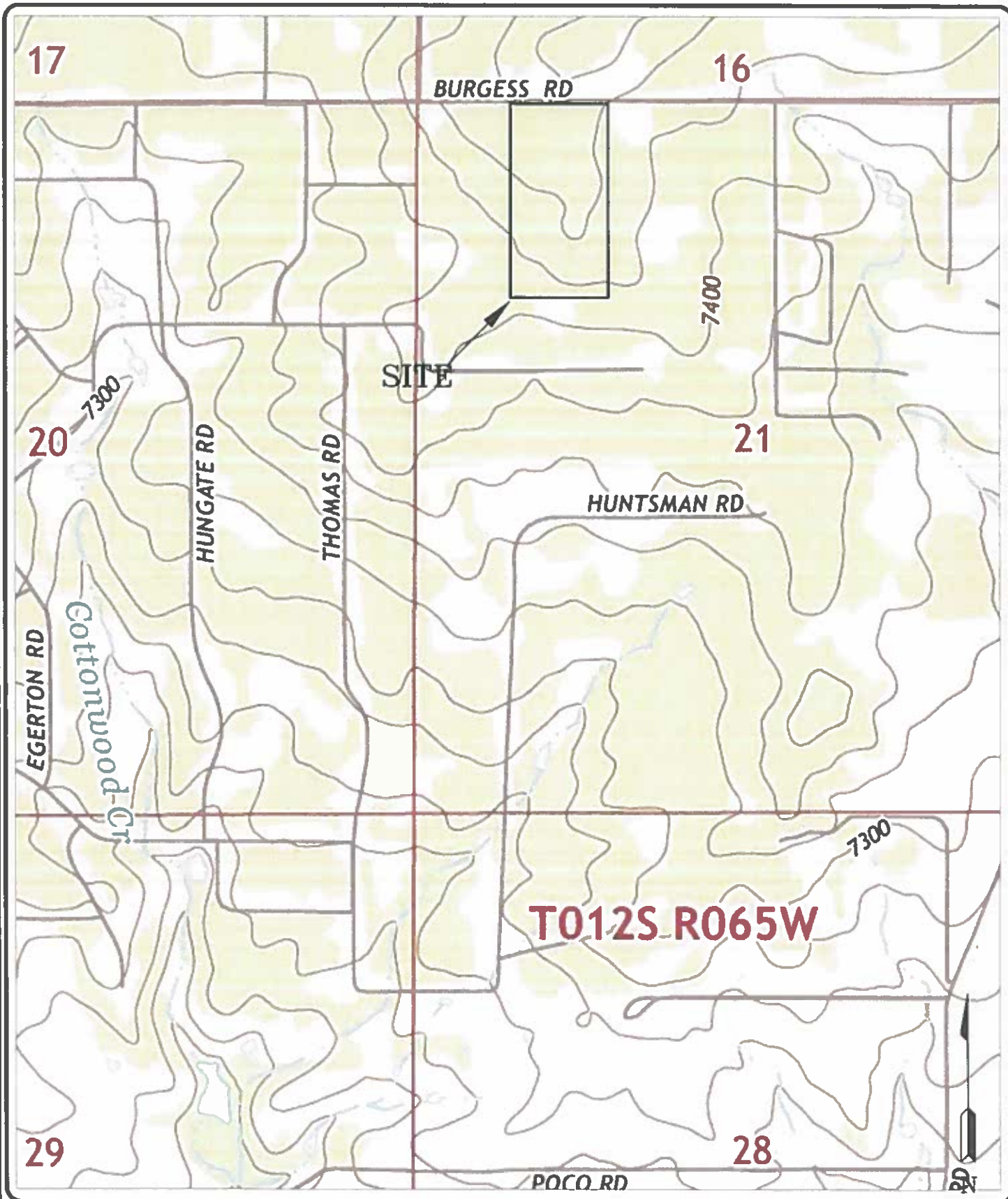
DATE:  
6/4/21

CHECKED:

DATE:

JOB NO.:  
210901

FIG NO.:  
1



**ENTECH**  
ENGINEERING, INC.  
505 ELKTON DRIVE  
COLORADO SPRINGS, CO. 80907 (719) 531-5599

USGS TOPOGRAPHY MAP  
SKYFALL SUBDIVISION  
7985 BURGESS ROAD  
EL PASO COUNTY, CO.  
FOR: RAMSES II PROPERTIES, LLC

DRAWN:  
LLL

DATE:  
6/4/21

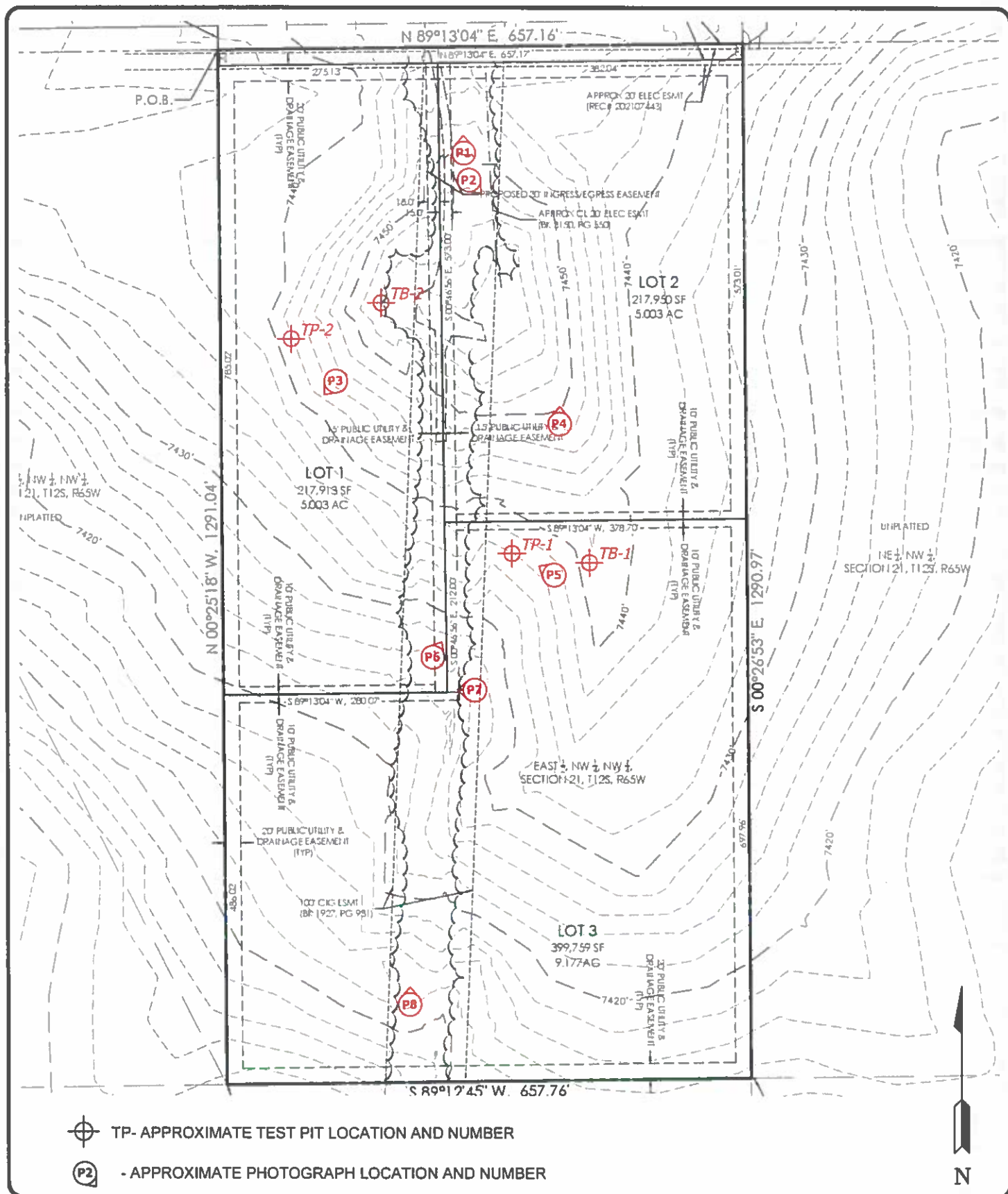
CHECKED:

DATE:

JOB NO.:  
210901

FIG NO.:  
2





Burgess Rd



N



**ENTECH**  
ENGINEERING, INC.  
365 ELKTON DRIVE  
COLORADO SPRINGS, CO. 80907 (719) 531-5599

SOIL SURVEY MAP  
SKYFALL SUBDIVISION  
7985 BURGESS ROAD  
EL PASO COUNTY, CO.  
FOR: RAMSES II PROPERTIES, LLC

DRAWN:  
LLL

DATE:  
6/4/21

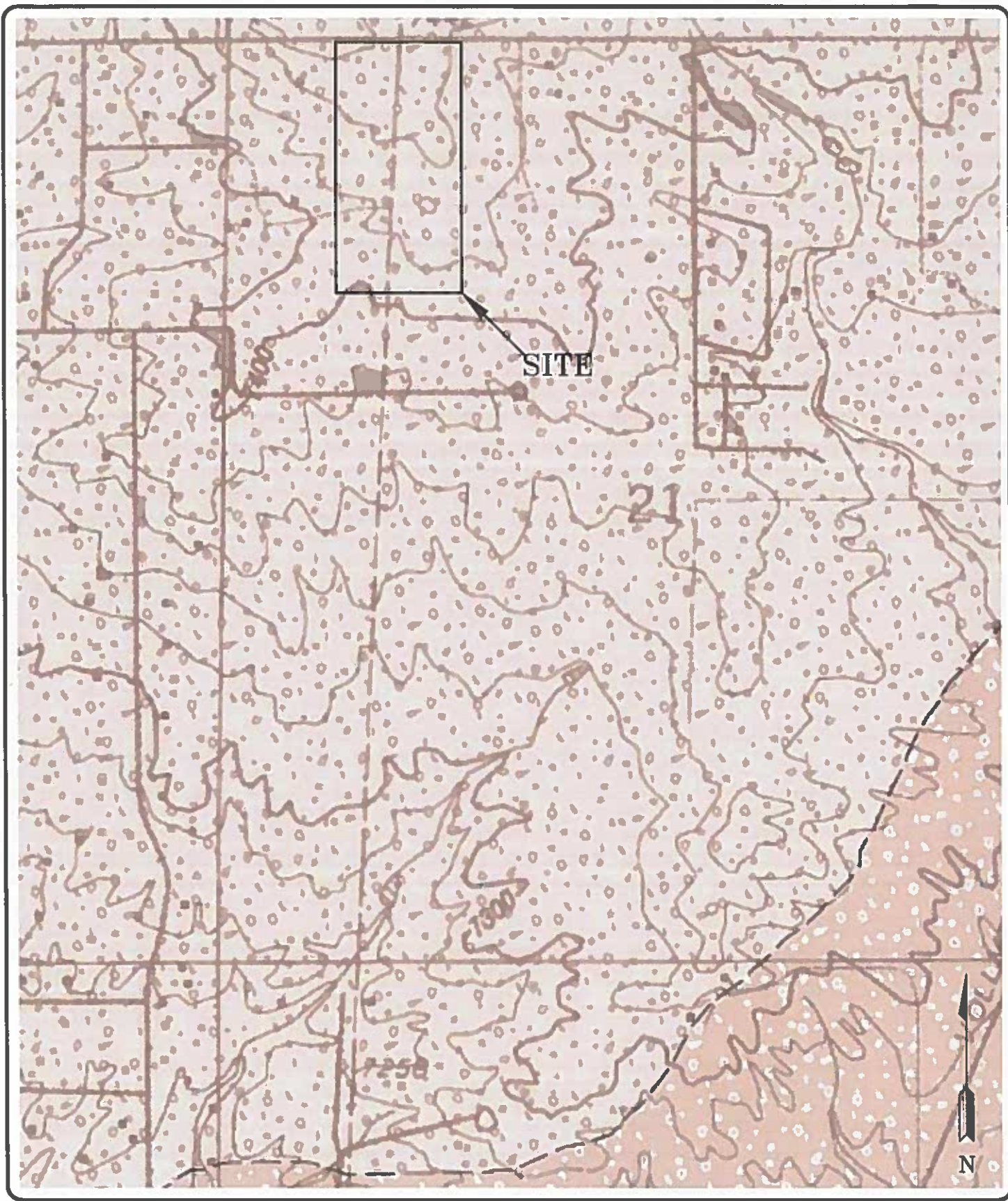
CHECKED:

DATE:

JOB NO.:  
210901

FIG NO.:  
4





**ENTECH**  
**ENGINEERING, INC.**  
363 ELKTON DRIVE  
COLORADO SPRINGS, CO. 80907 (719) 531-0399

FALCON NW QUADRANGLE GEOLOGIC MAP  
SKYFALL SUBDIVISION  
7985 BURGESS ROAD  
EL PASO COUNTY, CO.  
FOR: RAMSES II PROPERTIES, LLC

DRAWN:  
LLL

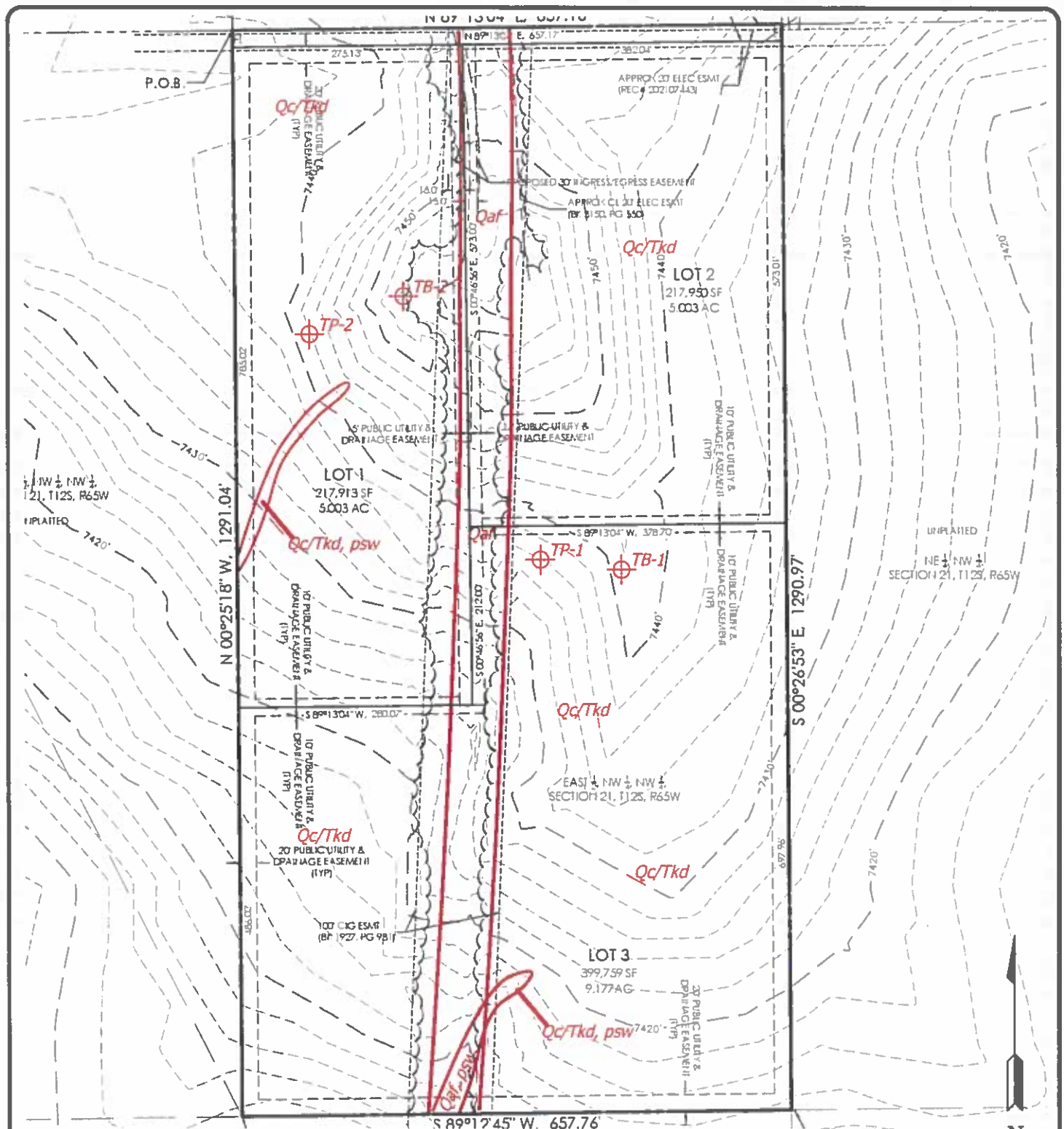
DATE:  
6/4/21

CHECKED:

DATE:

JOB NO.:  
210901

FIG NO.:  
5



**Legend:**

- QaF - Artificial Fill of Holocene Age  
man-made fill deposits associated with fill along the pipeline easement
- QcTKd - Colluvium of Quaternary Age overlying Dawson Formation of Tertiary to Cretaceous Age;  
colluvial and residual soils overlying arkosic sandstone with interbedded fine-grained  
sandstone, siltstone and claystone
- psw - potentially shallow groundwater area



**ENTECH**  
ENGINEERING, INC.  
305 ELKTON DRIVE  
COLORADO SPRINGS, CO. 80907 (719) 531-5399

**GEOLOGY/ENGINEERING GEOLOGY MAP**  
**SKYFALL SUBDIVISION**  
**7985 BURGESS ROAD**  
**EL PASO COUNTY, CO.**  
**FOR: RAMSES II PROPERTIES, LLC**

DRAWN:  
LLL

DATE:  
6/4/21

CHECKED:

DATE:

JOB NO.:  
210901

FIG NO.:  
6





**ENTECH**  
ENGINEERING, INC.  
305 ELKTON DRIVE  
COLORADO SPRINGS, CO. 80917 (719) 531-5399

FEMA FLOODPLAIN MAP  
SKYFALL SUBDIVISION  
7985 BURGESS ROAD  
EL PASO COUNTY, CO.  
FOR: RAMSES II PROPERTIES, LLC

DRAWN:  
LLL

DATE:  
6/4/21

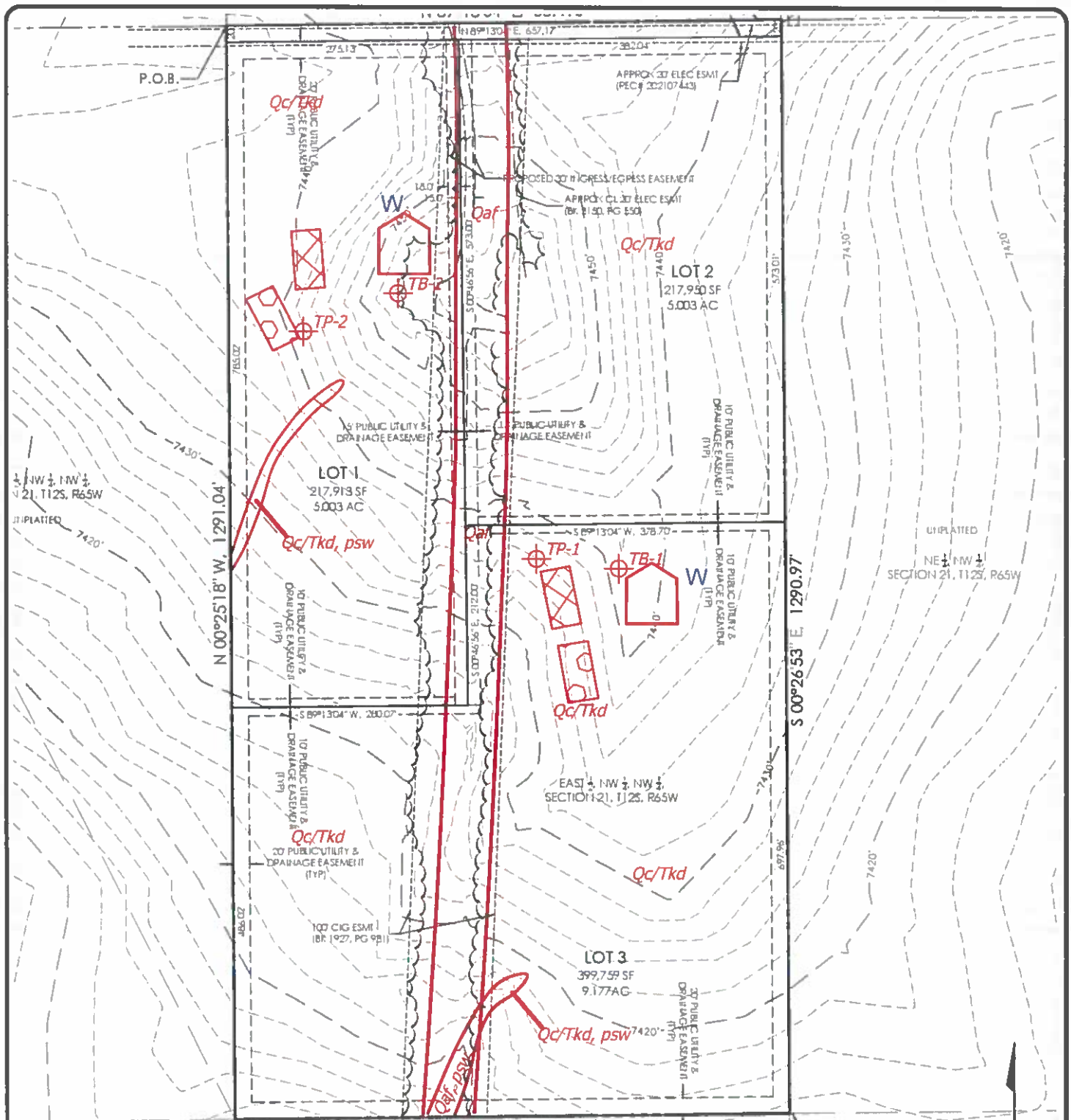
CHECKED:

DATE:

JOB NO.:  
210901

FIG NO.:  
7





# LEGEND:



- POSSIBLE OWTS LOCATIONS

- POSSIBLE OWTS ALTERNATE LOCATION

W

\* WATER WELLS MUST BE A MINIMUM OF 100 FT FROM OWTS ABSORPTION FIELDS



- POSSIBLE HOUSE LOCATIONS



**ENTECH**  
ENGINEERING, INC.  
595 ELKTON DRIVE  
COLORADO SPRINGS, CO. 80907 (719) 531-3599

SEPTIC SUITABILITY MAP  
SKYFALL SUBDIVISION  
7985 BURGESS ROAD  
EL PASO COUNTY, CO.  
FOR: RAMSES II PROPERTIES, LLC

DRAWN:  
LLL

DATE:  
6/4/21

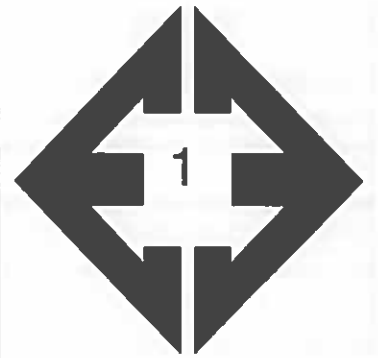
CHECKED:

DATE:

JOB NO.:  
210901

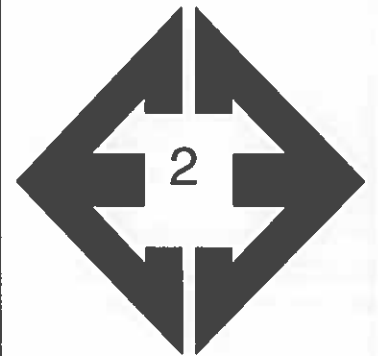
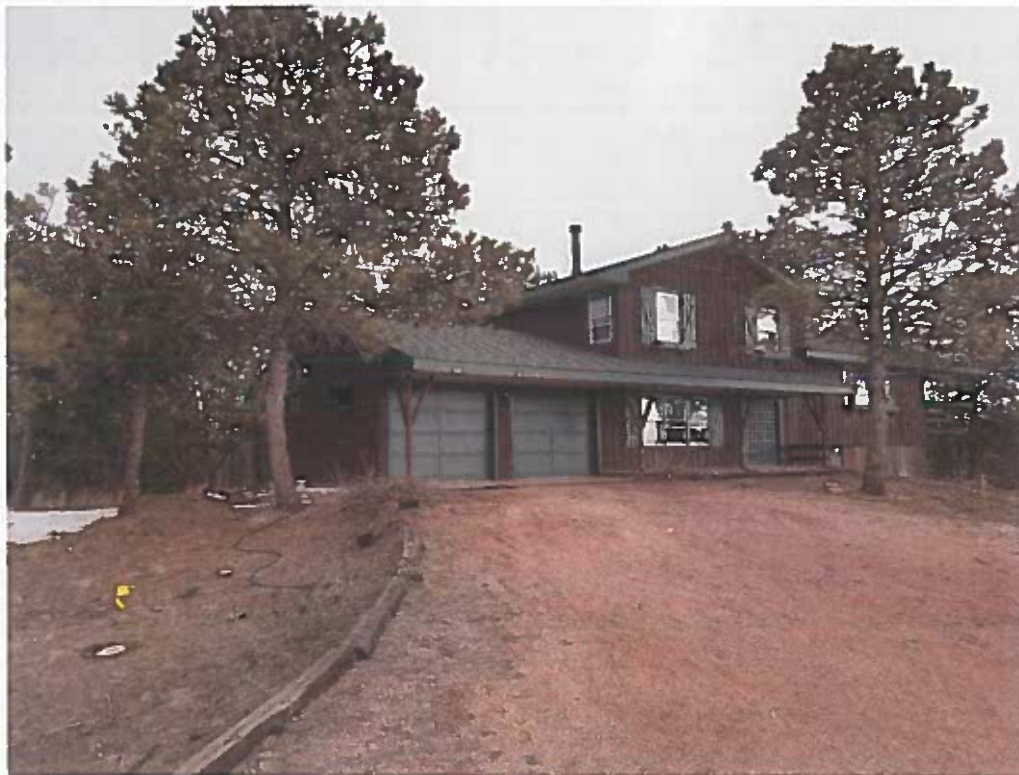
FIG NO.:  
8

## **APPENDIX A: Photographs**



**Looking north from the  
northern portion of the  
site.**

April 22, 2021



**Looking southeast  
from the northern  
portion of the site.**

April 22, 2021





**Looking southwest  
along drainage swale  
in the southwestern  
portion of Lot 2.**

April 22, 2021



**Looking north from the  
west central portion of  
the site.**

April 22, 2021



**Looking northwest  
from the east central  
portion of the site.**

April 22, 2021



**Looking northwest  
along the pipeline  
easement in the  
central portion of the  
site.**

April 22, 2021





**Looking west from the  
southern portion of the  
site.**

April 22, 2021



**Looking north along  
pipeline easement in  
the southern portion of  
the site.**

April 22, 2021

## **APPENDIX B: Test Boring & Test Pit Logs**

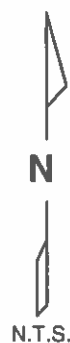
TEST BORING NO. 1  
 DATE DRILLED 4/29/2021  
 Job # 210901

TEST BORING NO. 2  
 DATE DRILLED 4/29/2021  
 CLIENT RAMSES II PROPERTIES  
 LOCATION 7985 BURGESS ROAD

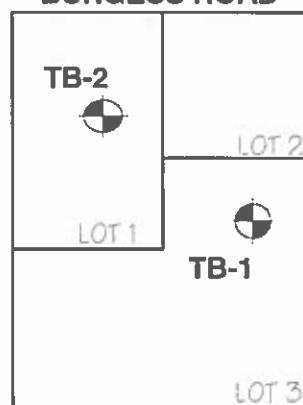
REMARKS	Depth (ft)	Symbol	Samples	Blows per foot	Watercontent %	Soil Type
DRY TO 20', 4/29/21						
6" TOPSOIL, SAND, VERY CLAYEY, FINE TO COARSE GRAINED, BROWN, MEDIUM DENSE, MOIST				13	14.0	
	5			B	4.7	
SANDSTONE, SILTY, FINE TO COARSE GRAINED, TAN, VERY DENSE, MOIST						
	10			50 4"	7.8	
	15			50 2"	5.9	
	20			B	3.5	

REMARKS	Depth (ft)	Symbol	Samples	Blows per foot	Watercontent %	Soil Type
DRY TO 15', 4/29/21						
6" TOPSOIL, SAND, CLAYEY, BROWN SANDSTONE, VERY SILTY, FINE GRAINED, TAN, VERY DENSE, MOIST				50 11"	15.1	
	5			50 5"	10.2	
SANDSTONE, SILTY, FINE TO COARSE GRAINED, TAN TO BROWN, VERY DENSE, MOIST						
	10			50 3"	9.1	
	15			50 2"	9.3	
	20					

B - BOUNCE



#### BURGESS ROAD



LOCATIONS OF TEST BORINGS ARE APPROXIMATE



**ENTECH**  
 ENGINEERING, INC.  
 505 ELKTON DRIVE  
 COLORADO SPRINGS, COLORADO 80907

#### TEST BORING LOG

DRAWN:

DATE:

CHECKED:

DATE:

LLL

6/2/21

JOB NO:  
210901

FIG NO:

B-1



TEST PIT NO. 1  
DATE EXCAVATED 4/29/2021  
Job # 210901

TEST PIT NO. 2  
DATE EXCAVATED 4/29/2021  
CLIENT Ramses II Properties, LLC  
LOCATION 7985 Burgess Road

REMARKS

REMARKS	Depth (ft)	Symbol	Samples	Soil Structure Shape	Soil Structure Grade	USDA Soil Type
topsoil, sandy clay loam, brown, moist	1			gr	m	2
sandy loam, Fine to coarse grained, pale brown, moist	2					
	3			ma		2A
sandy loam, sandstone fine to coarse grained pale brown, moist	4					
	5					
	6					
	7					
	8					
	9					
	10					

REMARKS

REMARKS	Depth (ft)	Symbol	Samples	Soil Structure Shape	Soil Structure Grade	USDA Soil Type
topsoil, sandy clay loam, brown, moist	1					
sandy clay, very fine to coarse grained, light brown, moist	2			ma		4A
	3					
sandy loam, fine to coarse grained, pale brown, moist	4			gr	s	3
	5					
	6					
	7					
	8					
	9					
	10					

Soil Structure Shape

granular - gr  
platy - pl  
blocky - bl  
prismatic - pr  
single grain - sg  
massive - ma

Soil Structure Grade

weak - w  
moderate - m  
strong - s  
loose - l



**ENTECH  
ENGINEERING, INC.**

505 ELKTON DRIVE  
COLORADO SPRINGS, COLORADO 80907

TEST PIT LOG

DRAWN:  
jhr

DATE  
5/17/21

CHECKED  
LLL

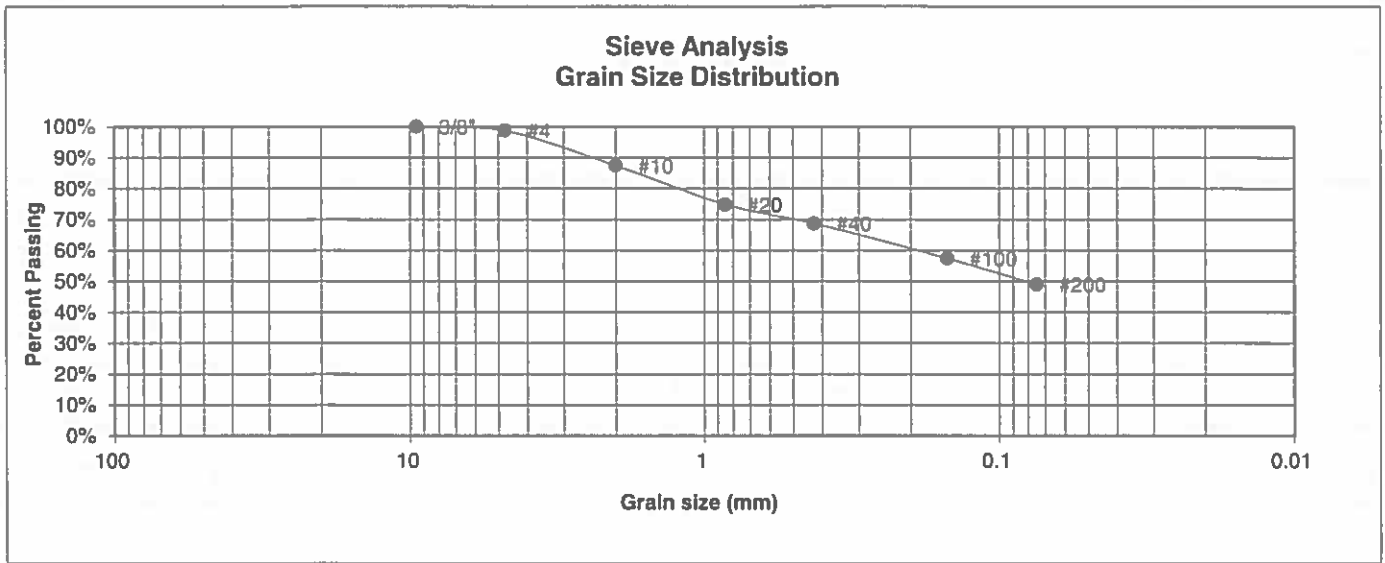
DATE  
6/2/21

JOB NO.:  
210901

FIG NO.:  
B-2

## **APPENDIX C: Laboratory Test Results**

BORING NO.	1	UNIFIED CLASSIFICATION	SC	TEST BY	BL
DEPTH(ft)	2-3	AASHTO CLASSIFICATION		JOB NO.	210901
CLIENT	RAMSES II PROPERTIES				
PROJECT	7985 BURGESS ROAD				



U.S. Sieve #	Percent Finer
3"	
1 1/2"	
3/4"	
1/2"	
3/8"	100.0%
4	98.7%
10	87.4%
20	74.8%
40	68.7%
100	57.4%
200	49.0%

**Atterberg  
Limits**  
Plastic Limit  
Liquid Limit  
Plastic Index

<b>Swell</b>	
Moisture at start	13.2%
Moisture at finish	20.2%
Moisture increase	7.1%
Initial dry density (pcf)	100
Swell (psf)	670



**ENTECH  
ENGINEERING, INC.**

505 ELKTON DRIVE  
COLORADO SPRINGS, COLORADO 80907

### LABORATORY TEST RESULTS

DRAWN:

DATE:

CHECKED:

DATE:

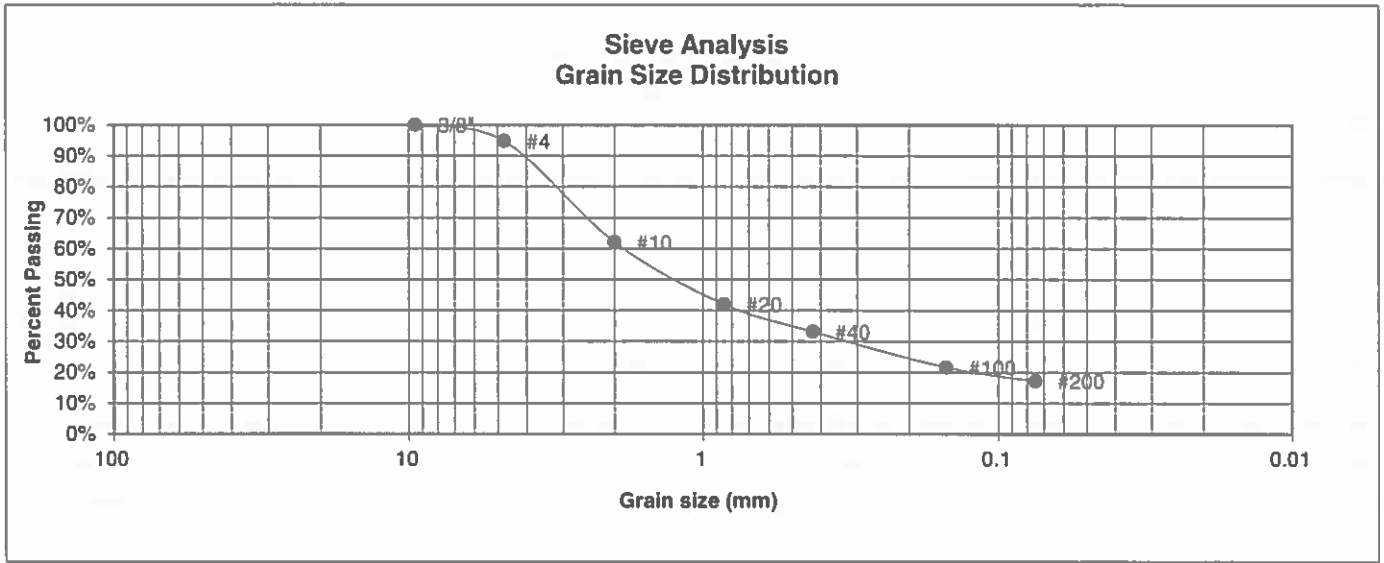
LLC

6/2/21

JOB NO.:  
210901

FIG NO.:  
C-1

BORING NO.	1	UNIFIED CLASSIFICATION	SM	TEST BY	BL
DEPTH(ft)	10	AASHTO CLASSIFICATION		JOB NO.	210901
CLIENT	RAMSES II PROPERTIES				
PROJECT	7985 BURGESS ROAD				



U.S. Sieve #	Percent Finer
3"	
1 1/2"	
3/4"	
1/2"	
3/8"	100.0%
4	94.8%
10	62.1%
20	42.0%
40	33.1%
100	21.6%
200	17.2%

Atterberg
Limits
Plastic Limit
Liquid Limit
Plastic Index
Swell
Moisture at start
Moisture at finish
Moisture increase
Initial dry density (pcf)
Swell (psf)



**ENTECH**  
**ENGINEERING, INC.**  
 505 ELKTON DRIVE  
 COLORADO SPRINGS, COLORADO 80907

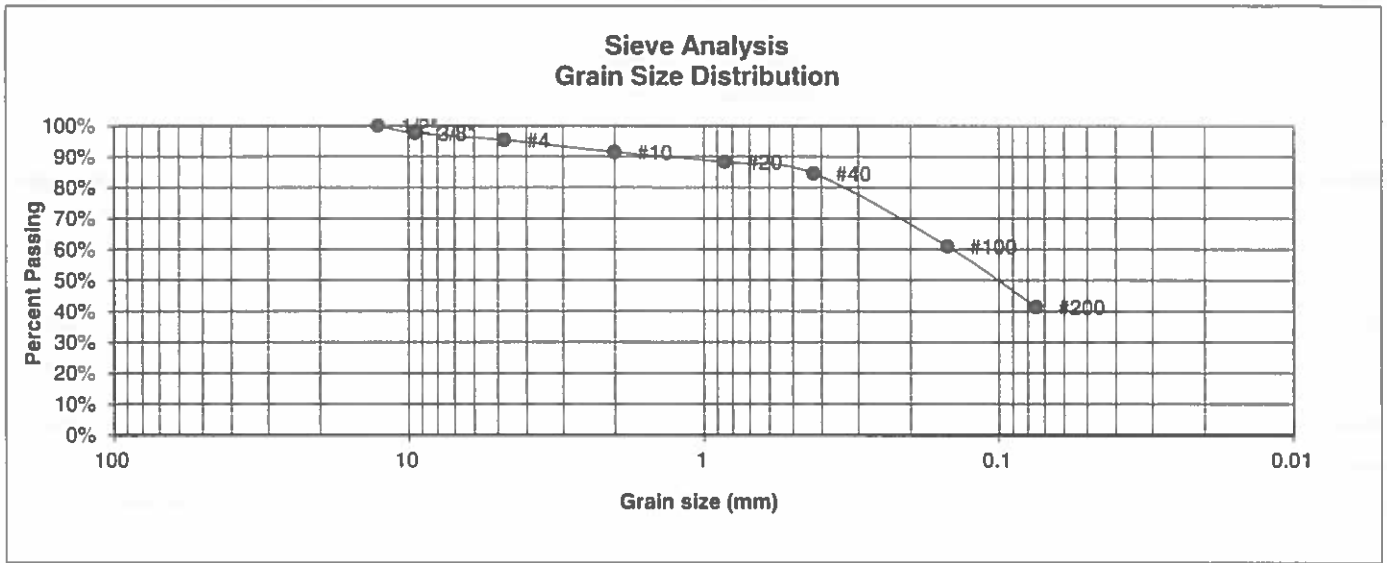
LABORATORY TEST  
 RESULTS

DRAWN:	DATE:	CHECKED:	DATE:
		LLL	6/2/21

JOB NO.  
 210901

FIG NO.  
 L-2

BORING NO.	2	UNIFIED CLASSIFICATION	SM	TEST BY	BL
DEPTH(ft)	5	AASHTO CLASSIFICATION		JOB NO.	210901
CLIENT	RAMSES II PROPERTIES				
PROJECT	7985 BURGESS ROAD				



U.S. Sieve #	Percent Finer
3"	
1 1/2"	
3/4"	
1/2"	100.0%
3/8"	97.6%
4	95.3%
10	91.4%
20	88.3%
40	84.6%
100	61.0%
200	41.4%

Atterberg  
Limits  
Plastic Limit  
Liquid Limit  
Plastic Index

Swell  
Moisture at start  
Moisture at finish  
Moisture increase  
Initial dry density (pcf)  
Swell (psf)



**ENTECH  
ENGINEERING, INC.**

505 ELKTON DRIVE  
COLORADO SPRINGS, COLORADO 80907

### LABORATORY TEST RESULTS

DRAWN

DATE

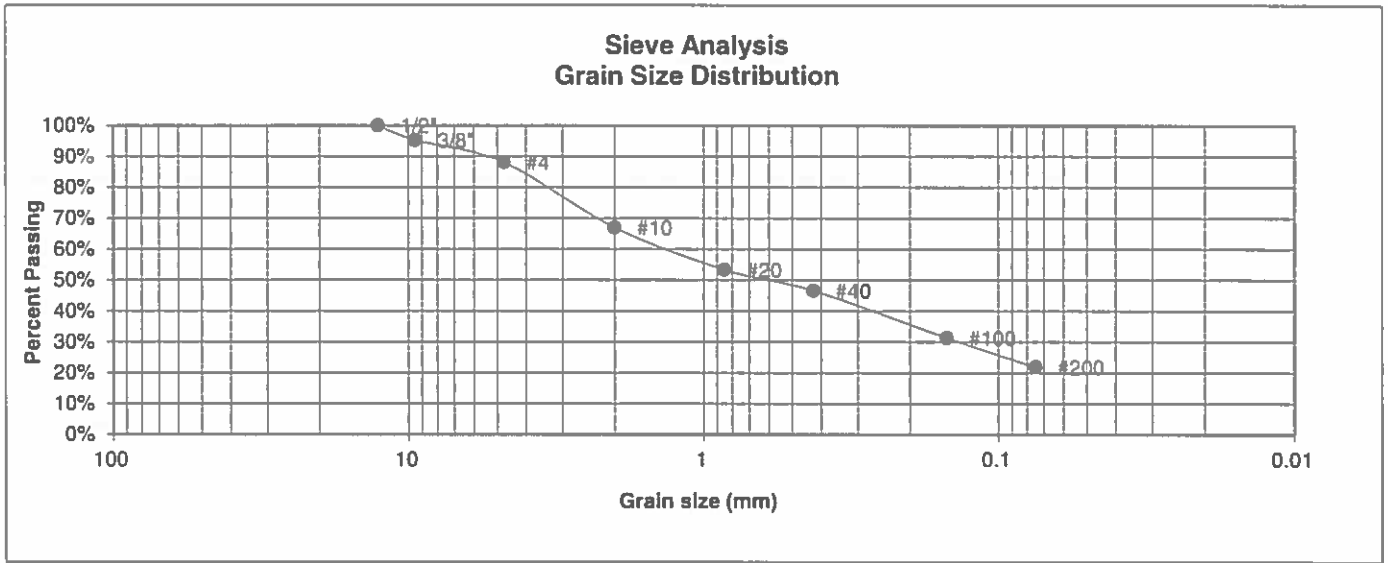
CHECKED  
L L L

DATE  
6/2/21

JOB NO.  
210901

FIG NO.  
C-3

BORING NO.	TP-1	UNIFIED CLASSIFICATION	SC	TEST BY	BL
DEPTH(ft)	1	AASHTO CLASSIFICATION		JOB NO.	210901
CLIENT	RAMSES II PROPERTIES				
PROJECT	7985 BURGESS ROAD				



U.S. Sieve #	Percent Finer
3"	
1 1/2"	
3/4"	
1/2"	100.0%
3/8"	95.3%
4	88.1%
10	67.0%
20	53.4%
40	46.6%
100	31.3%
200	21.9%

Atterberg  
Limits  
Plastic Limit  
Liquid Limit  
Plastic Index

Swell  
Moisture at start  
Moisture at finish  
Moisture increase  
Initial dry density (pcf)  
Swell (psf)



**ENTECH  
ENGINEERING, INC.**

505 ELKTON DRIVE  
COLORADO SPRINGS, COLORADO 80907

### LABORATORY TEST RESULTS

DRAWN:

DATE:

CHECKED:

DATE:

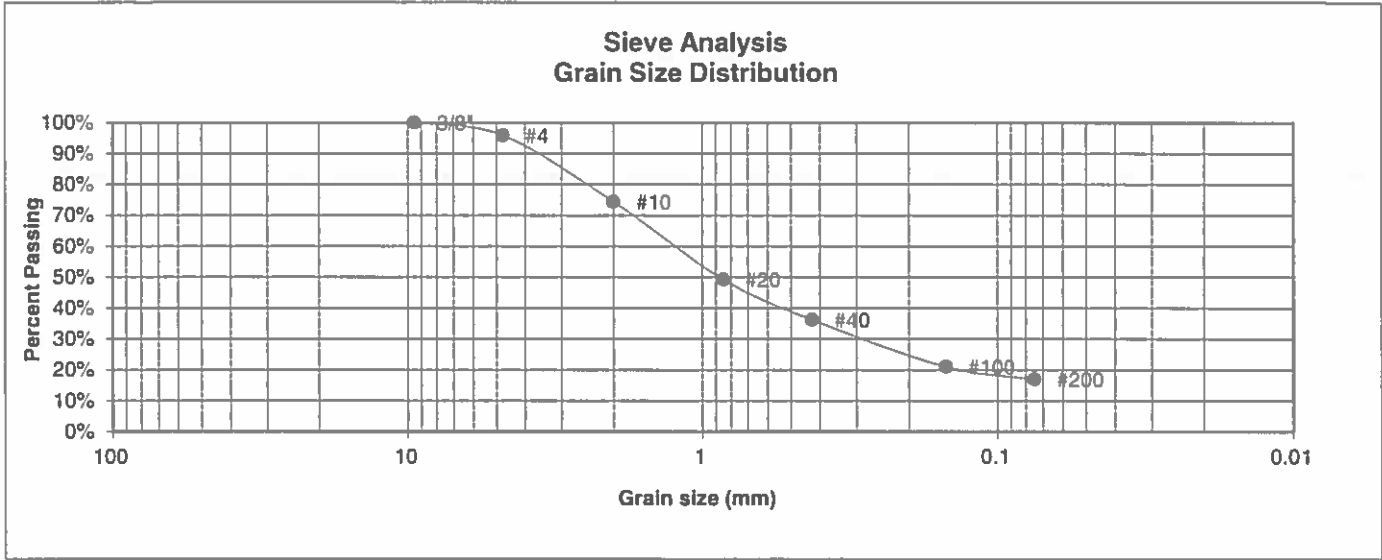
LLL

6/2/21

JOB NO:  
210901

FIG NO:  
C-4

BORING NO.	TP-1	UNIFIED CLASSIFICATION	SM	TEST BY	BL
DEPTH(ft)	2-3	AASHTO CLASSIFICATION		JOB NO.	210901
CLIENT	RAMSES II PROPERTIES				
PROJECT	7985 BURGESS ROAD				



U.S. Sieve #	Percent Finer	Atterberg Limits
3"		Plastic Limit
1 1/2"		Liquid Limit
3/4"		Plastic Index
1/2"		
3/8"	100.0%	
4	95.9%	
10	74.4%	
20	49.3%	
40	36.2%	
100	21.0%	
200	17.0%	

Swell
Moisture at start
Moisture at finish
Moisture increase
Initial dry density (pcf)
Swell (psf)



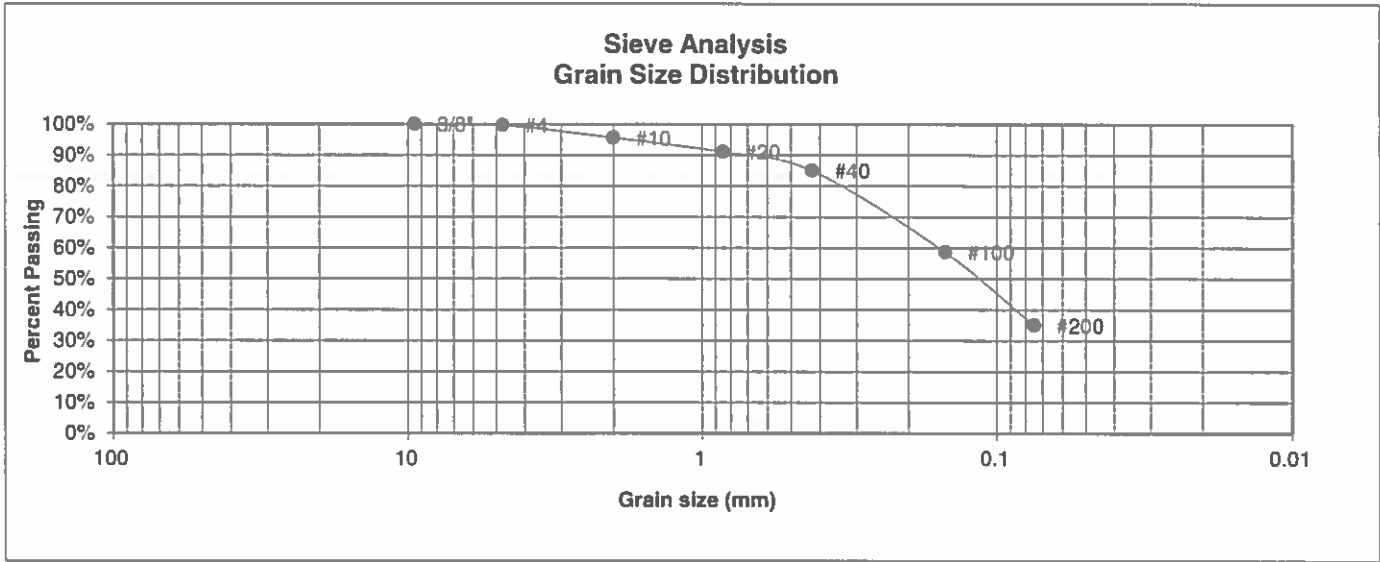
**ENTECH  
ENGINEERING, INC.**  
505 ELKTON DRIVE  
COLORADO SPRINGS, COLORADO 80907

### LABORATORY TEST RESULTS

DRAWN:	DATE:	CHECKED:	DATE:
		LLC	6/24/21

JOB NO:  
210901  
  
FIG NO:  
C-5

BORING NO.	TP-2	UNIFIED CLASSIFICATION	SC	TEST BY	BL
DEPTH(ft)	1	AASHTO CLASSIFICATION		JOB NO.	210901
CLIENT	RAMSES II PROPERTIES				
PROJECT	7985 BURGESS ROAD				



U.S. Sieve #	Percent Finer
3"	
1 1/2"	
3/4"	
1/2"	
3/8"	100.0%
4	99.7%
10	95.6%
20	91.1%
40	85.1%
100	58.7%
200	35.0%

Atterberg  
Limits  
 Plastic Limit  
 Liquid Limit  
 Plastic Index

Swell  
 Moisture at start  
 Moisture at finish  
 Moisture increase  
 Initial dry density (pcf)  
 Swell (psf)



**ENTECH**  
**ENGINEERING, INC.**  
 505 ELKTON DRIVE  
 COLORADO SPRINGS, COLORADO 80907

### LABORATORY TEST RESULTS

DRAWN:	DATE:	CHECKED:	DATE:
		LLL	6/2/21

JOB NO.:  
 210901  
 FIG NO.:  
 C-6



## **APPENDIX D: Soil Survey Descriptions**

## **APPENDIX E: El Paso County Health Department Septic Records**

EL PASO COUNTY HEALTH DEPARTMENT  
COLORADO SPRINGS, COLORADO

SEWAGE DISPOSAL INSPECTION FORM

APPROVAL:  
YES ☒ NO ☐

# 5221800027

black fresh

permit #

5367

DATE 12/78

ENVIRONMENTALIST

Krueger

LOCATION (street number)

7985 Burgess Rd.

OCCUPANT

Brunson

LEGAL DESCRIPTION

TYPE OF CONSTRUCTION

NO. OF BEDROOMS

SYSTEM INSTALLED BY

Ford Construction

COMMERCIAL MFG.

yes

SIZE

1500

TYPE OF MATERIAL

NO. COMPARTMENTS

2

WIDTH

LENGTH

DEPTH (total)

LIQ. CAP

DISPOSAL FIELD: BED OR TRENCH DEPTH

WIDTH 36"

LENGTH 185'

SQ. FT

DISTANCE BETWEEN LINES 15'

ROCK yes

DEPTH 12"

UNDER 6"

OVER 2"

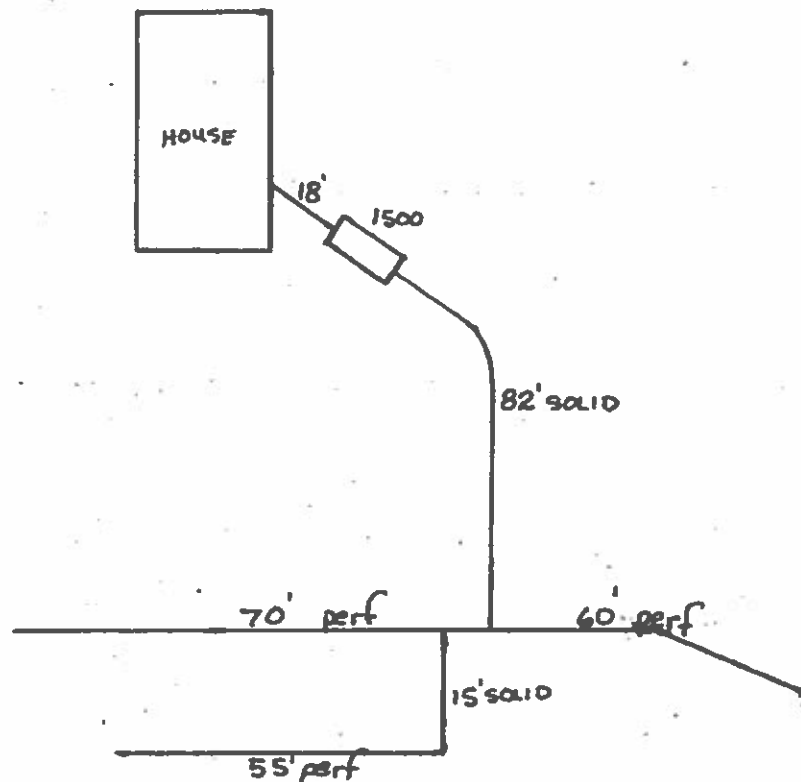
LEACHING PITS (NO.)

LINING MATERIAL

CAPACITY SQ. FT.

NORTH

• WELL



Acres 2.20 (10)

EL PASO COUNTY . CITY-COUNTY HEALTH DEPARTMENT  
501 North Foote Avenue . Colorado Springs, Colorado - 475-8240

Water Supply well

# PERMIT

Receipt No. 05317  
5246

TO CONSTRUCT, ALTER, REPAIR OR MODIFY AN INDIVIDUAL SEWAGE DISPOSAL SYSTEM

Issued To Brunson Date 7/13/78

Address of Property 7985 Burgess Rd.  
(Permit valid at this address only)

Builder - Contractor - Owner Address \_\_\_\_\_ Phone \_\_\_\_\_

Sewage-Disposal System work to be performed by Ford Const Phone \_\_\_\_\_

This Permit is issued in accordance with Regulation XII and Article 2 of Chapter 66, Colorado Revised Statutes 1963, as amended by the addition of a new Section 66-2-16. (H.B. 1205, 7-1-65). PERMIT EXPIRES upon completion-installation of sewage-disposal system or at the end of six (6) months from date of issue - whichever occurs first - (unless work is in progress).

- This Permit does not denote approval of zoning and acreage requirements. -

Permit Fee \$50.00 Dowling Director, City-County Health Department

Date of Expiration 1/13/79 Krueger Environmentalist

NOTE: LEAVE ENTIRE SEWAGE-DISPOSAL SYSTEM UNCOVERED FOR FINAL INSPECTION.

## 24-HOUR ADVANCE NOTICE REQUIRED

Septic tank 1000 gals. Field 185 Feet of trench 36 inches wide  
OR. Field \_\_\_\_\_ Feet of trench \_\_\_\_\_ inches wide  
Seepage bed \_\_\_\_\_ ft. long \_\_\_\_\_ ft. wide. Seepage pit \_\_\_\_\_ sq. ft. \_\_\_\_\_ diam. \_\_\_\_\_ w/d

The Health Officer shall assume no responsibility in case of failure or inadequacy of a sewage-disposal system, beyond consulting in good faith with the property owner or representative. Free access to the property shall be authorized at reasonable times for the purpose of making such inspections as are necessary to determine compliance with requirements of this regulation.