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

WASTEWATER STUDY
IRON RIDGE SUBDIVSION
EL PASO COUNTY, COLORADO

Prepared for:
Atticus Land, LLC
P.O. Box 88010
Colorado Springs, Colorado 80908

Attn: Jake Decoto

September 12, 2025

Respectfully Submitted,

ENTECH ENGINEERING, INC.

Logan L. Langford, P.G.
Sr. Geologist

Reviewed by:

COLORADO LICENSED
JOSEPH COLLIN GOODE
23725
PROFESSIONAL ENGINEER

Digitally signed by Joseph C Goode Jr.
Date: 09/24/25

Joseph C. Goode Jr., P.E.
President

LLL/JCG
Entech Job No. 251117

PCD No.

Table of Contents

1 SUMMARY

Project Location

The project site is located within a portion of the S½ of Section 13, Township 11 South, Range 66 West of the 6th Principal Meridian in El Paso County, Colorado. The site is located south of the intersection of Brown Road and Walker Road in northern El Paso County approximately 6 miles east of Monument, Colorado. The location of the site is as shown on the Vicinity Map (Figure 1).

Project Description

The project consists of subdividing approximately 90 acres into a 29-lot rural residential subdivision. The proposed lots are to range from 2.5 to 6 acres in size and will be serviced by individual water wells and on-site wastewater treatment systems (OWTS).

Scope of Report

This report presents the results of our geologic evaluation and treatment of engineering geologic hazard study with respect to OWTS proposed for the subdivision.

Land Use and Engineering Geology

This site was found to be suitable for the proposed development; however, geologic conditions in certain areas will impose some minor constraints on development and land use. These include areas of artificial fill, potentially expansive soils, downslope creep, potentially unstable slopes, shallow bedrock, seasonal and potentially seasonal shallow groundwater areas, areas of ponded water, erosion, and the potential for elevated radon levels. These conditions are discussed in greater detail in this report.

In general, it is our opinion that the development can be achieved if the observed geologic conditions on site are either properly mitigated or avoided. All recommendations are subject to the limitations discussed in the report.

2 GENERAL SITE CONDITIONS AND PROJECT DESCRIPTION

The topography of the site varies from gently to moderately sloping, generally to the south and north towards the unnamed tributary of East Cherry Creek which runs through central portion of the site. Several minor drainage swales are located across the site. The drainages on site generally flow in southeasterly and easterly-northeasterly directions across the site. Water was not observed flowing in the drainages at the time of this investigation; however, an area of ponded water was observed in the stock pond located in the southern portion of the site. The site boundaries are indicated on the USGS Map (Figure 2). Previous land uses have included grazing and pastureland. The site primarily contains field grasses and weeds. Site photographs are included in Appendix A.

The project consists of subdividing approximately 90 acres into a 29-lot rural residential subdivision. The proposed lots are to range from 2.5 to 6 acres and will be serviced by individual water wells and on-site wastewater treatment systems (OWTS). Preliminary plans indicate two extended detention basins (EDBs) Pond 1 will be located in the southern portion of the site, and Pond 2 will be located in the northern portion of the site. Grading will primarily be associated with the construction of roads and extended detention basins. The proposed development plan is shown in the Site and Exploration Plan, Figure 4.

3 SCOPE OF THE REPORT

The scope of the report will include a general geologic analysis utilizing published geologic data. Detailed site-specific mapping was conducted to obtain general information with respect to major geographic and geologic features, geologic descriptions, and their effects on the development of the property in accordance with the El Paso Land Development Code.

4 FIELD INVESTIGATION

Our field investigation consisted of the preparation of a geologic map of any bedrock features and significant surficial deposits. The site was also evaluated using the Web Soil Survey from the Natural Resource Conservation Service (NRCS), formerly known as the Soil Conservation Service (SCS). The position of mappable units within the subject property is shown on the Geologic Map (Figure 6). Our mapping procedures involved both field reconnaissance and measurements and air photo reconnaissance and interpretation. The same mapping procedures

have also been utilized to produce the Engineering Geology Map (Figure 6), which identified pertinent geologic conditions affecting development. The field mapping was performed by personnel of Entech on June 24 and July 14, 2025. Site photographs are included in Appendix A.

Twelve (12) test borings were drilled and eight (8) test pits were excavated across the project site to determine the classification and engineering characteristics of the soils. The borings were drilled to depths of 15 to 20 feet using a truck-mounted, continuous flight auger drilling rig supplied and operated by Entech, and the test pits were excavated to depths of 7 to 8 feet. The locations of the test borings and test pits are indicated in the Site and Exploration Plan, Figure 4. The Test Boring and Test Pit Logs in Appendix B, and Laboratory Test Results are included in Appendix C. The results of the testing will be discussed later in this report.

Laboratory testing was performed to classify and determine the engineering characteristics of the soils. Laboratory tests included moisture content testing (ASTM D2216), grain-size analysis (ASTM D422), and Atterberg Limits testing (ASTM D4318). Swell testing included Swell/Consolidation Tests. Results of the laboratory testing are included in Appendix C.

5 SOIL, GEOLOGY, AND ENGINEERING GEOLOGY

5.1 General Geology

The site lies in the western portion of the Great Plains Physiographic Province. A major structural feature known as the Rampart Range Fault lies approximately 11 miles to the west. This fault marks the boundary between the Great Plains Physiographic Province and the Southern Rocky Mountain Province. The site exists within the southeastern edge of a large structural feature known as the Denver Basin. Bedrock in the area tends to be very gently dipping in a northerly direction (Reference 1). The rocks in the area of the site are sedimentary in nature and typically Tertiary to Cretaceous in age. The bedrock underlying the site consists of the Dawson Arkose Formation of Tertiary to Cretaceous Age. Overlying this formation are unconsolidated deposits of residual, colluvial, man-made, and alluvial soils of the Quaternary Age. The residual soils are produced by the in-situ action of weathering of the bedrock on site. Some colluvial soils deposited by gravity and sheetwash exist. The alluvial soils were deposited by water in the drainages on site. Man-made soils exist as earthen dams and erosion berms. The site's stratigraphy will be discussed in more detail in Section 5.3.

5.2 Soil Conservation Survey

The Natural Resource Conservation Service (Reference 2), previously the Soil Conservation Service (Reference 3), has mapped three soil types on the site (Figure 4). In general, it is a sandy loam. The soils are described as follows:

Exhibit 1: Soil Survey Description

Type	Description
67	Peyton sandy loam, 5 to 9% slopes
69	Peyton-Pring Complex, 8 to 15% slopes
92	Tomah-Crowfoot loamy sands, 3 to 8% slopes

Complete descriptions of each soil type are presented in Appendix E. The soil has generally been described as having moderately high permeabilities. Limitations on development include limited ability to support a load, shrink-swell potential, slopes, and frost action potential. Possible hazards with soil erosion are present on the site. The erosion potential can be controlled with vegetation. The soil has been described to have moderate erosion hazards.

5.3 Site Stratigraphy

The Geologic Map of the Black Forest Quadrangle showing the site is presented in Figure 5 (Reference 4). The Geology/Engineering Geology Map prepared for the site is presented in Figure 5. Four mappable units were identified on this site that are described as follows:

Qaf **Artificial Fill of Holocene Age:** These are man-placed fill deposits associated with erosion berms and the earthen dams on the site. Other areas of fill may exist on the site in addition to those mapped.

Qal **Alluvium of Holocene Age:** These are recent stream deposits associated with the drainages on the site. These materials generally consist of silty to clayey sands.

Qt_1 **Terrace Alluvium One of Holocene and late Pleistocene Age:** These are stream terrace deposits located along the drainage in the central portion of the site. These materials generally consist of silty to clayey sands.

Tkda **Dawson Formation of Tertiary to Cretaceous Age:** The Dawson Formation typically consists of arkosic sandstone with interbedded fine-grained sandstone, siltstone, and claystone. Overlying this formation is a variable layer of residual soil. The residual soils were derived from the in-situ weathering of the bedrock materials on-site. These soils

consist of clayey sands and sandy clays. Areas of colluvial soils may exist on some of the slopes on site. These materials are derived from the bedrock materials and have been re-deposited by the action of sheetwash and gravity.

The soils listed above were mapped from site-specific mapping, the *Geologic Map of the Black Forest Quadrangle* distributed by the Colorado Geological Survey in 2003 (Reference 4), 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 Denver 1^0 x 2^0 Quadrangle*, distributed by the US Geological Survey in 1981 (Reference 6). The Test Borings and Test Pit Logs used in evaluating the site are included in Appendix B. The Geology Map prepared for the site is presented in Figure 6.

5.4 Soil Conditions

The soils encountered in the test pits can be grouped into two general soil types. The soils were classified using the USDA textural soil classification.

Sandy Clay Loam (Soil Type 3 and 3A) The sandy clay loam was encountered in three of the test pits at depths ranging from 1 to 2.5 feet and extended to depth so f to the termination of the test pits (8 Feet). The sandy clay loam clay was encountered at medium dense to dense states and moist conditions.

Sandy Clay (Soil Type 4 and 4A) The sandy clay were encountered in seven of the test pits at depths ranging from the existing surface grade to the termination of the test pits (8 Feet). The clay was encountered at medium stiff to very stiff consistencies and moist conditions.

The Test Pit Logs are presented in Appendix B. Laboratory Test Results are presented in Appendix C, and a Summary of Laboratory Test Results is presented in Table C-1.

5.5 Groundwater

Groundwater was not encountered in any of the test borings that were drilled to depths of 15 to 20 feet during or subsequent to drilling. Redoximorpic features were observed in TP-1, TP-6 and TP-7 at depths of 3 to 7 feet. Areas of potentially seasonal shallow and seasonal shallow groundwater have been mapped in the drainages and some low-lying areas on the site. These areas are discussed in the following section. Fluctuation in groundwater conditions may occur due to variations in rainfall and other factors including development of the site and surrounding areas.

For the sandy materials on site, it should be noted that some groundwater conditions might be encountered due to the variability in the soil profile. Isolated sand and gravel layers within the soils, sometimes only a few feet in thickness and width, can carry water in the subsurface. Groundwater may also flow on top of the underlying bedrock or clays. Builders and planners should monitor potential occurrences of such subsurface water features during construction on-site and mitigate as necessary at the time of construction.

Drainage and Flood Plain Areas – Constraint

The site is not located within any floodplain zones according to FEMA Map No. 08041C0305G (Figure 8, Reference 8). The nearest floodplain is mapped to be approximately ¼ of a mile to the northeast of the site. It is mapped as a having a 1% annual chance of flooding. Specific drainage studies and floodplain locations are beyond the scope of this report. An unnamed tributary of East Cherry Creek through central portion of the site. Several minor drainage swales are located across the site. The drainages on site generally flow in southeasterly and easterly-northeasterly directions across the site. Water was not observed flowing in the drainages at the time of this investigation; however, an area of ponded water was observed in the stock pond located in the southern portion of the site. The main drainage in the central portion of the site has been identified as a seasonal shallow groundwater area and minor drainage swales across the site have been identified as potential seasonal shallow groundwater areas.

The stock pond observed in the southern portion of the site has been included in the National Wetlands Inventory as a Freshwater Wetland habitats classified as **PUSCh** (Palustrine – P, Unconsolidated Shore – US, Seasonally Flooded – C, Diked/Impounded – h), and PEM1C Palustrine – P, Emergent – EM, Persistent – 1, Seasonally Flooded – C) (Figure 9, Reference 9). These areas should be avoided by construction and is further discussed below.

Potentially Seasonal Shallow and Seasonal Shallow Groundwater Area – Constraint

In these areas, we would anticipate the potential for periodically high subsurface moisture conditions, frost heave potential and highly organic soils. Most of these areas lie within defined drainage swales which will be avoided by the proposed structure or regraded/redirected around structures. Septic fields should not be placed in areas where there is the potential for shallow groundwater.

Areas of Ponded Water – Constraint

These are areas of standing water behind earth dams on site. We would not expect development in these areas. Either the dams can be avoided by construction, or the areas may be completely

regraded. Should complete regrading of the site be considered, all organic matter and soft, wet soils should be completely removed before filling.

6 ON-SITE WASTEWATER TREATMENT

The site was evaluated for individual on-site wastewater treatment systems in accordance with El Paso Land Development Code. Test pits were located in potential locations of future soil treatment areas on eight of the proposed lots. The approximate locations of the Test Pits are indicated on the Site and Exploration Plan (Figure 3), the Geology/Engineering Geology Map (Figure 6), and the OWTS Suitability Map, Figure 9. Test Pit Logs are included in Appendix B, and Laboratory Test Results in Appendix C. Records for the existing OWTS on Lot 5 are included in Appendix E.

The Natural Resource Conservation Service (Reference 2), previously the Soil Conservation Service (Reference 3) has been mapped with three soil descriptions. The Soil Survey Map (Reference 2) is presented in Figure 4, and the Soil Survey Descriptions are presented in Appendix D. The soils are described as having slow to rapid percolation rates. The majority of the soils have been described with moderate permeabilities.

Soils encountered in the tactile test pits consisted of sandy clay loam, and sandy clay. Signs of seasonal occurring groundwater were not observed in in the test pits. Completely weathered sandstone bedrock or sandy clay loam when classified as a soil was encountered in TP-7 at a depth of 5.5 feet/ The limiting layers encountered in the test pits are the sandy clay loam and sandy clay (Soil Types 3A and 4A). The soil types correspond to LTAR values ranging from 0.30 to 0.15 gallons per day per square foot. Additional investigation may identify areas where suitable conventional systems could be used on the lots, however, the lots will likely require engineered systems.

On-site Wastewater Systems are to be designed on a per lot basis at the time of building permit. The systems are to meet County Chapter 8 OWTS criteria and State CDPHE criteria including any required mitigation to accommodate respective leach fields and infrastructure including, but not limited to earthwork grading, berming and diversion swale implementation, installation of secondary sand filters or any other higher treatment levels and dosing as required on a per lot basis and determined by test pit results and site topography. There are no identified geologic hazards on the site that are prohibitive to future OWTS design at this time.

In summary, it is our opinion that the 2.5+ acre lots are suitable 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 as part of this investigation designed systems will likely be required for the majority of the lots. An OWTS Suitability Map is presented in Figure 9. OWTS sites should not be located within defined drainages. Individual soil testing is required on the lots prior to construction. 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.

7 CLOSURE

It is our opinion that the existing geologic engineering and geologic conditions will impose some constraints on development and construction of the site. The majority of these conditions can be mitigated through proper engineering design and construction practices. The proposed development and use are consistent with anticipated geologic and engineering geologic conditions.

It should be pointed out that because of the nature of data obtained by random sampling of such variable and non-homogeneous materials as soil and rock, it is important that we be informed of any differences observed between surface and subsurface conditions encountered in construction and those assumed in the body of this report. Individual investigations for building sites will be required prior to construction. Construction and design personnel should be made familiar with the contents of this report. Reporting such discrepancies to Entech Engineering, Inc. soon after they are discovered would be greatly appreciated and could possibly help avoid construction and development problems.

This report has been prepared for Atticus Land, 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.

8 REFERENCES

1. Bryant, Bruce, McGrew, Laura W., and Wobus, Reinhard A. 1981. *Geologic Structure Map of the Denver 1º x 2º Quadrangle, North-Central Colorado*. U.S. Geologic Survey. Map 1-1163.
2. Natural Resource Conservation Service, June 20, 2007*. Web Soil Survey.* United States Department Agriculture, hhtp://web soil survey.nrcs.usda.gov.
3. United States Department of Agriculture Soil Conservation Service. June 1981. *Soil Survey of El Paso County Area, Colorado.*
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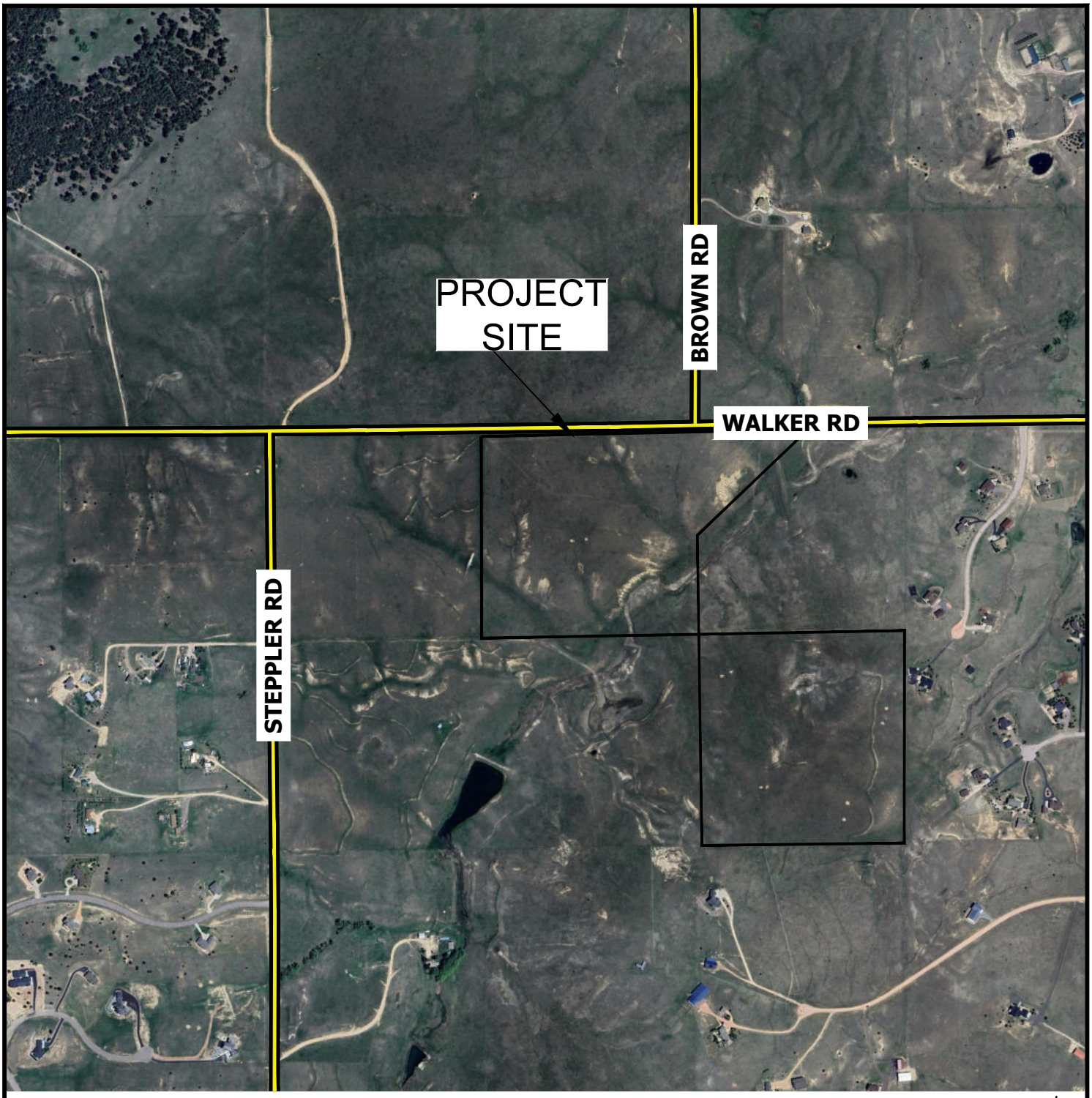
5. Trimble, Donald E. and Machette, Michael N. 1979. *Geologic Map of the Colorado Springs-Castle Rock Area, Front Range Urban Corridor, Colorado*. USGS, Map I-857-F.
6. Bryant, Bruce, McGrew, Laura W., and Wobus, Reinhard A. 1981. *Geologic Map of the Denver 1º x 2º Quadrangle, North-Central Colorado*. U.S. Geologic Survey. Map 1-1163.
7. Hart, Stephen S. 1974. *Potentially Swelling Soil and Rock in the Front Range Urban Corridor, Colorado*. Colorado Springs-Castle Rock Map. Colorado Geological Survey. Environmental Geology 7.
8. Federal Emergency Management Agency. December 7, 2018. *Flood Insurance Rate Maps for the City of Colorado Springs, Colorado.* Map Number 08041C0305G.
9. U.S. Fish & Wildlife Service, May 1, 2020. *National Wetlands Inventory*. Department of the Interior, fws.gov/wetlands/data/Mapper.html.

FIGURES



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VICINITY MAP

IRON RIDGE
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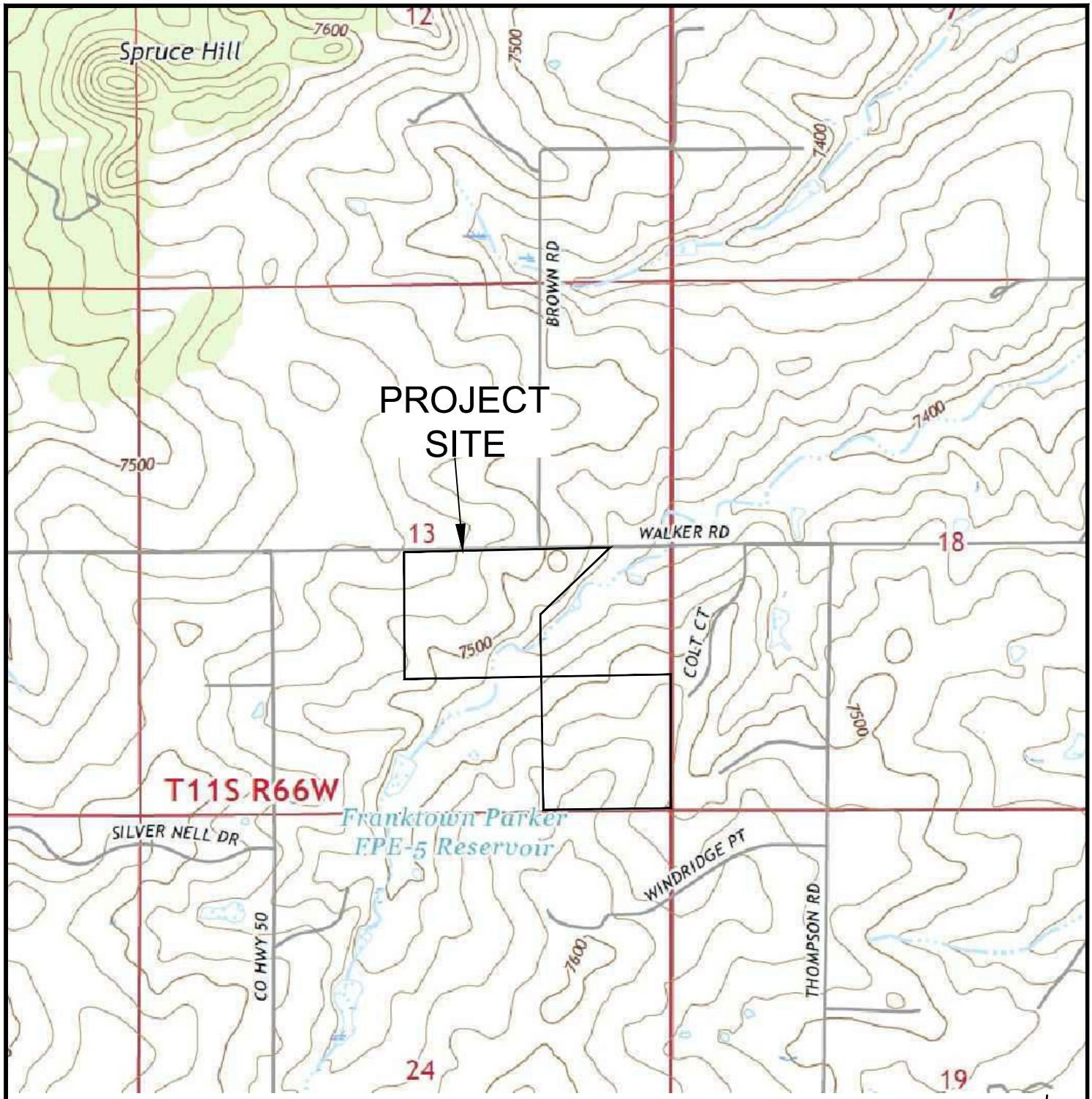
FIG. 1



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USGS TOPOGRAPHY MAP

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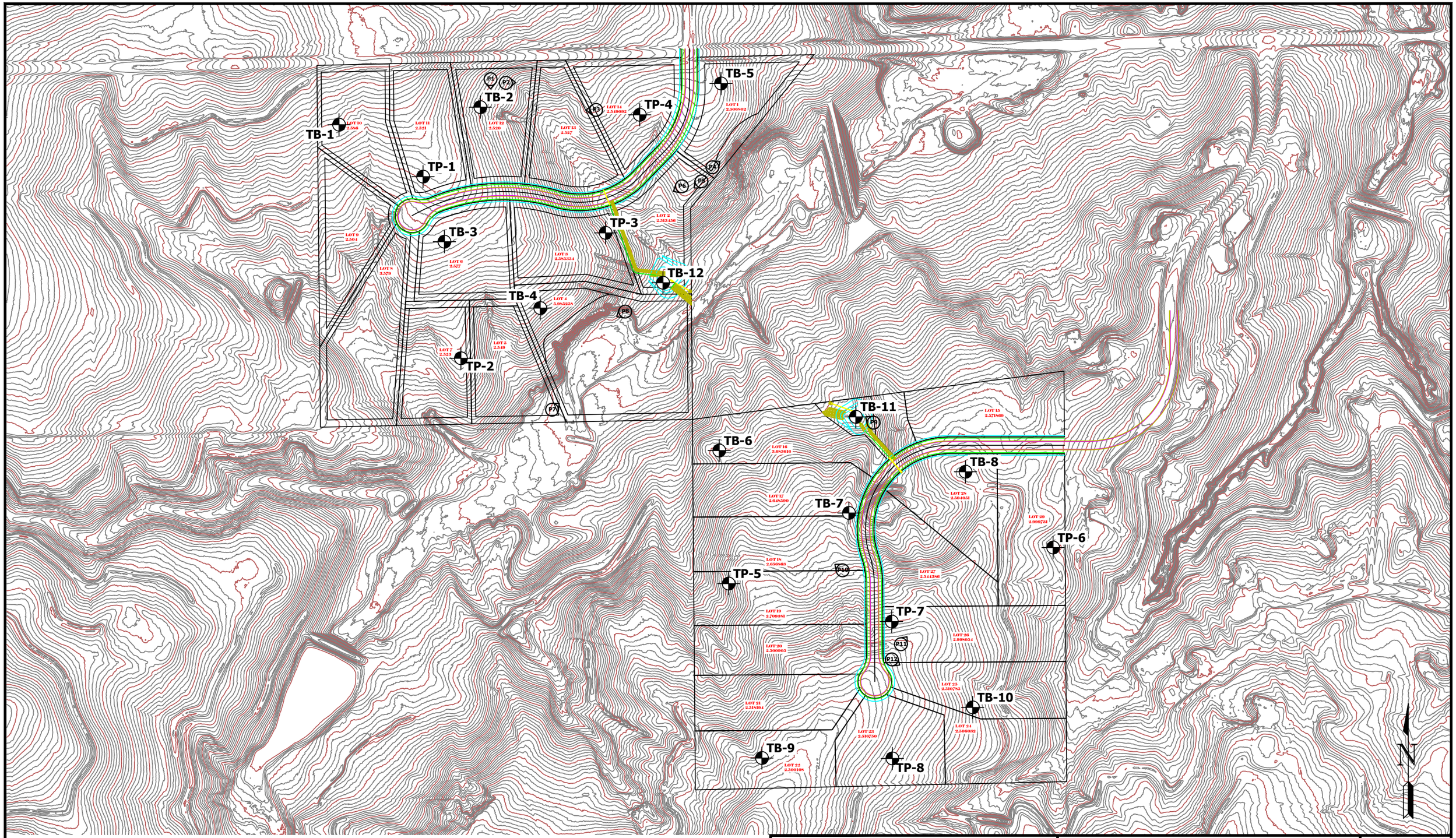
FIG. 2



- APPROXIMATE TEST BORING LOCATION AND NUMBER

P2 - APPROXIMATE PHOTOGRAPH LOCATION AND NUMBER

ENTECH ENGINEERING, INC.

SITE AND EXPLORATION PLAN

IRON RIDGE SUBDIVISION - WALKER ROAD
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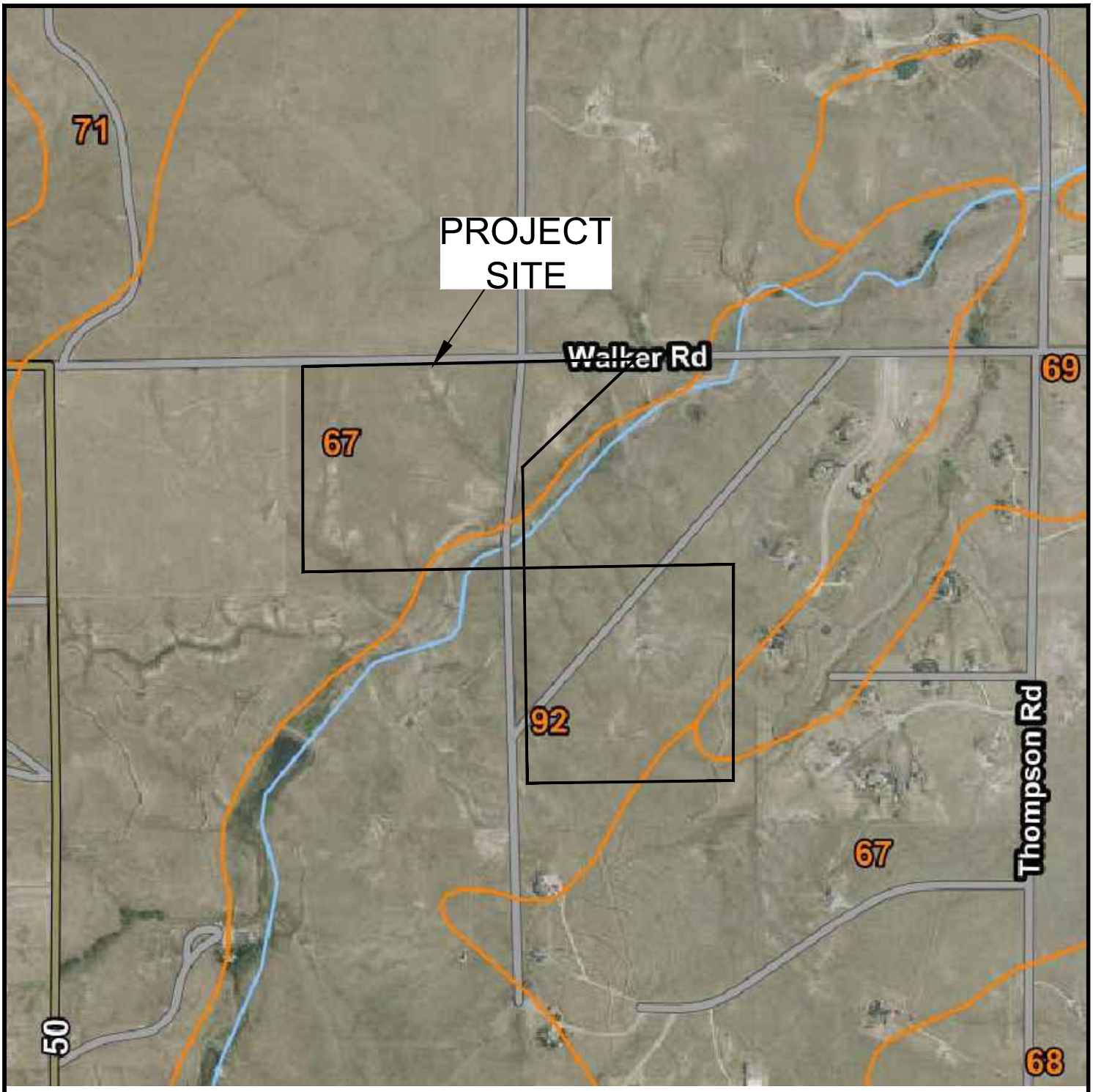
FIG. 3



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SOIL SURVEY AMP

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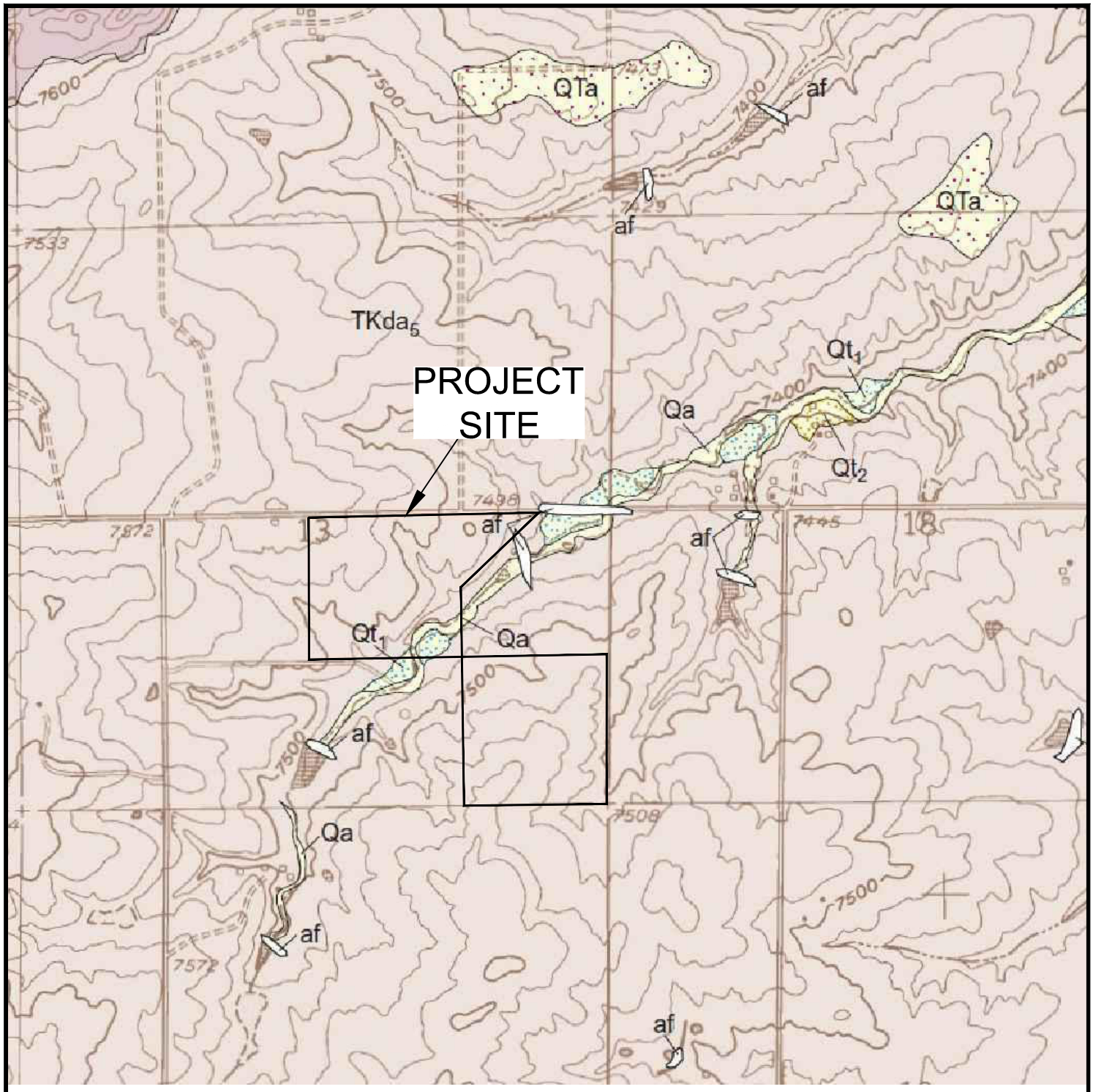
FIG. 4



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GEOLOGIC MAP OF THE BLACK FOREST QUADRANGLE

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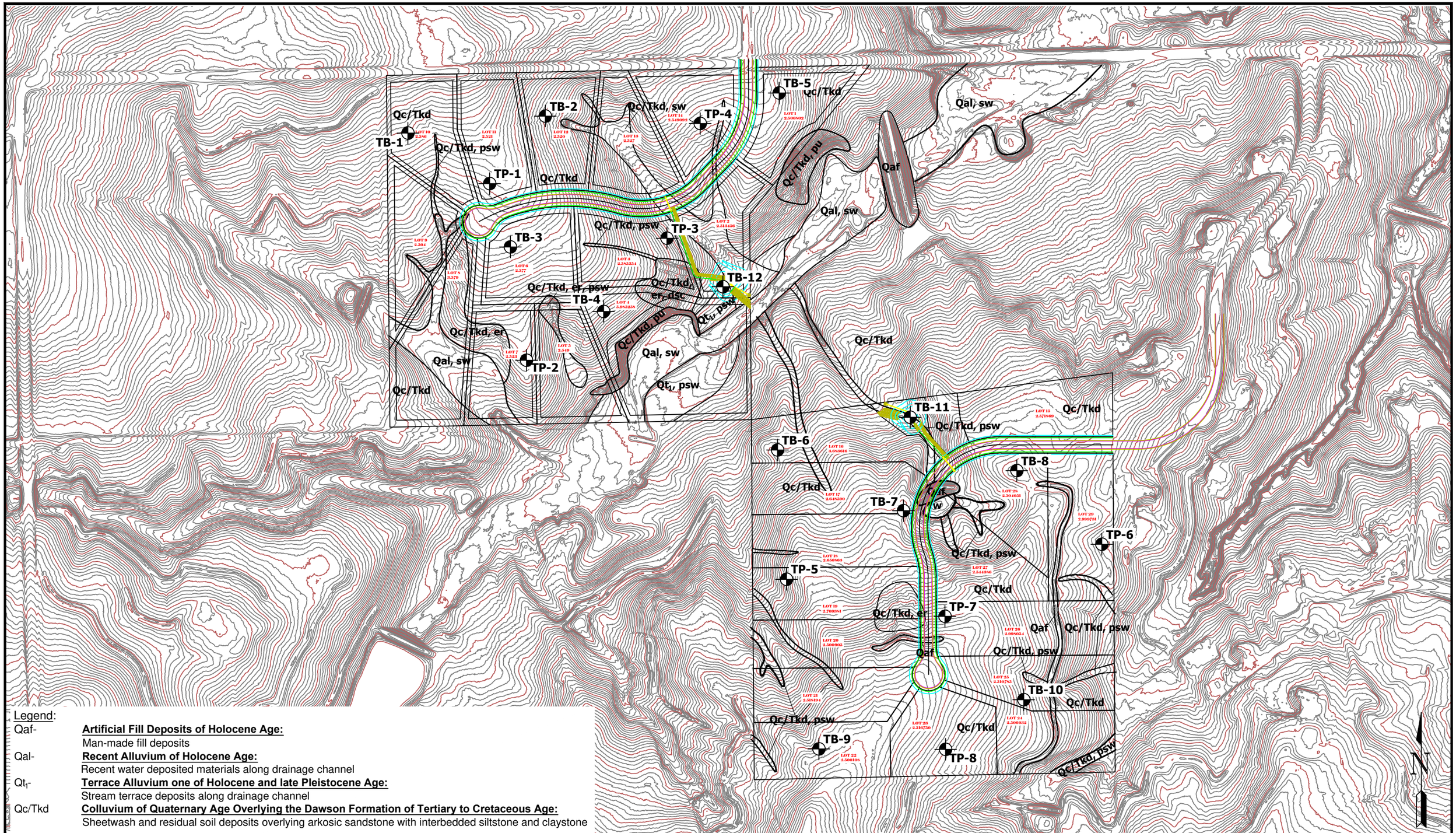
FIG. 5



Legend:

Qaf-	**Artificial Fill Deposits of Holocene Age:** Man-made fill deposits
Qal-	**Recent Alluvium of Holocene Age:** Recent water deposited materials along drainage channel
Qt_1-	**Terrace Alluvium one of Holocene and late Pleistocene Age:** Stream terrace deposits along drainage channel
Qc/Tkd	**Colluvium of Quaternary Age Overlying the Dawson Formation of Tertiary to Cretaceous Age:** Sheetwash and residual soil deposits overlying arkosic sandstone with interbedded siltstone and claystone

er-	erosion
psw-	potential seasonally shallow groundwater
sw-	seasonally shallow groundwater
w -	ponded water
dsc -	downslope creep
pu -	potentially unstable slopes

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GEOLOGY / ENGINEERING GEOLOGY MAP
IRON RIDGE SUBDIVISION - WALKER ROAD
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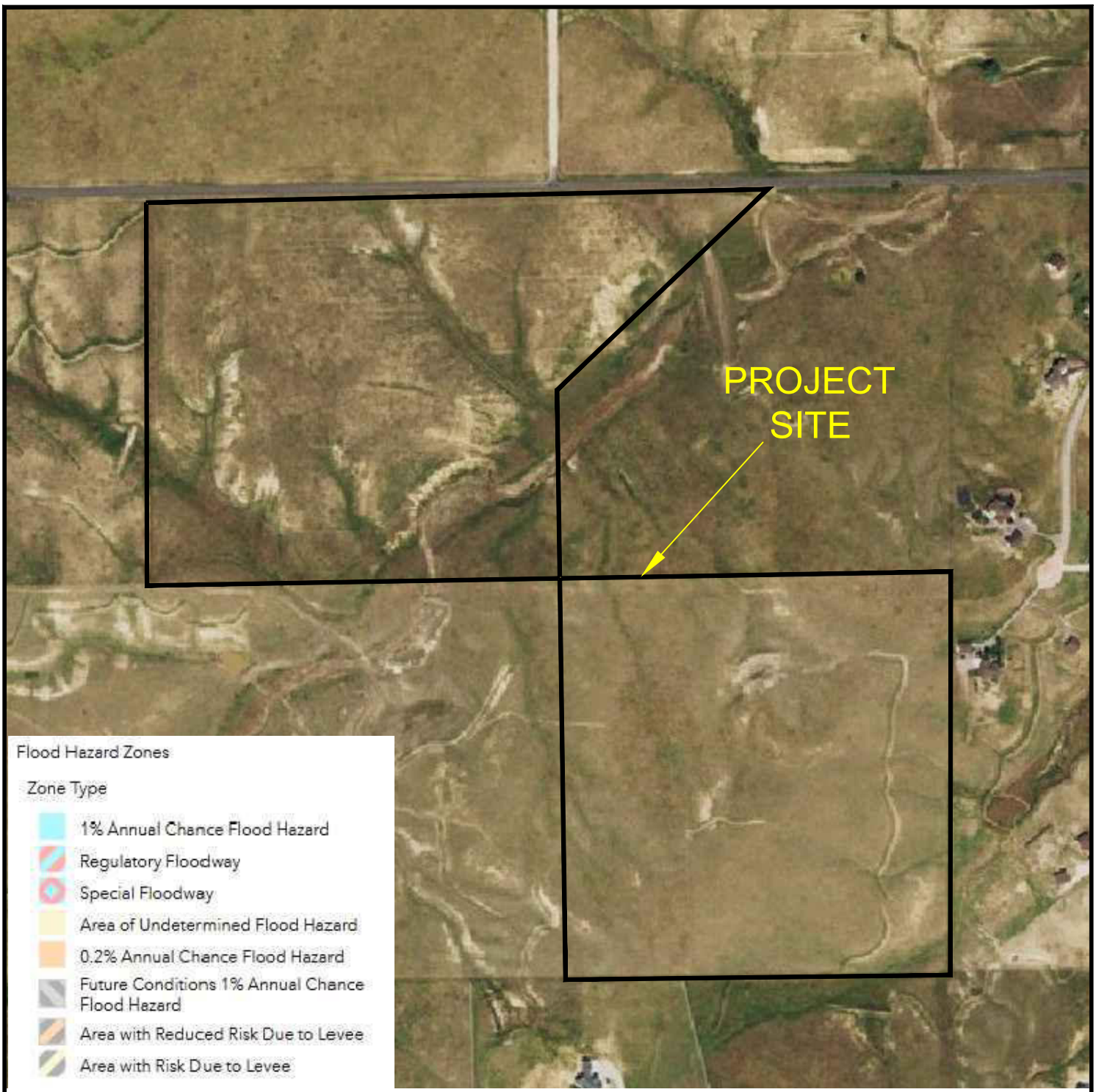
FIG. 6



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FEMA FLOODPLAIN MAP

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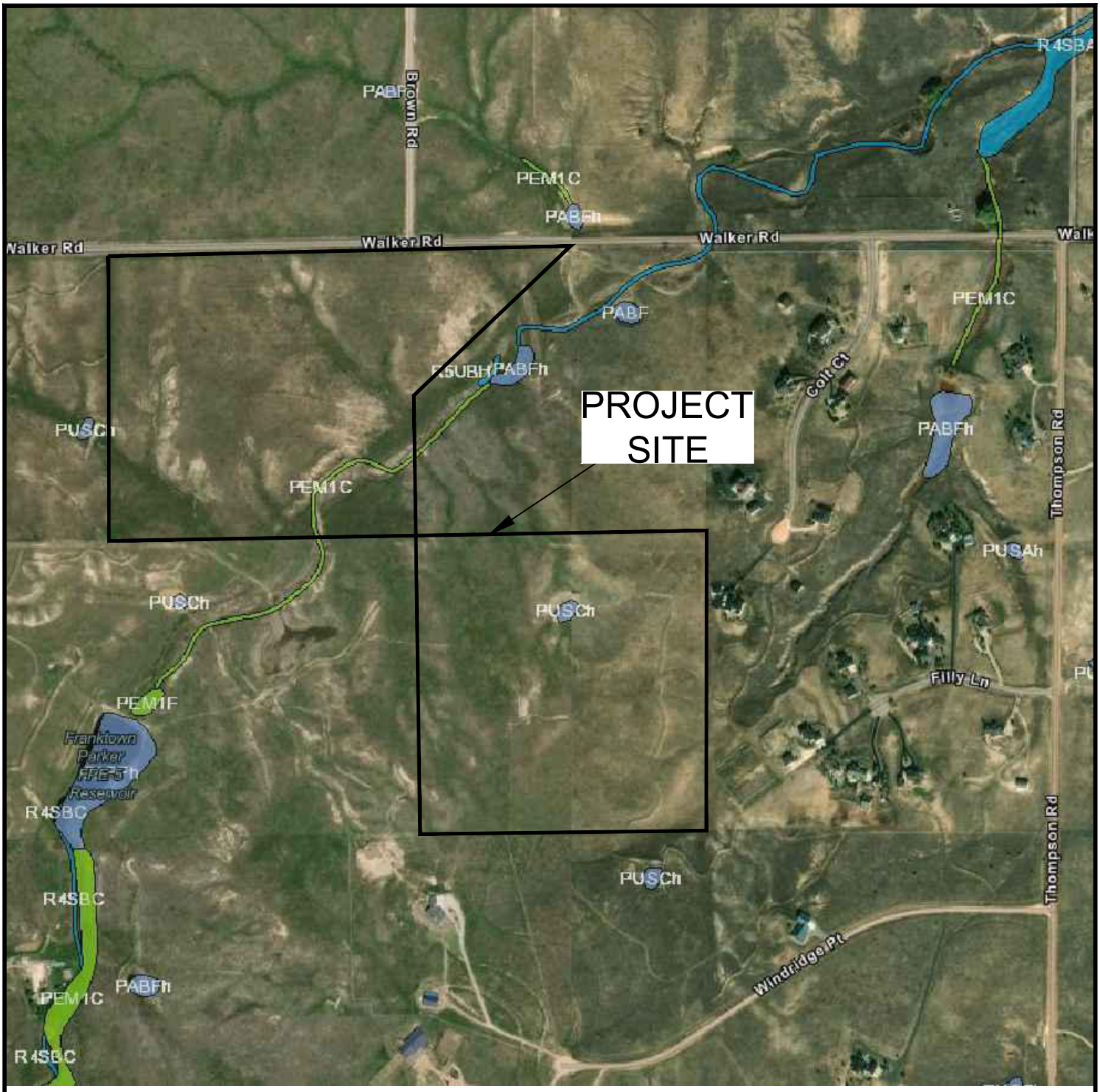
FIG. 7



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USFWS WETLANDS MAP

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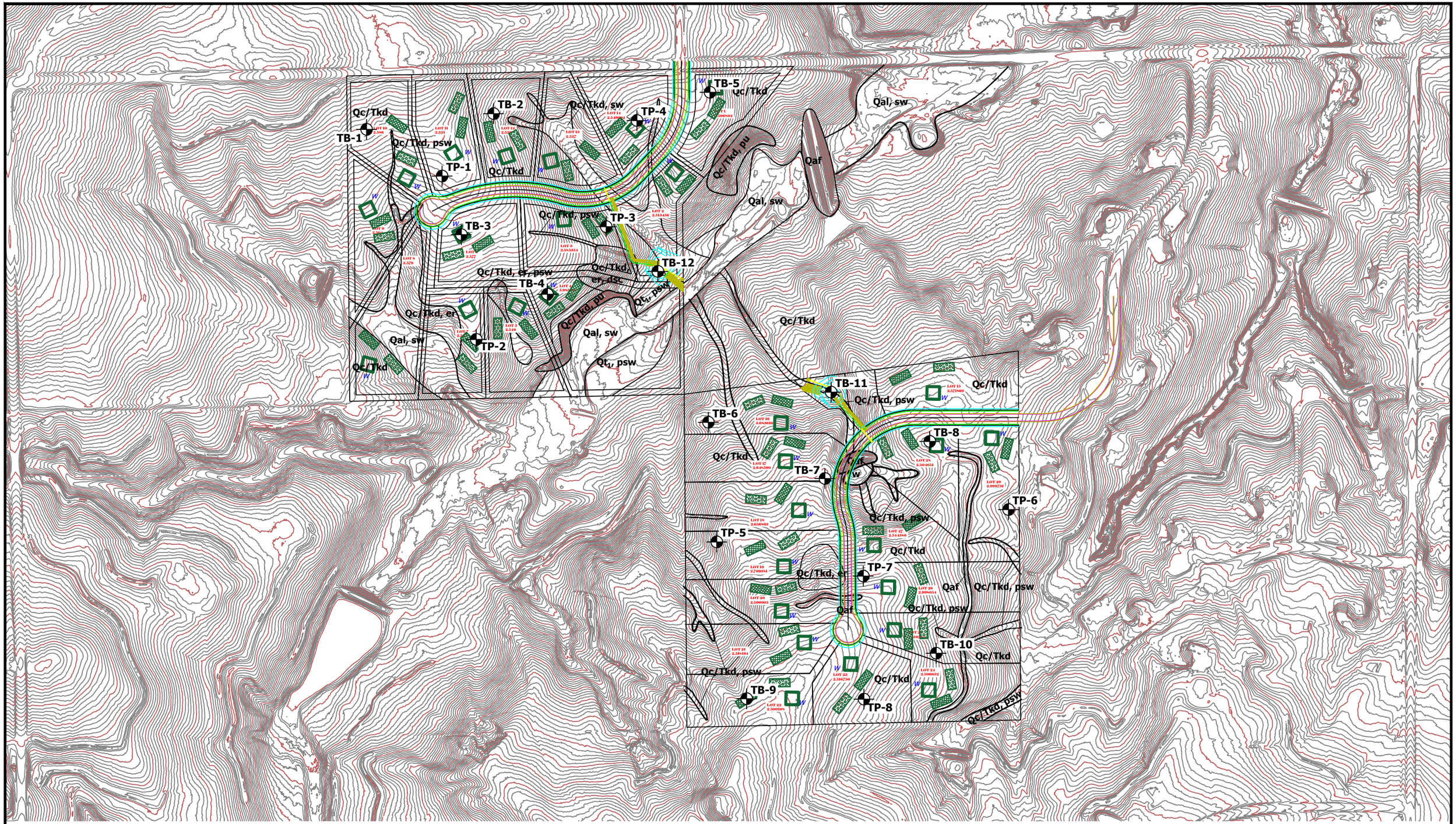
FIG. 8



LEGEND:

- -POSSIBLE HOUSE LOCATION
- - POSSIBLE OWTS LOCATIONS
- - POSSIBLE OWTS ALTERNATE LOCATIONS
- W *- WATER WELLS MUST BE A MINIMUM OF 100 FT FROM OWTS ABSORPTION FIELDS

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OWTS SUITABILITY MAP

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FIG. 9

APPENDIX A: Site Photographs

1

Looking south from the northern portion of the site.

June 24, 2025

2

Looking east from the northwestern portion of the site.

June 24, 2025

Job No. 251117

3

Looking west from the northeastern portion of the site.

June 24, 2025

4

Looking northeast along potentially unstable slope from Lot 1.

June 24, 2025

Job No. 251117

5

Looking southwest from the northeastern portion of the site.

June 24, 2025

6

Looking west from the northeastern portion of the site.

June 24, 2025

Job No. 251117

7

Looking northeast along drainage from the central portion of the site.

June 24, 2025

8

Looking southwest along potentially unstable slope and drainage on proposed Lot 4.

June 24, 2025

Job No. 251117

9

Looking northwest from proposed Pond #1 location.

July 11, 2025

10

Looking northwest from the southern portion of the site.

July 11, 2025

Job No. 251117

11

Looking northeast from southern portion of the site.

July 11, 2025

12

Looking southeast from the southern portion of the site.

July 11, 2025

Job No. 251117

APPENDIX B: Test Boring and Test Pit Logs

TABLE B-1

DEPTH TO BEDROCK & GROUNDWATER

TEST BORING	DEPTH TO BEDROCK (ft.)	DEPTH TO GROUNDWATER (ft.)
1	14	>20
2	18	>20
3	13	>20
4	>20	>20
5	18	>20
6	>20	>20
7	>20	>20
8	3	>20
9	7	>20
10	12	>20
11	8	>20
12	>20	>20

TEST BORING 1
DATE DRILLED 7/9/2025

REMARKS	Depth (ft)	Symbol	Samples	Blows per foot	Watercontent %	Soil Type
DRY TO 14', 7/29/25						
SAND, SILTY, BROWN, MEDIUM DENSE, MOIST				12	5.6	1
	5			30	5.7	1
	10			14	7.4	1
SANDSTONE, VERY WEAK, TAN, MODERATELY WEATHERED (SAND, SILTY, VERY DENSE, MOIST)	15			50/11"	9.7	3
	20					

TEST BORING 2
DATE DRILLED 7/9/2025

REMARKS	Depth (ft)	Symbol	Samples	Blows per foot	Watercontent %	Soil Type
DRY TO 20', 7/29/25						
SAND, SILTY, BROWN, MEDIUM DENSE, MOIST				19	4.6	1
	5			16	5.8	1
SAND, SILTY, TAN VERY DENSE to DENSE, MOIST (SANDSTONE, VERY WEAK, COMPLETELY WEATHERED)	10			50/10"	3.1	1
	15			41	3.5	1
SANDSTONE, VERY WEAK, TAN, HIGHLY WEATHERED (SAND, SILTY, VERY DENSE, MOIST)	20			50/9"	10.5	3

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TEST BORING LOGS

IRON RIDGE
ATTICUS LAND, LLC

JOB NO. 251117

FIG. B-1

TEST BORING 3
DATE DRILLED 7/9/2025

REMARKS

DRY TO 19', 7/29/25

Depth (ft)	Symbol	Samples	Blows per foot	Watercontent %	Soil Type	
			18	6.7	1	SAND, SILTY, TAN, MEDIUM DENSE, MOIST
5			20	6.6	1	
10			25	3.6	1	
15			50	6.3	3	SANDSTONE, VERY WEAK, TAN, MODERATELY WEATHERED (SAND, SILTY, VERY DENSE, MOIST)
20			50/7"	9.2	3	

TEST BORING 4
DATE DRILLED 7/9/2025

REMARKS

DRY TO 20', 7/29/25

Depth (ft)	Symbol	Samples	Blows per foot	Watercontent %	Soil Type	
			28	5.1	1	SAND, SILTY, BROWN to TAN, MEDIUM DENSE to VERY DENSE, MOIST
5			50	6.8	1	
10			18	2.5	1	
15			16	13.2	1	CLAY LENS
20			33	5.9	1	

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TEST BORING LOGS

IRON RIDGE
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FIG. B-2

TEST BORING 5
DATE DRILLED 7/9/2025

REMARKS

DRY TO 19', 7/29/25

Depth (ft)	Symbol	Samples	Blows per foot	Watercontent %	Soil Type
			23	7.7	2
5			24	6.3	1
10			31	4.6	1
15			21	1.9	1
20			50/6"	10.5	3

SILT, SANDY, BROWN, VERY STIFF, MOIST

SAND, SILTY, TAN, MEDIUM DENSE to DENSE, MOIST to DRY

SANDSTONE, VERY WEAK, TAN, MODERATELY WEATHERED (SAND, SILTY, VERY DENSE, MOIST)

TEST BORING 6
DATE DRILLED 7/9/2025

REMARKS

DRY TO 20', 7/29/25

Depth (ft)	Symbol	Samples	Blows per foot	Watercontent %	Soil Type
			22	5.4	1
5			23	6.0	1
10			23	7.5	1
15			32	8.6	1
20			30	15.9	1

SAND, SILTY, BROWN to TAN, MEDIUM DENSE to DENSE, MOIST

ENTECH ENGINEERING, INC.

TEST BORING LOGS

IRON RIDGE
ATTICUS LAND, LLC

JOB NO. 251117

FIG. B-3

TEST BORING 7
DATE DRILLED 7/9/2025

REMARKS	Depth (ft)	Symbol	Samples	Blows per foot	Watercontent %	Soil Type
DRY TO 19.5', 7/29/25						
SAND, SILTY, TAN, VERY DENSE to DENSE, MOIST				50	3.7	1
	5			38	3.7	1
	10			33	7.4	1
SAND, CLAYEY, TAN, DENSE, MOIST	15			35	13.9	1
	20			42	12.6	1

TEST BORING 8
DATE DRILLED 7/10/2025

REMARKS	Depth (ft)	Symbol	Samples	Blows per foot	Watercontent %	Soil Type
DRY TO 19', 7/29/25						
SAND, SILTY, BROWN, MEDIUM DENSE, MOIST				24	5.3	1
SANDSTONE, VERY to EXTREMELY WEAK, TAN, HIGHLY to COMPLETELY WEATHERED (SAND, SILTY, VERY DENSE to DENSE, MOIST)	5			50/8"	5.9	3
WEATHERED ZONE	10			37	5.0	3
	15			50/9"	5.3	3
	20			50/6"	5.3	3

ENTECH ENGINEERING, INC.

TEST BORING LOGS

IRON RIDGE
ATTICUS LAND, LLC

JOB NO. 251117

FIG. B-4

TEST BORING 9
DATE DRILLED 7/10/2025

REMARKS

DRY TO 19', 7/29/25

Depth (ft)	Symbol	Samples	Blows per foot	Watercontent %	Soil Type
	SAND, SILTY, BROWN, DENSE to MEDIUM DENSE, MOIST		49	6.6	1
5			28	9.6	1
	SANDSTONE, VERY WEAK, BROWN to TAN, HIGHLY WEATHERED (SAND, SILTY, VERY DENSE, MOIST)		50/9"	8.3	3
15			50/8"	7.9	3
20			50/7"	7.0	3

TEST BORING 10
DATE DRILLED 7/10/2025

REMARKS

DRY TO 14', 7/29/25

Depth (ft)	Symbol	Samples	Blows per foot	Watercontent %	Soil Type
	SAND, CLAYEY, BROWN, MEDIUM DENSE, MOIST		13	6.4	1
5			15	6.2	1
10	CLAY, WITH SAND, BROWN, STIFF, MOIST		12	7.7	2
15	SANDSTONE, VERY WEAK, BROWN to TAN, COMPLETELY WEATHERED (SAND, SILTY, VERY DENSE, MOIST)		50/10"	3.8	3
20					

ENTECH ENGINEERING, INC.

TEST BORING LOGS

IRON RIDGE
ATTICUS LAND, LLC

JOB NO. 251117

FIG. B-5

TEST BORING 11
DATE DRILLED 7/14/2025

REMARKS

Pond #1
DRY TO 20', 7/29/25

Depth (ft)	Symbol	Samples	Blows per foot	Watercontent %	Soil Type
			12	7.1	1
5			24	5.3	1
10			50/11"	9.2	3
15			50/5"	7.8	3
20			50/7"	10.0	3

SAND, SILTY, BROWN, MEDIUM DENSE, MOIST

SANDSTONE, VERY WEAK, OLIVE to TAN, HIGHLY WEATHERED (SAND, SILTY, VERY DENSE, MOIST)

TEST BORING 12
DATE DRILLED 7/14/2025

REMARKS

Pond #2
DRY TO 20', 7/29/25

Depth (ft)	Symbol	Samples	Blows per foot	Watercontent %	Soil Type
			12	4.3	1
5			18	1.7	1
10			7	13.0	1
15			26	7.6	1
20			29	12.7	1

SAND, SILTY, BROWN, MEDIUM DENSE, MOIST to DRY

SAND, CLAYEY, BROWN, LOOSE to MEDIUM DENSE, MOIST

ENTECH ENGINEERING, INC.

TEST BORING LOGS

IRON RIDGE
ATTICUS LAND, LLC

JOB NO. 251117

FIG. B-6

TEST PIT 1
DATE EXCAVATED 7/11/2025

REMARKS

redoximorphic features at 7'

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

TEST PIT 2
DATE EXCAVATED 7/11/2025

REMARKS

Depth (ft)	Symbol	Samples	Soil Structure Shape	Soil Structure Grade	Soil Type
topsoil, sandy clay, dark brown, moist					
1					
2					
sandy clay, fine grained, light brown, moist			bl	m	4
3					
4					
5					
sandy clay, fine grained, light brown, moist			ma	sl	4A
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
structureless - sl

ENTECH ENGINEERING, INC.

TEST PIT LOGS

IRON RIDGE SUBDIVISION - WALKER ROAD
ATTICUS LAND, LLC

JOB NO. 251117

FIG. B-7

TEST PIT 3
DATE EXCAVATED 7/11/2025
REMARKS

Depth (ft)	Symbol	Samples	Soil Structure Shape	Soil Structure Grade	Soil Type	
1						topsoil, sandy clay, dark brown, moist
2						
3			bl	m	4	sandy clay, fine grained, dark brown to brown, moist
4						
5						sandy clay, fine grained, brown, moist
6						
7			ma	sl	4A	
8						
9						
10						

TEST PIT 4
DATE EXCAVATED 7/11/2025

Depth (ft)	Symbol	Samples	Soil Structure Shape	Soil Structure Grade	Soil Type	
1						topsoil, sandy clay, dark brown, moist
2						
3			ma	sl	4A	sandy clay, fine grained, light brown, moist
4						
5						
6						
7			ma	sl	4A	
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.

TEST PIT LOGS

IRON RIDGE SUBDIVISION - WALKER ROAD
ATTICUS LAND, LLC

JOB NO. 251117

FIG. B-8

TEST PIT 5
DATE EXCAVATED 7/11/2025
REMARKS

Depth (ft)	Symbol	Samples	Soil Structure Shape	Soil Structure Grade	Soil Type	
1						topsoil, sandy clay, dark brown, moist
2			gr	m	4	sandy clay, fine grained, dark brown to brown, moist
3						
4						
5						sandy clay, fine grained, brown, moist
6			ma	sl	4A	
7						
8						
9						
10						

TEST PIT 6
DATE EXCAVAETED 7/11/2025
REMARKS redoximorphic features at 3'

Depth (ft)	Symbol	Samples	Soil Structure Shape	Soil Structure Grade	Soil Type	
1						topsoil, sandy clay loam, dark brown, moist
2			gr	m	3	sandy clay loam, fine to medium grained, light brown,
3						
4						sandy clay loam, fine grained, grayish brown, moist
5			ma	sl	3A	
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.

TEST PIT LOGS

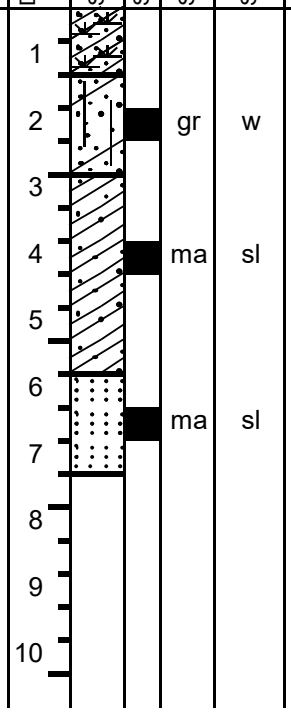
IRON RIDGE SUBDIVISION - WALKER ROAD
ATTICUS LAND, LLC

JOB NO. 251117

FIG. B-9

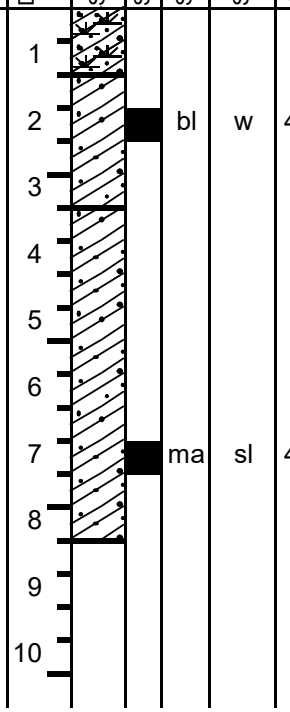
TEST PIT 7
DATE EXCAVATED 7/11/2025
REMARKS

redoximorphic features at 3'



	Samples	Soil Structure Shape	Soil Structure Grade	Soil Type
topsoil, sandy clay loam, dark brown, moist				
sandy clay loam, fine to medium grained, light brown,		gr	w	3A
sandy clay, fine grained, gray moist		ma	sl	4A
completely weathered sandstone (sandy clay loam, fine grained, grayis tan moist)		ma	sl	3A

TEST PIT 8
DATE EXCAVATED 7/11/2025
REMARKS



	Samples	Soil Structure Shape	Soil Structure Grade	Soil Type
topsoil, sandy clay, dark brown, moist				
sandy clay, fine grained, brown, moist		bl	w	4A
sandy clay, fine grained, light brown, moist				
		ma	sl	4A

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.

TEST PIT LOGS

IRON RIDGE SUBDIVISION - WALKER ROAD
ATTICUS LAND, LLC

JOB NO. 251117

FIG. B-10

APPENDIX C: Laboratory Test Results

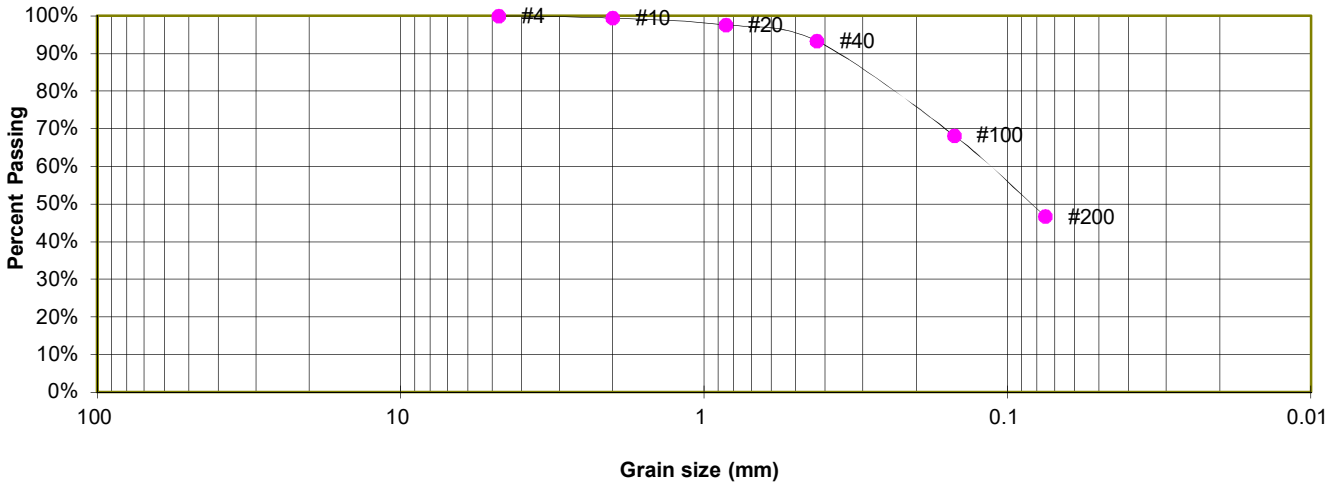
ENTECH ENGINEERING, INC.

TABLE C-1
SUMMARY OF LABORATORY TEST RESULTS

SOIL TYPE	TEST BORING NO.	DEPTH (FT)	WATER (%)	DRY DENSITY (PCF)	PASSING NO. 200 SIEVE (%)	LIQUID LIMIT	PLASTIC LIMIT	PLASTIC INDEX	SULFATE (WT %)	SWELL/ CONSOL (%)	USCS	SOIL DESCRIPTION
1	1	2-3			46.7						SM	SAND, SILTY
1	2	10			33.9	16	15	1	0.00		SM	SAND, SILTY
1	4	5			39.1	23	19	4			SM	SAND, SILTY
1	6	10			17.9						SM	SAND, SILTY
1	7	15	16.3	116.3	39.9					0.7	SC	SAND, CLAYEY
1	9	5			23.8						SM	SAND, SILTY
1	11	2-3			17.7						SM	SAND, SILTY
1	12	10			43.3						SM	SAND, SILTY
1	TP-1	5			13.5						SM	SAND, SILTY
1	TP-6	4.5			15.6						SM	SAND, SILTY
2	5	2-3	9.7	100.0	62.0					-2.3	ML	SILT, SANDY
2	10	10	9.1	101.7	73.6					-1.3	CL	CLAY, WITH SAND
2	TP-2	2.5			59.5						CL	CLAY, SANDY
2	TP-3	6			67.7						CL	CLAY, SANDY
2	TP-4	2-3			58.4						CL	CLAY, SANDY
2	TP-5	6.5			54.3						CL	CLAY, SANDY
2	TP-8	2			65.4						CL	CLAY, SANDY
3	3	20			17.0	38	30	8	0.07		SM	SANDSTONE (SAND, SILTY)
3	8	5			36.6						SM	SANDSTONE (SAND, SILTY)
3	TP-7	6.5			22.0						SM	SANDSTONE (SAND, SILTY)

Project: Iron Ridge
Client: Atticus Land, LLC
Job No: 251117

TEST BORING	1	SOIL DESCRIPTION	SAND, SILTY
DEPTH (FT)	2-3	SOIL TYPE	1



GRAIN SIZE ANALYSIS

U.S. Sieve #	Percent Finer
3"	
1 1/2"	
3/4"	
1/2"	
3/8"	
4	100.0%
10	99.4%
20	97.6%
40	93.3%
100	68.2%
200	46.7%

SOIL CLASSIFICATION

USCS CLASSIFICATION: SM

ENTECH ENGINEERING, INC.

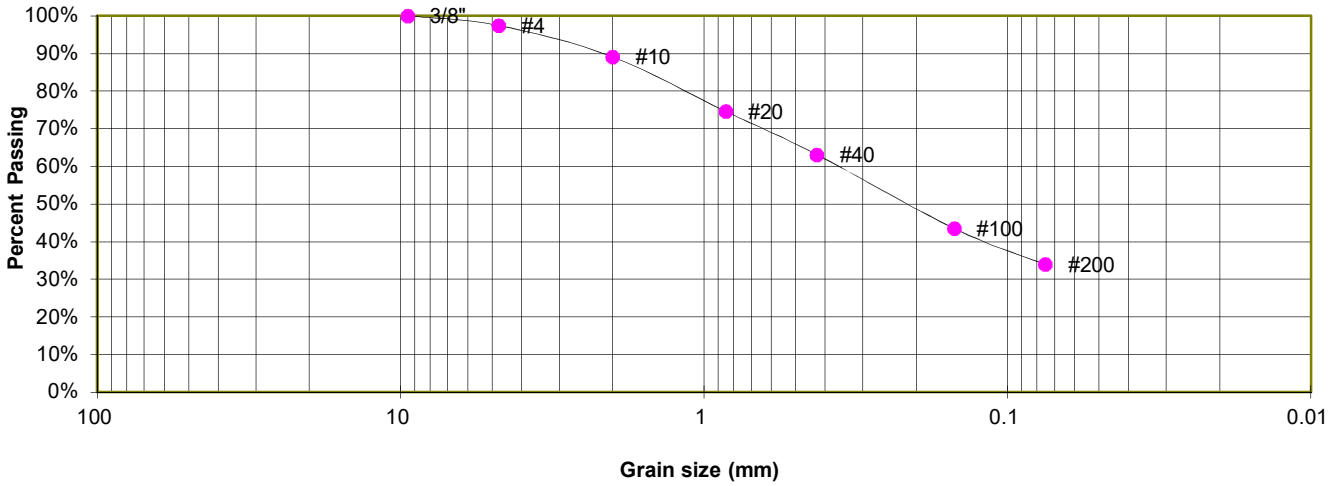
LABORATORY TEST RESULTS

IRON RIDGE
ATTICUS LAND, LLC

JOB NO. 251117

FIG. C-1

TEST BORING	2	SOIL DESCRIPTION	SAND, SILTY
DEPTH (FT)	10	SOIL TYPE	1



GRAIN SIZE ANALYSIS

U.S. Sieve #	Percent Finer
3"	
1 1/2"	
3/4"	
1/2"	
3/8"	100.0%
4	97.5%
10	89.1%
20	74.7%
40	63.1%
100	43.5%
200	33.9%

ATTERBERG LIMITS

Plastic Limit	15
Liquid Limit	16
Plastic Index	1

SOIL CLASSIFICATION

USCS CLASSIFICATION: SM

ENTECH ENGINEERING, INC.

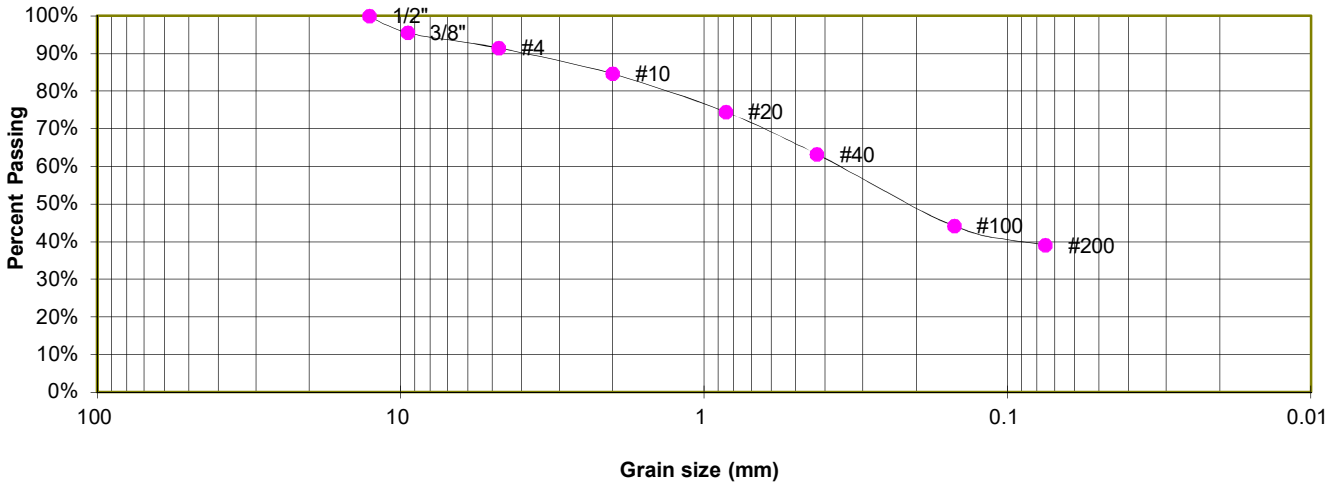
LABORATORY TEST RESULTS

IRON RIDGE
ATTICUS LAND, LLC

JOB NO. 251117

FIG. C-2

TEST BORING	4	SOIL DESCRIPTION	SAND, SILTY
DEPTH (FT)	5	SOIL TYPE	1



GRAIN SIZE ANALYSIS

U.S. Sieve #	Percent Finer
3"	
1 1/2"	
3/4"	
1/2"	100.0%
3/8"	95.5%
4	91.4%
10	84.6%
20	74.5%
40	63.3%
100	44.1%
200	39.1%

ATTERBERG LIMITS

Plastic Limit	19
Liquid Limit	23
Plastic Index	4

SOIL CLASSIFICATION

USCS CLASSIFICATION: SM

ENTECH ENGINEERING, INC.

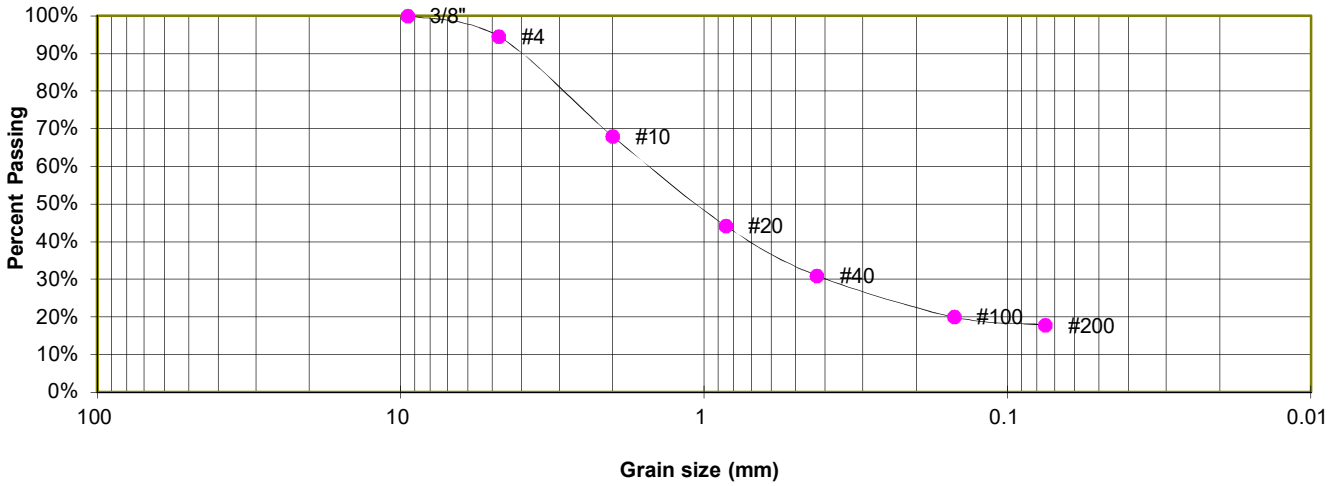
LABORATORY TEST RESULTS

IRON RIDGE
ATTICUS LAND, LLC

JOB NO. 251117

FIG. C-3

TEST BORING	6	SOIL DESCRIPTION	SAND, SILTY
DEPTH (FT)	10	SOIL TYPE	1



GRAIN SIZE ANALYSIS

U.S. Sieve #	Percent Finer
3"	
1 1/2"	
3/4"	
1/2"	
3/8"	100.0%
4	94.5%
10	68.0%
20	44.2%
40	31.0%
100	20.0%
200	17.9%

SOIL CLASSIFICATION

USCS CLASSIFICATION: SM

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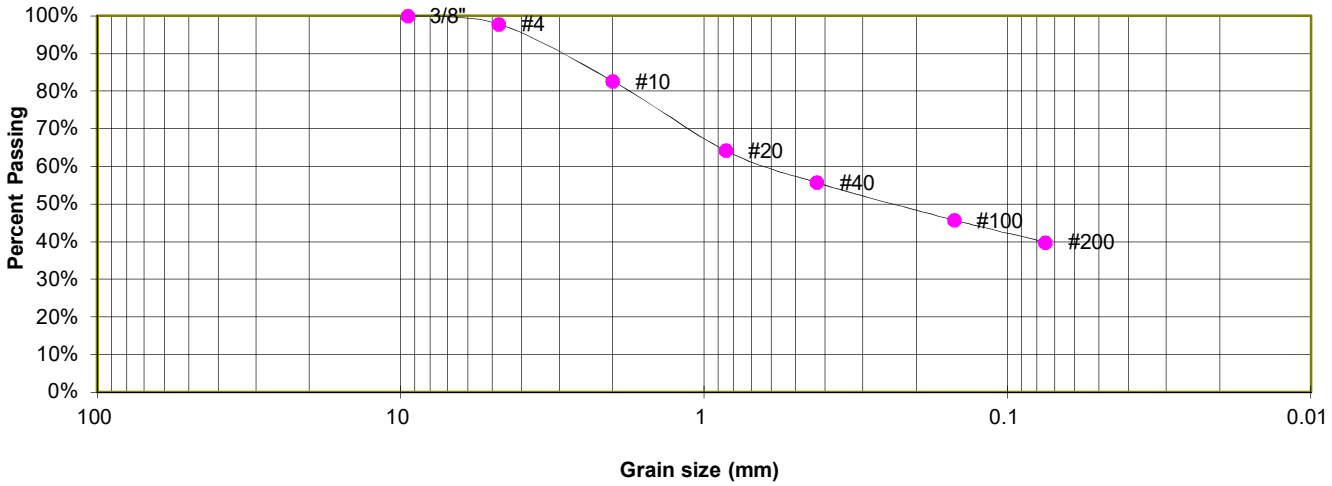
LABORATORY TEST RESULTS

IRON RIDGE
ATTICUS LAND, LLC

JOB NO. 251117

FIG. C-4

TEST BORING	7	SOIL DESCRIPTION	SAND, CLAYEY
DEPTH (FT)	15	SOIL TYPE	1



GRAIN SIZE ANALYSIS

U.S. Sieve #	Percent Finer
3"	
1 1/2"	
3/4"	
1/2"	
3/8"	100.0%
4	97.8%
10	82.7%
20	64.2%
40	55.7%
100	45.8%
200	39.9%

SOIL CLASSIFICATION

USCS CLASSIFICATION: SC

ENTECH ENGINEERING, INC.

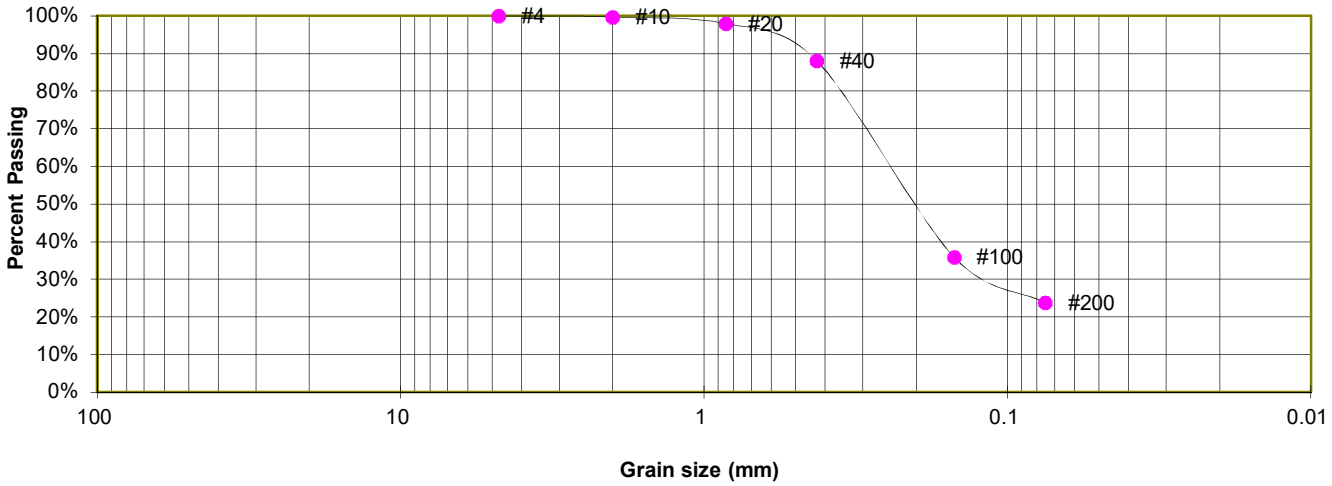
LABORATORY TEST RESULTS

IRON RIDGE
ATTICUS LAND, LLC

JOB NO. 251117

FIG. C-5

TEST BORING	9	SOIL DESCRIPTION	SAND, SILTY
DEPTH (FT)	5	SOIL TYPE	1



GRAIN SIZE ANALYSIS

U.S. Sieve #	Percent Finer
3"	
1 1/2"	
3/4"	
1/2"	
3/8"	
4	100.0%
10	99.7%
20	98.0%
40	88.1%
100	35.9%
200	23.8%

SOIL CLASSIFICATION

USCS CLASSIFICATION: SM

ENTECH ENGINEERING, INC.

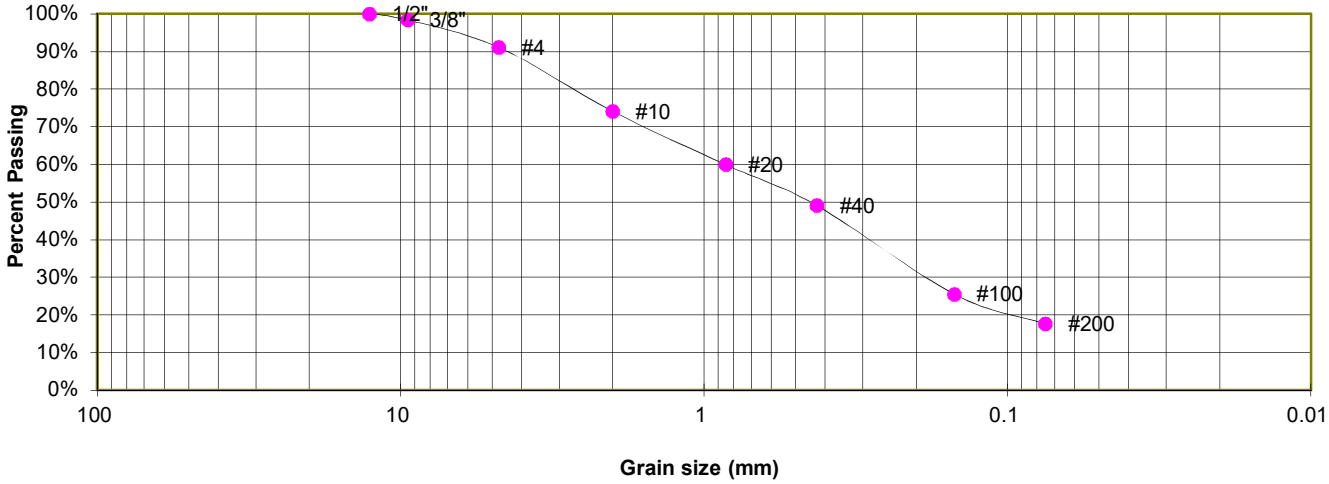
LABORATORY TEST RESULTS

IRON RIDGE
ATTICUS LAND, LLC

JOB NO. 251117

FIG. C-6

TEST BORING	11	SOIL DESCRIPTION	SAND, SILTY
DEPTH (FT)	2-3	SOIL TYPE	1



GRAIN SIZE ANALYSIS

U.S. Sieve #	Percent Finer
3"	
1 1/2"	
3/4"	
1/2"	100.0%
3/8"	98.4%
4	91.1%
10	74.1%
20	60.0%
40	49.1%
100	25.6%
200	17.7%

SOIL CLASSIFICATION

USCS CLASSIFICATION: SM

ENTECH ENGINEERING, INC.

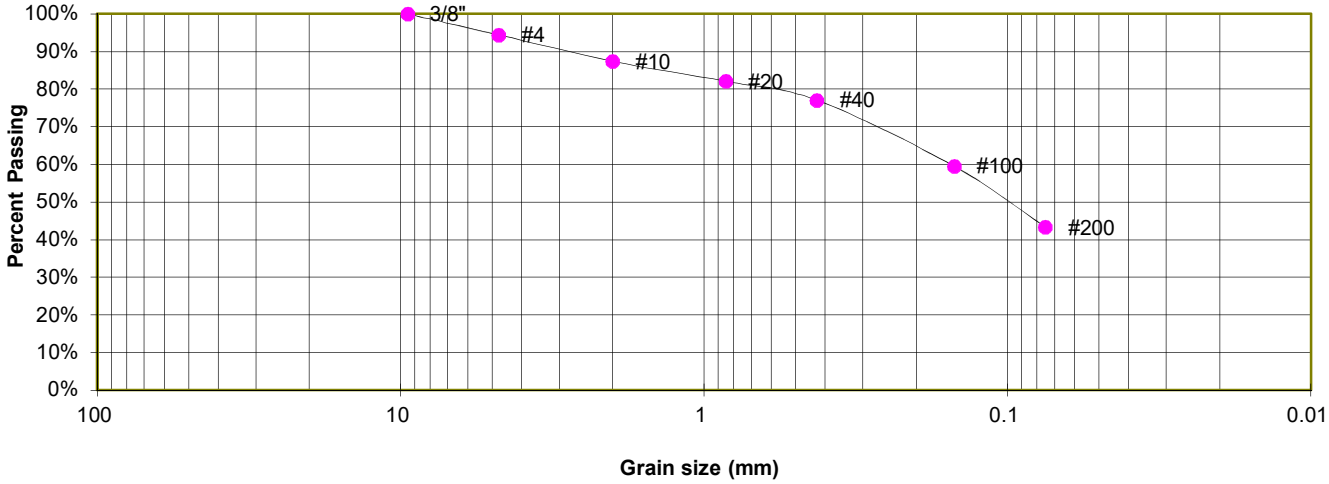
LABORATORY TEST RESULTS

IRON RIDGE
ATTICUS LAND, LLC

JOB NO. 251117

FIG. C-7

TEST BORING	12	SOIL DESCRIPTION	SAND, SILTY
DEPTH (FT)	10	SOIL TYPE	1



GRAIN SIZE ANALYSIS

U.S. Sieve #	Percent Finer
3"	
1 1/2"	
3/4"	
1/2"	
3/8"	100.0%
4	94.4%
10	87.4%
20	82.1%
40	77.1%
100	59.6%
200	43.3%

SOIL CLASSIFICATION

USCS CLASSIFICATION: SM

ENTECH ENGINEERING, INC.

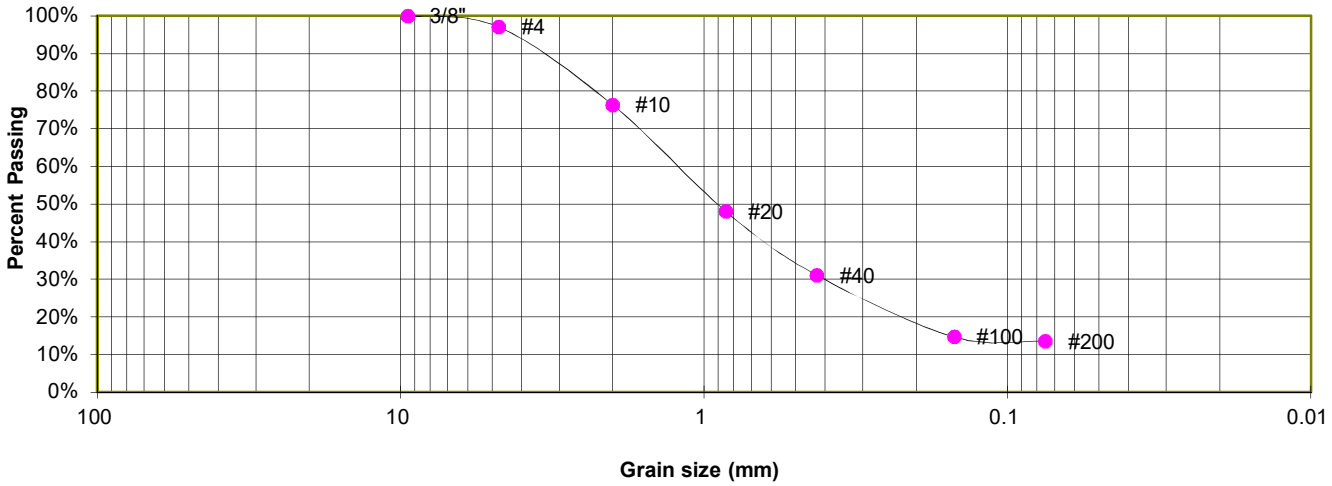
LABORATORY TEST RESULTS

IRON RIDGE
ATTICUS LAND, LLC

JOB NO. 251117

FIG. C-8

TEST PIT	TP-1	SOIL DESCRIPTION	SAND, SILTY
DEPTH (FT)	5	SOIL TYPE	1



GRAIN SIZE ANALYSIS

U.S. Sieve #	Percent Finer
3"	
1 1/2"	
3/4"	
1/2"	
3/8"	100.0%
4	97.1%
10	76.3%
20	48.1%
40	31.1%
100	14.7%
200	13.5%

SOIL CLASSIFICATION

USCS CLASSIFICATION: SM

ENTECH ENGINEERING, INC.

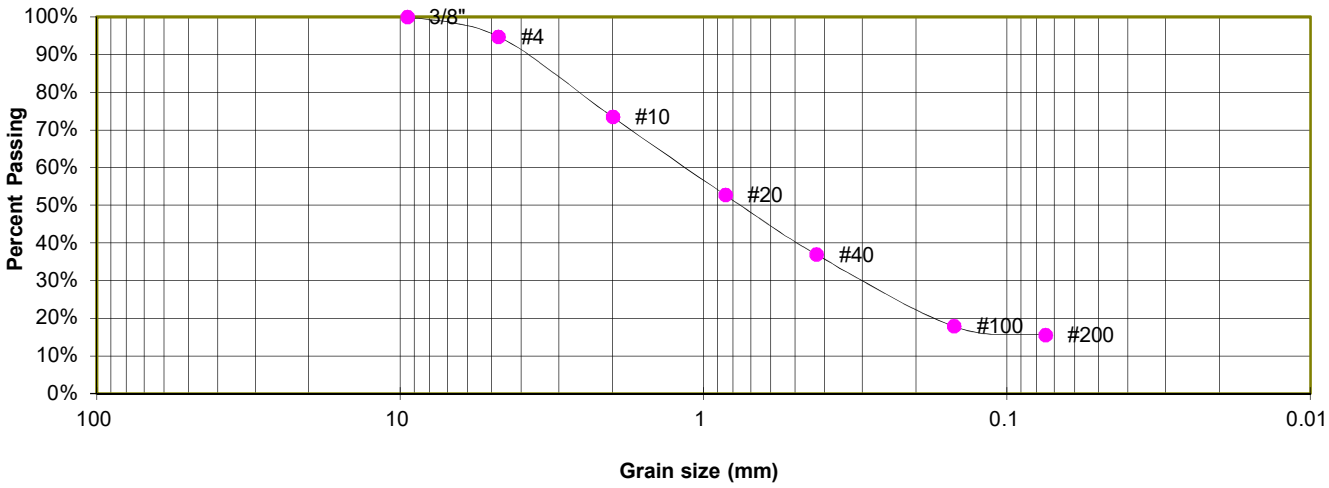
LABORATORY TEST RESULTS

IRON RIDGE
ATTICUS LAND, LLC

JOB NO. 251117

FIG. C-9

TEST PIT	TP-6	SOIL DESCRIPTION	SAND, SILTY
DEPTH (FT)	4.5	SOIL TYPE	1



GRAIN SIZE ANALYSIS

U.S. Sieve #	Percent Finer
3"	
1 1/2"	
3/4"	
1/2"	
3/8"	100.0%
4	94.8%
10	73.4%
20	52.7%
40	36.9%
100	17.9%
200	15.6%

SOIL CLASSIFICATION

USCS CLASSIFICATION: SM

ENTECH ENGINEERING, INC.

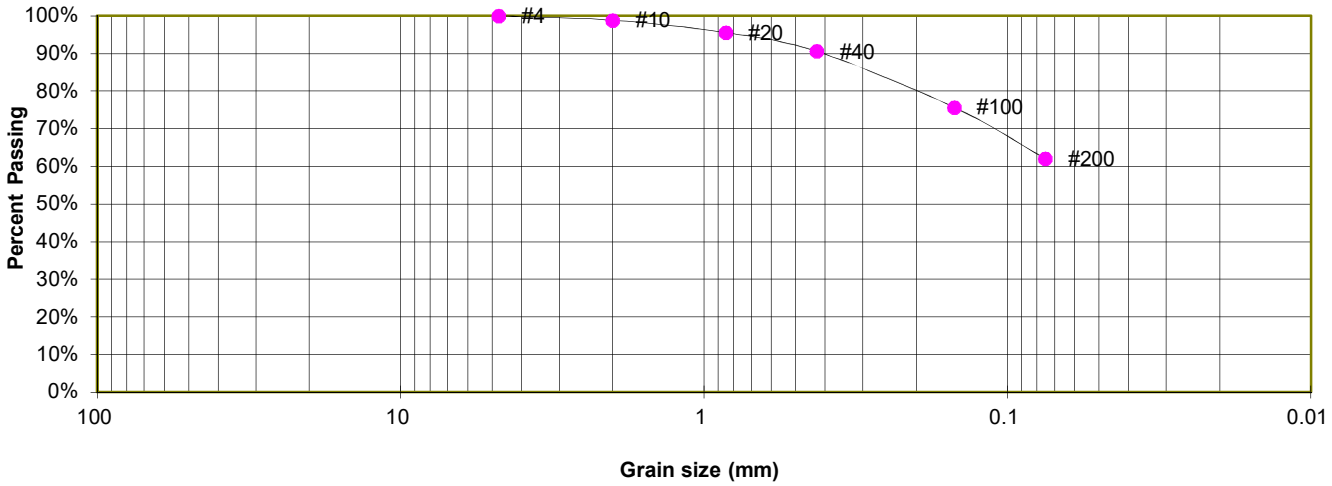
LABORATORY TEST RESULTS

IRON RIDGE
ATTICUS LAND, LLC

JOB NO. 251117

FIG. C-10

TEST BORING	5	SOIL DESCRIPTION	SILT, SANDY
DEPTH (FT)	2-3	SOIL TYPE	2



GRAIN SIZE ANALYSIS

U.S. Sieve #	Percent Finer
3"	
1 1/2"	
3/4"	
1/2"	
3/8"	
4	100.0%
10	98.9%
20	95.6%
40	90.6%
100	75.7%
200	62.0%

SOIL CLASSIFICATION

USCS CLASSIFICATION: ML

ENTECH ENGINEERING, INC.

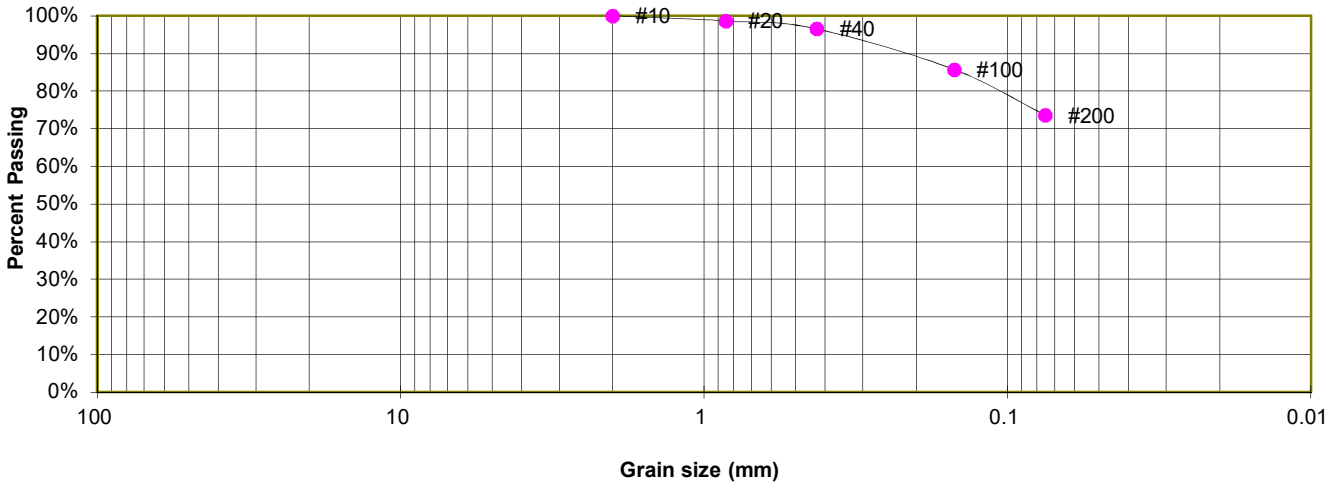
LABORATORY TEST RESULTS

IRON RIDGE
ATTICUS LAND, LLC

JOB NO. 251117

FIG. C-11

TEST BORING	10	SOIL DESCRIPTION	CLAY, WITH SAND
DEPTH (FT)	10	SOIL TYPE	2



GRAIN SIZE ANALYSIS

U.S. Sieve #	Percent Finer
3"	
1 1/2"	
3/4"	
1/2"	
3/8"	
4	
10	100.0%
20	98.7%
40	96.6%
100	85.8%
200	73.6%

SOIL CLASSIFICATION

USCS CLASSIFICATION: CL

ENTECH ENGINEERING, INC.

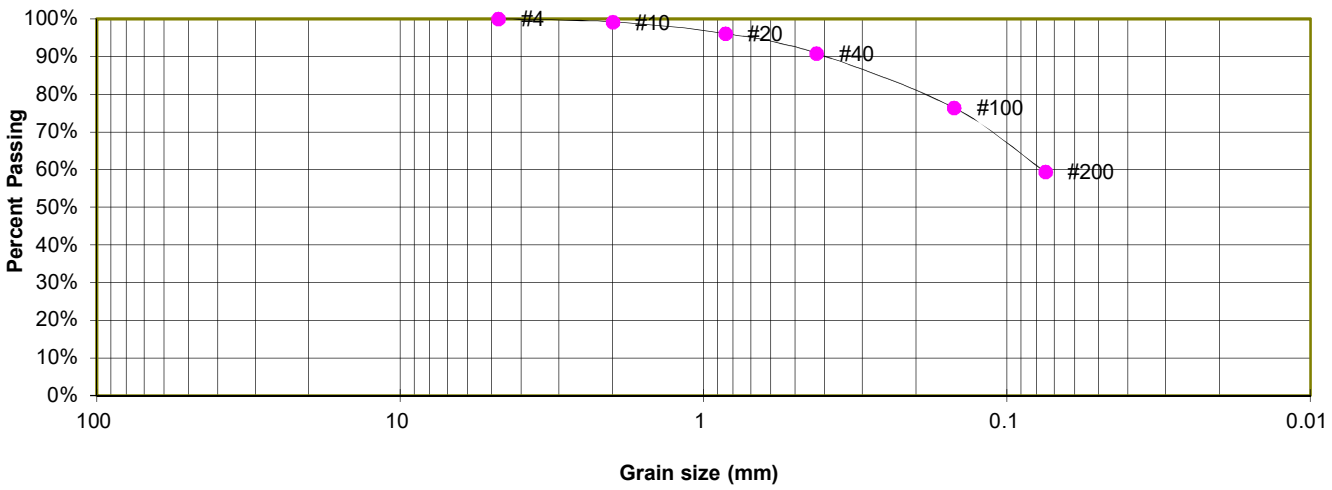
LABORATORY TEST RESULTS

IRON RIDGE
ATTICUS LAND, LLC

JOB NO. 251117

FIG. C-12

TEST PIT	TP-2	SOIL DESCRIPTION	CLAY, SANDY
DEPTH (FT)	2.5	SOIL TYPE	2



GRAIN SIZE ANALYSIS

U.S. Sieve #	Percent Finer
3"	
1 1/2"	
3/4"	
1/2"	
3/8"	
4	100.0%
10	99.2%
20	96.1%
40	90.8%
100	76.5%
200	59.5%

SOIL CLASSIFICATION

USCS CLASSIFICATION: CL

ENTECH ENGINEERING, INC.

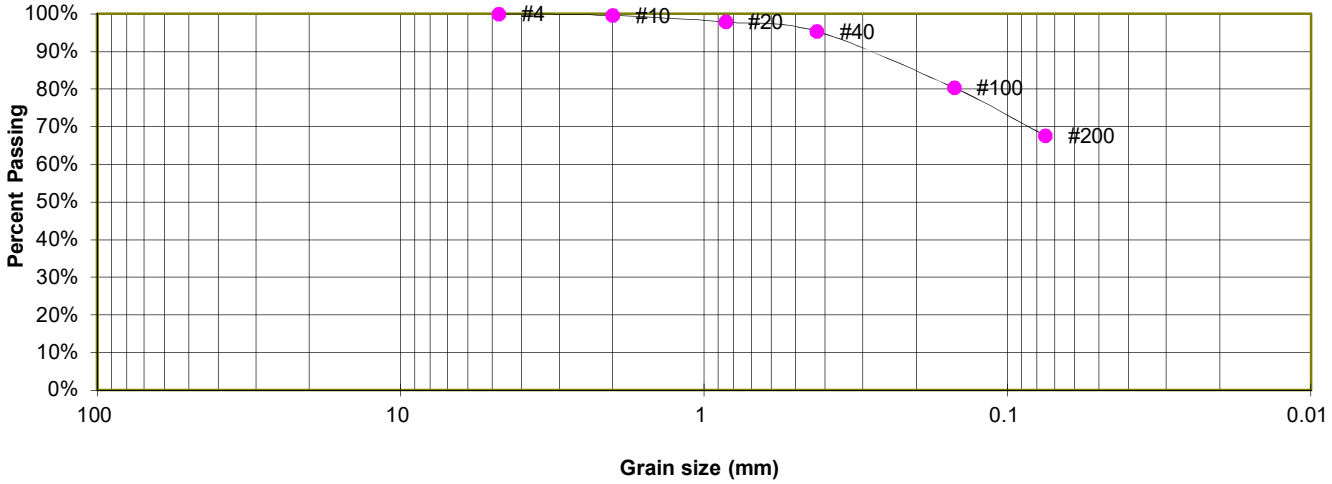
LABORATORY TEST RESULTS

IRON RIDGE
ATTICUS LAND, LLC

JOB NO. 251117

FIG. C-13

TEST PIT	TP-3	SOIL DESCRIPTION	CLAY, SANDY
DEPTH (FT)	6	SOIL TYPE	2



GRAIN SIZE ANALYSIS

U.S. Sieve #	Percent Finer
3"	
1 1/2"	
3/4"	
1/2"	
3/8"	
4	100.0%
10	99.6%
20	97.9%
40	95.4%
100	80.3%
200	67.7%

SOIL CLASSIFICATION

USCS CLASSIFICATION: CL

ENTECH ENGINEERING, INC.

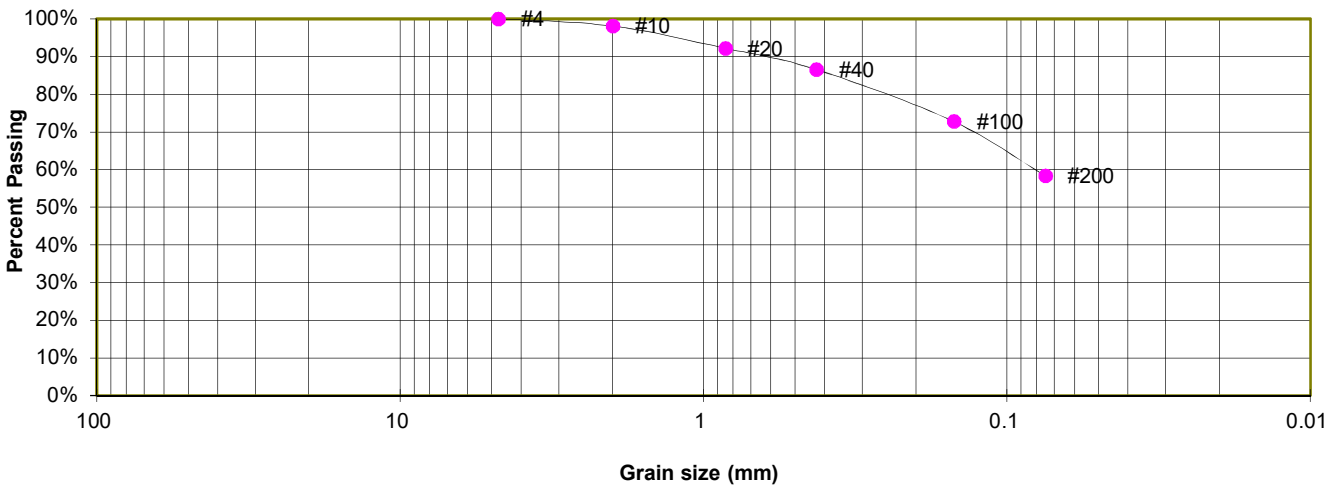
LABORATORY TEST RESULTS

IRON RIDGE
ATTICUS LAND, LLC

JOB NO. 251117

FIG. C-14

TEST PIT	TP-4	SOIL DESCRIPTION	CLAY, SANDY
DEPTH (FT)	2-3	SOIL TYPE	4



GRAIN SIZE ANALYSIS

U.S. Sieve #	Percent Finer
3"	
1 1/2"	
3/4"	
1/2"	
3/8"	
4	100.0%
10	98.1%
20	92.2%
40	86.6%
100	72.8%
200	58.4%

SOIL CLASSIFICATION

USCS CLASSIFICATION: CL

ENTECH ENGINEERING, INC.

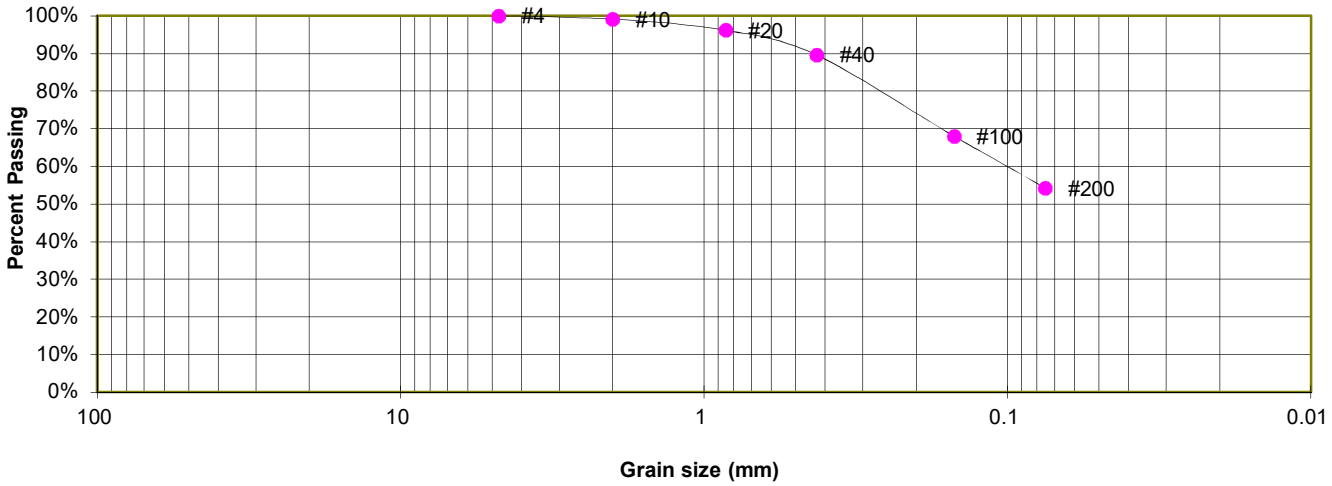
LABORATORY TEST RESULTS

IRON RIDGE
ATTICUS LAND, LLC

JOB NO. 251117

FIG. C-15

TEST PIT	TP-5	SOIL DESCRIPTION	CLAY, SANDY
DEPTH (FT)	6.5	SOIL TYPE	4



GRAIN SIZE ANALYSIS

U.S. Sieve #	Percent Finer
3"	
1 1/2"	
3/4"	
1/2"	
3/8"	
4	100.0%
10	99.1%
20	96.2%
40	89.6%
100	68.1%
200	54.3%

SOIL CLASSIFICATION

USCS CLASSIFICATION: CL

ENTECH ENGINEERING, INC.

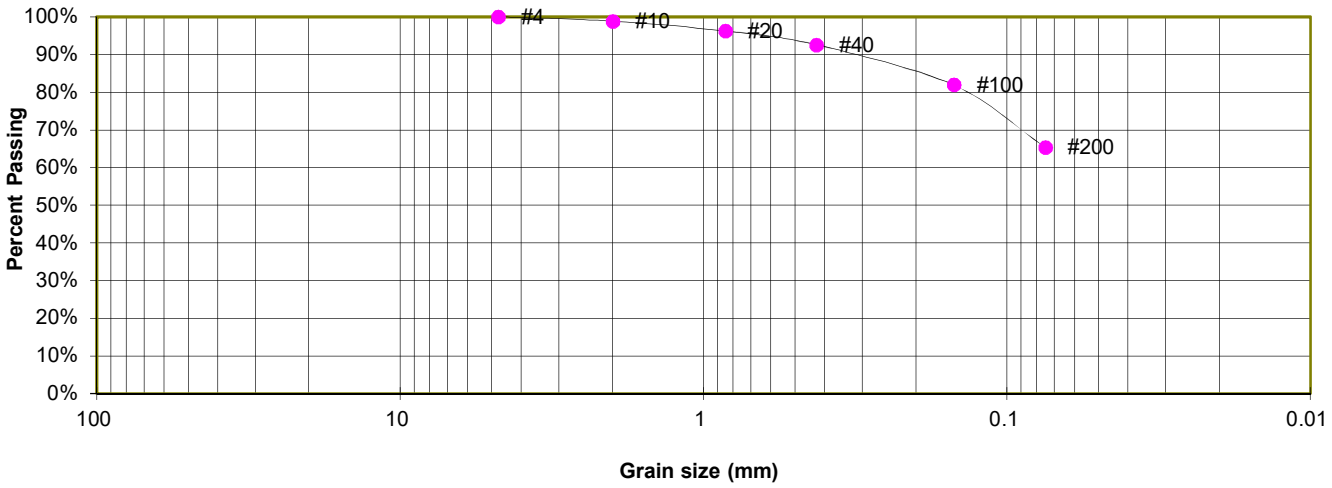
LABORATORY TEST RESULTS

IRON RIDGE
ATTICUS LAND, LLC

JOB NO. 251117

FIG. C-16

TEST PIT	TP-8	SOIL DESCRIPTION	CLAY, SANDY
DEPTH (FT)	2	SOIL TYPE	4



GRAIN SIZE ANALYSIS

U.S. Sieve #	Percent Finer
3"	
1 1/2"	
3/4"	
1/2"	
3/8"	
4	100.0%
10	98.9%
20	96.2%
40	92.6%
100	81.9%
200	65.4%

SOIL CLASSIFICATION

USCS CLASSIFICATION: CL

ENTECH ENGINEERING, INC.

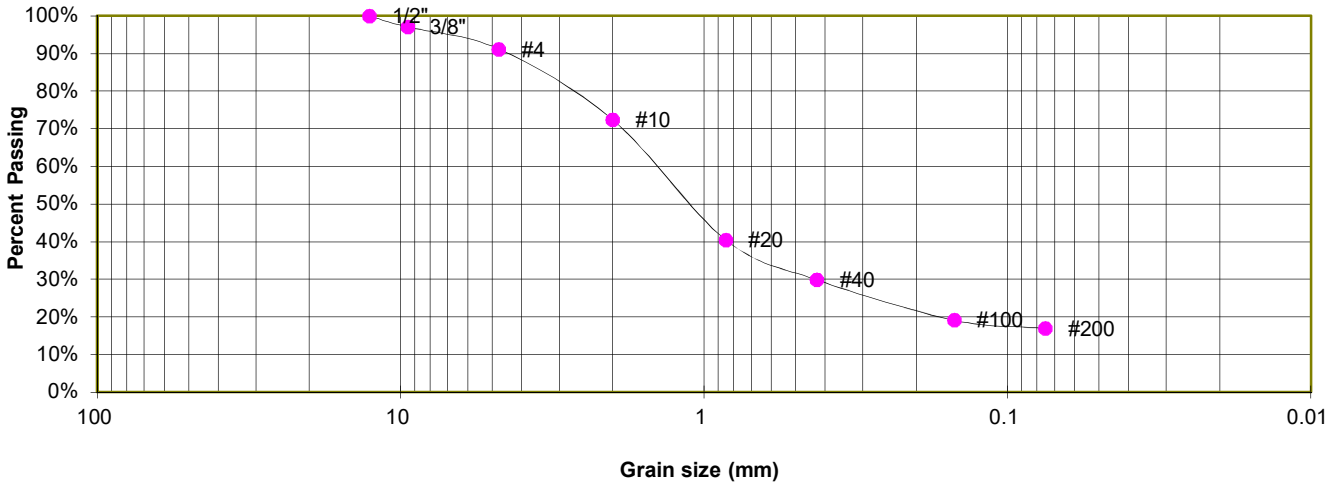
LABORATORY TEST RESULTS

IRON RIDGE
ATTICUS LAND, LLC

JOB NO. 251117

FIG. C-17

TEST BORING	3	SOIL DESCRIPTION	SANDSTONE (SAND, SILTY)
DEPTH (FT)	20	SOIL TYPE	3



GRAIN SIZE ANALYSIS

U.S. Sieve #	Percent Finer
3"	
1 1/2"	
3/4"	
1/2"	100.0%
3/8"	97.1%
4	91.2%
10	72.4%
20	40.5%
40	29.8%
100	19.1%
200	17.0%

ATTERBERG LIMITS

Plastic Limit	30
Liquid Limit	38
Plastic Index	8

SOIL CLASSIFICATION

USCS CLASSIFICATION: SM

ENTECH ENGINEERING, INC.

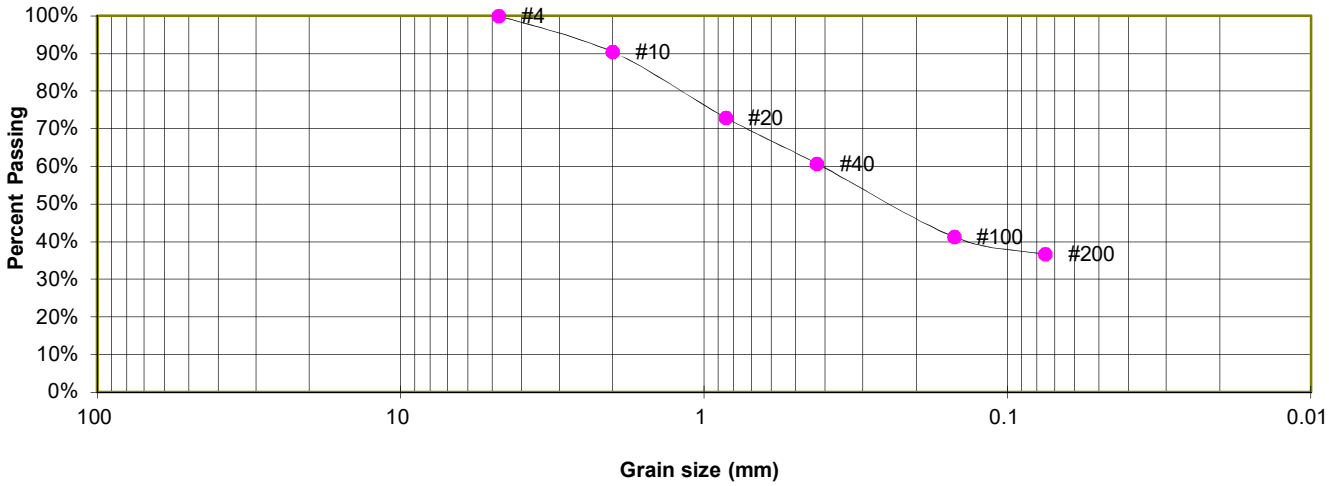
LABORATORY TEST RESULTS

IRON RIDGE
ATTICUS LAND, LLC

JOB NO. 251117

FIG. C-18

TEST BORING	8	SOIL DESCRIPTION	SANDSTONE (SAND, SILTY)
DEPTH (FT)	5	SOIL TYPE	3



GRAIN SIZE ANALYSIS

U.S. Sieve #	Percent Finer
3"	
1 1/2"	
3/4"	
1/2"	
3/8"	
4	100.0%
10	90.4%
20	73.0%
40	60.8%
100	41.3%
200	36.6%

SOIL CLASSIFICATION

USCS CLASSIFICATION: SM

ENTECH ENGINEERING, INC.

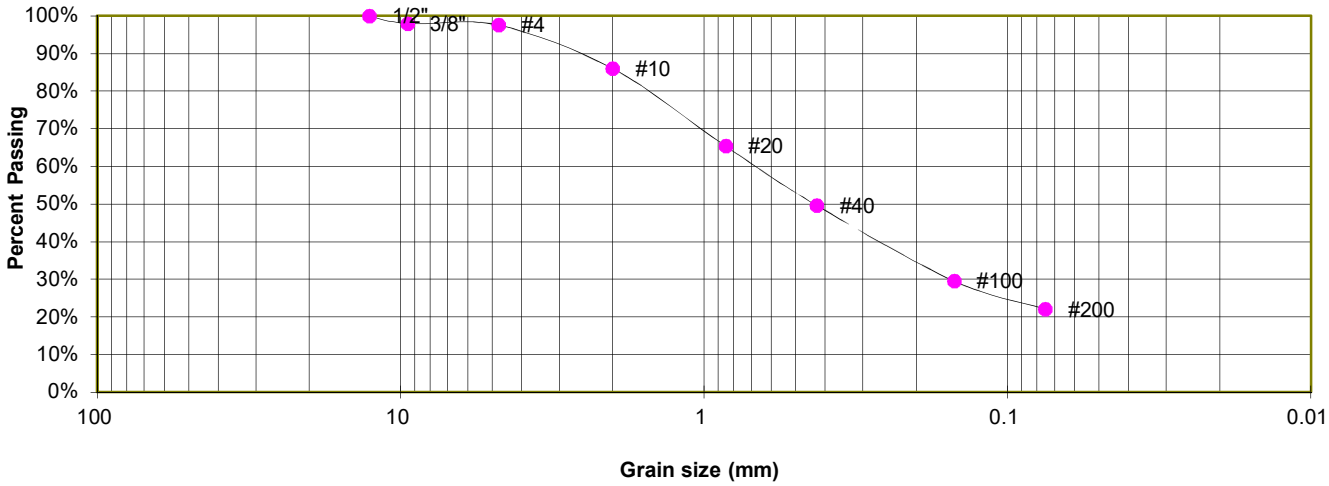
LABORATORY TEST RESULTS

IRON RIDGE
ATTICUS LAND, LLC

JOB NO. 251117

FIG. C-19

TEST PIT	TP-7	SOIL DESCRIPTION	SANDSTONE, SILTY
DEPTH (FT)	6.5	SOIL TYPE	3



GRAIN SIZE ANALYSIS

U.S. Sieve #	Percent Finer
3"	
1 1/2"	
3/4"	
1/2"	100.0%
3/8"	98.0%
4	97.5%
10	86.0%
20	65.4%
40	49.6%
100	29.6%
200	22.0%

SOIL CLASSIFICATION

USCS CLASSIFICATION: SM

ENTECH ENGINEERING, INC.

LABORATORY TEST RESULTS

IRON RIDGE
ATTICUS LAND, LLC

JOB NO. 251117

FIG. C-20

TEST BORING	5	SOIL DESCRIPTION	SILT, SANDY
DEPTH (FT)	2-3	SOIL TYPE	2

SWELL/COLLAPSE TEST RESULTS

NATURAL UNIT DRY WEIGHT (PCF): 100
NATURAL MOISTURE CONTENT: 9.7%
SWELL/COLLAPSE (%): -2.3%

ENTECH ENGINEERING, INC.

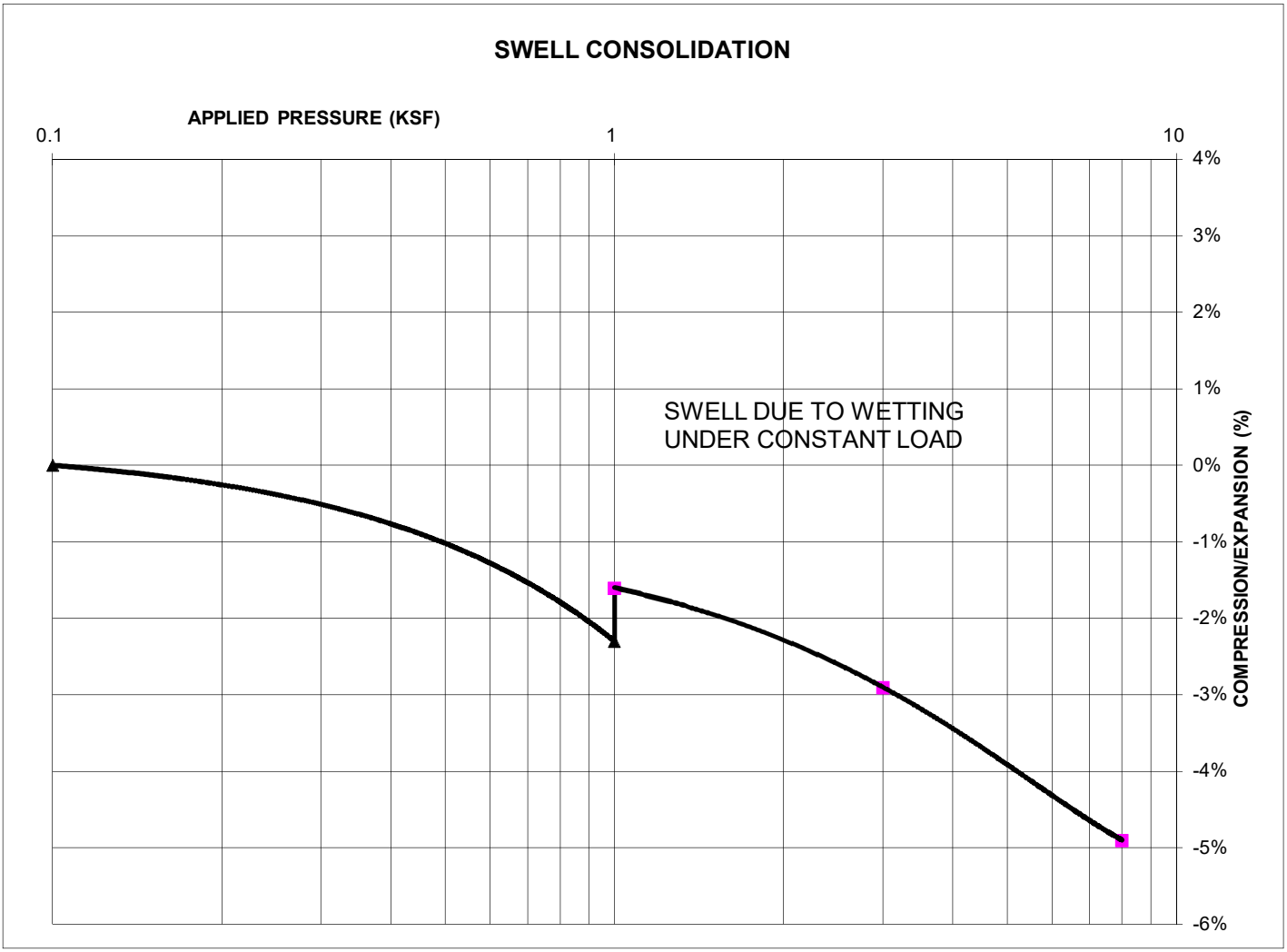
SWELL TEST RESULTS

IRON RIDGE
ATTICUS LAND, LLC

JOB NO. 251117

FIG. C-21

TEST BORING	7	SOIL DESCRIPTION	SAND, CLAYEY
DEPTH (FT)	15	SOIL TYPE	1



SWELL/COLLAPSE TEST RESULTS

NATURAL UNIT DRY WEIGHT (PCF): 116
NATURAL MOISTURE CONTENT: 16.3%
SWELL/COLLAPSE (%): 0.7%

ENTECH ENGINEERING, INC.

SWELL TEST RESULTS

IRON RIDGE
ATTICUS LAND, LLC

JOB NO. 251117

FIG. C-22

TEST BORING	10	SOIL DESCRIPTION	CLAY, WITH SAND
DEPTH (FT)	10	SOIL TYPE	2

SWELL/COLLAPSE TEST RESULTS

NATURAL UNIT DRY WEIGHT (PCF): 102
NATURAL MOISTURE CONTENT: 9.1%
SWELL/COLLAPSE (%): -1.3%

ENTECH ENGINEERING, INC.

SWELL TEST RESULTS

IRON RIDGE
ATTICUS LAND, LLC

JOB NO. 251117

FIG. C-23

Client: Atticus Land, LLC Job Number: 251117
Test Location: Iron Ridge

TEST BORING NO. 11

Date Holes Prepared: 7/14/2025

Hole No. P1 (POND 1)
Depth: 29"

Trial	Time (min.)	Water Level Change (in.)
1	10	1/2
2	10	1/2
3	10	1/4

Perc Rate (min./in.): 40

Hole No. P2 (POND 1)
Depth: 48"

Trial	Time (min.)	Water Level Change (in.)
1	10	1/8
2	10	1/8
3	10	1/8

Perc Rate (min./in.): 80

Average Perc Rate (min./in.) 60

PROFILE HOLE

Date Profile Hole Completed: 7/14/2025

Depth	Visual Classification	Remarks
0-8'	Sand, silty, brown to tan	
8-20'	Sandstone, clayey, tan	Sandstone Bedrock at 8' No Groundwater

12 Blows / ft. @ 2'
24 Blows / ft. @ 4'
50 Blows / ft. @ 11'

Observer: L. Langford By:

ENTECH ENGINEERING, INC.

PERCOLATION TEST RESULTS

JOB NO. 251117

FIG. C-24

Client: Atticus Land, LLC
Test Location: Iron Ridge

Job Number: 251117

Infiltration Rate (I) = Percolation Rate (P)/ Reduction Factor(R_F)
$I=P/R_F$

$R_f = [(2d_1 - \Delta d) / dia] + 1$

d_1 = initial water depth (in.)

Δd = final water level drop (in.)

dia = diameter of the percolation hole (in.)

Test No. P1 (TB-11)			**Test No. P2 (TB-11)**		
Perc Rate	1.50	in/hr	Perc Rate	0.75	in/hr
diameter	8		diameter	8	
P1	(inches)		**P2**	(inches)	
d_1 =	20.5		d_1 =	36.4	
Δd =	1/4		Δd =	1/8	
R_f =	6.1		R_f =	10.1	
I =	**0.246**	**in/hr**	**I =**	**0.074**	**in/hr**

I_{AVG}= 0.160 in/hr

ENTECH ENGINEERING, INC.

INFILTRATION TEST RESULTS

JOB NO. 251117

FIG. C-25

Client: Atticus Land, LLC
Job Number: 251117
Test Location: Iron Ridge

TEST BORING NO. 12

Date Holes Prepared: 7/14/2025

Hole No. 1
Depth: 50"

Trial	Time (min.)	Water Level Change (in.)
1	10	1/8
2	10	1/8
3	10	1/8

Perc Rate (min./in.): 80

Hole No. 2
Depth: 35"

Trial	Time (min.)	Water Level Change (in.)
1	10	1/8
2	10	1/4
3	10	1/4

Perc Rate (min./in.): 40

Average Perc Rate (min./in.) 60

PROFILE HOLE

Date Profile Hole Completed: 7/14/2025

Depth	Visual Classification	Remarks
0-9'	Sand, silty, brown	
9-20'	Sand, clayey, brown	No Bedrock No Groundwater

12 Blows / ft. @ 2'
18 Blows / ft. @ 4'
7 Blows / ft. @ 9'

Observer: L. Langford
By:

ENTECH ENGINEERING, INC.

PERCOLATION TEST RESULTS

JOB NO. 251117

FIG. C-26

Client: Atticus Land, LLC Job Number: 251117
Test Location: Iron Ridge

Infiltration Rate (I) = Percolation Rate (P)/ Reduction Factor(R_F)
$I=P/R_F$

$R_f = [(2d_1 - \Delta d) / dia] + 1$
d_1 = initial water depth (in.)
Δd = final water level drop (in.)
dia = diameter of the percolation hole (in.)

Test No. P1 (POND 2)			**Test No. P2 (POND 2)**		
Perc Rate	0.75	in/hr	Perc Rate	1.50	in/hr
diameter	8		diameter	8	
P1	(inches)		**P2**	(inches)	
d_1 =	20.6		d_1 =	27.1	
Δd =	1/8		Δd =	1/4	
R_f =	6.1		R_f =	7.8	
I =	**0.122**	**in/hr**	**I =**	**0.194**	**in/hr**

I_{AVG}= 0.158 in/hr

ENTECH ENGINEERING, INC.

INFILTRATION TEST RESULTS

JOB NO. 251117

FIG. C-27

APPENDIX D: USDA Soil Survey Descriptions

El Paso County Area, Colorado

67—Peyton sandy loam, 5 to 9 percent slopes

Map Unit Setting

National map unit symbol: 369d
Elevation: 6,800 to 7,600 feet
Mean annual air temperature: 43 to 45 degrees F
Frost-free period: 115 to 125 days
Farmland classification: Not prime farmland

Map Unit Composition

Peyton and similar soils: 85 percent
Minor components: 5 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Peyton

Setting

Landform: Hills
Landform position (three-dimensional): Side slope
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Arkosic alluvium derived from sedimentary rock and/or arkosic residuum weathered from sedimentary rock

Typical profile

A - 0 to 12 inches: sandy loam
Bt - 12 to 25 inches: sandy clay loam
BC - 25 to 35 inches: sandy loam
C - 35 to 60 inches: sandy loam

Properties and qualities

Slope: 5 to 9 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20 to 0.60 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Moderate (about 7.3 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 4e
Hydrologic Soil Group: B
Ecological site: R049XY216CO - Sandy Divide
Hydric soil rating: No

Minor Components

Pleasant

Percent of map unit: 5 percent
Landform: Depressions
Hydric soil rating: Yes

Other soils

Percent of map unit:
Hydric soil rating: No

Data Source Information

Soil Survey Area: El Paso County Area, Colorado
Survey Area Data: Version 22, Sep 3, 2024

El Paso County Area, Colorado

69—Peyton-Pring complex, 8 to 15 percent slopes

Map Unit Setting

National map unit symbol: 369g
Elevation: 6,800 to 7,600 feet
Farmland classification: Not prime farmland

Map Unit Composition

Peyton and similar soils: 40 percent
Pring and similar soils: 30 percent
Minor components: 5 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Peyton

Setting

Landform: Hills
Landform position (three-dimensional): Side slope
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Arkosic alluvium derived from sedimentary rock and/or arkosic residuum weathered from sedimentary rock

Typical profile

A - 0 to 12 inches: sandy loam
Bt - 12 to 25 inches: sandy clay loam
BC - 25 to 35 inches: sandy clay loam
C - 35 to 60 inches: sandy loam

Properties and qualities

Slope: 8 to 9 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20 to 0.60 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Moderate (about 7.3 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 4e
Hydrologic Soil Group: B
Ecological site: R049XY216CO - Sandy Divide
Hydric soil rating: No

Description of Pring

Setting

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

Typical profile

A - 0 to 14 inches: coarse sandy loam
C - 14 to 60 inches: gravelly sandy loam

Properties and qualities

Slope: 8 to 15 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well 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 supply, 0 to 60 inches: Low (about 6.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 6e
Hydrologic Soil Group: B
Ecological site: R048AY222CO - Loamy Park
Hydric soil rating: No

Minor Components

Pleasant

Percent of map unit: 5 percent
Landform: Depressions
Hydric soil rating: Yes

Other soils

Percent of map unit:
Hydric soil rating: No

Data Source Information

Soil Survey Area: El Paso County Area, Colorado
Survey Area Data: Version 22, Sep 3, 2024

El Paso County Area, Colorado

92—Tomah-Crowfoot loamy sands, 3 to 8 percent slopes

Map Unit Setting

National map unit symbol: 36b9
Elevation: 7,300 to 7,600 feet
Farmland classification: Not prime farmland

Map Unit Composition

Tomah and similar soils: 50 percent
Crowfoot and similar soils: 30 percent
Minor components: 5 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Tomah

Setting

Landform: Alluvial fans, hills
Landform position (three-dimensional): Side slope, crest
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium derived from arkose and/or residuum weathered from arkose

Typical profile

A - 0 to 10 inches: loamy sand
E - 10 to 22 inches: coarse sand
Bt - 22 to 48 inches: stratified coarse sand to sandy clay loam
C - 48 to 60 inches: coarse sand

Properties and qualities

Slope: 3 to 8 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.60 to 2.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Low (about 4.6 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 4e
Hydrologic Soil Group: B
Ecological site: R049XY216CO - Sandy Divide
Hydric soil rating: No

Description of Crowfoot

Setting

Landform: Hills, alluvial fans
Landform position (three-dimensional): Side slope, crest
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium

Typical profile

A - 0 to 12 inches: loamy sand
E - 12 to 23 inches: sand
Bt - 23 to 36 inches: sandy clay loam
C - 36 to 60 inches: coarse sand

Properties and qualities

Slope: 3 to 8 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.60 to 2.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Low (about 4.7 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 4e
Hydrologic Soil Group: B
Ecological site: R049XY216CO - Sandy Divide
Hydric soil rating: No

Minor Components

Pleasant

Percent of map unit: 5 percent
Landform: Depressions
Hydric soil rating: Yes

Other soils

Percent of map unit:
Hydric soil rating: No

Data Source Information

Soil Survey Area: El Paso County Area, Colorado
Survey Area Data: Version 22, Sep 3, 2024