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**SOILS AND GEOLOGY STUDY
RETREAT AT PRAIRIERIDGE FILING NO. 4
POCO ROAD AND VOLLMER ROAD
EL PASO COUNTY, COLORADO**

Prepared for:
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Attn: Loren Moreland

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Respectfully Submitted,

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1 SUMMARY

Project Location

The project lies in portions of the S½ of Section 28, Township 12 South, Range 65 West of the 6th Principal Meridian in El Paso County, Colorado. The site is located approximately three miles northeast of Colorado Springs, Colorado.

Project Description

The Retreat at PrairieRidge Filing No. 4 is 14.55 acres. The proposed development is to consist of 122 single and multi-family residential units within the central portion of the Retreat at PrairieRidge Subdivision on the northern side of future Briargate Parkway. The development will utilize central sewer and water.

Scope of Report

This report presents the results of our geologic evaluation and treatment of engineering geologic hazard study.

Land Use and Engineering Geology

This site was found to be suitable for the proposed development. Areas were encountered where the geologic conditions will impose some constraints on development and land use. These include areas of artificial fill, potentially expansive soils, shallow bedrock, potentially seasonally shallow groundwater areas, and the potential for elevated radon levels. Based on the proposed development plan, it appears that these areas will have some impact on the development. These conditions will be discussed in greater detail in the report.

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

2 GENERAL SITE CONDITIONS AND PROJECT DESCRIPTION

The site is located in portions of the ½ of Section 28, Township 12 South, Range 65 West of the 6th Principal Meridian in El Paso County, Colorado. The site is located approximately three miles northeast of Colorado Springs, Colorado, southwest of Poco Road and Vollmer Road. The location of the site is as shown on the Vicinity Map, Figure 1.

Generally, the topography of site is gradually sloping to the south with several minor drainages that flow in a southerly direction through the site. Water was not observed in the drainages at the time of our site investigation, but areas of seasonally shallow water have been encountered across the subdivision. The site boundaries are indicated on the USGS Topography Map, Figure 2. Previous land uses have included rural residential, grazing and pasture land. The site contains primarily field grasses, weeds, cacti, and yuccas, with areas of scattered trees and ponderosa pine trees located across the northeastern portion of the site. Site photographs, taken April 2, 2025, are included in Appendix A and locations are shown on Figure 3.

The Retreat at PrairieRidge Filing No. 4 is 14.55 acres. The proposed development is to consist of 122 single and multi-family residential units and other associated site improvements. The development will utilize central sewer and water. Development and grading plans indicate cuts along the northern and eastern sides of the site, and areas of fill on the western and southern side of the site. A retaining wall is proposed along the southern boundary of the site. Deep cuts of 25 to 30 feet are proposed in the northern portion of the site. The proposed grading is presented in Figures 3 and 7, and the Cut/Fill Plan is presented in Figure 4.

3 SCOPE OF THE REPORT

The scope of the report includes 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.

4 FIELD INVESTIGATION

Our field investigation consisted of the preparation of a geologic map of any 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 air photo reconnaissance and interpretation. The same mapping procedures have also been utilized to produce the Engineering Geology Map which identified pertinent geologic conditions affecting development. The initial field mapping of the subdivision was performed by personnel of Entech Engineering, Inc. (Entech) on October 19, 2021. The site was revisited on April 2, 2022 to verify previous mapping and observe current site conditions.

Eight (8) test borings were drilled across the site as part of a preliminary geotechnical investigation to determine the soils classification and engineering characteristics (Reference 1). The borings were drilled to depths of 20 feet using a truck-mounted, continuous flight auger drilling rig supplied and operated by Entech. The Test Borings Test Boring Logs and Summary of Laboratory Testing Results are presented in Appendix B.

Three (3) test borings (TB-7, TB-8, and TB-13) were drilled across the site as part of the Preliminary Subsurface Soil Investigation and Soils and Geology Study completed by Entech (Reference 2) for the overall PrairieRidge project. The Test Boring Logs and Laboratory Testing Summary are presented in Appendix C.

The approximate location of the test borings area presented on the Site and Exploration Plan (Figure 3), and the Geology/Engineering Geology Map (Figure 7).

5 SOIL, GEOLOGY, AND ENGINEERING GEOLOGY

5.1 General Geology

The site lies in the western portion of the Great Plains Physiographic Province. Approximately 12 miles to the west 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 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 northeasterly direction (Reference 3). The rocks in the area of the site are sedimentary in nature and typically Upper Cretaceous in age. The bedrock underlying the site consists of the Dawson Formation. Overlying this formation are residual and colluvial soils, and man-placed fill deposits of Quaternary Age. The residual soils were derived from the in-situ weathering of the bedrock materials, and the colluvial soils have been transported by the action of sheetwash and gravity. 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 4), previously the Soil Conservation Service (Reference 5) has mapped one soil type on the site (Figure 5). In general, the soils classify as coarse sandy loam. The soils are described as follows:

Exhibit 1: Soil Survey Description

| Type | Description |
|------|--|
| 71 | Pring coarse sandy loam, 3 – 8% slopes |

Complete descriptions of each soil type are presented in Appendix D. The soils have generally been described to have moderate to moderately rapid permeabilities. Possible hazards with soil erosion are present on the site. The erosion potential can be controlled with vegetation. The majority of the soils have been described to have moderate erosion hazards.

5.3 Site Stratigraphy

The Falcon NW Quadrangle Geology Map showing the site is presented in Figure 6 (Reference 6). The Geology/Engineering Geology Map prepared for the site is presented in Figure 7. Two mappable units were identified on this site which are described as follows:

Qaf Artificial Fill of Quaternary Age: These are man-placed deposits associated with a portion of an existing earthen dam to located in the eastern portion of the site.

Tkd 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 and/or colluvial soils. The residual soils were derived from the in-situ weathering of the bedrock materials on-site. The colluvial soils have been transported by the action of sheetwash and gravity. These soils consisted of silty to clayey sands and sandy clays.

The soils listed above were mapped from site-specific mapping, the *Geologic Map of the Falcon NW Quadrangle* distributed by the Colorado Geological Survey in 2003 (Reference 6), the *Geologic Map of the Colorado Springs-Castle Rock Area*, distributed by the US Geological Survey in 1979 (Reference 7), and the *Geologic Map of the Denver 1° x 2° Quadrangle*, distributed by the US Geological Survey in 1981 (Reference 8). The Test Borings and Profile Holes were also used

in evaluating the site and are included in Appendix B. The Geology/Engineering Geology Map prepared for the site is presented in Figure 7.

5.4 Soil Conditions

One primary soil type and two bedrock types were encountered in the test borings drilled for the subsurface investigation. Each soil and bedrock type was classified in accordance with the Unified Soil Classification System (USCS) using the laboratory testing results and the observations made during drilling.

Soil Type 1 classified as native loose to dense silty sand to sand with silt (SM, SW-SM). The sand was encountered in all test borings at the ground surface and extended to depths of 1 to 7 feet bgs. The native sand is anticipated to exhibit a low expansion potential.

Soil Type 2 classified as sandstone bedrock, or very dense silty to clayey sand (SM, SC) when classified as a soil. The bedrock was encountered in all of the test borings between 5 and 13 feet and extended to the termination of the borings at 20 feet bgs.

Soil Type 3 classified as claystone/siltstone bedrock or hard clay with sand or sandy silt when classified as a soil (CL, ML). The expansive bedrock was encountered in TB-2, TB-4, and TB-7 interbedded within soil the Type 2 sandstone at depths of 4 to 9 feet bgs and extended to a depths of 6 to 14 feet bgs. One-dimensional swell/collapse testing resulted in volume changes ranging from of -0.2% to 2.0% indicating a moderate expansion potential.

The Test Boring Logs and Laboratory Testing Summary are presented in Appendices B and C (References 1 and 2).

5.5 Groundwater

Groundwater was encountered in four of the test borings located within the project site at depths ranging from 13 to 16.5 feet bgs subsequent to drilling. In general groundwater was encountered in areas that will be filled during site grading. Depth to groundwater is shown on Table B-1, and on each test boring log in Appendices B and C. Areas of water, potential seasonally shallow groundwater has been mapped along the minor drainage swales within the project site. These areas are discussed in the following section. Fluctuation in groundwater conditions may occur due to variations in rainfall and other factors not readily apparent at this time. Drainages on the site generally flow in a southerly direction. Areas along and near the drainages on the site have

been mapped as psw – potential seasonally shallow groundwater areas and are shown on the Geology/Engineering Geology Map is shown on Figure 7.

Ten (10) temporary piezometers (P-1 – P-8 and P1F2 and P2F2) were previously installed across the overall Retreat at PrairieRidge subdivision in areas of shallow groundwater conditions and proposed cut areas across the site as part of additional investigation for the proposed development. Three additional piezometers will be installed within Filing No. 4 to be designated P1F4 through P3F4 as part of continued groundwater monitoring for the subdivision. The piezometers will continue to be monitored to obtain seasonal groundwater fluctuations across the site. Groundwater has been encountered in seven of the piezometers installed across the PrairieRidge site. The readings taken for the piezometers are shown in Exhibit 2. In general, the shallow water was encountered in or adjacent to drainages. Groundwater may be encountered in the deep cuts proposed near P-6 and P-7 where cut depths of approximately 20 to greater than 30 feet are proposed. Groundwater was encountered approximately 5 feet above proposed cut depths in the recently installed piezometer P2F2. This is installed on Filing 2 north of Filing 4. Where the proposed cut depths are at or exceeding current groundwater levels, dewatering in addition to stabilization may be required. Utility trench drains will be installed in the filing north of Filing 4. Specific stabilization recommendations are discussed in Section 9.

Exhibit 2: Temporary Piezometer Readings

| Piezometer, and Total Depth (ft.) | Groundwater Level (ft.) 5/16/24 | Groundwater Level (ft.) 9/16/24 | Groundwater Level (ft.) 12/11/24 | Groundwater Level (ft.) 2/3/25 | Groundwater Level (ft.) 5/12/25 | Approximate Cut/Fill |
|-----------------------------------|------------------------------------|------------------------------------|-------------------------------------|-----------------------------------|------------------------------------|-------------------------|
| P1, 13' | Dry | Dry | Dry | Dry | Dry | 12 |
| P2, 13' | 11.5 | 10.5 | 11.5 | 10.8 | 10.6 | 12 |
| P3, 13' | 8 | 8.5 | 8 | 9.3 | 9.7 | 2 |
| P4, 13' | 7.4 | 7.5 | 7.4 | 7.3 | 6.8 | 10 |
| P5, 15' | Dry | Dry | Dry | Dry | Dry | 10 |
| P6, 35' | 28.9 | 28.8 | 28.9 | 28.9 | 28.9 | 29 |
| P7, 25' | 18.4 | 18 | 18.2 | 17 | 21.1 | 14 |
| P8, 20' | 14.5 | 16.2 | Dry | Dry | Dry | 15 |
| P1F2, 20' ¹ | | | Dry | Dry | Dry | 14 |
| P2F2, 20' ¹ | | | 13.5 | 13 | 12.5 | 18 |

¹ – Located in Filing 2 north of Filing 4

It should be noted that in the sandy materials on-site, 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. Builders and planners should be

cognizant of the potential for the occurrence of such subsurface water features during construction on-site and deal with each individual issue as necessary at the time of construction.

6 ENGINEERING GEOLOGY – IDENTIFICATION AND MITIGATION OF GEOLOGIC HAZARDS

Detailed mapping has been performed on this site to produce a Geology/Engineering Geology Map Figure 7. This map shows the location of various geologic conditions of which the developers should be cognizant during the planning, design and construction stages of the project. These hazards and the recommended mitigation techniques are as follows:

Artificial Fill – Constraint

These are areas of man-made fill associated with earthen dam located in the eastern portion of the site. This area will be regraded as part of the overall site development and grading.

Mitigation: Any uncontrolled fill encountered beneath foundations will require removal and recompaction at a minimum of 95% of its maximum Modified Proctor Dry Density, ASTM D-1557.

Expansive Soils – Constraint

The site is classified in an area of low to moderate swell potential according to *the Map of Potentially Swelling Soil and Rock in the Front Range Urban Corridor, Colorado* by Hart, 1974 (Reference 9). Expansive soils were encountered in some of the test borings drilled on site. These occurrences are typically sporadic; therefore, none have been indicated on the maps. These clays and claystone, if encountered at foundation grade, can cause differential movement in structures. These occurrences should be identified and dealt with on an individual basis. Swell/collapse testing resulted in volume changes of 0.3 to 3.9% indicating low to high expansion potentials.

Mitigation Should expansive soils be encountered beneath foundations; mitigation will be necessary. Mitigation of expansive soils will require special foundation design. Overexcavation and replacement with non-expansive soils at a minimum of 95% of its maximum Modified Proctor Dry Density, ASTM D-1557 is a suitable mitigation, which is common in the area. Floor slabs on expansive soils should be expected to experience movement. Overexcavation and replacement has been successful in minimizing slab movements. The use of structural floors should be considered for basement construction on highly expansive clays. Final recommendations should be determined after additional investigation of each building site.

Slope Stability and Landslide Susceptibility – Hazard

The majority of the slopes on-site are gradually sloping and do not exhibit any past or potential unstable slopes or landslides. It is recommended that any future grading or fill slopes should be 3:1 or flatter.

Shallow Bedrock – Constraint

Bedrock was encountered in all the test borings at depths ranging from 1 to 7 feet. A Summary of the Depth to Bedrock is included in Table B-1 in Appendices B and C. Shallow bedrock will be encountered across most of this site. Where claystone or sandstone are encountered, excavation/grading may be difficult requiring track-mounted excavators. Bedrock will likely be encountered cuts for utility excavations.

Groundwater and Floodplain Areas – Constraint

A main drainage is located west of the site, and minor drainage swales are located across the site which have been identified as areas of potential seasonally shallow groundwater areas. The site is not mapped within floodplain zones according to the FEMA Map No. 08041CO535G, (Figure 8, Reference 10).

Potentially 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. The majority of these areas lie within defined drainages which will be regraded with the overlot earthwork. The same mitigation recommendations for the seasonal shallow groundwater areas apply to the potentially seasonal shallow groundwater areas.

Mitigation: Foundations must have a minimum 30-inch depth for frost protection. Subsurface perimeter drains are recommended for any below grade usable areas to help prevent the intrusion of water into areas below grade. Foundations should maintain a minimum separation of 3 feet between the lowest foundation grade and the maximum anticipated groundwater level. Shallow groundwater areas can be mitigated with the installation of drains. Typical drain options/details are presented in Figures 10 through 13. Structures should not block drainages. All organic material should be completely removed prior to any fill placement.

Debris Fans/Debris Flow Susceptibility – Hazard

The site is not mapped within any area susceptible to debris flows according to the *Debris Flow Susceptibility Map of El Paso County, Colorado*, by McCoy, Morgan, and Berry (Reference 12).

Faults – Hazard

The closest fault is the Ute Pass Fault, located approximately 12 miles west of the site. No faults are mapped in the site itself. Previously, Colorado was mapped entirely within Seismic Zone 1, a very low seismic risk. Additionally, the International Residential Code (IRC), 2003, currently places this area in Seismic Design Category B, also a low seismic risk. According to a report by the Colorado Geological Survey by Kirkman and Rogers, Bulletin 43 (1981) (Reference 13), this area should be designed for Zone 2 due to more recent data on the potential for movement in this area and any resultant earthquakes.

Radon – Hazard

Radon is a colorless, tasteless radioactive gas with a United States Environmental Protection Agency (EPA) specified action level of 4.0 picocuries per liter (pCi/L) of air. Radon gas has a very short half-life of 3.8 days. Radon levels for the area have been reported by the Colorado Geologic Survey in the open file, Report No. 91-4 (Reference 14). Average Radon levels for the 80908-zip code is 3.40 pCi/l. Exhibit 3 presents the radon levels in this area:

Exhibit 3: Radon Levels

| Average Radon Levels for the 80908 Zip Code | |
|---|--------|
| 0 < 4 pCi/L | 50.00% |
| 4 < 10 pCi/L | 50.00% |
| 10 < 20 pCi/L | 0.00% |
| > 20 pCi/L | 0.00% |

Mitigation:

The potential for high radon levels is present for the site. Build-up of radon gas can usually be mitigated by providing increased ventilation of basement and crawlspace and sealing joints. Specific requirements for mitigation should be based on site specific testing.

6.1 Relevance of Geologic Conditions to Land Use Planning

We understand that the development will consist of 122 units for single and multi-family residential and other associated site improvements. It is our opinion that the existing geologic and engineering geologic conditions will impose some minor constraints on the proposed development and construction. The most significant problems affecting development will be those associated with the potentially expansive soils, shallow bedrock, potential seasonally shallow groundwater areas, and potential for elevated radon levels, these constraints/hazards can be satisfactorily mitigated through proper engineering design and construction practices.

The upper materials are typically at medium dense to dense states. The granular soils encountered in the upper soil profiles of the test borings should provide good support for foundations. Loose soils if encountered at foundation depth will require mitigation. Foundations anticipated for the site are standard spread footings possibly in conjunction with overexcavation in areas of expansive or loose soils. Excavation is anticipated to be moderate with rubber-tired equipment for the site sand materials. The sandstone will be difficult to excavate likely requiring track mounted equipment for the dense sandstone. Expansive layers may also be encountered in the soil and bedrock on this site. Areas of expansive soils encountered on site are sporadic; therefore, they have not been indicated on the maps. Expansive soils, if encountered, will require special foundation design and/or overexcavation. These soils will not prohibit development.

Areas potential seasonally shallow groundwater areas were identified along the minor drainage swales across the site. These areas will be filled during site grading further raising the area from existing groundwater levels. In general, the areas where groundwater was encountered will be filled during overlot grading. The knoll in the northeast portion of the site will have cuts up to 35 feet. Groundwater was encountered near the proposed grades in this area. It is anticipated that utility drains will control the water in these areas. Groundwater may be encountered during grading that requires dewatering and / or stabilization of subgrades. Dewatering in addition to stabilization may be required in these areas where groundwater is encountered in the soil profile. Unstable conditions are not expected where grading extends into sandstone. It is anticipated that sewer underdrains will be installed in the subdivision. Groundwater will be lowered with the installation of the underdrains. Typical passive sewer underdrain detail is presented in Figure 14.

Foundations should maintain a minimum separation of 3 feet between the lowest foundation grade and the maximum anticipated groundwater level. Building in areas of shallow water will require the installation of drains which is a common construction practice in the area. Typical drain details are presented in Figures 10 through 13. Specific drain recommendations will be made for each site after additional investigation. After site grading the structures will not block drainages. The site does not lie within any floodplain zones according to the FEMA Map No. 08041CO535G, dated December 7, 2108 (Figure 8, Reference 10). Exact locations of floodplain and specific drainage studies are beyond the scope of this report. Additional investigation is recommended after site grading to evaluate groundwater conditions and provide foundation recommendations.

A large retaining wall is proposed along the southern boundary to provide grade separation between the PUD North project and the future commercial site to the south. The soils in the area

will provide good support for wall footings (TB-7 and TB-8). The retaining walls will be designed for internal and global stability by a professional engineer.

In summary, development of the site can be achieved if the items mentioned above are mitigated. These items can be mitigated through proper design and construction or through avoidance. Investigation on each lot is recommended prior to construction.

7 ECONOMIC MINERAL RESOURCES

Evaluation of Mineral and Mineral Fuel Potential (Reference 17), the area of the site has been mapped as “Fair” for industrial minerals. However, considering the silty nature of much of these materials and abundance of similar materials through the region and the close proximity to developed land, they would be considered to have little significance as an economic resource.

According to *the Evaluation of Mineral and Mineral Fuel Potential of El Paso County State Mineral Lands* (Reference 17), the site is mapped within the Denver Basin Coal Region. However, the area of the site has been mapped as “Poor” for coal resources. No active or inactive mines have been mapped in the area of the site. No metallic mineral resources have been mapped on-site (Reference 17).

The site has been mapped as “Fair” for oil and gas resources (Reference 17). No oil or gas fields have been discovered in the area of the site. The sedimentary rocks in the area may lack the geologic structure for trapping oil or gas; therefore, it may not be considered a significant resource. Hydraulic fracturing is a new method that is being used to extract oil and gas from rocks. It utilizes pressurized fluid to extract oil and gas from rocks that would not normally be productive. The area of the site has not been explored to determine if the rocks underlying the site would be commercially viable utilizing hydraulic fracturing. The practice of hydraulic fracturing has come under review due to concerns about environmental impacts, health and safety.

8 EROSION CONTROL

The soil types observed on the site are mildly to highly susceptible to wind erosion, and moderately to highly susceptible to water erosion. A minor wind erosion and dust problem may be created for a short time during and immediately after construction. Should the problem be considered severe enough during this time, watering of the cut areas or the use of chemical palliative may be required to control dust. However, once construction has been completed and vegetation re-established, the potential for wind erosion should be considerably reduced.

With regard to water erosion, loosely compacted soils will be the most susceptible to water erosion, residually weathered soils become increasingly less susceptible to water erosion. For the typical soils observed on-site, allowable velocities on unvegetated and unlined earth channels would be on the order of 3 to 4 feet/second, depending upon the sediment load carried by the water. Permissible velocities may be increased through the use of vegetation to something on the order of 4 to 7 feet/second, depending upon the type of vegetation established. Should the anticipated velocities exceed these values, some form of channel lining material may be required to reduce erosion potential. These might consist of some of the synthetic channel lining materials on the market or conventional riprap. In cases where ditch-lining materials are still insufficient to control erosion, small check dams or sediment traps may be required. The check dams will serve to reduce flow velocities, as well as provide small traps for containing sediment. The determination of the amount, location and placement of ditch linings, check dams and of the special erosion control features should be performed by or in conjunction with the drainage engineer who is more familiar with the flow quantities and velocities.

Cut and fill slope areas will be subjected primarily to sheetwash and rill erosion. Unchecked rill erosion can eventually lead to concentrated flows of water and gully erosion. The best means to combat this type of erosion is, where possible, the adequate re-vegetation of cut and fill slopes. Cut and fill slopes having gradients more than three (3) horizontal to one (1) vertical become increasingly more difficult to revegetate successfully. Therefore, recommendations pertaining to the vegetation of the cut and fill slopes may require input from a qualified landscape architect and/or the Soil Conservation Service.

9 ROADWAY, EMBANKMENT, AND STORMWATER FACILITY CONSTRUCTION RECOMMENDATIONS

In general, the site soils are suitable for the proposed roadways and embankments. The sandstone/claystone from cut areas will require processing and breaking down prior to being placed in fill areas. Groundwater should be expected to be encountered in the areas of deeper cuts and along drainages and low-lying areas. Temporary dewatering may be needed where groundwater is encountered in cut areas during construction. If excavations encroach on the groundwater level unstable soil conditions may be encountered. Excavation of saturated soils will be difficult with rubber-tired equipment. Stabilization using shot rock or geogrids may be necessary.

Any areas to receive fill should have all topsoil, organic material or debris removed. Prior to fill placement Entech should observe the subgrade. Fill must be properly benched and compacted to minimize potentially unstable conditions in slope areas. Fill slopes should be 3:1. The subgrade should be scarified and moisture conditioned to within 2% of optimum moisture content and compacted to a minimum of 95% of its maximum Modified Proctor Dry Density, ASTM D-1557, prior to placing new fill. Areas receiving fill may require stabilization with rock or fabric if shallow groundwater conditions are encountered.

New fill should be placed in thin lifts not to exceed 6 inches after compaction while maintaining at least 95% of its maximum Modified Proctor Dry Density, ASTM D-1557. These materials should be placed at a moisture content conducive to compaction, usually 0 to $\pm 2\%$ of Proctor optimum moisture content. Sandstone/claystone will require processing to break it down for use in fills. The placement and compaction of fill should be observed and tested by Entech during construction. Entech should approve any import materials prior to placing or hauling them to the site. Additional investigation will be required for pavement designs once roadway grading is completed and utilities are installed.

10 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.



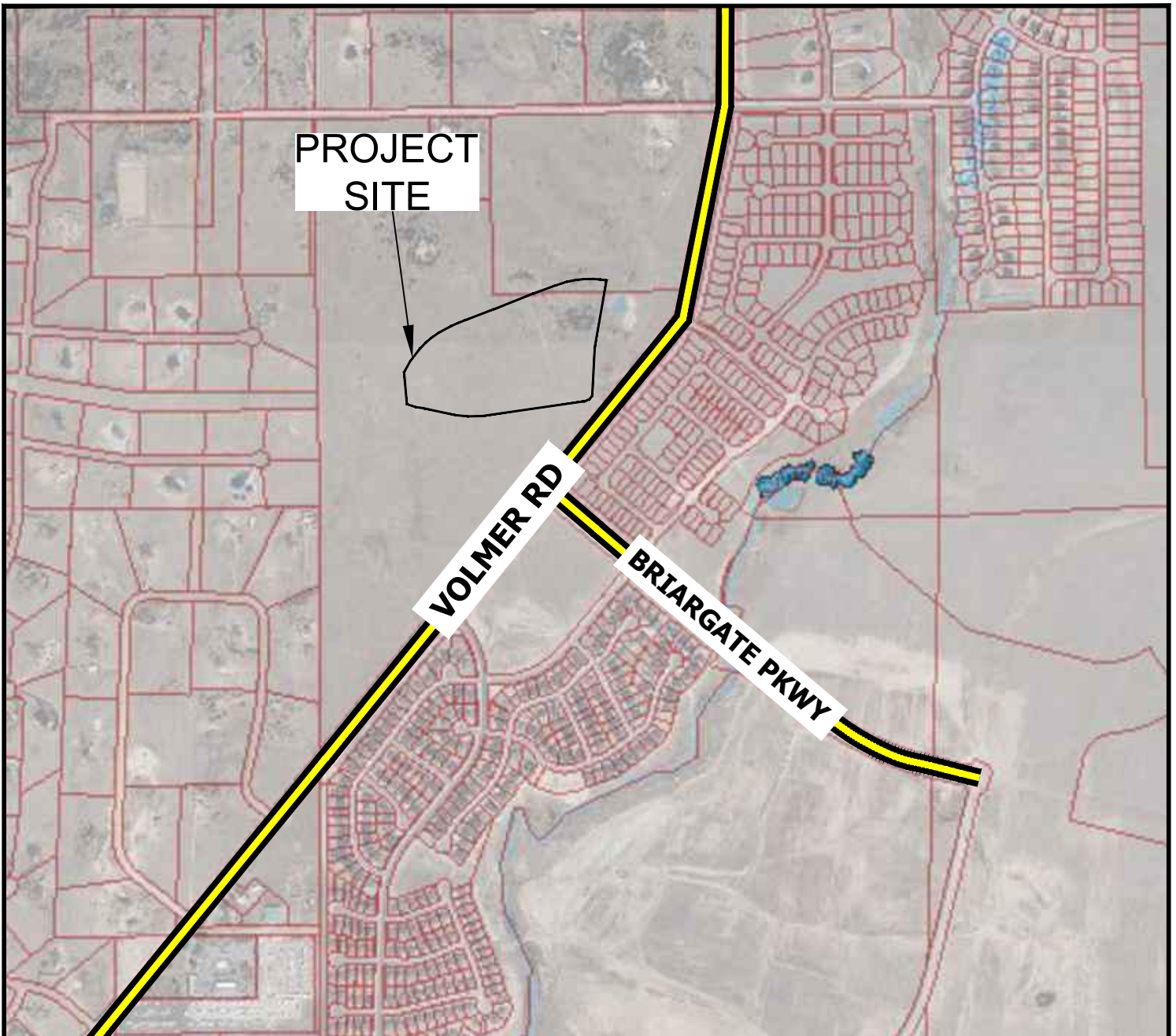
This report has been prepared for Classic SRJ Land for application to the proposed project in accordance with generally accepted geologic soil and engineering practices. No other warranty expressed or implied is made.

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.

11 REFERENCES

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FIGURES

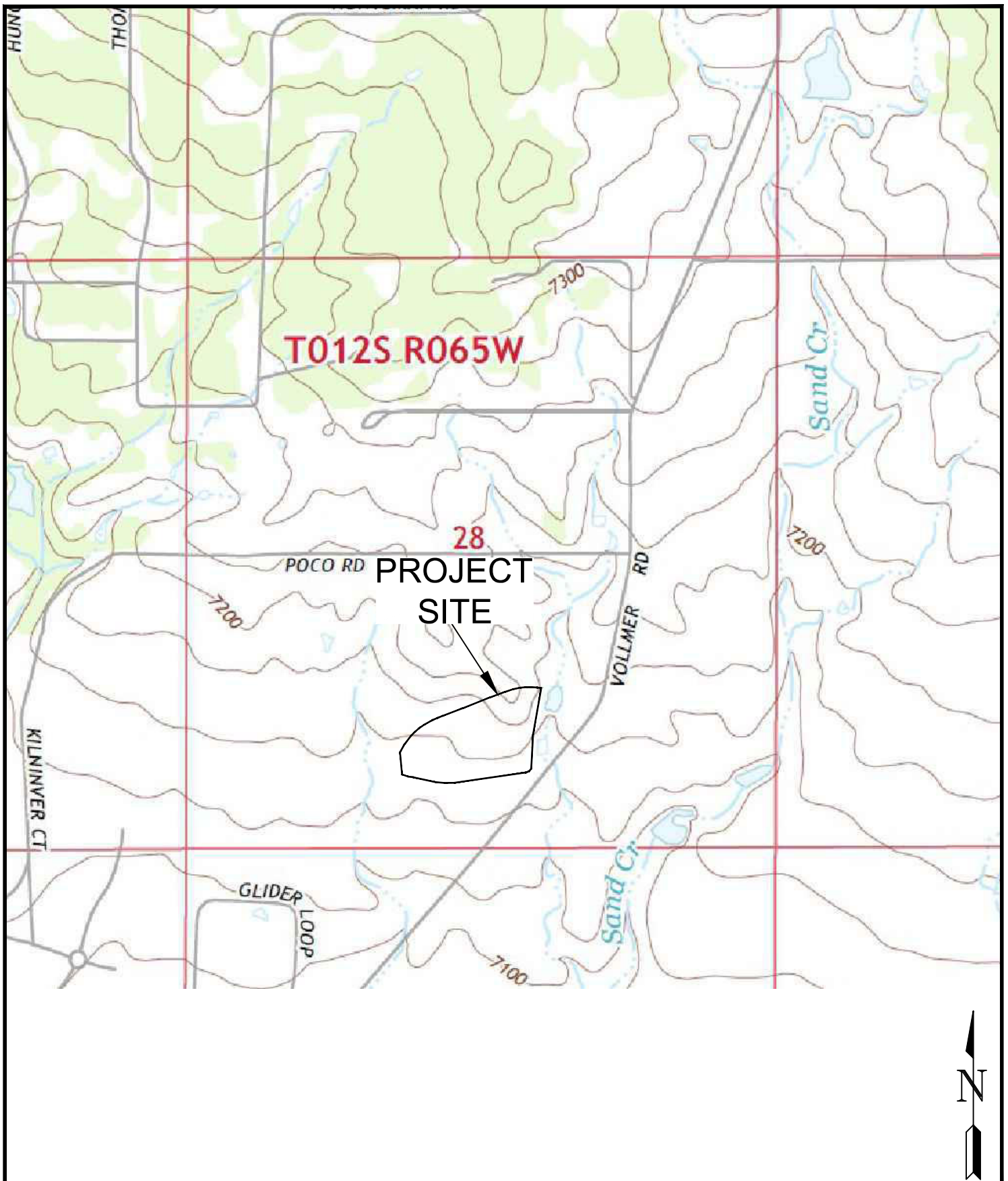


VICINITY MAP

RETREAT AT PRAIRIERIDGE FIL. NO. 4
CLASSIC SRJ LAND

JOB NO.
250431

FIG. 1

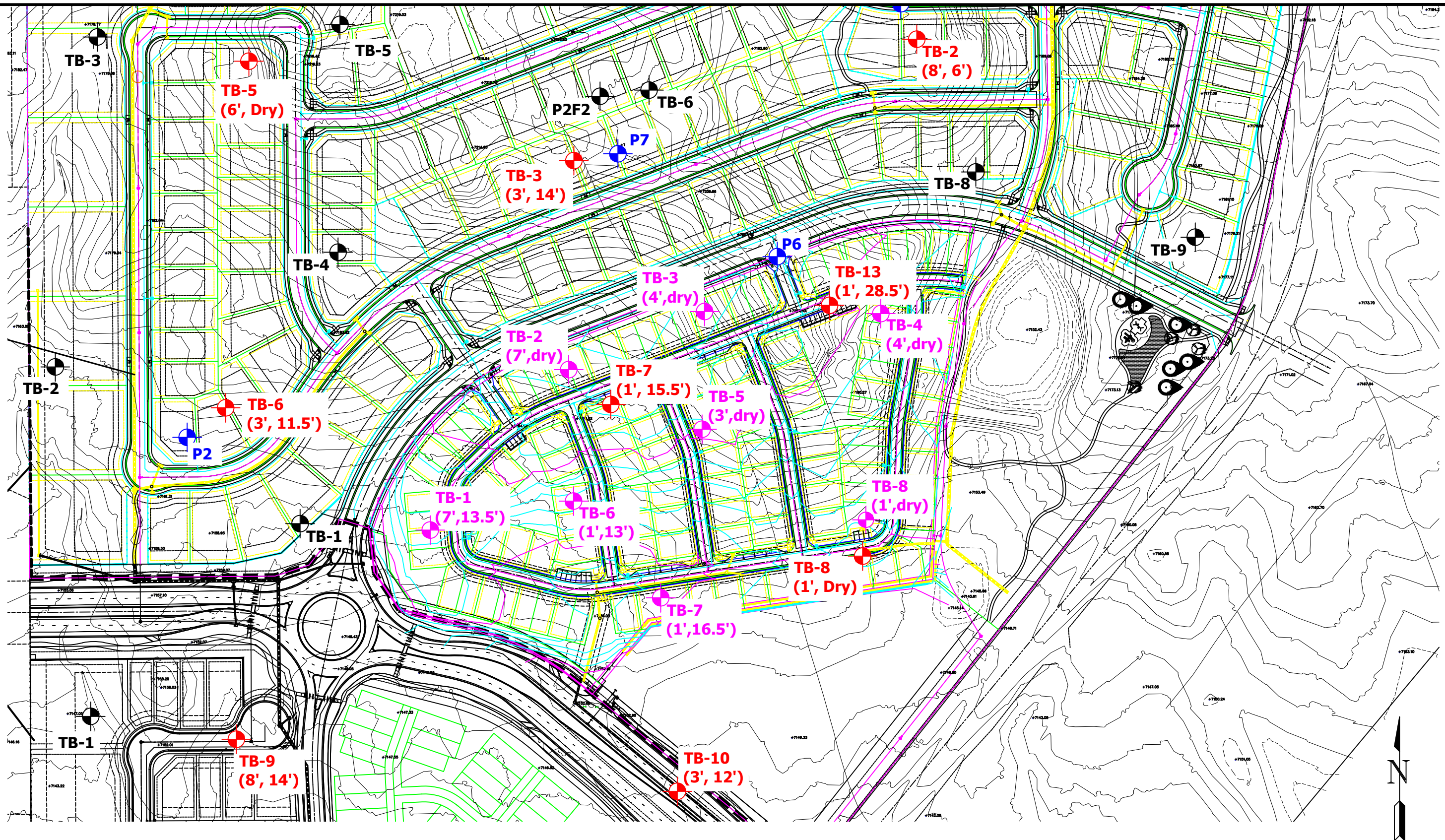


USGS TOPOGRAPHY MAP

RETREAT AT PRAIRIERIDGE FIL. NO. 4
CLASSIC SRJ LAND

JOB NO.
250431

FIG. 2

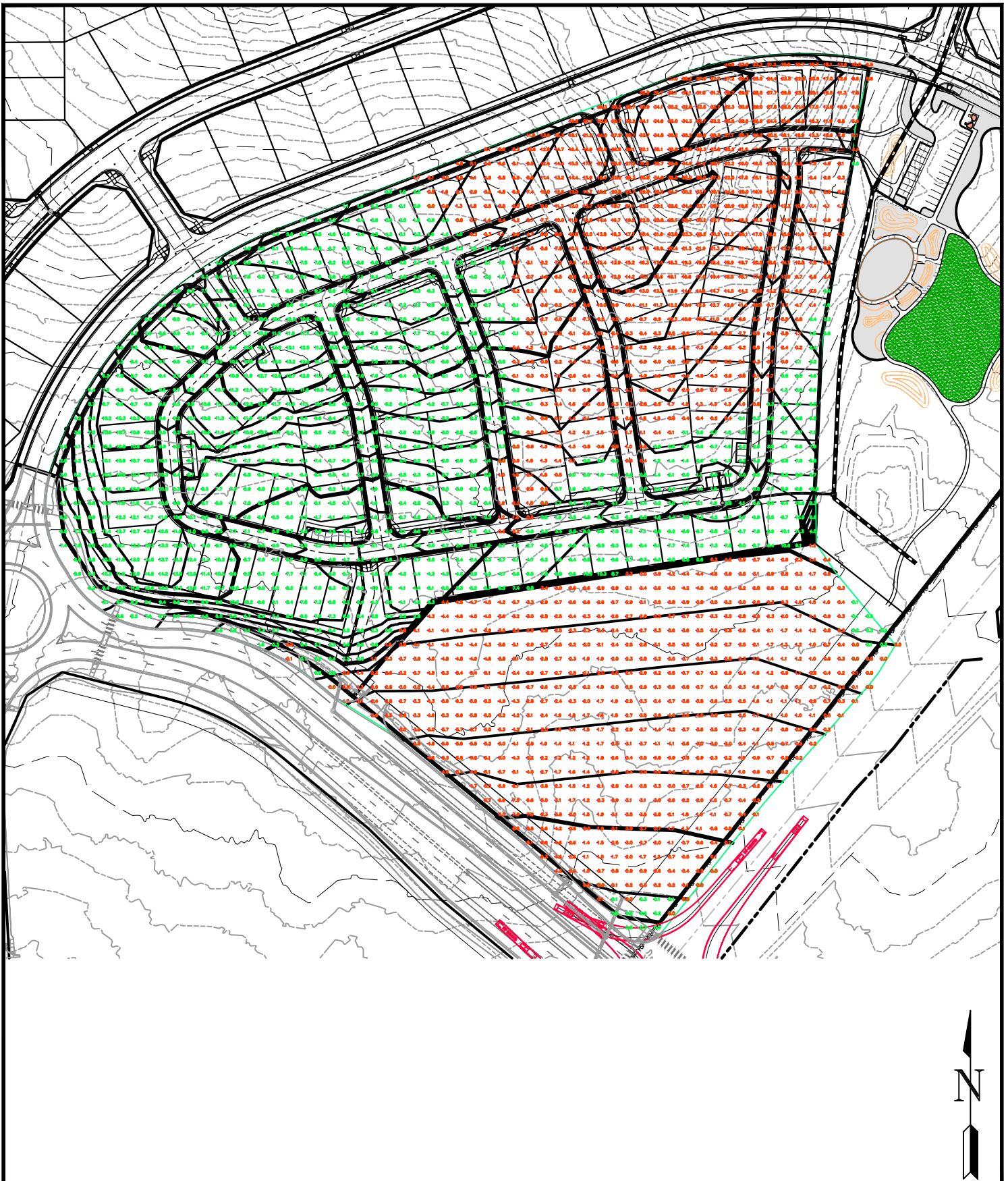


- TB- APPROXIMATE TEST BORING LOCATION AND NUMBER (BEDROCK DEPTH, GROUNDWATER DEPTH)
- TB- APPROXIMATE TEST BORING LOCATION AND NUMBER (EEI JOB NO. 241931)
- TB- APPROXIMATE TEST BORING LOCATION AND NUMBER (EEI JOB NO. 212381) (BEDROCK DEPTH, GROUNDWATER DEPTH)
- P- APPROXIMATE PIEZOMETER LOCATION AND NUMBER (EEI JOB NO. 212381)



SITE AND EXPLORATION PLAN
 RETREAT AT PRAIRIERIDGE NORTH FIL. NO. 4
 CLASSIC SRJ LAND

JOB NO.
250431
FIG. 3

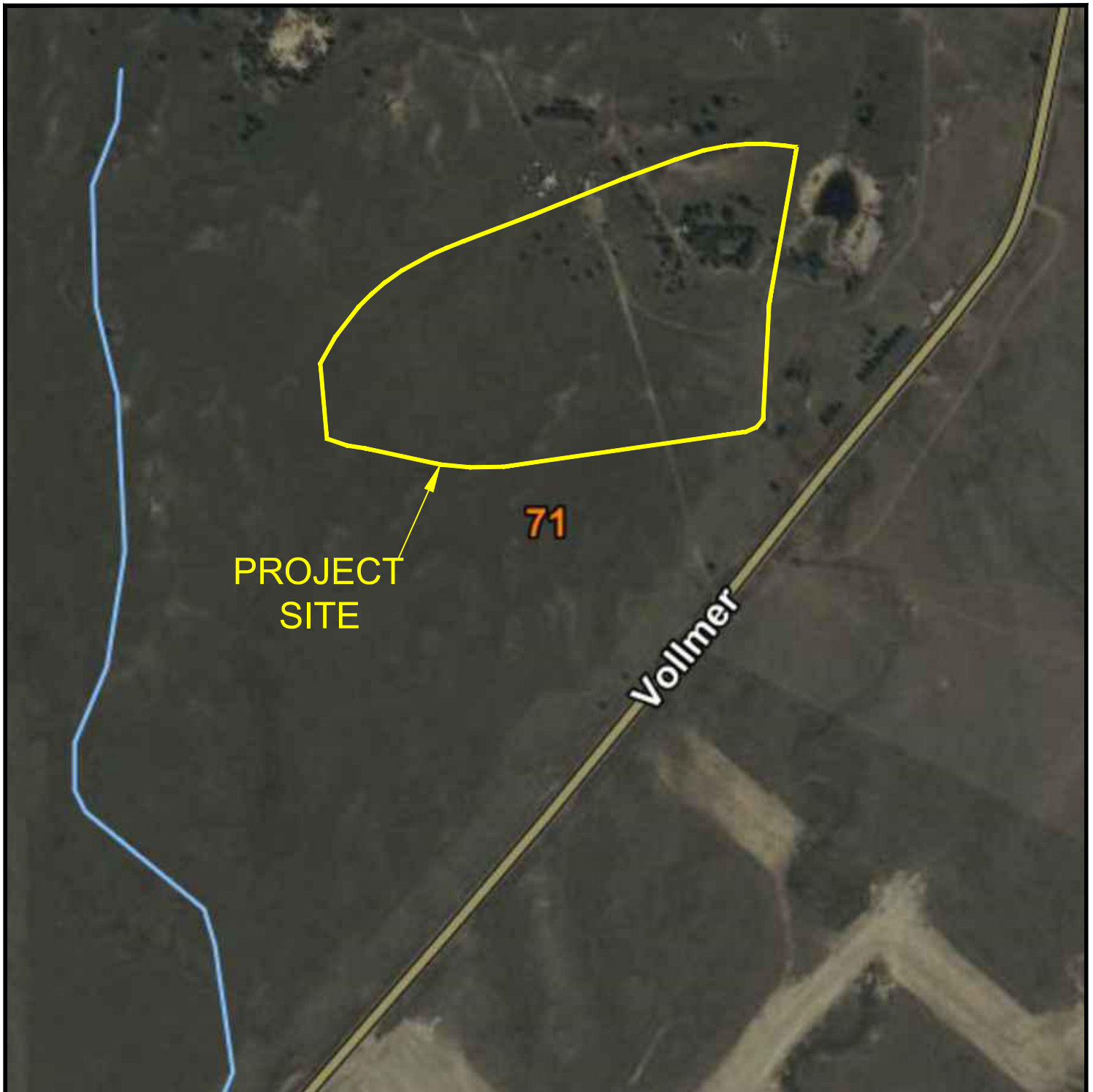


CUT/FILL PLAN

RETREAT AT PRAIRIERIDGE FIL. NO. 4
CLASSIC SRJ LAND

JOB NO.
250431

FIG. 4

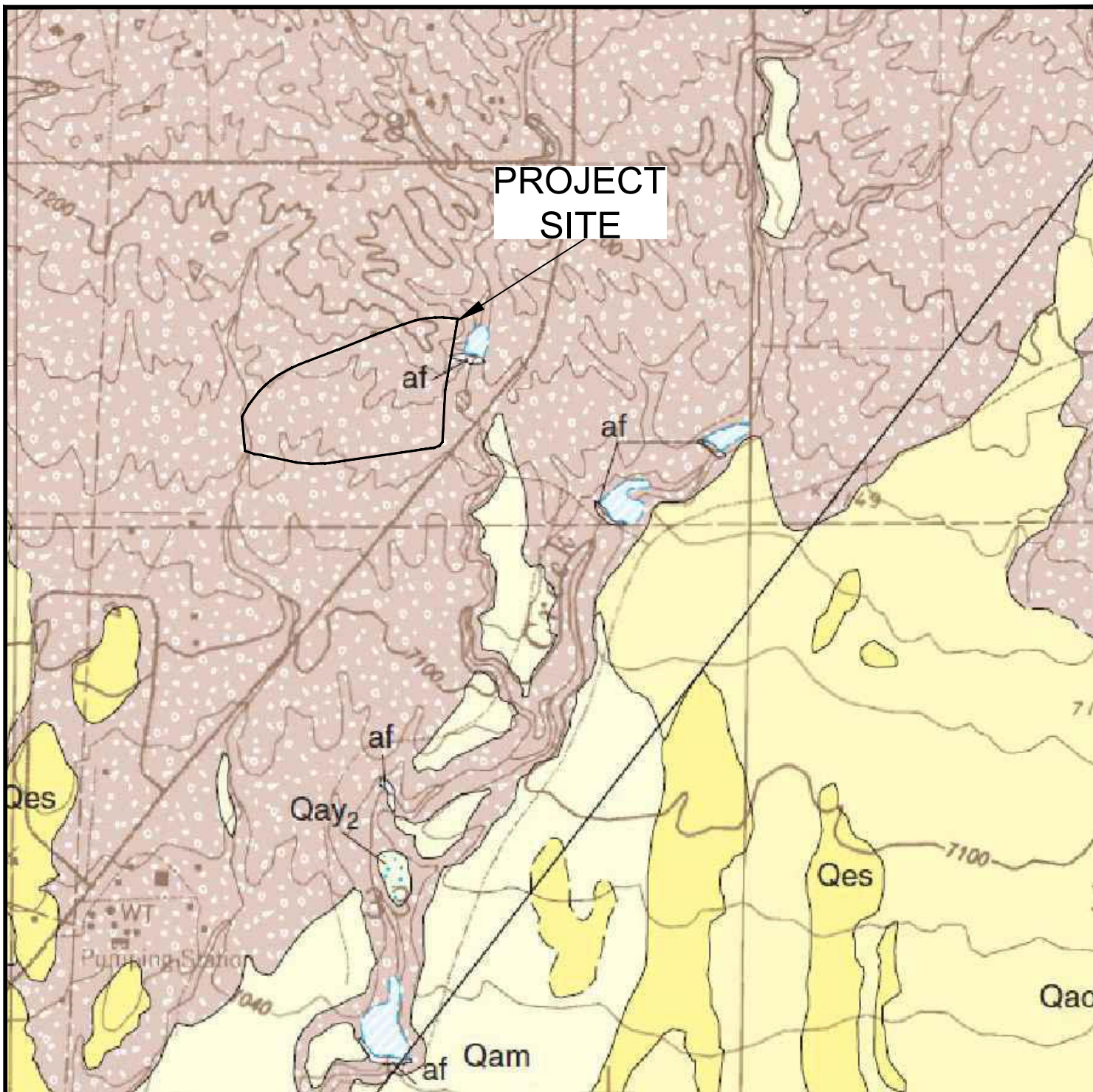


SOIL SURVEY MAP

RETREAT AT PRAIRIERIDGE FIL. NO. 4
CLASSIC SRJ LAND

JOB NO.
250431

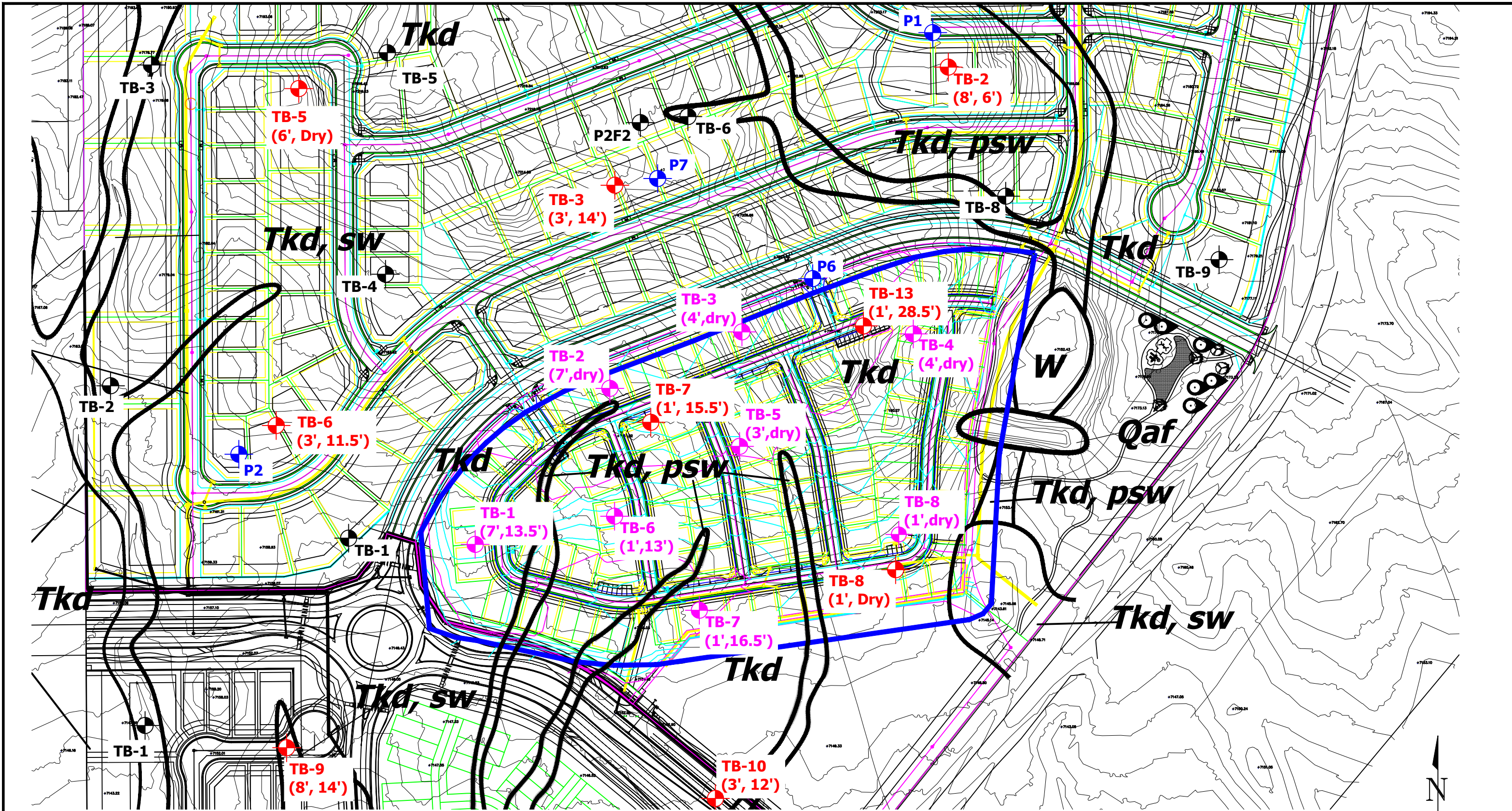
FIG. 5



**GEOLOGIC MAP OF THE FALCON
NW QUADRANGLE**
RETREAT AT PRIARIERIDGE FIL. NO. 4
CLASSIC SRJ LAND

JOB NO.
250431

FIG. 6



Legend:

Qaf - Artificial Fill Deposits of Holocene Age:
man-placed fill deposits

Tkd - Dawson Formation of Tertiary to Cretaceous Age:
arkosic sandstone with interbedded claystone and siltstone

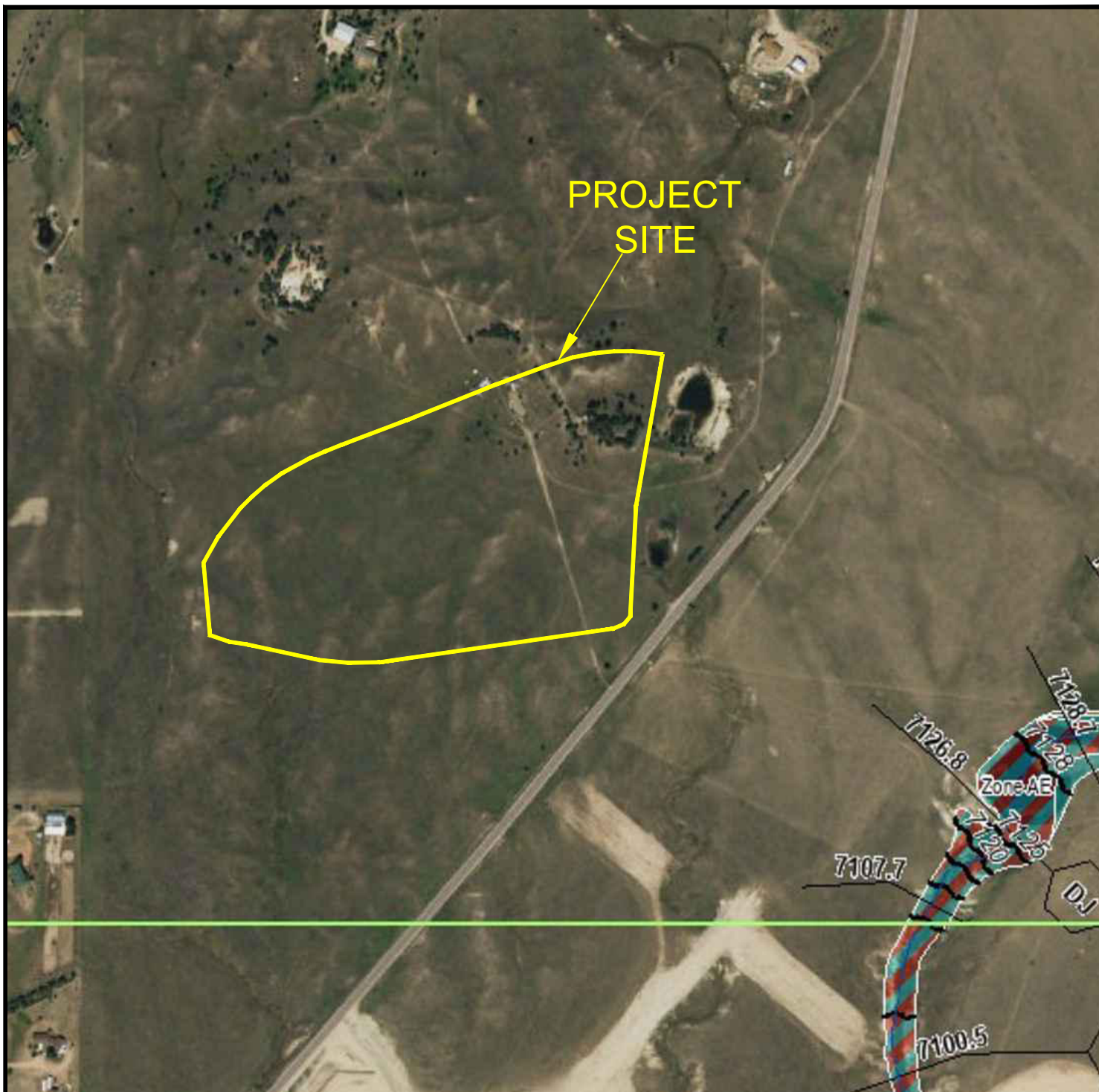
psw - potential seasonally groundwater area
sw - seasonally shallow groundwater area
w - ponded or flowing water
TB-1 - TEST BORING NUMBER AND LOCATION
(BEDROCK DEPTH, GROUNDWATER DEPTH)



GEOLOGY / ENGINEERING MAP

RETREAT AT PRAIRIERIDGE FIL. NO. 4
CLASSIC SRJ LAND

JOB NO.
250431
FIG. 7

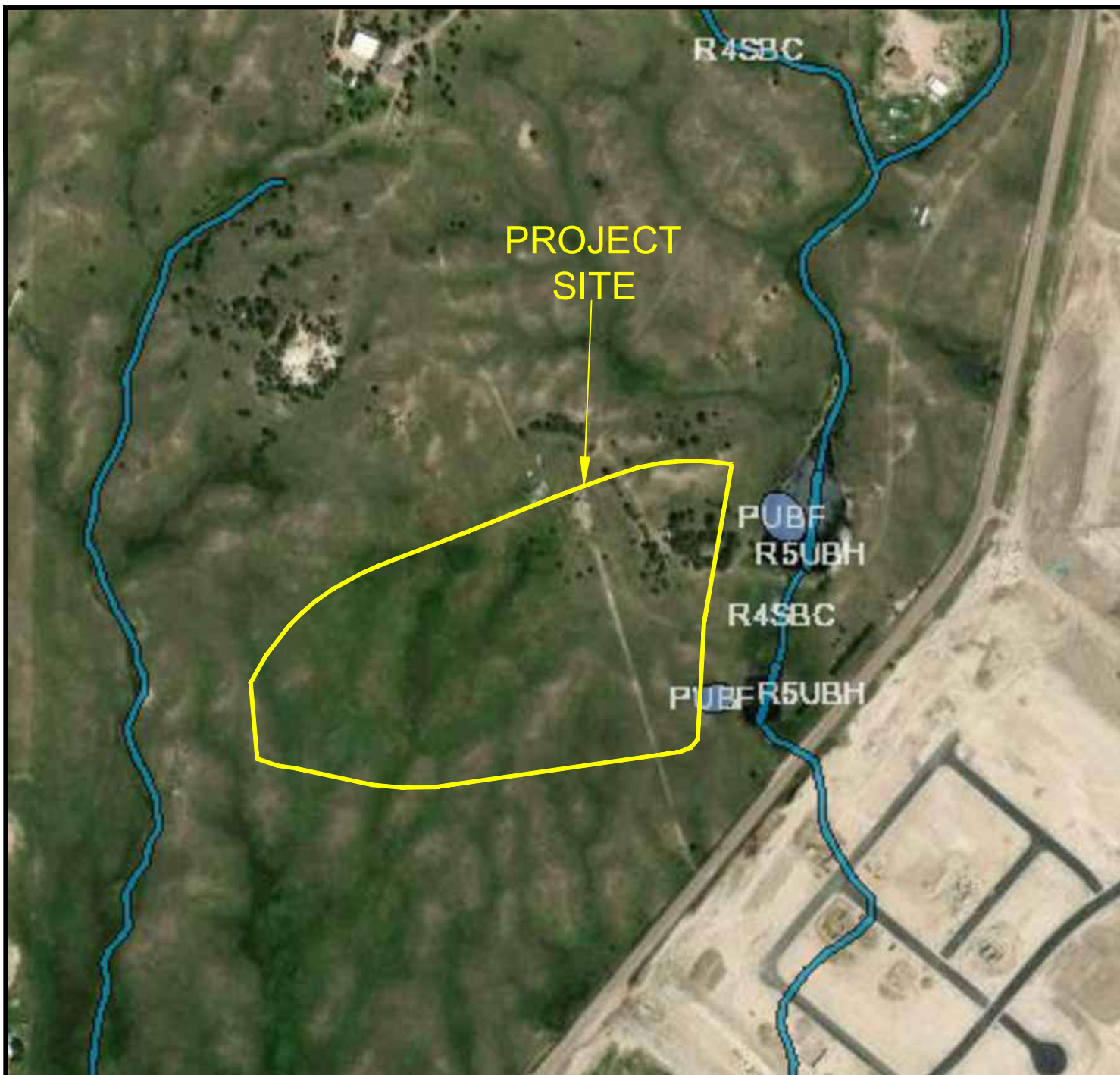


FEMA FLOODPLAIN MAP

RETREAT AT PRAIRIERIDGE FIL. NO. 4
CLASSIC SRJ LAND

JOB NO.
250431

FIG. 8

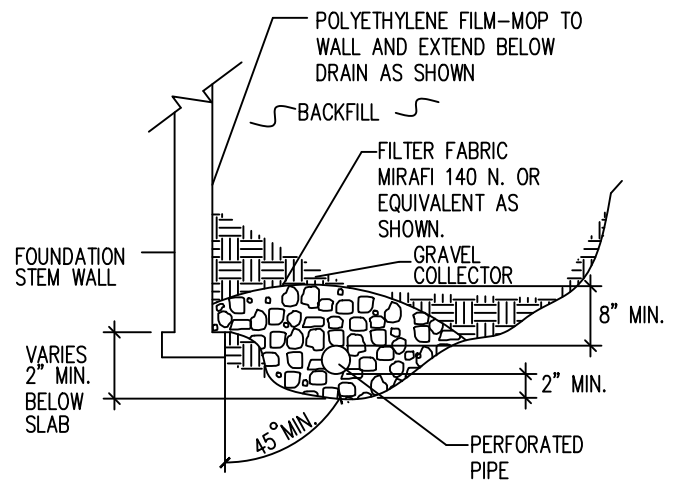
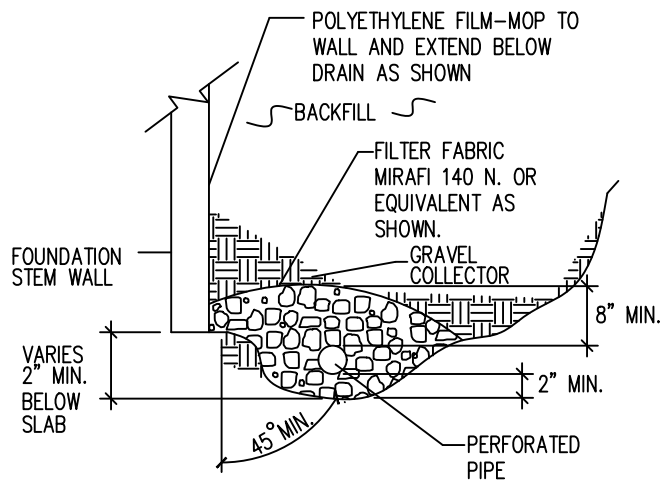


USFWS WETLANDS MAP

RETREAT AT PRAIRIERIDGE FIL. NO. 4
CLASSIC SRJ LAND

JOB NO.
250431

FIG. 9



NOTES:

—GRAVEL SIZE IS RELATED TO DIAMETER OF PIPE PERFORATIONS—85% GRAVEL GREATER THAN 2x PERFORATION DIAMETER.

—PIPE DIAMETER DEPENDS UPON EXPECTED SEEPAGE. 4-INCH DIAMETER IS MOST OFTEN USED.

—ALL PIPE SHALL BE PERFORATED PLASTIC. THE DISCHARGE PORTION OF THE PIPE SHOULD BE NON-PERFORATED PIPE.

—FLEXIBLE PIPE MAY BE USED UP TO 8 FEET IN DEPTH, IF SUCH PIPE IS DESIGNED TO WITHSTAND THE PRESSURES. RIGID PLASTIC PIPE WOULD OTHERWISE BE REQUIRED.

—MINIMUM GRADE FOR DRAIN PIPE TO BE 1% OR 3 INCHES OF FALL IN 25 FEET.

—DRAIN TO BE PROVIDED WITH A FREE GRAVITY OUTFALL, IF POSSIBLE. A SUMP AND PUMP MAY BE USED IF GRAVITY OUT FALL IS NOT AVAILABLE.

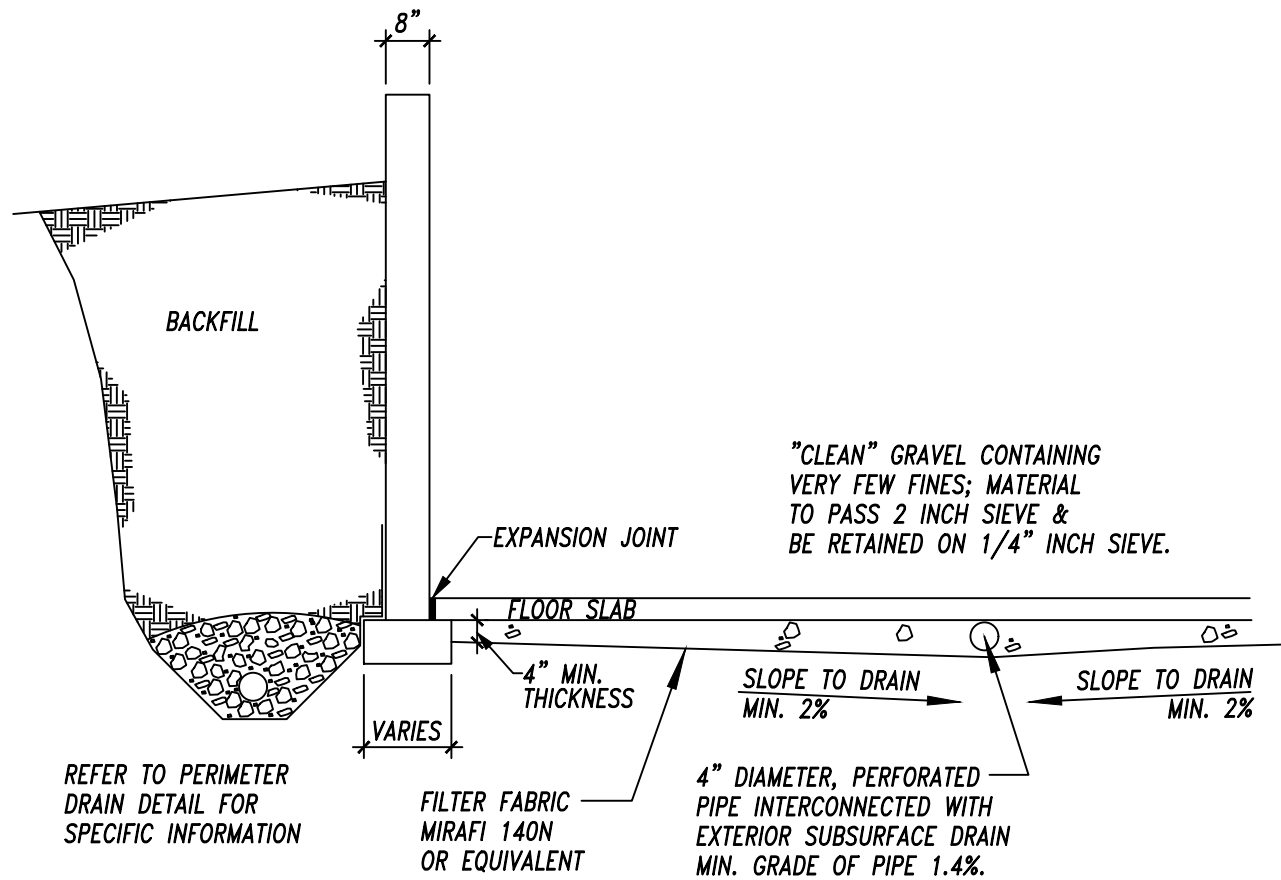


PERIMETER DRAIN DETAIL

RETREAT AT PRAIRIERIDGE FIL. NO. 4
CLASSIC SRJ LAND

JOB NO.
250431

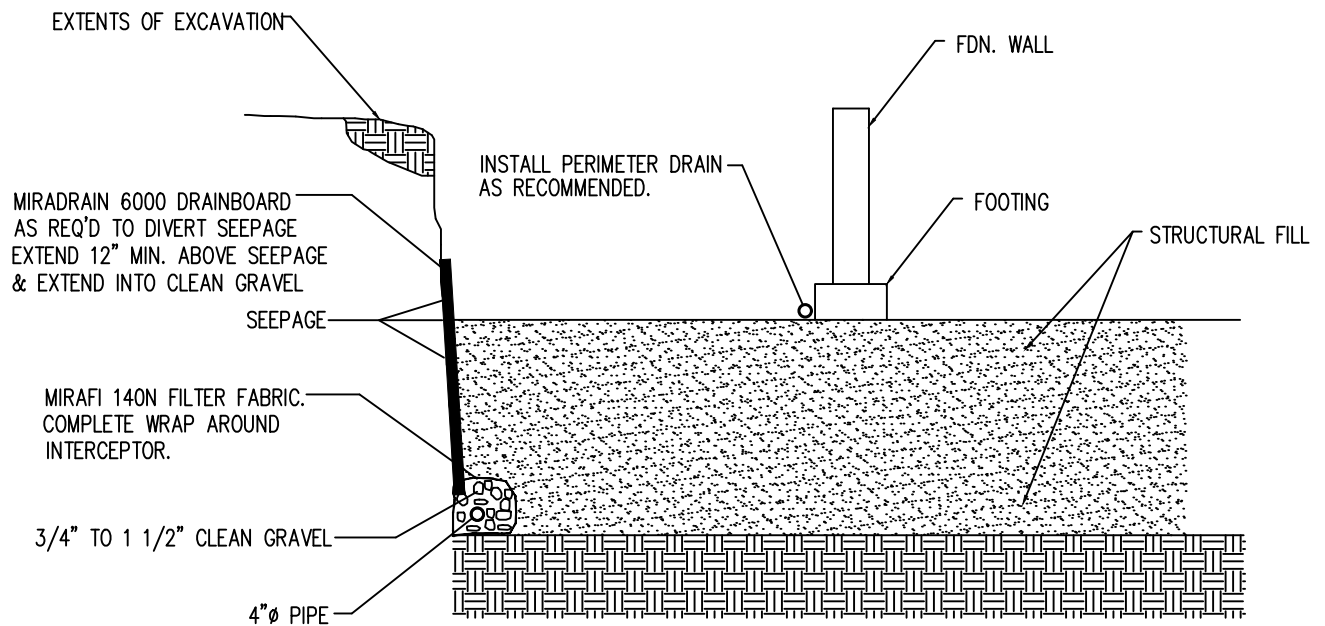
FIG. 10



**TYP. UNDERSLAB DRAINAGE LAYER
(CAPILLARY BREAK)**
RETREAT AT PRAIRIERIDGE FIL. NO. 4
CLASSIC SRJ LAND

JOB NO.
250431

FIG. 11



NOTE:
EXTEND INTERCEPTOR DRAIN TO UNDERDRAIN OR TO SUMP.
BENCH DRAIN INTO NATIVE SOILS 12 INCHES MINIMUM.

INTERCEPTOR DRAIN DETAIL

N.T.S.

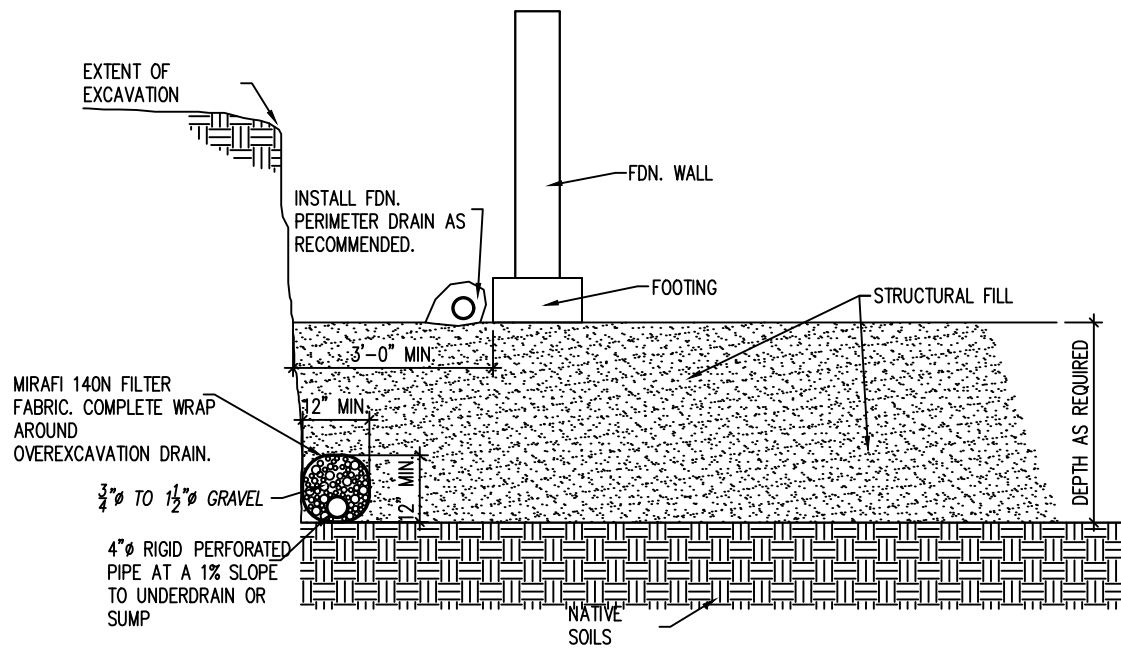


INTERCEPTOR DRAIN DETAIL

RETREAT AT PRAIRIERIDGE FIL. NO. 4
CLASSIC SRJ LAND

JOB NO.
250431

FIG. 12



OVEREXCAVATION DRAIN DETAIL

N.T.S.

NOTE:

EXTEND DRAIN TO SUMP AS REQ'D.

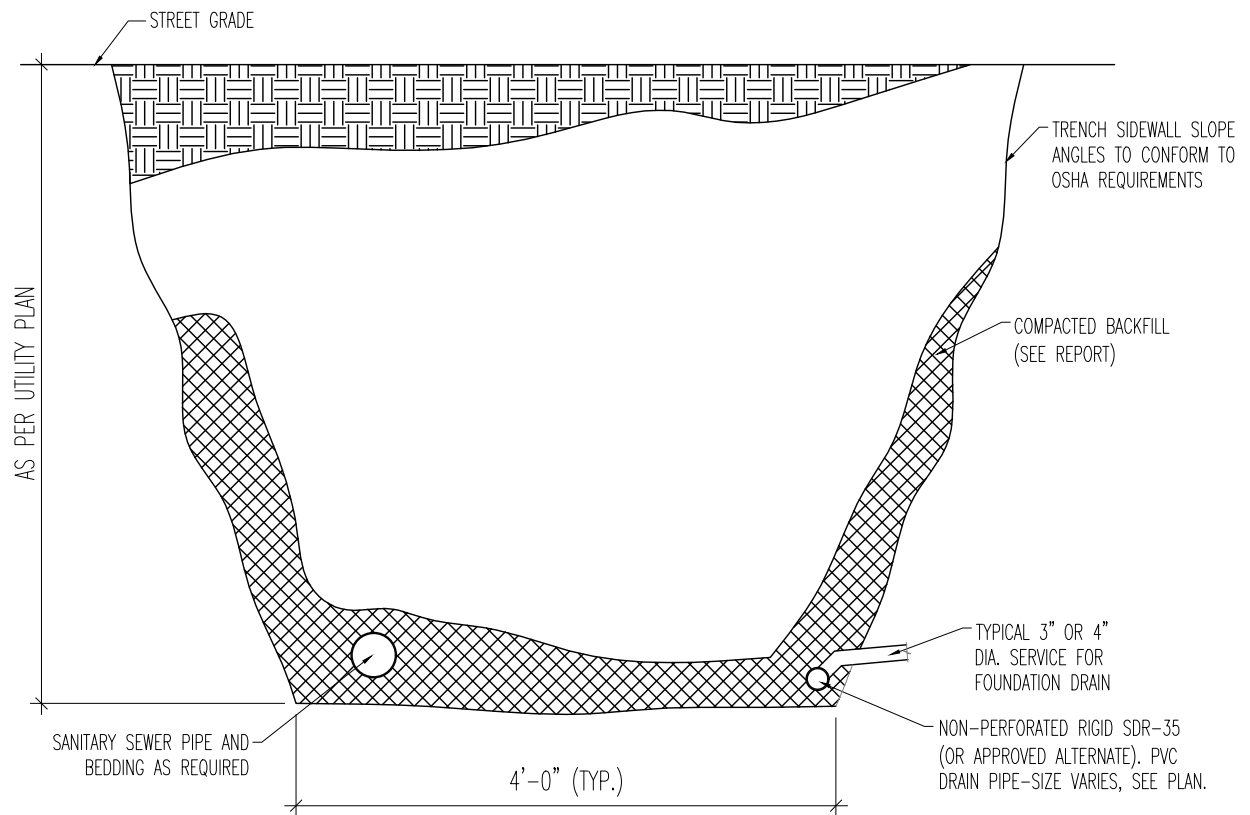


OVEREXCAVATION DRAIN

RETREAT AT PRAIRIERIDGE FIL. NO. 4
CLASSIC SRJ LAND

JOB NO.
250431

FIG. 13



PASSIVE DRAIN BESIDE SEWER

N.T.S.



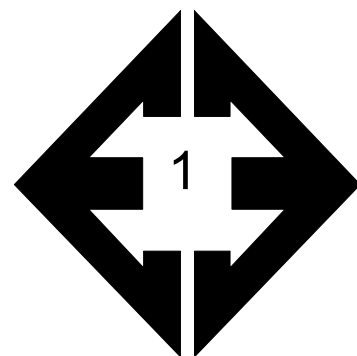
PASSIVE SEWER UNDERDRAIN

RETREAT AT PRAIRIERIDGE FIL. NO. 4
CLASSIC SRJ LAND

JOB NO.
250431

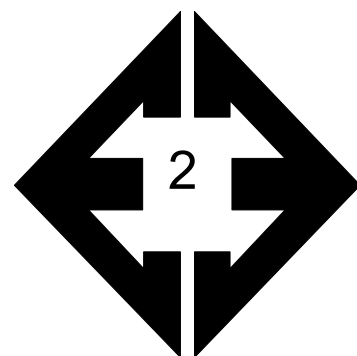
FIG. 14

APPENDIX A: Site Photographs



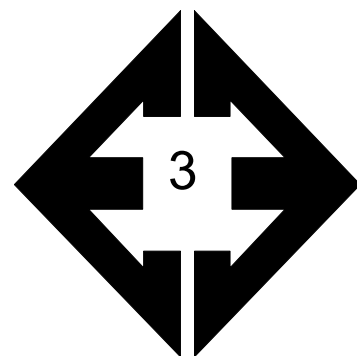
**Looking southwest
from the northeastern
portion of the site.**

April 2, 2025



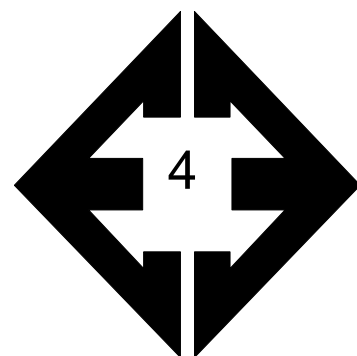
**Looking south from
the northern portion of
the site.**

April 2, 2025



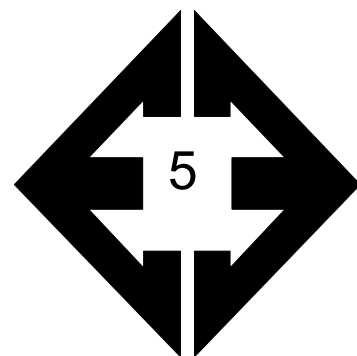
**Looking northwest
from the northern
portion of the site.**

April 2, 2025



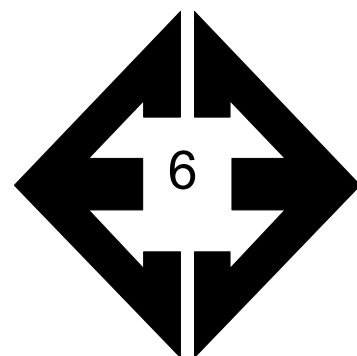
**Looking east from the
western portion of the
site.**

April 2, 2025



**Looking east from the
southwestern portion
of the site.**

April 2, 2025



**Looking northeast
from the southwestern
portion of the site.**

April 2, 2025

**APPENDIX B: Test Boring Logs and Laboratory Testing
Summary, EEI Job No. 242097**

TEST BORING 1
DATE DRILLED 1/24/2025
REMARKS

WATER @ 13.5', 1/28/25

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

SANDSTONE, VERY WEAK, GREEN-
GRAY, HIGHLY WEATHERED
(SAND, SILTY, VERY DENSE,
MOIST)



| Depth (ft) | Symbol | Samples | Blows per foot | Watercontent % | Soil Type |
|------------|--------|---------|----------------|----------------|-----------|
| 5 | | | 40 | 3.8 | 1 |
| | | | 32 | 6.3 | 1 |
| 10 | | | 50 6" | 16.7 | 2 |
| 15 | | | 50 8" | 8.5 | 2 |
| 20 | | | 50 9" | 14.1 | 2 |

TEST BORING 2
DATE DRILLED 1/24/2025
REMARKS

DRY TO 19', 1/28/25

SAND, SILTY, TAN
SANDSTONE, VERY WEAK,
BROWN to TAN, COMPLETELY
WEATHERED (SAND, SILTY, VERY
DENSE, MOIST)

CLAYSTONE, VERY WEAK, TAN,
HIGHLY WEATHERED (CLAY,
SANDY, HARD, MOIST)

SANDSTONE, VERY WEAK,
BROWN to TAN, COMPLETELY
WEATHERED (SAND, SILTY, VERY
DENSE, MOIST)

| Depth (ft) | Symbol | Samples | Blows per foot | Watercontent % | Soil Type |
|------------|--------|---------|----------------|----------------|-----------|
| 1 | | | | | 1 |
| 5 | | | 50 6" | 3.5 | 2 |
| | | | 50 8" | 7.5 | 2 |
| 10 | | | 50 5" | 10.6 | 3 |
| 15 | | | 50 9" | 9.0 | 2 |
| 20 | | | 50 7" | 10.3 | 2 |



TEST BORING LOGS
RETREAT AT PRAIRIE RIDGE
EMPIRE HOMES

JOB NO.
242097

FIG. A-1

TEST BORING 3
DATE DRILLED 1/24/2025
REMARKS

| REMARKS | Depth (ft) | Symbol | Samples | Blows per foot | Watercontent % | Soil Type |
|---|------------|--------|---------|------------------|----------------|-----------|
| DRY TO 19', 1/28/25 | | | | | | |
| SAND, WITH SILT, BROWN, LOOSE, MOIST | | | | 7 | 4.1 | 1 |
| | 5 | | | <u>50</u> 11" | 6.1 | 2 |
| SANDSTONE, VERY WEAK, OLIVE to TAN, HIGHLY WEATHERED (SAND, SILTY, VERY DENSE, MOIST) | 10 | | | <u>50</u> 8" | 13.1 | 2 |
| | 15 | | | <u>50</u> 9" | 10.5 | 2 |
| | 20 | | | <u>50</u> 9" | 10.9 | 2 |

TEST BORING 4
DATE DRILLED 1/24/2025
REMARKS

| REMARKS | Depth (ft) | Symbol | Samples | Blows per foot | Watercontent % | Soil Type |
|---|------------|--------|---------|-----------------|----------------|-----------|
| DRY TO 19.5', 1/28/25 | | | | | | |
| SAND, WITH SILT, BROWN, LOOSE, MOIST | | | | 35 | 4.0 | 1 |
| | 5 | | | 50 | 7.9 | 2 |
| SANDSTONE, VERY WEAK, OLIVE to TAN, HIGHLY WEATHERED (SAND, SILTY, VERY DENSE, MOIST) | 10 | | | <u>50</u> 9" | 16.1 | 3 |
| | 15 | | | <u>50</u> 6" | 9.7 | 2 |
| SANDSTONE, VERY WEAK, OLIVE to TAN, HIGHLY WEATHERED (SAND, SILTY, VERY DENSE, MOIST) | 20 | | | <u>50</u> 9" | 13.0 | 2 |



TEST BORING LOGS
RETREAT AT PRAIRIE RIDGE
EMPIRE HOMES

JOB NO.
242097

FIG. A-2

TEST BORING 5
DATE DRILLED 1/24/2025
REMARKS

| REMARKS | Depth (ft) | Symbol | Samples | Blows per foot | Watercontent % | Soil Type |
|--|------------|--------|---------|----------------|----------------|-----------|
| DRY TO 18', 1/28/25 | | | | | | |
| SAND, SILTY, LIGHT BROWN, DENSE, MOIST | | | | 47 | 7.9 | 1 |
| | | | | 50 | 5.4 | 2 |
| | 5 | | | 8" | | |
| SANDSTONE, VERY WEAK, BROWN, HIGHLY WEATHERED (SAND, SILTY, VERY DENSE, MOIST) | | | | | | |
| | 10 | | | 50 | 11.3 | 2 |
| | | | | 7" | | |
| | 15 | | | 50 | 10.4 | 2 |
| | | | | 11" | | |
| | 20 | | | 50 | 7.8 | 2 |
| | | | | 5" | | |

TEST BORING 6
DATE DRILLED 1/24/2025
REMARKS

| REMARKS | Depth (ft) | Symbol | Samples | Blows per foot | Watercontent % | Soil Type |
|---|------------|--------|---------|----------------|----------------|-----------|
| WATER @ 13', 1/28/25 | | | | | | |
| SAND, SILTY, TAN | | | | | | 1 |
| SANDSTONE, VERY WEAK, BROWN to TAN, COMPLETELY WEATHERED (SAND, SILTY, VERY DENSE, MOIST) | | | | 50 | 3.8 | 2 |
| | | | | 8" | | |
| | 5 | | | 50 | 10.4 | 2 |
| | | | | 10" | | |
| | 10 | | | 50 | 11.1 | 2 |
| | | | | 7" | | |
| | 15 | | | 50 | 11.8 | 2 |
| | | | | 8" | | |
| | 20 | | | 50 | 15.5 | 2 |
| | | | | 8" | | |



TEST BORING LOGS
RETREAT AT PRAIRIE RIDGE
EMPIRE HOMES

JOB NO.
242097

FIG. A-3

TEST BORING 7
DATE DRILLED 1/24/2025
REMARKS

WATER @ 16.5', 1/28/25

SAND, SILTY, TAN

SANDSTONE, WEAK, BROWN,
HIGHLY WEATHERED (SAND,
SILTY, VERY DENSE, MOIST)
CLAYSTONE, VERY WEAK, GRAY,
MODERATELY WEATHERED
(CLAY, WITH SAND, HARD,
MOIST)

SANDSTONE, WEAK, BROWN,
HIGHLY WEATHERED (SAND,
SILTY, VERY DENSE, MOIST)



| Depth (ft) | Symbol | Samples | Blows per foot | Watercontent % | Soil Type |
|------------|--------|---------|----------------|----------------|-----------|
| 1 | | | | | 1 |
| 2 | | | 50 | 5.3 | 2 |
| 3 | | | 10" | | |
| 4 | | | 50 | 12.9 | 3 |
| 5 | | | 7" | | |
| 10 | | | 50 | 7.5 | 2 |
| 15 | | | 50 | 10.5 | 2 |
| 20 | | | 7" | | |
| 21 | | | 50 | 12.7 | 2 |
| 22 | | | 8" | | |

TEST BORING 8
DATE DRILLED 1/24/2025
REMARKS

DRY TO 19', 1/28/25

SAND, SILTY, TAN

SANDSTONE, VERY WEAK,
BROWN to TAN, COMPLETELY
WEATHERED (SAND, SILTY, VERY
DENSE, MOIST)

| Depth (ft) | Symbol | Samples | Blows per foot | Watercontent % | Soil Type |
|------------|--------|---------|----------------|----------------|-----------|
| 1 | | | | | 1 |
| 2 | | | 50 | 8.2 | 2 |
| 3 | | | 9" | | |
| 4 | | | 50 | 9.0 | 2 |
| 5 | | | 7" | | |
| 10 | | | 50 | 9.5 | 2 |
| 15 | | | 8" | | |
| 20 | | | 50 | 12.4 | 2 |
| 21 | | | 9" | | |
| 22 | | | 50 | 13.6 | 2 |
| 23 | | | 10" | | |



TEST BORING LOGS
RETREAT AT PRAIRIE RIDGE
EMPIRE HOMES

JOB NO.
242097

FIG. A-4

TABLE A-1
DEPTH TO GROUNDWATER & BEDROCK

| TEST BORING | DEPTH TO GROUNDWATER (ft.) | DEPTH TO BEDROCK (ft.) |
|-------------|----------------------------------|---------------------------|
| 1 | 13.5 | 7 |
| 2 | >20 | 1 |
| 3 | >20 | 4 |
| 4 | >20 | 4 |
| 5 | >20 | 3 |
| 6 | 13 | 1 |
| 7 | 16.5 | 1 |
| 8 | >20 | 1 |

**TABLE B-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 %) | FHA SWELL (PSF) | SWELL/ CONSOL (%) | USCS | SOIL DESCRIPTION |
|-----------|-----------------|------------|-----------|-------------------|---------------------------|--------------|---------------|---------------|----------------|-----------------|-------------------|-------|-----------------------------|
| 1 | 1 | 2-3 | | | 16.3 | NV | NP | NP | | | | SM | SAND, SILTY |
| 1 | 3 | 2-3 | | | 9.1 | | | | | | | SW-SM | SAND, WITH SILT |
| 2 | 5 | 5 | | | 21.2 | | | | | | | SM | SANDSTONE (SAND, SILTY) |
| 2 | 6 | 5 | | | 18.2 | | | | | | | SM | SANDSTONE (SAND, SILTY) |
| 2 | 8 | 10 | | | 19.2 | | | | | | | SM | SANDSTONE (SAND, SILTY) |
| 3 | 2 | 10 | | | 53.9 | 31 | 20 | 11 | | | | CL | CLAYSTONE (CLAY, SANDY) |
| 3 | 4 | 10 | 18.1 | 107.6 | 55.1 | NV | NP | NP | | | 2.0 | ML | SILTSTONE (SILT, SANDY) |
| 3 | 7 | 5 | 14.0 | 103.9 | 73.4 | | | | | | -0.2 | CL | CLAYSTONE (CLAY, WITH SAND) |

**APPENDIX C: Previous Test Boring Logs and Laboratory
Testing Results, EEI Job No. 212381**

TEST BORING 1
DATE DRILLED 9/2/2021
REMARKS

TEST BORING 2
DATE DRILLED 9/2/2021
REMARKS

DRY TO 20', 10/6/21

SAND, SILTY, BROWN, DENSE, MOIST

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

CLAYEY LENS

| Depth (ft) | Symbol | Samples | Blows per foot | Watercontent % | Soil Type |
|------------|--------|---------|----------------|----------------|-----------|
| | | | 43 | 5.4 | 1 |
| 5 | | | 50 9" | 9.6 | 2 |
| 10 | | | 50 8" | 10.0 | 2 |
| 15 | | | 50 5" | 7.9 | 2 |
| 20 | | | 50 7" | 8.4 | 2 |

WATER @ 6', 10/6/21

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

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

SANDSTONE, VERY WEAK, TAN, HIGHLY WEATHERED, (SAND, CLAYEY, VERY DENSE, MOIST)

| Depth (ft) | Symbol | Samples | Blows per foot | Watercontent % | Soil Type |
|------------|--------|---------|----------------|----------------|-----------|
| | | | 13 | 2.0 | 1 |
| 5 | | | 26 | 6.3 | 1 |
| 10 | | | 50 8" | 6.5 | 2 |
| 15 | | | 50 10" | 8.1 | 2 |
| 20 | | | 50 4" | 8.9 | 2 |



TEST BORING LOGS
RETREAT AT PRAIRIERIDGE
ELITE PROPERTIES

JOB NO.
212381

FIG. B-1

TEST BORING 3
DATE DRILLED 9/2/2021
REMARKS

| REMARKS | Depth (ft) | Symbol | Samples | Blows per foot | Watercontent % | Soil Type |
|---|------------|--------|---------|----------------|----------------|-----------|
| WATER @ 14', 10/6/21 | | | | | | |
| SAND, SILTY, BROWN, DENSE, MOIST | | | | 43 | 6.5 | 1 |
| | | | | 50 | 5.7 | 2 |
| | | | | 8" | | |
| SANDSTONE, VERY WEAK, TAN, HIGHLY WEATHERED, (SAND, SILTY, VERY DENSE, MOIST) | 5 | | | | | |
| | | | | 50 | 8.5 | 2 |
| | | | | 7" | | |
| | 10 | | | | | |
| | | | | 50 | 11.9 | 2 |
| | | | | 8" | | |
| | 15 | | | | | |
| | | | | 50 | 15.0 | 3 |
| | | | | 8" | | |
| SILTSTONE, VERY WEAK, BLUE-GRAY, HIGHLY WEATHERED, (SILT, SANDY, HARD, MOIST) | 20 | | | | | |
| | | | | 50 | | |
| | | | | 8" | | |

TEST BORING 4
DATE DRILLED 9/2/2021
REMARKS

| REMARKS | Depth (ft) | Symbol | Samples | Blows per foot | Watercontent % | Soil Type |
|---|------------|--------|---------|----------------|----------------|-----------|
| WATER @ 7', 10/6/21 | | | | | | |
| SAND, SILTY, BROWN | | | | | | 1 |
| | | | | 50 | 5.6 | 2 |
| | | | | 9" | | |
| SANDSTONE, VERY WEAK, TAN, HIGHLY WEATHERED, (SAND, SILTY, VERY DENSE, MOIST) | 5 | | | 50 | 9.6 | 2 |
| | | | | 8" | | |
| | 10 | | | 50 | 12.1 | 2 |
| | | | | 7" | | |
| | 15 | | | 50 | 7.3 | 2 |
| | | | | 4" | | |
| | 20 | | | 50 | 10.6 | 2 |
| | | | | 7" | | |



TEST BORING LOGS
RETREAT AT PRAIRIERIDGE
ELITE PROPERTIES

JOB NO.
212381

FIG. B-2

TEST BORING 5
DATE DRILLED 9/2/2021
REMARKS

DRY TO 20', 10/6/21

SAND, SILTY, TAN, MEDIUM
DENSE, DRY

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

| Depth (ft) | Symbol | Samples | Blows per foot | Watercontent % | Soil Type |
|------------|--------|---------|-----------------|----------------|-----------|
| | | | 13 | 2.5 | 1 |
| 5 | | | 21 | 2.2 | 1 |
| 10 | | | <u>50</u> 9" | 6.6 | 2 |
| 15 | | | <u>50</u> 6" | 8.0 | 2 |
| 20 | | | <u>50</u> 7" | 7.6 | 2 |

TEST BORING 6
DATE DRILLED 9/2/2021
REMARKS

WATER @ 11.5', 10/6/21

SAND, SILTY, BROWN, DENSE,
MOIST

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

CLAYSTONE, VERY WEAK, BLUE-
GRAY, HIGHLY WEATHERED,
(CLAY, SANDY, HARD, MOIST)

| Depth (ft) | Symbol | Samples | Blows per foot | Watercontent % | Soil Type |
|------------|--------|---------|------------------|----------------|-----------|
| | | | 43 | 4.6 | 1 |
| 5 | | | <u>50</u> 9" | 7.3 | 2 |
| 10 | | | <u>50</u> 10" | 10.7 | 2 |
| 15 | | | <u>50</u> 7" | 14.6 | 3 |
| 20 | | | <u>50</u> 7" | 14.4 | 3 |



TEST BORING LOGS

RETREAT AT PRAIRIERIDGE
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FIG. B-3

TEST BORING 7
DATE DRILLED 9/2/2021
REMARKS

WATER @ 15.5', 10/6/21

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

CLAYSTONE, VERY EWAK, GRAY,
HIGHLY WEATHERED, (CLAY,
SANDY, HARD, MOIST)

| Depth (ft) | Symbol | Samples | Blows per foot | Watercontent % | Soil Type |
|------------|--------|---------|----------------|----------------|-----------|
| 1 | | | | | 1 |
| 2 | | | 50 8" | 3.8 | 2 |
| 5 | | | 50 9" | 9.1 | 2 |
| 10 | | | 50 8" | 9.6 | 2 |
| 15 | | | 50 8" | 11.5 | 2 |
| 20 | | | 50 6" | 13.7 | 3 |

TEST BORING 8
DATE DRILLED 9/2/2021
REMARKS

DRY TO 20', 10/6/21

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

CLAYSTONE, VERY EWAK, GRAY,
HIGHLY WEATHERED, (CLAY,
SANDY, HARD, MOIST)

| Depth (ft) | Symbol | Samples | Blows per foot | Watercontent % | Soil Type |
|------------|--------|---------|----------------|----------------|-----------|
| 1 | | | | | 1 |
| 2 | | | 50 | 11.1 | 2 |
| 5 | | | 50 9" | 8.5 | 2 |
| 10 | | | 50 8" | 10.1 | 2 |
| 15 | | | 50 6" | 9.3 | 2 |
| 20 | | | 50 7" | 11.9 | 2 |



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RETREAT AT PRAIRIERIDGE
ELITE PROPERTIES

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FIG. B-4

TEST BORING 9
DATE DRILLED 9/2/2021
REMARKS

| REMARKS | Depth (ft) | Symbol | Samples | Blows per foot | Watercontent % | Soil Type |
|---|------------|--------|---------|----------------|----------------|-----------|
| WATER @ 14', 10/6/21 | | | | | | |
| SAND, SILTY, TAN, MEDIUM DENSE, MOIST | | | | 13 | 4.2 | 1 |
| | 5 | | | 12 | 6.1 | 1 |
| | | | | | | |
| SANDSTONE, VERY WEAK, TAN, HIGHLY WEATHERED, (SAND, SILTY, VERY DENSE, MOIST) | 10 | | | 50 8" | 11.1 | 2 |
| | | | | | | |
| | 15 | | | 50 8" | 9.5 | 2 |
| | | | | | | |
| | 20 | | | 50 6" | 11.9 | 2 |

TEST BORING 10
DATE DRILLED 9/2/2021
REMARKS

| REMARKS | Depth (ft) | Symbol | Samples | Blows per foot | Watercontent % | Soil Type |
|---|------------|--------|---------|----------------|----------------|-----------|
| WATER @ 12', 10/6/21 | | | | | | |
| SAND, SILTY, TAN, MEDIUM DENSE, MOIST | | | | 18 | 3.5 | 1 |
| | 5 | | | 50 8" | 8.5 | 2 |
| SANDSTONE, VERY WEAK, TAN, HIGHLY WEATHERED, (SAND, WITH SILT, VERY DENSE, MOIST) | | | | | | |
| | 10 | | | 50 8" | 10.1 | 2 |
| | | | | | | |
| | 15 | | | 50 6" | 12.0 | 2 |
| | | | | | | |
| | 20 | | | 50 8" | 14.9 | 2 |



TEST BORING LOGS
RETREAT AT PRAIRIERIDGE
ELITE PROPERTIES

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FIG. B-5

TEST BORING 11
DATE DRILLED 9/2/2021

REMARKS

| | |
|--------------|----------|
| TEST BORING | 12 |
| DATE DRILLED | 9/2/2021 |

| |
|---------|
| REMARKS |
|---------|

| | Depth (ft) | Symbol | Samples | Blows per foot | Watercontent % | Soil Type | | Depth (ft) | Symbol | Samples | Blows per foot | Watercontent % | Soil Type |
|---|------------|--------|---------|-----------------|----------------|-----------|---|------------|--------|---------|-----------------|----------------|-----------|
| WATER @ 15', 10/6/21 | | | | | | | DRY TO 20', 10/6/21 | | | | | | |
| SAND, WITH SILT, TAN, MEDIUM DENSE to DENSE, DRY to MOIST | | | | 10 | 1.6 | 1 | SAND, SILTY, BROWN, MEDIUM DENSE, MOIST | | | | 17 | 4.0 | 1 |
| | 5 | | | 37 | 3.5 | 1 | CLAYEY LENS | 5 | | | 26 | 12.6 | 1 |
| SANDSTONE, VERY WEAK, TAN, HIGHLY WEATHERED, (SAND, SILTY, VERY DENSE, MOIST) | 10 | | | <u>50</u> 5" | 8.5 | 2 | SANDSTONE, VERY WEAK, TAN, HIGHLY WEATHERED, (SAND, SILTY, VERY DENSE, MOIST) | 10 | | | <u>50</u> 9" | 9.9 | 2 |
| | 15 | | | <u>50</u> 6" | 12.7 | 2 | | 15 | | | <u>50</u> 7" | 8.9 | 2 |
| WEATHERED CLAYSTONE, VERY WEAK, GRAY, HIGHLY WEATHERED. (CLAY, SANDY, | 20 | | | 34 | 11.4 | 3 | | 20 | | | <u>50</u> 6" | 10.6 | 2 |



TEST BORING LOGS

RETREAT AT PRAIRIERIDGE ELITE PROPERTIES

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FIG. B-6

TEST BORING 13
DATE DRILLED 9/28/2023
REMARKS

DRY TO 28.5', 10/10/23

SAND, SILTY, BROWN

SANDSTONE, VERY WEAK,
BROWN to TAN, HIGHLY
WEATHERD (SAND, SILTY, VERY
DENSE, MOIST)

CLAYSTONE, VERY WEAK, OLIVE,
HIGHLY WEATHERED (CLAY,
SANDY, HARD, MOIST)

SANDSTONE, WEAK, LIGHT
BROWN, HIGHLY WEATHERED
(SAND, SILTY, VERY DENSE,
MOIST)

| Depth (ft) | Symbol | Samples | Blows per foot | Watercontent % | Soil Type |
|------------|--------|---------|----------------|----------------|-----------|
| 1 | | | | | 1 |
| 2 | | | 50 11" | 6.4 | 2 |
| 5 | | | 50 10" | 11.1 | 2 |
| 10 | | | 50 7" | 5.6 | 2 |
| 15 | | | 50 11" | 9.7 | 2 |
| 20 | | | 50 8" | 15.6 | 3 |
| 25 | | | 50 6" | 7.5 | 2 |
| 30 | | | 50 5" | 6.5 | 2 |



TEST BORING LOGS

RETREAT AT PRAIRIERIDGE
ELITE PROPERTIES

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FIG. B-7

TEST BORING P-1
 DATE DRILLED 8/22/2023
 REMARKS

TEST BORING P-2
 DATE DRILLED 8/22/2023
 REMARKS

DRY TO 12.5', 8/23/23

SAND, WITH SILT, TAN, MEDIUM
 DENSE, DRY

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

| Depth (ft) | Symbol | Samples | Blows per foot | Watercontent % | Soil Type |
|------------|--------|---------|----------------|----------------|-----------|
| 5 | | | 16 | 2.8 | 1 |
| 10 | | | 50 9" | 3.7 | 2 |
| 15 | | | | | |
| 20 | | | | | |

WATER @ 12', 8/23/23

SAND, SILTY, BROWN
 SANDSTONE, VERY WEAK,
 BROWN, HIGHLY WEATHERED,
 (SAND, SILTY, VERY DENSE,



| Depth (ft) | Symbol | Samples | Blows per foot | Watercontent % | Soil Type |
|------------|--------|---------|----------------|----------------|-----------|
| 5 | | | 50 11" | 7.0 | 2 |
| 10 | | | 50 9" | 5.5 | 2 |
| 15 | | | | | |
| 20 | | | | | |



TEST BORING LOGS
 POCO ROAD AND VOLLMER ROAD
 ELITE PROPERTIES

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FIG. B-8

TEST BORING P-3
DATE DRILLED 8/22/2023

TEST BORING P-4
DATE DRILLED 8/22/2023

REMARKS

WATER @ 7', 8/23/23

SAND, CLAYEY, OLIVE, MEDIUM
DENSE, MOIST

SANDSTONE, VERY WEAK, GRAY,
HIGHLY WEATHERED, (SAND,
SILTY, VERY DENSE, MOIST)

| Depth (ft) | Symbol | Samples | Blows per foot | Watercontent % | Soil Type |
|------------|--------|---------|----------------|----------------|-----------|
| 5 | | | 15 | 13.4 | 1 |
| 10 | | | 50 7" | 8.2 | 2 |
| 15 | | | | | |
| 20 | | | | | |

REMARKS

WATER @ 5.5', 8/23/23

SAND, CLAYEY, OLIVE, LOOSE,
MOIST

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

| Depth (ft) | Symbol | Samples | Blows per foot | Watercontent % | Soil Type |
|------------|--------|---------|----------------|----------------|-----------|
| 5 | | | 9 | 10.6 | 1 |
| 10 | | | 50 8" | 9.3 | 2 |
| 15 | | | | | |
| 20 | | | | | |



TEST BORING LOGS
POCO ROAD AND VOLLMER ROAD
ELITE PROPERTIES

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FIG. B-9

TEST BORING P-5
 DATE DRILLED 10/24/2023
 REMARKS

DRY TO 15', 10/24/23

SANDSTONE, VERY WEAK, TAN,
 RESIDUAL SOIL (SAND, WITH SILT,
 VERY DENSE, MOIST)

| Depth (ft) | Symbol | Samples | Blows per foot | Watercontent % | Soil Type |
|------------|--------|---------|----------------|----------------|-----------|
| 5 | | | 50 10" | 3.4 | 2 |
| | | | 50 11" | 7.8 | 2 |
| 10 | | | 50 6" | 11.3 | 2 |
| 15 | | | 50 6" | 8.5 | 2 |
| 20 | | | | | |

TEST BORING P-6
 DATE DRILLED 10/24/2023
 REMARKS

DRY TO 35', 10/24/23

SANDSTONE, VERY WEAK, TAN,
 RESIDUAL SOIL (SAND, SILTY, VERY
 DENSE, MOIST)

| Depth (ft) | Symbol | Samples | Blows per foot | Watercontent % | Soil Type |
|------------|--------|---------|----------------|----------------|-----------|
| 5 | | | 50 10" | 7.8 | 2 |
| | | | 50 8" | 9.9 | 2 |
| 10 | | | 50 6" | 9.4 | 2 |
| 15 | | | 50 7" | 9.6 | 2 |
| 20 | | | 50 8" | 9.9 | 2 |
| 25 | | | 50 8" | 12.2 | 2 |
| 30 | | | 50 9" | 11.7 | 2 |
| 35 | | | 50 8" | 15.9 | 2 |



TEST BORING LOGS
 POCO ROAD AND VOLLMER ROAD
 ELITE PROPERTIES

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FIG. B-10

TEST BORING P-7
DATE DRILLED 10/24/2023
REMARKS

DRY TO 25', 10/24/23

SANDSTONE, VERY WEAK, TAN,
RESIDUAL SOIL (SAND, SILTY,
VERY DENSE, MOIST)

| Depth (ft) | Symbol | Samples | Blows per foot | Watercontent % | Soil Type |
|------------|--------|---------|------------------|----------------|-----------|
| 5 | | | $\frac{50}{9''}$ | 6.8 | 2 |
| | | | $\frac{50}{8''}$ | 13.3 | 2 |
| 10 | | | $\frac{50}{7''}$ | 11.4 | 2 |
| 15 | | | $\frac{50}{8''}$ | 12.7 | 2 |
| 20 | | | $\frac{50}{5''}$ | 12.1 | 2 |
| 25 | | | $\frac{50}{7''}$ | 12.6 | 2 |

TEST BORING P-8
DATE DRILLED 10/24/2023
REMARKS

DRY TO 20', 10/24/23

SAND, GRAVELLY, SILTY, BROWN,
DENSE, MOIST

CLAYSTONE, WEAK, BROWN,
HIGHLY WEATHERED (CLAY,
SANDY, HARD, MOIST)
SANDSTONE, VERY WEAK,
BROWN, HIGHLY WEATHERED
(SAND, SILTY, VERY DENSE,

| Depth (ft) | Symbol | Samples | Blows per foot | Watercontent % | Soil Type |
|------------|--------|---------|------------------|----------------|-----------|
| 5 | | | 30 | 8.8 | 1 |
| | | | 45 | 9.2 | 1 |
| 10 | | | 37 | 14.7 | 3 |
| 15 | | | $\frac{50}{6''}$ | 8.6 | 2 |
| 20 | | | $\frac{50}{7''}$ | 13.5 | 2 |



TEST BORING LOGS
POCO ROAD AND VOLLMER ROAD
ELITE PROPERTIES

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FIG. B-11

TABLE B-1
DEPTH TO GROUNDWATER AND BEDROCK

| TEST BORING | DEPTH TO GROUNDWATER (ft.) | DEPTH TO BEDROCK (ft.) |
|-------------|----------------------------------|---------------------------|
| 1 | >20 | 3 |
| 2 | 6 | 8 |
| 3 | 14 | 3 |
| 4 | 7 | 2 |
| 5 | >20 | 6 |
| 6 | 11.5 | 3 |
| 7 | 15.5 | 1 |
| 8 | >20 | 1 |
| 9 | 14 | 8 |
| 10 | 12 | 3 |
| 11 | 15 | 6 |
| 12 | >20 | 8 |
| 13 | >30 | 1 |
| P-1 | >12.5 | 6 |
| P-2 | 11.5 | 1 |
| P-3 | 8.6 | 9 |
| P-4 | 7.2 | 7 |
| P-5 | >15 | SURFACE |
| P-6 | 29.8 | SURFACE |
| P-7 | 19.3 | SURFACE |
| P-8 | 14 | 8 |

TEST BORING 1
DATE DRILLED 9/2/2021
REMARKS

TEST BORING 2
DATE DRILLED 9/2/2021
REMARKS

DRY TO 20', 10/6/21

SAND, SILTY, BROWN, DENSE, MOIST

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

CLAYEY LENS

| Depth (ft) | Symbol | Samples | Blows per foot | Watercontent % | Soil Type |
|------------|--------|---------|-----------------|----------------|-----------|
| | | | 43 | 5.4 | 1 |
| 5 | | | <u>50</u> 9" | 9.6 | 2 |
| 10 | | | <u>50</u> 8" | 10.0 | 2 |
| 15 | | | <u>50</u> 5" | 7.9 | 2 |
| 20 | | | <u>50</u> 7" | 8.4 | 2 |

WATER @ 6', 10/6/21

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

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

SANDSTONE, VERY WEAK, TAN, HIGHLY WEATHERED, (SAND, CLAYEY, VERY DENSE, MOIST)

| Depth (ft) | Symbol | Samples | Blows per foot | Watercontent % | Soil Type |
|------------|--------|---------|------------------|----------------|-----------|
| | | | 13 | 2.0 | 1 |
| 5 | | | 26 | 6.3 | 1 |
| 10 | | | <u>50</u> 8" | 6.5 | 2 |
| 15 | | | <u>50</u> 10" | 8.1 | 2 |
| 20 | | | <u>50</u> 4" | 8.9 | 2 |



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FIG. B-1

TEST BORING 3
DATE DRILLED 9/2/2021
REMARKS

| REMARKS | Depth (ft) | Symbol | Samples | Blows per foot | Watercontent % | Soil Type |
|---|------------|--------|---------|----------------|----------------|-----------|
| WATER @ 14', 10/6/21 | | | | | | |
| SAND, SILTY, BROWN, DENSE, MOIST | | | | 43 | 6.5 | 1 |
| | | | | 50 | 5.7 | 2 |
| | | | | 8" | | |
| SANDSTONE, VERY WEAK, TAN, HIGHLY WEATHERED, (SAND, SILTY, VERY DENSE, MOIST) | 5 | | | | | |
| | | | | 50 | 8.5 | 2 |
| | | | | 7" | | |
| | 10 | | | | | |
| | | | | 50 | 11.9 | 2 |
| | | | | 8" | | |
| | 15 | | | | | |
| | | | | 50 | 15.0 | 3 |
| | | | | 8" | | |
| SILTSTONE, VERY WEAK, BLUE-GRAY, HIGHLY WEATHERED, (SILT, SANDY, HARD, MOIST) | 20 | | | | | |
| | | | | 50 | | |
| | | | | 8" | | |

TEST BORING 4
DATE DRILLED 9/2/2021
REMARKS

| REMARKS | Depth (ft) | Symbol | Samples | Blows per foot | Watercontent % | Soil Type |
|---|------------|--------|---------|----------------|----------------|-----------|
| WATER @ 7', 10/6/21 | | | | | | |
| SAND, SILTY, BROWN | | | | | | 1 |
| | | | | 50 | 5.6 | 2 |
| | | | | 9" | | |
| SANDSTONE, VERY WEAK, TAN, HIGHLY WEATHERED, (SAND, SILTY, VERY DENSE, MOIST) | 5 | | | 50 | 9.6 | 2 |
| | | | | 8" | | |
| | 10 | | | 50 | 12.1 | 2 |
| | | | | 7" | | |
| | 15 | | | 50 | 7.3 | 2 |
| | | | | 4" | | |
| | 20 | | | 50 | 10.6 | 2 |
| | | | | 7" | | |



TEST BORING LOGS
RETREAT AT PRAIRIERIDGE
ELITE PROPERTIES

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FIG. B-2

TEST BORING 5
DATE DRILLED 9/2/2021
REMARKS

| Depth (ft) | Symbol | Samples | Blows per foot | Watercontent % | Soil Type |
|---------------------|--------|---------|----------------|----------------|-----------|
| DRY TO 20', 10/6/21 | | | | | |
| | | | 13 | 2.5 | 1 |
| 5 | | | 21 | 2.2 | 1 |
| | | | | | |
| 10 | | | 50 9" | 6.6 | 2 |
| | | | | | |
| 15 | | | 50 6" | 8.0 | 2 |
| | | | | | |
| 20 | | | 50 7" | 7.6 | 2 |

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

TEST BORING 6
DATE DRILLED 9/2/2021
REMARKS

| Depth (ft) | Symbol | Samples | Blows per foot | Watercontent % | Soil Type |
|------------------------|--------|---------|----------------|----------------|-----------|
| WATER @ 11.5', 10/6/21 | | | | | |
| | | | 43 | 4.6 | 1 |
| 5 | | | 50 9" | 7.3 | 2 |
| | | | | | |
| 10 | | | 50 10" | 10.7 | 2 |
| | | | | | |
| 15 | | | 50 7" | 14.6 | 3 |
| | | | | | |
| 20 | | | 50 7" | 14.4 | 3 |

SAND, SILTY, BROWN, DENSE,
MOIST

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

CLAYSTONE, VERY WEAK, BLUE-
GRAY, HIGHLY WEATHERED,
(CLAY, SANDY, HARD, MOIST)



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RETREAT AT PRAIRIERIDGE
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FIG. B-3

TEST BORING 7
DATE DRILLED 9/2/2021
REMARKS

WATER @ 15.5', 10/6/21

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

CLAYSTONE, VERY EWAK, GRAY,
HIGHLY WEATHERED, (CLAY,
SANDY, HARD, MOIST)

| Depth (ft) | Symbol | Samples | Blows per foot | Watercontent % | Soil Type |
|------------|--------|---------|----------------|----------------|-----------|
| 1 | | | | | 1 |
| 2 | | | 50 8" | 3.8 | 2 |
| 5 | | | 50 9" | 9.1 | 2 |
| 10 | | | 50 8" | 9.6 | 2 |
| 15 | | | 50 8" | 11.5 | 2 |
| 20 | | | 50 6" | 13.7 | 3 |

TEST BORING 8
DATE DRILLED 9/2/2021
REMARKS

DRY TO 20', 10/6/21

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

CLAYSTONE, VERY EWAK, GRAY,
HIGHLY WEATHERED, (CLAY,
SANDY, HARD, MOIST)

| Depth (ft) | Symbol | Samples | Blows per foot | Watercontent % | Soil Type |
|------------|--------|---------|----------------|----------------|-----------|
| 1 | | | | | 1 |
| 2 | | | 50 | 11.1 | 2 |
| 5 | | | 50 9" | 8.5 | 2 |
| 10 | | | 50 8" | 10.1 | 2 |
| 15 | | | 50 6" | 9.3 | 2 |
| 20 | | | 50 7" | 11.9 | 2 |



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RETREAT AT PRAIRIERIDGE
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FIG. B-4

TEST BORING 9
DATE DRILLED 9/2/2021
REMARKS

| REMARKS | Depth (ft) | Symbol | Samples | Blows per foot | Watercontent % | Soil Type |
|---|------------|--------|---------|----------------|----------------|-----------|
| WATER @ 14', 10/6/21 | | | | | | |
| SAND, SILTY, TAN, MEDIUM DENSE, MOIST | | | | 13 | 4.2 | 1 |
| | 5 | | | 12 | 6.1 | 1 |
| | | | | | | |
| SANDSTONE, VERY WEAK, TAN, HIGHLY WEATHERED, (SAND, SILTY, VERY DENSE, MOIST) | 10 | | | 50 8" | 11.1 | 2 |
| | | | | | | |
| | 15 | | | 50 8" | 9.5 | 2 |
| | | | | | | |
| | 20 | | | 50 6" | 11.9 | 2 |

TEST BORING 10
DATE DRILLED 9/2/2021
REMARKS

| REMARKS | Depth (ft) | Symbol | Samples | Blows per foot | Watercontent % | Soil Type |
|---|------------|--------|---------|----------------|----------------|-----------|
| WATER @ 12', 10/6/21 | | | | | | |
| SAND, SILTY, TAN, MEDIUM DENSE, MOIST | | | | 18 | 3.5 | 1 |
| | 5 | | | 50 8" | 8.5 | 2 |
| SANDSTONE, VERY WEAK, TAN, HIGHLY WEATHERED, (SAND, WITH SILT, VERY DENSE, MOIST) | | | | | | |
| | 10 | | | 50 8" | 10.1 | 2 |
| | | | | | | |
| | 15 | | | 50 6" | 12.0 | 2 |
| | | | | | | |
| | 20 | | | 50 8" | 14.9 | 2 |



TEST BORING LOGS
RETREAT AT PRAIRIERIDGE
ELITE PROPERTIES

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FIG. B-5

TEST BORING 11
DATE DRILLED 9/2/2021
REMARKS

| Depth (ft) | Symbol | Samples | Blows per foot | Watercontent % | Soil Type |
|---|--------|---------|----------------|----------------|-----------|
| WATER @ 15', 10/6/21 | | | | | |
| SAND, WITH SILT, TAN, MEDIUM DENSE to DENSE, DRY to MOIST | | | 10 | 1.6 | 1 |
| 5 | | | 37 | 3.5 | 1 |
| SANDSTONE, VERY WEAK, TAN, HIGHLY WEATHERED, (SAND, SILTY, VERY DENSE, MOIST) | | | 50 5" | 8.5 | 2 |
| 10 | | | 50 6" | 12.7 | 2 |
| 15 | | | 34 | 11.4 | 3 |
| 20 | | | | | |

TEST BORING 12
DATE DRILLED 9/2/2021
REMARKS

| Depth (ft) | Symbol | Samples | Blows per foot | Watercontent % | Soil Type |
|---|--------|---------|----------------|----------------|-----------|
| DRY TO 20', 10/6/21 | | | | | |
| SAND, SILTY, BROWN, MEDIUM DENSE, MOIST | | | 17 | 4.0 | 1 |
| 5 | | | 26 | 12.6 | 1 |
| CLAYEY LENS | | | | | |
| SANDSTONE, VERY WEAK, TAN, HIGHLY WEATHERED, (SAND, SILTY, VERY DENSE, MOIST) | | | 50 9" | 9.9 | 2 |
| 10 | | | 50 7" | 8.9 | 2 |
| 15 | | | 50 6" | 10.6 | 2 |
| 20 | | | | | |



TEST BORING LOGS
RETREAT AT PRAIRIERIDGE
ELITE PROPERTIES

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FIG. B-6

TEST BORING 13
 DATE DRILLED 9/28/2023
 REMARKS

DRY TO 28.5', 10/10/23

SAND, SILTY, BROWN

SANDSTONE, VERY WEAK,
 BROWN to TAN, HIGHLY
 WEATHERD (SAND, SILTY, VERY
 DENSE, MOIST)

CLAYSTONE, VERY WEAK, OLIVE,
 HIGHLY WEATHERED (CLAY,
 SANDY, HARD, MOIST)

SANDSTONE, WEAK, LIGHT
 BROWN, HIGHLY WEATHERED
 (SAND, SILTY, VERY DENSE,
 MOIST)

| Depth (ft) | Symbol | Samples | Blows per foot | Watercontent % | Soil Type |
|------------|--------|---------|----------------|----------------|-----------|
| 1 | | | | | 1 |
| 2 | | | 50 11" | 6.4 | 2 |
| 5 | | | 50 10" | 11.1 | 2 |
| 10 | | | 50 7" | 5.6 | 2 |
| 15 | | | 50 11" | 9.7 | 2 |
| 20 | | | 50 8" | 15.6 | 3 |
| 25 | | | 50 6" | 7.5 | 2 |
| 30 | | | 50 5" | 6.5 | 2 |



TEST BORING LOGS

RETREAT AT PRAIRIERIDGE
 ELITE PROPERTIES

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FIG. B-7

TEST BORING P-1
 DATE DRILLED 8/22/2023
 REMARKS

TEST BORING P-2
 DATE DRILLED 8/22/2023
 REMARKS

DRY TO 12.5', 8/23/23

SAND, WITH SILT, TAN, MEDIUM
 DENSE, DRY

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

| Depth (ft) | Symbol | Samples | Blows per foot | Watercontent % | Soil Type |
|------------|--------|---------|----------------|----------------|-----------|
| 5 | | | 16 | 2.8 | 1 |
| 10 | | | 50 9" | 3.7 | 2 |
| 15 | | | | | |
| 20 | | | | | |

WATER @ 12', 8/23/23

SAND, SILTY, BROWN
 SANDSTONE, VERY WEAK,
 BROWN, HIGHLY WEATHERED,
 (SAND, SILTY, VERY DENSE,



| Depth (ft) | Symbol | Samples | Blows per foot | Watercontent % | Soil Type |
|------------|--------|---------|----------------|----------------|-----------|
| 5 | | | 50 11" | 7.0 | 2 |
| 10 | | | 50 9" | 5.5 | 2 |
| 15 | | | | | |
| 20 | | | | | |



TEST BORING LOGS
 POCO ROAD AND VOLLMER ROAD
 ELITE PROPERTIES

JOB NO.
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FIG. B-8

TEST BORING P-3
DATE DRILLED 8/22/2023

TEST BORING P-4
DATE DRILLED 8/22/2023

REMARKS

WATER @ 7', 8/23/23

SAND, CLAYEY, OLIVE, MEDIUM
DENSE, MOIST

SANDSTONE, VERY WEAK, GRAY,
HIGHLY WEATHERED, (SAND,
SILTY, VERY DENSE, MOIST)

| Depth (ft) | Symbol | Samples | Blows per foot | Watercontent % | Soil Type |
|------------|--------|---------|----------------|----------------|-----------|
| 5 | | | 15 | 13.4 | 1 |
| 10 | | | 50 7" | 8.2 | 2 |
| 15 | | | | | |
| 20 | | | | | |

REMARKS

WATER @ 5.5', 8/23/23

SAND, CLAYEY, OLIVE, LOOSE,
MOIST

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

| Depth (ft) | Symbol | Samples | Blows per foot | Watercontent % | Soil Type |
|------------|--------|---------|----------------|----------------|-----------|
| 5 | | | 9 | 10.6 | 1 |
| 10 | | | 50 8" | 9.3 | 2 |
| 15 | | | | | |
| 20 | | | | | |



TEST BORING LOGS
POCO ROAD AND VOLLMER ROAD
ELITE PROPERTIES

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FIG. B-9

TEST BORING P-5
 DATE DRILLED 10/24/2023
 REMARKS

DRY TO 15', 10/24/23

SANDSTONE, VERY WEAK, TAN,
 RESIDUAL SOIL (SAND, WITH SILT,
 VERY DENSE, MOIST)

| Depth (ft) | Symbol | Samples | Blows per foot | Watercontent % | Soil Type |
|------------|--------|---------|----------------|----------------|-----------|
| 5 | | | 50 10" | 3.4 | 2 |
| | | | 50 11" | 7.8 | 2 |
| 10 | | | 50 6" | 11.3 | 2 |
| 15 | | | 50 6" | 8.5 | 2 |
| 20 | | | | | |

TEST BORING P-6
 DATE DRILLED 10/24/2023
 REMARKS

DRY TO 35', 10/24/23

SANDSTONE, VERY WEAK, TAN,
 RESIDUAL SOIL (SAND, SILTY, VERY
 DENSE, MOIST)

| Depth (ft) | Symbol | Samples | Blows per foot | Watercontent % | Soil Type |
|------------|--------|---------|----------------|----------------|-----------|
| 5 | | | 50 10" | 7.8 | 2 |
| | | | 50 8" | 9.9 | 2 |
| 10 | | | 50 6" | 9.4 | 2 |
| 15 | | | 50 7" | 9.6 | 2 |
| 20 | | | 50 8" | 9.9 | 2 |
| 25 | | | 50 8" | 12.2 | 2 |
| 30 | | | 50 9" | 11.7 | 2 |
| 35 | | | 50 8" | 15.9 | 2 |



TEST BORING LOGS
 POCO ROAD AND VOLLMER ROAD
 ELITE PROPERTIES

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FIG. B-10

TEST BORING P-7
DATE DRILLED 10/24/2023
REMARKS

DRY TO 25', 10/24/23

SANDSTONE, VERY WEAK, TAN,
RESIDUAL SOIL (SAND, SILTY,
VERY DENSE, MOIST)

| Depth (ft) | Symbol | Samples | Blows per foot | Watercontent % | Soil Type |
|------------|--------|---------|------------------|----------------|-----------|
| 5 | | | $\frac{50}{9''}$ | 6.8 | 2 |
| | | | $\frac{50}{8''}$ | 13.3 | 2 |
| 10 | | | $\frac{50}{7''}$ | 11.4 | 2 |
| 15 | | | $\frac{50}{8''}$ | 12.7 | 2 |
| 20 | | | $\frac{50}{5''}$ | 12.1 | 2 |
| 25 | | | $\frac{50}{7''}$ | 12.6 | 2 |

TEST BORING P-8
DATE DRILLED 10/24/2023
REMARKS

DRY TO 20', 10/24/23

SAND, GRAVELLY, SILTY, BROWN,
DENSE, MOIST

CLAYSTONE, WEAK, BROWN,
HIGHLY WEATHERED (CLAY,
SANDY, HARD, MOIST)
SANDSTONE, VERY WEAK,
BROWN, HIGHLY WEATHERED
(SAND, SILTY, VERY DENSE,

| Depth (ft) | Symbol | Samples | Blows per foot | Watercontent % | Soil Type |
|------------|--------|---------|------------------|----------------|-----------|
| 5 | | | 30 | 8.8 | 1 |
| | | | 45 | 9.2 | 1 |
| 10 | | | 37 | 14.7 | 3 |
| 15 | | | $\frac{50}{6''}$ | 8.6 | 2 |
| 20 | | | $\frac{50}{7''}$ | 13.5 | 2 |



TEST BORING LOGS
POCO ROAD AND VOLLMER ROAD
ELITE PROPERTIES

JOB NO.
212381

FIG. B-11

APPENDIX C: Laboratory Testing Results

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 %) | FHA SWELL (PSF) | SWELL/ CONSOL (%) | USCS | SOIL DESCRIPTION |
|-----------|-----------------|------------|-----------|-------------------|---------------------------|--------------|---------------|---------------|----------------|-----------------|-------------------|-------|------------------------------|
| 1 | 1 | 2-3 | | | 14.6 | NV | NP | NP | <0.01 | | | SM | SAND, SILTY |
| 1 | 5 | 5 | | | 15.2 | | | | | | | SM | SAND, SILTY |
| 1 | 6 | 2-3 | | | 15.8 | | | | | | | SM | SAND, SILTY |
| 1 | 9 | 5 | | | 15.8 | | | | | | | SM | SAND, SILTY |
| 1 | 11 | 2-3 | | | 7.9 | | | | | | | SW-SM | SAND, WITH SILT |
| 1 | 12 | 5 | 16.9 | 112.5 | 30.1 | | | | | | 1.9 | SC | SAND, CLAYEY |
| 1 | P-1 | 2-3 | | | 5.0 | | | | | | | SW-SM | SAND, WITH SILT |
| 1 | P-3 | 1-2 | | | 37.1 | | | | | | | SC | SAND, CLAYEY |
| 1 | P-4 | 2-3 | | | 29.6 | | | | | | | SC | SAND, CLAYEY |
| 2 | P-5 | 2-3 | | | 10.3 | NV | NP | NP | <0.01 | | | SW-SM | SANDSTONE (SAND, WITH SILT) |
| 2 | P-6 | 30 | | | 26.4 | | | | | | | SM | SANDSTONE (SAND, SILTY) |
| 2 | P-7 | 20 | | | 19.0 | NV | NP | NP | <0.01 | | | SM | SANDSTONE (SAND, SILTY) |
| 2 | 2 | 10 | | | 10.5 | NV | NP | NP | <0.01 | | | SW-SM | SANDSTONE, (SAND, WITH SILT) |
| 2 | 4 | 5 | | | 16.3 | | | | | | | SM | SANDSTONE, (SAND, SILTY) |
| 2 | P-2 | 2-3 | | | 13.9 | | | | | | | SM | SANDSTONE, (SAND, SILTY) |
| 2 | 7 | 10 | | | 20.1 | | | | | | | SM | SANDSTONE, (SAND, SILTY) |
| 2 | 8 | 2-3 | | | 24.1 | | | | | | | SM | SANDSTONE, (SAND, SILTY) |
| 2 | 10 | 10 | | | 11.9 | | | | | | | SW-SM | SANDSTONE, (SAND, WITH SILT) |
| 3 | 13 | 5 | | | 30.4 | | | | | | | SM | SANDSTONE (SAND, SILTY) |
| 3 | 13 | 20 | 16.9 | 102.0 | 74.6 | | | | | | 0.0 | CL | CLAYSTONE (CLAY, SANDY) |
| 3 | P-8 | 10 | 22.3 | 101.7 | 52.9 | | | | 0.01 | | 2.0 | CL | CLAYSTONE (CLAY, SANDY) |
| 3 | 3 | 20 | 16.0 | 114.6 | 57.9 | 38 | 26 | 12 | 0.00 | | 2.8 | ML | SILTSTONE, (SILT, SANDY) |
| 3 | 6 | 20 | 14.7 | 118.7 | 83.7 | | | | | | 1.8 | CL | CLAYSTONE, (CLAY, SANDY) |

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 %) | FHA SWELL (PSF) | SWELL/ CONSOL (%) | USCS | SOIL DESCRIPTION |
|-----------|-----------------|------------|-----------|-------------------|---------------------------|--------------|---------------|---------------|----------------|-----------------|-------------------|-------|------------------------------|
| 1 | 1 | 2-3 | | | 14.6 | NV | NP | NP | <0.01 | | | SM | SAND, SILTY |
| 1 | 5 | 5 | | | 15.2 | | | | | | | SM | SAND, SILTY |
| 1 | 6 | 2-3 | | | 15.8 | | | | | | | SM | SAND, SILTY |
| 1 | 9 | 5 | | | 15.8 | | | | | | | SM | SAND, SILTY |
| 1 | 11 | 2-3 | | | 7.9 | | | | | | | SW-SM | SAND, WITH SILT |
| 1 | 12 | 5 | 16.9 | 112.5 | 30.1 | | | | | | 1.9 | SC | SAND, CLAYEY |
| 1 | P-1 | 2-3 | | | 5.0 | | | | | | | SW-SM | SAND, WITH SILT |
| 1 | P-3 | 1-2 | | | 37.1 | | | | | | | SC | SAND, CLAYEY |
| 1 | P-4 | 2-3 | | | 29.6 | | | | | | | SC | SAND, CLAYEY |
| 2 | P-5 | 2-3 | | | 10.3 | NV | NP | NP | <0.01 | | | SW-SM | SANDSTONE (SAND, WITH SILT) |
| 2 | P-6 | 30 | | | 26.4 | | | | | | | SM | SANDSTONE (SAND, SILTY) |
| 2 | P-7 | 20 | | | 19.0 | NV | NP | NP | <0.01 | | | SM | SANDSTONE (SAND, SILTY) |
| 2 | 2 | 10 | | | 10.5 | NV | NP | NP | <0.01 | | | SW-SM | SANDSTONE, (SAND, WITH SILT) |
| 2 | 4 | 5 | | | 16.3 | | | | | | | SM | SANDSTONE, (SAND, SILTY) |
| 2 | P-2 | 2-3 | | | 13.9 | | | | | | | SM | SANDSTONE, (SAND, SILTY) |
| 2 | 7 | 10 | | | 20.1 | | | | | | | SM | SANDSTONE, (SAND, SILTY) |
| 2 | 8 | 2-3 | | | 24.1 | | | | | | | SM | SANDSTONE, (SAND, SILTY) |
| 2 | 10 | 10 | | | 11.9 | | | | | | | SW-SM | SANDSTONE, (SAND, WITH SILT) |
| 3 | 13 | 5 | | | 30.4 | | | | | | | SM | SANDSTONE (SAND, SILTY) |
| 3 | 13 | 20 | 16.9 | 102.0 | 74.6 | | | | | | 0.0 | CL | CLAYSTONE (CLAY, SANDY) |
| 3 | P-8 | 10 | 22.3 | 101.7 | 52.9 | | | | 0.01 | | 2.0 | CL | CLAYSTONE (CLAY, SANDY) |
| 3 | 3 | 20 | 16.0 | 114.6 | 57.9 | 38 | 26 | 12 | 0.00 | | 2.8 | ML | SILTSTONE, (SILT, SANDY) |
| 3 | 6 | 20 | 14.7 | 118.7 | 83.7 | | | | | | 1.8 | CL | CLAYSTONE, (CLAY, SANDY) |

APPENDIX D: Soil Survey Descriptions

El Paso County Area, Colorado

71—Pring coarse sandy loam, 3 to 8 percent slopes

Map Unit Setting

National map unit symbol: 369k

Elevation: 6,800 to 7,600 feet

Farmland classification: Not prime farmland

Map Unit Composition

Pring and similar soils: 85 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

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: 3 to 8 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): 3e

Hydrologic Soil Group: B

Ecological site: R048AY222CO - Loamy Park

Hydric soil rating: No

Minor Components

Pleasant

Percent of map unit:

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 19, Aug 31, 2021

