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SOILS AND GEOLOGY STUDY
SIESTA GROVE SUBDIVISION
PARCEL NO. 61000-00-292
EL PASO COUNTY, COLORADO



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1 SUMMARY

Project Location

The project site is located within the W½ of Section 25, Township 11 South, Range 66 West of the 6th Principal Meridian in El Paso County, Colorado. The site is approximately 4 miles east of the town of Monument, Colorado, located southwest of Hodgen Road and Farrar Road in El Paso County, Colorado. The location of the site is as shown in the Vicinity Map (Figure 1).

Project Description

A four-lot rural residential subdivision is proposed for the 35-acre parcel. An existing residence with several barns is located in the western portion property which will remain on the proposed 29- acre lot. Three new 2.5 to 2.65 acre lots are proposed for the eastern portion of the parcel. The new lots 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 the proposed 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, potential seasonally shallow and shallow groundwater areas, areas of 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

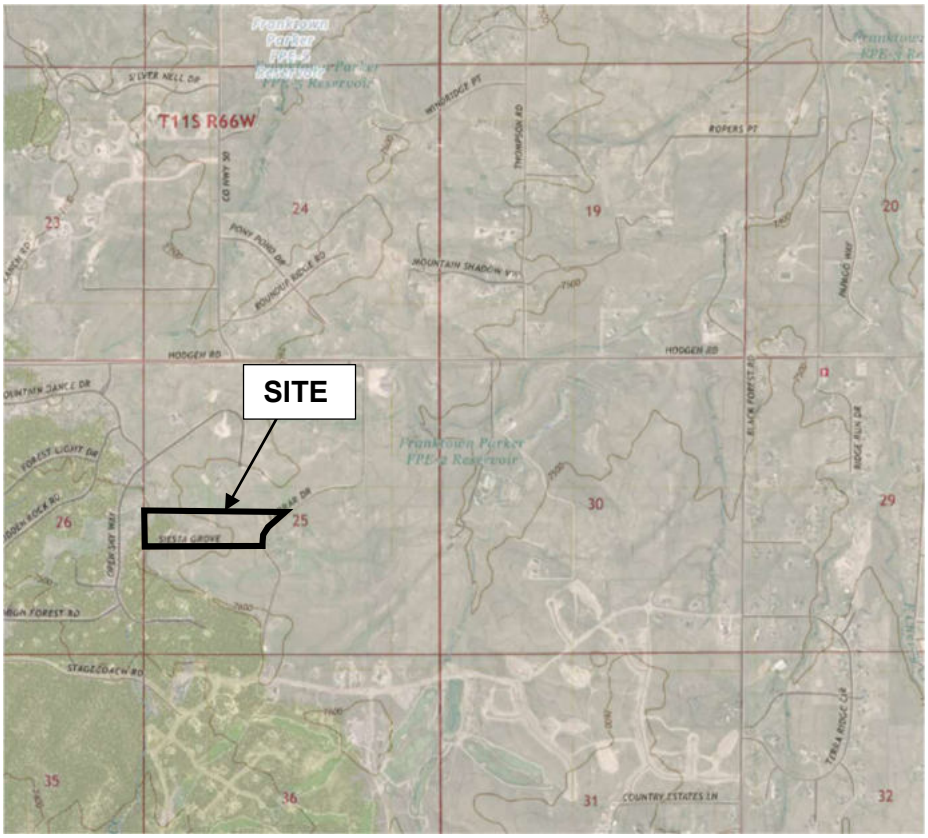
The topography of the site is generally gradually to moderately sloping to the east northeast towards a minor drainage and seasonal pond in the eastern portion of the site. Palmer Divide ridge is located in the western portion of the site near the existing residence. The drainage and seasonal pond were dry at the time of our site observations. The site boundaries are indicated in

the USGS Map (Exhibit 1). Previous land uses have included agricultural grazing. Vegetation observed on the site includes field grasses, cacti, weeds, and Ponderosa Pines primarily in the western portion of the site. Site photographs are included in Appendix A.

The project consists subdividing the 35-acres into four rural residential lots. Three 2.5 to 2.62 acres, and one large 29 acre lot with the existing house are proposed. The lots will be serviced by individual water wells and OTWS. The proposed lot configuration is shown in the Site and Exploration Plan (Figure 2). Grading plans were not available at the time of this investigation, however, proposed grading discussions indicated the seasonal pond in the eastern portion of the site will be filled.

Exhibit 1: USGS Topography Map

Black Forest Quadrangle - 2022



3 SCOPE OF THE REPORT

The scope of this report includes 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. 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 Geology/Engineering Geology Map, which identified pertinent geologic conditions affecting development. The field mapping was performed by personnel of Entech on August 5, 2026. Site photographs are included in Appendix A.

Four (4) test borings (TB-1 through TB-4) were drilled and three (3) tactile test pits (TP-1 through TP-3) were excavated to determine the classification and engineering characteristics of the soils. 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 pits were excavated with a mini-excavator operated by Entech to depths of 5.5 to 8 feet. TB-1 through TB-3 were drilled in potential future building locations, and TB-4 was located in the seasonal pond. A temporary piezometer (P1) was installed in TB-4 which will be monitored to evaluate the potential seasonal groundwater fluctuation.

The locations of the test borings and test pits are indicated on the Site and Exploration Plan (Figure 2). The Test Boring and Test Pit Logs are included 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 D6913), and Atterberg Limits testing (ASTM D4318). 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 along the Palmer Divide. A major structural feature known as the Rampart Range Fault lies approximately 10 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 southwestern 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 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 alluvium, colluvium, sheetwash, and residual soils of Quaternary Age. The residual soils are produced by the in-situ action of weathering of the bedrock on site. Artificial fill associated with Farrar Road and earthen embankment for the pond. Some colluvial soils deposited by gravity and sheetwash exist. The site's stratigraphy will be discussed in more detail in Section 5.3.

5.2 Soil Conservation Survey

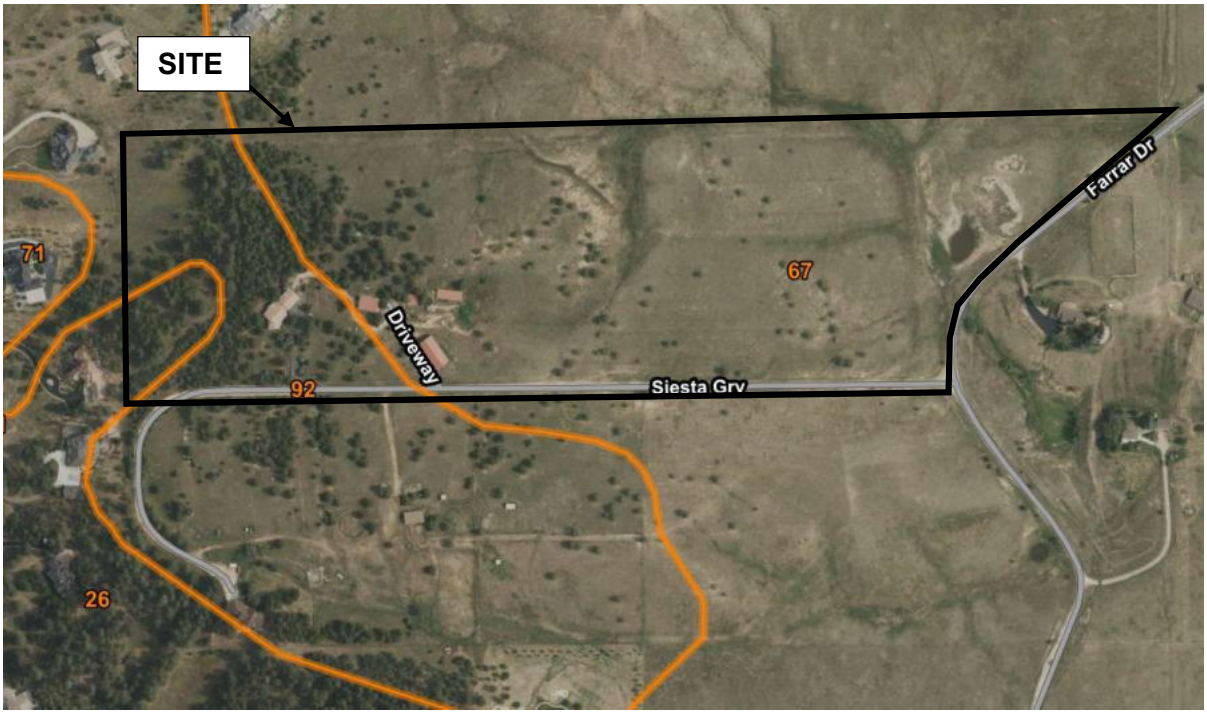
The Natural Resource Conservation Service (Reference 2), previously the Soil Conservation Service (Reference 3), has mapped three soil types on the site. In general, they are gravely loamy sands to loamy sands. The soils are described in Exhibit 2, and shown in Exhibit 3.

Exhibit 2: Soil Survey Description

Type	Description
26	Elbeth sandy loam, 8 to 415% slopes
67	Peyton sandy loam, 5 to 9% slopes
92	Tomah-Crowfoot loamy sands, 3 to 8% slopes

Exhibit 3: USDA – Web Soil Survey

Soil Map – El Paso County Area, Colorado



Complete descriptions of each soil type are presented in Appendix D. The soils have generally been described as having moderately high to high permeabilities. Limitations on development include limited ability to support a load, shrink-swell potential, and frost action potential. Possible hazards with soil erosion are present on the site. The erosion potential can be controlled with vegetation. The soils have 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 Exhibit 4 below (Reference 4). The Geology/Engineering Geology Map prepared for the site is presented in Figure 4. Two mappable units were identified on this site that are described as follows:

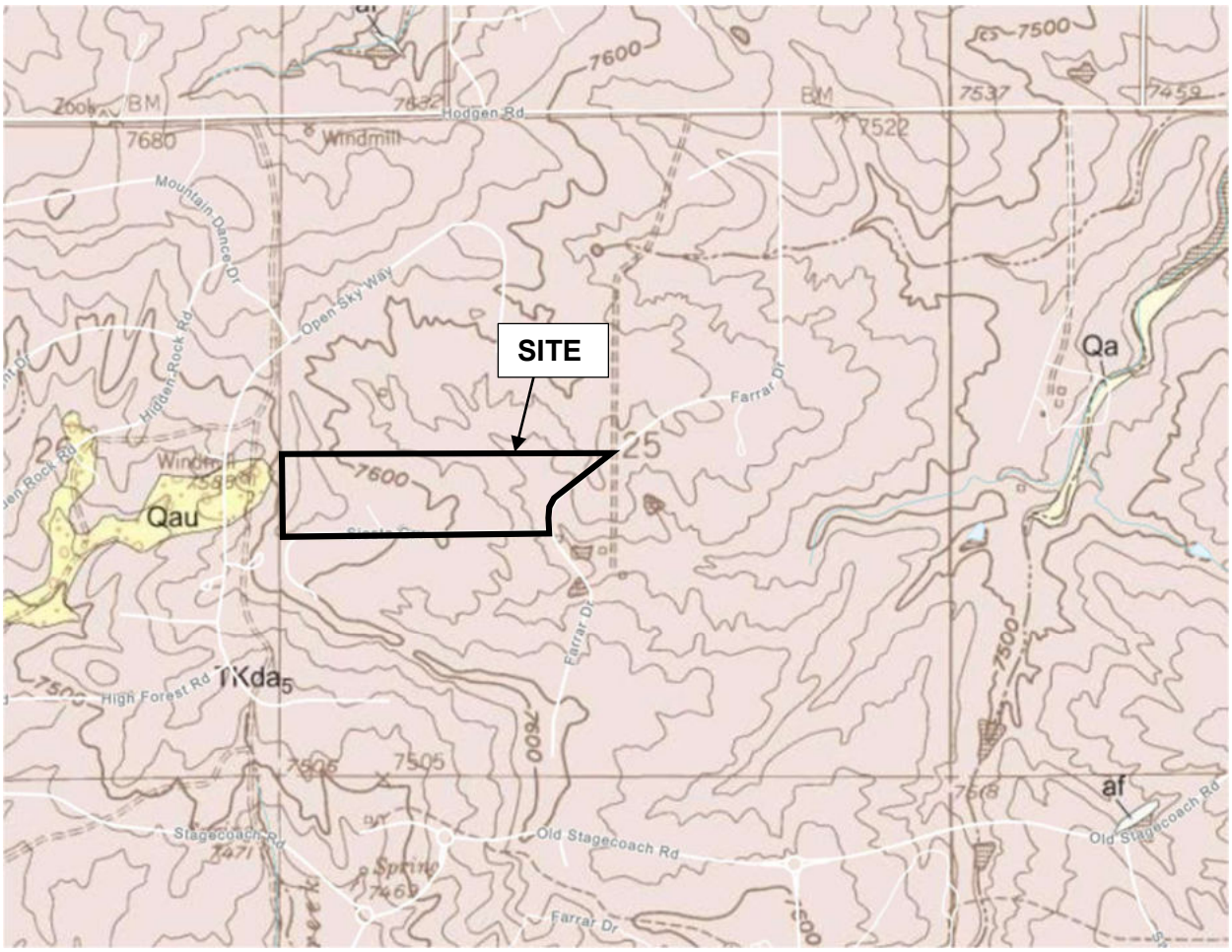
Qaf **Artificial Fill of Holocene Age:** These are man-made fill deposits associated with Farrar Road and the earthen embankment for the seasonal pond in the eastern portion of the site along Farrar Drive.

Qc/Tkd **Colluvium of Quaternary Age overlying 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 colluvium and residual soils. 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. The colluvial 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/Engineering Geology Map prepared for the site is presented in Figure 3.

Exhibit 4: Geologic Map of the Black Forest Quadrangle

Colorado Geological Survey – OF-03-06



5.4 Soil Conditions

The soils encountered in the test borings drilled on the site can be grouped into three general soil and rock types. The soils were classified using the Unified Soil Classification System (USCS).

Soil Type 1 classified as a silty sand (SM). The sand was encountered in all test borings at the existing surface and extending to depths 13 feet below the existing grade surface (bgs) and to the termination depth of TB-2 and TB-3 (20 feet). The sand was encountered at medium dense to dense states and moist to dry conditions.

Soil Type 2 classified as a sandy clay (CL). The clay was encountered in test borings TB-3 and TB-4 at depths of 3 and 14 extending to depths 18 feet below the existing grade surface (bgs)

and extended to depths of 8 and 17 feet. The clay was encountered at hard consistencies and moist conditions. One dimensional swell/collapse testing resulted in a volume change of -0.7%, indicating a low potential for collapse.

Soil Type 3 classified as highly weathered sandstone or silty sand when classified as a soil (SM). The sandstone was encountered in TB-1 and TB-4 at a depths of 13 and 17 feet bgs and extending to the termination the borings (20 feet). The sandstone was encountered at dense states and moist conditions.

Although significant amounts of expansive clays, claystone, or siltstone were not encountered in the test borings, they are common in the area of the project site. Claystone and siltstone are commonly interbedded in the Dawson Formation. Clays, claystone, and siltstone in the project area are typically expansive.

The test boring logs are included in Appendix B and laboratory test results pertaining to this investigation are included in Appendix C.

5.5 Groundwater

Groundwater was not encountered in the test borings (drilled to 20 feet) during or subsequent to drilling. Redoximorphic features were encountered in two of the test pits (TP-1 and TP-2) at depths of 4.5 and 6 feet. Areas of potentially seasonal shallow and shallow groundwater have been mapped in the drainage and seasonal pond in the eastern portion of 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.

A piezometer (P1) was installed in the seasonal pond to evaluate the groundwater conditions. The piezometer was measured the day following installation on August 13, 2026, and on September 15, 2026. The piezometer has remained dry to a depth of 20 feet. The piezometer will continue to be monitored during the coming seasons. Review of historical aerial photographs indicated that the pond has seasonally contained water, however, the pond has been dry during 2026.

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.

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 3). This map shows the location of various geologic conditions the developers should monitor during the planning, design, and construction stages of the project. No significant geologic hazards were identified on the site; however, the following constraints have been identified on the site: artificial fill, potentially collapsible soils, potentially expansive soils, potential seasonally shallow and seasonal shallow groundwater areas, areas of erosion, and the potential for elevated radon levels. These constraints and the recommended mitigation techniques are discussed below.

Artificial Fill – Constraint

These are areas of man-placed fill associated with the existing earthen embankment for the seasonal pond in the eastern portion of the site. Other areas of fill may exist on the site other than those mapped.

Mitigation: Any uncontrolled fill encountered beneath foundations will require removal and recompaction at a minimum of 95% of the Modified Procter (ASTM D1557) maximum dry density.

Collapsible Soils – Constraint

The majority of the soils encountered on site do not exhibit collapsible characteristics, however, areas of very silty potentially collapsible soils are common in the area.

Mitigation: Should loose or collapsible soils be encountered beneath foundations, recompaction of the loose soils to a minimum of 95% of the Modified Procter (ASTM D1557) maximum dry density may be necessary. Depths of recompaction should be determined for each lot after additional investigation of the building site. Exterior flatwork and driveway areas may also experience movement. Proofrolling and recompaction of soft areas should be performed during site work.

Potentially Expansive Soils – Constraint

The site is classified in an area of low swell potential according to the *Map of Potentially Swelling Soil and Rock in the Front Range Urban Corridor, Colorado* by Hart, 1974 (Reference 7). Clay

soils were encountered in the test borings or test pits completed as part of this investigation, however, testing indicated low expansion potential. Expansive clays and claystone bedrock are commonly interbedded in the Dawson Formation. These occurrences are typically sporadic; therefore, none have been indicated on the maps. These clays, if encountered beneath foundations, can cause differential movement in the structure foundation. The sand and sandstone soils are anticipated to exhibit low expansion potentials. If expansive materials are found during excavation, they will need to be mitigated. Expansive soils should be identified and mitigated on an individual basis.

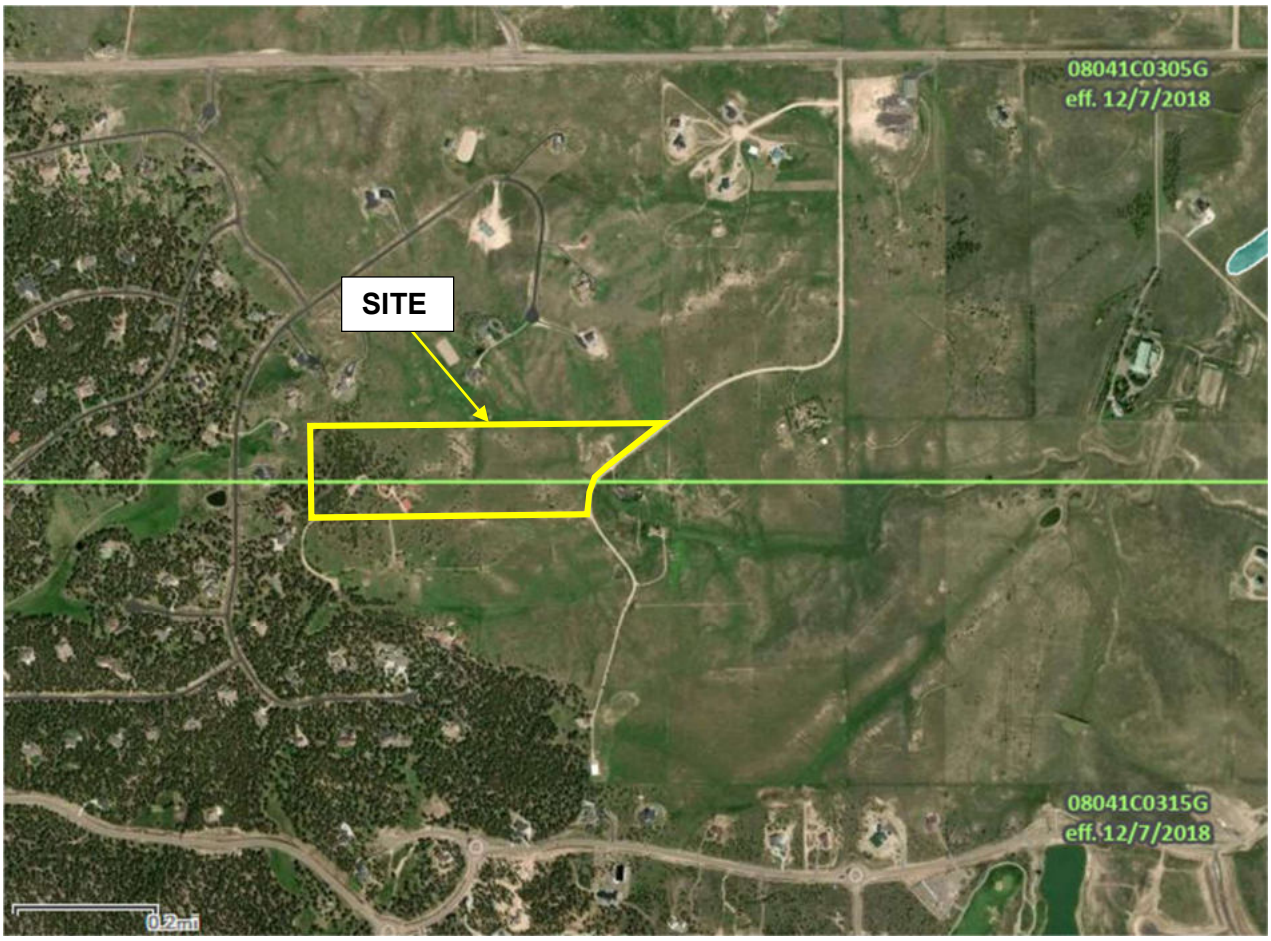
Mitigation: Should expansive soils be encountered beneath foundations; mitigation will be necessary. Overexcavation and replacement with non-expansive soils at a minimum of 95% of the Modified Proctor (ASTM D1557) maximum dry density is a suitable mitigation, which is common in the area. Overexcavation depths of 3 to 5 feet may be necessary depending on soil conditions. Another alternative to mitigate highly expansive soils is the use of drilled pier foundation systems. Typical minimum pier depths on the order of 25 feet with penetration into the bedrock material a minimum of 4 to 6 feet are required, depending on building loads. Floor slabs on expansive soils should be expected to experience movement. Overexcavation and replacement have 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 made after additional investigation of each building site.

Drainage and Floodplain Areas – Constraint

The site is not located within any mapped floodplains according to FEMA Map Nos. 08041C0305G and 08041C0315G (Exhibit 4, Reference 8). The topography of the site is generally gradually to moderately sloping to the east, with a minor drainage and seasonal pond in the eastern portion of the site. The drainage and pond were dry at the time of our site observations. The drainage onsite flows in a southeasterly direction to a tributary of East Cherry Creek. The drainage and pond area onsite were dry at the time of our site observations, however, the potential for seasonal shallow groundwater exists in these areas. These areas are discussed further below. Specific drainage studies and floodplain locations are beyond the scope of this report.

Exhibit 5: FEMA Flood Map

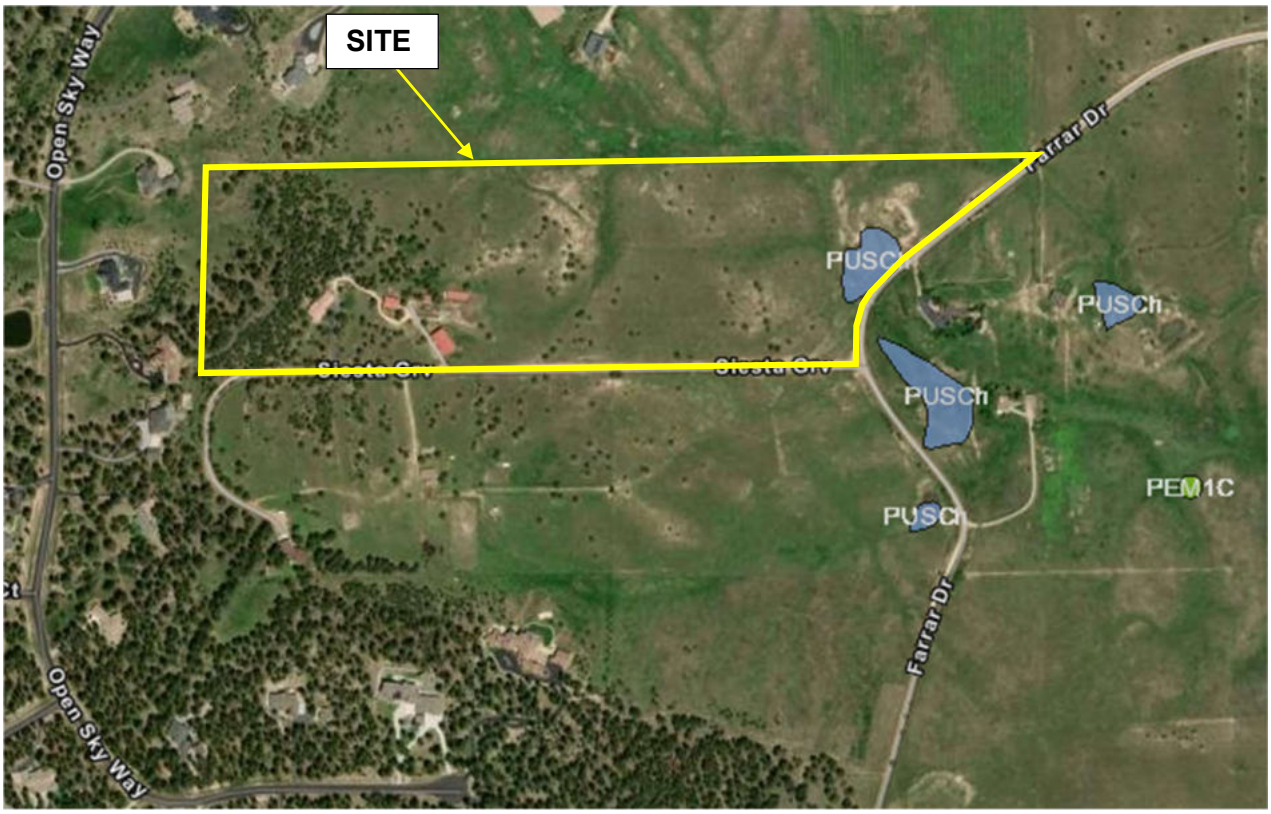
FEMA Map Nos. 08041C0305G and 08041C0315G, eff. 12/7/2018



The seasonal pond in the eastern portion of the site has been included in the National Wetlands Inventory as a Freshwater Wetland habitat classified as **PUSCh** (Palustrine – P; Unconsolidated Shore – US, Seasonally Flooded – C, Diked/Impounded) (Exhibit 5, Reference 9). Grading plans were not available at the time of this report, however, based on preliminary grading discussions the pond area will be filled to increase buildable areas for the new lots. Fill placement recommendations are provided in Section 9.

Exhibit 6: USFWS Wetland Mapper

Wetland Map



Potentially Seasonal Shallow and Seasonally Shallow Groundwater Areas – Constraint

The areas identified with this constraint are the minor drainage in the eastern portion of the site. The potentially seasonal shallow groundwater areas are associated with the minor drainage and the seasonal shallow groundwater area is associated with the seasonal pond. In these areas, we would anticipate periodic high subsurface moisture conditions and frost heave potential on a seasonal basis. Groundwater was not encountered in the test borings during or subsequent to drilling. However, redoximorphic features were encountered in TP-1 and TP-2 at depths of 4.5 and 6 feet, but were not encountered in the remaining test pit (TP-3). Due to the size of the lots and plans for filling of the pond these areas can be avoided by future residences or OWTS's. Any structures in or adjacent to potentially shallow groundwater areas should follow the mitigation discussed below.

Mitigation: Foundations on this site must have a minimum 30-inch depth for frost protection. Buildings should typically be set a minimum of 3 feet above groundwater levels if possible. Subsurface perimeter drains are recommended for

any usable below-grade. If groundwater is encountered within 3 feet of foundation grade, additional drains that may include but are not limited to interceptor drains, underslab drains (capillary break) may be required. Overexcavation drains may be needed in areas of expansive soils. Typical drain details are presented in Figures 4 through 6. Any grading in these areas should be done to direct surface flows around structures to avoid areas of ponded water. Structures should not block drainages. All organic material should be completely removed prior to any fill placement.

Slope Stability and Landslide Susceptibility – Hazard

The majority of the slopes on the site are gradually to moderately sloping and do not exhibit any past or potential unstable slopes or landslides. Any future site grading should be no steeper than 3:1 unless specifically analyzed.

Areas of Erosion – Constraint

These are areas undergoing erosion by water, sheetwash-producing gullies, and rill erosion along portions of the moderate slopes in the eastern portion of the site around the existing pond.

Mitigation: Due to the nature of the soils on this site, virtually all the soils are subject to erosion by wind and water. Minor areas of erosion, other than those mapped, were observed on site, particularly where some rill erosion has occurred. Areas of erosion can occur across the entire site, particularly if the soils are disturbed during construction. Vegetation reduces the potential for erosion. Areas of erosion may require check dams, regrading, and revegetation using erosion control mats to anchor vegetation. Further recommendations for erosion control are discussed in the Erosion Control Section 8 of this report. Recommendations pertaining to revegetation may require input from a qualified landscape architect and/or the Natural Resource Conservation Service (previously Soil Conservation Service).

Debris Flow Susceptibility – Hazard

The site is not located within an area of debris flow susceptibility according to the *Debris Flow Susceptibility Map of El Paso County, Colorado* by McCoy et al. in 2018 (Reference 10).

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 11). The average radon level for the 80908 zip code is 3.40 pCi/l. The average radon levels are presented in Exhibit 7 below.

Exhibit 7: Average 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 be rural residential with four lots proposed. The lots will be two and half (2.5) to twenty-nine (29) acres in size. The residence and barns located on the proposed western 29 acre lot will remain. Records for the existing OWTS located on the property are included in Appendix E. It is our opinion that the existing geologic and engineering geologic conditions will impose some minor constraints on the proposed development. The most significant constraints will be those associated with the artificial fill, potentially collapsible soils, potentially expansive soils, potential seasonally shallow and shallow groundwater areas, areas of erosion, and the potential for elevated radon levels. The constraints/hazards on the site may be satisfactorily mitigated through proper engineering design and construction practices.

The granular soils were generally encountered at medium dense to very dense states. The granular soils encountered in the upper soil profiles of the test boring should provide good support for foundations. Foundations anticipated for the site are standard spread footings on the medium dense granular soils or sandstone bedrock.

The majority of the soils encountered on site do not exhibit collapsible characteristics, however, areas of very silty potentially collapsible soils are common in the area. Should loose or collapsible soils be encountered beneath foundations, recompaction of the loose soils to a minimum of 95% of the Modified Procter (ASTM D1557) maximum dry density may be necessary. Depths of recompaction should be determined for each lot after additional investigation of the building site.

Exterior flatwork and driveway areas may also experience movement. Proofrolling and recompaction of soft areas should be performed during site work.

Expansive layers may also be encountered in the soil and bedrock on this site. Areas of expansive soils on site are expected to be sporadic; therefore, none have been indicated on the maps. Expansive soils, if encountered, will require special foundation design and/or overexcavation. These soils will not prohibit development. Overexcavation and replacement with non-expansive soils is a suitable mitigation. Site-specific subsurface investigations will need to be conducted.

It is our understanding that the pond in the eastern portion of the site will be filled. Prior to fill placement in this area, the pond bottom should be mucked out of any organic or unsuitable soils. If unstable saturated conditions are encountered stabilization with shot rock or geo-fabrics may be necessary. Where fill depths exceed 10 feet, compaction to a minimum of 98% of the Modified Proctor (ASTM D1557) maximum dry density, or compacted to a minimum of 100% of the Standard Proctor (ASTM D698) maximum dry density. For the fill to be considered controlled for construction purposes, frequent density testing and fill placement observations will be required.

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 of the individual lots and building sites is required prior to construction.

7 ECONOMIC MINERAL RESOURCES

Some of the sandy materials on site could be considered a low-grade sand resource. According to the *El Paso County Aggregate Resource Evaluation Map* (Reference 12), the site is not mapped within any aggregate resources. According to the *Atlas of Sand, Gravel and Quarry Aggregate Resources, Colorado Front Range Counties* distributed by the Colorado Geological Survey (Reference 13), areas of the site are not mapped with any resources. According to the *Evaluation of Mineral and Mineral Fuel Potential* (Reference 14), the area of the site has been mapped as “little or no potential” for industrial minerals. It is possible that some of sand materials on site could be an aggregate resource. However, considering the silty nature of many of these materials, the abundance of similar materials throughout the region, and the 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 14), 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 near the site. No metallic mineral resources have been mapped on the site (Reference 14).

The site has been mapped as “Fair” for oil and gas resources (Reference 14). No oil or gas fields have been discovered near the site. The sedimentary rocks in the area may lack the geologic structure for trapping oil or gas; therefore, they may not be considered a significant resource. Hydraulic fracturing is a new method 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.

Regarding water erosion, loosely compacted soils will be the most susceptible to water erosion; residually weathered soils and weathered bedrock materials become increasingly less susceptible to water erosion. For the typical soils observed on site, allowable velocities or 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 synthetic channel lining materials available 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 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 PRIVATE DRIVEWAY AND ROADWAY CONSTRUCTION RECOMMENDATIONS

The site soils encountered in the test boring are suitable for the proposed embankments, driveways and roads. 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 or flatter unless specifically analyzed. The subgrade should be scarified and moisture conditioned to within 2% of optimum moisture content and compacted to a minimum of 95% of the Modified Proctor (ASTM D1557) maximum dry density 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 the Modified Proctor (ASTM D1557) maximum dry density. These materials should be placed at a moisture content conducive to compaction, usually 0 to +/-2% of the Proctor optimum moisture content. The placement and compaction of fill should be observed and tested by Entech during construction. Entech should approve any imported materials prior to placing or hauling them to the site. Additional investigation will be required for roadway improvements.

10 CLOSURE

It is our opinion that the existing geologic engineering and geologic conditions will impose some minor constraints on the proposed development and construction. The site 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. Construction and design personnel should be made familiar with the contents of this report. Additional investigation is recommended on each lot as plans are generated prior to construction.

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

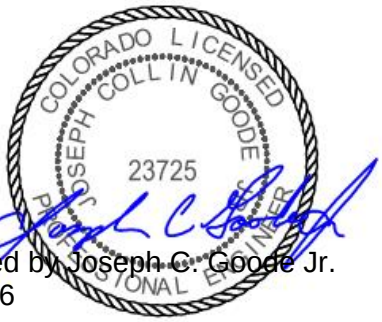
We trust that this report has provided you with all the information that you require. Should you require additional information, please do not hesitate to contact Entech Engineering, Inc.

Respectfully Submitted,

ENTECH ENGINEERING, INC.

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

Reviewed by:



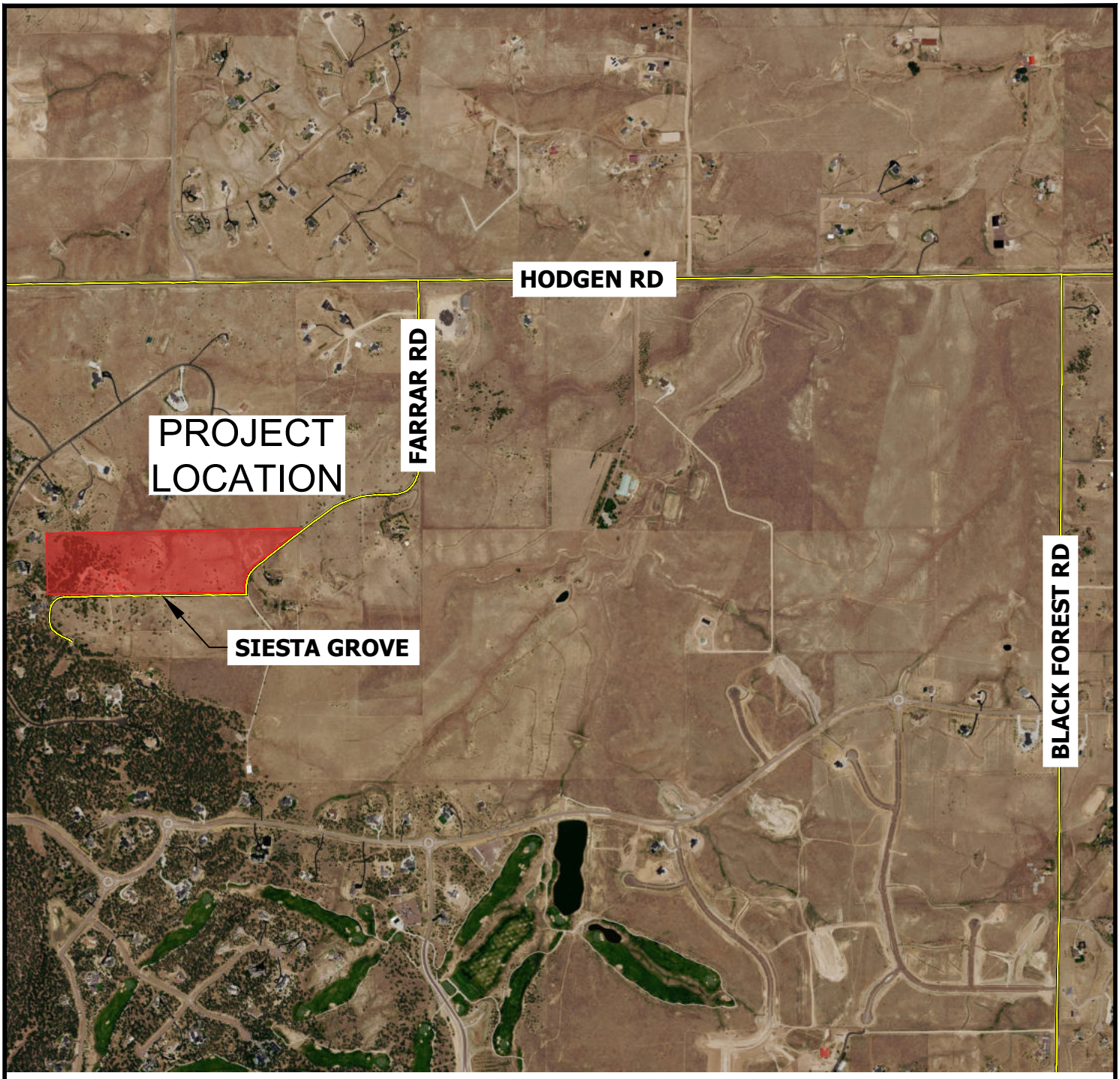
Digitally signed by Joseph C. Goode Jr.
Date: 09/18/26

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

LLL/JCG

11 REFERENCES

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VICINITY MAP

SIESTA GROVE
QUENTIN DASSONVILE

JOB NO. 261465

FIG. 1



TB- APPROXIMATE TEST BORING LOCATION AND NUMBER

TP- APPROXIMATE TEST PIT LOCATION AND NUMBER

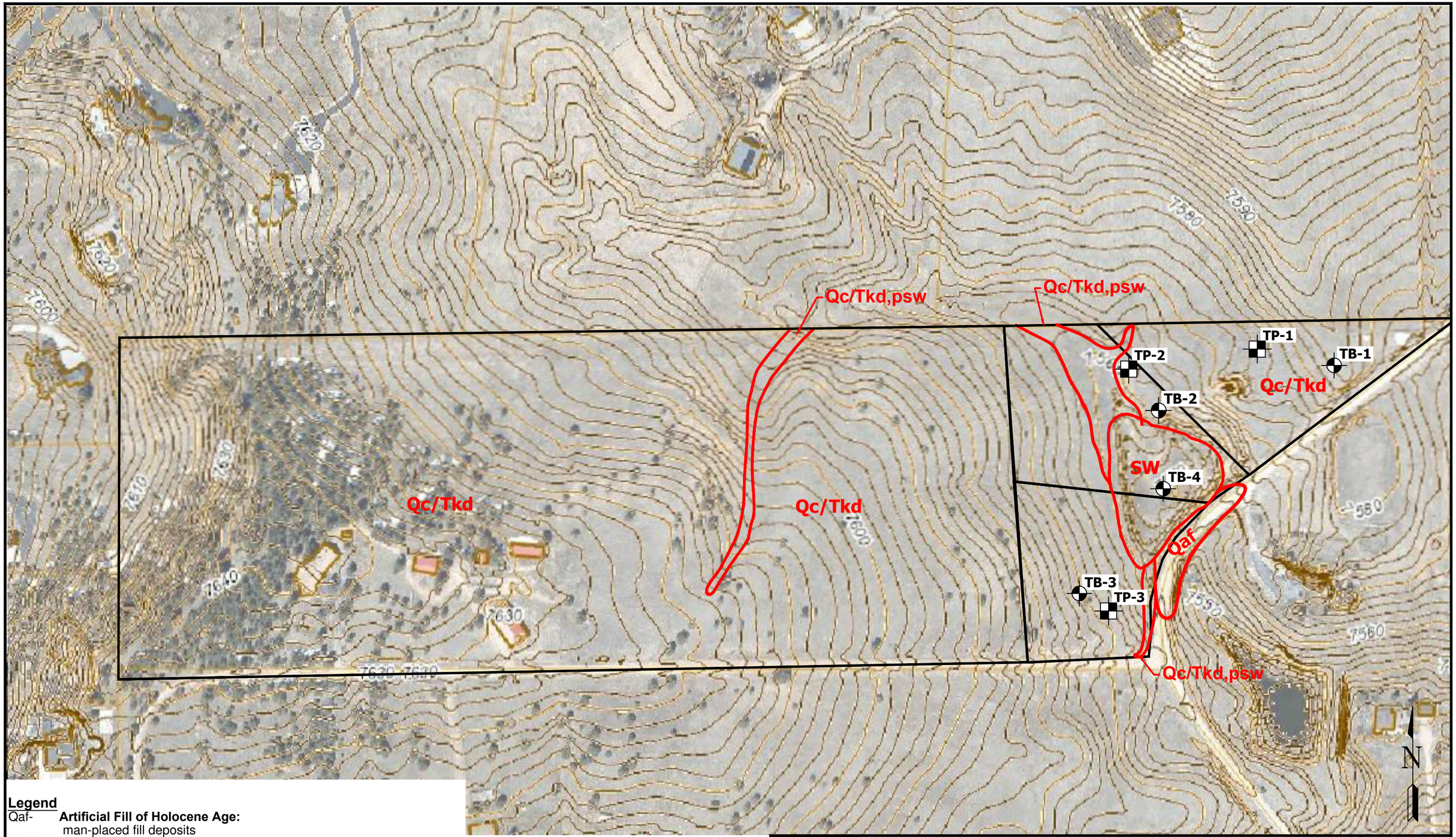
ENTECH ENGINEERING, INC.

SITE AND EXPLORATION PLAN

SIESTA GROVE SUBDIVISION
QUENTIN DASSONVILE

JOB NO. 261465

FIG. 2



Legend

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

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

sw - Seasonally shallow groundwater

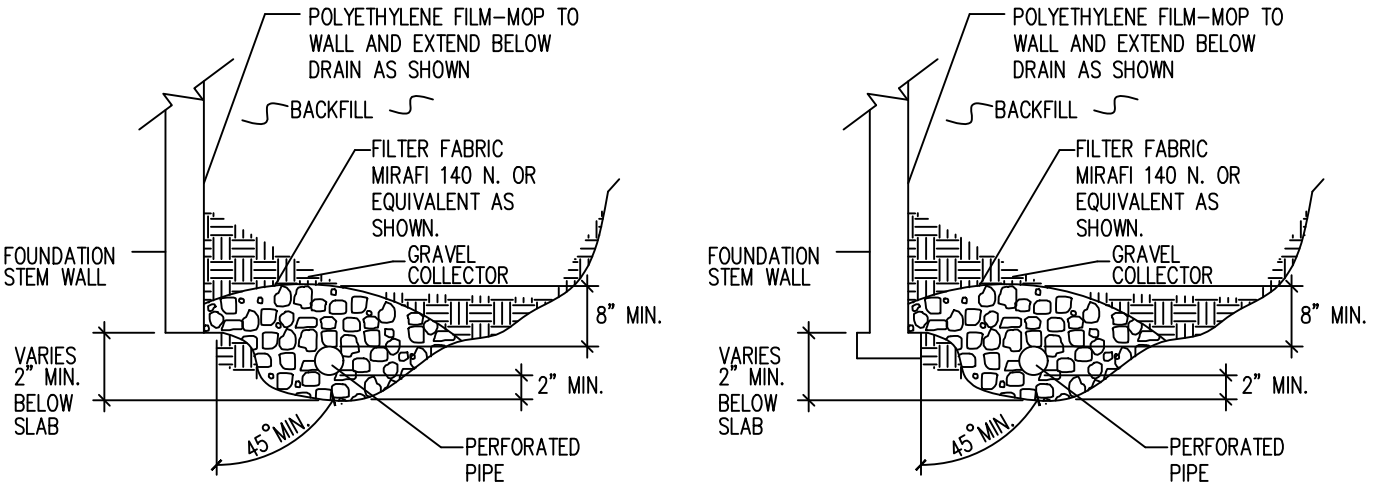
psw - Potentially Seasonally shallow groundwater

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GEOLOGY / ENGINEERING GEOLOGY MAP
SIESTA GROVE SUBDIVISION
QUENTIN DASSONVILE

JOB NO. 261465

FIG. 3



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.

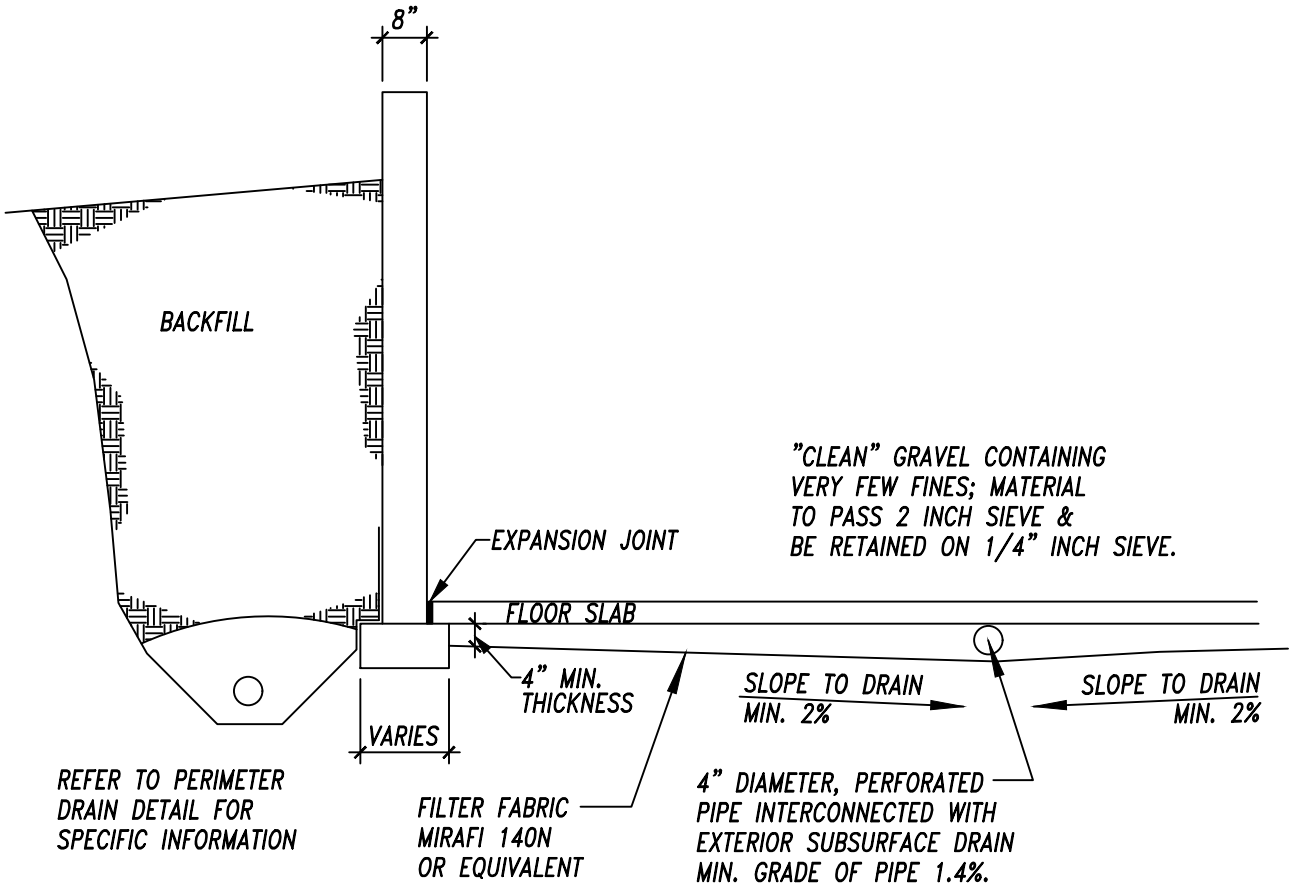
ENTECH ENGINEERING, INC.

PERIMETER DRAIN DETAIL

SIESTA GROVE SUBDIVISION
QUENTIN DASSONVILLE

JOB NO. 261465

FIG. 4



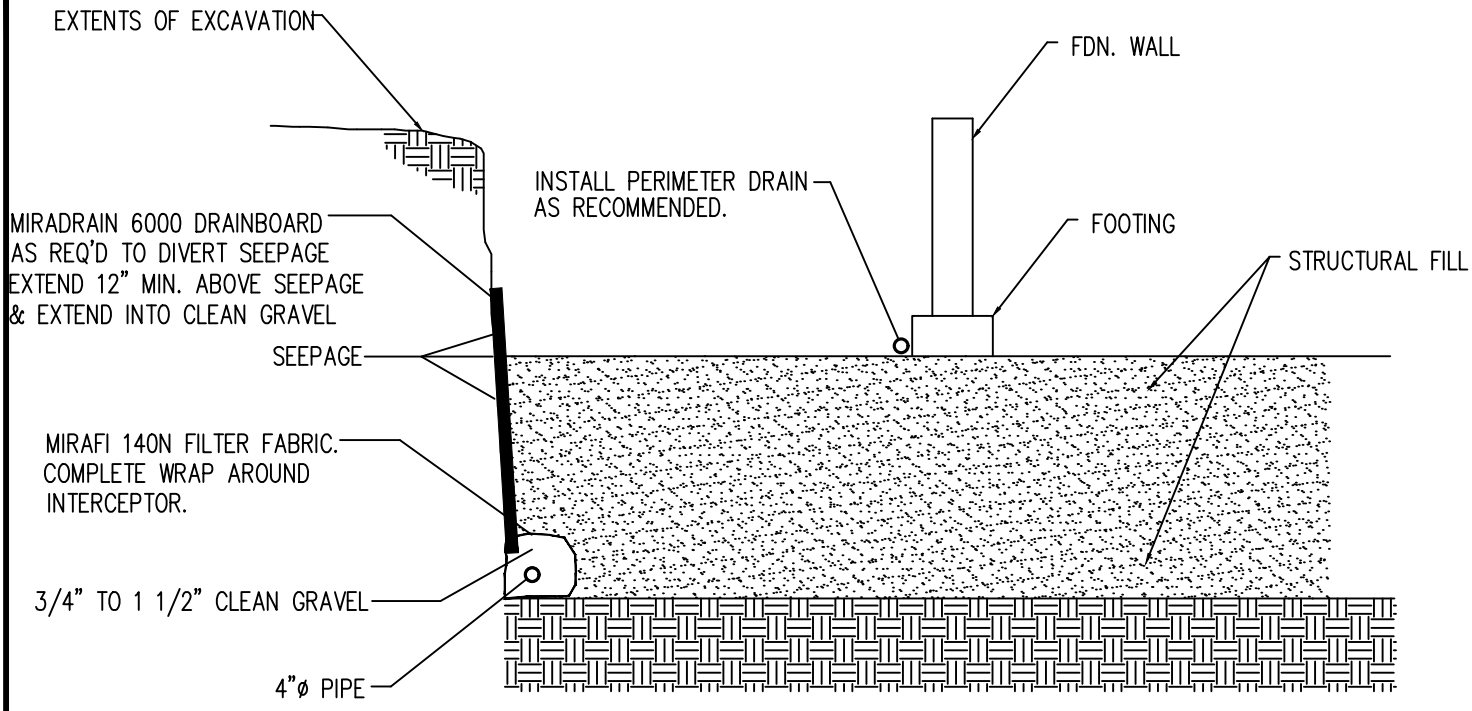
ENTECH ENGINEERING, INC.

TYP. UNDERSLAB DRAINAGE LAYER (CAPILLARY BREAK)

SIESTA GROVE SUBDIVISION
QUENTIN DASSONVILLE

JOB NO.
261465

FIG. 5



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

INTERCEPTOR DRAIN DETAIL

N.T.S.

ENTECH ENGINEERING, INC.

INTERCEPTOR DRAIN DETAIL

SIESTA GROVE SUBDIVISION
QUENTIN DASSONVILLE

JOB NO.
261465

FIG. 6

APPENDIX A: Site Photographs



1

Looking west from the northeastern portion of the site.

August 5, 2026



2

Looking southwest from the northeastern portion of the site.

August 5, 2026

Job No. 261465



3

Looking northeast from the southeastern portion of the site.

August 5, 2026



4

Looking north from the southeastern portion of the site.

August 5, 2026

Job No. 261465



5

Looking west from the central portion of the site.

August 5, 2026



6

Looking east from the central portion of the site.

August 5, 2026

Job No. 261465

APPENDIX B: Test Boring and Test Pit Logs

TEST BORING 1
DATE DRILLED 8/13/2026

REMARKS

DRY TO 20', 8/14/26

Depth (ft)	Symbol	Samples	Blows per foot	Watercontent %	Soil Type
			30	7.2	1
5			34	5.2	1
			47	9.1	1
10					
			50/9"	12.6	3
15					
			42	12.7	3
20					

6" TOPSOIL

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

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

TEST BORING 2
DATE DRILLED 8/13/2026

REMARKS

DRY TO 20', 8/14/26

Depth (ft)	Symbol	Samples	Blows per foot	Watercontent %	Soil Type
			33	3.2	1
5			37	7.9	1
			35	14.9	1
10					
			45	6.6	1
15					
			41	14.2	1
20					

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

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TEST BORING LOGS

SIESTA GROVE
QUENTIN DASSONVILE

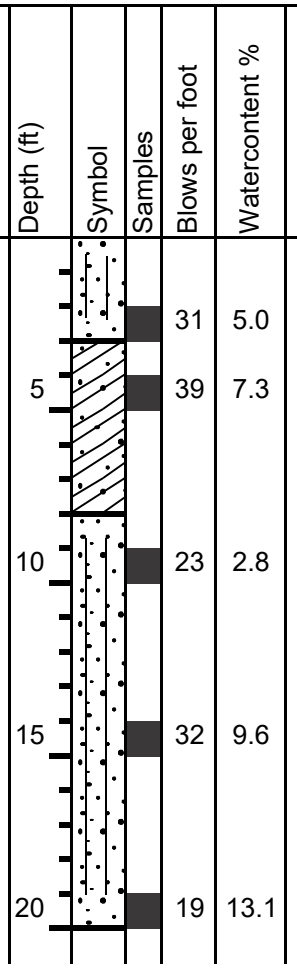
JOB NO. 261465

FIG. B-1

TEST BORING 3
DATE DRILLED 8/13/2026

REMARKS

DRY TO 20', 8/14/26

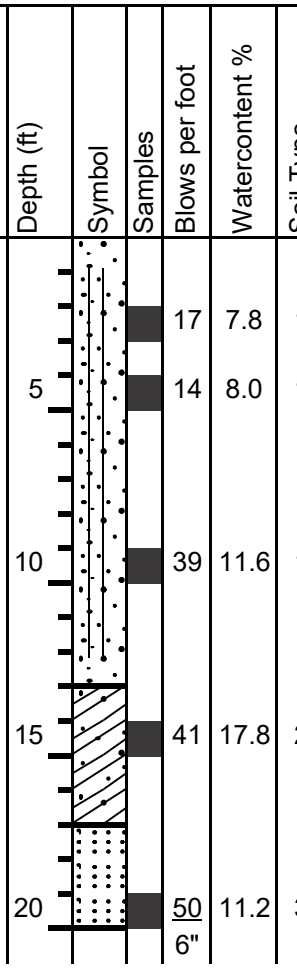


Depth (ft)	Description	Blows per foot	Watercontent %	Soil Type
	6" TOPSOIL			
	SAND, SILTY, LIGHT BROWN, DENSE, MOIST	31	5.0	1
	CLAY, WITH SAND, LIGHT BROWN, HARD, MOIST	39	7.3	2
	SAND, SILTY, TAN, MEDIUM DENSE to DENSE, DRY to MOIST	23	2.8	1
		32	9.6	1
		19	13.1	1

TEST BORING 4
DATE DRILLED 8/13/2026

REMARKS

PIEZOMETER NO. 1
DRY TO 20', 8/14/26



Depth (ft)	Description	Blows per foot	Watercontent %	Soil Type
	SAND, SILTY, TAN, MEDIUM DENSE to DENSE, MOIST	17	7.8	1
		14	8.0	1
		39	11.6	1
	CLAY, WITH SAND, LIGHT BROWN, HARD, MOIST	41	17.8	2
	SANDSTONE, EXTREMELY WEAK, TAN, COMPLETELY WEATHERED (SAND, SILTY, VERY DENSE, MOIST)	50/6"	11.2	3

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TEST BORING LOGS

SIESTA GROVE
QUENTIN DASSONVILE

JOB NO. 261465

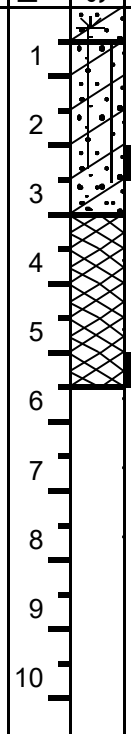
FIG. B-2

TEST PIT 1
DATE DRILLED 8/13/2026

REMARKS

redoximorphic features at 4.5'

Depth (ft)	Symbol	Samples	Structure Shape	Structure Grade	Soil Type
topsoil, sandy loam, dark brown, moist					
sandy clay loam, fine to coasre grained, light brown, moist			gr	w	3A
claystone (sandy clay, fine to coarse grained, light brown, moist)			ma		4A

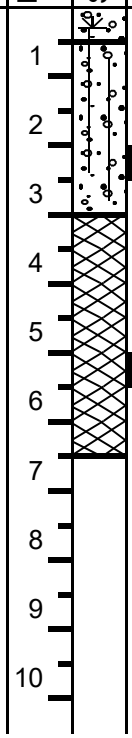


TEST PIT 2
DATE DRILLED 8/13/2026

REMARKS

redoximorphic features at 6'

Depth (ft)	Symbol	Samples	Blows per foot	Watercontent %	Soil Type
topsoil, sandy loam, brown, moist					
very gravelly sandy loam, fine to coasre grained, light brown, moist			gr	w	2A R1
claystone (sandy clay, fine to coarse grained, light brown, moist)			ma		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

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TEST PIT LOGS

SIESTA GROVE
QUENTIN DASSONVILE

JOB NO. 261465

FIG. B-3

TEST PIT 3
DATE DRILLED 8/13/2026

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

REMARKS	Depth (ft)	Symbol	Samples	Structure Shape	Structure Grade	Soil Type
	1					
	2					
	3					
	4					
	5					
	6					
	7					
	8					
	9					
	10					

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

Soil Structure Grade
weak - w
moderate - m
strong - s
loose - l

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TEST PIT LOGS

SIESTA GROVE
QUENTIN DASSONVILE

JOB NO. 261465

FIG. B-4

APPENDIX C: Laboratory Test Results

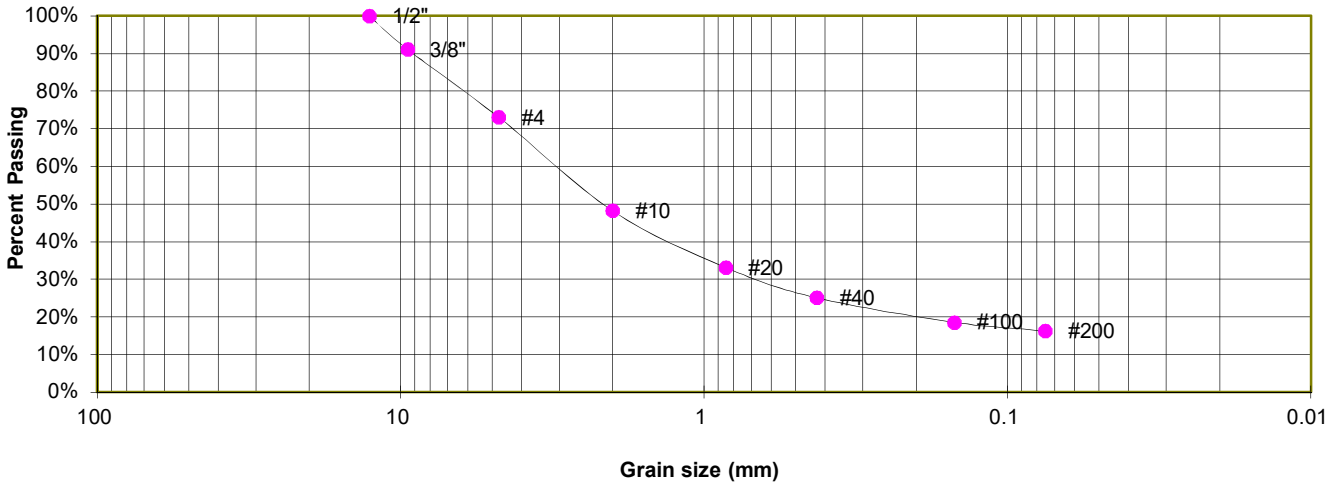
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TABLE C-1
SUMMARY OF LABORATORY TEST RESULTS

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	2	5			16.3	NV	NP	NP	<0.01		SM	SAND, SILTY
1	4	10			22.8						SM	SAND, SILTY
2	3	5	8.5	92.9	72.8	23	14	9	<0.01	-0.7	CL	CLAY, WITH SAND
3	1	20			20.6	47	36	11	<0.01		SM	SANDSTONE (SAND, SILTY)

Project: Siesta Grove Subdivision
Client: Quetin Dassonville
Job No: 261465

TEST BORING	2	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"	91.1%
4	73.1%
10	48.2%
20	33.2%
40	25.1%
100	18.6%
200	16.3%

ATTERBERG LIMITS

Plastic Limit	NP
Liquid Limit	NV
Plastic Index	NP

SOIL CLASSIFICATION

USCS CLASSIFICATION: SM

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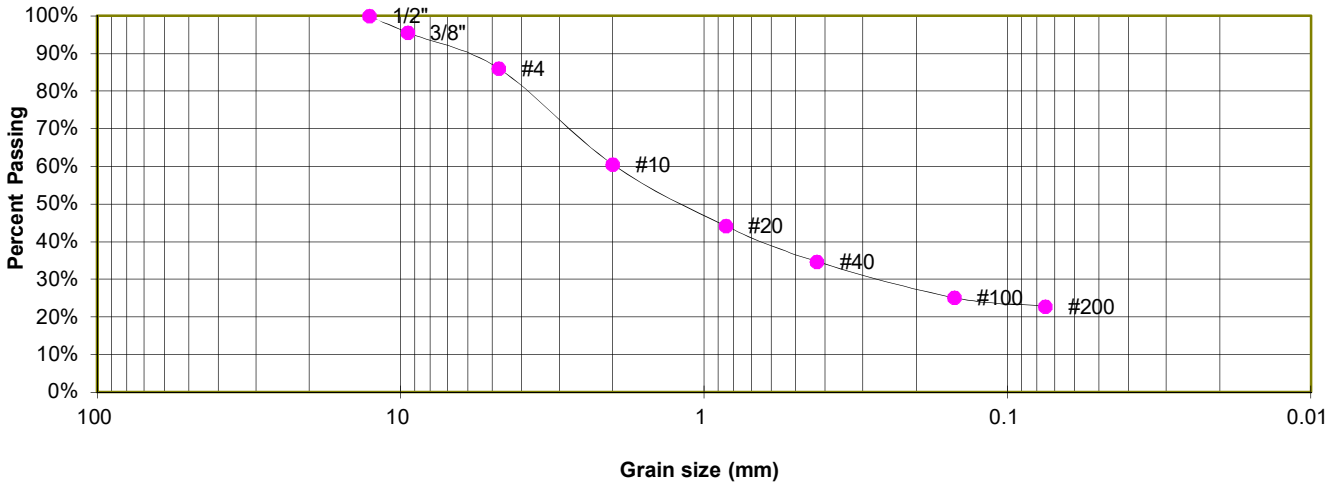
LABORATORY TEST RESULTS

SIESTA GROVE
QUENTIN DASSONVILE

JOB NO. 261465

FIG. C-1

TEST BORING	4	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"	100.0%
3/8"	95.6%
4	86.0%
10	60.5%
20	44.2%
40	34.7%
100	25.1%
200	22.8%

SOIL CLASSIFICATION

USCS CLASSIFICATION: SM

ENTECH ENGINEERING, INC.

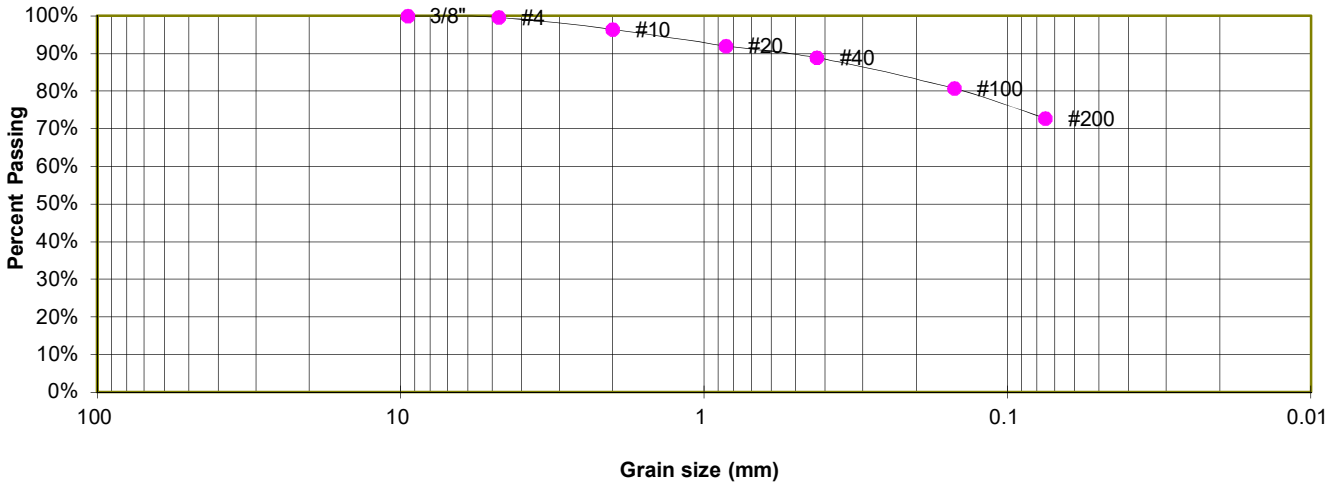
LABORATORY TEST RESULTS

SIESTA GROVE
QUENTIN DASSONVILE

JOB NO. 261465

FIG. C-2

TEST BORING	3	SOIL DESCRIPTION	CLAY, WITH SAND
DEPTH (FT)	5	SOIL TYPE	2



GRAIN SIZE ANALYSIS

U.S. Sieve #	Percent Finer
3"	
1 1/2"	
3/4"	
1/2"	
3/8"	100.0%
4	99.6%
10	96.4%
20	92.1%
40	88.9%
100	80.7%
200	72.8%

ATTERBERG LIMITS

Plastic Limit	14
Liquid Limit	23
Plastic Index	9

SOIL CLASSIFICATION

USCS CLASSIFICATION: CL

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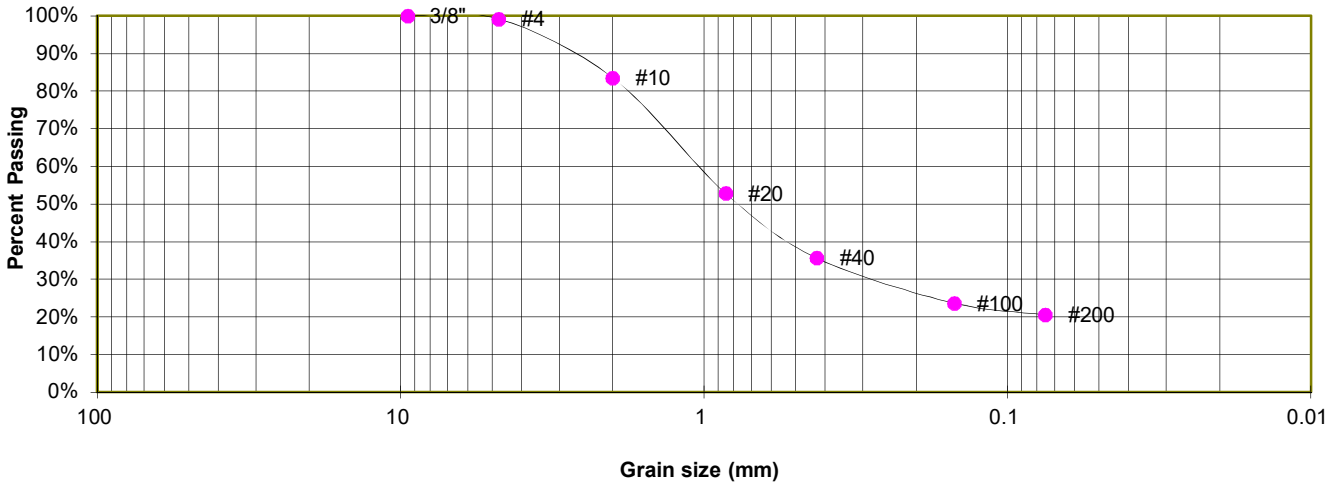
LABORATORY TEST RESULTS

SIESTA GROVE
QUENTIN DASSONVILLE

JOB NO. 261465

FIG. C-1

TEST BORING	1	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"	
3/8"	100.0%
4	99.2%
10	83.6%
20	52.9%
40	35.6%
100	23.7%
200	20.6%

ATTERBERG LIMITS

Plastic Limit	36
Liquid Limit	47
Plastic Index	11

SOIL CLASSIFICATION

USCS CLASSIFICATION: SM

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LABORATORY TEST RESULTS

SIESTA GROVE
QUENTIN DASSONVILLE

JOB NO. 261465

FIG. C-4

TEST BORING	3	SOIL DESCRIPTION	CLAY, WITH SAND
DEPTH (FT)	5	SOIL TYPE	2



SWELL/COLLAPSE TEST RESULTS

NATURAL UNIT DRY WEIGHT (PCF):	93
NATURAL MOISTURE CONTENT:	8.5%
SWELL/COLLAPSE (%):	-0.7%

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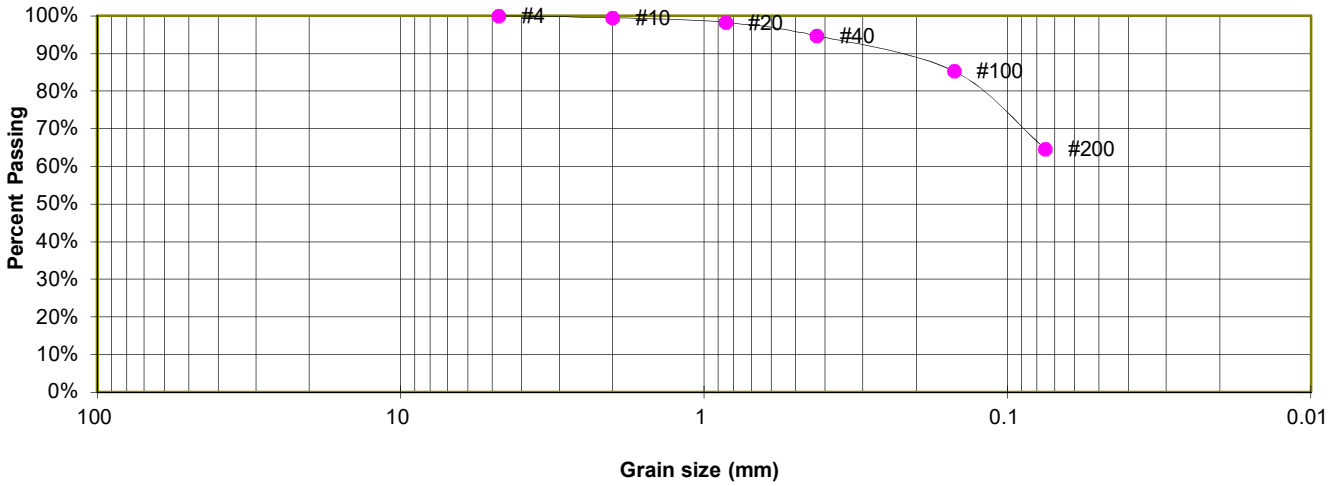
SWELL TEST RESULTS

SIESTA GROVE
QUENTIN DASSONVILE

JOB NO. 261465

FIG. C-5

TEST BORING	TP-1	SOIL DESCRIPTION	CLAY, 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	99.5%
20	98.3%
40	94.7%
100	85.3%
200	64.7%

SOIL CLASSIFICATION

USCS CLASSIFICATION: CL

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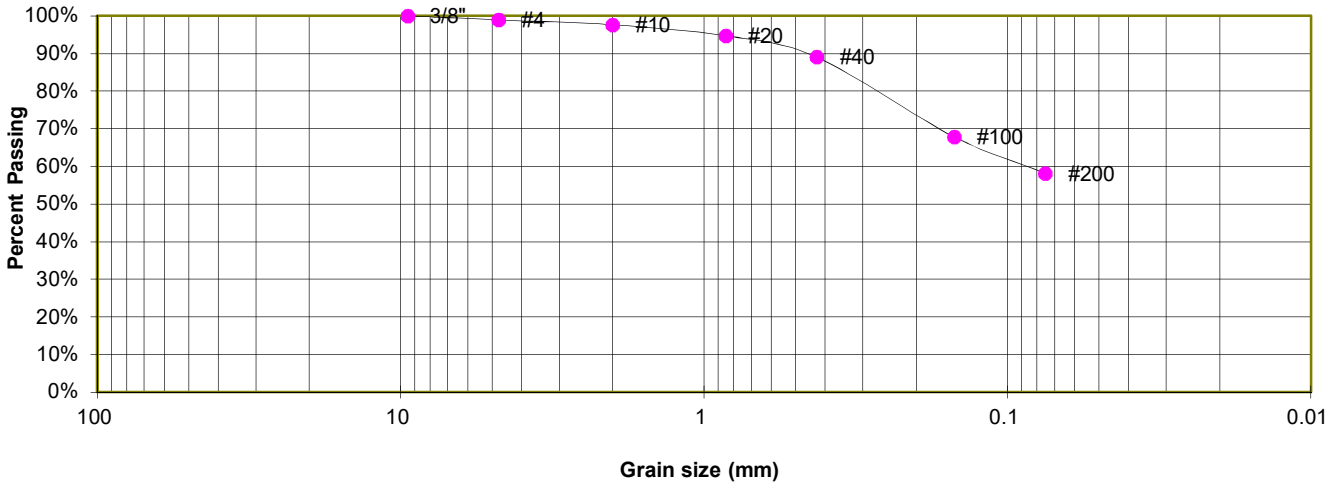
LABORATORY TEST RESULTS

SIESTA GROVE SUBDIVISION
QUENTIN DASSONVILLE

JOB NO. 261465

FIG. C-5

TEST BORING	TP-1	SOIL DESCRIPTION	CLAY, SANDY
DEPTH (FT)	5-6	SOIL TYPE	2



GRAIN SIZE ANALYSIS

U.S. Sieve #	Percent Finer
3"	
1 1/2"	
3/4"	
1/2"	
3/8"	100.0%
4	98.9%
10	97.6%
20	94.7%
40	89.0%
100	67.9%
200	58.2%

SOIL CLASSIFICATION

USCS CLASSIFICATION: CL

ENTECH ENGINEERING, INC.

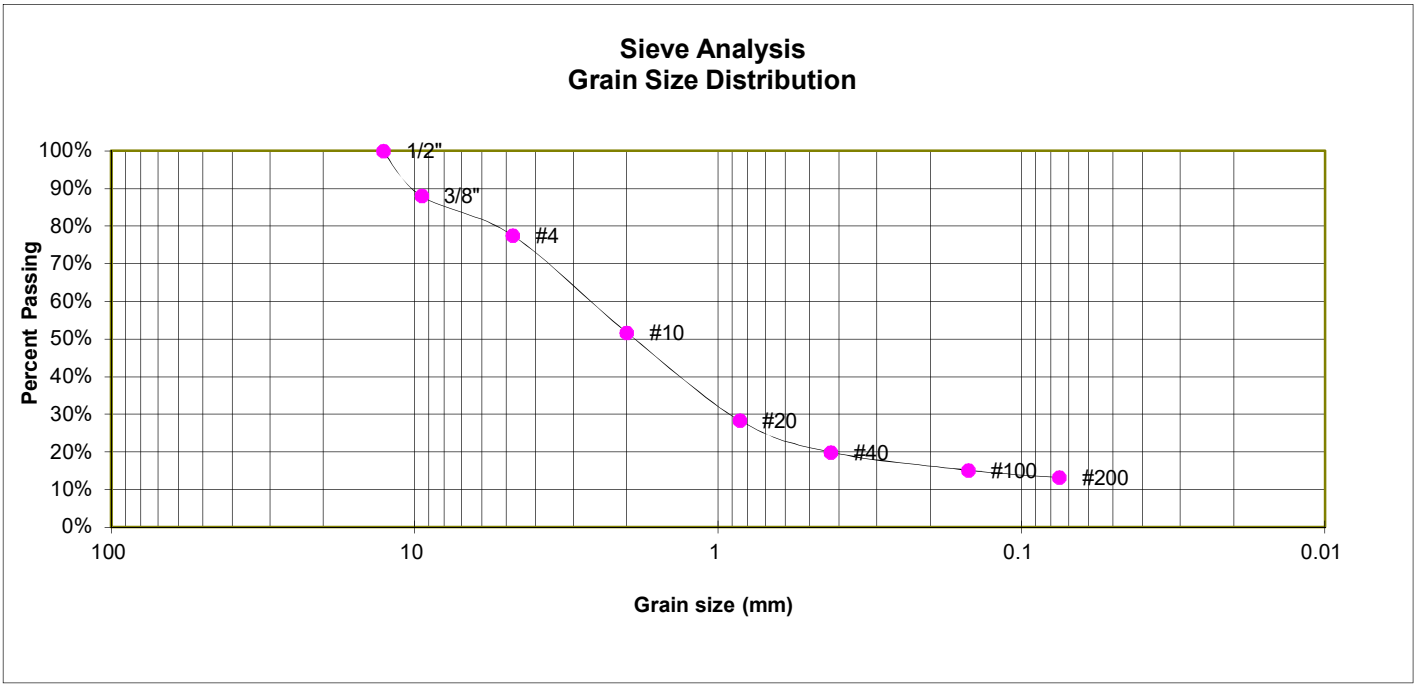
LABORATORY TEST RESULTS

SIESTA GROVE SUBDIVISION
QUENTIN DASSONVILLE

JOB NO. 261465

FIG. C-6

TEST BORING	TP-2	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"	88.0%
4	77.5%
10	51.7%
20	28.4%
40	19.9%
100	15.2%
200	13.2%

SOIL CLASSIFICATION

USCS CLASSIFICATION: SM

ENTECH ENGINEERING, INC.

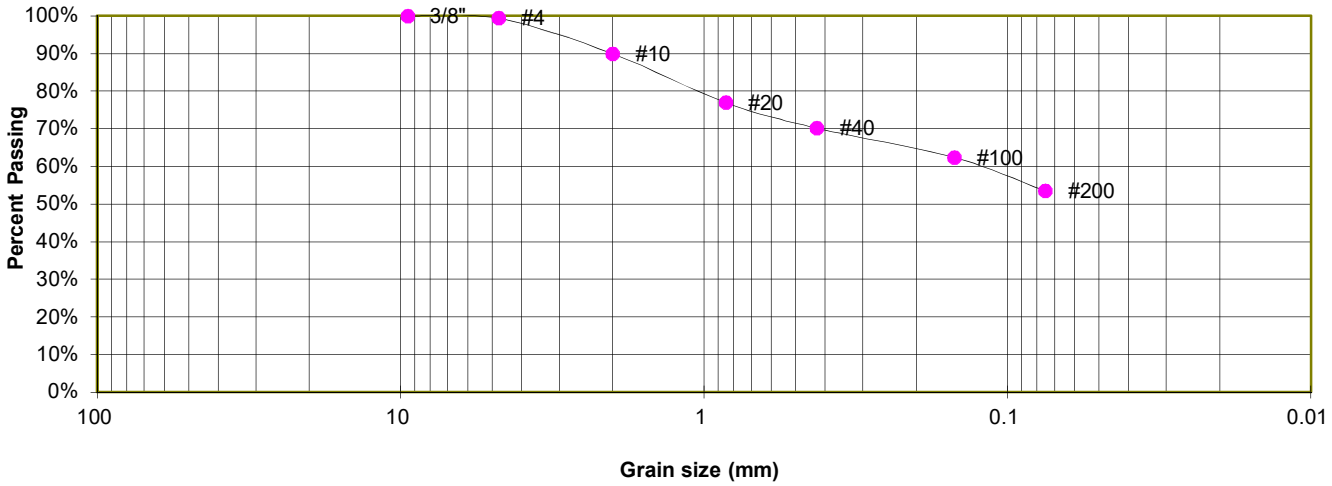
LABORATORY TEST RESULTS

SIESTA GROVE SUBDIVISION
QUENTIN DASSONVILLE

JOB NO. 261465

FIG. C-7

TEST BORING	TP-2	SOIL DESCRIPTION	CLAY, SANDY
DEPTH (FT)	4-5	SOIL TYPE	2



GRAIN SIZE ANALYSIS

U.S. Sieve #	Percent Finer
3"	
1 1/2"	
3/4"	
1/2"	
3/8"	100.0%
4	99.4%
10	90.0%
20	76.9%
40	70.2%
100	62.4%
200	53.5%

SOIL CLASSIFICATION

USCS CLASSIFICATION: CL

ENTECH ENGINEERING, INC.

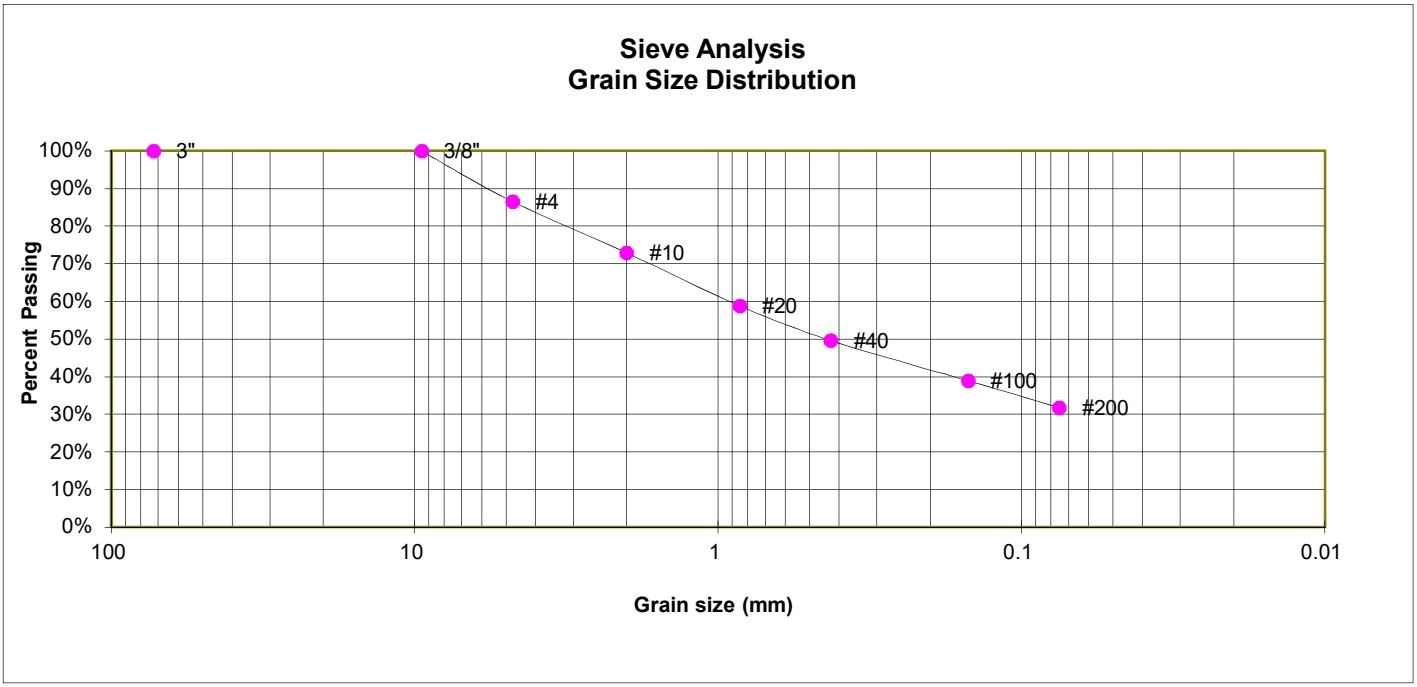
LABORATORY TEST RESULTS

SIESTA GROVE SUBDIVISION
QUENTIN DASSONVILLE

JOB NO. 261465

FIG. C-8

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



GRAIN SIZE ANALYSIS

U.S. Sieve #	Percent Finer
3"	100.0%
1 1/2"	
3/4"	
1/2"	
3/8"	100.0%
4	86.5%
10	72.9%
20	58.8%
40	49.6%
100	38.9%
200	31.8%

SOIL CLASSIFICATION

USCS CLASSIFICATION: SM

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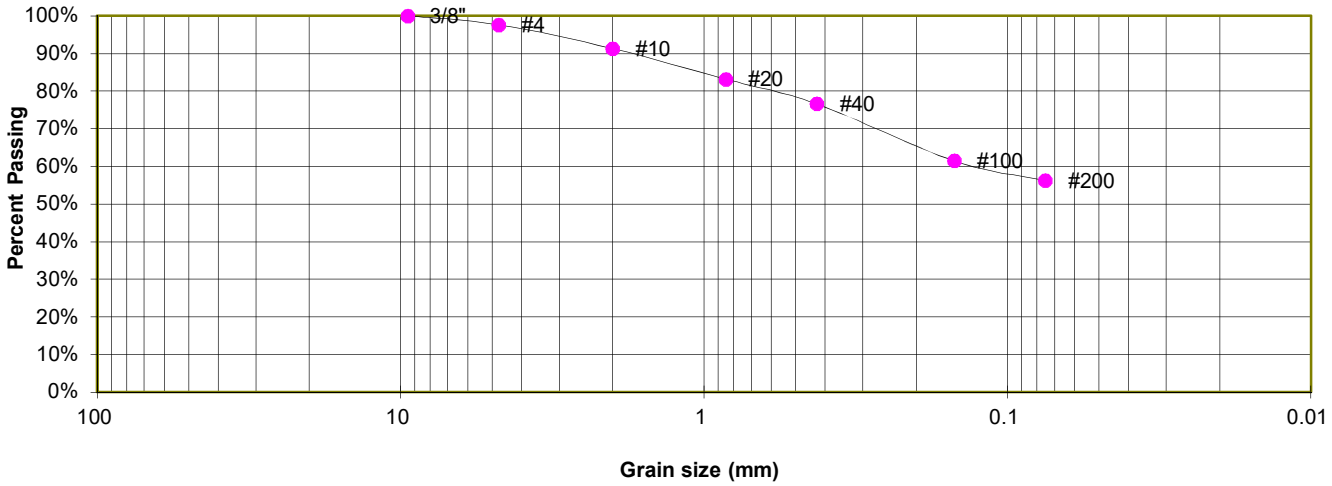
LABORATORY TEST RESULTS

SIESTA GROVE SUBDIVISION
QUENTIN DASSONVILLE

JOB NO. 261465

FIG. C-9

TEST BORING	TP-3	SOIL DESCRIPTION	CLAY, SANDY
DEPTH (FT)	5-6	SOIL TYPE	2



GRAIN SIZE ANALYSIS

U.S. Sieve #	Percent Finer
3"	
1 1/2"	
3/4"	
1/2"	
3/8"	100.0%
4	97.6%
10	91.3%
20	83.2%
40	76.6%
100	61.5%
200	56.2%

SOIL CLASSIFICATION

USCS CLASSIFICATION: CL

ENTECH ENGINEERING, INC.

LABORATORY TEST RESULTS

SIESTA GROVE SUBDIVISION
QUENTIN DASSONVILLE

JOB NO. 261465

FIG. C-10

APPENDIX D: USDA Soil Survey Descriptions

El Paso County Area, Colorado

26—Elbeth sandy loam, 8 to 15 percent slopes

Map Unit Setting

National map unit symbol: 367y
Landscape: Uplands
Elevation: 7,300 to 7,600 feet
Farmland classification: Not prime farmland

Map Unit Composition

Elbeth and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Elbeth

Setting

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

Typical profile

A - 0 to 3 inches: sandy loam
E - 3 to 23 inches: loamy sand
Bt - 23 to 68 inches: sandy clay loam
C - 68 to 74 inches: sandy clay loam

Properties and qualities

Slope: 8 to 15 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 7.1 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 4e
Hydrologic Soil Group: B
Ecological site: F048AY908CO - Mixed Conifer
Hydric soil rating: No

Minor Components

Other soils

Percent of map unit: 10 percent
Hydric soil rating: No

Pleasant

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

Data Source Information

Soil Survey Area: El Paso County Area, Colorado
Survey Area Data: Version 23, Aug 29, 2025

El Paso County Area, Colorado

67—Peyton sandy loam, 5 to 9 percent slopes

Map Unit Setting

National map unit symbol: 369d
Landscape: Uplands
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: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Peyton

Setting

Landscape: Uplands
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

Other soils
Percent of map unit: 10 percent
Hydric soil rating: No

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

Data Source Information

Soil Survey Area: El Paso County Area, Colorado
Survey Area Data: Version 23, Aug 29, 2025

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

Description of Tomah

Setting

Landform: Alluvial fans, Hills
Landform position (three-dimensional): Crest, side slope
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): Crest, side slope
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

Other soils

Percent of map unit: 15 percent
Hydric soil rating: No

Pleasant

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

Data Source Information

Soil Survey Area: El Paso County Area, Colorado
Survey Area Data: Version 23, Aug 29, 2025

APPENDIX E: Existing El Paso County Health Department Septic Records

EL PASO COUNTY HEALTH DEPARTMENT
INDIVIDUAL SEWAGE DISPOSAL INSPECTION FORM

Permit # 6073 DB

#6100000292

Date 9/11/91 FINAL

APPROVED YES ✓ NO ____ ENVIRONMENTALIST Krueger

Address 15850 SIESTA GROVE Owner EWELL

Legal Description LOT 4 EAGLE CREST ESTATES

Residence ✓ Commerical ____ # of Bedrooms 4 System Installer D+B TRENCHING

SEPTIC TANK

Commercial ____ Noncommercial ____ Measurements: L ____ W ____ D ____

Construction Material CONCRETE Liq. Cap. 1500

DISPOSAL FIELD INFILTRATOR TRENCHES

Exc. Depth 18"-24" Width ____ Total Length ____ Sq. Ft. 262

Rock N/A Depth ____ Under ____ Over ____

Rockless System: Diameter of Pipe INFILTRATOR

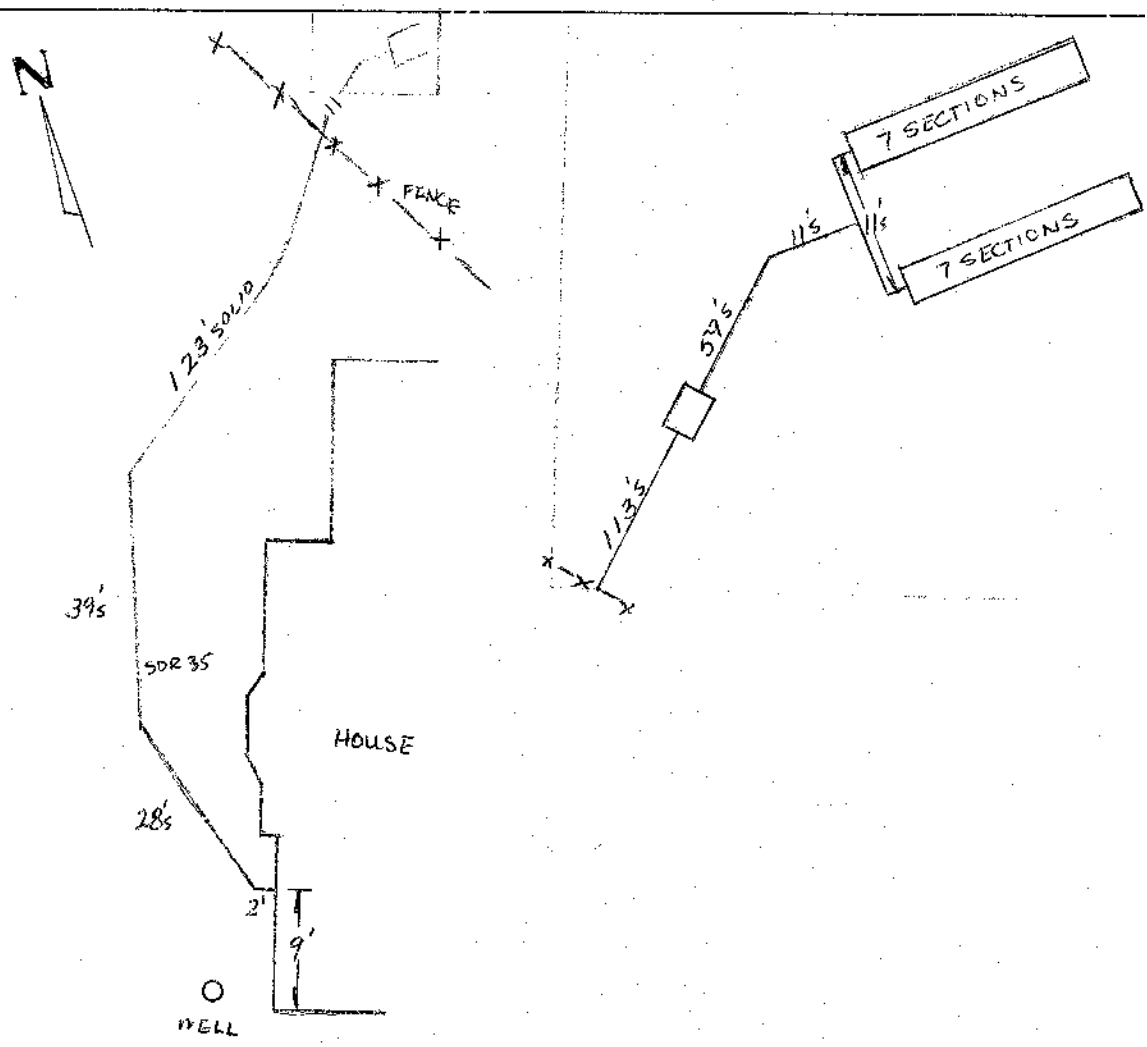
Seepage Pits: Number of rings ____ Lining Material ____ Sq. Ft. ____

Working Depth ____ Width ____

Engineer Design Yes ____ Type ____ Engineer Approval Letter Yes ____

Well 50 feet from Tank yes 100 feet from leach field yes

Well Installed at Time of Septic System Inspection Yes ✓ No ____ Public Water ____



Acres 3+ **EL PASO COUNTY • COUNTY HEALTH DEPARTMENT** Permit 6073

501 North Foote Avenue • Colorado Springs, Colorado • 578-3125

Water Supply well Receipt No. 5-464

PERMIT

TO CONSTRUCT, ALTER, REPAIR or MODIFY ANY INDIVIDUAL SEWAGE DISPOSAL SYSTEM

Issued To JON EWELL Date 6/21/91

Address of Property 15850 SIESTA GROVE Phone 637-1807

(Permit valid at this address only)

Sewage-Disposal System work to be performed by D & B Trenching Phone 683-2400

This Permit is issued in accordance with 25-10-106 Colorado Revised Statutes 1973, as amended. PERMIT EXPIRES upon completion-installation of sewage-disposal system or at the end of twelve (12) months from date of Issue—whichever occurs first—(unless work is in progress). This permit is revokable if all stated requirements are not met.

—THIS PERMIT DOES NOT DENOTE APPROVAL OF ZONING AND ACREAGE REQUIREMENTS—

$150.00
PERMIT FEE (NOT REFUNDABLE)

John Bruck M.D.
DIRECTOR, COUNTY HEALTH DEPARTMENT

6/21/92
DATE OF EXPIRATION

A. Mikkelsen for N. Kemper
ENVIRONMENTALIST

NOTE: LEAVE ENTIRE SEWAGE-DISPOSAL SYSTEM UNCOVERED FOR FINAL INSPECTION. 48 HOUR ADVANCE NOTICE REQUIRED.

SEPTIC TANK:	TRENCH SYSTEM:	BED SYSTEM:	SEEPAGE PIT SYSTEM:
	total square feet 805 476 GK		total square feet
1500 gallons	~~282~~ 157 ft. of trench ~~36~~ 36 inches wide	total square feet	rings or diam.x w/d

NOTES: Keep Field in perc. location. Meet all distance requirements.

NEW PERC. 476' LEACH TO BE NO DEEPER THAN 24" DUE TO SANDSTONE @ 6'

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