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SOILS AND GEOLOGY STUDY
STERLING RANCH EAST – FILING NO. 4
EL PASO COUNTY, COLORADO

Prepared for:
Classic SRJ
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Attn: Loren Moreland

May 22, 2026

Respectfully Submitted,

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1 SUMMARY

Project Location

The project lies in portions of the SE¼ of Section 28, The SW¼ of Section 27, the NE¼ of Section 33, and the NW¼ of Section 34, Township 12 South, Range 65 West of the 6th Principal Meridian in El Paso County, Colorado. The site is located approximately one-mile northeast of Colorado Springs, Colorado.

Project Description

Sterling Ranch East Filing No. 4 consists of 65.3 acres, with two hundred and thirty-eight (238) single-family residential lots proposed. The proposed development will be serviced by Sterling Ranch Metropolitan District.

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 minor constraints on development and land use. These include loose and collapsable soils, potentially expansive soils, floodplain areas, shallow bedrock, 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.

Based on the results of our investigation 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 SE¼, of Section 28, The SW¼ of Section 27, the NE¼ of Section 33, and the NW ¼ of Section 34, Township 12 South, Range 65 West of the 6th Principal Meridian in El Paso County, Colorado. The site is located approximately one-mile northeast of Colorado Springs, Colorado, at the northeast corner of future Briargate Parkway and Sterling Ranch Road. The location of the site is as shown on the Vicinity Map, Figure 1.

The topography of the site is gradually sloping to the southwest, with moderate to steep slopes towards Sand Creek, which lies on the western edge of the site. There are two existing ponds associated with Sand Creek on the western edge of the site. The site boundaries are indicated on the USGS Map, Figure 2. Previous land uses have included grazing and pasture land. The vegetation on the site primarily consists of field grasses, yucca, cacti, and weeds, with some trees along the western portion of the site. Site photographs, taken February 11, 2026, are included in Appendix A.

Sterling Ranch East Filing No. 4 consists of 65.3 acres, with two hundred and thirty-eight (238) single-family residential lots proposed. Proposed grading is shown on Figures 3 and 6. The Site and Exploration Plan is presented in Figure 3.

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 Geology/Engineering Geology Map which identified pertinent geologic conditions affecting development. The field mapping was completed by personnel of Entech Engineering, Inc. on February 11, 2026.

Ten test borings were drilled as part of this investigation on February 10 and February 11, 2026 to determine general soil and bedrock characteristics. The locations of the test borings are indicated on the Site and Exploration Plan, Figure 3. The Test Boring Logs are presented in Appendix B, and Summarized on Table B-1. Results of this testing will be discussed later in this report.

Laboratory testing was performed to classify and determine the engineering characteristics of the soils. Laboratory tests included moisture content testing (ASTM D2216), grain-size analysis (ASTM D422), and Atterberg Limits testing (ASTM D4318). Swell testing included one-dimensional swell/consolidation testing. Sulfate testing was performed on select samples to evaluate potential for below grade concrete degradation due to sulfate attack. Results of the laboratory testing are included in Appendix C. A Summary of Laboratory Test Results is presented in Table C-1.

Geologic Hazard Studies were previously performed by Entech for the entire Sterling Ranch development, Oct. 31, 2006 (Reference 1), and nearby or adjacent for Sterling Ranch and Sterling Ranch East Filings in 2022 through 2025 (References 2 through 7). Two test borings (TB-27 and TB-30) from the previous site investigation in 2006 are located within Sterling Ranch East Filing No. 4. The test boring logs are included in Appendix D, and approximate boring locations are shown in the Site and Exploration Plan, Figure 3. Information from these reports was used in evaluating the site.

5 SOIL, GEOLOGY, AND ENGINEERING GEOLOGY

5.1 General Geology

The site lies in the western portion of the Great Plains Physiographic Province. Approximately 12.5 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 8). 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 of Tertiary to Cretaceous Age. The Dawson Formation typically consists of arkosic sandstone with interbedded fine-grained sandstone, siltstone and claystone. Overlying this formation are variable layers of eolian sands, alluvial deposits, residual soil, and man placed fill. The residual soils were derived from the in-situ weathering of the bedrock materials on-site. These soils consisted of silty to clayey sands. The fill is primarily associated with earthen dams on the western portion of the site. 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 9), previously the Soil Conservation Service (Reference 10) has mapped two soil types on the site (Figure 4). In general, the soils classify as coarse sandy loam. The soils are described below in Exhibit 1.

Exhibit 1: Soil Survey Descriptions

Type	Description
19	Columbine Gravelly Sandy Loam, 0 to 3% slopes
71	Pring Coarse Sandy Loam, 3 to 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 permeability. 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 5 (Reference 11). The Geology Map prepared for the site is presented in Figure 6. Five mappable units were identified on this site which are described as follows:

Qal **Recent Alluvium of Quaternary Age:** These are recent stream deposits that have been deposited in the drainage along the western boundary of the site. These materials consist of silty to clayey sands and sandy clays. Some of these alluviums may contain highly organic soils

Qaf **Artificial Fill of Quaternary Age:** These are man-made fill deposits associated with a fill pile in the southwestern portion of the site and earthen dams for the ponds located along Sand Creek in the western portions of the site. Other areas of fill may be encountered that are not indicated on the map.

Qes **Eolian Sand of Quaternary Age:** These deposits are fine to medium grained soil deposited on the site by the action of prevailing winds from the west and northwest. They typically occur as large dune deposits or narrow ridges. These soil types are typically tan to brown in color and tend to have very uniform or well-sorted gradation, and tend to have a relatively high permeability and low density.

Qao_1 **Old alluvium one of Holocene Age:** These materials consist of stream-deposited alluvium, typically classified as a silty to well-graded sand, brown to dark brown in color and of moderate density occurring as terrace deposits. Old Alluvium One can sometimes be very highly stratified containing thin layers of very silty and clayey soil. This unit correlates to the Louviers Alluvium in the Denver area.

TKda **Dawson formation of Tertiary to Cretaceous Age:** Underlying the alluvium is a variable layer of residual soil and the Dawson formation. The residual soils were produced by the in-situ weathering of the bedrock materials on-site. The Dawson formation typically consists of arkosic sandstone with interbedded fine-grained sandstone, siltstone, and claystone.

The soils listed above were mapped from site-specific mapping, the *Geologic Map of the Falcon NW Quadrangle* distributed by the Colorado Geological Survey in 2003 (Reference 11), the *Geologic Map of the Colorado Springs-Castle Rock Area*, distributed by the US Geological Survey in 1979 (Reference 12), and the *Geologic Map of the Pueblo 1^0 x 2^0 Quadrangle*, distributed by the US Geological Survey in 1981 (Reference 13). The Test Borings 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 6.

5.4 Soil Conditions

The soils encountered in the Test Borings can be grouped into three general soil types. The soils were classified using the Unified Soil Classification System (USCS).

Soil Type 1 classified as silty sand to clayey sand (SW-SM, SC, SC-SM). The sand was encountered in all borings at the existing ground surface and extending to depths ranging from 6 feet to the termination depth of the borings, 20 feet bgs. The sand was generally encountered at medium dense states with some loose areas and at dry to moist conditions. One-dimensional swell/collapse testing on a sample of clayey sand from TB-8 at a depth of 5 feet resulted in a collapse of 1.6%, indicating a moderate potential for collapse.

Soil Type 2 classified as sandy clay (CL). The clay encountered in TB-10 at 14 feet bgs and extended to approximately 16 feet bgs. The clay was encountered at very stiff consistencies and moist conditions.

Soil Type 3 classified as extremely weak to very weak sandstone, or silty to clayey sand (SW-SM, SM, SC) when classified as a soil. The sandstone bedrock was encountered in all borings except TB-6 at depths ranging from 4 feet bgs to 18 feet bgs and extending to the termination depth of the borings, 20 to 30 feet bgs.

5.5 Groundwater

Depth to groundwater was measured in each of the borings at the conclusion of, and subsequent to drilling. Groundwater was encountered in TB-6 at a depth of 18.5 feet bgs. Temporary piezometers were installed in TB-6, TB-7, and TB-8 to monitor seasonal fluctuations in groundwater conditions.

Depending on final grading elevations and development of the site the groundwater may affect utility placement on portions of this site. Groundwater is not anticipated to affect the proposed shallow foundations. It should be noted that groundwater levels could change due to seasonal variations, changes in land runoff characteristics, and future development of nearby areas. For the sandy materials on site, it should be noted that some groundwater conditions might be encountered due to the variability in the soil profile. Isolated sand and gravel layers within the soils, sometimes only a few feet in thickness and width, can carry water in the subsurface. Groundwater may also flow on top of the underlying bedrock or clays. Builders and planners should monitor potential occurrences of such subsurface water features during construction on-site and mitigate as necessary at the time of construction.

Exhibit 2: Temporary Piezometer Measurements

Piezometer, and Total Depth (ft.)	Groundwater Level (ft.) 2/12/26	Groundwater Level (ft.) 2/26/25	Groundwater Level (ft.) 4/20/26
P1, 20’ (TB-6)	18.8	18	18.7
P2, 20’ (TB-7)	>20	17	>20
P3, 20’ (TB-8)	>20	19	>20

6 ENGINEERING GEOLOGY – IDETIFICATION AND MITIGATION OF GEOLOGIC HAZARDS

Detailed mapping has been performed on this site to produce an Engineering Geology Map Figure 6. 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-placed fill associated with earthen dams along Sand Creek on the western portion of the site. Areas of artificial fill may exist on the site other than those mapped. Any artificial fill encountered on site is considered uncontrolled for construction purposes.

Mitigation: Any uncontrolled fill encountered beneath foundations will require removal and recompaction to 95% of its maximum Modified Proctor Dry Density (ASTM D1557).

Loose and Collapsible Soils – Constraint

The majority of the soils encountered on-site do not exhibit collapsible characteristics, however, minor areas of loose soils were encountered in the test borings drilled on site. Additionally, areas mapped as Qes (Eolian Sand) have the potential for hydrocompaction. One-dimensional swell/collapse testing on a sample of clayey sand from TB-8 at a depth of 5 feet resulted in a collapse of 1.6%, indicating a moderate potential for collapse.

Mitigation: Should loose or collapsible soils be encountered beneath foundations, removal and recompaction of the upper 2 feet of soil at 95% of the Modified Procter (ASTM D1557) within +/- 2% of the optimum moisture content is a suitable mitigation. Roadway areas may also experience movement. Proofrolling and recompaction of soft areas should be performed during site grading.

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 14). Expansive soils were not encountered in the test borings drilled on site. However, expansive clays and claystone are common in the area of the project site. These occurrences are typically sporadic; therefore, none have been indicated on the maps. Expansive clays and claystone, if encountered at foundation grade, can cause differential movement in structures. These occurrences should be identified and mitigated on an individual basis.

Mitigation Should expansive soils be encountered beneath foundations; mitigation will be necessary. Mitigation of expansive soils will require special foundation design. Overexcavation of 3 to 5 feet and replacement with nonexpansive soils compacted to 95% of the Modified Proctor (ASTM D1557) maximum dry density 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 and past or potential unstable slopes or landslides. The steeper slopes on the southwestern portion of the site sloping towards Sand Creek have been idenditifed as potentially unstable. However, these slopes are located within an open space area and will be avoided by construction. It is recommended that any future grading or fill slopes should be 3:1 or flatter.

Areas of Erosion – Constraint

These are areas that are undergoing erosion by water and sheetwash producing gullies and rill erosion. The areas of significant erosion observed on the site are located on the steeper slopes on the western portion of the site.

Mitigation: Due to the nature of the soils on this site, virtually all the soils are subject to erosion by wind and water. Other minor areas of erosion were observed on site other than those mapped, 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. The areas identified where erosion is actually taking place may require check dams, regrading and revegetation using channel lining mats to anchor vegetation. Further recommendations for erosion control are discussed under Section 8.0 "Erosion Control" 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).

Shallow Bedrock – Constraint

Bedrock was encountered in the test borings with the exception of TB-6 at depths ranging from 6 to 18 feet. The borings were drilled to depths of 20 to 30 feet. A Summary of the Depth to Bedrock is included in Table B-1 in Appendix B. Bedrock is not expected to affect development of the site.

It may be encountered in deeper cuts for utility excavations. Where sandstone bedrock is encountered, excavation/grading may be difficult requiring track-mounted equipment with ripper attachments.

Groundwater and Floodplain Areas – Constraint

Sand Creek is located along the western edge of the site, and minor drainage swales are located across the site which have been identified as areas of potentially seasonally shallow groundwater areas. The western edge of the site is mapped within the Sand Creek floodway according to FEMA Map No. 08041CO535G, Figure 7 (Reference 15). The topography of the site is generally gradually sloping to the southwest. Groundwater was encountered in TB-6 at a depth of 18.5 feet bgs. A minimum separation of 3 feet between foundation components and groundwater levels is recommended. Groundwater is not expected to affect the development.

Sand Creek and one of the ponds observed on the western portion of the site have been included in the National Wetlands Inventory as Freshwater Wetland habitats (Reference 16). Sand Creek is classified as **R4SBA** (R – Riverine, 4 – Intermittent, SB – Streambed, A – Temporary Flooded) within the project area. The pond is classified as **PUBF** (P – Palustrine, UB – Unconsolidated Bottom, F – Semipermanently Flooded). These areas should be avoided by construction and are further discussed below.

Mitigation: Foundations must have a minimum 30-inch depth for frost protection. Subsurface perimeter drains are recommended for structures with any crawlspaces or useable space below grade. Groundwater is not anticipated to affect the construction of shallow foundations on the site, however, if shallow groundwater is encountered the following drains should be considered. Typical drain details are presented in Figures 8 through 10. Any grading in these areas should be done to direct surface flow around construction to avoid areas of ponded water. Structures should not block drainages. All organic material should be completely removed prior to any fill placement. Finished floor levels must be located a minimum of one foot above floodplain levels.

Areas of Ponded Water – Constraint

These are areas of standing water behind earthen dams and along Sand Creek in the western extend of the site. We would not expect development in these areas. Either the dams can be avoided by construction, or the areas may be completely regraded. Should complete regrading of the site be considered, all organic matter and soft, wet soils should be completely removed before filling. Any drainage into these areas should be rerouted in a non-erosive manner off the site to prevent areas of ponded water around proposed structures.

Radon – Hazard

Radon levels for the area have been reported by the Colorado Geologic Survey in the open file, Report No. 91-4 (Reference 17). Average Radon levels for the 80908-zip code is 3.40 pCi/l. The following is a table of radon levels in this area:

Exhibit 2: 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 single-family residential with basement and crawlspace construction. 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 hazards affecting development are associated with loose and collapsable soils, potentially expansive soils, and the potential for elevated radon levels. Other hazards on the site can be satisfactorily mitigated through proper engineering design and construction practices.

The upper materials are typically at medium dense to very 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 grade, will require mitigation. Foundations anticipated for the site are standard spread footings possibly in conjunction with overexcavation in areas of expansive soils or recompaction in areas of loose soils. Excavation is anticipated to be moderate with rubber-tired equipment for the site sand materials, and may require track mounted equipment where sandstone bedrock is encountered. Expansive layers may also be encountered in the soil on this site. Areas of expansive soils encountered on site are 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.

Groundwater was encountered in TB-6 at a depth of 18.5 feet bgs. A minimum separation of 3 feet between foundation components and groundwater levels is recommended. Groundwater is not anticipated to affect the shallow foundations proposed for the site. Drains may be necessary if structures encroach on groundwater, to help prevent the intrusion of water into areas below grade. Typical drain details are presented in Figures 8 through 10. The western edge of the site lies within the Sand Creek floodway according to FEMA map No. 08041CO535G, dated December 7, 2018 (Figure 8, Reference 8). Exact locations of floodplain and specific drainage studies are beyond the scope of this report.

The granular site soils are susceptible to erosion and gullying and may require the construction of check dams and revegetation of the site soils after construction. General recommendations for erosion control are discussed under Section 8.0 "Erosion Control".

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

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 18), the area is not mapped with any aggregate deposits. According to the *Atlas of Sand, Gravel and Quarry Aggregate Resources, Colorado Front Range Counties* distributed by the Colorado Geological Survey (Reference 19), areas of the site are not mapped with any resources. According to the *Evaluation of Mineral and Mineral Fuel Potential* (Reference 20), the area of the site has been mapped as “Fair” for industrial minerals. However, considering the silty to clayey 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 20) 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 20).

The site has been mapped as “Fair” for oil and gas resources (Reference 20). 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 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 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 AND EMBANKMENT CONSTRUCTION RECOMMENDATIONS

In general, the site soils are suitable for the proposed roadways and embankments. Groundwater is not expected to be encountered, however, it may be encountered in deeper cuts for utilities. 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 95% of its maximum Modified Proctor Dry Density (ASTM D1557) 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 to 95% of its maximum Modified Proctor Dry Density (ASTM D1557). These materials should be placed at a moisture content conducive to compaction, usually 0 to ±2% of Proctor optimum moisture content. 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 minor 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. Additional 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 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.

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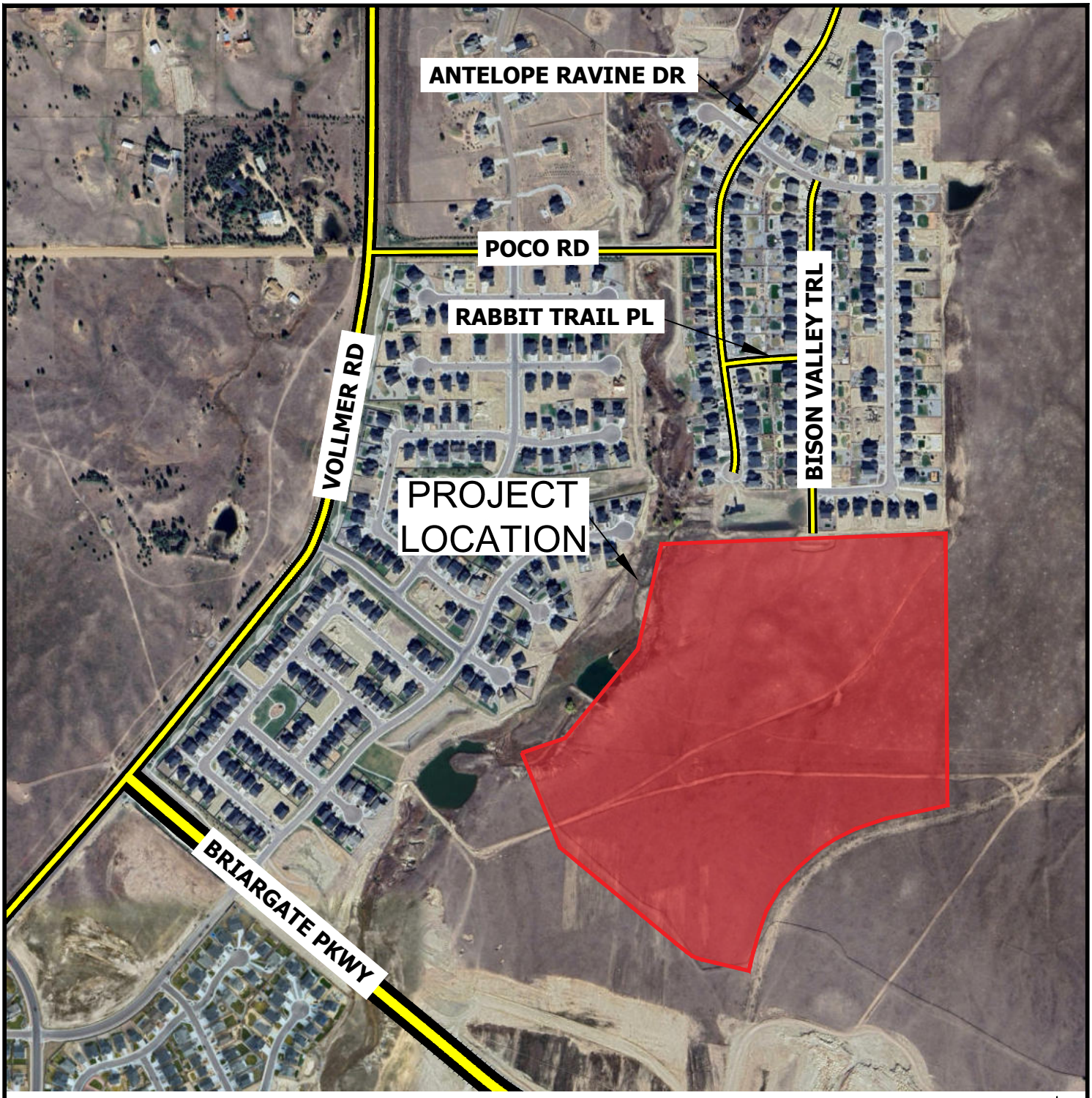
FIGURES



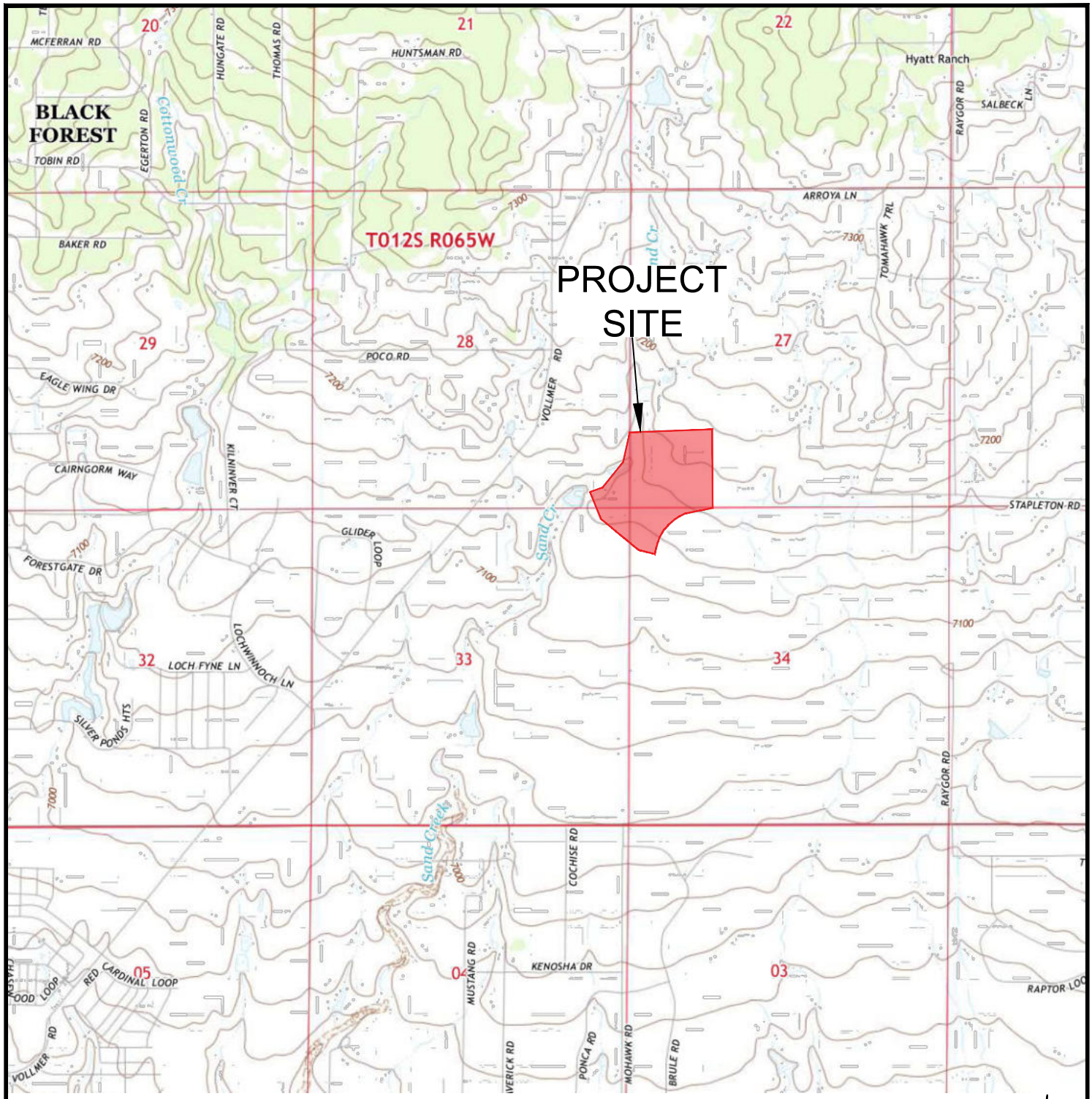
ENTECH ENGINEERING, INC.

VICINITY MAP

STERLING RANCH EAST FILING NO. 4
CLASSIC SRJ LAND

JOB NO. 260187

FIG. 1



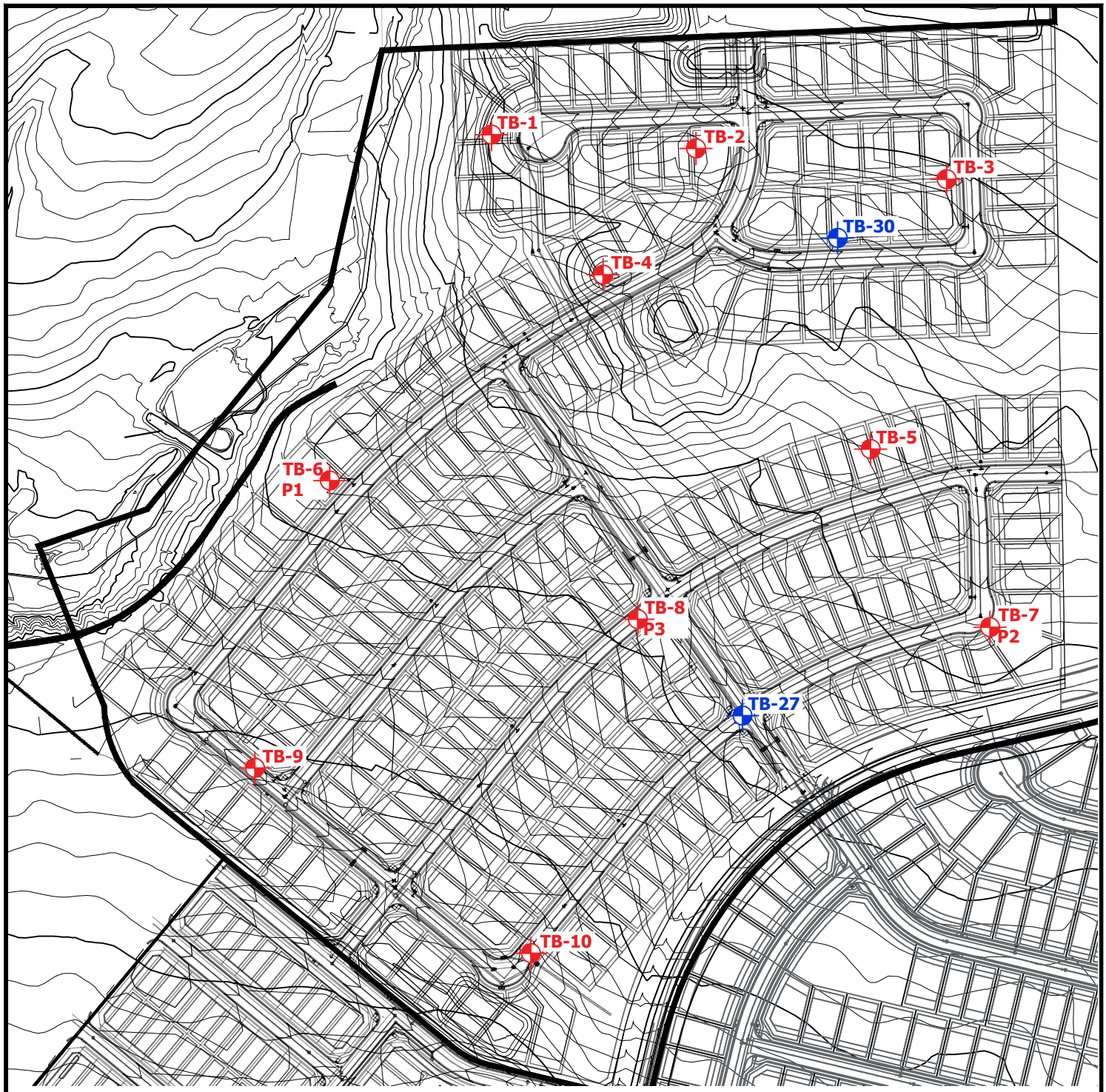
ENTECH ENGINEERING, INC.

USGS TOPOGRAPHY MAP

STERLING RANCH EAST FILING NO. 4
CLASSIC SRJ LAND

JOB NO. 260187

FIG. 2



- APPROXIMATE TEST BORING LOCATION AND NUMBER

- APPROXIMATE TEST BORING LOCATION AND NUMBER - BORING FROM EEI 82556 (2006)

P2 - APPROXIMATE PHOTOGRAPH LOCATION AND NUMBER

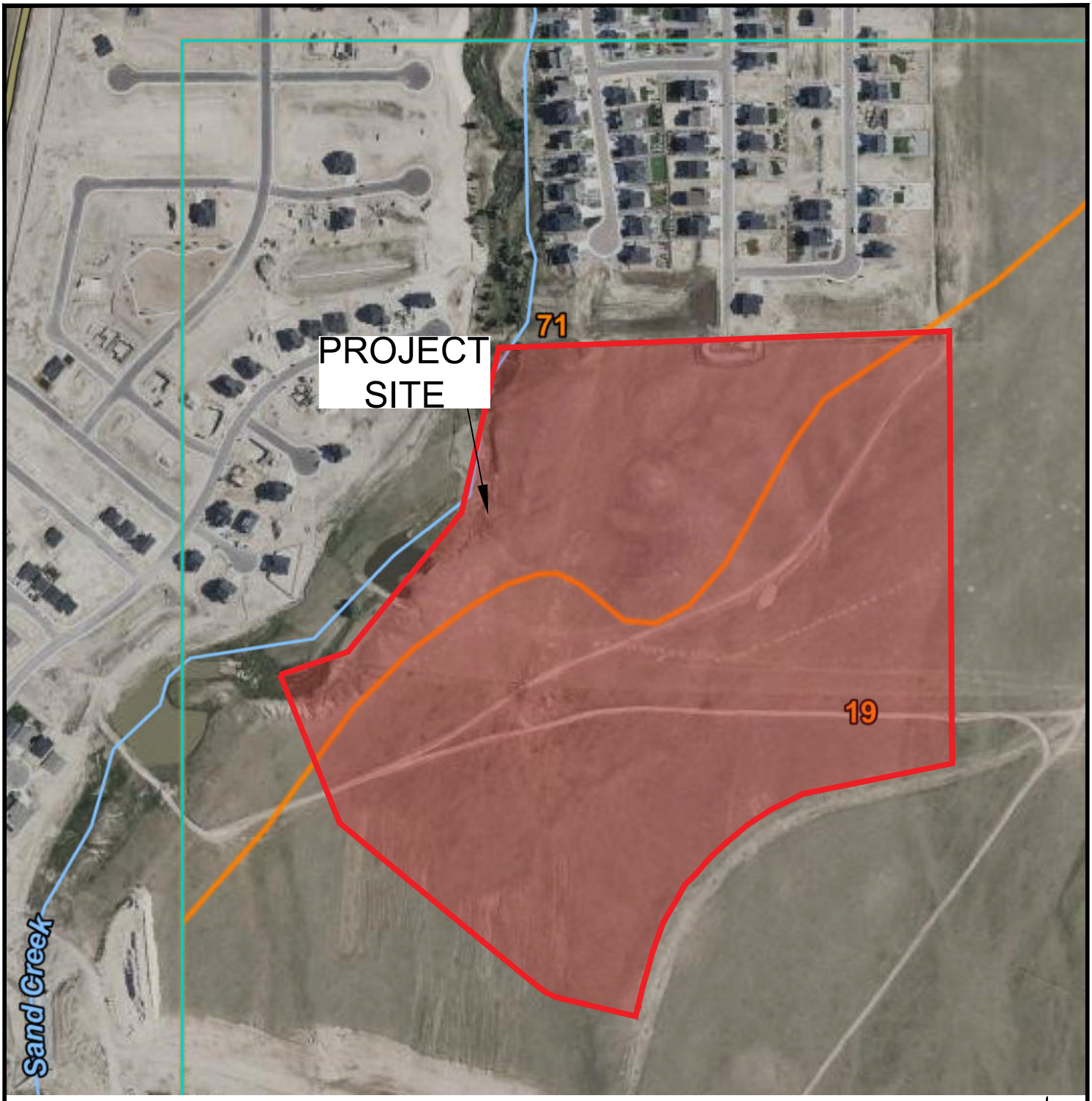
ENTECH ENGINEERING, INC.

SITE AND EXPLORATION MAP

STERLING RANCH EAST FILING NO. 4
CLASSIC SRJ LAND

JOB NO. 260187

FIG. 3



N

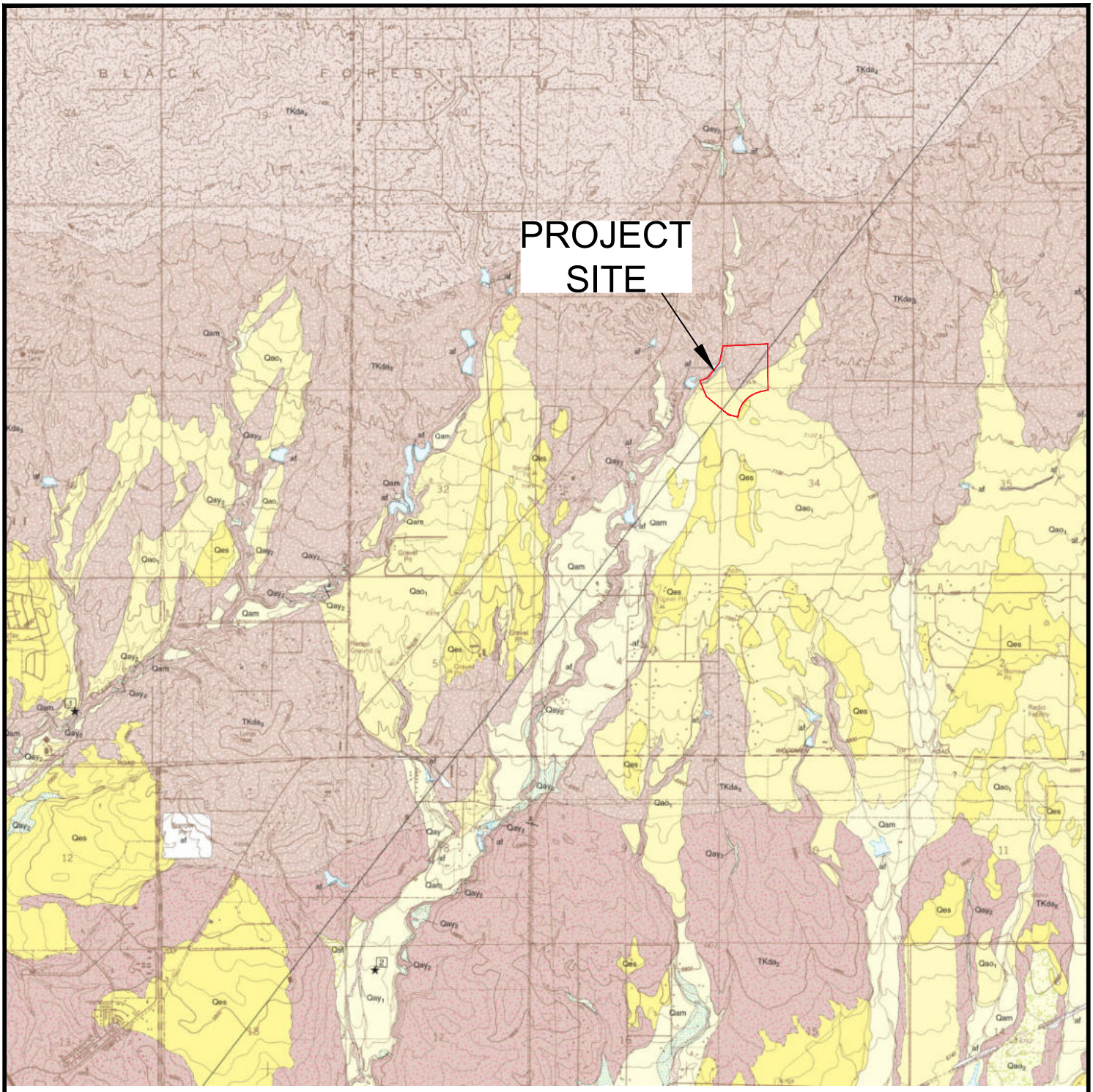
ENTECH ENGINEERING, INC.

SOIL SURVEY MAP

STERLING RANCH EAST FILING NO. 4
CLASSIC SRJ LAND

JOB NO. 260187

FIG. 4



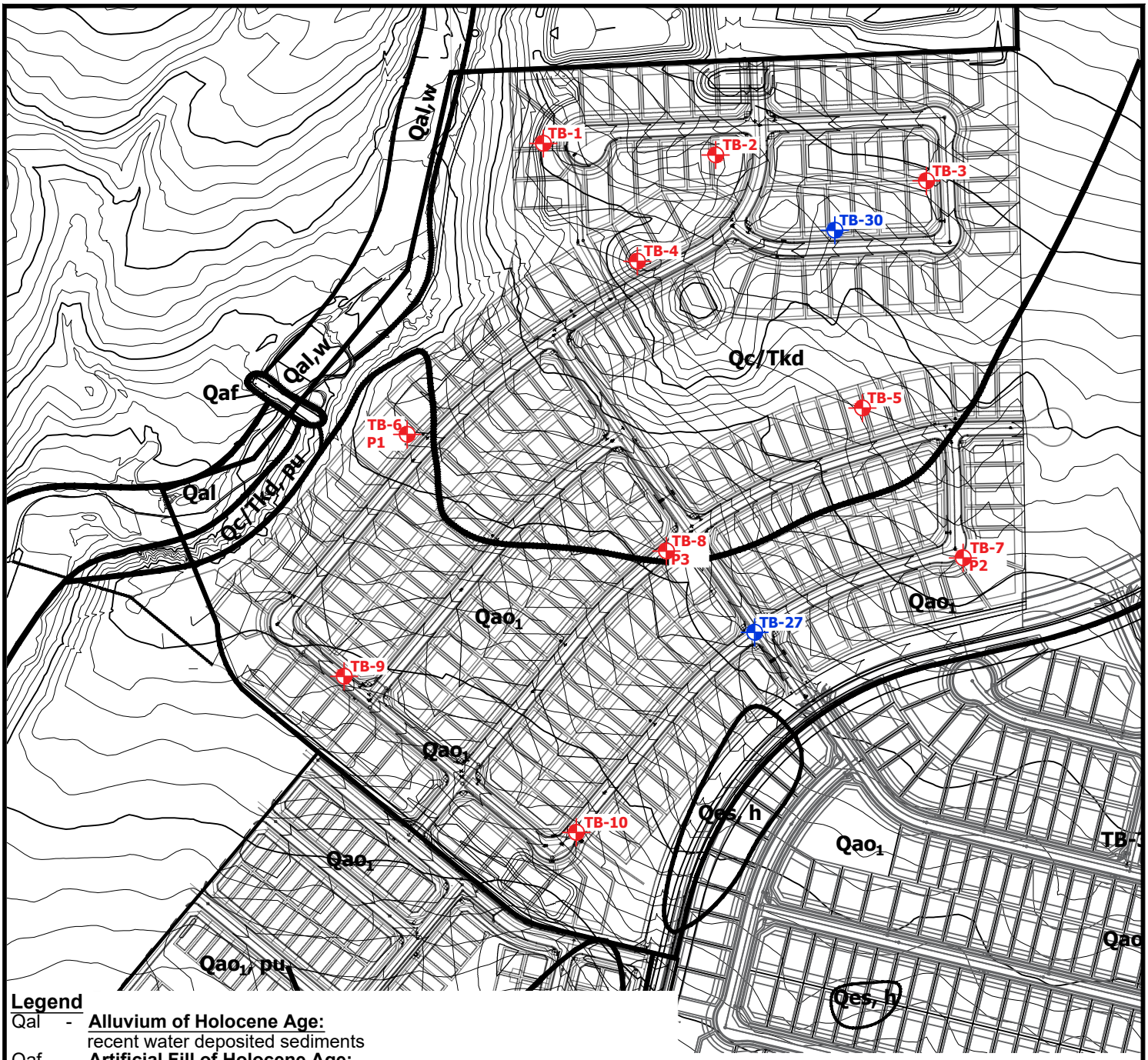
ENTECH ENGINEERING, INC.

GEOLOGIC MAP OF THE FALCON NW QUADRANGLE

STERLING RANCH EAST FILING NO. 4
CLASSIC SRJ LAND

JOB NO. 260187

FIG. 5



Legend

Qal - **Alluvium of Holocene Age:**
recent water deposited sediments

Qaf - **Artificial Fill of Holocene Age:**
man-placed fill deposits associated with earthen dam

Qes - **Eolian Sand of Holocene and Pleistocene Age:**
Wind blown sand deposits

Qao_1 - **Old Alluvium one of late middle Pleistocene Age:**
Terrace deposited sands and gravel

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

h - hydrocompaction

pu - potentially unstable slope

w - flowing/ponded water

⊕ - APPROXIMATE TEST BORING LOCATION AND NUMBER

N

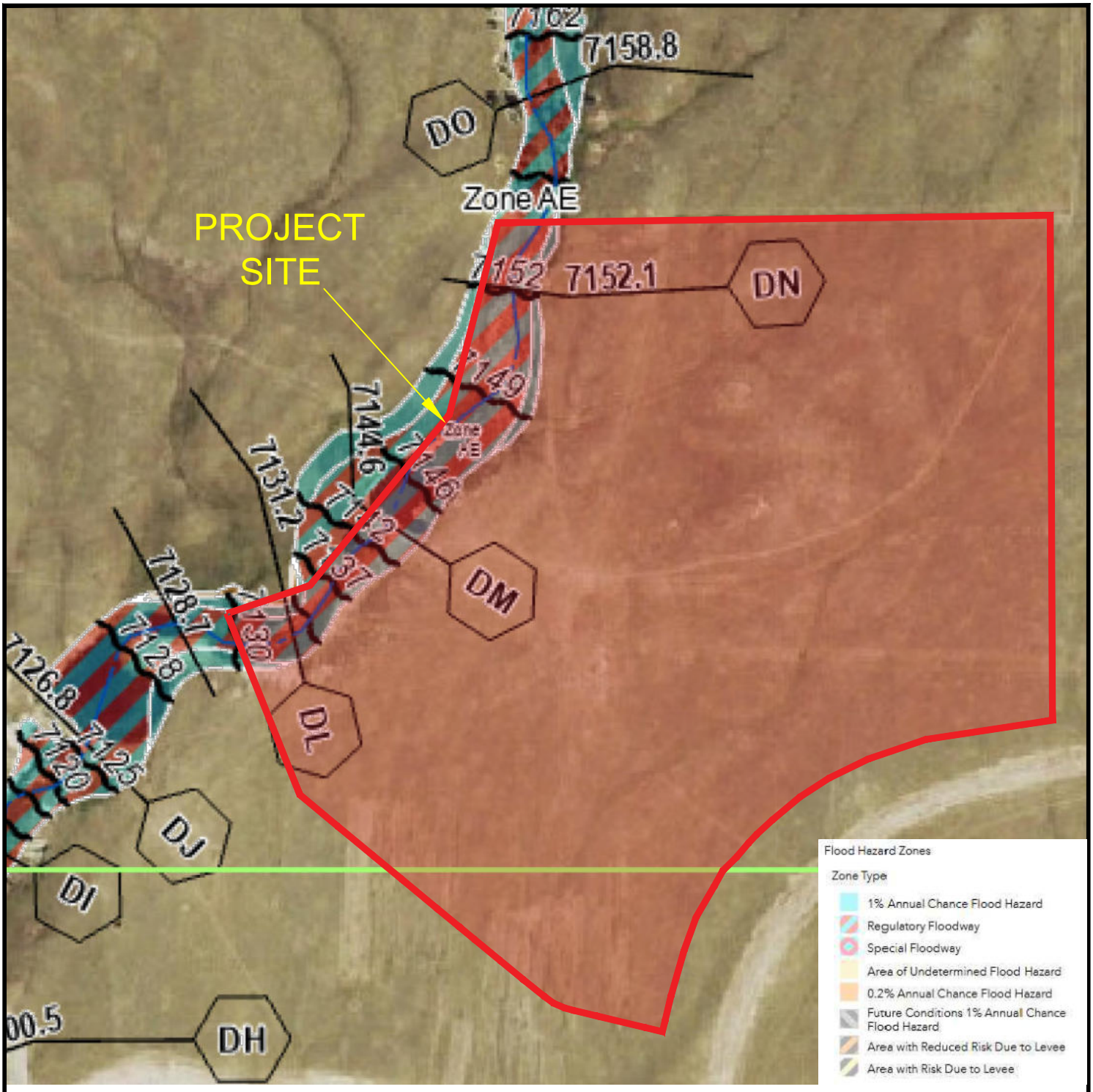
ENTECH ENGINEERING, INC.

GEOLOGY/ENGINEERING GEOLOGY MAP

STERLING RANCH EAST FILING NO. 4
CLASSIC SRJ LAND

JOB NO. 260187

FIG. 6



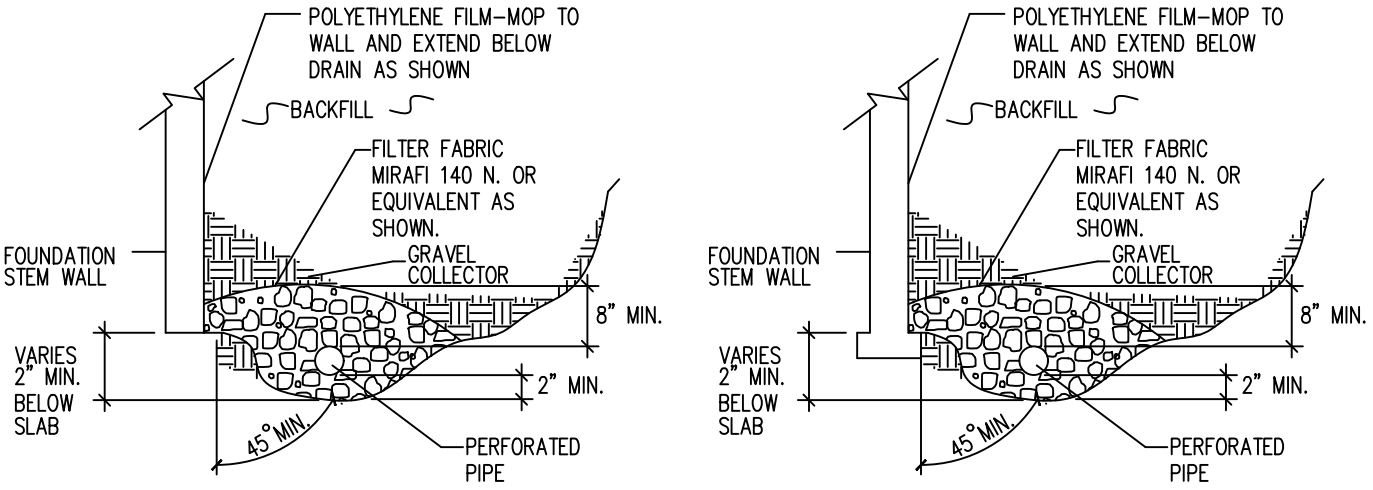
ENTECH ENGINEERING, INC.

FEMA FLOODPLAIN MAP

STERLING RANCH EAST FILING NO. 4
CLASSIC SRJ LAND

JOB NO. 260187

FIG. 7



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.

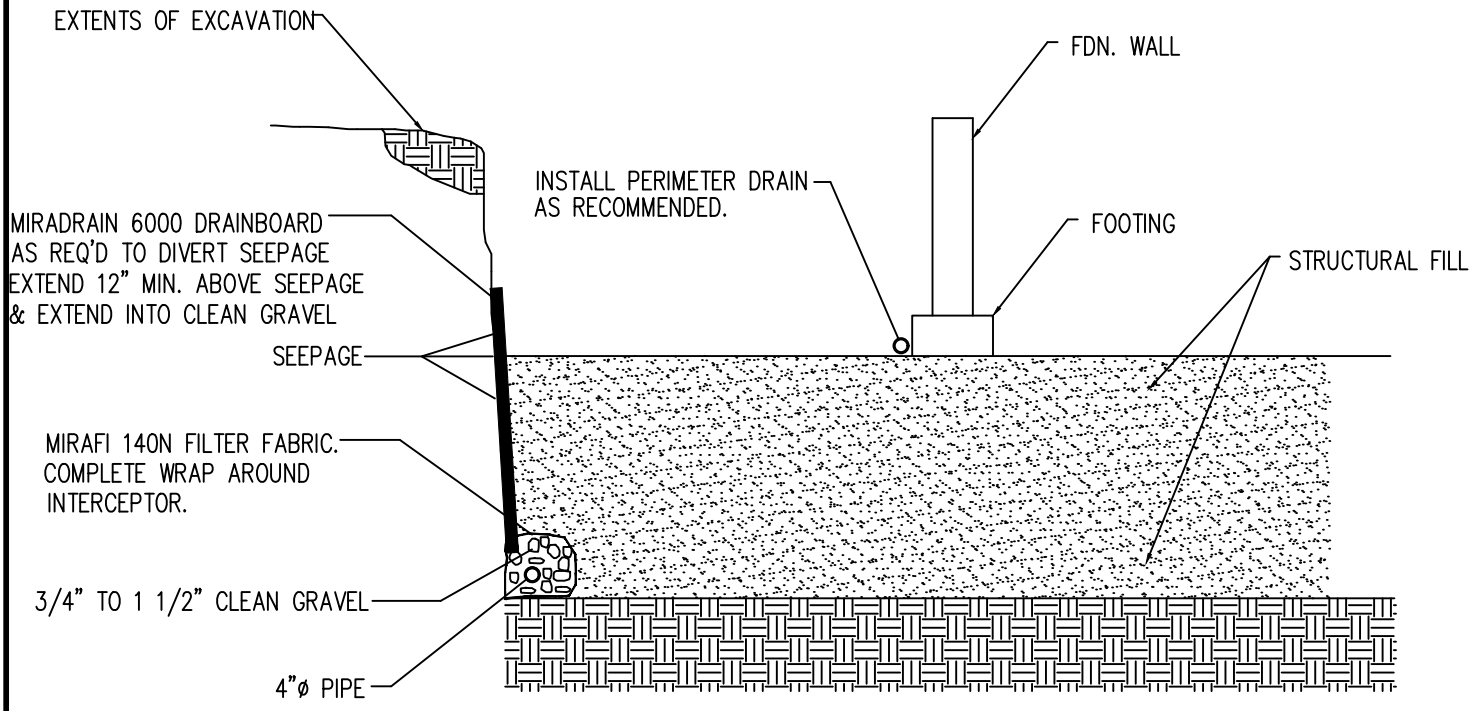
ENTECH ENGINEERING, INC.

PERIMETER DRAIN DETAIL

STERLING RANCH EAST FILING NO. 4
CLASSIC SRJ LAND

JOB NO. 260187

FIG. 8



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

INTERCEPTOR DRAIN DETAIL

N.T.S.

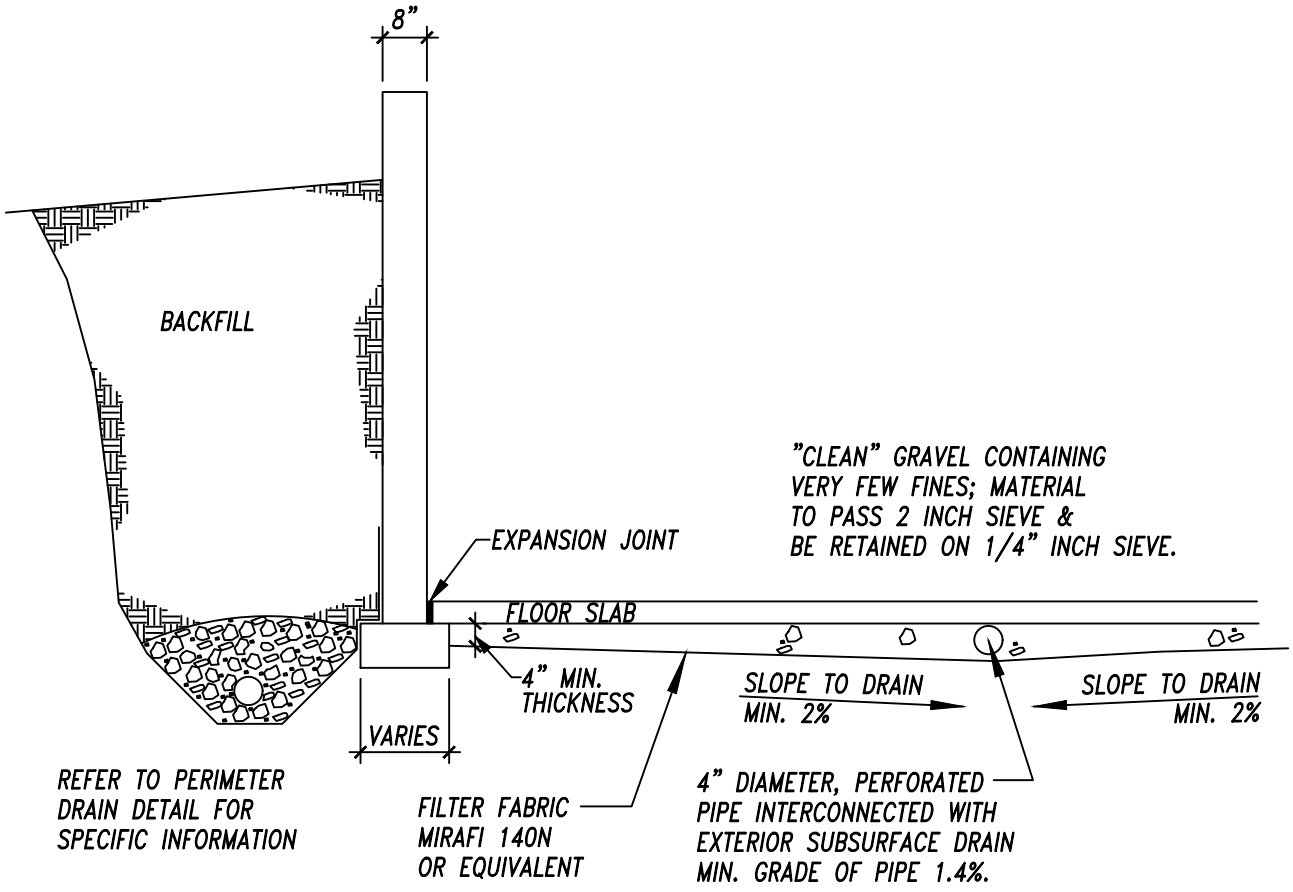
ENTECH ENGINEERING, INC.

INTERCEPTOR DRAIN DETAIL

STERLING RANCH EAST FILING NO. 4
CLASSIC SRJ LAND

JOB NO. 260187

FIG. 9



ENTECH ENGINEERING, INC.

TYP. UNDERSLAB DRAINAGE LAYER (CAPILLARY BREAK)

STERLING RANCH EAST FILING NO. 4

CLASSIC SRJ LAND

JOB NO. 260187

FIG. 10

APPENDIX A: Site Photographs

1

Looking north along Sand Creek from the western side of the site.

February 3, 2026

2

Looking east from the western portion of the site.

February 3, 2026

Job No. 260187

3

Looking northeast from the northwestern portion of the site.

February 3, 2026

4

Looking south from the northern portion of the site.

February 3, 2026

Job No. 260187

5

Looking northeast from the southwest portion of the site.

February 3, 2026

6

Looking west from the northeastern portion of the site.

February 3, 2026

Job No. 260187

7

Looking west from the soutehrn portion of the site.

February 3, 2026

8

Looking east from the southern portion of the site.

February 3, 2026

Job No. 260187

APPENDIX B: Test Boring Logs

TEST BORING 1
DATE DRILLED 2/10/2026

REMARKS	Depth (ft)	Symbol	Samples	Blows per foot	Watercontent %	Soil Type
DRY TO 20', 2/12/26						
3" TOPSOIL SAND, WITH SILT, TAN, MEDIUM DENSE, MOIST				15	6.6	1
	5			19	6.7	1
SAND, CLAYEY, TAN, MEDIUM DENSE, MOIST	10			15	11.4	1
SANDSTONE, VERY WEAK, BROWN, HIGHLY WEATHERED (SAND, SILTY, VERY DENSE, MOIST)	15			50	8.0	3
	20			50/8"	10.4	3

TEST BORING 2
DATE DRILLED 2/10/2026

REMARKS	Depth (ft)	Symbol	Samples	Blows per foot	Watercontent %	Soil Type
DRY TO 20', 2/12/26						
9" TOPSOIL SAND, SILTY, TAN, VERY DENSE to MEDIUM DENSE, MOIST				50	4.3	1
	5			24	6.5	1
SANDSTONE, EXTREMELY WEAK, TAN, HIGHLY WEATHERED (SAND, WITH SILT, VERY DENSE to DENSE, MOIST)	10			50/9"	8.3	3
	15			50/10"	8.2	3
	20			44	11.8	3

ENTECH ENGINEERING, INC.

TEST BORING LOGS

STERLING RANCH EAST, FILING NO. 4
CLASSIC SRJ

JOB NO. 260187

FIG. B-1

TEST BORING 3
DATE DRILLED 2/10/2026

REMARKS

DRY TO 20', 2/12/26

Depth (ft)	Symbol	Samples	Blows per foot	Watercontent %	Soil Type
			11	2.3	1
5			24	5.6	1
10			43	12.5	1
15			50/6"	5.3	3
20			50/8"	10.3	3

6" TOPSOIL

SAND, WITH SILT, TAN, MEDIUM DENSE, DRY to MOIST

SAND, CLAYEY, TAN, DENSE, MOIST

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

TEST BORING 4
DATE DRILLED 2/10/2026

REMARKS

DRY TO 30', 2/12/26

Depth (ft)	Symbol	Samples	Blows per foot	Watercontent %	Soil Type
			41	3.0	1
5			50/11"	5.2	1
10			50/9"	7.2	3
15			50/11"	11.2	3
20			43	17.9	3
25			50/11"	11.3	3
30			50/7"	9.2	3

6" TOPSOIL

SAND, SILTY, TAN, DENSE to VERY DENSE, MOIST

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

ENTECH ENGINEERING, INC.

TEST BORING LOGS

STERLING RANCH EAST, FILING NO. 4
CLASSIC SRJ

JOB NO. 260187

FIG. B-2

TEST BORING 5
DATE DRILLED 2/10/2026

REMARKS

DRY TO 20', 2/12/26

Depth (ft)	Symbol	Samples	Blows per foot	Watercontent %	Soil Type
	9" TOPSOIL				
	SAND, SILTY, BROWN		12	7.2	1
5			23	8.0	1
	SANDSTONE, VERY WEAK, TAN, MODERATELY WEATHERED (SAND, SILTY, VERY DENSE, MOIST)				
10			50/9"	8.4	3
	SANDSTONE, VERY WEAK, TAN, COMPLETELY WEATHERED (SAND, CLAYEY, VERY DENSE to MEDIUM DENSE, MOIST)		*	19.3	3
15			50/11"	11.8	3
20			15	10.9	3

* - BULK SAMPLE TAKEN

TEST BORING 6
DATE DRILLED 2/11/2026

REMARKS

WATER @ 18.5', 2/12/26

Depth (ft)	Symbol	Samples	Blows per foot	Watercontent %	Soil Type
	6" TOPSOIL				
	SAND, CLAYEY-SILTY, TAN, MEDIUM DENSE to DENSE, DRY		24	1.8	1
5			12	3.0	1
10			19	3.7	1
15			26	9.4	1
20			45	14.9	1

ENTECH ENGINEERING, INC.

TEST BORING LOGS

STERLING RANCH EAST, FILING NO. 4
CLASSIC SRJ

JOB NO. 260187

FIG. B-3

TEST BORING 7
DATE DRILLED 2/11/2026

REMARKS	Depth (ft)	Symbol	Samples	Blows per foot	Watercontent %	Soil Type
DRY TO 20', 2/12/26						
SAND, SILTY, TAN, MEDIUM DENSE, DRY to MOIST				16	2.5	1
	5			11	4.7	1
SANDSTONE, EXTREMELY WEAK, TAN, HIGHLY WEATHERED (SAND, SILTY, VERY DENSE, MOIST)	10			50/11"	10.4	3
	15			50/8"	9.1	3
	20			50/10"	13.6	3

TEST BORING 8
DATE DRILLED 2/11/2026

REMARKS	Depth (ft)	Symbol	Samples	Blows per foot	Watercontent %	Soil Type
DRY TO 20', 2/12/26						
2" TOPSOIL SAND, SILTY, BROWN, MEDIUM DENSE, MOIST				11	3.0	1
SAND, CLAYEY, TAN, MEDIUM DENSE, MOIST	5			16	12.2	1
SANDSTONE, EXTREMELY WEAK, TAN to GRAY, MODERATELY WEATHERED (SAND, SILTY, DENSE to VERY DENSE, MOIST)	10			40	18.1	3
	15			50/10"	9.9	3
	20			50/6"	8.8	3

ENTECH ENGINEERING, INC.

TEST BORING LOGS

STERLING RANCH EAST, FILING NO. 4
CLASSIC SRJ

JOB NO. 260187

FIG. B-4

TEST BORING 9
DATE DRILLED 2/11/2026

REMARKS	Depth (ft)	Symbol	Samples	Blows per foot	Watercontent %	Soil Type
DRY TO 20', 2/12/26						
2" TOPSOIL						
SAND, SILTY, TAN, LOOSE to MEDIUM DENSE, MOIST to DRY				4	3.2	1
	5			10	1.7	1
SAND, CLAYEY, TAN, MEDIUM DENSE, MOIST	10			21	11.8	1
SANDSTONE, EXTREMELY WEAK, TAN, MODERATELY WEATHERED (SAND, SILTY, VERY DENSE, MOIST)	15			50/10"	9.3	3
	20			50/8"	9.4	3

TEST BORING 10
DATE DRILLED 2/11/2026

REMARKS	Depth (ft)	Symbol	Samples	Blows per foot	Watercontent %	Soil Type
DRY TO 20', 2/12/26						
12" TOPSOIL						
SAND, SILTY, TAN, MEDIUM DENSE, MOIST				21	5.2	1
	5			12	5.4	1
	10			16	7.0	1
CLAY, SANDY, TAN, VERY STIFF, MOIST	15			24	15.4	2
SANDSTONE, EXTREMELY WEAK, TAN, MODERATELY WEATHERED (SAND, SILTY, VERY DENSE, MOIST)	20			50/8"	11.5	3

ENTECH ENGINEERING, INC.

TEST BORING LOGS

STERLING RANCH EAST, FILING NO. 4
CLASSIC SRJ

JOB NO. 260187

FIG. B-5

TABLE B-1

DEPTH TO GROUNDWATER & BEDROCK

TEST BORING	DEPTH TO GROUNDWATER (ft.)	DEPTH TO BEDROCK (ft.)
1	>20	14
2	>20	18
3	>20	12
4	>30	6
5	>20	7
6	18.5	>20
7	>20	8
8	>20	14
9	>20	13
10	>20	16

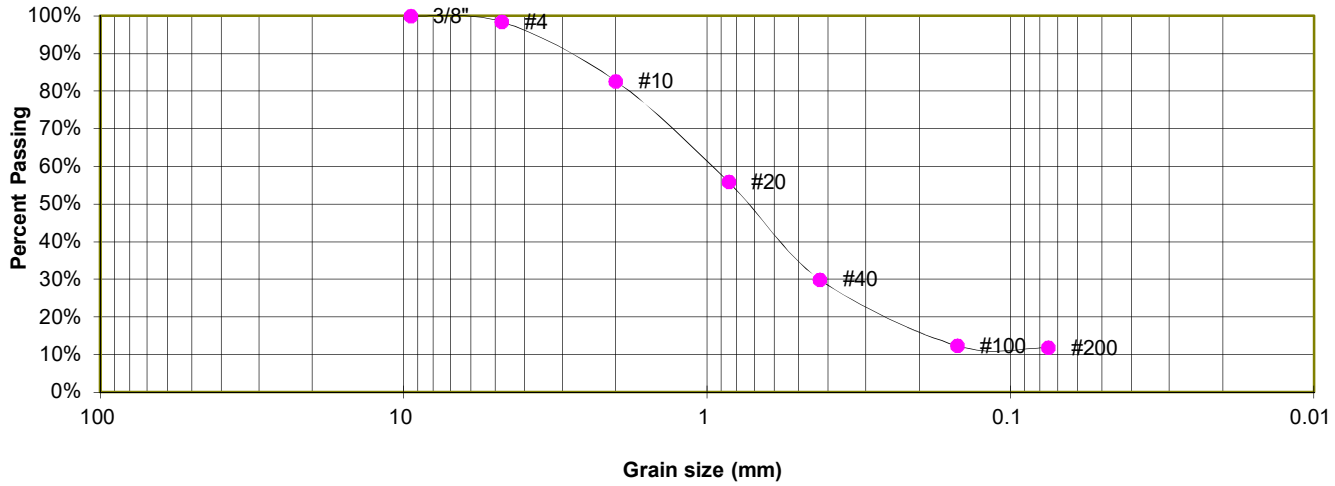
APPENDIX C: Laboratory Testing Results

ENTECH ENGINEERING, INC.

TABLE C-1
SUMMARY OF LABORATORY TEST RESULTS

SOIL TYPE	TEST BORING NO.	DEPTH (FT)	WATER (%)	DRY DENSITY (PCF)	PASSING NO. 200 SIEVE (%)	LIQUID LIMIT	PLASTIC LIMIT	PLASTIC INDEX	SULFATE (WT %)	SWELL/ CONSOL (%)	USCS	SOIL DESCRIPTION
1	1	2-3			11.8	NV	NP	NP			SW-SM	SAND, WITH SILT
1	3	5			9.4				0.00		SW-SM	SAND, WITH SILT
1	8	5	12.5	108.9	33.4					-1.6	SC	SAND, CLAYEY
1	9	10			21.9						SC	SAND, CLAYEY
1	6	2-3			22.0	27	21	6			SC-SM	SAND, CLAYEY, SILTY
2	10	15			58.2						CL	CLAY, SANDY
3	2	15			8.0				0.00		SW-SM	SANDSTONE (SAND, WITH SILT)
3	4	10			15.5						SM	SANDSTONE (SAND, SILTY)
3	5	12			35.1						SC	SANDSTONE (SAND, CLAYEY)
3	7	10			19.1	NV	NP	NP			SM	SANDSTONE (SAND, SILTY)

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



GRAIN SIZE ANALYSIS

U.S. Sieve #	Percent Finer
3"	
1 1/2"	
3/4"	
1/2"	
3/8"	100.0%
4	98.4%
10	82.7%
20	55.9%
40	30.0%
100	12.3%
200	11.8%

ATTERBERG LIMITS

Plastic Limit	NP
Liquid Limit	NV
Plastic Index	NP

SOIL CLASSIFICATION

USCS CLASSIFICATION: SW-SM

ENTECH ENGINEERING, INC.

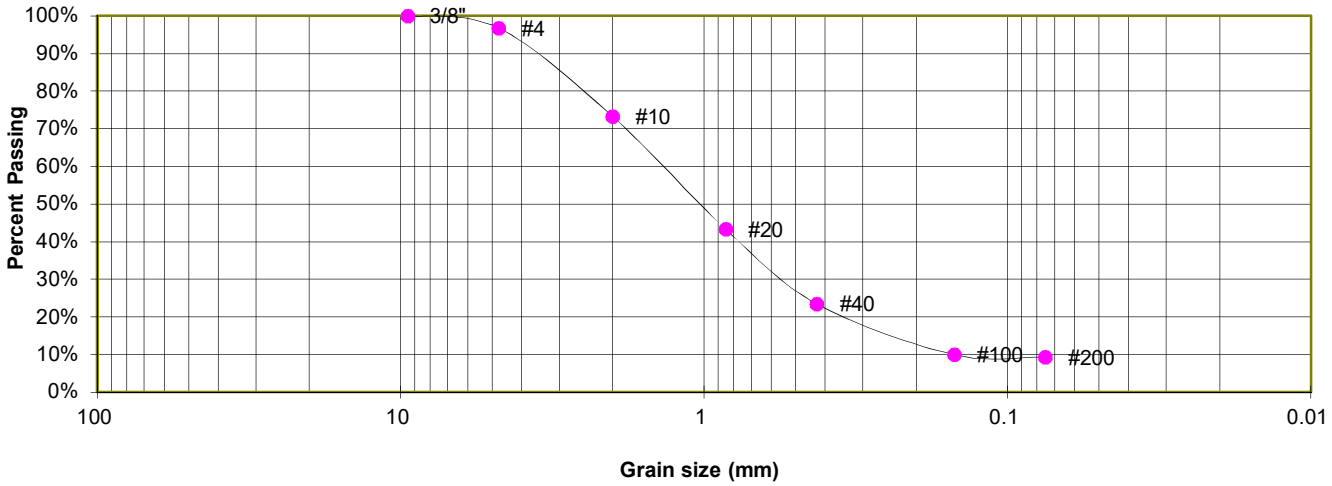
LABORATORY TEST RESULTS

STERLING RANCH EAST, FILING NO. 4
CLASSIC SRJ

JOB NO. 260187

FIG. C-1

TEST BORING	3	SOIL DESCRIPTION	SAND, WITH SILT
DEPTH (FT)	5	SOIL TYPE	1



GRAIN SIZE ANALYSIS

U.S. Sieve #	Percent Finer
3"	
1 1/2"	
3/4"	
1/2"	
3/8"	100.0%
4	96.8%
10	73.2%
20	43.4%
40	23.5%
100	10.0%
200	9.4%

SOIL CLASSIFICATION

USCS CLASSIFICATION: SW-SM

ENTECH ENGINEERING, INC.

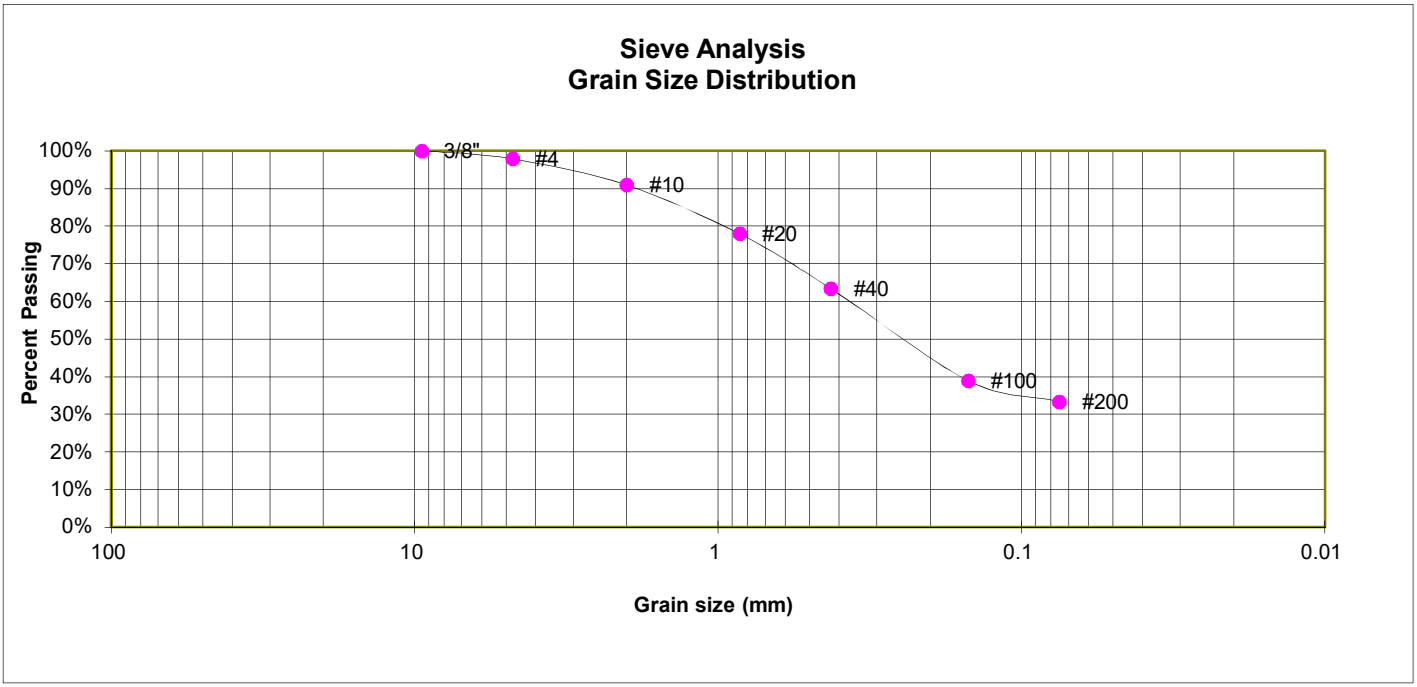
LABORATORY TEST RESULTS

STERLING RANCH EAST, FILING NO. 4
CLASSIC SRJ

JOB NO. 260187

FIG. C-2

TEST BORING	8	SOIL DESCRIPTION	SAND, CLAYEY
DEPTH (FT)	5	SOIL TYPE	1



GRAIN SIZE ANALYSIS

U.S. Sieve #	Percent Finer
3"	
1 1/2"	
3/4"	
1/2"	
3/8"	100.0%
4	97.9%
10	90.9%
20	78.0%
40	63.4%
100	39.0%
200	33.4%

SOIL CLASSIFICATION

USCS CLASSIFICATION: SC

ENTECH ENGINEERING, INC.

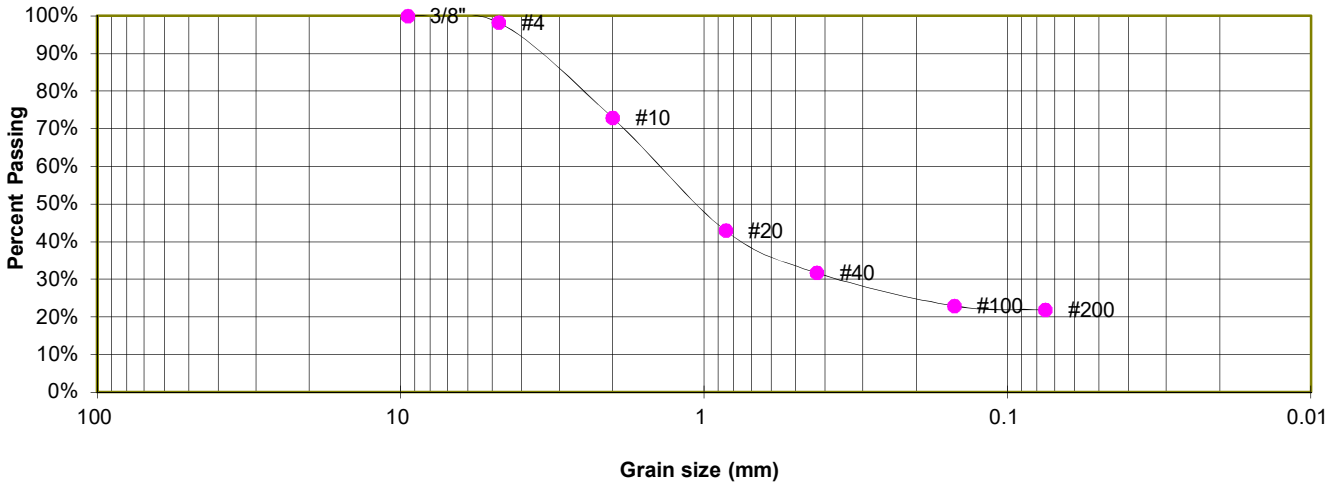
LABORATORY TEST RESULTS

STERLING RANCH EAST, FILING NO. 4
CLASSIC SRJ

JOB NO. 260187

FIG. C-3

TEST BORING	9	SOIL DESCRIPTION	SAND, CLAYEY
DEPTH (FT)	10	SOIL TYPE	1



GRAIN SIZE ANALYSIS

U.S. Sieve #	Percent Finer
3"	
1 1/2"	
3/4"	
1/2"	
3/8"	100.0%
4	98.2%
10	72.9%
20	42.9%
40	31.7%
100	23.0%
200	21.9%

SOIL CLASSIFICATION

USCS CLASSIFICATION: SC

ENTECH ENGINEERING, INC.

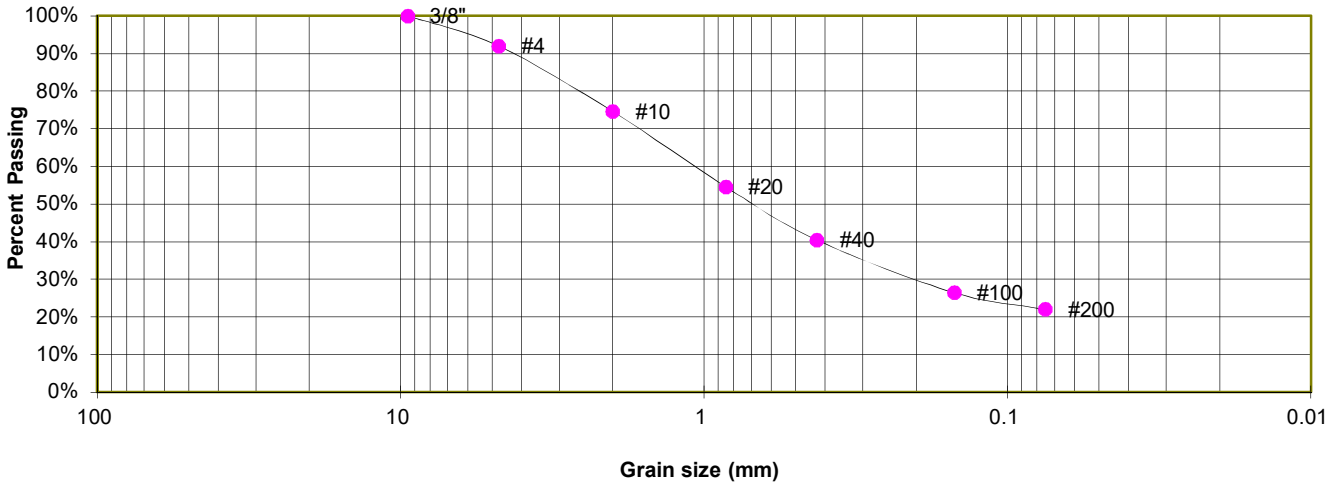
LABORATORY TEST RESULTS

STERLING RANCH EAST, FILING NO. 4
CLASSIC SRJ

JOB NO. 260187

FIG. C-4

TEST BORING	6	SOIL DESCRIPTION	SAND, CLAYEY, SILTY
DEPTH (FT)	2-3	SOIL TYPE	1



GRAIN SIZE ANALYSIS

U.S. Sieve #	Percent Finer
3"	
1 1/2"	
3/4"	
1/2"	
3/8"	100.0%
4	92.0%
10	74.6%
20	54.6%
40	40.4%
100	26.5%
200	22.0%

ATTERBERG LIMITS

Plastic Limit	21
Liquid Limit	27
Plastic Index	6

SOIL CLASSIFICATION

USCS CLASSIFICATION: SC-SM

ENTECH ENGINEERING, INC.

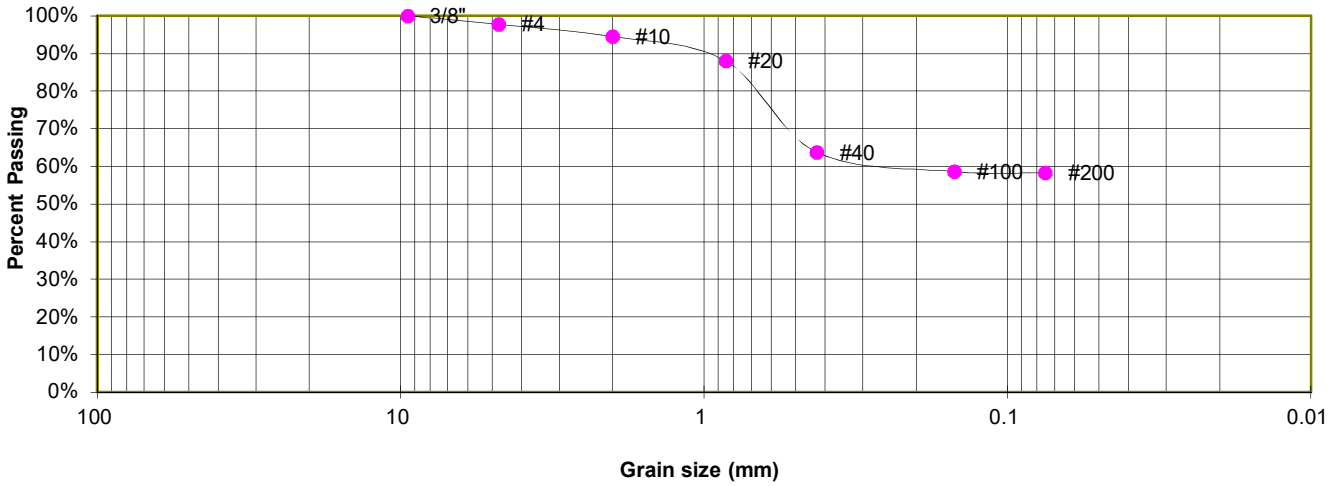
LABORATORY TEST RESULTS

STERLING RANCH EAST, FILING NO. 4
CLASSIC SRJ

JOB NO. 260187

FIG. C-5

TEST BORING	10	SOIL DESCRIPTION	CLAY, SANDY
DEPTH (FT)	15	SOIL TYPE	2



GRAIN SIZE ANALYSIS

U.S. Sieve #	Percent Finer
3"	
1 1/2"	
3/4"	
1/2"	
3/8"	100.0%
4	97.8%
10	94.5%
20	88.1%
40	63.8%
100	58.7%
200	58.2%

SOIL CLASSIFICATION

USCS CLASSIFICATION: CL

ENTECH ENGINEERING, INC.

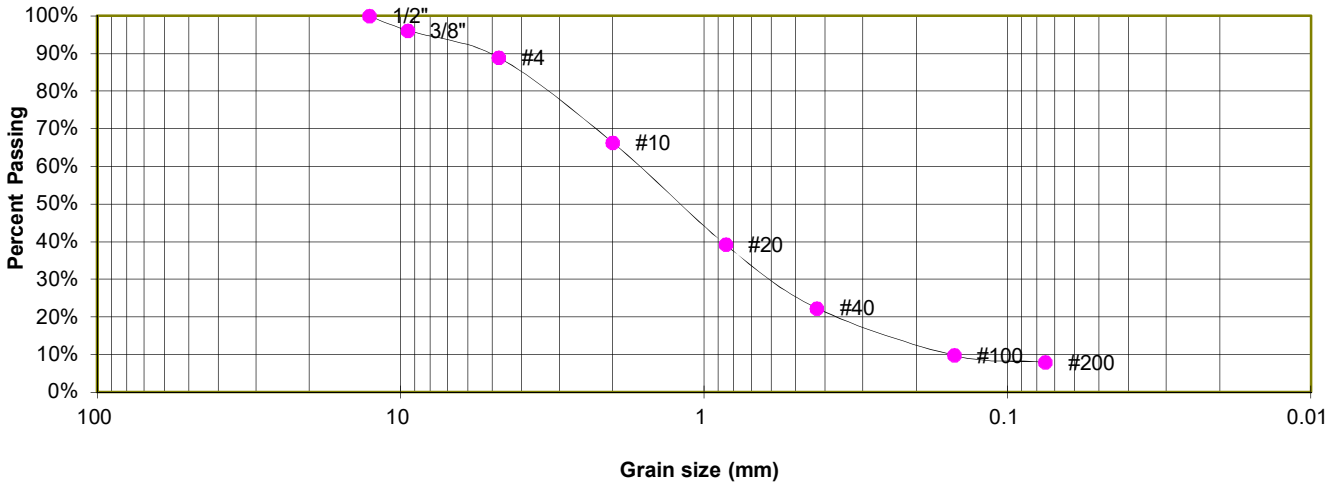
LABORATORY TEST RESULTS

STERLING RANCH EAST, FILING NO. 4
CLASSIC SRJ

JOB NO. 260187

FIG. C-6

TEST BORING	2	SOIL DESCRIPTION	SANDSTONE (SAND, WITH SILT)
DEPTH (FT)	15	SOIL TYPE	3



GRAIN SIZE ANALYSIS

U.S. Sieve #	Percent Finer
3"	
1 1/2"	
3/4"	
1/2"	100.0%
3/8"	96.1%
4	88.9%
10	66.3%
20	39.3%
40	22.3%
100	9.8%
200	8.0%

SOIL CLASSIFICATION

USCS CLASSIFICATION: SW-SM

ENTECH ENGINEERING, INC.

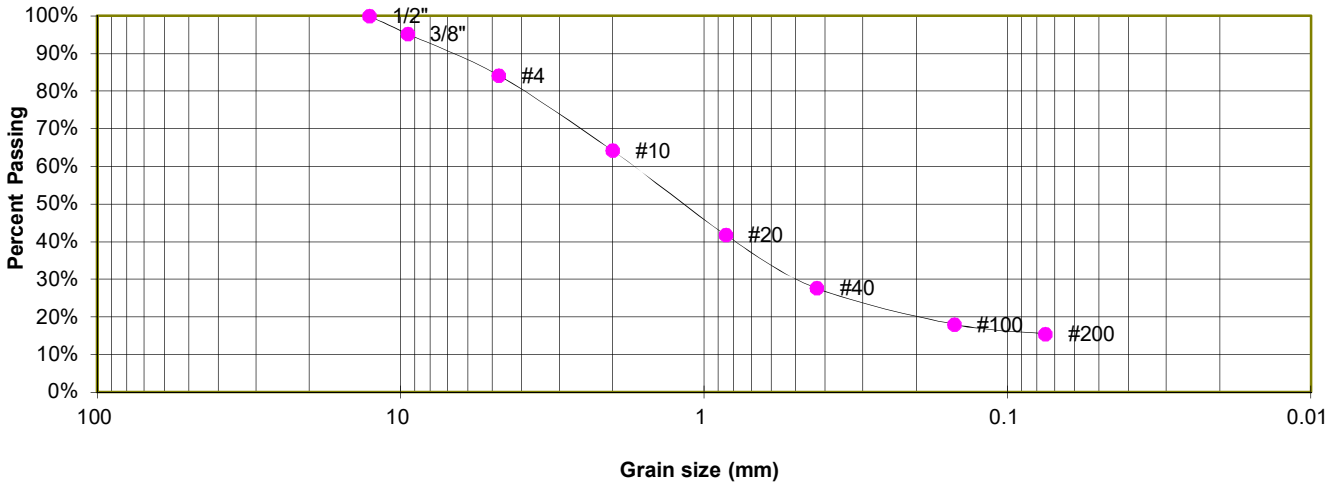
LABORATORY TEST RESULTS

STERLING RANCH EAST, FILING NO. 4
CLASSIC SRJ

JOB NO. 260187

FIG. C-7

TEST BORING	4	SOIL DESCRIPTION	SANDSTONE (SAND, SILTY)
DEPTH (FT)	10	SOIL TYPE	3



GRAIN SIZE ANALYSIS

U.S. Sieve #	Percent Finer
3"	
1 1/2"	
3/4"	
1/2"	100.0%
3/8"	95.3%
4	84.2%
10	64.2%
20	41.9%
40	27.6%
100	18.1%
200	15.5%

SOIL CLASSIFICATION

USCS CLASSIFICATION: SM

ENTECH ENGINEERING, INC.

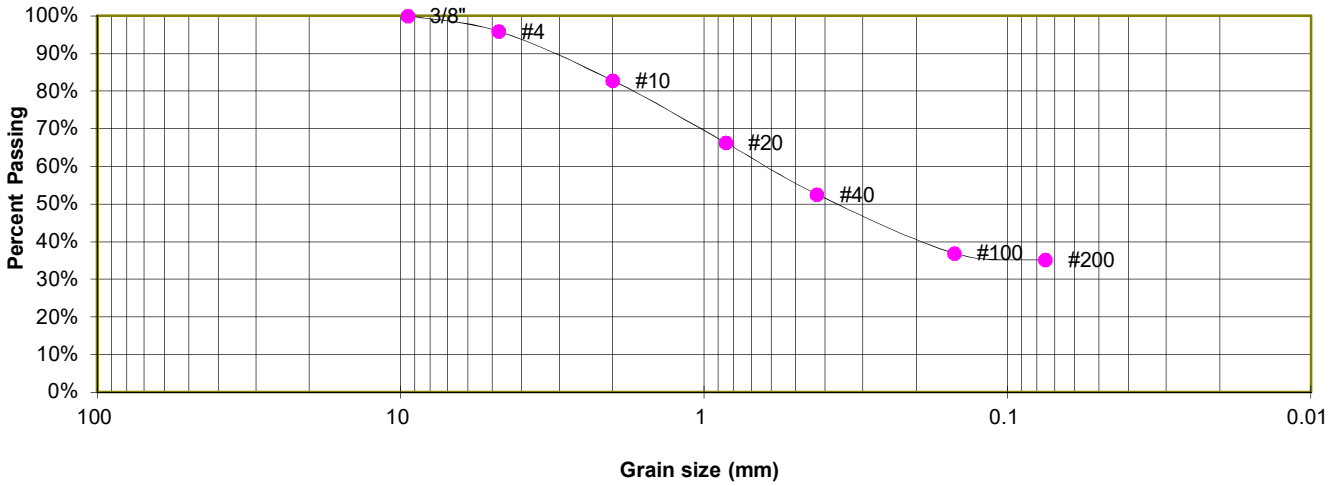
LABORATORY TEST RESULTS

STERLING RANCH EAST, FILING NO. 4
CLASSIC SRJ

JOB NO. 260187

FIG. C-8

TEST BORING	5	SOIL DESCRIPTION	SANDSTONE (SAND, CLAYEY)
DEPTH (FT)	12	SOIL TYPE	3



GRAIN SIZE ANALYSIS

U.S. Sieve #	Percent Finer
3"	
1 1/2"	
3/4"	
1/2"	
3/8"	100.0%
4	95.9%
10	82.8%
20	66.3%
40	52.6%
100	37.0%
200	35.1%

SOIL CLASSIFICATION

USCS CLASSIFICATION: SC

ENTECH ENGINEERING, INC.

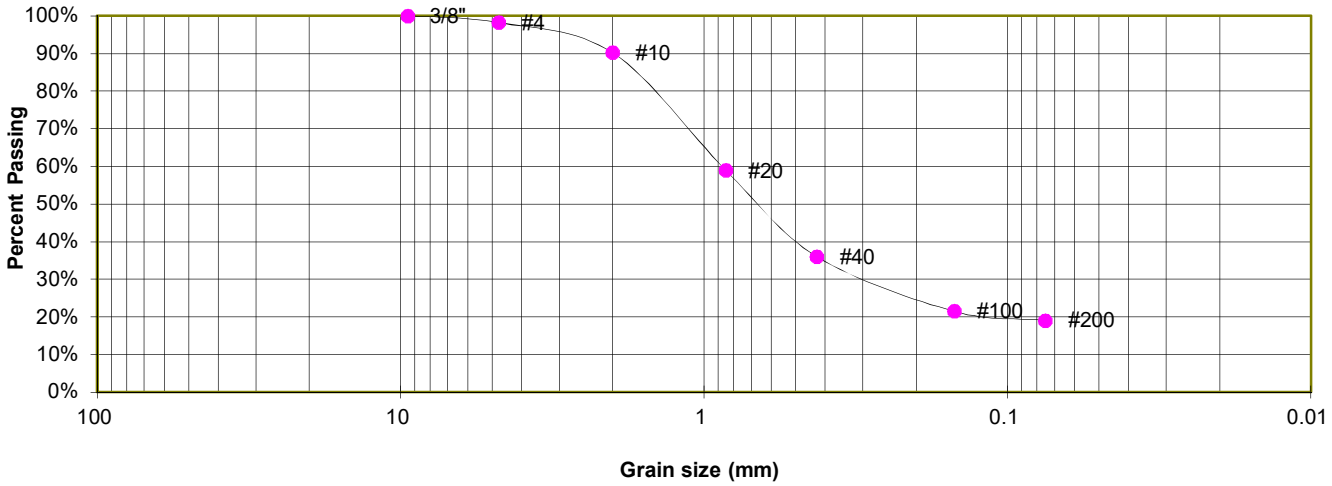
LABORATORY TEST RESULTS

STERLING RANCH EAST, FILING NO. 4
CLASSIC SRJ

JOB NO. 260187

FIG. C-9

TEST BORING	7	SOIL DESCRIPTION	SANDSTONE (SAND, SILTY)
DEPTH (FT)	10	SOIL TYPE	3



GRAIN SIZE ANALYSIS

U.S. Sieve #	Percent Finer
3"	
1 1/2"	
3/4"	
1/2"	
3/8"	100.0%
4	98.2%
10	90.2%
20	59.0%
40	36.0%
100	21.5%
200	19.1%

ATTERBERG LIMITS

Plastic Limit	NP
Liquid Limit	NV
Plastic Index	NP

SOIL CLASSIFICATION

USCS CLASSIFICATION: SM

ENTECH ENGINEERING, INC.

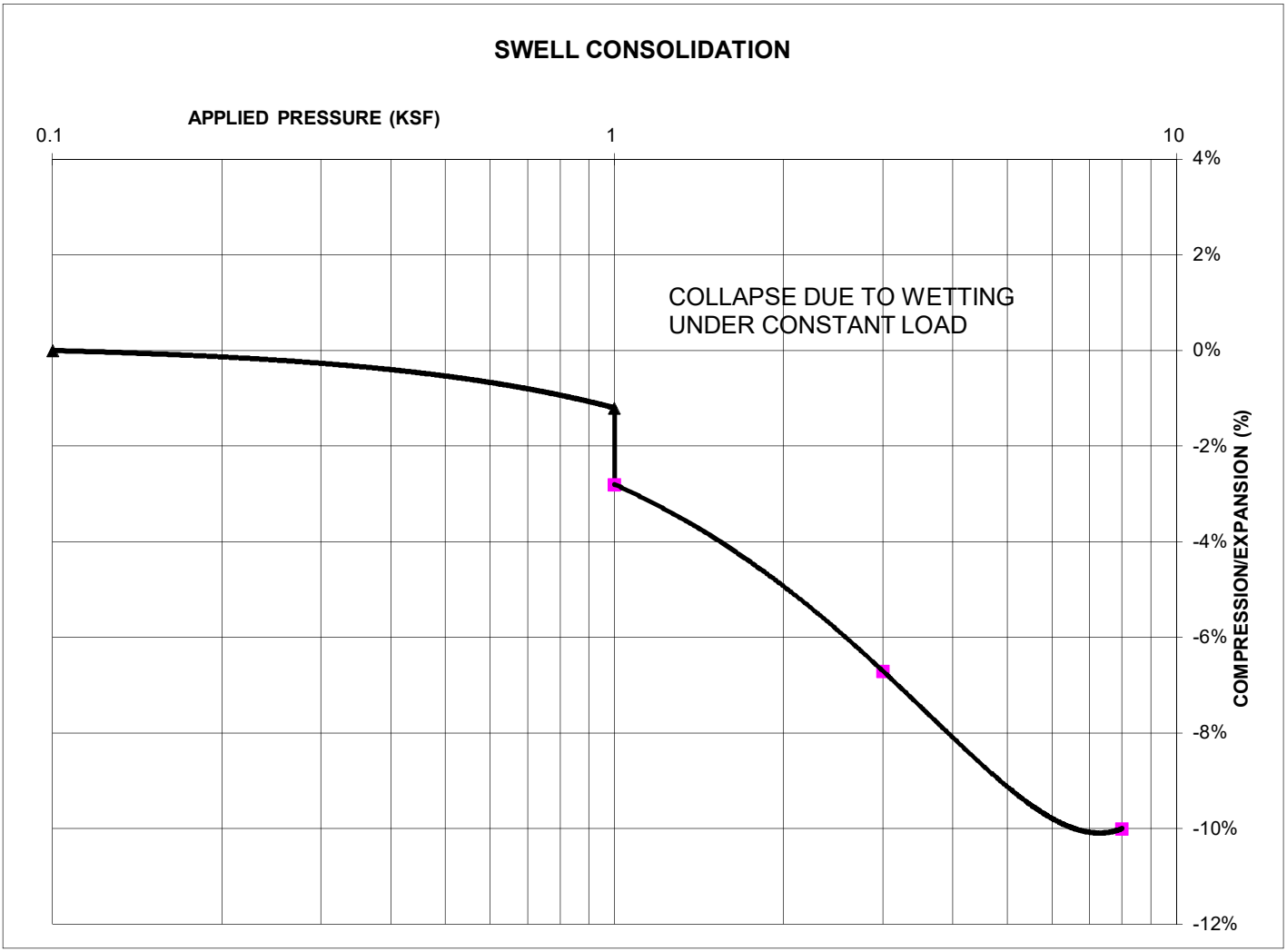
LABORATORY TEST RESULTS

STERLING RANCH EAST, FILING NO. 4
CLASSIC SRJ

JOB NO. 260187

FIG. C-10

TEST BORING	8	SOIL DESCRIPTION	SAND, CLAYEY
DEPTH (FT)	5	SOIL TYPE	0



SWELL/COLLAPSE TEST RESULTS

NATURAL UNIT DRY WEIGHT (PCF): 109
NATURAL MOISTURE CONTENT: 12.5%
SWELL/COLLAPSE (%): -1.6%

ENTECH ENGINEERING, INC.

SWELL TEST RESULTS

STERLING RANCH EAST, FILING NO. 4
CLASSIC SRJ

JOB NO. 260187

FIG. C-11

APPENDIX D: Previous Test Borings, Entech Job No. 82556

TEST BORING NO. 27
DATE DRILLED 8/9/2006
Job # 82556

REMARKS

DRY TO 15', 8/9/06
CAVED TO 14.5',
8/10/06, DRY

Depth (ft)	Symbol	Samples	Blows per foot	Watercontent %	Soil Type	
						SAND, GRAVELLY, SILTY, FINE TO COARSE GRAINED, BROWN TO TAN, MEDIUM DENSE TO DENSE, MOIST
			19	2.8	1	
5			30	6.6	1	
						CLAY, SANDY, GRAY, STIFF, MOIST
10			29	19.5	2	
			50/9"	10.2	3	SANDSTONE, GRAVELLY, CLAYEY, FINE TO COARSE GAINED, GRAY BROWN, VERY DENSE, MOIST
15			50/5"	10.4	3	
20						

TEST BORING NO. 28
DATE DRILLED 8/10/2006
CLIENT MORLEY BENTLEY
LOCATION STERLING RANCH

REMARKS

DRY TO 15',
8/10/06
CAVED TO 14.5',
8/11/06, DRY

Depth (ft)	Symbol	Samples	Blows per foot	Watercontent %	Soil Type	
					1	SAND, SILTY, DARK BROWN
			25	7.1	3	WEATHERED SANDSTONE, SILTY, TAN, MEDIUM DENSE,
5			50/5"	6.8	3	MOIST
						SANDSTONE, SILTY, FINE TO COARSE GRAINED, TAN, VERY DENSE, MOIST
10			50/5"	5.9	3	
15			50/4"	8.1	3	
20						

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

TEST BORING LOG

DRAWN:	DATE:	CHECKED:	DATE:
			9/5/06

JOB NO.: 82556
FIG NO.: B-14

TEST BORING NO. 29
DATE DRILLED 8/10/2006
Job # 82556

REMARKS

DRY TO 15', 8/10/06

SAND, SILTY, BROWN

SANDSTONE, SILTY, GRAVELLY, FINE TO COARSE GRAINED, LIGHT BROWN, VERY DENSE, MOIST

SANDSTONE, CLAYEY, FINE TO COARSE GRAINED, GREEN BROWN, VERY DENSE, MOIST

* - BULK SAMPLE TAKEN

Depth (ft)	Symbol	Samples	Blows per foot	Watercontent %	Soil Type
					1
			50/6"	2.3	3
5			50/5"	6.4	3
		*		7.6	3
10			50/6"	9.0	3
15			50/4"		3
20					

TEST BORING NO. 30
DATE DRILLED 8/14/2006
CLIENT MORLEY BENTLEY
LOCATION STERLING RANCH

REMARKS

WATER AT 11', 8/16/06

SAND, SILTY, BROWN

CLAY, SANDY, TAN, MOIST

SAND, GRAVELLY, SILTY, FINE TO COARSE GRAINED, TAN, MEDIUM DENSE TO DENSE, MOIST

SANDSTONE, SLIGHTLY SILTY, FINE TO COARSE GRAINED, TAN, VERY DENSE, MOIST

CLAYSTONE, SILTY, GREEN BROWN, HARD, MOIST

* - BULK SAMPLE TAKEN

Depth (ft)	Symbol	Samples	Blows per foot	Watercontent %	Soil Type
					1
		*		13.0	2
			24	3.4	1
5			34	6.6	1
10			50/5"	9.3	3
15			50/5"	17.2	4
20					

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

TEST BORING LOG

DRAWN:	DATE:	CHECKED:	DATE:
		KAH	9/5/06

JOB NO.: 82556
FIG NO.: B-15

APPENDIX E: Soil Survey Descriptions

El Paso County Area, Colorado

19—Columbine gravelly sandy loam, 0 to 3 percent slopes

Map Unit Setting

National map unit symbol: 367p
Elevation: 6,500 to 7,300 feet
Mean annual precipitation: 14 to 16 inches
Mean annual air temperature: 46 to 50 degrees F
Frost-free period: 125 to 145 days
Farmland classification: Not prime farmland

Map Unit Composition

Columbine and similar soils: 97 percent
Minor components: 3 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Columbine

Setting

Landform: Fans, Fan terraces, Flood plains
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium

Typical profile

A - 0 to 14 inches: gravelly sandy loam
C - 14 to 60 inches: very gravelly loamy sand

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Runoff class: Very low
Capacity of the most limiting layer to transmit water (Ksat): High to very high (5.95 to 19.98 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: Very low (about 2.5 inches)

Interpretive groups

Land capability classification (irrigated): 4e
Land capability classification (nonirrigated): 6e
Hydrologic Soil Group: A
Ecological site: R049XY214CO - Gravelly Foothill
Hydric soil rating: No

Minor Components

Fluvaquentic haplaquolls

Percent of map unit: 1 percent

Landform: Swales
Hydric soil rating: Yes

Other soils
Percent of map unit: 1 percent
Hydric soil rating: No

Pleasant
Percent of map unit: 1 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

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

Map Unit Setting

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

Map Unit Composition

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

Description of Pring

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

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

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