January 22, 2021

ENTECH
ENGINEERING, INC.

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

Highway 85-87 Properties
2010 Fox Mountain Point
Colorado Springs, CO 80906

Attn: Steve Schnurr

Re: Soil, Geology, and Geologic Hazard Study
Bradley Point Filing No. 1
Parcel Nos. 65034-00-038 and 65034-00-040
El Paso County, Colorado

Dear Mr. Schnurr:

GENERAL SITE CONDITIONS AND PROJECT DESCRIPTION

The site is located in a portion of the SE¼ of Section 3 Township 15 South, Range 66 West of the 6th Principal Meridian in El Paso County, Colorado. The site is located approximately 1-mile south of the Colorado Springs city limits, northeast of Highway 85-87 and South Academy Boulevard, in El Paso County, Colorado. The location of the site is as shown on the Vicinity Map, Figure 1.

The topography of the site is relatively flat and no drainages were observed on the site. The site boundaries are indicated on the USGS Map, Figure 2. Previous land uses have included undeveloped land. The site contains field grasses and weeds with gravel base across the south-central portions of the site, south of an existing roadway that bisects the site west to east. The BNSF Railroad borders the eastern side of the site. Site Photographs, taken January 20, 2021, are included in Appendix A.

Total acreage involved in the proposed site is approximately 9.7 acres. The proposed use is for material storage with fencing and gates. It is our understanding no new buildings are proposed at this time. The Site Plan with the proposed plat is presented in Figure 3.

LAND USE AND ENGINEERING GEOLOGY

This site was found to be suitable for the proposed use. Areas of artificial fill were observed that may impose constraints on development and land use. Based on the proposed development plan, it appears that these areas will have minimal impact on the proposed development. These conditions will be discussed in greater detail in the report.

In general, it is our opinion that the development as a storage yard 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.

SCOPE OF THE REPORT

The scope of the report will include the following:

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

FIELD INVESTIGATION

Our field investigation consisted of the preparation of a geologic map of bedrock features and significant surficial deposits. The Natural Resource Conservation Service (NRCS), previously the Soil Conservation Service (SCS) survey was also reviewed to evaluate the site. The position of mappable units within the subject property are shown on the Geologic Map. Our mapping procedures involved both field reconnaissance and measurements, and aerial photo reconnaissance and interpretation. The same mapping procedures have also been utilized to produce the Geology/Engineering Geology Map which identified pertinent geologic conditions affecting development. The field mapping was performed by personnel of Entech Engineering, Inc. on January 20, 2021.

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

Laboratory testing was also performed on some of the soils to classify and determine the soils engineering characteristics. Laboratory tests included water content testing (ASTM D-2216) and grain-size analysis (ASTM D-422). Results of the laboratory testing are included in Appendix C.

SOIL AND GEOLOGIC CONDITIONS

Soil Survey

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

Type	Description
8	Blakeland loamy sand, 1 – 9% Slopes

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

Soils

The soils encountered in the test borings and test borings consisted of slightly silty to silty sand fill/possible fill overlying clayey sand and silty, gravelly sand. Bedrock was not encountered in the test borings which were drilled to 20 feet. The sand fill/possible fill was encountered in Test Boring No. 1 at the surface, extending to a depth of 3 feet, and at dense states and moderate moisture conditions. The sample of sand fill tested had 10 percent of the soil size particles passing the No. 200 sieve. The native sand was encountered in both the test borings at depths of the existing ground surface to below the fill at 3 feet, and extending to the termination of the borings (20 feet). The native sand was encountered at medium dense to dense states and dry to moist conditions. The sample of native sand tested had 14 percent of the soil size particles passing the No. 200 sieve.

Groundwater

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

Geology

Approximately 5½ miles west of the site is a major structural feature known as the Ute Pass Fault. This fault, along with the Rampart Range Fault to the north, mark the boundary between the Great Plains Physiographic Province and the Southern Rocky Mountain Province. The site exists within a large structural feature known as the Denver Basin. Bedrock in the area is typically gently dipping in a northerly direction (Reference 3). The bedrock underlying the site consists of the Pierre Shale Formation of Cretaceous Age. The Pierre Shale Formation typically consists of olive brown to gray claystone and shale.

The geology of the site was evaluated using the *Geologic Map of the Colorado Springs Quadrangle,* by Carroll and Crawford in 2000, (Reference 4, Figure 5). The Geology Map for the site is presented in Figure 6. Two mappable units were identified on this site which are described as follows:

Qaf **Artificial Fill of Quaternary Age:** These are man-made fill graded across portions of the site. The fill materials encountered in the test borings and observed on site consisted of slightly silty to silty sands at a depth of 3 feet. Areas of deeper fill could be encountered.

Qt_2 **Terrace Alluvium two of Quaternary Age:** These materials consist of silty to clayey gravelly sands deposited as stream terraces. This deposit is usually highly stratified and may contain lenses of silt, clay or cobbles. The Terrace Alluvium two corresponds with the Broadway Alluvium in the Denver area.

The bedrock underlying the is consists of the Pierre Shale Formation of Cretaceous Age. This formation consists of olive brown to gray claystone and shale. These materials were deposited in a marine environment associated with the Cretaceous Seaway. Typically, there is a layer of residually weathered soil present above the Pierre Shale. The soils and bedrock associated with this formation are typically expansive.

The soils listed above were mapped from site-specific mapping, the *Geologic Map of the Colorado Springs Quadrangle* distributed by the Colorado Geologic Survey in 2000 (Reference 4, Figure 5), The *Geologic Map of the Colorado Springs-Castle Rock Area,* distributed by the US Geological Survey in 1979 (Reference 5), and the *Geologic Map of the Pueblo 1° x 2° Quadrangle,* distributed by the US Geological Survey in 1978 (Reference 6). The test borings drilled by Entech Engineering, Inc. were also used in evaluating the site and are included in Appendix B. The Geology Map prepared for the site is presented in Figure 6.

ENGINEERING GEOLOGIC HAZARDS

Mapping has been performed on this site to identify areas where various geologic conditions exist of which developers should be cognizant during the planning, design and construction stages where new construction is proposed. The engineering geologic hazards identified on this site include areas of artificial fill. These hazards and recommended mitigation techniques are discussed as follows:

Artificial Fill

Areas of fill have been mapped on the site (Figure 6). Other areas of artificial fill may be encountered on site that were not mapped. It is our understanding the site is to be used as materials storage and no new buildings are proposed. The artificial fill does not impact material storage, however, it does impact future structures, should they be considered. Should new buildings be considered, records should be obtained to determine if the fill has been placed in a controlled manner and the soft and organic material was removed. Any uncontrolled fill encountered beneath foundations will require penetration or removal and recompaction at a minimum of 95 percent of its maximum Modified Proctor Dry Density, ASTM D-1557.

RELEVANCE OF GEOLOGIC CONDITIONS TO LAND USE PLANNING

The proposed development is to consist of materials storage with fencing and gates. It is our understanding no new buildings are proposed. The existing geologic and engineering geologic conditions will not impose constraints on proposed use. The geologic conditions on the site include artificial fill, which can be satisfactorily mitigated through proper engineering design and construction practices.

The upper granular soils encountered in the test borings on the site were encountered at medium dense to dense states. Up to 3 feet of fill was encountered in one of the test borings. Based on the proposed development plan, these areas will have minimal impact on the proposed materials storage development. Should new structures be considered, mitigation for uncontrolled fill will be required. Uncontrolled fill encountered beneath foundations will require penetration or removal and recompaction.

The sands encountered in the test borings are considered to have low expansion potential. Expansive clay lenses have been encountered in the area and the bedrock underlying the site is typically expansive. Expansive soils, if encountered, should not impact the proposed materials storage. Should expansive soils be encountered beneath any new foundations, mitigation of expansive soils may be required. Overexcavation and replacement with non-expansive soils at a minimum of 95 percent of its maximum Modified Proctor Dry Density, ASTM D-1557 is a suitable mitigation, which is common in the area. Floor slabs on expansive soils should be expected to experience movement. Overexcavation and replacement has been successful in minimizing slab movements. These soils will not prohibit development.

No drainages were observed on the site and the site does not lie within any floodplain zones according to the FEMA Map No. 08041CO744G dated December 7, 2018 (Figure 7, Reference 7). Exact locations of floodplain and specific drainage studies are beyond the scope of this report.

In summary, the granular soils will likely provide suitable support for materials storage. The geologic conditions encountered on site can be mitigated with proper engineering and construction practices.

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 8), of the area of the site is mapped with floodplain deposits. According to the *Atlas of Sand, Gravel and Quarry Aggregate Resources, Colorado Front Range Counties* distributed by the Colorado Geological Survey (Reference 9), the site is mapped as floodplain deposits:sand. According to the *Evaluation of Mineral and Mineral Fuel Potential* (Reference 10), the area of the site has been mapped as "good" for industrial minerals. It is possible sand and gravel deposits associated with the Terrace Alluvium two could be an aggregate resource. 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 10), the site is mapped as "little or no potential" 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 the site (Reference 10).

The site has been mapped as "Fair" for oil and gas resources (Reference 10). 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.

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 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 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.

CLOSURE

It is our opinion that the existing geologic engineering and geologic conditions will not impose constraints on proposed development of the site. These conditions can be mitigated through proper engineering design and construction practices. The proposed development and use are consistent with anticipated geologic and engineering geologic conditions.

It should be pointed out that because of the nature of data obtained by random sampling of such variable and non-homogeneous materials as soil and rock, it is important that we be informed of any differences observed between surface and subsurface conditions encountered in construction and those assumed in the body of this report. Individual investigations for new building sites and septic systems 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 Highway 85-87 Properties, for application to the proposed project in accordance with generally accepted geologic soil and engineering practices. No other warranty expressed or implied is made.

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

Respectfully Submitted,

ENTECH ENGINEERING, INC.

Kristen A. Andrew-Hoeser, P.G.
Senior Geologist

Reviewed by:

COLORADO LICENSED
JOSEPH COLLIN GOODE JR.
23725
1.2021
PROFESSIONAL ENGINEER

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

KAH/kah

Encl.

Entech Job No. 210082
AAprojects/2021/210082 soil geo

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10. Keller, John W.; TerBest, Harry and Garrison, Rachel E. 2003. *Evaluation of Mineral and Mineral Fuel Potential of El Paso County State Mineral Lands Administered by the Colorado State Land Board.* Colorado Geological Survey. Open-File Report 03-07.

TABLE

TABLE 1

SUMMARY OF LABORATORY TEST RESULTS

CLIENT HIGHWAY 85/87 PROPERTIES
PROJECT BRADLEY POINT, FILING 1
JOB NO. 210082

SOIL TYPE	TEST BORING NO.	DEPTH (FT)	WATER (%)	DRY DENSITY (PCF)	PASSING NO. 200 SIEVE (%)	LIQUID LIMIT (%)	PLASTIC INDEX (%)	SULFATE (WT %)	FHA SWELL (PSF)	SWELL/ CONSOL (%)	UNIFIED CLASSIFICATION	SOIL DESCRIPTION
1	1	2-3			10.3						SM-SW	FILL, SAND, SLIGHTLY SILTY
2	2	10			14.0						SM	SAND, SILTY

FIGURES

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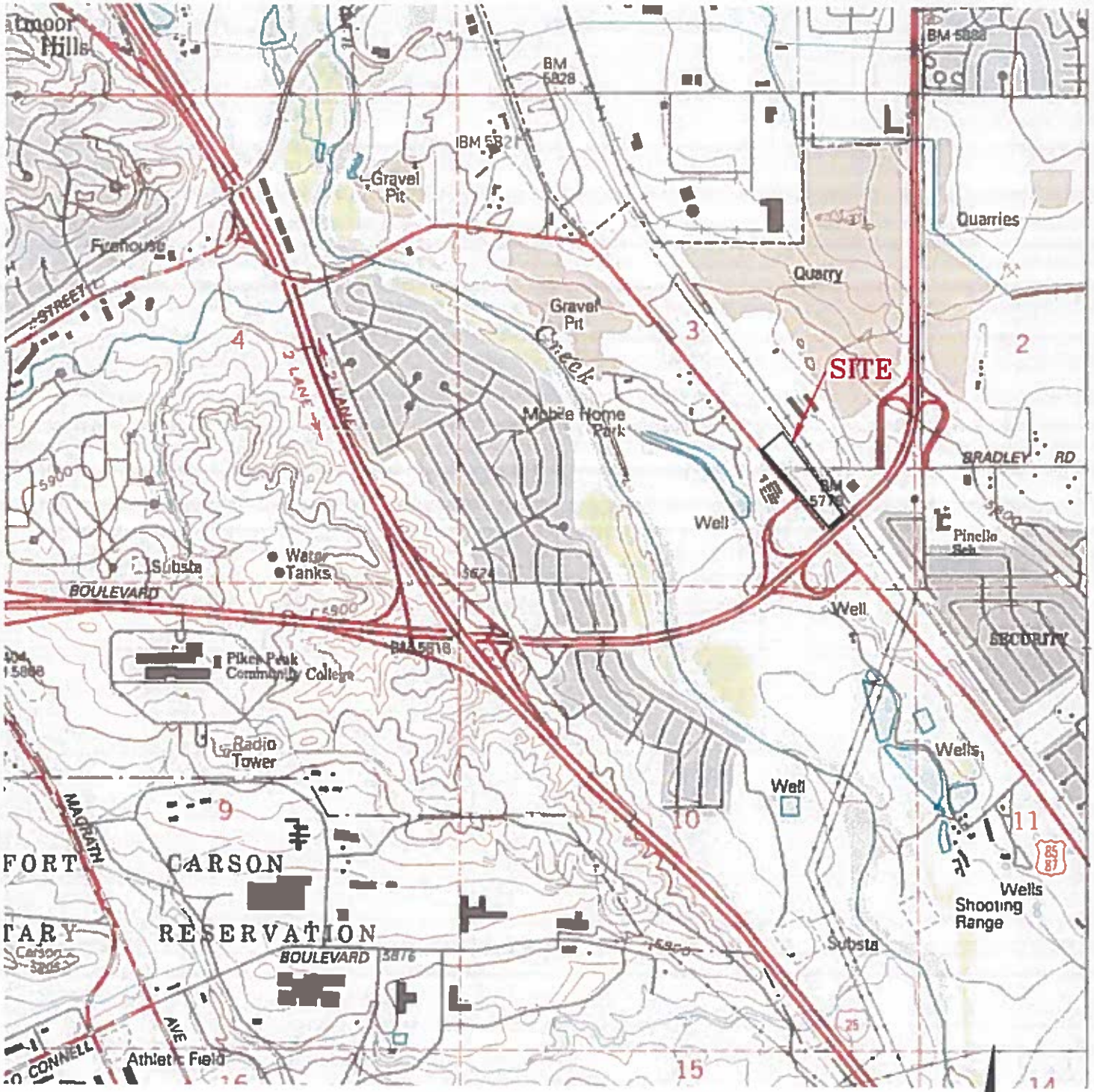
COLORADO SPRINGS, CO. 80907 (719) 531-5599

VICINITY MAP
BRADLEY POINT FILING 1
EL PASO COUNTY, CO.
FOR: HIGHWAY 85-87 PROPERTIES, LLC

DRAWN:	DATE:	CHECKED:	DATE:
JAC	1/22/21	KAH	

JOB NO.: 210082

FIG NO.: 1



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USGS MAP
BRADLEY POINT FILING 1
EL PASO COUNTY, CO.
FOR: HIGHWAY 85-87 PROPERTIES, LLC

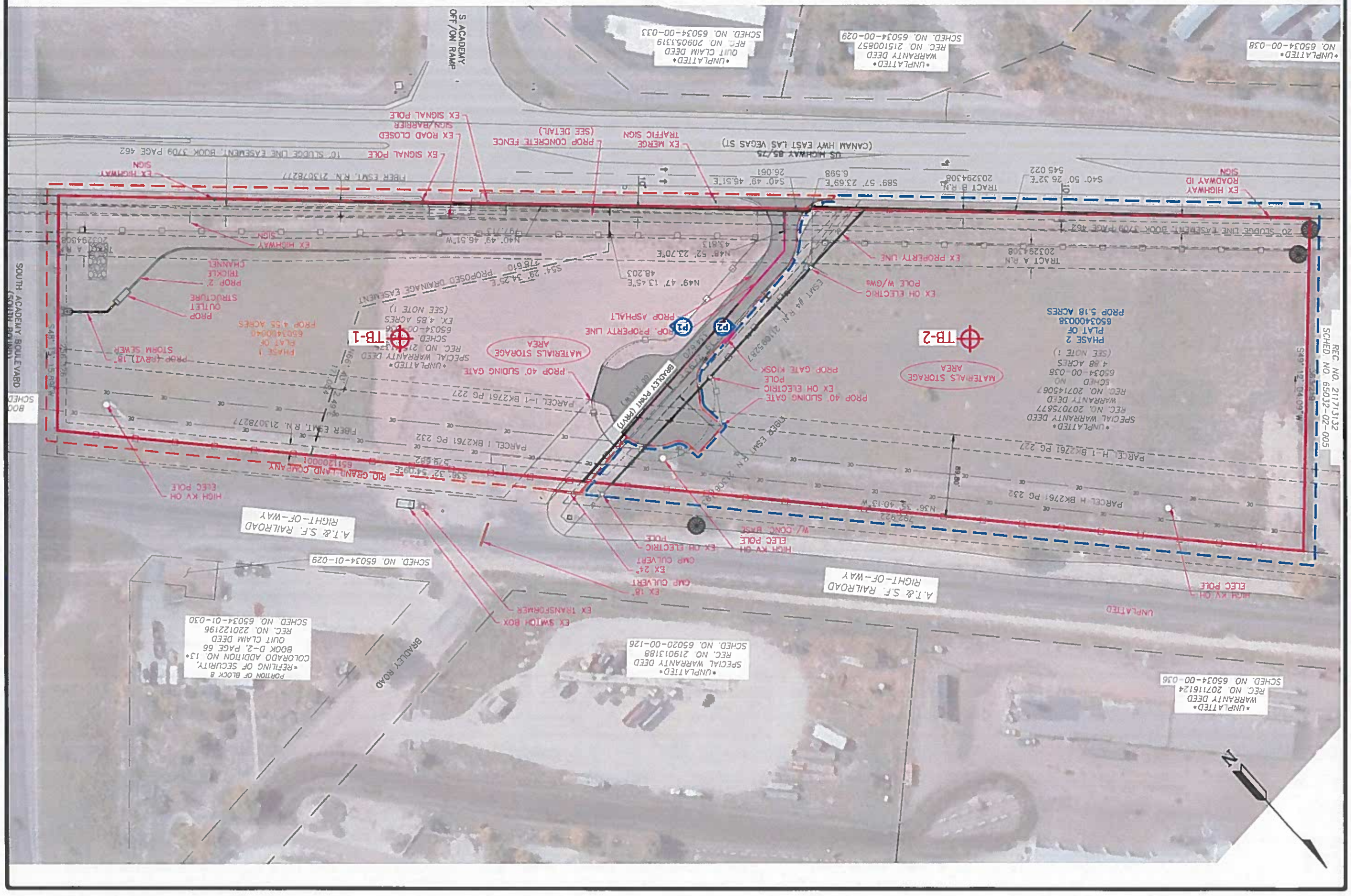
DRAWN:	DATE:	CHECKED:	DATE:
JAC	1/22/21	KAH	

JOB NO.: 210082

FIG NO.: 2

TB-1 - APPROXIMATE TEST BORING LOCATION AND NUMBER

P2 - APPROXIMATE PHOTOGRAPH LOCATION AND DIRECTION



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TEST BORING LOCATION MAP
BRADLEY POINT FILING 1
EL PASO COUNTY, CO.
FOR: HIGHWAY 85-87 PROPERTIES, LLC

DESIGN	JAC
CHECKED	KAH
DATE	1/22/21
SCALE	1"=100'
JOB NO.	210062
FIGURE No.	3

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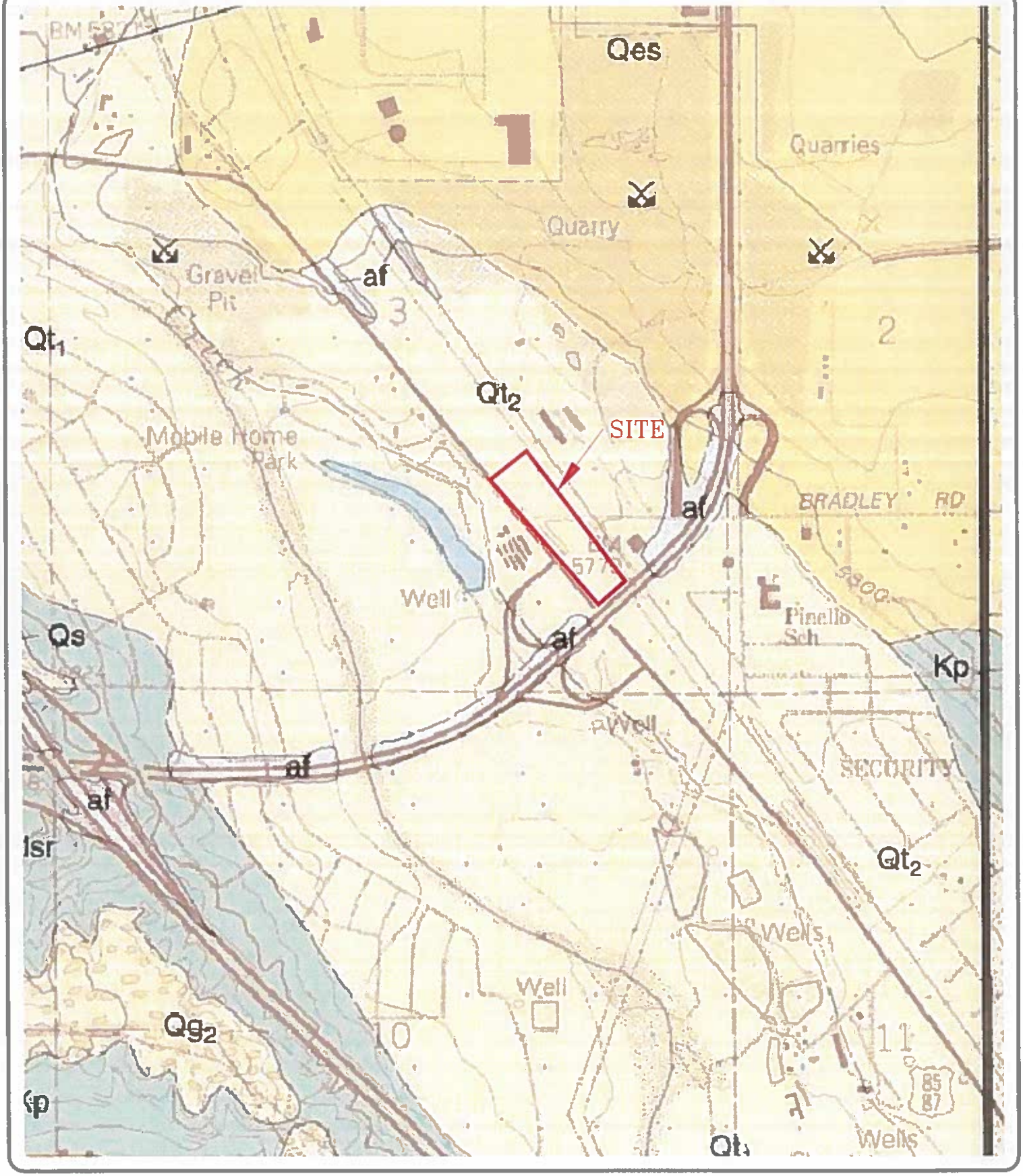
SOIL SURVEY MAP
BRADLEY POINT FILING 1
EL PASO COUNTY, CO.
FOR: HIGHWAY 85-87 PROPERTIES, LLC

DRAWN:	DATE:	CHECKED:	DATE:
JAC	1/22/21	KAH	

JOB NO.: 210082

FIG NO.: 4



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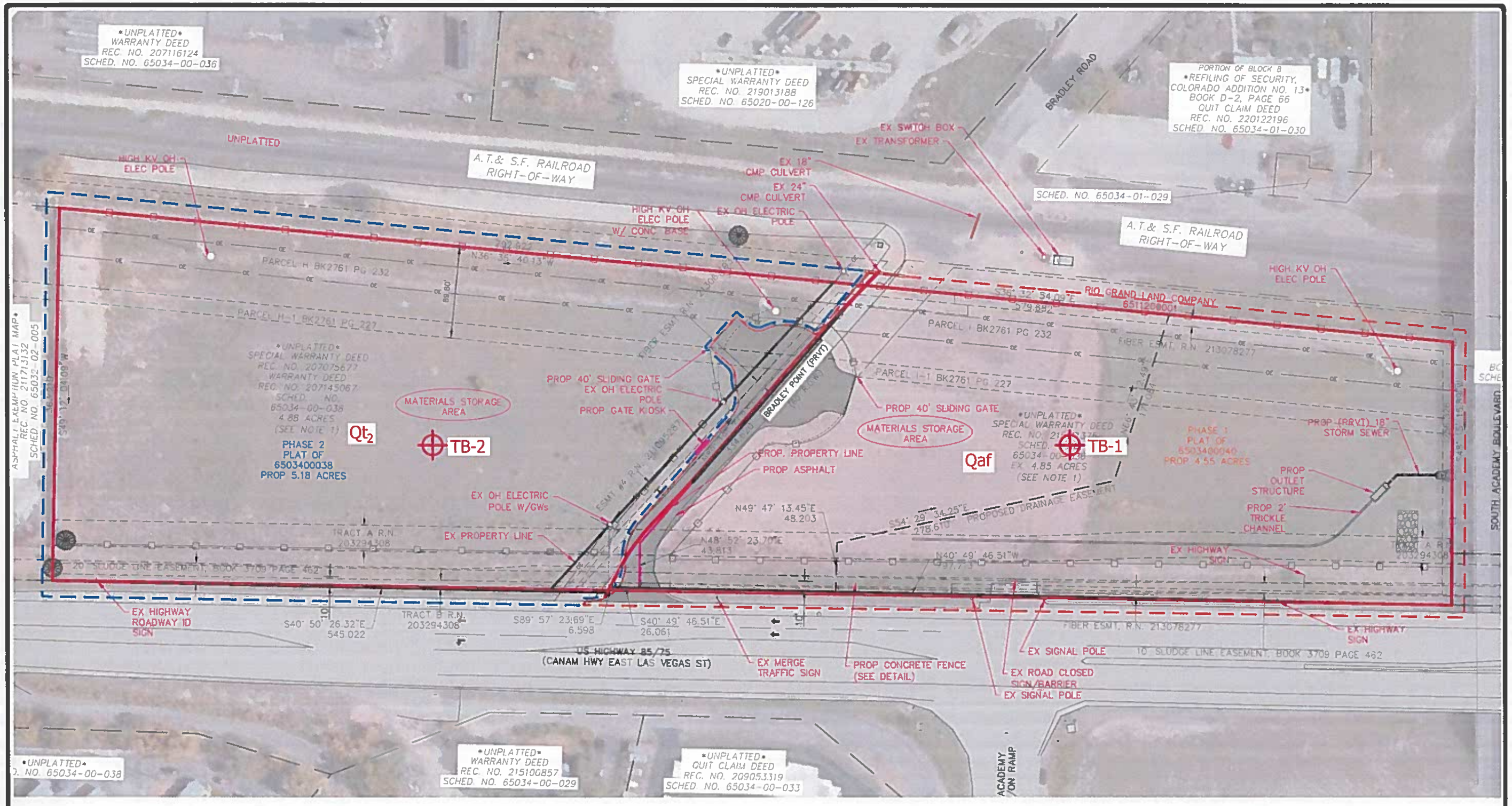
COLORADO SPRINGS QUADRANGLE
GEOLOGY MAP
BRADLEY POINT FILING 1
EL PASO COUNTY, CO.
FOR: HIGHWAY 85-87 PROPERTIES, LLC

DRAWN:	DATE:	CHECKED:	DATE:
JAC	1/22/21	KAH	

JOB NO.: 210082

FIG NO.: 5



Legend:

Qaf - *Artificial Fill of Holocene Age:*
Man-made fill deposits

Qt_2 - *Terrace Alluvium two of Quaternary Age:*
stream terrace deposits

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COLORADO SPRINGS, CO. 80907

GEOLOGY/ENGINEERING GEOLOGY MAP
BRADLEY POINT FILING 1
EL PASO COUNTY, CO.
FOR: HIGHWAY 85-87 PROPERTIES, LLC

DRAWN	JAC
CHECKED	KAH
DATE	1/04/21
SCALE	1"=100'
JOB NO.	210062
FIGURE No.	6

LEGEND

SPECIAL FLOOD HAZARD AREAS INUNDATED BY 100-YEAR FLOOD

ZONE A No base flood elevations determined.

ZONE AE Base flood elevations determined.

ZONE AH Flood depths of 1 to 3 feet (usually areas of ponding); base flood elevations determined.

ZONE AO Flood depths of 1 to 3 feet (usually sheet flow on sloping terrain); average depths determined. For areas of alluvial fan flooding, velocities also determined.

ZONE A99 To be protected from 100-year flood by Federal flood protection system under construction; no base elevations determined.

ZONE V Coastal flood with velocity hazard (wave action); no base flood elevations determined.

ZONE VE Coastal flood with velocity hazard (wave action); base flood elevations determined.

FLOODWAY AREAS IN ZONE AE

OTHER FLOOD AREAS

ZONE X Areas of 500-year flood; areas of 100-year flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 100-year flood.

OTHER AREAS

ZONE X Areas determined to be outside 500-year floodplain.

ZONE D Areas in which flood hazards are undetermined.

UNDEVELOPED COASTAL BARRIERS

Identified 1983 | Identified 1990 | Otherwise Protected Areas

Coastal barrier areas are normally located within or adjacent to Special Flood Hazard Areas.

Flood Boundary

Floodway Boundary

Zone D Boundary

Boundary Dividing Special Flood Hazard Zones, and Boundary Dividing Areas of Different Coastal Base Flood Elevations Within Special Flood Hazard Zones.

513 — Base Flood Elevation Line; Elevation in Feet. See Map Index for Elevation Datum.

D — D — Cross Section Line

(EL 987) — Base Flood Elevation in Feet Where Uniform Within Zone. See Map Index for Elevation Datum.

RM7 — Elevation Reference Mark

M2 — River Mile

97°07'30", 32°22'30" — Horizontal Coordinates Based on North American Datum of 1927 (NAD 27) Projection.

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FLOODPLAIN MAP
BRADLEY POINT FILING 1
EL PASO COUNTY, CO.
FOR: HIGHWAY 85-87 PROPERTIES, LLC

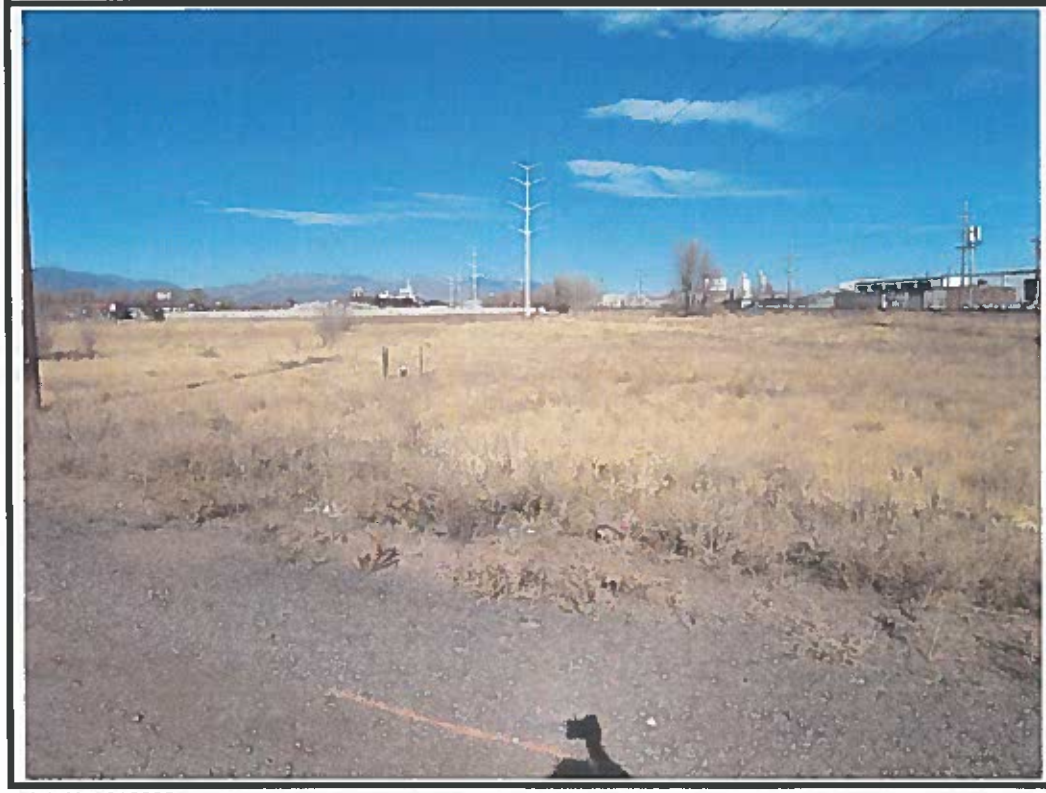
DESIGN	JAC
CHECKED	KAH
DATE	1/22/21
SCALE	AS SHOWN
JOB NO.	210082
FIGURE No.	7

APPENDIX A: Site Photographs

1

Looking south from central portion of the site.

January 20, 2021



2

Looking north from central portion of the site.

January 20, 2021

Job No. 210082

APPENDIX B: Test Boring Logs

TEST BORING NO. 1
DATE DRILLED 1/12/2021
Job # 210082

REMARKS

DRY TO 20', 1/12/21
CAVED TO 18.5', 1/13/21, DRY

Depth (ft)	Symbol	Samples	Blows per foot	Watercontent %	Soil Type
			31	4.1	1
5			13	9.2	2
10			26	1.6	2
15			31	2.5	2
20			32	5.0	2

3" GRAVEL, POSS. FILL 0-3', SAND, SLIGHTLY SILTY TO SILTY, FINE TO COARSE GRAINED, TAN, DENSE, MOIST

SAND, CLAYEY, FINE GRAINED, DARK BROWN, MEDIUM DENSE, MOIST

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

TEST BORING NO. 2
DATE DRILLED 1/12/2021
CLIENT HIGHWAY 85/87 PROPERTIES
LOCATION BRADLEY POINT, FILING 1

REMARKS

DRY TO 20', 1/12/21
CAVED TO 18', 1/13/21, DRY

Depth (ft)	Symbol	Samples	Blows per foot	Watercontent %	Soil Type
			18	3.5	2
5			17	2.3	2
10			*	2.0	2
15			27	3.5	2
20			29	3.2	2

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

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

* - BULK SAMPLE TAKEN

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COLORADO SPRINGS, COLORADO 80907

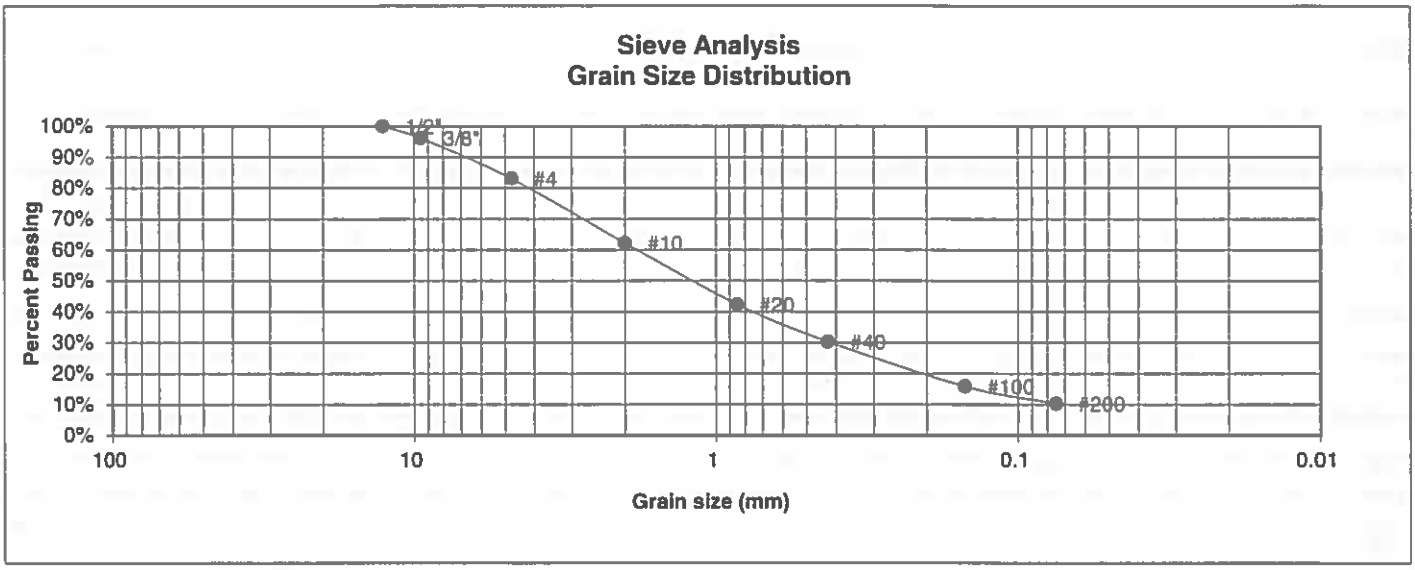
TEST BORING LOG

DRAWN:	DATE:	CHECKED:	DATE: 1/20/21

JOB NO.: 210082
FIG NO.: B- 1

APPENDIX C: Laboratory Test Results

UNIFIED CLASSIFICATION	SM-SW	CLIENT	HIGHWAY 85/87 PROPERTIES
SOIL TYPE #	1	PROJECT	BRADLEY POINT, FILING 1
TEST BORING #	1	JOB NO.	210082
DEPTH (FT)	2-3	TEST BY	BL



U.S. Sieve #	Percent Finer
3"	
1 1/2"	
3/4"	
1/2"	100.0%
3/8"	96.2%
4	83.1%
10	62.2%
20	42.4%
40	30.3%
100	15.9%
200	10.3%

Atterberg Limits
Plastic Limit
Liquid Limit
Plastic Index

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

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COLORADO SPRINGS, COLORADO 80907

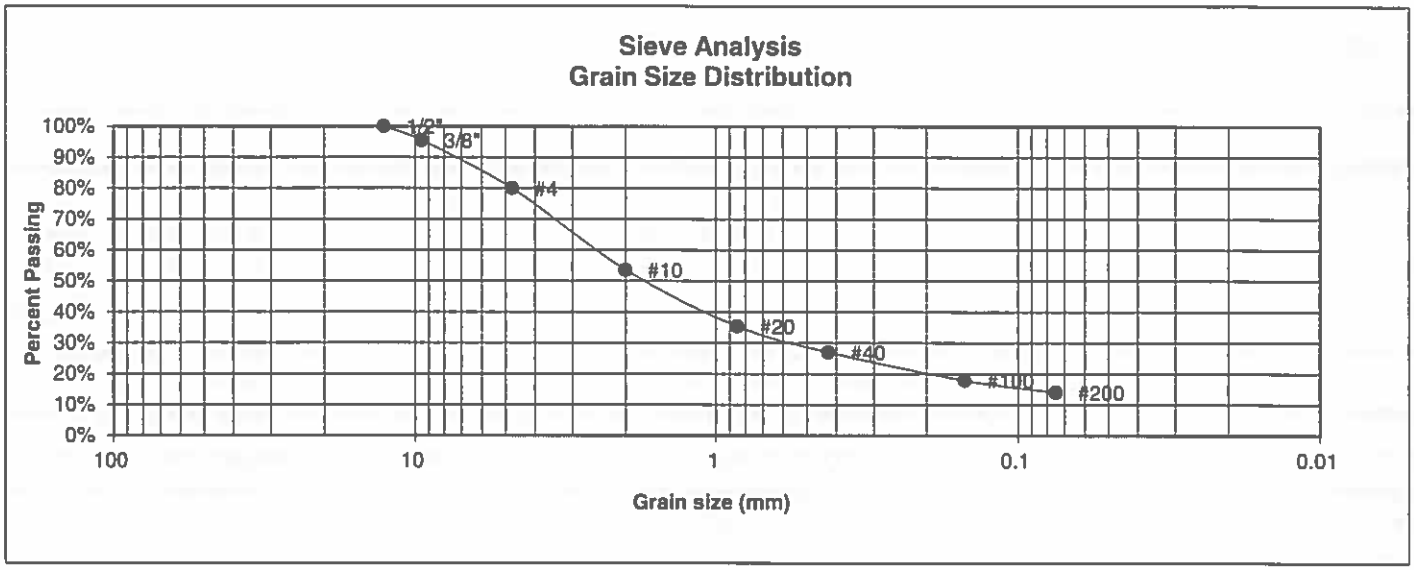
LABORATORY TEST RESULTS

DRAWN:	DATE:	CHECKED:	DATE:
			1/21/20

JOB NO.: 210082

FIG NO.: C-1

UNIFIED CLASSIFICATION	SM	CLIENT	HIGHWAY 85/87 PROPERTIES
SOIL TYPE #	2	PROJECT	BRADLEY POINT, FILING 1
TEST BORING #	2	JOB NO.	210082
DEPTH (FT)	10	TEST BY	BL



U.S. Sieve #	Percent Finer
3"	
1 1/2"	
3/4"	
1/2"	100.0%
3/8"	95.5%
4	79.9%
10	53.5%
20	35.4%
40	27.0%
100	17.9%
200	14.0%

Atterberg Limits
Plastic Limit
Liquid Limit
Plastic Index

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

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LABORATORY TEST RESULTS

DRAWN:	DATE:	CHECKED:	DATE:

JOB NO.: 210082

FIG NO.: C-2

APPENDIX D: Soil Survey Descriptions

El Paso County Area, Colorado

8—Blakeland loamy sand, 1 to 9 percent slopes

Map Unit Setting

National map unit symbol: 369v
Elevation: 4,600 to 5,800 feet
Mean annual precipitation: 14 to 16 inches
Mean annual air temperature: 46 to 48 degrees F
Frost-free period: 125 to 145 days
Farmland classification: Not prime farmland

Map Unit Composition

Blakeland and similar soils: 98 percent
Minor components: 2 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Blakeland

Setting

Landform: Hills, flats
Landform position (three-dimensional): Side slope, talf
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium derived from sedimentary rock and/or eolian deposits derived from sedimentary rock

Typical profile

A - 0 to 11 inches: loamy sand
AC - 11 to 27 inches: loamy sand
C - 27 to 60 inches: sand

Properties and qualities

Slope: 1 to 9 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Somewhat excessively drained
Runoff class: 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
Calcium carbonate, maximum content: 5 percent
Available water capacity: Low (about 4.5 inches)

Interpretive groups

Land capability classification (irrigated): 3e
Land capability classification (nonirrigated): 6e
Hydrologic Soil Group: A
Ecological site: R049XB210CO - Sandy Foothill
Hydric soil rating: No

Minor Components

Pleasant

Percent of map unit: 1 percent
Landform: Depressions
Hydric soil rating: Yes

Other soils

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

Data Source Information

Soil Survey Area: El Paso County Area, Colorado
Survey Area Data: Version 18, Jun 5, 2020