



**ENTECH**  
ENGINEERING, INC.

505 ELKTON DRIVE  
COLORADO SPRINGS, CO 80907  
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August 28, 2022

The O'Neil Group  
455 East Pikes Peak Avenue  
Colorado Springs, CO 80906

Attn: Jordan Montoya

Re: Preliminary Subsurface Soils Investigation  
Four Way  
Highway 24 and Stapleton Road  
Peyton, Colorado  
Entech Job. No. 221614

Dear Mr. Montoya:

As requested, personnel of Entech Engineering, Inc. performed a Preliminary Subsurface Soil Investigation at the above referenced site. The site is located south and north of Stapleton Road and northwest of Highway 24 in El Paso County, Colorado. The site is indicated on the Vicinity Map, Figure 1. This letter presents the results of our soils investigation, laboratory tests, and preliminary recommendations for construction.

#### **FIELD INVESTIGATION AND LABORATORY TESTING:**

The subsurface conditions on this site were investigated by drilling six exploratory test borings spaced across the site. Five borings were drilled on the south side of Stapleton Road and one was drilled on the north side. The approximate locations of the test borings are indicated on the Test Boring Location Map, Figure 2. Results of the Standard Penetration Tests are shown on the Test Boring Logs. The Test Boring Logs are presented in Appendix A. Moisture Content, ASTM D-2216, was obtained in the laboratory for the recovered samples. Grain-Size Analysis, ASTM D-422, and determination of Atterberg Limits, ASTM D-4318, were performed on samples for the purposes of classification. FHA Swell testing was performed to evaluate the expansive/compressive characteristics of the soils. Sulfate testing was performed to determine the corrosive potential of the soils. Laboratory test results are summarized in Table 1 and presented in Appendix B.

#### **SOIL AND GROUNDWATER CONDITIONS:**

One soil type and one rock type were observed during drilling which consisted of Type 1: silty to clayey sand (SM, SC) and Type 2: silty to slightly silty sandstone bedrock (SM, SM-SW). The topsoil was relatively thin on the site, ranging from zero to 6 inches. Each soil type was classified in accordance with the Unified Soil Classification System (USCS) using the laboratory testing results and the observations made during drilling.

Soil Type 1 classified as silty to clayey sand (SM, SC). The sand was encountered in all of the test borings directly beneath the topsoil extending to depths ranging from 3 to 14 feet below ground surface (bgs). Standard Penetration Testing on the sand resulted in N-values of 9 to 42 bpf indicating loose to dense states. Water content and grain size testing resulted in approximately 3 to 21 percent water content with 22 to 26 percent of the soil size particles passing the No. 200 sieve. Atterberg limits testing on a sample of clayey sand resulted in a

liquid limit of 32 percent and a plastic index of 12 percent. FHA Swell Testing on a sample of silty sand from Test Boring No. 5 at a depth of 2 to 3 feet resulted in a swell pressure of 260 psf. Which indicated a low expansion potential. Sulfate Testing resulted in a negligible potential for below grade concrete degradation due to sulfate attack.

Soil Type 2 classified as silty to slightly silty sandstone (SM, SM-SW). The sandstone was encountered in all of the test borings at depths ranging from 3 to 14 feet and extending to the depths explored (20 feet) bgs. Standard Penetration Testing on the sandstone resulted in an N-values of 50 or greater than 50 bpf indicating very dense states. Water content and grain size testing resulted in 11 to 21 percent water content and approximately 8 to 10 percent of the soil size particles passing the No. 200 sieve. Atterberg limits testing resulted in no values and sulfate testing yielded negligible results.

Groundwater was encountered in the test borings at between 4 and 16 feet bgs subsequent to drilling which were drilled to 20 feet bgs. The shallow water was in Test Boring Nos. 3 and 4, which were drilled near the drainages. Groundwater will likely affect the construction of shallow foundations proposed for this site, along with roadways, utility placement and general site grading. Development of this and adjacent properties, as well as seasonal precipitation changes in run off may affect groundwater elevations.

#### **PRELIMINARY DEVELOPMENT CONSIDERATIONS AND RECOMMENDATIONS:**

Subsurface soil conditions encountered in the test borings consisted of native silty to clayey sand overlying sandstone bedrock. Bedrock was encountered at depths of 3 to 14 feet in the test borings. The sand was encountered generally at medium dense states with some loose zones. Loose soils encountered beneath foundations will require removal and recompaction. The sandstone was encountered at very dense states.

Groundwater was encountered in the test borings at between 4 and 16 feet bgs which were drilled to 20 feet bgs. Groundwater may affect the construction of shallow foundations proposed for this site, depending on site grading and location on the site. Unstable conditions may be encountered where excavations approach the water table. Stabilization using shot rock or geogrids may be necessary. Development of this and adjacent properties as well as seasonal precipitation changes in runoff may affect groundwater elevations.

Allowable bearing capacities ranging from 2000 to 2600 psf are anticipated for the site granular soils, recompacted site soils, or imported structural fill. An allowable bearing capacity of 3500 to 4000 psf is anticipated for the undisturbed sandstone. Shallow foundations should have a minimum 30-inches frost protection. An equivalent fluid pressure (in the active state) of 40 pcf is anticipated for the site granular soils.

On-grade floor slabs for the planned structures can be supported on medium dense site soils or structural fill. Loose soils will require recompaction. Expansive soils, if encountered below slabs, will require removal and replacement with non-expansive fill.

Subsurface perimeter drains are recommended for useable space located below grade and around the entire structure if expansive soils are encountered. If shallow groundwater is

Preliminary Subsurface Soils Investigation  
The O'Neil Group  
Four Way  
Colorado Springs, Colorado  
Entech Job No. 221614

encountered, stabilization in conjunction with interceptor, capillary break, and/or overexcavation drains will be necessary. A typical perimeter drain detail is attached in Figure No. 3.

#### **ON-GRADE FLOOR SLABS:**

If standard spread footing foundations are used, any grade supported floor slabs should be separated from other structural components and utility penetrations to allow for possible future vertical movement, unless designed as part of the foundation. Control joints in grade-supported slabs are recommended at 10 to 15-foot perpendicular spacings to control cracking.

#### **PRELIMINARY CONCRETE RECOMMENDATIONS:**

Soluble sulfate testing was conducted on each soil type to evaluate the potential for sulfate attack on concrete placed below the surface grade. The test results indicated less than 0.01 percent soluble sulfate by weight for the site soils. The test results indicate the sulfate component of the in-place site soils present a negligible exposure threat to concrete placed below grade that comes into contact with the site soils.

Type II cement is recommended for concrete at this site. To further avoid concrete degradation during construction it is recommended that concrete not placed on frozen or wet ground. Care should be taken to prevent the accumulation or ponding of water in foundation excavations prior to the placement of concrete. If standing water is present in the foundation excavations, it should be removed by ditching to sumps and pumping the water away from the foundation area prior to concrete placement. If concrete is placed during periods of cold temperatures, the concrete must be kept from freezing. This may require covering the concrete with insulated blankets and adding heat to prohibit freezing.

#### **SITE GRADING:**

Any areas to receive fill should have all topsoil, organic material or debris removed. In areas of shallow water, unstable conditions may be encountered. Dewatering and/or stabilization of the soils may be required. Fill must be properly benched and compacted to minimize potentially unstable conditions in slope areas. Completed slopes should be 3:1 or flatter, if constructed without reinforcing. Flatter slopes may be necessary if ground water is present. The surface to receive fill should be scarified, moisture conditioned to within  $\pm 2\%$  of optimum moisture content and compacted to a minimum of 95% of its maximum Modified Proctor Dry Density, ASTM D-1557, prior to placing new fill.

New fill should be placed in thin lifts not to exceed 6 inches after compaction while maintaining at least 95% of its maximum Modified Proctor Dry Density, ASTM D-1557. These materials should be placed at a moisture content conducive to compaction, usually  $\pm 2\%$  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 hauling them to the site.

#### **ADDITIONAL SUBSURFACE SOIL INVESTIGATIONS:**

Additional subsurface soil investigation is recommended when development plans (grading and building locations) are determined, in order to provide final recommendations.

Preliminary Subsurface Soils Investigation  
The O'Neil Group  
Four Way  
Colorado Springs, Colorado  
Entech Job No. 221614

**CLOSURE:**

The Preliminary Subsurface Investigation, geotechnical evaluation and recommendations presented in this report are intended for use by The O'Neil Group with application to proposed development sites. The borings were located to provide preliminary recommendations, variations in site subsurface conditions not indicated on the borings should be anticipated. Additional subsurface investigation and testing is recommended to further evaluate each building site. Additional investigations will also be required as part of the development approval process.

In conducting the Preliminary Subsurface Investigation, laboratory testing, engineering evaluation and reporting, Entech Engineering, Inc. endeavored to work in accordance with generally accepted professional geotechnical and geologic practices and principles consistent with the level of care and skill ordinarily exercised by members of the geotechnical profession currently practicing in same locality and under similar conditions. No other warranty, expressed or implied is made.

If there are any questions regarding the information provided herein or if Entech Engineering, Inc. can be of further assistance, please do not hesitate to contact us.


Respectfully Submitted,

ENTECH ENGINEERING, INC.

  
Stuart Wood  
Geologist



Reviewed by:

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

DPS/rs

Encl.

AAProjects/2022/221614 - pssi

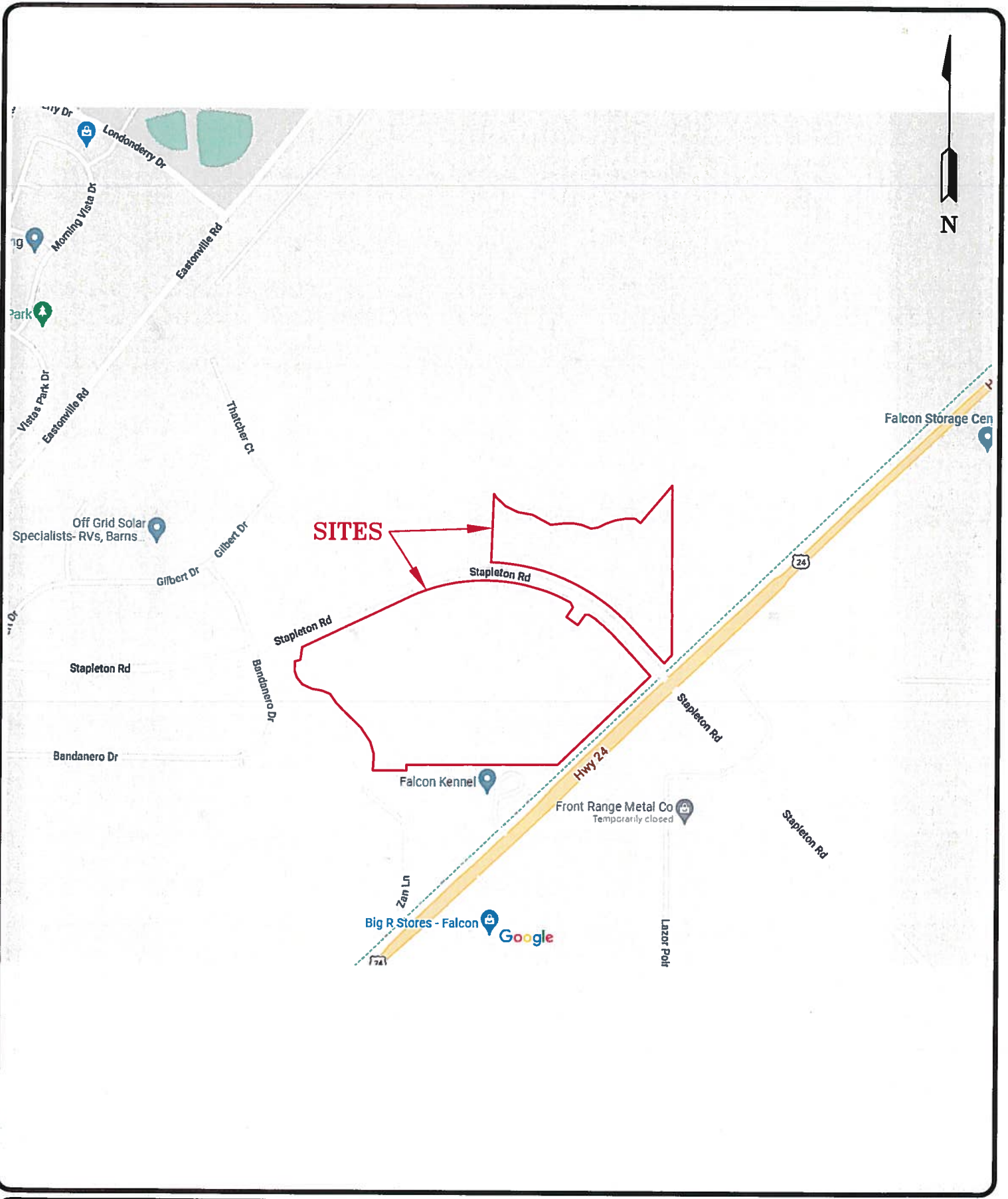
## TABLE

**TABLE 1**  
**SUMMARY OF LABORATORY TEST RESULTS**

CLIENT THE O'NEIL GROUP  
PROJECT FOUR WAY  
JOB NO. 221614

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			26.3	32	12	<0.01			SC	SAND, CLAYEY
1	3	5			21.6						SM	SAND, SILTY
1	5	2-3			24.0				260		SM	SAND, SILTY
2	2	15			10.1	NV	NP	<0.01			SM-SW	SANDSTONE, SLIGHTLY SILTY
2	4	15			8.4						SM-SW	SANDSTONE, SLIGHTLY SILTY
2	6	10			8.0						SM-SW	SANDSTONE, SLIGHTLY SILTY

## FIGURES



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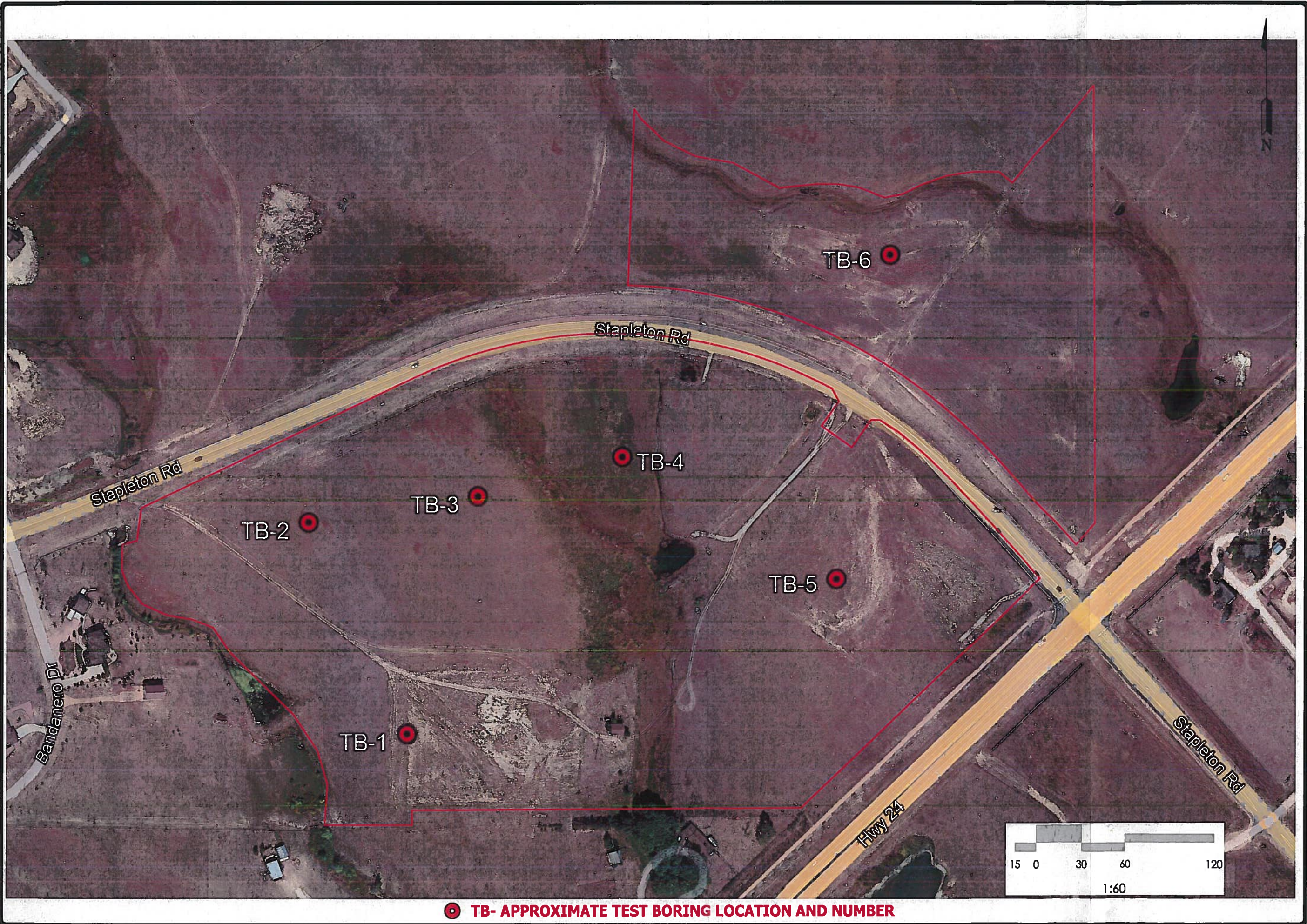
**VICINITY MAP**  
**FOUR WAY (HWY 24 & STAPLETON RD.)**  
**COLORADO SPRINGS, CO.**  
**FOR: THE O'NEIL GROUP CO. C/O TYE TUTT**

DRAWN: JAC	DATE: 8/10/22	CHECKED: DPS	DATE:
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JOB NO.:  
**221461**

FIG NO.:  
**1**





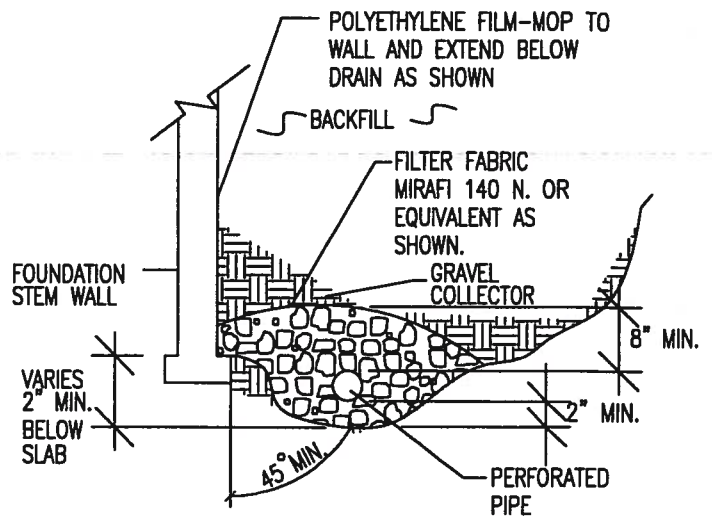
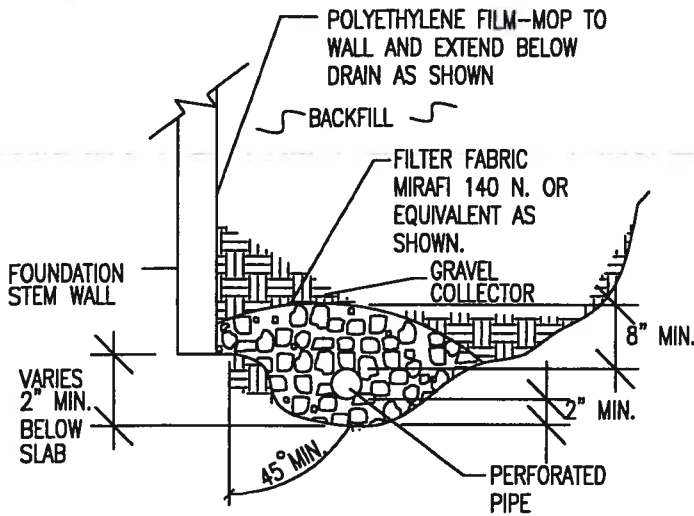
● TB- APPROXIMATE TEST BORING LOCATION AND NUMBER

REVISION	BY

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TEST BORING LOCATION MAP  
FOUR WAY (HWY 24 & STAPLETON RD.)  
COLORADO SPRINGS, CO.  
FOR: THE O'NEIL GROUP CO. C/O TYE TUTT

BY	JAC
CHKD	DPS
DATE	8/10/22
SCALE	1:60
DWG NO.	231014
DATE	7/26/22
<b>2</b>	



**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.



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*PERIMETER DRAIN DETAIL*

<i>DRAWN:</i>	<i>DATE:</i>	<i>DESIGNED:</i>	<i>CHECKED:</i> SW
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JOB NO.:  
 221614  
 FIG NO.:  
 3

## **APPENDIX A: Test Boring Logs**

TEST BORING NO. 1  
 DATE DRILLED 7/25/2022  
 Job # 221614

TEST BORING NO. 2  
 DATE DRILLED 7/25/2022  
 CLIENT THE O'NEIL GROUP  
 LOCATION FOUR WAY

REMARKS

WATER @ 9', 7/25/22  
 6" TOPSOIL, SAND, CLAYEY,  
 FINE TO MEDIUM GRAINED, TAN,  
 MEDIUM DENSE, MOIST

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

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

Depth (ft)	Symbol	Samples	Blows per foot	Watercontent %	Soil Type
0-6	⊛		14	5.4	1
6-5	⊙		11	3.6	1
5-10	⊙		18	14.5	1
10-15	⊙		50	18.1	2
15-20	⊙		50	11.6	2

REMARKS

WATER @ 9', 7/25/22  
 6" TOPSOIL, SAND, SILTY, FINE  
 TO COARSE GRAINED, TAN,  
 MEDIUM DENSE TO LOOSE,  
 MOIST TO WET

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

Depth (ft)	Symbol	Samples	Blows per foot	Watercontent %	Soil Type
0-6	⊛		14	5.2	1
6-5	⊙		14	20.7	1
5-10	⊙		9	15.0	1
10-15	⊙		50	13.8	2
15-20	⊙		50	14.2	2



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TEST BORING LOG

DRAWN: DATE: CHECKED: DATE:

JOB NO.:  
 221614

FIG NO.:  
 A- 1

TEST BORING NO. 3  
 DATE DRILLED 7/25/2022  
 Job # 221614

TEST BORING NO. 4  
 DATE DRILLED 7/25/2022  
 CLIENT THE O'NEIL GROUP  
 LOCATION FOUR WAY

REMARKS

WATER @ 4', 7/25/22  
 6" TOP SOIL, SAND, SILTY, FINE TO COARSE GRAINED, TAN, MEDIUM DENSE TO LOOSE, MOIST TO WET

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

Depth (ft)	Symbol	Samples	Blows per foot	Watercontent %	Soil Type
0-6"	☼		15	5.5	1
6-9"	☼		9	16.5	1
9-15"	☼		15	17.9	1
15-20"	☼	50 7"	50 7"	15.6	2
20-27"	☼	50 7"	50 7"	14.4	2

REMARKS

WATER @ 4', 7/25/22  
 SAND, CLAYEY, DARK BROWN SAND, SILTY, FINE TO COARSE GRAINED, TAN, MEDIUM DENSE, MOIST

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

Depth (ft)	Symbol	Samples	Blows per foot	Watercontent %	Soil Type
0-6"	☼		13	11.4	1
6-15"	☼		15	10.2	1
15-21"	☼	50 6"	50 6"	12.0	2
21-27"	☼	50 6"	50 6"	11.3	2
27-33"	☼	50 7"	50 7"	13.4	2



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TEST BORING LOG

DRAWN: DATE: CHECKED: DATE:

JOB NO:  
 221614

FIG NO:  
 A- 2

TEST BORING NO. 5  
 DATE DRILLED 7/25/2022  
 Job # 221614

TEST BORING NO. 6  
 DATE DRILLED 7/25/2022  
 CLIENT THE O'NEIL GROUP  
 LOCATION FOUR WAY

REMARKS

WATER @ 16', 7/25/22  
 6" TOPSOIL, SAND, SILTY, FINE  
 TO COARSE GRAINED, TAN,  
 LOOSE TO DENSE, MOIST TO WET

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

Depth (ft)	Symbol	Samples	Blows per foot	Watercontent %	Soil Type
0-6"	⋆		24	11.1	1
5-9"	⋆		9	14.5	1
10-36"	⋆		36	13.7	1
15-50"	⋆		50	16.2	2
10"			10"		
20-50"	⋆		50	17.4	2
9"			9"		



REMARKS

WATER @ 9', 7/25/22  
 SAND, SILTY, FINE TO COARSE  
 GRAINED, TAN, DENSE, MOIST  
 SANDSTONE, SLIGHTLY SILTY,  
 FINE TO COARSE GRAINED,  
 TAN, VERY DENSE, MOIST

Depth (ft)	Symbol	Samples	Blows per foot	Watercontent %	Soil Type
0-42"	⋆		42	5.6	1
5-50"	⋆		50	12.0	2
8"			8"		
10-50"	⋆		50	15.1	2
6"			6"		
15-50"	⋆		50	20.7	2
6"			6"		
20-50"	⋆		50	15.4	2
7"			7"		



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TEST BORING LOG

DRAWN:

DATE:

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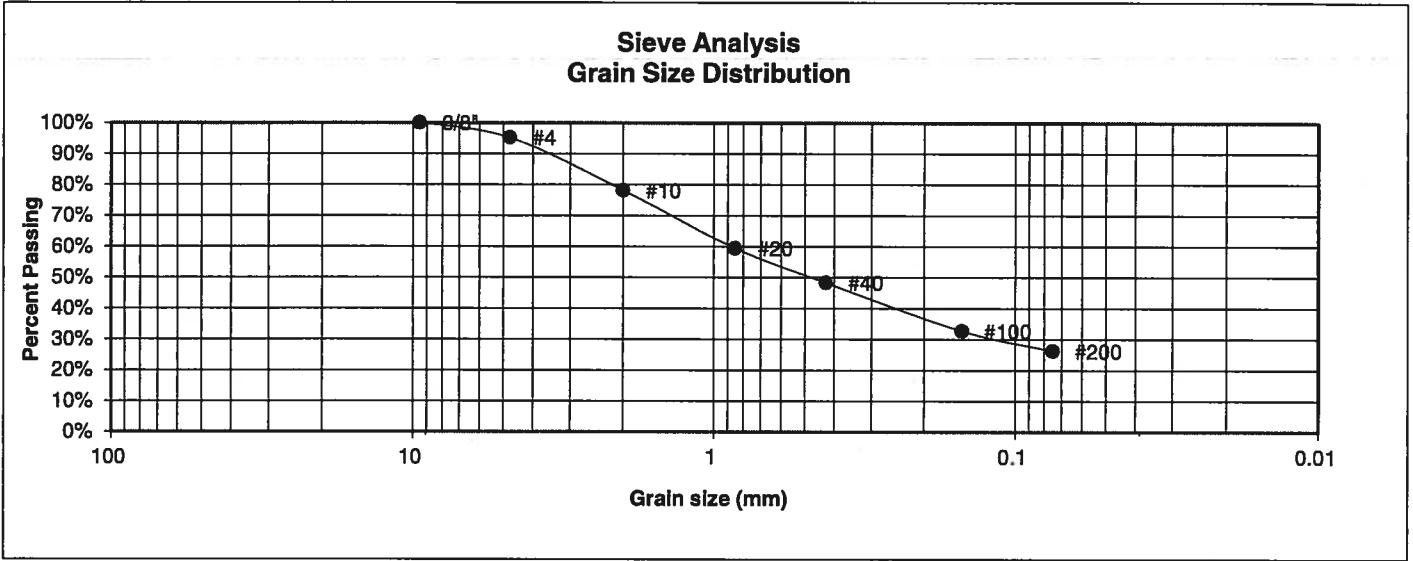
DATE:

JOB NO.:  
 221614

FIG NO.:  
 A- 3

## **APPENDIX B: Laboratory Testing Results**

<b>UNIFIED CLASSIFICATION</b>	SC	<b>CLIENT</b>	THE O'NEIL GROUP
<b>SOIL TYPE #</b>	1	<b>PROJECT</b>	FOUR WAY
<b>TEST BORING #</b>	1	<b>JOB NO.</b>	221614
<b>DEPTH (FT)</b>	2-3	<b>TEST BY</b>	BL



U.S. Sieve #	Percent Finer
3"	
1 1/2"	
3/4"	
1/2"	
3/8"	100.0%
4	95.2%
10	78.2%
20	59.4%
40	48.3%
100	32.7%
200	26.3%

Atterberg Limits	
Plastic Limit	20
Liquid Limit	32
Plastic Index	12

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



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**LABORATORY TEST RESULTS**

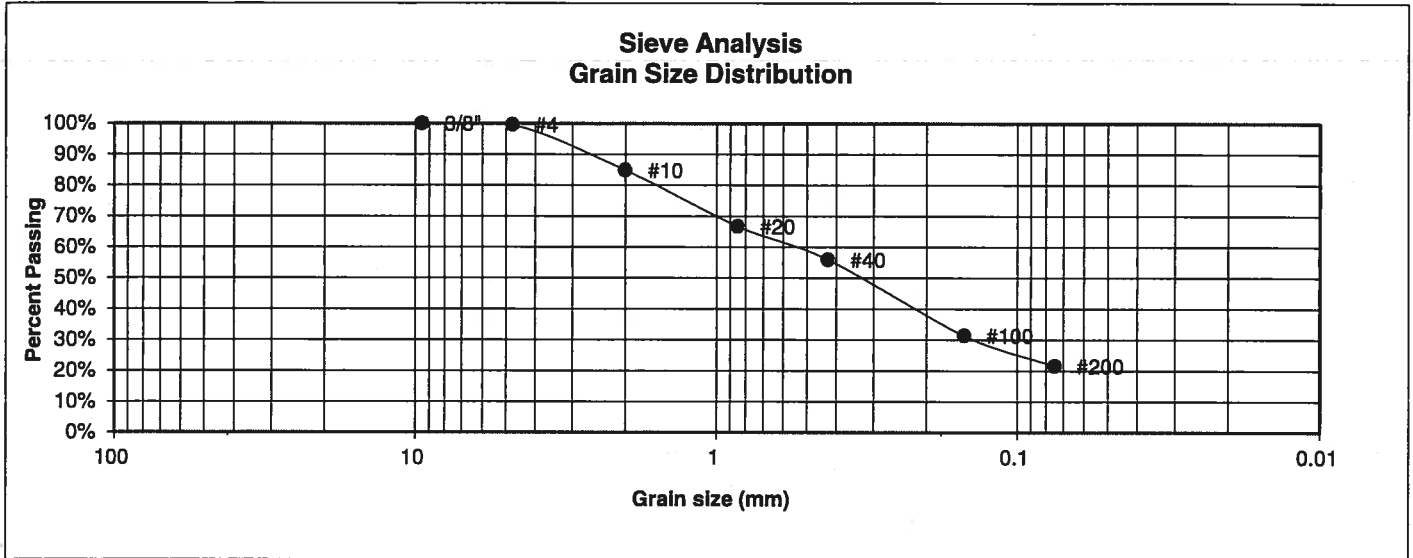
DRAWN:	DATE:	CHECKED: <i>SW</i>	DATE: <i>8-2-22</i>
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JOB NO.:  
221614

FIG NO.:  
*B-1*



<b>UNIFIED CLASSIFICATION</b>	SM	<b>CLIENT</b>	THE O'NEIL GROUP
<b>SOIL TYPE #</b>	1	<b>PROJECT</b>	FOUR WAY
<b>TEST BORING #</b>	3	<b>JOB NO.</b>	221614
<b>DEPTH (FT)</b>	5	<b>TEST BY</b>	BL



U.S. Sieve #	Percent Finer
3"	
1 1/2"	
3/4"	
1/2"	
3/8"	100.0%
4	99.6%
10	84.9%
20	66.7%
40	55.9%
100	31.4%
200	21.6%

**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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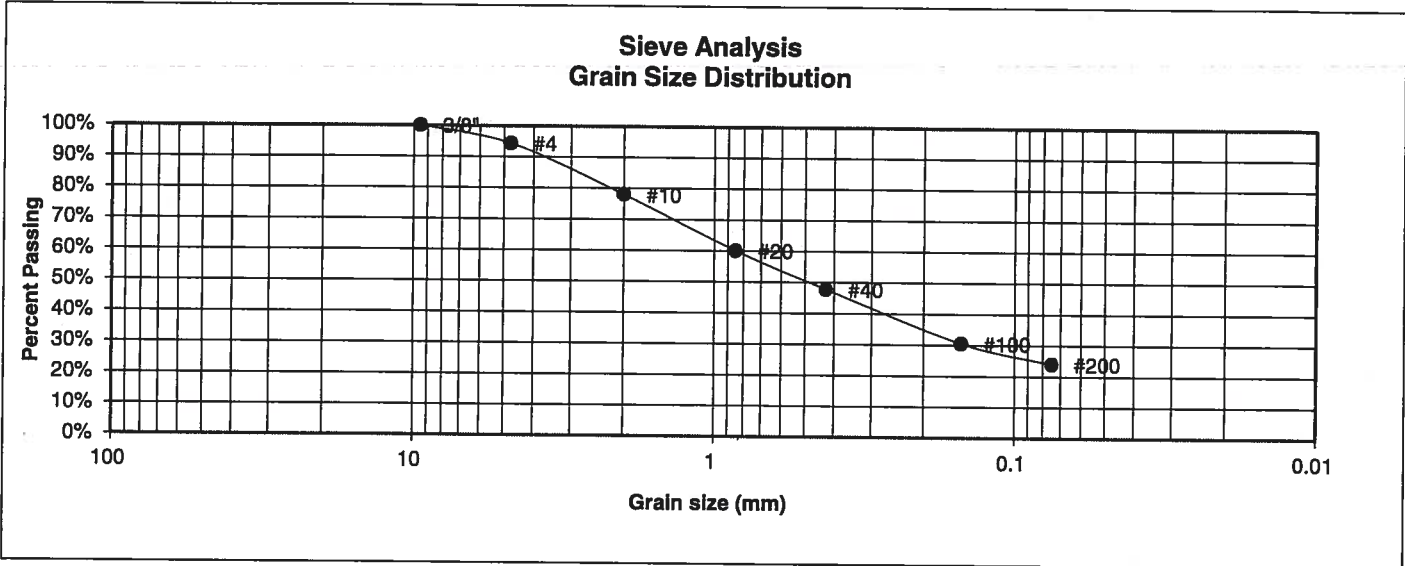
**LABORATORY TEST  
RESULTS**

DRAWN:	DATE:	CHECKED: <i>SW</i>	DATE: <i>8-2-22</i>
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JOB NO.:  
221614

FIG NO.:  
*B-2*

<u>UNIFIED CLASSIFICATION</u>	SM	<u>CLIENT</u>	THE O'NEIL GROUP
<u>SOIL TYPE #</u>	1	<u>PROJECT</u>	FOUR WAY
<u>TEST BORING #</u>	5	<u>JOB NO.</u>	221614
<u>DEPTH (FT)</u>	2-3	<u>TEST BY</u>	BL



U.S. Sieve #	Percent Finer
3"	
1 1/2"	
3/4"	
1/2"	
3/8"	100.0%
4	94.3%
10	78.0%
20	60.1%
40	47.7%
100	30.5%
200	24.0%

Atterberg  
Limits  
Plastic Limit  
Liquid Limit  
Plastic Index

Swell  
Moisture at start 12.3%  
Moisture at finish 17.2%  
Moisture increase 4.9%  
Initial dry density (pcf) 110  
Swell (psf) 260



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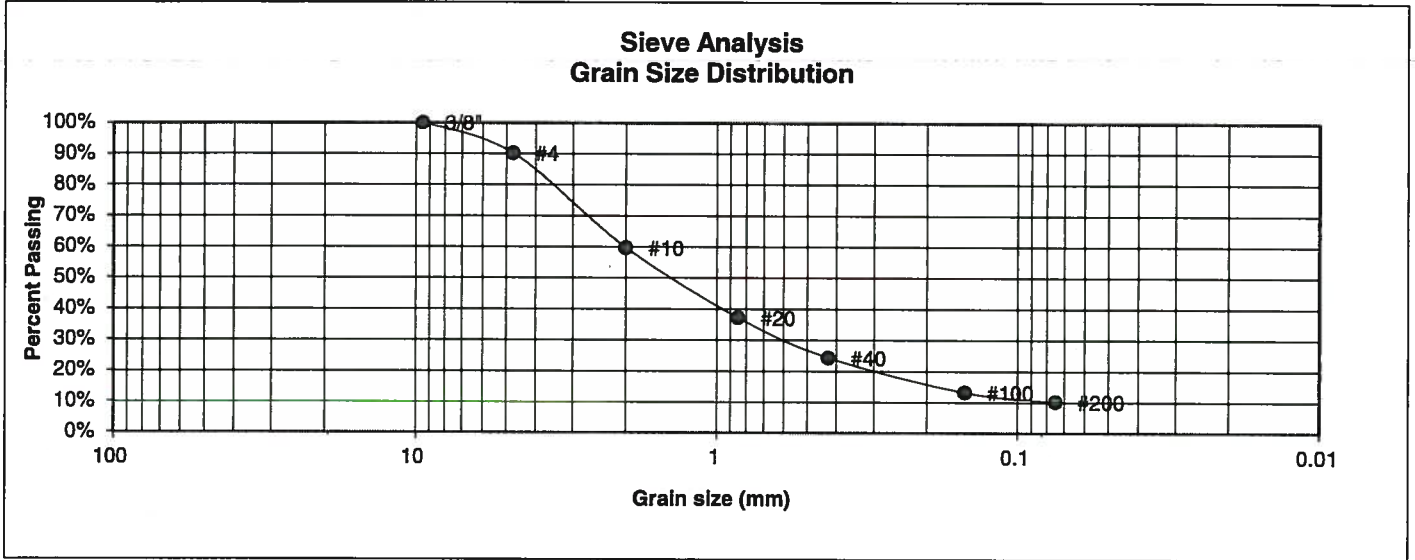
**LABORATORY TEST  
RESULTS**

DRAWN:	DATE:	CHECKED: <i>SW</i>	DATE: <i>8-2-22</i>
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JOB NO.:  
221614

FIG NO.:  
*B-3*

<u>UNIFIED CLASSIFICATION</u>	SM-SW	<u>CLIENT</u>	THE O'NEIL GROUP
<u>SOIL TYPE #</u>	2	<u>PROJECT</u>	FOUR WAY
<u>TEST BORING #</u>	2	<u>JOB NO.</u>	221614
<u>DEPTH (FT)</u>	15	<u>TEST BY</u>	BL



U.S. Sieve #	Percent Finer
3"	
1 1/2"	
3/4"	
1/2"	
3/8"	100.0%
4	90.2%
10	59.7%
20	37.2%
40	24.3%
100	13.2%
200	10.1%

Atterberg Limits	
Plastic Limit	NP
Liquid Limit	NV
Plastic Index	NP

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



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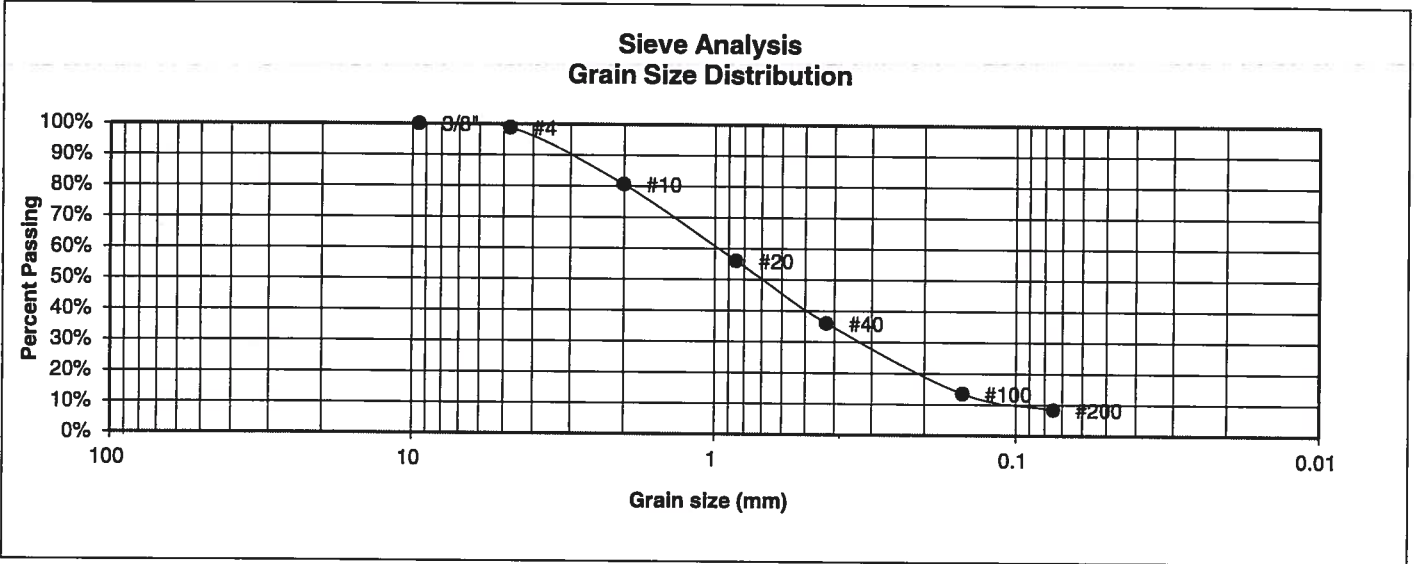
**LABORATORY TEST  
RESULTS**

DRAWN:	DATE:	CHECKED: <i>SW</i>	DATE: <i>8-2-22</i>
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JOB NO.:  
221614

FIG NO.:  
*B-4*

<u>UNIFIED CLASSIFICATION</u>	SM-SW	<u>CLIENT</u>	THE O'NEIL GROUP
<u>SOIL TYPE #</u>	2	<u>PROJECT</u>	FOUR WAY
<u>TEST BORING #</u>	4	<u>JOB NO.</u>	221614
<u>DEPTH (FT)</u>	15	<u>TEST BY</u>	BL



<u>U.S. Sieve #</u>	<u>Percent Finer</u>
3"	
1 1/2"	
3/4"	
1/2"	
3/8"	100.0%
4	98.8%
10	80.6%
20	56.0%
40	36.0%
100	13.5%
200	8.4%

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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 505 ELKTON DRIVE  
 COLORADO SPRINGS, COLORADO 80907

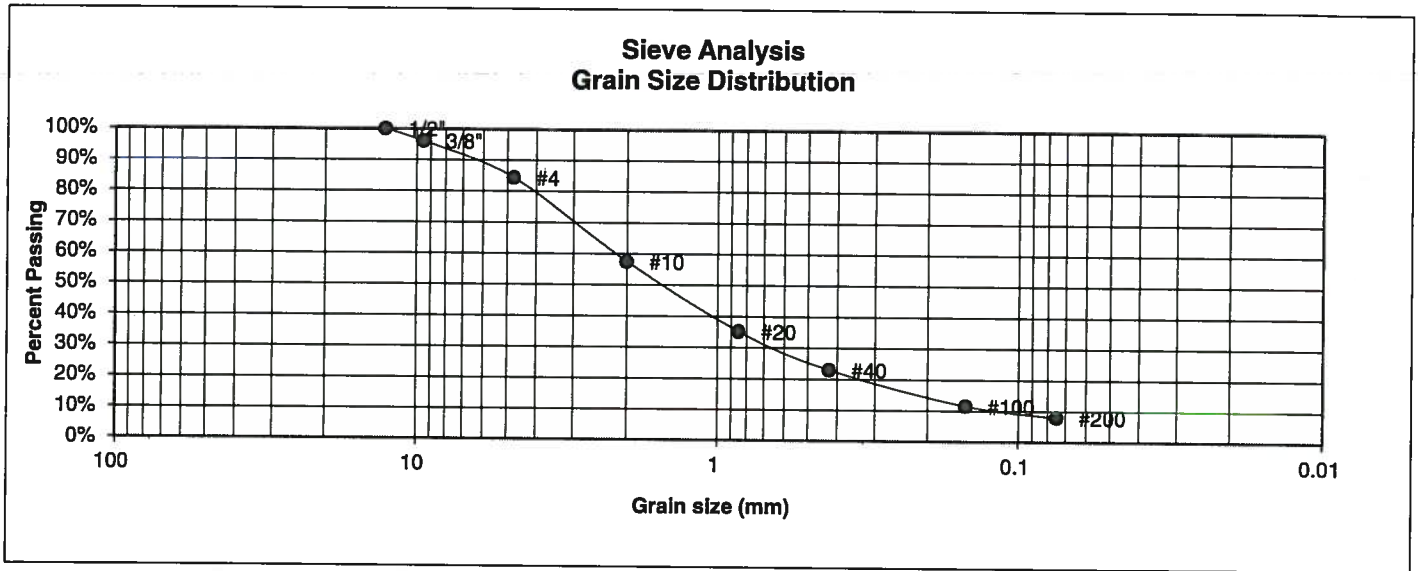
**LABORATORY TEST  
RESULTS**

DRAWN:	DATE:	CHECKED: <i>SW</i>	DATE: <i>8-2-22</i>
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JOB NO.:  
221614

FIG NO.:  
*B-5*

<u>UNIFIED CLASSIFICATION</u>	SM-SW	<u>CLIENT</u>	THE O'NEIL GROUP
<u>SOIL TYPE #</u>	2	<u>PROJECT</u>	FOUR WAY
<u>TEST BORING #</u>	6	<u>JOB NO.</u>	221614
<u>DEPTH (FT)</u>	10	<u>TEST BY</u>	BL



U.S. Sieve #	Percent Finer
3"	
1 1/2"	
3/4"	
1/2"	100.0%
3/8"	96.0%
4	84.4%
10	57.5%
20	35.2%
40	22.9%
100	11.5%
200	8.0%

Atterberg Limits  
 Plastic Limit  
 Liquid Limit  
 Plastic Index

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



**ENTECH  
ENGINEERING, INC.**

505 ELKTON DRIVE  
COLORADO SPRINGS, COLORADO 80907

**LABORATORY TEST  
RESULTS**

DRAWN:

DATE:

CHECKED: *SW*

DATE: *8-2-22*

JOB NO.:  
221614

FIG NO.:

*B-6*

CLIENT	<u>THE O'NEIL GROUP</u>	JOB NO.	<u>221614</u>
PROJECT	<u>FOUR WAY</u>	DATE	<u>8/1/2022</u>
LOCATION	<u>FOUR WAY</u>	TEST BY	<u>BL</u>

BORING NUMBER	DEPTH, (ft)	SOIL TYPE NUMBER	UNIFIED CLASSIFICATION	WATER SOLUBLE SULFATE, (wt%)
TB-1	2-3	1	SC	<0.01
TB-2	15	2	SM	<0.01

QC BLANK PASS



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**LABORATORY TEST  
 SULFATE RESULTS**

DRAWN:	DATE:	CHECKED:	DATE:
		<i>SW</i>	<i>8-2-22</i>

JOB NO.:  
 221614  
 FIG NO.:  
*B-7*