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PRELIMINARY SUBSURFACE SOIL INVESTIGATION MEADOWBROOK PARKWAY AND MARKSHEFFEL RAOD SCHEDULE NO. 54081-01-046 COLORADO SPRINGS, COLORADO

Prepared for:

Front Row Properties, LLC
154 Del Oro Circle
Colorado Springs, Colorado 80919

Attn: Ron Waldthausen

September 12, 2016

Respectfully Submitted,

ENTECH ENGINEERING, INC.

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Entech Job No. 161395
AAprojects/2016/1613955ssi

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PRELIMINARY SUBSURFACE SOIL INVESTIGATION MEADOWBROOK PARKWAY AND MARKSHEFFEL RAOD SCHEDULE NO. 54081-01-046 COLORADO SPRINGS, COLORADO

1.0 INTRODUCTION

Front Row Properties, LLC is planning the development of a vacant parcel in eastern Colorado Springs, Colorado consisting of a commercial/ industrial site and associated site improvements. The site is located southwest of the intersection of Marksheffel Road and Meadowbrook Parkway. The approximate location of the project site is shown on the Vicinity Map, Figure 1. The planned layout of the proposed site is shown on Figure 2, Site Plan/Test Boring Location Map.

This report describes the subsurface investigation conducted for the proposed construction and provides preliminary recommendations for foundation design and construction. The subsurface soil investigation included drilling six test borings across the vacant parcel, collecting samples of soil, and conducting a geotechnical evaluation of the investigation findings. All drilling and subsurface investigation activities were performed by Entech Engineering, Inc. (Entech). The contents of this report, including the geotechnical evaluation and recommendations, are subject to the limitations and assumptions presented in Section 6.0.

2.0 PROJECT AND SITE DESCRIPTION

It is Entech's understanding that the planned development will consist of commercial/ industrial sites and associated site improvements. The structures are anticipated to be slab-on-grade with no below grade areas or basements. Adjacent properties consist of commercial and industrial development, the East Fork Sand Creek is located to the west of Meadowbrook Parkway. The site is relatively flat slightly sloping to the south towards Sand Creek. Vegetation consists of grasses and weeds.

3.0 SUBSURFACE EXPLORATIONS AND LABORATORY TESTING

The subsurface conditions were investigated by drilling six exploratory test borings across the site. The approximate locations of the test borings are indicated on Figure 2. Soil samples were obtained from the borings utilizing the Standard Penetration Test (ASTM D-1586) using a 2-inch O.D. split-barrel sampler. Results of the Standard Penetration Test (SPT) are included on the boring logs in terms of N-values expressed in blows per foot (bpf). Soil samples recovered from the borings were visually classified and recorded on the Test Boring Logs. The soil classifications were later verified utilizing laboratory testing and grouped by soil type. The soil type numbers are included on the Test Boring Logs. It should be understood that the soil descriptions shown on the Test Boring Logs may vary between boring location and sample depth. It should also be noted that the lines of stratagraphic separation shown on the Test Boring Logs represent approximate boundaries between soil types and the actual stratagraphic transitions may be more gradual and vary with location. The Test Boring Logs are presented in Appendix A.

Moisture Content, ASTM D-2216, was obtained in the laboratory for all recovered samples. Grain-Size, ASTM D-422, and Atterberg Limits, ASTM D-4318, were determined for various samples for the purpose of classification and to obtain pertinent engineering characteristics. FHA Swell Testing was performed on selected samples to evaluate the expansion characteristics of the soils. Sulfate testing was performed to evaluate the soils corrosive characteristics. A Summary of Laboratory Test Results is presented in Table 1 and included in Appendix B.

4.0 SUBSURFACE CONDITIONS

Two primary soil types were encountered in the borings drilled for the subsurface investigation: Type 1: a silty to clayey sand and clean sand (SM, SC, SW) and Type 2: a sandy clay (CL). The soil types were classified in accordance with the Unified Soil Classification System (USCS) using the laboratory testing results and the observations made during drilling.

4.1 Soil

Soil Type 1 is a silty to clayey sand and clean sand (SM, SC, SW). The sand was encountered in all of the test borings at the surface to 19 feet bgs, extending to depths ranging from 12 feet to the termination of the test boring (20 feet). SPT N-values ranged from 3 to 28 bpf, indicating loose to medium dense states. Water content and grain size analysis conducted on samples of the soil resulted in approximately 3 to 14 percent water and approximately 4 to 23 percent of the soil particles passing the No. 200 sieve. Atterberg limits testing were performed on selected samples and resulted in liquid limits of no value and plastic indexes of non-plastic. Sulfate testing on samples from Test Boring Nos. 3 and 5 at depths of 5 resulted in <0.01 percent sulfate by weight, indicating negligible potential for below grade concrete degradation due to sulfate attack.

Soil Type 2 is sandy clay (CL). The clay was encountered in Test Boring No. 1 at 12 feet bgs, extending to approximately 19 feet. SPT N-values ranged from 3 to 28 bpf, indicating loose to medium dense states. Water content and grain size analysis conducted on a sample of the soil resulted in 21 percent water and approximately 64 percent of the soil particles passing the No. 200 sieve. Atterberg limits testing were performed on selected samples and resulted in liquid limits of no value and plastic indexes of non-plastic. Sulfate testing on a sample from Test Boring No. 1 at depth of 15 feet resulted in 0.04 percent sulfate by weight, indicating negligible potential for below grade concrete degradation due to sulfate attack.

Additional descriptions and engineering properties of the soil encountered during drilling are included on the boring logs. Laboratory testing results are summarized on Table 1 and presented in Appendix B. It should be understood that the soil descriptions reported on the boring logs may vary between boring locations and sampling depths. Similarly, the lines of

stratagraphic separation shown on the boring logs represent approximate boundaries between soil types and the actual transitions between types may be more gradual or variable.

4.2 Groundwater

Groundwater was not encountered in the test borings which were drilled to 20 feet. Groundwater should not affect the construction of a shallow foundation providing a slab-on-grade foundation with no below grade or basement is utilized. Development of this and adjacent properties, as well as seasonal precipitation changes, and changes in runoff may affect groundwater elevations.

5.0 GEOTECHNICAL EVALUATION AND RECOMMENDATIONS

The following discussion is based on the subsurface conditions encountered in the borings drilled across the vacant parcel. Additional investigation will be required when final building locations are determined. If subsurface conditions different from those described herein are encountered during construction or if the project elements change from those described, Entech Engineering, Inc. should be notified so that the evaluation and recommendations presented can be reviewed and revised if necessary.

The site will be developed by constructing a commercial/ industrial site and associated site improvements. Given the subsurface conditions encountered at the time of drilling and the site development as described, it is anticipated that shallow spread footing foundations resting on the medium dense silty sand or granular structural fill will be utilized. The granular soils encountered in the test borings are suitable to support shallow foundations. Loose soils or uncontrolled fill should be removed and recompacted according to the "Structural Fill" paragraph. Design considerations are discussed in the following sections.

5.1 Subgrade Improvements and Bearing Capacity

The structures can be supported with shallow spread footing foundations resting on the medium dense silty sands or granular structural fill. All topsoil must be removed and the existing subgrade scarified and moisture-conditioned prior to placing any structural fill.

Areas of loose soils or uncontrolled fill material encountered beneath foundation components or floor slabs, will require removal and replacement. Loose soils were encountered in Test Boring Nos. 3, 5, and 6. All structural fill should be placed to the requirements of the "Structural Fill" paragraph. On-site granular sand soil may be used as structural fill. Subgrade areas should be observed by a representative of Entech Engineering, Inc. prior to fill placement. All import material should be approved by Entech prior to hauling to the site.

Provided the above recommendations are followed, an allowable bearing pressure of 2000 psf is recommended for the native silty sand or granular structural fill. For final design, continuous spread footings are recommended to have a minimum width of 16 inches, and individual column footings should have minimum plan dimensions of 24 inches on each side. Exterior footings should extend a minimum of 30 inches below the adjacent exterior surface grade for frost protection. Following the above foundation subgrade preparation recommendations, and adhering to the recommended maximum allowable bearing pressure, it is expected to result in foundation designs which should limit total and differential vertical movements up to 1 and ½ inches respectively.

Foundation excavations are recommended to extend at least 5 feet horizontally beyond the foundation wall limits (inside and outside) in order to provide adequate space for installation of drain materials (if necessary) and placement of controlled fill. All foundation excavation side slopes should be inclined at angles of $1^1/_2$ horizontal to 1 vertical or flatter, as necessary, to provide for excavation sidewall stability during construction or as required by OSHA regulations.

Entech should observe overexcavated subgrades as well as the overall foundation excavation subgrade and evaluate if the exposed conditions are consistent with those described in this report. Entech should also provide recommendations for overexcavation depth, if necessary, and the need for drain systems based on the excavation conditions observed at that time.

Foundation walls should be designed to resist lateral pressures generated by the soils on this site. An equivalent hydrostatic fluid pressure (in the active state) of 45 psf is recommended for the granular site soils. It should be noted that these values apply to level backfill conditions. If sloping backfill conditions exist, pressures will increase substantially depending on the

conditions adjacent to the walls. Surcharge loading should also be considered in wall designs. Equivalent fluid pressures for sloping conditions should be determined on an individual basis.

5.2 Site Seismic Classification

Based on the subsurface conditions encountered at the site and in accordance with Section 16.15.1.1 of the 2003 International Building Code (IBC), the site meets the conditions of a Site Class E.

5.3 On-Grade Floor Slabs

The floor slabs may be supported by on the medium dense sands, recompacted granular soil, or non-expansive imported structural fill. Backfill placed below floor slabs should be non-expansive and be compacted to a minimum of 95 percent of maximum Modified Proctor Dry Density (ASTM D- 1557).

Grade supported floor slabs should be separated from other building structural components and utility penetrations to allow for possible future vertical movement. Interior partition walls should be constructed in such a manner so as not to transfer slab movement into the overlying floor(s) and/or roof members, should slab movement occur. Control joints in grade-supported slabs are recommended and should be placed according to ACI Guidelines.

5.4 Surface and Subsurface Drainage

Positive surface drainage must be maintained around the structure to minimize infiltration of surface water. A minimum gradient of 5 percent in the first 10 feet adjacent to foundation walls is recommended. A minimum gradient of 2 percent is recommended for paved areas. All grades should be directed away from the structure. All downspouts should be extended to discharge well beyond the backfill zone of the structure.

A subsurface perimeter drain is not required providing the slab is located above exterior grade, interior and exterior backfill is properly compacted, surface grading is maintained and irrigation is minimized. A subsurface perimeter drain is recommended for useable space below finished grade. A typical drain detail is shown in Figure 3. The drain should be provided with a free gravity outlet or be connected to a sewer underdrain.

If such an outlet or connection is not available within a reasonable distance from the structure, a sump and pump system would be required.

To help minimize infiltration of water into the foundation zone, vegetative plantings placed close to foundation walls should be limited to those species having low watering requirements and irrigated grass should not be located within 5 feet of the foundation. Similarly, sprinklers are not recommended to discharge water within 5 feet of foundations. Irrigation near foundations should be limited to the minimum amount sufficient to maintain vegetation. Application of more irrigation water than necessary can increase the potential for slab and foundation movement.

5.5 Concrete

Sulfate solubility testing was conducted on selected soil samples to evaluate the potential for sulfate attack on concrete placed below surface grade. The test results indicated less than <0.01 to 0.04 percent soluble sulfate (by weight) for the samples tested. The test results indicate the sulfate component of the in-place soil presents negligible exposure threat to concrete placed below site grade.

Type II cement is recommended for concrete at this site. To further avoid concrete degradation during construction it is recommended that concrete not be placed on frozen or wet ground. Care should be taken to prevent the accumulation or ponding of water in the foundation excavation prior to the placement of concrete. If standing water is present in the foundation excavation, 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.

5.6 Foundation Excavation Observation

Subgrade preparation for building foundations should be observed by Entech Engineering prior to construction of the footings and floor slab in order to verify that (1) no anomalies are present, (2) materials of the proper bearing capacity have been encountered or placed, and (3) no soft, loose, uncontrolled fill material, expansive soil or debris are present in the foundation area prior to concrete placement or backfilling. Entech should make final recommendations for over-

5.8 Utility Trench Backfill

Fill placed in utility trenches should be compacted to a minimum of 95 percent of its maximum dry density as determined by the Standard Proctor Test (ASTM D-698) for cohesive soils and 95 percent as determined by the Modified Proctor Test (ASTM D-1557) for cohesionless soils. Fill should be placed in horizontal lifts having a compacted thickness of six inches or less and at a water content conducive to adequate compaction, within $\pm$2 percent of the optimum water content. Mechanical methods should be used for fill placement; however, heavy equipment should be kept at a distance from foundation walls. No water flooding techniques of any type should be used for compaction or placement of utility trench fill.

Trench backfill placement should be performed in accordance with City of Colorado Springs specifications. All excavation and excavation shoring/bracing should be performed in accordance with OSHA guidelines.

5.9 General Backfill

Any areas to receive fill outside the foundation limits should have all topsoil, organic material, and debris removed. Fill must be properly benched into existing slopes in order to be adequately compacted. The fill receiving surface should be scarified to a depth of 12-inches and moisture conditioned to ± 2 percent of the optimum water content, and compacted to a minimum of 95 percent of the ASTM D-1557 maximum dry density before the addition of new fill. Fill should be placed in thin lifts not to exceed 6 inches in thickness after compaction while maintaining at least 95 percent of the ASTM D-1557 maximum dry density. Fill material should be free of vegetation and other unsuitable material and shall not contain rocks or fragments greater than 3-inches. Topsoil and strippings should be segregated from all other fill sources on the site. Fill placement and compaction beneath and around foundations, in utility trenches, beneath roadways or other structural features of the project should be observed and tested by Entech during construction.

5.10 Excavation Stability

Excavation sidewalls must be properly sloped, benched and/or otherwise supported in order to maintain stable conditions. All excavation openings and work completed therein shall conform to OSHA Standards as put forward in CFR 29, Part 1926.650-652, (Subpart P).

5.11 Winter Construction

In the event construction of the planned facility occurs during winter, foundations and subgrades should be protected from freezing conditions. Concrete should not be placed on frozen soil and once concrete has been placed, it should not be allowed to freeze. Similarly, once exposed, the foundation subgrade should not be allowed to freeze. During site grading and subgrade preparation, care should be taken to avoid burial of snow, ice or frozen material within the planned construction area.

5.12 Construction Observations

It is recommended that Entech observe and document the following activities during construction of the building foundations.

- Excavated subgrades and subgrade preparation.
- Placement of drains (if installed).
- Placement/compaction of fill material for the foundation components and floor slab.
- Placement/compaction of utility bedding and trench backfill.

6.0 CLOSURE

The subsurface investigation, geotechnical evaluation and recommendations presented in this report are intended for use by Front Row Properties, LLC with application to the planned convenience store to be located northwest of the intersection of Marksheffel Road and Meadowbrook Parkway, in Colorado Springs, Colorado. In conducting the 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. During final design and/or construction, if conditions are encountered which appear different from those described in this report, Entech Engineering, Inc. requests that it be notified so that the evaluation and recommendations presented herein can be reviewed and modified as appropriate.

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.

TABLE

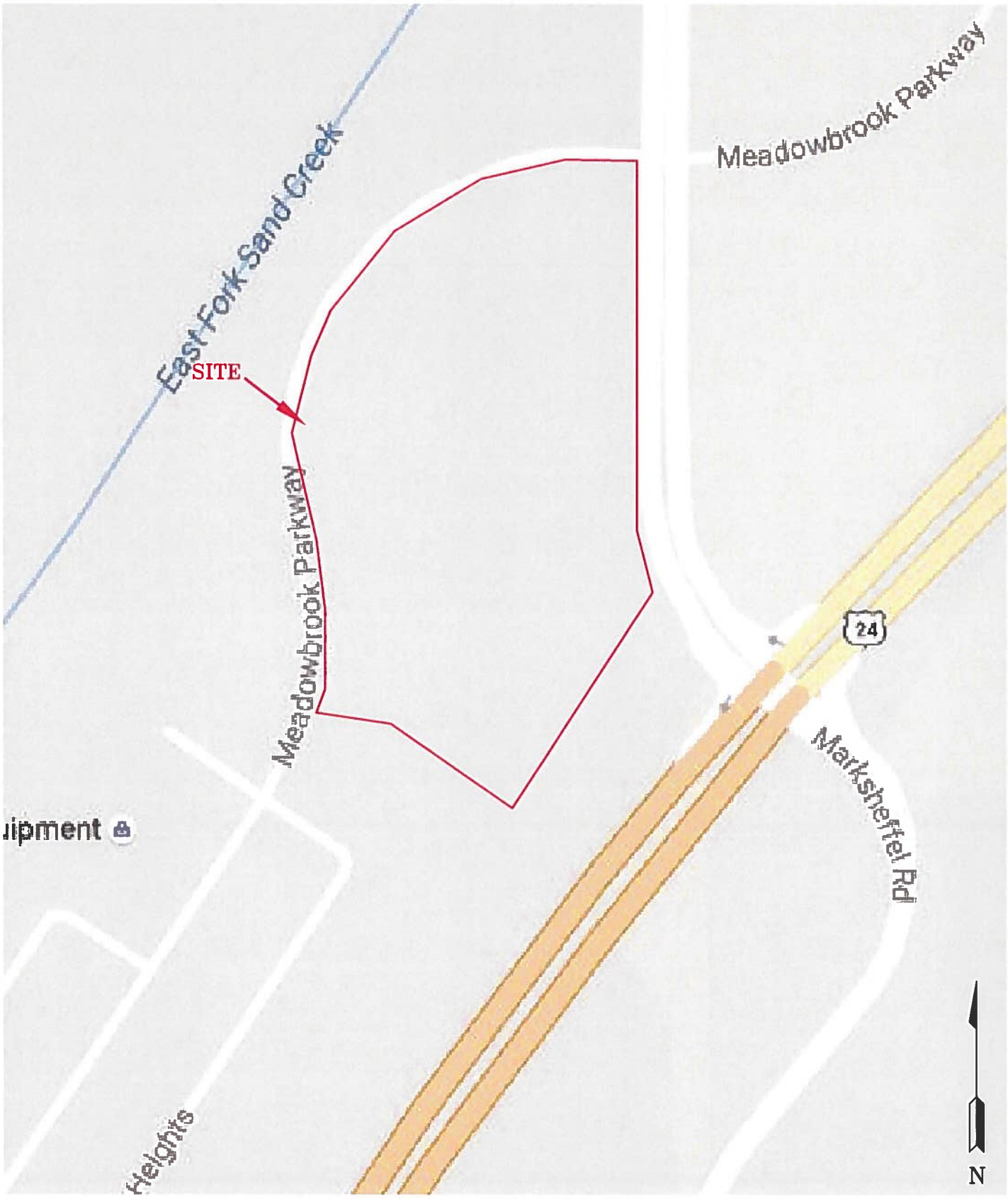
TABLE 1

SUMMARY OF LABORATORY TEST RESULTS

CLIENT FRONT ROW PROPERTIES, LLC
PROJECT MARKSHEFFEL & MEADOWBROOK
JOB NO. 161395

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	2	2-3			22.7						SM	SAND, SILTY
1	3	5			12.9	NV	NP	<0.01			SM	SAND, SILTY
1	4	10			4.2						SW	SAND
1	5	5			14.1			<0.01			SM	SAND, SILTY
1	5	15			4.3	NV	NP				SW	SAND
1	6	10			21.5						SM	SAND, SILTY
2	1	15			63.5			0.04	630		CL	CLAY, SANDY

FIGURES



F:\DAA PROJECTS\2016\161395 - LAND FIRST, INC. - MARKSHEFFEL & MEADOWBROOK - SSI ESA - 230\SSI\161395 SSI (MARKSHEFFEL RD AND MEADO

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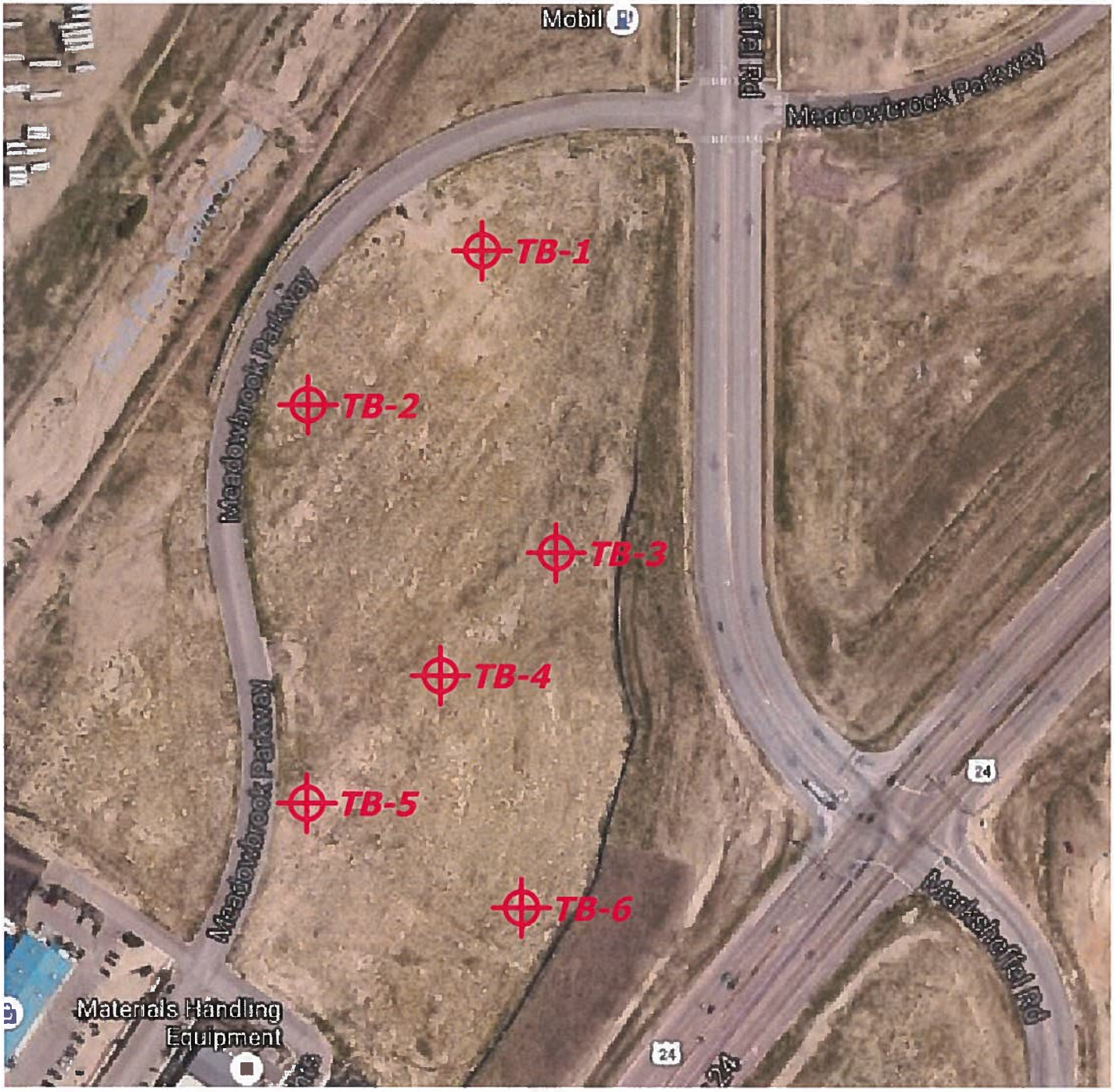
Vicinity Map
Meadowbrook Parkway and Marksheffel Road
Colorado Springs, CO.
For: Front Row Properties, LLC

DRAWN:	DATE:	CHECKED:	DATE:
LLL	8/30/16		

JOB NO.: 161395

FIG NO.: 1



TB- APPROXIMATE TEST BORING LOCATION AND NUMBER

N

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Site Plan/Test Boring Location Map
Meadowbrook Parkway and Marksheffel Road
Colorado Springs, CO.
For: Front Row Properties, LLC

DRAWN:	DATE:	CHECKED:	DATE:
LLL	8/30/16		

JOB NO.: 161395

FIG NO.: 2

APPENDIX A: Test Boring Logs

TEST BORING NO. 1
DATE DRILLED 8/2/2016
Job # 161395

REMARKS	Depth (ft)	Symbol	Samples	Blows per foot	Watercontent %	Soil Type
DRY TO 18.5', 8/3/16						
SAND, SILTY, FINE TO MEDIUM GRAINED, TAN, MEDIUM DENSE, MOIST				14	8.2	1
	5			12	12.7	1
	10			15	9.9	1
CLAY, SANDY, DARK BROWN, SOFT, MOIST	15			5	21.1	2
SAND, CLAYEY FINE TO COARSE GRAINED, GRAY, MEDIUM DENSE, MOIST	20			13	13.4	1

TEST BORING NO. 2
DATE DRILLED 8/2/2016
CLIENT FRONT ROW PROPERTIES, LLC
LOCATION MARKSHEFFEL & MEADOWBROOK

REMARKS	Depth (ft)	Symbol	Samples	Blows per foot	Watercontent %	Soil Type
DRY TO 18', 8/3/16						
SAND, SILTY, FINE TO MEDIUM GRAINED, TAN, MEDIUM DENSE, MOIST				12	8.6	1
	5			14	8.1	1
	10			28	14.3	1
	15			11	9.6	1
COARSE GRAINED LENSES	20			10	7.2	1

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TEST BORING LOG

DRAWN:	DATE:	CHECKED:	DATE:
		LLL	8/30/16

JOB NO.: 161395
FIG NO.: A - 1

TEST BORING NO. 3
DATE DRILLED 8/2/2016
Job # 161395

REMARKS

DRY TO 18.5', 8/3/16

Depth (ft)	Symbol	Samples	Blows per foot	Watercontent %	Soil Type
	SAND, SILTY, FINE TO MEDIUM GRAINED, TAN, LOOSE TO MEDIUM DENSE, MOIST		6	10.5	1
5			6	9.3	1
10			9	7.4	1
15			20	5.0	1
20			10	9.4	1

TEST BORING NO. 4
DATE DRILLED 8/2/2016
CLIENT FRONT ROW PROPERTIES, LLC
LOCATION MARKSHEFFEL & MEADOWBROOK

REMARKS

DRY TO 20', 8/3/16

Depth (ft)	Symbol	Samples	Blows per foot	Watercontent %	Soil Type
	SAND, SILTY TO CLEAN, FINE TO MEDIUM GRAINED, TAN, LOOSE TO MEDIUM DENSE, MOIST		8	7.0	1
5			7	11.6	1
10			12	4.9	1
15			8	11.8	1
20			9	11.4	1

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TEST BORING LOG

DRAWN:	DATE:	CHECKED:	DATE:
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JOB NO.: 161395
FIG NO.: A - 2

TEST BORING NO. 5
DATE DRILLED 8/2/2016
Job # 161395

REMARKS	Depth (ft)	Symbol	Samples	Blows per foot	Watercontent %	Soil Type
DRY TO 19.5', 8/3/16						
SAND, SILTY TO CLEAN, FINE TO MEDIUM GRAINED, TAN, LOOSE TO MEDIUM DENSE, MOIST				5	8.0	1
	5			3	8.7	1
COARSE GRAINED LENSES	10			18	3.3	1
	15			18	7.3	1
	20			12	6.3	1

TEST BORING NO. 6
DATE DRILLED 8/2/2016
CLIENT FRONT ROW PROPERTIES, LLC
LOCATION MARKSHEFFEL & MEADOWBROOK

REMARKS	Depth (ft)	Symbol	Samples	Blows per foot	Watercontent %	Soil Type
DRY TO 20', 8/3/16						
SAND, SILTY, FINE TO MEDIUM GRAINED, TAN, LOOSE TO MEDIUM DENSE, MOIST				5	9.4	1
	5			6	12.8	1
	10			8	10.1	1
	15			12	9.6	1
	20			12	7.7	1

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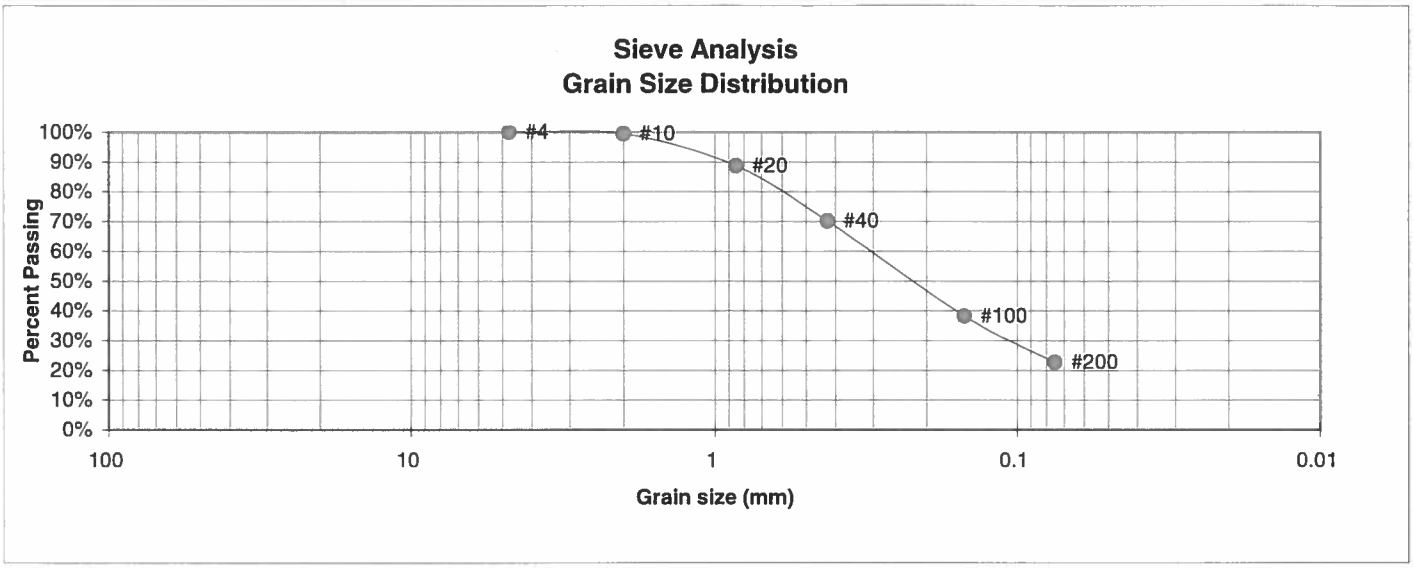
TEST BORING LOG

DRAWN:	DATE:	CHECKED:	DATE:
		LLL	8/30/16

JOB NO.: 161395
FIG NO.: A - 3

APPENDIX B: Laboratory Testing Results

UNIFIED CLASSIFICATION	SM	CLIENT	FRONT ROW PROPERTIES, LLC
SOIL TYPE #	1	PROJECT	MARKSHEFFEL & MEADOWBROOK
TEST BORING #	2	JOB NO.	161395
DEPTH (FT)	2-3	TEST BY	BL



U.S. Sieve #	Percent Finer
3"	
1 1/2"	
3/4"	
1/2"	
3/8"	
4	100.0%
10	99.5%
20	88.7%
40	70.1%
100	38.2%
200	22.7%

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:
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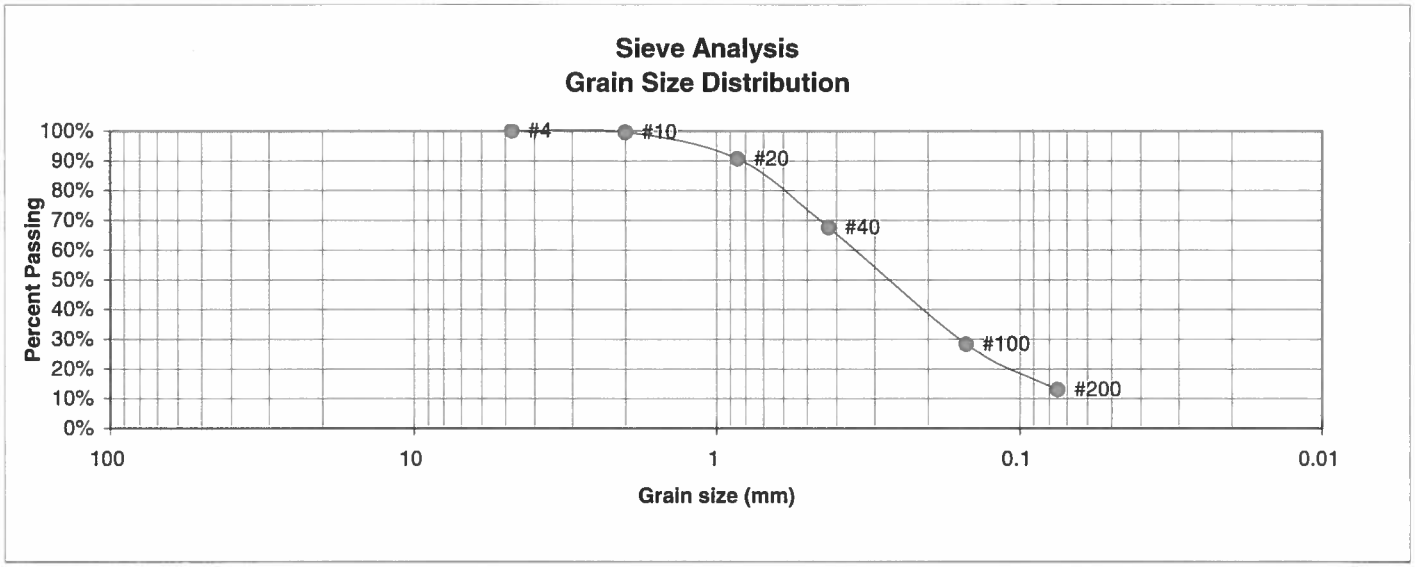
JOB NO.: 161395
FIG NO.: B-1

UNIFIED CLASSIFICATION	SM	CLIENT	FRONT ROW PROPERTIES, LLC
SOIL TYPE #	1	PROJECT	MARKSHEFFEL & MEADOWBROOK
TEST BORING #	3	JOB NO.	161395
DEPTH (FT)	5	TEST BY	BL



U.S. Sieve #	Percent Finer
3"	
1 1/2"	
3/4"	
1/2"	
3/8"	
4	100.0%
10	99.6%
20	90.6%
40	67.6%
100	28.3%
200	12.9%

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

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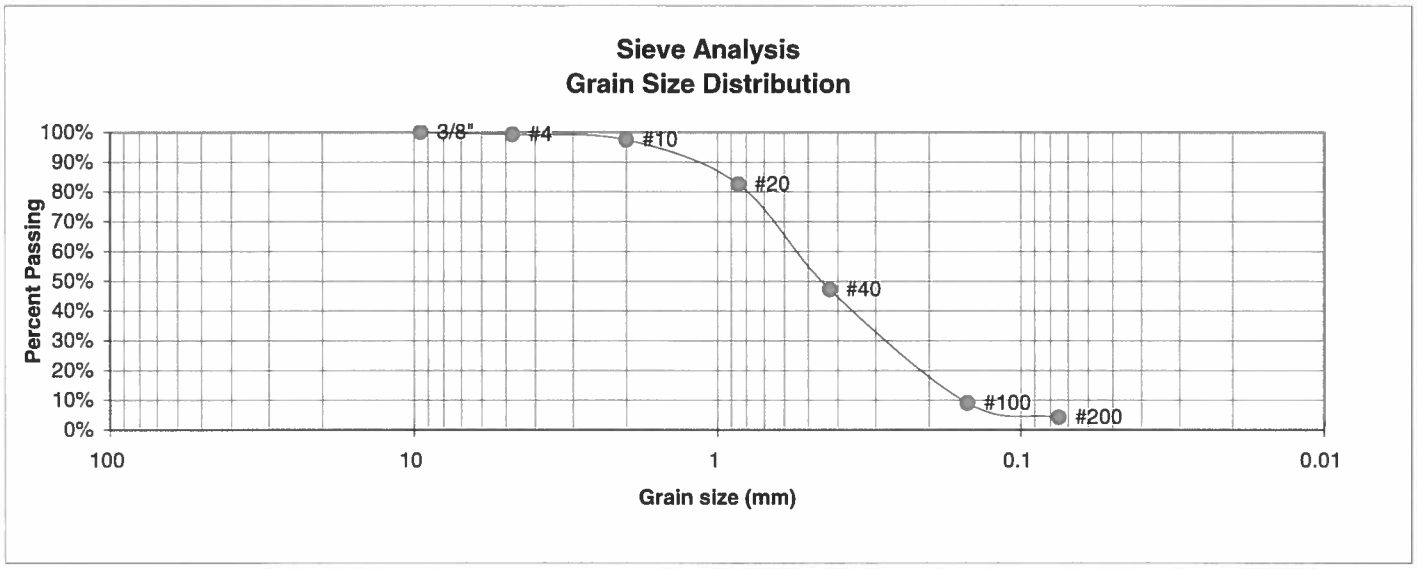
JOB NO.: 161395
FIG NO.: B-2

UNIFIED CLASSIFICATION	SW	CLIENT	FRONT ROW PROPERTIES, LLC
SOIL TYPE #	1	PROJECT	MARKSHEFFEL & MEADOWBROOK
TEST BORING #	4	JOB NO.	161395
DEPTH (FT)	10	TEST BY	BL



U.S. Sieve #	Percent Finer
3"	
1 1/2"	
3/4"	
1/2"	
3/8"	100.0%
4	99.3%
10	97.5%
20	82.5%
40	47.2%
100	8.9%
200	4.2%

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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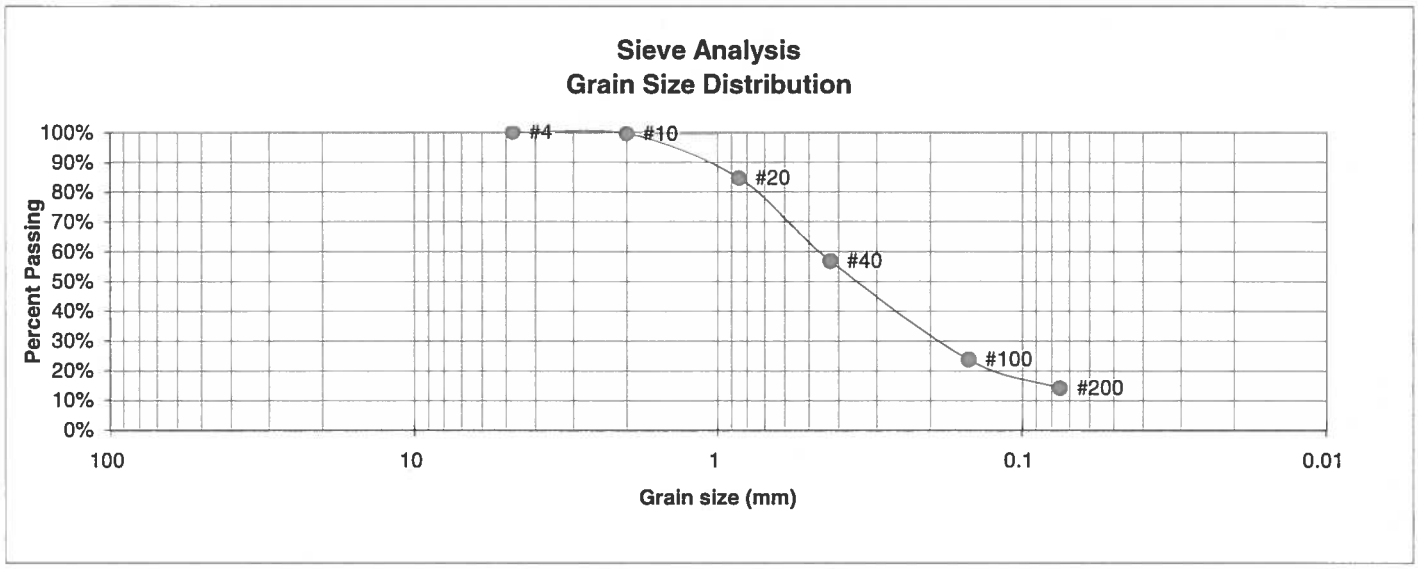
LABORATORY TEST RESULTS

DRAWN:	DATE:	CHECKED:	DATE:
		LLL	8/30/16

JOB NO.: 161395
FIG NO.: B-3

UNIFIED CLASSIFICATION	SM	CLIENT	FRONT ROW PROPERTIES, LLC
SOIL TYPE #	1	PROJECT	MARKSHEFFEL & MEADOWBROOK
TEST BORING #	5	JOB NO.	161395
DEPTH (FT)	5	TEST BY	BL



U.S. Sieve #	Percent Finer
3"	
1 1/2"	
3/4"	
1/2"	
3/8"	
4	100.0%
10	99.6%
20	84.6%
40	56.7%
100	23.7%
200	14.1%

Atterberg Limits
Plastic Limit
Liquid Limit
Plastic Index

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

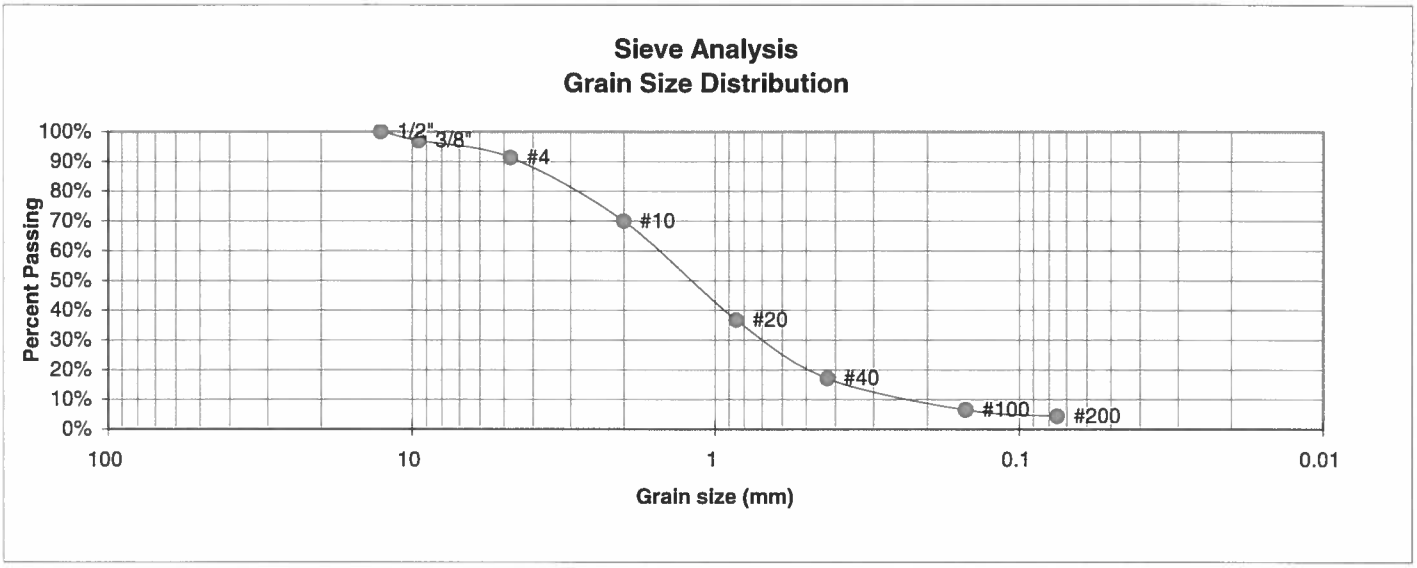
ENTECH ENGINEERING, INC.
505 ELKTON DRIVE
COLORADO SPRINGS, COLORADO 80907

LABORATORY TEST RESULTS

DRAWN:	DATE:	CHECKED:	DATE:
		LLL	8/30/16

JOB NO.: 161395
FIG NO.: B-4

UNIFIED CLASSIFICATION	SW	CLIENT	FRONT ROW PROPERTIES, LLC
SOIL TYPE #	1	PROJECT	MARKSHEFFEL & MEADOWBROOK
TEST BORING #	5	JOB NO.	161395
DEPTH (FT)	15	TEST BY	BL



U.S. Sieve #	Percent Finer
3"	
1 1/2"	
3/4"	
1/2"	100.0%
3/8"	97.0%
4	91.3%
10	69.9%
20	36.7%
40	17.1%
100	6.5%
200	4.3%

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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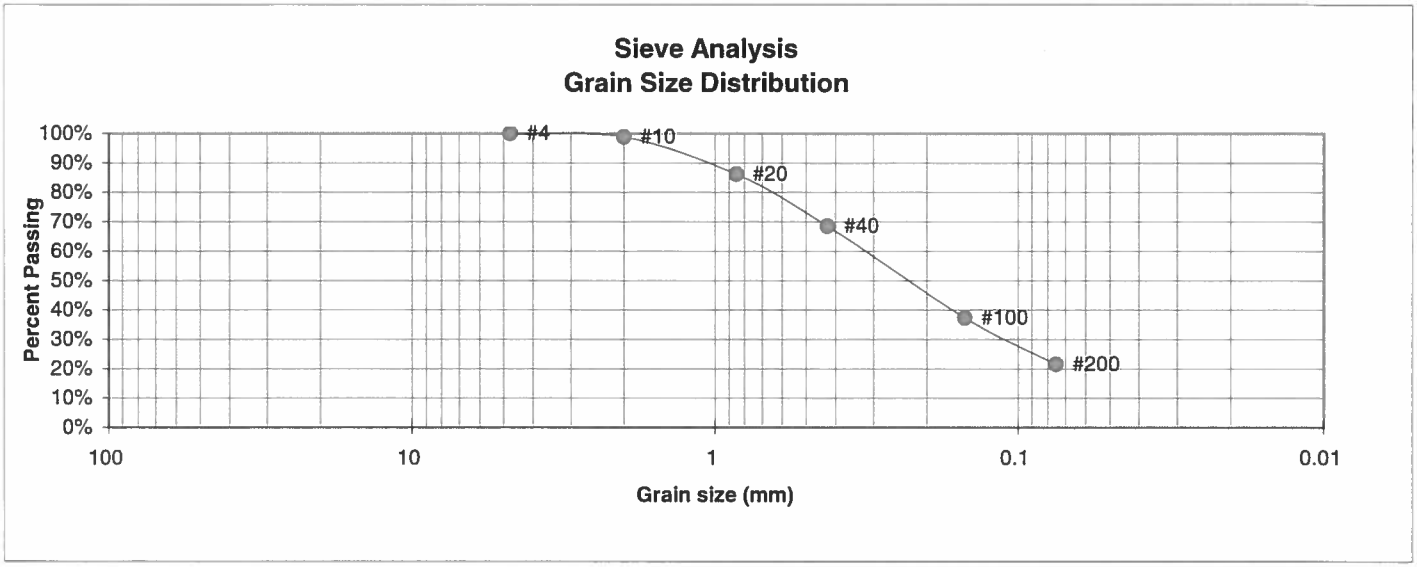
505 ELKTON DRIVE
COLORADO SPRINGS, COLORADO 80907

LABORATORY TEST RESULTS

DRAWN:	DATE:	CHECKED:	DATE:
		LLL	8/30/16

JOB NO.: 161395
FIG NO.: B-5

UNIFIED CLASSIFICATION	SM	CLIENT	FRONT ROW PROPERTIES, LLC
SOIL TYPE #	1	PROJECT	MARKSHEFFEL & MEADOWBROOK
TEST BORING #	6	JOB NO.	161395
DEPTH (FT)	10	TEST BY	BL



U.S. Sieve #	Percent Finer
3"	
1 1/2"	
3/4"	
1/2"	
3/8"	
4	100.0%
10	98.8%
20	86.1%
40	68.5%
100	37.3%
200	21.5%

Atterberg Limits
Plastic Limit
Liquid Limit
Plastic Index

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

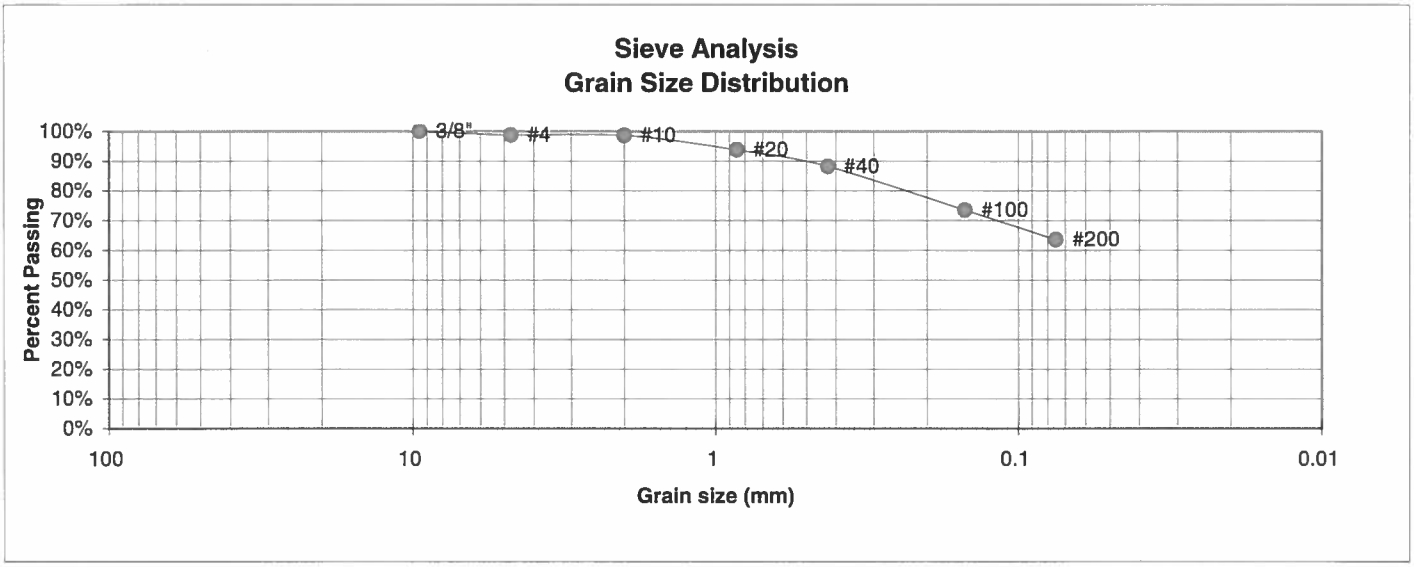
ENTECH ENGINEERING, INC.
505 ELKTON DRIVE
COLORADO SPRINGS, COLORADO 80907

LABORATORY TEST RESULTS

DRAWN:	DATE:	CHECKED:	DATE:
		LLL	8/30/16

JOB NO.: 161395
FIG NO.: B-6

UNIFIED CLASSIFICATION	CL	CLIENT	FRONT ROW PROPERTIES, LLC
SOIL TYPE #	2	PROJECT	MARKSHEFFEL & MEADOWBROOK
TEST BORING #	1	JOB NO.	161395
DEPTH (FT)	15	TEST BY	BL



U.S. Sieve #	Percent Finer
3"	
1 1/2"	
3/4"	
1/2"	
3/8"	100.0%
4	98.7%
10	98.6%
20	93.8%
40	88.1%
100	73.4%
200	63.5%

Atterberg Limits

Plastic Limit

Liquid Limit

Plastic Index

Swell

Moisture at start	15.8%
Moisture at finish	27.8%
Moisture increase	12.0%
Initial dry density (pcf)	91
Swell (psf)	630

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505 ELKTON DRIVE
COLORADO SPRINGS, COLORADO 80907

LABORATORY TEST RESULTS

DRAWN:	DATE:	CHECKED:	DATE:
		LLL	8/30/16

JOB NO.: 161395
FIG NO.: B-7

CLIENT	FRONT ROW PROPERTIES, LLC	JOB NO.	161395
PROJECT	MARKSHEFFEL & MEADOWBROOK	DATE	8/5/2016
LOCATION	MARKSHEFFEL & MEADOWBROOK	TEST BY	BL

BORING NUMBER	DEPTH, (ft)	SOIL TYPE NUMBER	UNIFIED CLASSIFICATION	WATER SOLUBLE SULFATE, (wt%)
TB-3	5	1	SM	<0.01
TB-5	5	1	SM	<0.01
TB-1	15	2	CL	0.04

QC BLANK PASS

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COLORADO SPRINGS, COLORADO 80907

LABORATORY TEST SULFATE RESULTS

DRAWN:	DATE:	CHECKED:	DATE:
		LLL	8/30/16

JOB NO.: 161395
FIG NO.: B-8