



Geotechnical Exploration for
New Site Development

Project Marley
3809 60th Avenue West
Rock Island, Illinois

December 13, 2024
IMEG No. 24006496.00



December 13, 2024

City of Rock Island
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RE: Geotechnical Exploration for New Site Development
Project Marley
3809 60th Avenue West
Rock Island, Illinois
IMEG Project No. 24006496.00

Mr. Thompson:

The recently completed geotechnical study for planning, design, and future Site Development near the above address in Rock Island, Illinois is submitted herewith. The report presents the results of field and laboratory testing of soils and geotechnical recommendations for the planned construction. We hope the findings and recommendations are helpful with planning for design and construction activities. We invite you to call if you require clarification or further discussion of any items presented herein.

Respectfully Submitted,

IMEG Consultants Corp.

	<p>I hereby certify that this report was prepared by me or under my direct supervision and that I am a duly licensed Professional Engineer under the laws of the State of Illinois.</p>
	<p style="text-align: center;"><i>Matthew A. Dotson</i></p> <hr/> <p>Signature</p> <p style="text-align: right;">2024.12.13</p> <hr/> <p style="text-align: right;">Date</p> <p>Matthew A. Dotson License No. 062-067498 My license renewal date is November 30, 2025 Pages covered by this seal: Geotechnical Report and Appendices A to D</p>

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GEOTECHNICAL STUDY

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1.0 INTRODUCTION

This report presents the results of our geotechnical exploration for planning, design, and future Site Development near the above address in Rock Island, Illinois. The report is in general accordance with correspondence between Mr. Todd Thompson (City of Rock Island) and Mr. John Fellman (IMEG-Rock Island). Notice to proceed was provided on October 15th and our exploratory services were executed after the City of Rock Island cleared the existing trees and brush. The following table provides a summary of project execution items and milestone dates.

Table A. Project Execution Summary

Item	Date Completed
Proposal Date	October 9, 2024
Authorization Received	October 15, 2024
Tree Clearing Completed	November 11, 2024
Field Work Completed	November 26, 2024
Geotechnical Report Completed	December 13, 2024

Work included a review of available subsurface data for the project area, completion of twenty seven exploratory borings to depths ranging from thirty to about forty feet below ground surface, installation of fifteen PVC piezometers within fifteen of the twenty-seven borings, testing of soil in the field and laboratory, analyses of results, development, and presentation of geotechnical recommendations based on our observations. Appendix A of the report provides a Boring Location Plan showing the approximate location of the borings performed for this study.

2.0 EXPLORATION AND TESTING PROCEDURES

The exploratory borings were advanced with a Deidrich-D50 track-mounted rotary drill rig. At preselected intervals throughout the boring depths, soil samples were recovered with two-inch diameter split spoon samplers (SPT). Resulting SPT blow counts obtained in the field were recorded and provide an index of the soil relative density and strength as shown by Table B.

Table B. Consistency and Relative Density by Blow Count

Cohesive (Clayey) Soils			Cohesionless (Sandy) Soils	
N-Value (blows/ft.)	Consistency	Approximate Unconfined Compressive Strength, psf.	N-Value (blows/foot)	Relative Density
0 - 2	Very Soft	0 - 500	0 - 4	Very Loose
2 - 4	Soft	500 - 1000	4 - 10	Loose
4 - 8	Medium Stiff	1000 - 2000	10 - 30	Medium Dense
8 - 15	Stiff	2000 - 4000	30 - 50	Dense
15 - 30	Very Stiff	4000 - 8000	50+	Very Dense
30+	Hard	8000+		

Recovered soil samples were removed from the sampler, placed in glass soil jars, sealed, and labeled according to the appropriate boring number and depth of the specimen. Then, samples were protected and prepared for transport to our laboratory for density measurement, moisture content determination, and strength testing in unconfined compression as appropriate for intact samples. ASTM test methods D2216 and D2166 were closely followed.

Test results were recorded on the final boring logs of Appendix B. Columns displayed the penetrometer resistance (Q_p) as determined with a hand-held spring penetrometer in tons per square foot, approximate unconfined compressive strength (UCS), the moisture content in percent of soil dry weight (%M), dry unit weight of soil in pounds per cubic foot (DD), and the remolded strength as determined with hand-held pocket penetrometer in tons per square foot (Q_r).



3.0 SUBSURFACE CONDITIONS

3.1 SOILS DESCRIPTIONS METHODS

Soil sample grain size, plasticity and consistency were evaluated by visual-manual methods and the Unified Soil Classification System as outlined in Appendix C. The resulting descriptions were recorded on the logs in conjunction with soil colors evident at the time of sample examination. The descriptions were separated by stratification lines but, in place, the change between them is usually more gradual.

3.2 SUMMARY OF SUBSURFACE CONDITIONS

The site occupies an area of Illinois where native soils are comprised of a thin mantle of organic rich topsoil-like material overlying existing fill and alluvial deposits. The existing fill soils include silty sandy clay, clayey sand, fine-grained sand, and fine to medium-grained sand. The alluvial deposits consist of fine, fine to medium, and medium to coarse-grained sand that varied from loose to dense relative density. Sand particle size generally increased with increasing depth until the preselected termination depth in some of the borings. Elevated SPT N-values within the alluvium are likely from the presence cobbles within the sand.

By depths of 33.5 feet below the existing ground surface in borings B-21, B-22, and B-24 through B-27, highly weathered limestone was discovered and extended to the preselected termination depth of these borings. Beneath the highly weathered limestone and by depths of 38.5 feet below ground surface in borings B-21, B-22, B-26, and B-27, the highly weathered limestone transitioned to weathered limestone.

A summary of the generalized subsurface conditions for the respective soil layers encountered in the borings is presented in table C.

Table C. Summary of Site Stratigraphy

Layer Description	Depth to Bottom of Layer (feet bgs)	SPT N-Value (blows per foot)	Relative Density [REF: Table A]	Moisture Content (percent)
Sandy Clay (Organic Topsoil)	0.5 to 1.0	N/A	Loose	6.0 to 32.6



Table C. Summary of Site Stratigraphy (continued...)

Layer Description	Depth to Bottom of Layer (feet bgs)	SPT N-Value (blows per foot)	Relative Density [REF: Table A]	Moisture Content (percent)
Existing Fill	2.0 to 6.5	5 to 23	Loose to Medium Dense	1.4 to 26.6
Fine-Grained Sand (Alluvium)	3.5 to 18.5	6 to 14	Loose to Medium Dense	2.2 to 20.9
Fine to Medium-Grained Sand (Alluvium)	8.5 to 18.5	7 to 35	Loose to Dense	1.7 to 19.4
Medium to Coarse-Grained Sand (Alluvium)	34.0 to 40+	6 to 27	Loose to Medium Dense	2.2 to 27.0
Highly Weathered Limestone	38.5 to 40+	31 to 59	Dense to Very Dense	7.3 to 10.0
Weathered Limestone	40+	32 to 48	Dense	5.1 to 7.3

The Table C subsurface descriptions are summarized to highlight the major subsurface stratification features and material characteristics within the project borings. The boring logs included in Appendix B should be reviewed for specific information at the boring locations and at depths within the borings. These records include soil descriptions, stratifications, penetration resistances and depths of the respective samples and laboratory test data.

The stratifications shown on the boring logs represent the conditions only at the actual boring locations. Variations often occur and should be expected between boring locations. The stratifications represent the approximate boundary between subsurface materials and the actual transition may be more abrupt or gradual. Water level information obtained during field operations is also provided on the boring logs and discussed in the following section.

3.3 WATER LEVEL OBSERVATIONS

The soil test borings were monitored for water upon completion of drilling. PVC piezometers were installed in borings B-1 through B-15 for monitoring seasonal



groundwater fluctuations. Borings B-16 through B-27 were backfilled shortly after completion of drilling. Resulting depths to groundwater accumulations at the time of exploration and shortly thereafter are provided in Table D. Please refer to Appendix B boring logs for additional information.

Table D. Observed Groundwater Accumulations

Boring No.	Seepage or Groundwater at Interval Noted (feet bgs)		
	Seepage During Drilling	Groundwater At Completion	Groundwater at 7-Days
B-1	19.0	16.0	17.0
B-2	17.0	16.5	17.0
B-3	15.0	15.0	15.0
B-4	16.0	16.0	15.5
B-5	17.0	16.5	16.5
B-6	18.5	18.0	18.0
B-7	19.0	19.0	18.0
B-8	20.0	18.5	18.5
B-9	20.	20.0	19.0
B-10	19.0	16.5	17.0
B-11	19.0	18.5	18.0
B-12	19.0	17.0	18.0
B-13	19.0	18.0	18.0
B-14	19.0	17.5	18.0
B-15	19.5	18.0	18.5
B-16	19.0	13.0 (Cave In)	N/A
B-17	17.5	15.0 (Cave In)	Backfilled at Completion
B-18	18.5	15.0 (Cave In)	Backfilled at Completion
B-19	19.0	14.0 (Cave In)	Backfilled at Completion
B-20	19.0	13.0 (Cave In)	Backfilled at Completion



Table D. Observed Groundwater Accumulations (continued...)

Boring No.	Seepage or Groundwater at Interval Noted (feet bgs)		
	Seepage During Drilling	Groundwater At Completion	Groundwater at 7-Days
B-21	17.5	15.0 (Cave In)	Backfilled at Completion
B-22	17.0	14.0 (Cave In)	Backfilled at Completion
B-23	19.0	14.5 (Cave In)	Backfilled at Completion
B-24	18.5	14.0 (Cave In)	Backfilled at Completion
B-25	19.0	14.0 (Cave In)	Backfilled at Completion
B-26	19.0	15.0 (Cave In)	Backfilled at Completion
B-27	18.5	15.0 (Cave In)	Backfilled at Completion

Given the proximity of this project to the Mississippi River backwaters, it is highly likely that the groundwater elevations at this development will fluctuate with that of the nearby river. River navigational water levels may be examined by clicking [HERE](#). When the construction timeline is better defined, this information may be helpful in both planning for and in execution of the work.

The presence of groundwater may depend on the season, year, and surface drainage patterns. It could vary for reasons not evident at the time of drilling. Water can collect in trench backfill and new construction grading fill depending on the backfill classification and compaction. The effects of water should be carefully considered.

4.0 ANALYSIS AND RECOMMENDATIONS

The subsurface conditions are analyzed in conjunction with the available project information and the geotechnical recommendations depend on the amount of project information provided. You are invited to discuss the project with us. This will enable us to apply available knowledge of soils conditions to actual design problems, convey impressions, and offer suggestions.



4.1 PROJECT INFORMATION

It is our understanding that a new future site development is planned. From a concept layout provided by Townsend Engineering, a convenience store with a car wash, gasoline pumps, diesel pumps, and parking lot with access drives is planned on the south side of development. On the north side, a 6,320-square-foot building with a future 5,000 square foot expansion, a parking lot, and access drives are proposed. Since the project is in the conceptual stages of development, neither preliminary grading plans nor approximate foundation loads for the development are readily available. Thus, for report preparation and development of geotechnical recommendations, we have made the following assumptions:

Table E. Assumed Service Loads by Item

Development Lot	Item	Approximate Footprint (Square Feet)	Remarks	Approximate Grading Changes (Feet)	Service Loads		
					Max. Floor Load (psf)	Max Wall Load (kips/ft)	Max Isolated Pier Load (kips)
North	Retail Buildings and Future Addition	6,320 (5,000 future)	-	+0.3 to +3.0 (FILL)	100	2.0	50
	Parking Lot and Access Drives	58,000	169 Parking Stalls		N/A	N/A	N/A
South	Convenience Store	11,000	0.2 to 2.8	+0.2 to +2.8 (FILL)	100	2.0	N/A
	Parking Lot and Access Drives	150,000	65 Parking Stalls		N/A	N/A	N/A
	30,000 Gallon Diesel Tank	540	Assumed 15 feet BGS	Established 15 feet BGS, Backfilled, and covered by concrete pavement system	N/A	N/A	N/A
	30,000 Gallon Gas Tank	540	Assumed 15 feet BGS		N/A	N/A	N/A



If any of our assumptions are not in alignment with the final design or construction documents, please contact us as our recommendations may be affected.

4.2 GEOTECHNICAL CONSIDERATIONS

The project borings encountered a 6 to 12-inch organic-rich topsoil-like surface cover overlying existing fill and native alluvium. The topsoil-like material should be stripped as indicated in Section 4.3.

Existing fill was encountered in all the project borings and extended to depths of 2.0 to 6.5 feet below the existing ground surface. The existing fill was loose to medium dense with SPT N-values on the order of 5 to 23 blows per foot. The existing fill was comprised of sandy silty clay, clayey sand, fine-grained sand, sandy lean clay, and gravel which appears to satisfy the controlled fill material requirements of Section 4.4, but not the compaction requirements. That is, the existing fill could be removed, dried, moisture conditioned, and recompacted in controlled lifts.

It should be recognized that consistent SPT N-values within the existing fill are desired. In our experience both in the field and the laboratory environments, we would expect to see SPT N-values on the order of 10 to 15 blows per foot for fine to medium-grained sand compacted to a minimum of 98% of ASTM D698 (Standard Proctor). Loose existing fill soils were encountered in the top 18-inches in nearly all borings. This is often a result of frost action or seasonal freezing and thawing. The frost action loosens near surface soils and results in reduced SPT N-resistances.

In our opinion, the top 18 inches of existing fill should be removed and replaced (reused) across the entire site to provide a stable working platform. These soils should be disked, dried, moisture conditioned, and recompacted in controlled lifts to at least 98% of standard Proctor maximum dry density (ASTM D-698). Recommendations concerning site preparation and drainage can be found in Section 4.3.

On the north side of the development, where the retail building is planned, loose to medium-dense fine-grained sand and fine to medium-grained sand were encountered at typical footing depths in borings B-16 through B-20. On the south side of the development, where the convenience store is planned, loose to medium-dense existing fill, fine-grained sand, and fine to medium-grained sand were discovered at typical footing depths in boring B-21 through B-27. Over-excavation should be anticipated where loose



existing fill soils were encountered in borings B-26 and B-27 at depths around 6.5 feet below the existing ground surface. We recommend remedial funds be allocated to accommodate any loose soils or existing fill at foundation-bearing elevations. Following the over-excavation and replacement of any loose existing fill, we recommend the base of all foundation excavations be compacted with a walk-behind plate compactor to provide a more uniform bearing surface.

Before shallow foundation construction can proceed, the top 18 inches of loose existing fill should be addressed, any over-excavation and replacement of loose existing fill beneath the footings should be provided (see previous paragraph for reference), and the base of foundation excavations should be recompact. Based on the foundation loads provided in Section 4.1, and once the above criteria are met, shallow foundation support appears possible. Section 4.5 provides recommendations for shallow foundations bearing upon suitable native soils or upon compacted controlled fill that completely replaces the loose existing fill. Section 4.6 provides the seismic site classification based on the soil borings and depths explored during this study.

The convenience store will include underground storage tanks to supply fuel to the pumps. At the time of drilling, the average groundwater table elevation was 550.7. Chris Townsend (Townsend Engineering) provided the site flood elevation, which is approximately 563.40. Depending on the final buried depth of the underground storage tanks, some form of temporary groundwater control throughout installation will be necessary. Recommendations concerning tanks below grade are provided in section 4.7.

In our experience, most truck stops elect to chemically modify the soil to improve subgrade strength, reduce the potential for fatigue cracking, and to extend the service life of the pavement system. Recommendations concerning general subgrades, subgrade chemical modification, interior floor slabs, and exterior pavements can be found in Sections 4.8, 4.9, 4.10 and 4.11.

Controlled Fill will be necessary for site leveling, for foundation and utility trench backfill and general site grading. Sections 4.3 and 4.4 provide the recommendations.

4.3 SITE PREPARATION AND DRAINAGE

All organic-rich topsoil-like soils should be removed from the improvement area before placement of grade-raising fill. Based on the results of the borings, we recommend



organic topsoil be stripped to an approximate depth of 6 to 12 inches. Precise depths of organic topsoil stripping should however be determined by the Geotechnical Engineer at the time of initial site development and grading.

After the stripping of topsoil, the subgrade soils should be examined to verify that no additional topsoil remains. Once all organic matter has been removed, the top 18 inches of existing fill should be removed and replaced (reused) with compacted controlled fill satisfying the material and compaction requirements of Section 4.4 of this report. Careful construction observation and testing will be necessary to identify any areas of loose existing fill or deleterious material.

Following the successful execution of over-excavation activities extending 18-inches into the existing fill, the base of all excavations should be examined by a technical representative of IMEG to ensure no loose material remains. Then, new fill meeting the requirements of Section 4.4 may be placed in compacted and controlled lifts. Verification testing throughout placement and compaction activities is recommended.

Depending on the in-place moisture content present at the time of construction, near-surface soils at the site may exhibit low-strength characteristics and may be prone to pumping and rutting. Any areas showing excessive deflection or yielding under the proof roll loads should be removed and replaced as directed by the Geotechnical Engineer.

All grading fill compaction, moisture content and lift thicknesses should be monitored and verified by a geotechnical representative throughout construction activities. Any damage caused by construction traffic patterns or deterioration due to adverse weather should be repaired to the satisfaction of the Geotechnical Engineer.

Positive surface water management practices must be established throughout the duration of construction activities and extended to the service life of the planned improvements. It is imperative that no water be allowed to accumulate adjacent to or upon any of the planned improvement areas. This requirement of design must be satisfied throughout the entirety of construction and extend to the service life of the planned improvements.



4.4 CONTROLLED FILL

Controlled fill should consist of sand, crushed stone, lean clay, silty clay or clayey silt having Unified Soil Classifications SM, SW, SP, SC, GM, GW, GC, CL, CL-ML or ML. To inhibit shrinking and swelling, it should have a maximum liquid limit of 45, and its plasticity index should be 20 or less.

Below groundwater or in confined spaces, coarse aggregates graded according to ASTM C33 #57, #67, or #7 can usually be compacted with less difficulty and should be considered. These have respective nominal sizes of 1-, 3/4- or 1/2-inch and contain less than five percent material smaller than a #8 sieve. Coarse aggregates may need to be enveloped by geotechnical fabric to prevent intrusion of soils between the aggregate grains which may otherwise promote void formation or undermining.

Fill should be free of fat clay and organic soil (Unified Soil Classification CH, OL, OH, MH, or PT), frozen material, rubble, degradable material, chemical contaminants, and stones that interfere with compaction or compaction testing. In general, at least 70% of the fill should pass a 3/4-inch sieve, the over-size limit for the ASTM D698 maximum density test.

Fill should be placed on stable, unfrozen surfaces and in nearly horizontal lifts that have thicknesses that are compatible with the compaction equipment used, but generally not over eight inches. All fill should be compacted to at least 98% of its maximum dry density determined by ASTM D698, *Test Method for Laboratory Compaction Characteristics of Soil Using Standard Effort (12,400 ft-lbf/cu.ft.)*. Compaction usually requires adjustment of fill moisture contents to within two or three percentage points of the ASTM D698 optimum moisture.

4.5 SHALLOW FOUNDATIONS

Borings B-16 through B-20 were advanced on the north side of the development for the planned retail building. At conventional frost bearing depths, these borings discovered loose to medium dense fine-grained and fine to medium-grained sand. Borings B-21 through B-27 were advanced on the south side of the development. These borings encountered loose to medium dense existing fill, fine-grained sand, and fine to medium-grained sand at typical frost depth footing elevations. Loose existing fill soils were discovered at depths around 6.5 feet below grade surface in borings B-26 and B-27 and



should be removed during foundation excavation activities. Remedial construction funds should be allocated to accommodate any loose soils or existing fill at foundation bearing elevations.

Foundation bearing soils are anticipated to vary between building items. The following table serves to illustrate this point.

Table F. Summary of Bearing Soils

Item	Reference Soil Borings (Assumed Layout)	Anticipated Bearing Soils	Remarks
Retail Building and Future Addition	B-16, 17, 18, 19, 20	Fine-Grained Sand, Fine to Medium-Grained Sand	The base of all excavations should be compacted with a walk-behind plate compactor
Convenience Store	B-21, 22, 23, 24, 25, 26, 27	Existing Fill, Fine-Grained Sand, Fine to Medium-Grained Sand	Loose Existing FILL Should Be Removed/Replaced with New Controlled FILL, The base of all excavations should be compacted with a walk-behind plate compactor

For column and continuous foundation loads described in Section 4.1 and once the existing fill in the vicinity of borings B-26 and B-27 is addressed, shallow foundation support appears possible. At the base of all foundation excavations, we recommend the existing fill, fine-grained sand, and fine to medium-grained sand be compacted with a walk-behind plate compactor to provide more uniform bearing conditions.

Following recompaction at the bottom of all excavation trenches, a maximum allowable bearing pressure of 1500 pounds per square foot is recommended for design. This net pressure is the pressure in excess of that generated by the lowest final grade adjacent to the footings. If the pressure permits continuous and isolated footing widths of less than 16 and 30 inches, these minimum widths should be provided.



Where loose existing fill, silt seams, soft bearings soils or other unsuitable soils are present, over-excavation and backfill procedures may be necessary. Backfill may be selected from alternatives listed in the following table.

Table G. Over-Excavation Backfill Materials

Backfill Material	Requirement
1" Clean Stone (CA7)	70% Relative Density
Flowable Fill (CLSM)	500 psi 28-day Strength
Lean Concrete	1,500 psi 28-day Strength

When backfill is clean one-inch nominal size crushed stone (Illinois Gradation CA-7), it should extend outside of all footing edges by at least 8 inches per foot of backfill thickness beneath the footings. This is illustrated by Figure 1.

During construction, footing bearing surfaces need to be protected from loosening, water-softening or freezing. If soil becomes disturbed, they should be replaced with Table G backfill material.

If river levels are elevated and/or groundwater is encountered, it should be removed and bearing soils should be protected by expedient placement of concrete or by a clean stone working mat. Additionally, excavation should not proceed below the groundwater level. Rather, temporary sumps and pumps should be utilized to maintain groundwater a minimum of two feet below excavation base elevations. Probing and testing of foundation soils by a geotechnical engineer throughout construction is recommended.

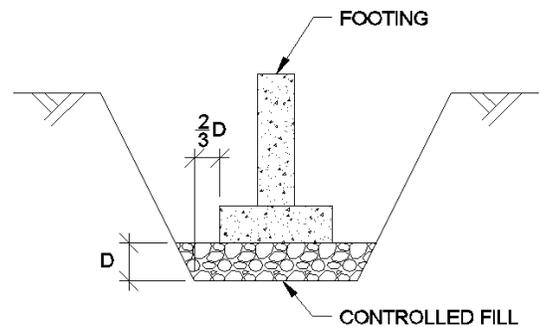


Figure 1. Over-Excavation Sketch

Foundation and any pier bases should be protected from frost action by placement inside permanently heated areas, to include during the temporary construction condition, or beneath soil cover that is at least 42 inches. Interior pier foundations are often established at higher elevations since the interior of the building is temperature-controlled. To ensure the new foundations inside the building and at the perimeter perform as intended and bear on like soils, we recommend interior foundation-bearing depths align with those at the perimeter of the buildings.



When using the stated bearing pressure and following the recommendations, it is our opinion, settlements due to consolidation of the foundation soil should be about one inch or less. Differential settlements should be on the order of one-half to 2/3 of the estimated total settlement.

4.6 SEISMIC SITE CLASSIFICATION

Based on the soil conditions encountered in this study and guidance provided by the International Building Code, Seismic Site Class "D" should be used for seismic design of the structure. It should be noted that this area is not considered a high-risk seismic zone, and the general area has experienced minimal seismic events.

A site-specific seismic evaluation, such as Refraction Microtremor (ReMi) survey and/or extension of a soil boring to the 100-foot termination depth, could be considered to further evaluate and better refine the seismic site class. If either option may provide value to the project, please contact us and we will develop an agreement for the requested services.

4.7 TANKS BELOW GRADE

Based on our assumptions in Section 4.1, a temporary soil retention system will be needed to facilitate excavation and installation of the underground storage tanks. Depending on the final selected bury depth of the below grade tanks and their footprint, some manner of temporary groundwater control throughout installation may be necessary. The temporary groundwater control system should be designed and selected by the contractor based on the borings advanced for this study, groundwater level measurements furnished by others, and with careful consideration of the nearby Mississippi River levels.

All excavations should be performed in accordance with the latest Occupational Safety and Health Administration (OSHA) requirements (see Section 5.1 for reference). If soft or otherwise unsuitable soils are found during excavation, over-excavation and replacement with a Section 4.4 approved material should be performed. Any groundwater or runoff water shall be removed from the excavations with sumps and pumps. Where groundwater elevations are higher than the bottom of tank elevation, the incorporation of dewatering wells may be necessary.



Any walls constructed to retain soil should be designed to accommodate unbalanced lateral earth pressures and any other surcharge loads present throughout construction activities. Estimated lateral earth pressures for cohesive and cohesionless backfill materials are presented in Table H. Any other surcharge loads should be examined and applied to walls by the Structural Engineer.

Table H. Lateral Earth Pressure Design Parameters

Condition	Cohesive Soil (non-expansive clay)	Cohesionless Soil (granular)
Assumed Backfill Characteristics		
Approximate Total Density	130 pcf	120 pcf
Approximate Friction Angle	15° to 20°	30° to 35°
Active Pressure Coefficient, K_a	0.5	0.3
At-Rest Pressure Coefficient, K_o	0.7	0.5
Passive Pressure Coefficient, K_p	2.0	3.3
Estimated Lateral Earth Pressure ¹ (Equivalent Fluid Pressures)		
Active - Drained	65 pcf	35 pcf
Active - Undrained ²	95 pcf	80 pcf
At-Rest - Drained	90 pcf	60 pcf
At-Rest - Undrained ²	110 pcf	90 pcf
Passive - Drained	260 pcf	400 pcf
Passive - Undrained ³	135 pcf	190 pcf

Table Notes:

- (1) Assumes no safety factor, negligible wall friction, vertical wall, level backfill, zero surcharge load and ignores soil cohesion.
- (2) Combined buoyant backfill unit weight and hydrostatic loading (water = 62.4 pcf).
- (3) Excludes hydrostatic loading.

Active earth pressure design assumes that the wall can rotate and deflect at the top. If the wall is either pinned or is rigidly fixed, higher lateral earth pressures will develop against the wall and at-rest pressure parameters should be used for design. Increased earth pressures may also develop from restricted soil drainage, surcharge loads adjacent to the wall and during compaction of the adjacent backfill. The additional uniformly distributed wall pressure can be estimated by multiplying the equivalent uniform surcharge pressure by the above active or at-rest pressure coefficient.



4.8 SUBGRADES - GENERAL

New grading fill, backfill, and the final subgrades should be compacted to the density recommended in Section 4.3. The final prepared subgrades should be proof rolled by a fully loaded tandem axle dump truck.

To achieve the desired compaction, fill moisture needs to be within 3 percentage points of ASTM D698 optimum. In addition, to provide resistance to proof rolling, final fill lifts may need to be dried further until they are at or slightly less than optimum. Corresponding ASTM D698 optimum moisture decreases into the teens and eventually reaches a value of about 12 percent. The following table provides a summary of typical standard Proctor values as observed in close proximity to this project.

Table I. ASTM D698 Standard Proctor Values Based on Past Project Experience

Sand Added (Percent)	Terminology	Upper Limit of Maximum Dry Density (pcf)			
		Fat Clay	Lean Clay	Silty Clay	Clayey Silt
0	Sandless (no sand modifier)	100	104	108	112
15	Identified as Clay with Sand	106	110	114	118
30	Identified as Sandy Clay	114	117	121	125

For the completed borings, soil moisture contents provided on the boring logs may be directly compared to the typical optimum moisture contents. Another means of comparison can be based on the laboratory-remolded strengths of the recovered samples. These are designated as Q_r on the boring logs and are reported in units of tons per square foot. Depending on in-place moisture contents present at the time of construction and disturbance by construction equipment trafficking, remolded strengths could be a half or third of the undisturbed strengths.

For cohesionless soils, remolded strength values should be near 9000 pounds per square foot at standard Proctor (ASTM D698) optimum moisture content. The equivalent DCPT blow count for a remolded strength of 9000 pounds per square foot is nearly 20 to 30+ blows per foot at ASTM D698 optimum moisture content.



As strength declines, final subgrades begin to pump under construction loads until permanent rutting occurs. Then, further construction efforts to compact fill on the unstable underlying soils may be unsuccessful and compaction to 98 percent of standard Proctor cannot be obtained without disk and drying to greater depths. Figure 2 provides a useful reference regarding granular stabilizing thickness requirements for subgrade strengths on grade.

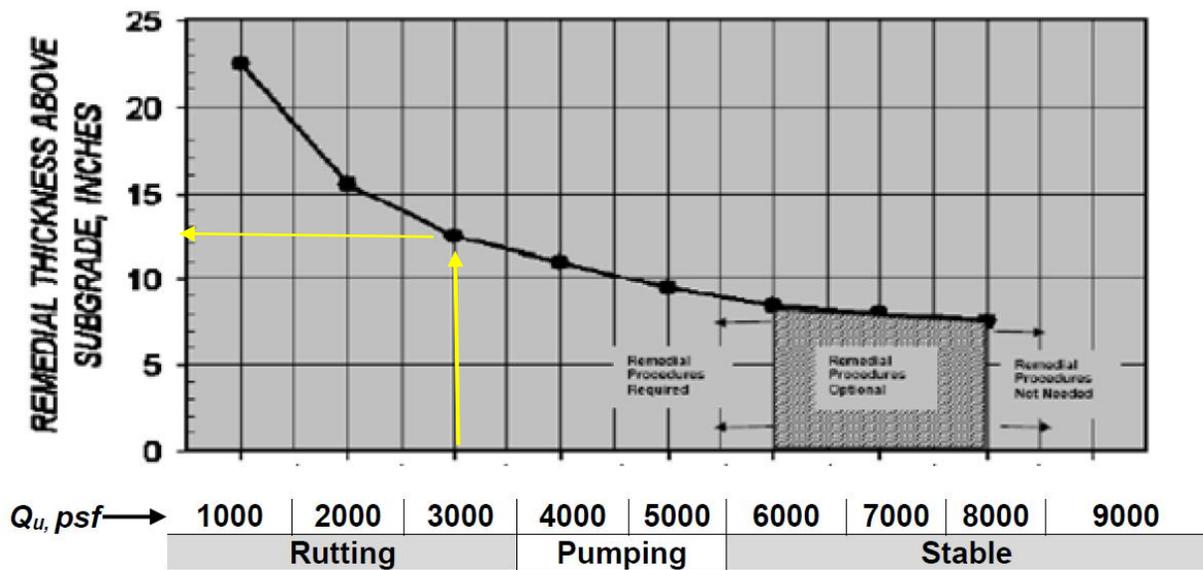


Figure 2. Minimum Remedial Thickness for Stabilizing Subgrade

During favorable weather, drying by scarification and aeration can be attempted, but the dried surface layer will still deflect where underlying soils are not sufficiently dry. Then, granular stabilizing materials may be necessary. For example, under conventional tandem dump truck wheel loads (18 kip) and with remolded soil strength on the order of 3000 psf, a twelve-inch thickness of compacted crushed stone (or Controlled FILL) would be necessary to provide a stable working surface for construction. Other granular replacement thicknesses may be estimated by referencing the Appendix B boring logs.

Any granular stabilizing material should be established on a geosynthetic (Mirafi 500x or engineer approved equal) to provide both tensile reinforcement and separation from the underlying subgrade soils.



4.9 SUBGRADE CHEMICAL MODIFICATION

A chemical modifying agent could be used to provide stable operating subgrades, reduce the potential for fatigue cracking, and to extend the service life of the pavement system. Various chemical treatment application rates and treatment depths may be selected in response to the soil type, anticipated soil behavior under construction equipment loads, soil behavior under permanent traffic loads, and the structural subgrade support requirements.

Since the site is covered with granular soil, hydrated lime and fly ash will not be beneficial in chemically modifying the subgrade. Rather, cement appears to be a more suitable and efficient modifying agent for the subgrade soils. The cement acts as a binder when mixed with the granular soil and water to improve subgrade strength. Both during construction activities and throughout the service life of the pavement.

Table J provides typical ranges of chemical treatment rates for a variety of subgrade improvement products. The determination of an appropriate product largely depends on the soil type(s) encountered during construction.

Table J. Subgrade Soil Modification

Chemical Product	Typical Application Rate (percent by dry weight)
Cement	8 to 12
Hydrated Lime	3 to 8
Fly Ash	4 to 10
Quicklime	2 to 6

Table Notes:

- (1) The above application rates are for typical projects in and around the Quad City Area where a reduction in soil moisture content was required to facilitate subgrade compaction and pavement construction. Other application rates may be necessary depending on future modification of other geotechnical parameters (i.e., soil plasticity, pH, etc.) or the intended use (i.e., trafficking patterns, repetitive loading, sudden change of vehicle direction on the subgrade, magnitude and spacing of wheel loads, service life of the pavement, expectations of the owner).
- (2) The success of lime modification or stabilization depends on the soil-lime reactivity, which largely depends on the clay fraction in the soil.



- (3) Self-cementing additives do not necessarily react with the soil or aggregate, but rather bind the natural materials together, increase strength, and provide some degree of waterproofing or reduction in permeability.

The above table provides general guidance for typical chemical application rates for subgrade treatment based on our past project experience in the Quad City area and is dependent upon soil reactivity with the selected product and in-place moisture content present at the time of application.

Based on in-place soil moisture contents (as-received moisture) at the time of exploration and after examining the existing versus proposed subgrade elevations, an approximate cement addition rate on the order of 8 percent should be considered. The addition rate is a general guideline and may change depending on conditions encountered at the time of construction (i.e., in-place moisture content of soils, precipitation events, magnitude and direction of wind, and any application losses due to wind, etc.). Regarding the treatment depth in parking lots and access drives, we recommend a minimum 12-inch treatment thickness be provided. We also recommend that IMEG provide verification testing prior to treatment and during treatment so that any adjustments in cement addition rates can be addressed and documented in the field. Likewise, we recommend post treatment verification testing be provided to ensure that the modifying agent was successful in increasing the subgrade stiffness.

Application of the selected subgrade chemical modifying agent should be performed in accordance with manufacturer guidance and recommendation of the Geotechnical Engineer. If the predicted ambient air temperature may be 40-degrees or less during application, mixing, compaction, or curing then chemical treatment should not be selected. Should unfavorable weather conditions be present at the planned time of treatment, then alternative means of subgrade stabilization such as aggregate replacement, geosynthetics, or a combination thereof should be considered.

4.10 INTERIOR SLABS

Any grading fill, excavation backfill, and the final floor subgrade should be carefully compacted to 98% of ASTM D698 (Standard Proctor). Any new grading fill should be selected in close conformance with Section 4.4 (Controlled Fill) of this report. Following removal of surface materials (e.g., topsoil) and prior to placement of new fill, the subgrade



soils should be examined, prepared, compacted, and tested in close conformance with Section 4.3 of this report.

We recommend a 6-inch minimum thickness of Illinois gradation CA-6 crushed stone or approved equal be provided beneath any grade-supported floor slabs. A vapor and capillary moisture barrier should be incorporated beneath moisture-sensitive areas of the at-grade floor slab. Special precautions should be taken during construction to reduce differential curing through transitions in the slab thickness and possible curling of the slab near the exterior limits. For floor slab support prepared and compacted to a minimum of 98 percent of maximum dry density as determined by ASTM D698, it would provide a design CBR value of 3 or a modulus of subgrade reaction value of 100 pounds per cubic inch.

4.11 PAVEMENTS

Either flexible or rigid pavement systems may be considered. Pavement subgrade and subbase preparation should be performed in close conformance with Section 4.4 of this report and with consideration of the table notes provided below. Table K provides recommended pavement thicknesses for lightly loaded, moderately loaded, and heavily loaded pavement areas.

Table K. Recommended Pavement Sections

Traffic Volume	Rigid Pavement (PCC) ¹	Flexible Pavement (HMA) ²
Lightly Loaded ^{5, 7}	5-inches ³	4-inches ⁴
Moderately Loaded ^{5, 7}	6-inches ³	5-inches ⁴
Heavily Loaded ^{6, 7}	8-inches ³	7-inches ⁴

Table Notes:

- (1) Required flexural strength of 550 psi or compressive strength of 4000 psi at 14 days.
- (2) Total hot mix asphalt thickness (binder and surface course).
- (3) Minimum crushed stone subbase thickness 6-inch (compacted to minimum 98% ASTM D698).
- (4) Minimum crushed stone subbase thickness 10-inches (compacted to minimum 98% ASTM D698).
- (5) 1 to 2 trucks average daily traffic.
- (6) Less than or equal to 50 trucks per day (i.e., entrances, dumpster pads, forklift pads, delivery areas).
- (7) All pavement section granular subbase material should be established on a minimum 8-inch subgrade prepared in accordance with Section 4.4 of this report and compacted to 98% of ASTM D698 (standard Proctor).



The above table is intended for commercial-type applications, the average daily traffic, wheel axle loads, and frequency of heavy vehicle loads will vary considerably for truck stops. The daily truck traffic should be carefully considered when evaluating pavement sections. The pavement systems will require periodic maintenance consisting of crack sealing and timely replacement of isolated areas of distress. An increased thickness of the pavement section may reduce pavement maintenance and may increase the overall pavement service life.

It should be noted that the relationship between axle weight and inflicted pavement damage is not linear but rather exponential. For example:

- A 10,000-pound single axle load needs to be applied more than 12 times to inflict the same damage caused by one 18,000-pound single axle.
- A 2,000-pound single axle load needs to be applied 3,000 times to inflict the same damage caused by one 18,000-pound single axle.
- A 10,000-pound single axle load needs to be applied 67 times to inflict the same damage caused by one 30,000-pound single axle.

Thus, both the anticipated axle load as well as the frequency of application throughout the desired service life of the pavement should be carefully evaluated. It may be beneficial for design to examine the two development areas independently so that the respective pavement systems may be paired with their demand.

5.0 CLOSING REMARKS

5.1 EXCAVATIONS

Excavations may stand with 3- or 4-foot-tall vertical banks for short periods of time but they should not be considered stable. Banks of deeper excavations are not as reliable and may slump or flow especially where fill, sand, or groundwater are encountered.

Excavations should be sloped, stepped, braced, or shored to provide protection of workers and portions of below grade structures under construction. As a minimum, trenching and excavating should conform to local, state, and federal requirements including OSHA 29 CFR Part 1926.



5.2 CONSTRUCTION INSPECTION

Due to the possibility of variation in subsurface conditions at locations not observed by the current geotechnical study, it is recommended that the Geotechnical Engineer observe all subgrades and excavations to verify suitability of the bearing materials. The Geotechnical Engineer should confirm that the bearing surfaces are clean, well prepared, and contain no soft, wet, or otherwise deleterious materials.

In the interest of completeness and to provide a comprehensive contact list to elevate report questions and to schedule future construction materials testing services, applicable IMEG contact information is provided by Table L.

Table L. IMEG Contract Information

IMEG Contact	Organizational Role	Phone	Email
Ruth Arnold	Proposals & Billing	309.605.0145	Ruth.M.Arnold@imegcorp.com
Melissa Nye	Field Testing Services	309.230.3674	Mellissa.L.Nye@imegcorp.com
Nate Lawson, EIT	Engineering Questions	309.948.1775	Nathaniel.J.Lawson@imegcorp.com

5.3 STUDY LIMITATIONS

The purpose of this study was to provide limited subsurface information for the site. The borings should assist in the prediction of conditions present when executing construction activities. The borings may not reflect all variations that occur across the site and careful construction observations will be necessary to identify conditions requiring adjustments in grading, further excavation, or design. Remedial funds should be available to accommodate changes encountered during construction.

This report has been prepared for the exclusive use of our client for specific application to the project discussed and has been prepared in accordance with generally accepted geotechnical engineering practices. No other warranty is expressed or implied.

In the event that any changes in the nature, design, or location of the project as outlined in this report are planned, the conclusions and recommendations contained in this report



shall not be considered valid unless the changes are reviewed, and the conclusions of this report modified in writing by the Geotechnical Engineer.

The boring logs and report do not assess site environmental conditions or determine the presence of pollutants in the soil, rock, and groundwater. Such work is beyond the scope of this study.



The following figures and appendices are attached and complete this report.

APPENDIX	DESCRIPTION
A	Boring Location Diagram
B	Log for Boring
C	Soil Description Charts
D	Available Project Information

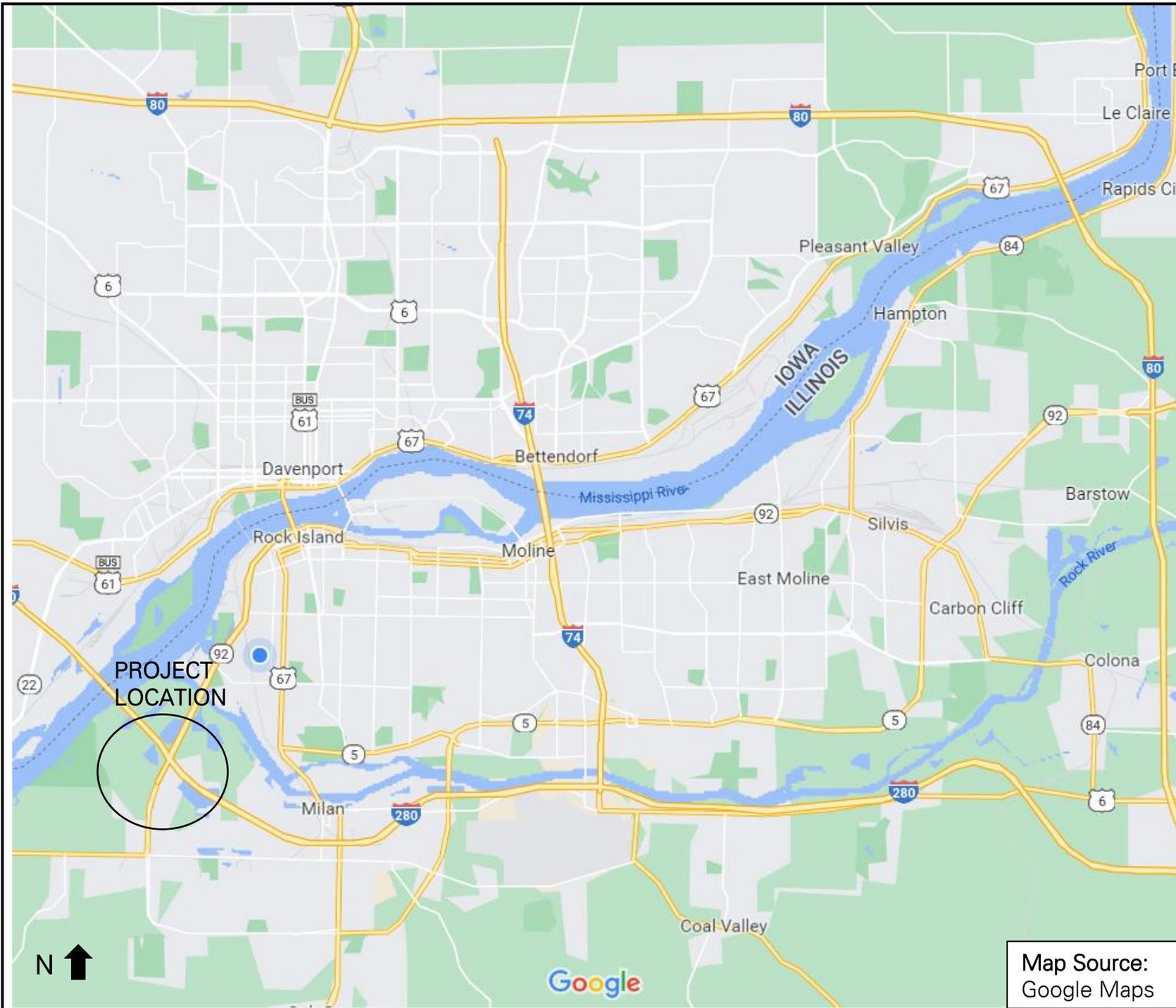




Appendix A
Boring Location Map

Project Marley
3809 60th Avenue West
Rock Island, Illinois

December 13, 2024
IMEG No. 24006496.00



Google

Map Source:
Google Maps

REVISIONS	
No	DESCRIPTION



623 26TH AVENUE
ROCK ISLAND, ILLINOIS 61201

PROJECT MARLEY
3809 60TH AVENUE WEST
ROCK ISLAND, ILLINOIS

PROJECT VICINITY MAP

IMEG Project No.
24006496.00

Drawn By: NJL

Checked By: MAD

Date: 2024.12.04

A-1

Sheet 1 of 6



REVISIONS		DATE
No	DESCRIPTION	



623 26TH AVENUE
ROCK ISLAND, ILLINOIS 61201

PROJECT MARLEY
3809 60TH AVENUE WEST
ROCK ISLAND, ILLINOIS

PROJECT LOCATION MAP

IMEG Project No.
24006496.00

Drawn By: NJL

Checked By: MAD

Date: 2024.12.04

Map Source:
Google Maps

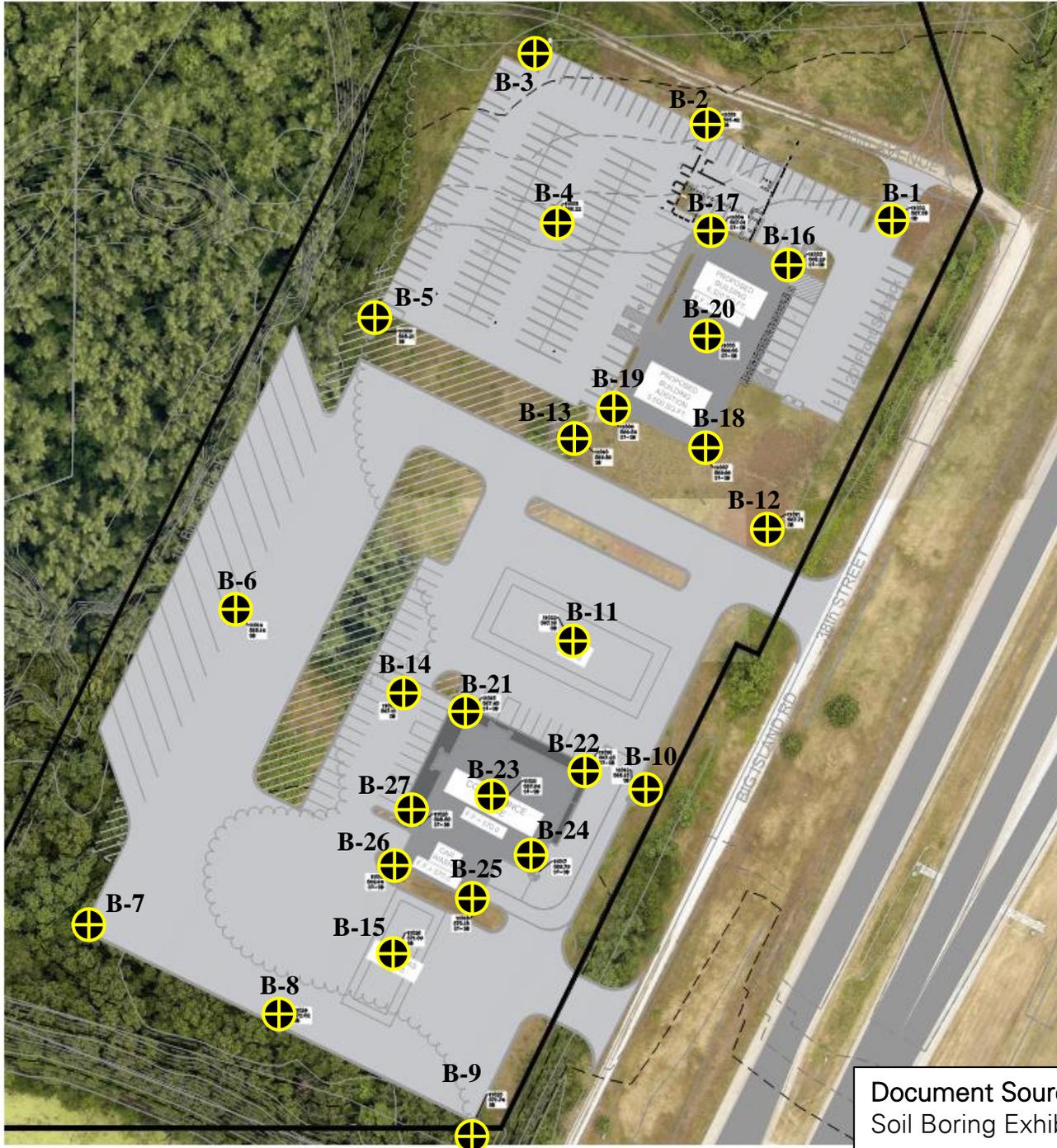
A-2
Sheet 2 of 6



Google

**PROJECT
LOCATION**





Document Source: IMEG
Soil Boring Exhibit

REVISIONS

No	DESCRIPTION	DATE



623 26TH AVENUE
ROCK ISLAND, ILLINOIS 61201

PROJECT MARLEY
3809 60TH AVENUE WEST
ROCK ISLAND, ILLINOIS

BORING LOCATION MAP

IMEG Project No.
24006496.00

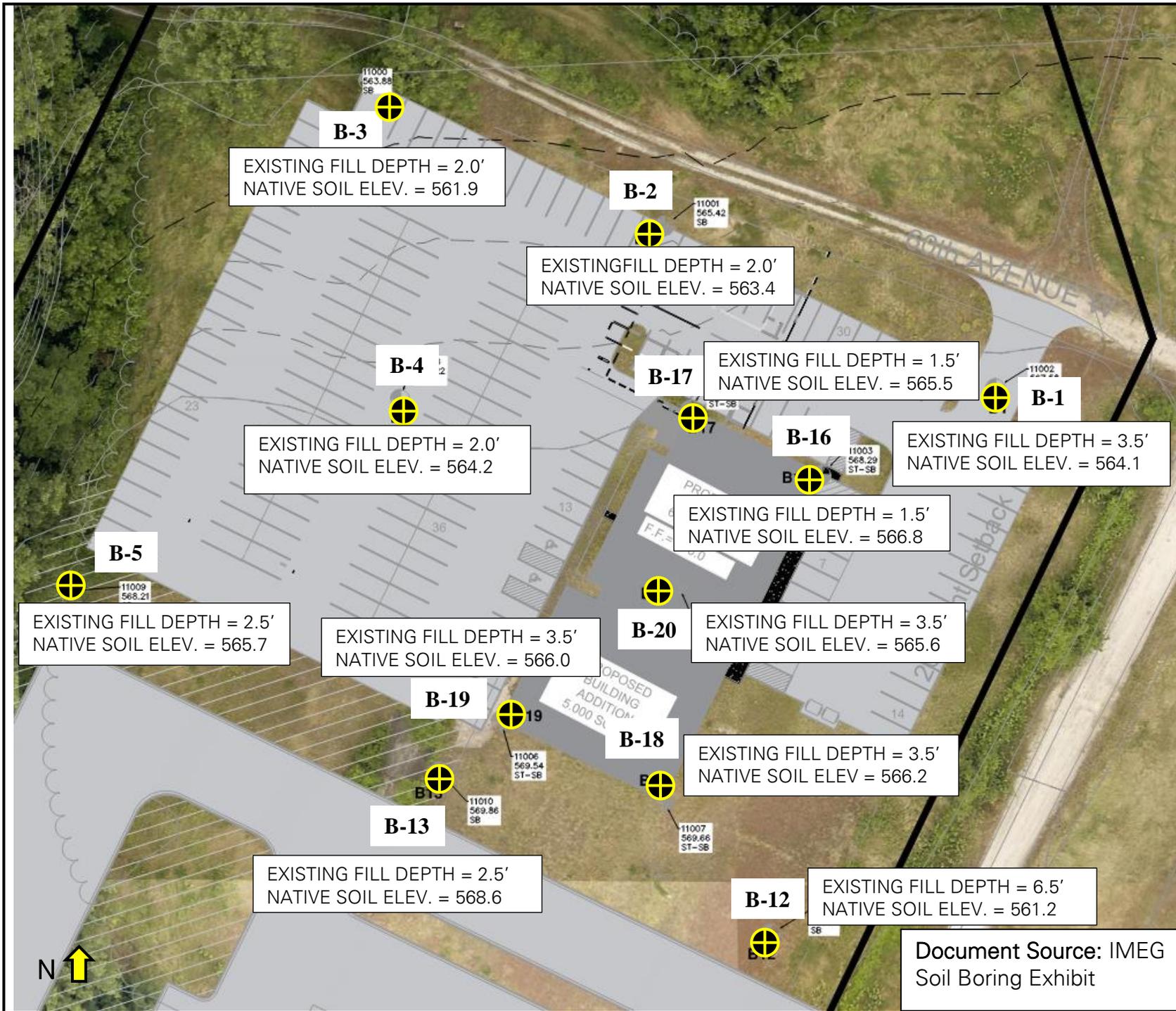
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Checked By: MAD

Date: 2024.12.04

A-3

Sheet 3 of 6



REVISIONS		DATE
No	DESCRIPTION	



623 26TH AVENUE
ROCK ISLAND, ILLINOIS 61201

PROJECT MARLEY
3809 60TH AVENUE WEST
ROCK ISLAND, ILLINOIS

NORTH LOT EXISTING FILL DEPTHS

IMEG Project No.
24006496.00

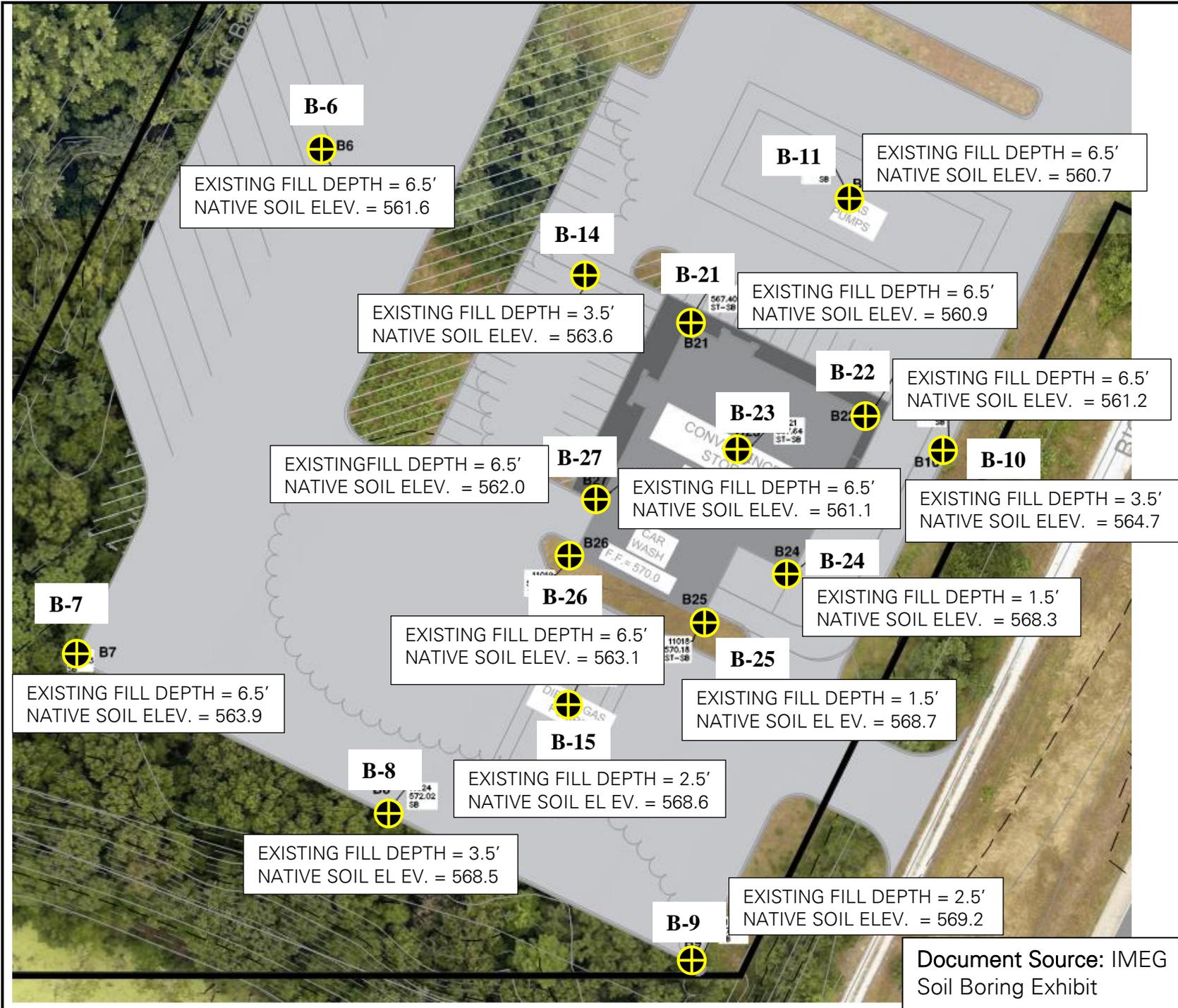
Drawn By: NJL

Checked By: MAD

Date: 2024.12.04

A-4

Sheet 4 of 6



Document Source: IMEG
Soil Boring Exhibit

REVISIONS		DATE
No	DESCRIPTION	



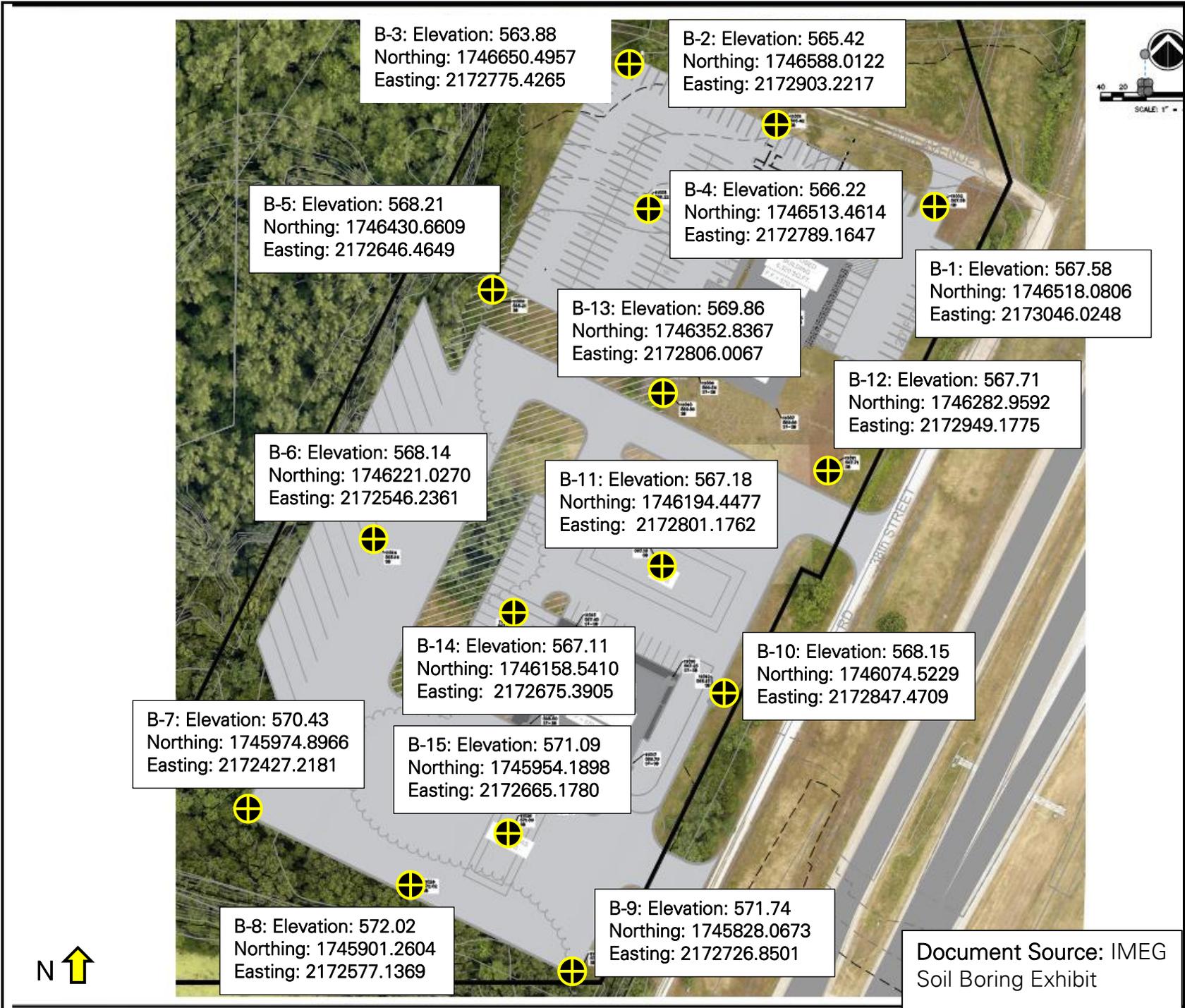
623 26TH AVENUE
ROCK ISLAND, ILLINOIS 61201

PROJECT MARLEY
3809 60TH AVENUE WEST
ROCK ISLAND, ILLINOIS

SOUTH LOT EXISTING FILL DEPTHS

IMEG Project No.
24006496.00

Drawn By: NJL
Checked By: MAD
Date: 2024.12.04



B-3: Elevation: 563.88
 Northing: 1746650.4957
 Easting: 2172775.4265

B-2: Elevation: 565.42
 Northing: 1746588.0122
 Easting: 2172903.2217

B-5: Elevation: 568.21
 Northing: 1746430.6609
 Easting: 2172646.4649

B-4: Elevation: 566.22
 Northing: 1746513.4614
 Easting: 2172789.1647

B-1: Elevation: 567.58
 Northing: 1746518.0806
 Easting: 2173046.0248

B-13: Elevation: 569.86
 Northing: 1746352.8367
 Easting: 2172806.0067

B-12: Elevation: 567.71
 Northing: 1746282.9592
 Easting: 2172949.1775

B-6: Elevation: 568.14
 Northing: 1746221.0270
 Easting: 2172546.2361

B-11: Elevation: 567.18
 Northing: 1746194.4477
 Easting: 2172801.1762

B-14: Elevation: 567.11
 Northing: 1746158.5410
 Easting: 2172675.3905

B-10: Elevation: 568.15
 Northing: 1746074.5229
 Easting: 2172847.4709

B-7: Elevation: 570.43
 Northing: 1745974.8966
 Easting: 2172427.2181

B-15: Elevation: 571.09
 Northing: 1745954.1898
 Easting: 2172665.1780

B-8: Elevation: 572.02
 Northing: 1745901.2604
 Easting: 2172577.1369

B-9: Elevation: 571.74
 Northing: 1745828.0673
 Easting: 2172726.8501

Document Source: IMEG
 Soil Boring Exhibit

REVISIONS		DATE
No	DESCRIPTION	



623 26TH AVENUE
 ROCK ISLAND, ILLINOIS 61201

PROJECT MARLEY
 3809 60TH AVENUE WEST
 ROCK ISLAND, ILLINOIS

PIEZOMETER WELL
 LOCATIONS

IMEG Project No.
 24006496.00

Drawn By: NJL

Checked By: MAD

Date: 2024.12.04

A-6

Sheet 6 of 6



Appendix B
Logs for Borings

Project Marley
3809 60th Avenue West
Rock Island, Illinois

December 13, 2024
IMEG No. 24006496.00



New Site Development - Project Marley
 3809 60th Avenue West
 Rock Island, Illinois
 IMEG Project Number: 24006496.00

LOG OF BORING **B-1**
 SHEET 1 OF 2

DRILLER L. SKAALA (IMEG-ROCK ISLAND)
 DRILL RIG DIEDRICH - D50 TRACK MOUNTED

BORING NO. / LOCATION B-1 DRY AT COMPLETION NO

DATE 2024.11.19 SURFACE ELEV. 567.6 FT.
 REFUSAL _____ FT. ELEV. _____ FT.
 SAMPLED 30.0 FT.
 TOP OF ROCK _____ FT. ELEV. _____ FT.
 BEGAN CORING _____ FT. ELEV. _____ FT.
 FOOTAGE CORED _____ LF
 BOTTOM OF HOLE DEPTH 30.0 FT. ELEV. 537.6 FT.

WATER LEVEL DATA (IF APPLICABLE)
 SEEPAGE: 19.0 FEET
 COMPLETION: 16.0 FEET
 AT 7-DAYS: 17.0 FEET

BORING ADVANCED BY HOLLOW STEM AUGER X 140 LB. AUTO HAMMER X

STRATUM DEPTH	SAMPLE DEPTH		SAMPLE OR RUN NO.	SAMPLE TYPE	FIELD RESULTS		LABORATORY RESULTS				STRATUM DESCRIPTION	
	FROM	TO			N-Value	Qp	%M	DD	UCS	Gr		
FT. ELEV.	FT.	FT.										
2.5 565.1	0.0	1.5	1	SS	4 - 5 - 6 N = 11		20.0					FILL: Dark Brown Sandy Silty Clay with Gravel, Moist Medium Dense Olive-Brown Clayey Sand, Moist, Medium Dense
	1.5	3.0	2	SS	4 - 5 - 5 N = 10		5.7 8.0 7.7 7.9 3.8					
5.0 562.6	3.5	5.0	3	SS	3 - 4 - 5 N = 9		2.9					FINE TO MEDIUM-GRAINED SAND (ALLUVIUM): Brown Damp Loose to Medium Dense
	6.5	8.0	4	SS	3 - 4 - 5 N = 9		3.9					
10.0 557.6	8.5	10.0	5	SS	6 - 7 - 9 N = 16		7.0					MEDIUM TO COARSE-GRAINED SAND (ALLUVIUM): Brown Damp Medium Dense Cobbles at 11.5 Feet
	11.5	13.0	6	SS	11 - 12 - 14 N = 26		2.8					
15.0 552.6	13.5	15.0	7	SS	5 - 7 - 8 N = 15		2.9					Very Moist and Loose at 18.5 Feet
	18.5	20.0	8	SS	2 - 3 - 3 N = 6		17.0					

CONTINUED...

REMARKS: _____



New Site Development - Project Marley
 3809 60th Avenue West
 Rock Island, Illinois
 IMEG Project Number: 24006496.00

LOG OF BORING **B-1**
 SHEET 2 OF 2

DRILLER L. SKAALA (IMEG-ROCK ISLAND)
 DRILL RIG DIEDRICH - D50 TRACK MOUNTED

BORING NO. / LOCATION B-1 DRY AT COMPLETION NO

DATE 2024.11.19 SURFACE ELEV. 567.6 FT.
 REFUSAL _____ FT. ELEV. _____ FT.
 SAMPLED 30.0 FT.
 TOP OF ROCK _____ FT. ELEV. _____ FT.
 BEGAN CORING _____ FT. ELEV. _____ FT.
 FOOTAGE CORED _____ LF
 BOTTOM OF HOLE DEPTH 30.0 FT. ELEV. 537.6 FT.

WATER LEVEL DATA (IF APPLICABLE)
 SEEPAGE: 19.0 FEET
 COMPLETION: 16.0 FEET
 AT 7-DAYS: 17.0 FEET

BORING ADVANCED BY HOLLOW STEM AUGER X 140 LB. AUTO HAMMER X

STRATUM DEPTH	SAMPLE DEPTH		SAMPLE OR RUN NO.	SAMPLE TYPE	FIELD RESULTS		LABORATORY RESULTS				STRATUM DESCRIPTION
	FROM	TO			N-Value	Qp	%M	DD	UCS	Qr	
	FT.	FT.									
22.5											MEDIUM TO COARSE-GRAINED SAND (ALLUVIUM): Brown Very Moist Loose
25.0	23.5	25.0	9	SS	2 - 3 - 3 N = 6	18.4					
27.5											
30.0	28.5	30.0	10	SS	2 - 3 - 3 N = 6	16.6					
32.5											<p style="text-align: center;">END OF BORING</p> <p>NOTE: All Borings were Backfilled with the Available Auger Cuttings at Completion of the Monitoring Period.</p>
35.0											
37.5											
40.0											

The stratification lines represent the approximate boundary between soil types; however, the actual transition may be more abrupt or gradual.

Qp = spring-calibrated pocket penetrometer reading (tons per square foot)
 %M = oven-dried soil moisture content (percent)
 DD = oven-dried sample dry unit weight (pounds per cubic foot)
 UCS = sample laboratory unconfined compressive strength (tons per square foot)
 Qr = sample laboratory remolded strength (tons per square foot)
 N.R. = no strength reading registered with spring calibrated pocket penetrometer (tons per square foot)

REMARKS: _____



New Site Development - Project Marley
 3809 60th Avenue West
 Rock Island, Illinois
 IMEG Project Number: 24006496.00

LOG OF BORING **B-2**
 SHEET 1 OF 2

DRILLER L. SKAALA (IMEG-ROCK ISLAND)
 DRILL RIG DIEDRICH - D50 TRACK MOUNTED

BORING NO. / LOCATION B-2 DRY AT COMPLETION NO

DATE 2024.11.25 SURFACE ELEV. 565.4 FT.
 REFUSAL _____ FT. ELEV. _____ FT.
 SAMPLED 30.0 FT.
 TOP OF ROCK _____ FT. ELEV. _____ FT.
 BEGAN CORING _____ FT. ELEV. _____ FT.
 FOOTAGE CORED _____ LF
 BOTTOM OF HOLE DEPTH 30.0 FT. ELEV. 535.4 FT.

WATER LEVEL DATA (IF APPLICABLE)
 SEEPAGE: 17.0 FEET
 COMPLETION: 16.5 FEET
 AT 7-DAYS: 17.0 FEET

BORING ADVANCED BY HOLLOW STEM AUGER X 140 LB. AUTO HAMMER X

STRATUM DEPTH	SAMPLE DEPTH		SAMPLE OR RUN NO.	SAMPLE TYPE	FIELD RESULTS		LABORATORY RESULTS				STRATUM DESCRIPTION	
	FROM	TO			N-Value	Qp	%M	DD	UCS	Gr		
	FT.	FT.										
0.0 - 1.5	0.0	1.5	1	SS	4 - 5 - 4 N = 9		12.1					SANDY CLAY (ORGANIC TOPSOIL): Brown 0.5
1.5 - 3.0	1.5	3.0	2	SS	5 - 4 - 4 N = 9		9.8					FILL: Red-Brown Clayey Sand, Moist, Loose 2.0
3.0 - 5.0	3.5	5.0	3	SS	2 - 4 - 6 N = 10		7.0					FINE-GRAINED SAND (ALLUVIUM): Orange-Brown Moist Loose to Medium Dense 8.5
5.0 - 7.5	6.5	8.0	4	SS	6 - 5 - 6 N = 11		7.1					FINE TO MEDIUM-GRAINED SAND (ALLUVIUM): Brown Damp Medium Dense 13.5
7.5 - 10.0	8.5	10.0	5	SS	3 - 7 - 9 N = 16		7.0					MEDIUM TO COARSE-GRAINED SAND (ALLUVIUM): Brown Moist Medium Dense
10.0 - 12.5	11.5	13.0	6	SS	6 - 6 - 6 N = 12		3.4					
12.5 - 15.0	13.5	15.0	7	SS	6 - 7 - 8 N = 15		6.0					
15.0 - 17.5	18.5	20.0	8	SS	7 - 7 - 7 N = 14		4.6					
17.5 - 20.0							9.8					
							12.6					

CONTINUED...

REMARKS: _____



New Site Development - Project Marley
 3809 60th Avenue West
 Rock Island, Illinois
 IMEG Project Number: 24006496.00

LOG OF BORING **B-2**
 SHEET 2 OF 2

DRILLER L. SKAALA (IMEG-ROCK ISLAND)
 DRILL RIG DIEDRICH - D50 TRACK MOUNTED

BORING NO. / LOCATION B-2 DRY AT COMPLETION NO

DATE 2024.11.25 SURFACE ELEV. 565.4 FT.
 REFUSAL _____ FT. ELEV. _____ FT.
 SAMPLED 30.0 FT.
 TOP OF ROCK _____ FT. ELEV. _____ FT.
 BEGAN CORING _____ FT. ELEV. _____ FT.
 FOOTAGE CORED _____ LF
 BOTTOM OF HOLE DEPTH 30.0 FT. ELEV. 535.4 FT.

WATER LEVEL DATA (IF APPLICABLE)
 SEEPAGE: 17.0 FEET
 COMPLETION: 16.5 FEET
 AT 7-DAYS: 17.0 FEET

BORING ADVANCED BY HOLLOW STEM AUGER X 140 LB. AUTO HAMMER X

STRATUM DEPTH	SAMPLE DEPTH		SAMPLE OR RUN NO.	SAMPLE TYPE	FIELD RESULTS		LABORATORY RESULTS				STRATUM DESCRIPTION
	FROM	TO			N-Value	Qp	%M	DD	UCS	Qr	
	FT.	FT.									
22.5											MEDIUM TO COARSE-GRAINED SAND (ALLUVIUM): Brown Moist Loose
25.0	23.5	25.0	9	SS	2 - 3 - 4 N = 7	10.0					
27.5											
30.0	28.5	30.0	10	SS	2 - 3 - 5 N = 8	8.7					
32.5											<p style="text-align: center;">END OF BORING</p> <p>NOTE: All Borings were Backfilled with the Available Auger Cuttings at Completion of the Monitoring Period.</p>
35.0											
37.5											
40.0											

The stratification lines represent the approximate boundary between soil types; however, the actual transition may be more abrupt or gradual.

Qp = spring-calibrated pocket penetrometer reading (tons per square foot)
 %M = oven-dried soil moisture content (percent)
 DD = oven-dried sample dry unit weight (pounds per cubic foot)
 UCS = sample laboratory unconfined compressive strength (tons per square foot)
 Qr = sample laboratory remolded strength (tons per square foot)
 N.R. = no strength reading registered with spring calibrated pocket penetrometer (tons per square foot)

REMARKS: _____



New Site Development - Project Marley
 3809 60th Avenue West
 Rock Island, Illinois
 IMEG Project Number: 24006496.00

LOG OF BORING **B-3**
 SHEET 1 OF 2

DRILLER L. SKAALA (IMEG-ROCK ISLAND)
 DRILL RIG DIEDRICH - D50 TRACK MOUNTED

BORING NO. / LOCATION B-3 DRY AT COMPLETION NO

DATE 2024.11.26 SURFACE ELEV. 563.9 FT.
 REFUSAL _____ FT. ELEV. _____ FT.
 SAMPLED 30.0 FT.
 TOP OF ROCK _____ FT. ELEV. _____ FT.
 BEGAN CORING _____ FT. ELEV. _____ FT.
 FOOTAGE CORED _____ LF
 BOTTOM OF HOLE DEPTH 30.0 FT. ELEV. 533.9 FT.

WATER LEVEL DATA (IF APPLICABLE)
 SEEPAGE: 15.0 FEET
 COMPLETION: 15.0 FEET
 AT 7-DAYS: 15.0 FEET

BORING ADVANCED BY HOLLOW STEM AUGER X 140 LB. AUTO HAMMER X

STRATUM DEPTH	SAMPLE DEPTH		SAMPLE OR RUN NO.	SAMPLE TYPE	FIELD RESULTS		LABORATORY RESULTS				STRATUM DESCRIPTION	
	FROM	TO			N-Value	Qp	%M	DD	UCS	Gr		
FT. ELEV.	FT.	FT.										
0.0 561.4	0.0	1.5	1	SS	2 - 3 - 5 N = 8		16.3					SANDY CLAY (ORGANIC TOPSOIL): Brown 0.5
							11.9					FILL: Red-Brown Clayey Sand, Moist, Loose 2.0
2.5 561.4	1.5	3.0	2	SS	7 - 6 - 8 N = 14		5.4					FINE-GRAINED SAND (ALLUVIUM): Orange-Brown Moist Loose to Medium Dense
							13.3					
							3.2					
5.0 558.9	3.5	5.0	3	SS	5 - 5 - 8 N = 13		3.6					
							10.8					
7.5 556.4	6.5	8.0	4	SS	4 - 5 - 7 N = 12		12.8					
10.0 553.9	8.5	10.0	5	SS	5 - 4 - 7 N = 11		5.6					FINE TO MEDIUM-GRAINED SAND (ALLUVIUM): Brown Damp Medium Dense 8.5
12.5 551.4	11.5	13.0	6	SS	4 - 5 - 7 N = 12		15.1					
15.0 548.9	13.5	15.0	7	SS	4 - 3 - 4 N = 7		23.6					
17.5 546.4												
20.0 543.9	18.5	20.0	8	SS	6 - 4 - 5 N = 9		14.5					MEDIUM TO COARSE-GRAINED SAND (ALLUVIUM): Brown Moist, Medium Dense 18.5

CONTINUED...

REMARKS: _____



New Site Development - Project Marley
 3809 60th Avenue West
 Rock Island, Illinois
 IMEG Project Number: 24006496.00

LOG OF BORING **B-3**
 SHEET 2 OF 2

DRILLER L. SKAALA (IMEG-ROCK ISLAND)
 DRILL RIG DIEDRICH - D50 TRACK MOUNTED

BORING NO. / LOCATION B-3 DRY AT COMPLETION NO

DATE 2024.11.26 SURFACE ELEV. 563.9 FT.
 REFUSAL _____ FT. ELEV. _____ FT.
 SAMPLED 30.0 FT.
 TOP OF ROCK _____ FT. ELEV. _____ FT.
 BEGAN CORING _____ FT. ELEV. _____ FT.
 FOOTAGE CORED _____ LF
 BOTTOM OF HOLE DEPTH 30.0 FT. ELEV. 533.9 FT.

WATER LEVEL DATA (IF APPLICABLE)
 SEEPAGE: 15.0 FEET
 COMPLETION: 15.0 FEET
 AT 7-DAYS: 15.0 FEET

BORING ADVANCED BY HOLLOW STEM AUGER X 140 LB. AUTO HAMMER X

STRATUM DEPTH	SAMPLE DEPTH		SAMPLE OR RUN NO.	SAMPLE TYPE	FIELD RESULTS		LABORATORY RESULTS				STRATUM DESCRIPTION
	FROM	TO			N-Value	Qp	%M	DD	UCS	Qr	
	FT.	FT.									
22.5											MEDIUM TO COARSE-GRAINED SAND (ALLUVIUM): Brown Moist Loose
25.0	23.5	25.0	9	SS	4 - 5 - 4 N = 9	14.6					
27.5											
30.0	28.5	30.0	10	SS	6 - 5 - 6 N = 11	12.0					
32.5											<p style="text-align: center;">END OF BORING</p> <p>NOTE: All Borings were Backfilled with the Available Auger Cuttings at Completion of the Monitoring Period.</p>
35.0											
37.5											
40.0											

The stratification lines represent the approximate boundary between soil types; however, the actual transition may be more abrupt or gradual.

Qp = spring-calibrated pocket penetrometer reading (tons per square foot)
 %M = oven-dried soil moisture content (percent)
 DD = oven-dried sample dry unit weight (pounds per cubic foot)
 UCS = sample laboratory unconfined compressive strength (tons per square foot)
 Qr = sample laboratory remolded strength (tons per square foot)
 N.R. = no strength reading registered with spring calibrated pocket penetrometer (tons per square foot)

REMARKS: _____



New Site Development - Project Marley
 3809 60th Avenue West
 Rock Island, Illinois
 IMEG Project Number: 24006496.00

LOG OF BORING **B-4**
 SHEET 1 OF 2

DRILLER L. SKAALA (IMEG-ROCK ISLAND)
 DRILL RIG DIEDRICH - D50 TRACK MOUNTED

BORING NO. / LOCATION B-4 DRY AT COMPLETION NO

DATE 2024.11.26 SURFACE ELEV. 566.2 FT.
 REFUSAL _____ FT. ELEV. _____ FT.
 SAMPLED 30.0 FT.
 TOP OF ROCK _____ FT. ELEV. _____ FT.
 BEGAN CORING _____ FT. ELEV. _____ FT.
 FOOTAGE CORED _____ LF
 BOTTOM OF HOLE DEPTH 30.0 FT. ELEV. 536.2 FT.

WATER LEVEL DATA (IF APPLICABLE)
 SEEPAGE: 16.0 FEET
 COMPLETION: 16.0 FEET
 AT 7-DAYS: 15.5 FEET

BORING ADVANCED BY HOLLOW STEM AUGER X 140 LB. AUTO HAMMER X

STRATUM DEPTH	SAMPLE DEPTH		SAMPLE OR RUN NO.	SAMPLE TYPE	FIELD RESULTS		LABORATORY RESULTS				STRATUM DESCRIPTION	
	FROM	TO			N-Value	Qp	%M	DD	UCS	Gr		
FT. ELEV.	FT.	FT.										
0.0 566.2	0.0	1.5	1	SS	3 - 4 - 4 N = 8		19.7					SANDY CLAY (ORGANIC TOPSOIL): Brown FILL: Brown Clayey Sand, Moist, Loose 0.5
2.5 563.7	1.5	3.0	2	SS	7 - 7 - 7 N = 14		15.3					2.5
5.0 561.2	3.5	5.0	3	SS	5 - 6 - 9 N = 13		14.2					6.5
7.5 558.7	6.5	8.0	4	SS	4 - 5 - 6 N = 11		5.8					11.5
10.0 556.2	8.5	10.0	5	SS	5 - 4 - 7 N = 11		20.9					11.5
12.5 553.7	11.5	13.0	6	SS	4 - 6 - 6 N = 12		11.4					11.5
15.0 551.2	13.5	15.0	7	SS	4 - 3 - 3 N = 6		15.2					11.5
17.5 548.7							9.9					11.5
20.0 546.2	18.5	20.0	8	SS	6 - 5 - 5 N = 10		8.0					11.5
							22.8					11.5

CONTINUED...

REMARKS: _____



New Site Development - Project Marley
 3809 60th Avenue West
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LOG OF BORING **B-4**
 SHEET 2 OF 2

DRILLER L. SKAALA (IMEG-ROCK ISLAND)
 DRILL RIG DIEDRICH - D50 TRACK MOUNTED

BORING NO. / LOCATION B-4 DRY AT COMPLETION NO

DATE 2024.11.26 SURFACE ELEV. 566.2 FT.
 REFUSAL _____ FT. ELEV. _____ FT.
 SAMPLED 30.0 FT.
 TOP OF ROCK _____ FT. ELEV. _____ FT.
 BEGAN CORING _____ FT. ELEV. _____ FT.
 FOOTAGE CORED _____ LF
 BOTTOM OF HOLE DEPTH 30.0 FT. ELEV. 536.2 FT.

WATER LEVEL DATA (IF APPLICABLE)
 SEEPAGE: 16.0 FEET
 COMPLETION: 16.0 FEET
 AT 7-DAYS: 15.5 FEET

BORING ADVANCED BY HOLLOW STEM AUGER X 140 LB. AUTO HAMMER X

STRATUM DEPTH	SAMPLE DEPTH		SAMPLE OR RUN NO.	SAMPLE TYPE	FIELD RESULTS		LABORATORY RESULTS				STRATUM DESCRIPTION
	FROM	TO			N-Value	Qp	%M	DD	UCS	Qr	
	FT.	FT.									
22.5											MEDIUM TO COARSE-GRAINED SAND (ALLUVIUM): Brown Moist Medium Dense
25.0	23.5	25.0	9	SS	5 - 5 - 5 N = 10	17.8					
27.5											
30.0	28.5	30.0	10	SS	6 - 5 - 5 N = 10	16.9					
32.5											<p style="text-align: center;">END OF BORING</p> <p>NOTE: All Borings were Backfilled with the Available Auger Cuttings at Completion of the Monitoring Period.</p>
35.0											
37.5											
40.0											

The stratification lines represent the approximate boundary between soil types; however, the actual transition may be more abrupt or gradual.

Qp = spring-calibrated pocket penetrometer reading (tons per square foot)
 %M = oven-dried soil moisture content (percent)
 DD = oven-dried sample dry unit weight (pounds per cubic foot)
 UCS = sample laboratory unconfined compressive strength (tons per square foot)
 Qr = sample laboratory remolded strength (tons per square foot)
 N.R. = no strength reading registered with spring calibrated pocket penetrometer (tons per square foot)

REMARKS: _____



New Site Development - Project Marley
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LOG OF BORING **B-5**
 SHEET 1 OF 2

DRILLER L. SKAALA (IMEG-ROCK ISLAND)
 DRILL RIG DIEDRICH - D50 TRACK MOUNTED

BORING NO. / LOCATION B-5 DRY AT COMPLETION NO

DATE 2024.11.26 SURFACE ELEV. 568.2 FT.
 REFUSAL _____ FT. ELEV. _____ FT.
 SAMPLED 30.0 FT.
 TOP OF ROCK _____ FT. ELEV. _____ FT.
 BEGAN CORING _____ FT. ELEV. _____ FT.
 FOOTAGE CORED _____ LF
 BOTTOM OF HOLE DEPTH 30.0 FT. ELEV. 538.2 FT.

WATER LEVEL DATA (IF APPLICABLE)
 SEEPAGE: 17.0 FEET
 COMPLETION: 16.5 FEET
 AT 7-DAYS: 16.5 FEET

BORING ADVANCED BY HOLLOW STEM AUGER X 140 LB. AUTO HAMMER X

STRATUM DEPTH	SAMPLE DEPTH		SAMPLE OR RUN NO.	SAMPLE TYPE	FIELD RESULTS		LABORATORY RESULTS				STRATUM DESCRIPTION	
	FROM	TO			N-Value	Qp	%M	DD	UCS	Gr		
	FT.	FT.										
0.0 - 1.5	0.0	1.5	1	SS	4 - 4 - 4 N = 8		17.7					SANDY CLAY (ORGANIC TOPSOIL): Brown, Moist, Loose 1.0
1.5 - 3.0	1.5	3.0	2	SS	6 - 7 - 6 N = 13		18.7					FILL: Brown Clayey Sand, Moist to Damp Loose to Medium Dense 2.5
3.0 - 5.0	3.5	5.0	3	SS	4 - 7 - 8 N = 15		13.9					FINE TO MEDIUM-GRAINED SAND (ALLUVIUM): Brown Moist Medium Dense 11.5
5.0 - 6.5	6.5	8.0	4	SS	5 - 5 - 5 N = 10		7.0					MEDIUM TO COARSE-GRAINED SAND (ALLUVIUM): Brown Moist Medium Dense 13.5
6.5 - 8.5	8.5	10.0	5	SS	5 - 4 - 6 N = 10		3.5					FINE-GRAINED SAND (ALLUVIUM): Brown Wet Loose 18.5
8.5 - 11.5	11.5	13.0	6	SS	5 - 5 - 6 N = 11		9.6					MEDIUM TO COARSE-GRAINED SAND (ALLUVIUM): Brown Moist, Medium Dense
11.5 - 13.5	13.5	15.0	7	SS	4 - 3 - 3 N = 6		11.9					
13.5 - 18.5	18.5	20.0	8	SS	6 - 6 - 5 N = 11		14.1					
18.5 - 20.0							15.0					
							16.8					
							11.9					

CONTINUED...

REMARKS: _____



New Site Development - Project Marley
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LOG OF BORING **B-5**
 SHEET 2 OF 2

DRILLER L. SKAALA (IMEG-ROCK ISLAND)
 DRILL RIG DIEDRICH - D50 TRACK MOUNTED

BORING NO. / LOCATION B-5 DRY AT COMPLETION NO

DATE 2024.11.26 SURFACE ELEV. 568.2 FT.
 REFUSAL _____ FT. ELEV. _____ FT.
 SAMPLED 30.0 FT.
 TOP OF ROCK _____ FT. ELEV. _____ FT.
 BEGAN CORING _____ FT. ELEV. _____ FT.
 FOOTAGE CORED _____ LF
 BOTTOM OF HOLE DEPTH 30.0 FT. ELEV. 538.2 FT.

WATER LEVEL DATA (IF APPLICABLE)
 SEEPAGE: 17.0 FEET
 COMPLETION: 16.5 FEET
 AT 7-DAYS: 16.5 FEET

BORING ADVANCED BY HOLLOW STEM AUGER X 140 LB. AUTO HAMMER X

STRATUM DEPTH	SAMPLE DEPTH		SAMPLE OR RUN NO.	SAMPLE TYPE	FIELD RESULTS		LABORATORY RESULTS				STRATUM DESCRIPTION
	FROM	TO			N-Value	Qp	%M	DD	UCS	Qr	
FT. ELEV.	FT.	FT.									
22.5 545.7											MEDIUM TO COARSE-GRAINED SAND (ALLUVIUM): Brown Moist Medium Dense
25.0 543.2	23.5	25.0	9	SS	6 - 6 - 5 N = 11	16.2					
27.5 540.7											
30.0 538.2	28.5	30.0	10	SS	5 - 5 - 7 N = 12	19.7					
32.5 535.7	The stratification lines represent the approximate boundary between soil types; however, the actual transition may be more abrupt or gradual. Qp = spring-calibrated pocket penetrometer reading (tons per square foot) %M = oven-dried soil moisture content (percent) DD = oven-dried sample dry unit weight (pounds per cubic foot) UCS = sample laboratory unconfined compressive strength (tons per square foot) Qr = sample laboratory remolded strength (tons per square foot) N.R. = no strength reading registered with spring calibrated pocket penetrometer (tons per square foot)										END OF BORING NOTE: All Borings were Backfilled with the Available Auger Cuttings at Completion of the Monitoring Period.
35.0 533.2											
37.5 530.7											
40.0 528.2											

30.0

REMARKS: _____



New Site Development - Project Marley
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LOG OF BORING **B-6**
 SHEET 1 OF 2

DRILLER L. SKAALA (IMEG-ROCK ISLAND)
 DRILL RIG DIEDRICH - D50 TRACK MOUNTED

BORING NO. / LOCATION B-6 DRY AT COMPLETION NO

DATE 2024.11.22 SURFACE ELEV. 568.1 FT.
 REFUSAL _____ FT. ELEV. _____ FT.
 SAMPLED 30.0 FT.
 TOP OF ROCK _____ FT. ELEV. _____ FT.
 BEGAN CORING _____ FT. ELEV. _____ FT.
 FOOTAGE CORED _____ LF
 BOTTOM OF HOLE DEPTH 30.0 FT. ELEV. 538.1 FT.

WATER LEVEL DATA (IF APPLICABLE)
 SEEPAGE: 18.5 FEET
 COMPLETION: 18.0 FEET
 AT 7-DAYS: 18.0 FEET

BORING ADVANCED BY HOLLOW STEM AUGER X 140 LB. AUTO HAMMER X

STRATUM DEPTH	SAMPLE DEPTH		SAMPLE OR RUN NO.	SAMPLE TYPE	FIELD RESULTS	LABORATORY RESULTS				STRATUM DESCRIPTION
	FROM	TO				RESULTS				
	FT.	FT.				N-Value	Qp	%M	DD	
0.0 - 1.5	0.0	1.5	1	SS	8 - 10 - 13 N = 23	7.2				SANDY CLAY (ORGANIC TOPSOIL): Dark Brown, Moist, Medium Dense 1.0
1.5 - 3.0	1.5	3.0	2	SS	7 - 8 - 7 N = 15	9.3				FILL: Brown Clayey Sand with Gravel, Moist, Medium Dense
3.0 - 5.0	3.5	5.0	3	SS	7 - 8 - 7 N = 15	9.8				Red-Brown Clayey Sand, Damp, Medium Dense
5.0 - 6.5						9.5				
6.5 - 8.0	6.5	8.0	4	SS	10 - 9 - 11 N = 20	2.8				FINE TO MEDIUM-GRAINED SAND (ALLUVIUM): Brown Damp to Moist Medium Dense
8.0 - 10.0	8.5	10.0	5	SS	7 - 7 - 10 N = 17	2.0				
10.0 - 11.5						4.5				
11.5 - 13.0	11.5	13.0	6	SS	9 - 8 - 8 N = 16	3.3				
13.0 - 15.0	13.5	15.0	7	SS	10 - 7 - 7 N = 14	3.9				MEDIUM TO COARSE-GRAINED SAND (ALLUVIUM): Brown Moist Medium Dense
15.0 - 17.5						4.8				
17.5 - 18.5										
18.5 - 20.0	18.5	20.0	8	SS	2 - 4 - 6 N = 10	15.1				Very Moist at 18.5 Feet

CONTINUED...

REMARKS: _____



New Site Development - Project Marley
 3809 60th Avenue West
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LOG OF BORING **B-6**
 SHEET 2 OF 2

DRILLER L. SKAALA (IMEG-ROCK ISLAND)
 DRILL RIG DIEDRICH - D50 TRACK MOUNTED

BORING NO. / LOCATION B-6 DRY AT COMPLETION NO

DATE 2024.11.22 SURFACE ELEV. 568.1 FT.
 REFUSAL _____ FT. ELEV. _____ FT.
 SAMPLED 30.0 FT.
 TOP OF ROCK _____ FT. ELEV. _____ FT.
 BEGAN CORING _____ FT. ELEV. _____ FT.
 FOOTAGE CORED _____ LF
 BOTTOM OF HOLE DEPTH 30.0 FT. ELEV. 538.1 FT.

WATER LEVEL DATA (IF APPLICABLE)
 SEEPAGE: 18.5 FEET
 COMPLETION: 18.0 FEET
 AT 7-DAYS: 18.0 FEET

BORING ADVANCED BY HOLLOW STEM AUGER X 140 LB. AUTO HAMMER X

STRATUM DEPTH	SAMPLE DEPTH		SAMPLE OR RUN NO.	SAMPLE TYPE	FIELD RESULTS		LABORATORY RESULTS				STRATUM DESCRIPTION
	FROM	TO			N-Value	Qp	%M	DD	UCS	Qr	
FT. ELEV.	FT.	FT.									
22.5 545.6											MEDIUM TO COARSE-GRAINED SAND (ALLUVIUM): Brown Moist Medium Dense
25.0 543.1	23.5	25.0	9	SS	3 - 4 - 6 N = 10		15.7				
27.5 540.6											
30.0 538.1	28.5	30.0	10	SS	4 - 5 - 6 N = 11		14.2				
32.5 535.6	<p>The stratification lines represent the approximate boundary between soil types; however, the actual transition may be more abrupt or gradual.</p> <p>Qp = spring-calibrated pocket penetrometer reading (tons per square foot) %M = oven-dried soil moisture content (percent) DD = oven-dried sample dry unit weight (pounds per cubic foot) UCS = sample laboratory unconfined compressive strength (tons per square foot) Qr = sample laboratory remolded strength (tons per square foot) N.R. = no strength reading registered with spring calibrated pocket penetrometer (tons per square foot)</p>										END OF BORING
35.0 533.1											NOTE: All Borings were Backfilled with the Available Auger Cuttings at Completion of the Monitoring Period.
37.5 530.6											
40.0 528.1											

REMARKS: _____



New Site Development - Project Marley
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LOG OF BORING **B-7**
 SHEET 1 OF 2

DRILLER L. SKAALA (IMEG-ROCK ISLAND)
 DRILL RIG DIEDRICH - D50 TRACK MOUNTED

BORING NO. / LOCATION B-7 DRY AT COMPLETION NO

DATE 2024.11.22 SURFACE ELEV. 570.4 FT.
 REFUSAL _____ FT. ELEV. _____ FT.
 SAMPLED 30.0 FT.
 TOP OF ROCK _____ FT. ELEV. _____ FT.
 BEGAN CORING _____ FT. ELEV. _____ FT.
 FOOTAGE CORED _____ LF
 BOTTOM OF HOLE DEPTH 30.0 FT. ELEV. 540.4 FT.

WATER LEVEL DATA (IF APPLICABLE)
 SEEPAGE: 19.0 FEET
 COMPLETION: 19.0 FEET
 AT 7-DAYS: 18.0 FEET

BORING ADVANCED BY HOLLOW STEM AUGER X 140 LB. AUTO HAMMER X

STRATUM DEPTH	SAMPLE DEPTH		SAMPLE OR RUN NO.	SAMPLE TYPE	FIELD RESULTS	LABORATORY RESULTS				STRATUM DESCRIPTION	
	FROM	TO				N-Value	Qp	%M	DD		UCS
FT. ELEV.	FT.	FT.									
0.0 567.9	0.0	1.5	1	SS	2 - 2 - 3 N = 5	22.3					SANDY CLAY (ORGANIC TOPSOIL): Brown 0.5
2.5 567.9	1.5	3.0	2	SS	10 - 8 - 7 N = 15	7.6					FILL: Dark Brown Clayey Sand, Damp, Loose
5.0 565.4	3.5	5.0	3	SS	10 - 5 - 6 N = 11	2.4					Brown Fine Sand with Gravel, Moist, Medium Dense
7.5 562.9	6.5	8.0	4	SS	10 - 9 - 12 N = 21	2.9					FINE TO MEDIUM-GRAINED SAND (ALLUVIUM): Brown Damp Medium Dense
10.0 560.4	8.5	10.0	5	SS	9 - 6 - 9 N = 15	2.5					
12.5 557.9	11.5	13.0	6	SS	8 - 6 - 8 N = 14	1.4					
15.0 555.4	13.5	15.0	7	SS	4 - 7 - 7 N = 14	1.9					MEDIUM TO COARSE-GRAINED SAND (ALLUVIUM): Brown Damp Medium Dense
17.5 552.9	18.5	20.0	8	SS	2 - 3 - 4 N = 7	1.7					Moist and Loose at 18.5 Feet
20.0 550.4						3.0					

CONTINUED...

REMARKS: _____



New Site Development - Project Marley
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 IMEG Project Number: 24006496.00

LOG OF BORING **B-7**
 SHEET 2 OF 2

DRILLER L. SKAALA (IMEG-ROCK ISLAND)
 DRILL RIG DIEDRICH - D50 TRACK MOUNTED

BORING NO. / LOCATION B-7 DRY AT COMPLETION NO

DATE 2024.11.22 SURFACE ELEV. 570.4 FT.
 REFUSAL _____ FT. ELEV. _____ FT.
 SAMPLED 30.0 FT.
 TOP OF ROCK _____ FT. ELEV. _____ FT.
 BEGAN CORING _____ FT. ELEV. _____ FT.
 FOOTAGE CORED _____ LF
 BOTTOM OF HOLE DEPTH 30.0 FT. ELEV. 540.4 FT.

WATER LEVEL DATA (IF APPLICABLE)
 SEEPAGE: 19.0 FEET
 COMPLETION: 19.0 FEET
 AT 7-DAYS: 18.0 FEET

BORING ADVANCED BY HOLLOW STEM AUGER X 140 LB. AUTO HAMMER X

STRATUM DEPTH	SAMPLE DEPTH		SAMPLE OR RUN NO.	SAMPLE TYPE	FIELD RESULTS		LABORATORY RESULTS				STRATUM DESCRIPTION
	FROM	TO			N-Value	Qp	%M	DD	UCS	Qr	
	FT.	FT.									
22.5											MEDIUM TO COARSE-GRAINED SAND (ALLUVIUM): Brown Damp Loose Medium Dense at 28.5 Feet
25.0	23.5	25.0	9	SS	4 - 4 - 4 N = 8	18.1					
27.5											
30.0	28.5	30.0	10	SS	4 - 5 - 5 N = 10	9.0					
32.5											The stratification lines represent the approximate boundary between soil types; however, the actual transition may be more abrupt or gradual. Qp = spring-calibrated pocket penetrometer reading (tons per square foot) %M = oven-dried soil moisture content (percent) DD = oven-dried sample dry unit weight (pounds per cubic foot) UCS = sample laboratory unconfined compressive strength (tons per square foot) Qr = sample laboratory remolded strength (tons per square foot) N.R. = no strength reading registered with spring calibrated pocket penetrometer (tons per square foot)
35.0											END OF BORING NOTE: All Borings were Backfilled with the Available Auger Cuttings at Completion of the Monitoring Period.
37.5											
40.0											

REMARKS: _____



New Site Development - Project Marley
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LOG OF BORING **B-8**
 SHEET 1 OF 2

DRILLER L. SKAALA (IMEG-ROCK ISLAND)
 DRILL RIG DIEDRICH - D50 TRACK MOUNTED

BORING NO. / LOCATION B-8 DRY AT COMPLETION NO

DATE 2024.11.21 SURFACE ELEV. 572.0 FT.
 REFUSAL _____ FT. ELEV. _____ FT.
 SAMPLED 30.0 FT.
 TOP OF ROCK _____ FT. ELEV. _____ FT.
 BEGAN CORING _____ FT. ELEV. _____ FT.
 FOOTAGE CORED _____ LF
 BOTTOM OF HOLE DEPTH 30.0 FT. ELEV. 542.0 FT.

WATER LEVEL DATA (IF APPLICABLE)
 SEEPAGE: 20.0 FEET
 COMPLETION: 18.5 FEET
 AT 7-DAYS: 18.5 FEET

BORING ADVANCED BY HOLLOW STEM AUGER X 140 LB. AUTO HAMMER X

STRATUM DEPTH	SAMPLE DEPTH		SAMPLE OR RUN NO.	SAMPLE TYPE	FIELD RESULTS	LABORATORY RESULTS				STRATUM DESCRIPTION		
	FROM	TO				N-Value	Qp	%M	DD		UCS	Gr
	FT.	FT.										
0.0 - 1.5	0.0	1.5	1	SS	2 - 4 - 7 N = 11	6.1					SANDY CLAY (ORGANIC TOPSOIL): Brown, Moist, Loose Structure 1.0	
1.5 - 3.0	1.5	3.0	2	SS	7 - 7 - 8 N = 15	7.3 7.0 3.3 6.0 2.3					FILL: Brown Fine-Grained Sand with Gravel, Moist to Damp Medium Dense Red-Brown Fine-Grained Sand, Moist to Damp Medium Dense 3.5	
3.0 - 5.0	3.5	5.0	3	SS	4 - 5 - 5 N = 10	2.6					FINE-GRAINED SAND (ALLUVIUM): Brown Damp Medium Dense 6.5	
5.0 - 7.5	6.5	8.0	4	SS	10 - 5 - 7 N = 12	5.3					FINE TO MEDIUM-GRAINED SAND (ALLUVIUM): Brown Damp to Moist Medium Dense to Loose	
7.5 - 10.0	8.5	10.0	5	SS	3 - 4 - 4 N = 8	2.0						
10.0 - 12.5	11.5	13.0	6	SS	7 - 9 - 11 N = 20	4.6					MEDIUM TO COARSE-GRAINED SAND (ALLUVIUM): Brown Damp to Moist Medium Dense	
12.5 - 15.0	13.5	15.0	7	SS	3 - 7 - 9 N = 16	5.2						
15.0 - 17.5												
17.5 - 20.0	18.5	20.0	8	SS	3 - 4 - 6 N = 10	19.7					Very Moist at 18.5 Feet	

CONTINUED...

REMARKS: _____



New Site Development - Project Marley
 3809 60th Avenue West
 Rock Island, Illinois
 IMEG Project Number: 24006496.00

LOG OF BORING **B-8**
 SHEET 2 OF 2

DRILLER L. SKAALA (IMEG-ROCK ISLAND)
 DRILL RIG DIEDRICH - D50 TRACK MOUNTED

BORING NO. / LOCATION B-8 DRY AT COMPLETION NO

DATE 2024.11.21 SURFACE ELEV. 572.0 FT.
 REFUSAL _____ FT. ELEV. _____ FT.
 SAMPLED 30.0 FT.
 TOP OF ROCK _____ FT. ELEV. _____ FT.
 BEGAN CORING _____ FT. ELEV. _____ FT.
 FOOTAGE CORED _____ LF
 BOTTOM OF HOLE DEPTH 30.0 FT. ELEV. 542.0 FT.

WATER LEVEL DATA (IF APPLICABLE)
 SEEPAGE: 20.0 FEET
 COMPLETION: 18.5 FEET
 AT 7-DAYS: 18.5 FEET

BORING ADVANCED BY HOLLOW STEM AUGER X 140 LB. AUTO HAMMER X

STRATUM DEPTH	SAMPLE DEPTH		SAMPLE OR RUN NO.	SAMPLE TYPE	FIELD RESULTS		LABORATORY RESULTS				STRATUM DESCRIPTION
	FROM	TO			N-Value	Qp	%M	DD	UCS	Qr	
	FT.	FT.									
22.5											MEDIUM TO COARSE-GRAINED SAND (ALLUVIUM): Brown Very Moist Medium Dense
25.0	23.5	25.0	9	SS	3 - 7 - 7 N = 14	15.0					
27.5											
30.0	28.5	30.0	10	SS	4 - 6 - 8 N = 14	16.4					
32.5											<p style="text-align: center;">END OF BORING</p> <p>NOTE: All Borings were Backfilled with the Available Auger Cuttings at Completion of the Monitoring Period.</p>
35.0											
37.5											
40.0											

The stratification lines represent the approximate boundary between soil types; however, the actual transition may be more abrupt or gradual.

Qp = spring-calibrated pocket penetrometer reading (tons per square foot)
 %M = oven-dried soil moisture content (percent)
 DD = oven-dried sample dry unit weight (pounds per cubic foot)
 UCS = sample laboratory unconfined compressive strength (tons per square foot)
 Qr = sample laboratory remolded strength (tons per square foot)
 N.R. = no strength reading registered with spring calibrated pocket penetrometer (tons per square foot)

REMARKS: _____



New Site Development - Project Marley
 3809 60th Avenue West
 Rock Island, Illinois
 IMEG Project Number: 24006496.00

LOG OF BORING **B-9**
 SHEET 1 OF 2

DRILLER L. SKAALA (IMEG-ROCK ISLAND)
 DRILL RIG DIEDRICH - D50 TRACK MOUNTED

BORING NO. / LOCATION B-9 DRY AT COMPLETION NO

DATE 2024.11.21 SURFACE ELEV. 571.7 FT.
 REFUSAL _____ FT. ELEV. _____ FT.
 SAMPLED 30.0 FT.
 TOP OF ROCK _____ FT. ELEV. _____ FT.
 BEGAN CORING _____ FT. ELEV. _____ FT.
 FOOTAGE CORED _____ LF
 BOTTOM OF HOLE DEPTH 30.0 FT. ELEV. 541.7 FT.

WATER LEVEL DATA (IF APPLICABLE)
 SEEPAGE: 20.0 FEET
 COMPLETION: 20.0 FEET
 AT 7-DAYS: 19.0 FEET

BORING ADVANCED BY HOLLOW STEM AUGER X 140 LB. AUTO HAMMER X

STRATUM DEPTH	SAMPLE DEPTH		SAMPLE OR RUN NO.	SAMPLE TYPE	FIELD RESULTS		LABORATORY RESULTS				STRATUM DESCRIPTION		
	FROM	TO			N-Value	Qp	%M	DD	UCS	Gr			
	FT.	FT.											
0.0 - 1.5	0.0	1.5	1	SS	4 - 6 - 8 N = 14		9.9				0.5	SANDY CLAY (ORGANIC TOPSOIL): Brown	
1.5 - 3.0	1.5	3.0	2	SS	8 - 7 - 7 N = 14		8.1				2.5	FILL: Dark Brown Clayey Sand, Moist to Damp Medium Dense	
3.0 - 5.0	3.5	5.0	3	SS	5 - 6 - 7 N = 13		2.7				6.5	FINE-GRAINED SAND (ALLUVIUM): Brown Damp Medium Dense	
5.0 - 7.5	6.5	8.0	4	SS	10 - 8 - 11 N = 19		3.0				11.5	FINE TO MEDIUM-GRAINED SAND (ALLUVIUM): Brown Moist Medium Dense	
7.5 - 10.0	8.5	10.0	5	SS	5 - 6 - 10 N = 16		1.8						
10.0 - 12.5	11.5	13.0	6	SS	10 - 9 - 13 N = 22		3.4						
12.5 - 15.0	13.5	15.0	7	SS	4 - 7 - 10 N = 17		2.6						
15.0 - 17.5							8.3						
17.5 - 20.0	18.5	20.0	8	SS	3 - 3 - 4 N = 7		3.5						
							4.5						
							25.5						

CONTINUED...

REMARKS: _____



New Site Development - Project Marley
 3809 60th Avenue West
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LOG OF BORING **B-9**
 SHEET 2 OF 2

DRILLER L. SKAALA (IMEG-ROCK ISLAND)
 DRILL RIG DIEDRICH - D50 TRACK MOUNTED

BORING NO. / LOCATION B-9 DRY AT COMPLETION NO

DATE 2024.11.21 SURFACE ELEV. 571.7 FT.
 REFUSAL _____ FT. ELEV. _____ FT.
 SAMPLED 30.0 FT.
 TOP OF ROCK _____ FT. ELEV. _____ FT.
 BEGAN CORING _____ FT. ELEV. _____ FT.
 FOOTAGE CORED _____ LF
 BOTTOM OF HOLE DEPTH 30.0 FT. ELEV. 541.7 FT.

WATER LEVEL DATA (IF APPLICABLE)
 SEEPAGE: 20.0 FEET
 COMPLETION: 20.0 FEET
 AT 7-DAYS: 19.0 FEET

BORING ADVANCED BY HOLLOW STEM AUGER X 140 LB. AUTO HAMMER X

STRATUM DEPTH	SAMPLE DEPTH		SAMPLE OR RUN NO.	SAMPLE TYPE	FIELD RESULTS		LABORATORY RESULTS				STRATUM DESCRIPTION	
	FROM	TO			N-Value	Qp	%M	DD	UCS	Qr		
FT. ELEV.	FT.	FT.										
22.5 549.2												MEDIUM TO COARSE-GRAINED SAND (ALLUVIUM): Brown Very Moist Loose to Medium Dense
25.0 546.7	23.5	25.0	9	SS	3 - 4 - 5 N = 9		18.9					
27.5 544.2												
30.0 541.7	28.5	30.0	10	SS	4 - 4 - 6 N = 10		19.1					
32.5 539.2	<p>The stratification lines represent the approximate boundary between soil types; however, the actual transition may be more abrupt or gradual.</p> <p>Qp = spring-calibrated pocket penetrometer reading (tons per square foot) %M = oven-dried soil moisture content (percent) DD = oven-dried sample dry unit weight (pounds per cubic foot) UCS = sample laboratory unconfined compressive strength (tons per square foot) Qr = sample laboratory remolded strength (tons per square foot) N.R. = no strength reading registered with spring calibrated pocket penetrometer (tons per square foot)</p>										END OF BORING NOTE: All Borings were Backfilled with the Available Auger Cuttings at Completion of the Monitoring Period.	
35.0 536.7												
37.5 534.2												
40.0 531.7												

REMARKS: _____



New Site Development - Project Marley
 3809 60th Avenue West
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LOG OF BORING **B-10**
 SHEET 1 OF 2

DRILLER L. SKAALA (IMEG-ROCK ISLAND)
 DRILL RIG DIEDRICH - D50 TRACK MOUNTED

BORING NO. / LOCATION B-10 DRY AT COMPLETION NO

DATE 2024.11.21 SURFACE ELEV. 568.2 FT.
 REFUSAL _____ FT. ELEV. _____ FT.
 SAMPLED 30.0 FT.
 TOP OF ROCK _____ FT. ELEV. _____ FT.
 BEGAN CORING _____ FT. ELEV. _____ FT.
 FOOTAGE CORED _____ LF
 BOTTOM OF HOLE DEPTH 30.0 FT. ELEV. 538.2 FT.

WATER LEVEL DATA (IF APPLICABLE)
 SEEPAGE: 19.0 FEET
 COMPLETION: 16.5 FEET
 AT 7-DAYS: 17.0 FEET

BORING ADVANCED BY HOLLOW STEM AUGER X 140 LB. AUTO HAMMER X

STRATUM DEPTH	SAMPLE DEPTH		SAMPLE OR RUN NO.	SAMPLE TYPE	FIELD RESULTS		LABORATORY RESULTS				STRATUM DESCRIPTION	
	FROM	TO			N-Value	Qp	%M	DD	UCS	Gr		
FT. ELEV.	FT.	FT.										
0.0 568.2	0.0	1.5	1	SS	3 - 4 - 6 N = 10		6.5					SANDY CLAY (ORGANIC TOPSOIL): Brown, Moist, Loose Structure 1.0
2.5 565.7	1.5	3.0	2	SS	3 - 9 - 11 N = 20		10.9					FILL: Dark Brown Sandy Silty Clay, Moist, Medium Dense
5.0 563.2	3.5	5.0	3	SS	3 - 5 - 8 N = 13		9.1					Olive-Brown Clayey Sand, Moist, Medium Dense 3.5
7.5 560.7	6.5	8.0	4	SS	4 - 6 - 10 N = 16		8.2					FINE TO MEDIUM-GRAINED SAND (ALLUVIUM): Brown Damp Medium Dense
10.0 558.2	8.5	10.0	5	SS	4 - 10 - 11 N = 21		9.6					
12.5 555.7	11.5	13.0	6	SS	4 - 7 - 10 N = 17		4.4					
15.0 553.2	13.5	15.0	7	SS	4 - 6 - 8 N = 14		2.7					
17.5 550.7												
20.0 548.2	18.5	20.0	8	SS	8 - 6 - 5 N = 11		2.7					MEDIUM TO COARSE-GRAINED SAND (ALLUVIUM): Brown Damp Medium Dense Very Moist at 18.5 Feet 11.5

CONTINUED...

REMARKS: _____



New Site Development - Project Marley
 3809 60th Avenue West
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LOG OF BORING **B-10**
 SHEET 2 OF 2

DRILLER L. SKAALA (IMEG-ROCK ISLAND)
 DRILL RIG DIEDRICH - D50 TRACK MOUNTED

BORING NO. / LOCATION B-10 DRY AT COMPLETION NO

DATE 2024.11.21 SURFACE ELEV. 568.2 FT.
 REFUSAL _____ FT. ELEV. _____ FT.
 SAMPLED 30.0 FT.
 TOP OF ROCK _____ FT. ELEV. _____ FT.
 BEGAN CORING _____ FT. ELEV. _____ FT.
 FOOTAGE CORED _____ LF
 BOTTOM OF HOLE DEPTH 30.0 FT. ELEV. 538.2 FT.

WATER LEVEL DATA (IF APPLICABLE)
 SEEPAGE: 19.0 FEET
 COMPLETION: 16.5 FEET
 AT 7-DAYS: 17.0 FEET

BORING ADVANCED BY HOLLOW STEM AUGER X 140 LB. AUTO HAMMER X

STRATUM DEPTH	SAMPLE DEPTH		SAMPLE OR RUN NO.	SAMPLE TYPE	FIELD RESULTS		LABORATORY RESULTS				STRATUM DESCRIPTION
	FROM	TO			N-Value	Qp	%M	DD	UCS	Qr	
FT. ELEV.	FT.	FT.									
22.5 545.7											MEDIUM TO COARSE-GRAINED SAND (ALLUVIUM): Brown Very Moist Medium Dense
25.0 543.2	23.5	25.0	9	SS	3 - 4 - 7 N = 11	17.7					
27.5 540.7											
30.0 538.2	28.5	30.0	10	SS	5 - 6 - 7 N = 13	15.1					
32.5 535.7	The stratification lines represent the approximate boundary between soil types; however, the actual transition may be more abrupt or gradual. Qp = spring-calibrated pocket penetrometer reading (tons per square foot) %M = oven-dried soil moisture content (percent) DD = oven-dried sample dry unit weight (pounds per cubic foot) UCS = sample laboratory unconfined compressive strength (tons per square foot) Qr = sample laboratory remolded strength (tons per square foot) N.R. = no strength reading registered with spring calibrated pocket penetrometer (tons per square foot)										END OF BORING NOTE: All Borings were Backfilled with the Available Auger Cuttings at Completion of the Monitoring Period.
35.0 533.2											
37.5 530.7											
40.0 528.2											

REMARKS: _____



New Site Development - Project Marley
 3809 60th Avenue West
 Rock Island, Illinois
 IMEG Project Number: 24006496.00

LOG OF BORING **B-11**
 SHEET 1 OF 2

DRILLER L. SKAALA (IMEG-ROCK ISLAND)
 DRILL RIG DIEDRICH - D50 TRACK MOUNTED

BORING NO. / LOCATION B-11 DRY AT COMPLETION NO

DATE 2024.11.25 SURFACE ELEV. 567.2 FT.
 REFUSAL _____ FT. ELEV. _____ FT.
 SAMPLED 30.0 FT.
 TOP OF ROCK _____ FT. ELEV. _____ FT.
 BEGAN CORING _____ FT. ELEV. _____ FT.
 FOOTAGE CORED _____ LF
 BOTTOM OF HOLE DEPTH 30.0 FT. ELEV. 537.2 FT.

WATER LEVEL DATA (IF APPLICABLE)
 SEEPAGE: 19.0 FEET
 COMPLETION: 18.5 FEET
 AT 7-DAYS: 18.0 FEET

BORING ADVANCED BY HOLLOW STEM AUGER X 140 LB. AUTO HAMMER X

STRATUM DEPTH	SAMPLE DEPTH		SAMPLE OR RUN NO.	SAMPLE TYPE	FIELD RESULTS		LABORATORY RESULTS				STRATUM DESCRIPTION	
	FROM	TO			N-Value	Qp	%M	DD	UCS	Gr		
FT. ELEV.	FT.	FT.										
0.0 564.7	0.0	1.5	1	SS	3 - 3 - 4 N = 7		32.6					SANDY CLAY (ORGANIC TOPSOIL): Brown 0.5
2.5 564.7	1.5	3.0	2	SS	6 - 5 - 9 N = 14		7.0 6.1 26.6 6.5 14.7					FILL: Dark Brown Clayey Sand, Moist, Loose Gray-Brown Clayey Sand with Gravel, Moist Medium Dense Red-Brown Clayey Sand, Moist, Medium Dense
5.0 562.2	3.5	5.0	3	SS	5 - 4 - 6 N = 10		5.4					
7.5 559.7	6.5	8.0	4	SS	6 - 5 - 7 N = 12		6.6					FINE TO MEDIUM-GRAINED SAND (ALLUVIUM): Brown Moist Medium Dense
10.0 557.2	8.5	10.0	5	SS	5 - 5 - 8 N = 13		8.3					
12.5 554.7	11.5	13.0	6	SS	6 - 7 - 6 N = 13		3.7					
15.0 552.2	13.5	15.0	7	SS	8 - 7 - 7 N = 14		5.3					
17.5 549.7												
20.0 547.2	18.5	20.0	8	SS	4 - 6 - 6 N = 12		15.8					MEDIUM TO COARSE-GRAINED SAND (ALLUVIUM): Brown Very Moist, Medium Dense 18.5

CONTINUED...

REMARKS: _____



New Site Development - Project Marley
 3809 60th Avenue West
 Rock Island, Illinois
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LOG OF BORING **B-11**
 SHEET 2 OF 2

DRILLER L. SKAALA (IMEG-ROCK ISLAND)
 DRILL RIG DIEDRICH - D50 TRACK MOUNTED

BORING NO. / LOCATION B-11 DRY AT COMPLETION NO

DATE 2024.11.25 SURFACE ELEV. 567.2 FT.
 REFUSAL _____ FT. ELEV. _____ FT.
 SAMPLED 30.0 FT.
 TOP OF ROCK _____ FT. ELEV. _____ FT.
 BEGAN CORING _____ FT. ELEV. _____ FT.
 FOOTAGE CORED _____ LF
 BOTTOM OF HOLE DEPTH 30.0 FT. ELEV. 537.2 FT.

WATER LEVEL DATA (IF APPLICABLE)
 SEEPAGE: 19.0 FEET
 COMPLETION: 18.5 FEET
 AT 7-DAYS: 18.0 FEET

BORING ADVANCED BY HOLLOW STEM AUGER X 140 LB. AUTO HAMMER X

STRATUM DEPTH	SAMPLE DEPTH		SAMPLE OR RUN NO.	SAMPLE TYPE	FIELD RESULTS		LABORATORY RESULTS				STRATUM DESCRIPTION
	FROM	TO			N-Value	Qp	%M	DD	UCS	Qr	
FT. ELEV.	FT.	FT.									
22.5 544.7											MEDIUM TO COARSE-GRAINED SAND (ALLUVIUM): Brown Very Moist Medium Dense
25.0 542.2	23.5	25.0	9	SS	5 - 8 - 10 N = 18	17.4					
27.5 539.7											
30.0 537.2	28.5	30.0	10	SS	6 - 8 - 10 N = 18	18.0					
32.5 534.7	The stratification lines represent the approximate boundary between soil types; however, the actual transition may be more abrupt or gradual. Qp = spring-calibrated pocket penetrometer reading (tons per square foot) %M = oven-dried soil moisture content (percent) DD = oven-dried sample dry unit weight (pounds per cubic foot) UCS = sample laboratory unconfined compressive strength (tons per square foot) Qr = sample laboratory remolded strength (tons per square foot) N.R. = no strength reading registered with spring calibrated pocket penetrometer (tons per square foot)										END OF BORING NOTE: All Borings were Backfilled with the Available Auger Cuttings at Completion of the Monitoring Period.
35.0 532.2											
37.5 529.7											
40.0 527.2											

REMARKS: _____



New Site Development - Project Marley
 3809 60th Avenue West
 Rock Island, Illinois
 IMEG Project Number: 24006496.00

LOG OF BORING **B-12**
 SHEET 1 OF 2

DRILLER L. SKAALA (IMEG-ROCK ISLAND)
 DRILL RIG DIEDRICH - D50 TRACK MOUNTED

BORING NO. / LOCATION B-12 DRY AT COMPLETION NO

DATE 2024.11.19 SURFACE ELEV. 567.7 FT.
 REFUSAL _____ FT. ELEV. _____ FT.
 SAMPLED 30.0 FT.
 TOP OF ROCK _____ FT. ELEV. _____ FT.
 BEGAN CORING _____ FT. ELEV. _____ FT.
 FOOTAGE CORED _____ LF
 BOTTOM OF HOLE DEPTH 30.0 FT. ELEV. 537.7 FT.

WATER LEVEL DATA (IF APPLICABLE)
 SEEPAGE: 19.0 FEET
 COMPLETION: 17.0 FEET
 AT 7-DAYS: 18.0 FEET

BORING ADVANCED BY HOLLOW STEM AUGER X 140 LB. AUTO HAMMER X

STRATUM DEPTH	SAMPLE DEPTH		SAMPLE OR RUN NO.	SAMPLE TYPE	FIELD RESULTS		LABORATORY RESULTS				STRATUM DESCRIPTION	
	FROM	TO			N-Value	Qp	%M	DD	UCS	Gr		
	FT.	FT.										
0.0 - 1.5	0.0	1.5	1	SS	3 - 3 - 3 N = 6		6.0					SANDY CLAY (ORGANIC TOPSOIL): Brown 0.5
1.5 - 3.0	1.5	3.0	2	SS	2 - 2 - 4 N = 6		10.3					FILL: Dark Brown Sandy Silty Clay with Gravel, Moist Loose
3.0 - 5.0	3.5	5.0	3	SS	4 - 5 - 7 N = 12		15.6					Dark Brown Sandy Lean Clay, Moist, Medium Dense
5.0 - 6.5							14.7					Brown Clayey Fine Sand, Moist, Medium Dense
6.5 - 8.0	6.5	8.0	4	SS	6 - 8 - 10 N = 18		13.0					FINE TO MEDIUM-GRAINED SAND (ALLUVIUM): Brown Moist Medium Dense
8.0 - 10.0	8.5	10.0	5	SS	8 - 10 - 14 N = 24		10.9					Cobbles at 9.0 Feet
10.0 - 11.5												
11.5 - 13.0	11.5	13.0	6	SS	10 - 12 - 15 N = 27		6.8					MEDIUM TO COARSE-GRAINED SAND (ALLUVIUM): Brown Damp to Moist Medium Dense
13.0 - 15.0	13.5	15.0	7	SS	6 - 8 - 14 N = 22		8.0					Cobbles at 11.5 Feet
15.0 - 17.5												
17.5 - 18.5												
18.5 - 20.0	18.5	20.0	8	SS	2 - 2 - 4 N = 6		4.7					Very Moist and Loose at 18.5 Feet
20.0 - 547.7							3.3					

CONTINUED...

REMARKS: _____



New Site Development - Project Marley
 3809 60th Avenue West
 Rock Island, Illinois
 IMEG Project Number: 24006496.00

LOG OF BORING **B-12**
 SHEET 2 OF 2

DRILLER L. SKAALA (IMEG-ROCK ISLAND)
 DRILL RIG DIEDRICH - D50 TRACK MOUNTED

BORING NO. / LOCATION B-12 DRY AT COMPLETION NO

DATE 2024.11.19 SURFACE ELEV. 567.7 FT.
 REFUSAL _____ FT. ELEV. _____ FT.
 SAMPLED 30.0 FT.
 TOP OF ROCK _____ FT. ELEV. _____ FT.
 BEGAN CORING _____ FT. ELEV. _____ FT.
 FOOTAGE CORED _____ LF
 BOTTOM OF HOLE DEPTH 30.0 FT. ELEV. 537.7 FT.

WATER LEVEL DATA (IF APPLICABLE)
 SEEPAGE: 19.0 FEET
 COMPLETION: 17.0 FEET
 AT 7-DAYS: 18.0 FEET

BORING ADVANCED BY HOLLOW STEM AUGER X 140 LB. AUTO HAMMER X

STRATUM DEPTH	SAMPLE DEPTH		SAMPLE OR RUN NO.	SAMPLE TYPE	FIELD RESULTS		LABORATORY RESULTS				STRATUM DESCRIPTION
	FROM	TO			N-Value	Qp	%M	DD	UCS	Qr	
	FT.	FT.									
22.5 - 545.2											MEDIUM TO COARSE-GRAINED SAND (ALLUVIUM): Brown Very Moist Loose to Medium Dense
25.0 - 542.7	23.5	25.0	9	SS	2 - 3 - 4 N = 7	14.6					
27.5 - 540.2											
30.0 - 537.7	28.5	30.0	10	SS	5 - 6 - 7 N = 13	22.3					
32.5 - 535.2	<p>The stratification lines represent the approximate boundary between soil types; however, the actual transition may be more abrupt or gradual.</p> <p>Qp = spring-calibrated pocket penetrometer reading (tons per square foot) %M = oven-dried soil moisture content (percent) DD = oven-dried sample dry unit weight (pounds per cubic foot) UCS = sample laboratory unconfined compressive strength (tons per square foot) Qr = sample laboratory remolded strength (tons per square foot) N.R. = no strength reading registered with spring calibrated pocket penetrometer (tons per square foot)</p>										END OF BORING NOTE: All Borings were Backfilled with the Available Auger Cuttings at Completion of the Monitoring Period.
35.0 - 532.7											
37.5 - 530.2											
40.0 - 527.7											

30.0

REMARKS: _____



New Site Development - Project Marley
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 Rock Island, Illinois
 IMEG Project Number: 24006496.00

LOG OF BORING **B-13**
 SHEET 1 OF 2

DRILLER L. SKAALA (IMEG-ROCK ISLAND)
 DRILL RIG DIEDRICH - D50 TRACK MOUNTED

BORING NO. / LOCATION B-13 DRY AT COMPLETION NO

DATE 2024.11.25 SURFACE ELEV. 569.9 FT.
 REFUSAL _____ FT. ELEV. _____ FT.
 SAMPLED 30.0 FT.
 TOP OF ROCK _____ FT. ELEV. _____ FT.
 BEGAN CORING _____ FT. ELEV. _____ FT.
 FOOTAGE CORED _____ LF
 BOTTOM OF HOLE DEPTH 30.0 FT. ELEV. 539.9 FT.

WATER LEVEL DATA (IF APPLICABLE)
 SEEPAGE: 19.0 FEET
 COMPLETION: 18.0 FEET
 AT 7-DAYS: 18.0 FEET

BORING ADVANCED BY HOLLOW STEM AUGER X 140 LB. AUTO HAMMER X

STRATUM DEPTH	SAMPLE DEPTH		SAMPLE OR RUN NO.	SAMPLE TYPE	FIELD RESULTS		LABORATORY RESULTS				STRATUM DESCRIPTION
	FROM	TO			N-Value	Qp	%M	DD	UCS	Gr	
	FT.	FT.									
0.0 - 1.5	0.0	1.5	1	SS	4 - 5 - 4 N = 9		5.5				FILL: Brown Clayey Sand with Gravel Moist, Loose 2.5
1.5 - 3.0	1.5	3.0	2	SS	6 - 3 - 4 N = 7		4.6				
3.0 - 5.0	3.5	5.0	3	SS	2 - 3 - 4 N = 7		6.3				FINE-GRAINED SAND (ALLUVIUM): Orange-Brown Moist Loose 6.5
5.0 - 6.5	6.5	8.0	4	SS	3 - 5 - 7 N = 12		6.0				
6.5 - 8.5	8.5	10.0	5	SS	3 - 6 - 5 N = 11		4.3				FINE TO MEDIUM-GRAINED SAND (ALLUVIUM): Light Brown Damp Medium Dense Cobbles at 11.5 Feet 18.5
8.5 - 11.5	11.5	13.0	6	SS	11 - 10 - 13 N = 23		7.1				
11.5 - 13.5	13.5	15.0	7	SS	3 - 7 - 12 N = 19		5.7				
13.5 - 18.5	18.5	20.0	8	SS	3 - 4 - 4 N = 8		3.2				MEDIUM TO COARSE-GRAINED SAND (ALLUVIUM): Brown Moist, Loose 18.5
18.5 - 20.0							3.6				

CONTINUED...

REMARKS: _____



New Site Development - Project Marley
 3809 60th Avenue West
 Rock Island, Illinois
 IMEG Project Number: 24006496.00

LOG OF BORING **B-13**
 SHEET 2 OF 2

DRILLER L. SKAALA (IMEG-ROCK ISLAND)
 DRILL RIG DIEDRICH - D50 TRACK MOUNTED

BORING NO. / LOCATION B-13 DRY AT COMPLETION NO

DATE 2024.11.25 SURFACE ELEV. 569.9 FT.
 REFUSAL _____ FT. ELEV. _____ FT.
 SAMPLED 30.0 FT.
 TOP OF ROCK _____ FT. ELEV. _____ FT.
 BEGAN CORING _____ FT. ELEV. _____ FT.
 FOOTAGE CORED _____ LF
 BOTTOM OF HOLE DEPTH 30.0 FT. ELEV. 539.9 FT.

WATER LEVEL DATA (IF APPLICABLE)
 SEEPAGE: 19.0 FEET
 COMPLETION: 18.0 FEET
 AT 7-DAYS: 18.0 FEET

BORING ADVANCED BY HOLLOW STEM AUGER X 140 LB. AUTO HAMMER X

STRATUM DEPTH	SAMPLE DEPTH		SAMPLE OR RUN NO.	SAMPLE TYPE	FIELD RESULTS		LABORATORY RESULTS				STRATUM DESCRIPTION
	FROM	TO			N-Value	Qp	%M	DD	UCS	Qr	
	FT.	FT.									
22.5											MEDIUM TO COARSE-GRAINED SAND (ALLUVIUM): Brown Moist Medium Dense
25.0	23.5	25.0	9	SS	3 - 5 - 7 N = 12		13.8				
27.5											
30.0	28.5	30.0	10	SS	10 - 9 - 4 N = 13		7.4				
32.5											<p style="text-align: center;">END OF BORING</p> <p>NOTE: All Borings were Backfilled with the Available Auger Cuttings at Completion of the Monitoring Period.</p>
35.0											
37.5											
40.0											

The stratification lines represent the approximate boundary between soil types; however, the actual transition may be more abrupt or gradual.

Qp = spring-calibrated pocket penetrometer reading (tons per square foot)
 %M = oven-dried soil moisture content (percent)
 DD = oven-dried sample dry unit weight (pounds per cubic foot)
 UCS = sample laboratory unconfined compressive strength (tons per square foot)
 Qr = sample laboratory remolded strength (tons per square foot)
 N.R. = no strength reading registered with spring calibrated pocket penetrometer (tons per square foot)

REMARKS: _____



New Site Development - Project Marley
 3809 60th Avenue West
 Rock Island, Illinois
 IMEG Project Number: 24006496.00

LOG OF BORING **B-14**
 SHEET 1 OF 2

DRILLER L. SKAALA (IMEG-ROCK ISLAND)
 DRILL RIG DIEDRICH - D50 TRACK MOUNTED

BORING NO. / LOCATION B-14 DRY AT COMPLETION NO

DATE 2024.11.22 SURFACE ELEV. 567.1 FT.
 REFUSAL _____ FT. ELEV. _____ FT.
 SAMPLED 30.0 FT.
 TOP OF ROCK _____ FT. ELEV. _____ FT.
 BEGAN CORING _____ FT. ELEV. _____ FT.
 FOOTAGE CORED _____ LF
 BOTTOM OF HOLE DEPTH 30.0 FT. ELEV. 537.1 FT.

WATER LEVEL DATA (IF APPLICABLE)
 SEEPAGE: 19.0 FEET
 COMPLETION: 17.5 FEET
 AT 7-DAYS: 18.0 FEET

BORING ADVANCED BY HOLLOW STEM AUGER X 140 LB. AUTO HAMMER X

STRATUM DEPTH	SAMPLE DEPTH		SAMPLE OR RUN NO.	SAMPLE TYPE	FIELD RESULTS		LABORATORY RESULTS				STRATUM DESCRIPTION	
	FROM	TO			N-Value	Qp	%M	DD	UCS	Gr		
FT. ELEV.	FT.	FT.										
0.0 564.6	0.0	1.5	1	SS	4 - 7 - 13 N = 20		15.7					SANDY CLAY (ORGANIC TOPSOIL): Brown 0.5
2.5 564.6	1.5	3.0	2	SS	3 - 6 - 6 N = 12		5.4 8.5 8.1 9.2 6.5					FILL: Dark Brown Clayey Sand, Moist, Medium Dense Dark Brown Silty Clayey Sand, Moist, Medium Dense 3.5
5.0 562.1	3.5	5.0	3	SS	5 - 4 - 5 N = 9		3.3					FINE TO MEDIUM-GRAINED SAND (ALLUVIUM): Brown Damp Loose to Medium Dense
7.5 559.6	6.5	8.0	4	SS	10 - 7 - 7 N = 14		2.8					
10.0 557.1	8.5	10.0	5	SS	7 - 8 - 10 N = 18		3.7					
12.5 554.6	11.5	13.0	6	SS	4 - 4 - 5 N = 9		5.9					
15.0 552.1	13.5	15.0	7	SS	3 - 4 - 6 N = 10		5.9					MEDIUM TO COARSE-GRAINED SAND (ALLUVIUM): Brown Moist Medium Dense 13.5
17.5 549.6												
20.0 547.1	18.5	20.0	8	SS	4 - 4 - 4 N = 8		14.7					

CONTINUED...

REMARKS: _____



New Site Development - Project Marley
 3809 60th Avenue West
 Rock Island, Illinois
 IMEG Project Number: 24006496.00

LOG OF BORING **B-14**
 SHEET 2 OF 2

DRILLER L. SKAALA (IMEG-ROCK ISLAND)
 DRILL RIG DIEDRICH - D50 TRACK MOUNTED

BORING NO. / LOCATION B-14 DRY AT COMPLETION NO

DATE 2024.11.22 SURFACE ELEV. 567.1 FT.
 REFUSAL _____ FT. ELEV. _____ FT.
 SAMPLED 30.0 FT.
 TOP OF ROCK _____ FT. ELEV. _____ FT.
 BEGAN CORING _____ FT. ELEV. _____ FT.
 FOOTAGE CORED _____ LF
 BOTTOM OF HOLE DEPTH 30.0 FT. ELEV. 537.1 FT.

WATER LEVEL DATA (IF APPLICABLE)
 SEEPAGE: 19.0 FEET
 COMPLETION: 17.5 FEET
 AT 7-DAYS: 18.0 FEET

BORING ADVANCED BY HOLLOW STEM AUGER X 140 LB. AUTO HAMMER X

STRATUM DEPTH	SAMPLE DEPTH		SAMPLE OR RUN NO.	SAMPLE TYPE	FIELD RESULTS		LABORATORY RESULTS				STRATUM DESCRIPTION
	FROM	TO			N-Value	Qp	%M	DD	UCS	Qr	
FT. ELEV.	FT.	FT.									
22.5 544.6											MEDIUM TO COARSE-GRAINED SAND (ALLUVIUM): Brown Moist Medium Dense
25.0 542.1	23.5	25.0	9	SS	4 - 7 - 9 N = 16		14.9				
27.5 539.6											
30.0 537.1	28.5	30.0	10	SS	5 - 7 - 8 N = 15		14.4				
32.5 534.6	<p>The stratification lines represent the approximate boundary between soil types; however, the actual transition may be more abrupt or gradual.</p> <p>Qp = spring-calibrated pocket penetrometer reading (tons per square foot) %M = oven-dried soil moisture content (percent) DD = oven-dried sample dry unit weight (pounds per cubic foot) UCS = sample laboratory unconfined compressive strength (tons per square foot) Qr = sample laboratory remolded strength (tons per square foot) N.R. = no strength reading registered with spring calibrated pocket penetrometer (tons per square foot)</p>										END OF BORING
35.0 532.1											NOTE: All Borings were Backfilled with the Available Auger Cuttings at Completion of the Monitoring Period.
37.5 529.6											
40.0 527.1											

REMARKS: _____



New Site Development - Project Marley
 3809 60th Avenue West
 Rock Island, Illinois
 IMEG Project Number: 24006496.00

LOG OF BORING **B-15**
 SHEET 1 OF 2

DRILLER L. SKAALA (IMEG-ROCK ISLAND)
 DRILL RIG DIEDRICH - D50 TRACK MOUNTED

BORING NO. / LOCATION B-15 DRY AT COMPLETION NO

DATE 2024.11.21 SURFACE ELEV. 571.1 FT.
 REFUSAL _____ FT. ELEV. _____ FT.
 SAMPLED 30.0 FT.
 TOP OF ROCK _____ FT. ELEV. _____ FT.
 BEGAN CORING _____ FT. ELEV. _____ FT.
 FOOTAGE CORED _____ LF
 BOTTOM OF HOLE DEPTH 30.0 FT. ELEV. 541.1 FT.

WATER LEVEL DATA (IF APPLICABLE)
 SEEPAGE: 19.5 FEET
 COMPLETION: 18.0 FEET
 AT 7-DAYS: 18.5 FEET

BORING ADVANCED BY HOLLOW STEM AUGER X 140 LB. AUTO HAMMER X

STRATUM DEPTH	SAMPLE DEPTH		SAMPLE OR RUN NO.	SAMPLE TYPE	FIELD RESULTS		LABORATORY RESULTS				STRATUM DESCRIPTION	
	FROM	TO			N-Value	Qp	%M	DD	UCS	Gr		
FT. ELEV.	FT.	FT.										
0.0 568.6	0.0	1.5	1	SS	4 - 5 - 6 N = 11		18.4					SANDY CLAY (ORGANIC TOPSOIL): Brown 0.5
2.5 568.6	1.5	3.0	2	SS	5 - 5 - 5 N = 10		9.2					FILL: Dark Brown Clayey Sand trace Roots, Moist Medium Dense 2.5
5.0 566.1	3.5	5.0	3	SS	2 - 3 - 5 N = 8		8.3					FINE TO MEDIUM-GRAINED SAND (ALLUVIUM): Brown Damp Loose 6.5
7.5 563.6	6.5	8.0	4	SS	3 - 7 - 12 N = 19		4.2					MEDIUM TO COARSE-GRAINED SAND (ALLUVIUM): Brown Damp Medium Dense
10.0 561.1	8.5	10.0	5	SS	3 - 6 - 10 N = 16		4.7					
12.5 558.6	11.5	13.0	6	SS	4 - 7 - 14 N = 21		2.9					Cobbles at 11.5 Feet
15.0 556.1	13.5	15.0	7	SS	3 - 7 - 10 N = 17		4.8					
17.5 553.6							3.0					
20.0 551.1	18.5	20.0	8	SS	2 - 3 - 4 N = 7		16.5					Very Moist and Loose at 18.5 Feet

CONTINUED...

REMARKS: _____



New Site Development - Project Marley
 3809 60th Avenue West
 Rock Island, Illinois
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LOG OF BORING **B-15**
 SHEET 2 OF 2

DRILLER L. SKAALA (IMEG-ROCK ISLAND)
 DRILL RIG DIEDRICH - D50 TRACK MOUNTED

BORING NO. / LOCATION B-15 DRY AT COMPLETION NO

DATE 2024.11.21 SURFACE ELEV. 571.1 FT.
 REFUSAL _____ FT. ELEV. _____ FT.
 SAMPLED 30.0 FT.
 TOP OF ROCK _____ FT. ELEV. _____ FT.
 BEGAN CORING _____ FT. ELEV. _____ FT.
 FOOTAGE CORED _____ LF
 BOTTOM OF HOLE DEPTH 30.0 FT. ELEV. 541.1 FT.

WATER LEVEL DATA (IF APPLICABLE)
 SEEPAGE: 19.5 FEET
 COMPLETION: 18.0 FEET
 AT 7-DAYS: 18.5 FEET

BORING ADVANCED BY HOLLOW STEM AUGER X 140 LB. AUTO HAMMER X

STRATUM DEPTH	SAMPLE DEPTH		SAMPLE OR RUN NO.	SAMPLE TYPE	FIELD RESULTS		LABORATORY RESULTS				STRATUM DESCRIPTION
	FROM	TO			N-Value	Qp	%M	DD	UCS	Qr	
	FT.	FT.									
22.5											MEDIUM TO COARSE-GRAINED SAND (ALLUVIUM): Brown Moist Medium Dense
25.0	23.5	25.0	9	SS	3 - 6 - 7 N = 13	9.0					
27.5											
30.0	28.5	30.0	10	SS	5 - 6 - 7 N = 13	8.0					
32.5											<p style="text-align: center;">END OF BORING</p> <p>NOTE: All Borings were Backfilled with the Available Auger Cuttings at Completion of the Monitoring Period.</p>
35.0											
37.5											
40.0											

The stratification lines represent the approximate boundary between soil types; however, the actual transition may be more abrupt or gradual.

Qp = spring-calibrated pocket penetrometer reading (tons per square foot)
 %M = oven-dried soil moisture content (percent)
 DD = oven-dried sample dry unit weight (pounds per cubic foot)
 UCS = sample laboratory unconfined compressive strength (tons per square foot)
 Qr = sample laboratory remolded strength (tons per square foot)
 N.R. = no strength reading registered with spring calibrated pocket penetrometer (tons per square foot)

REMARKS: _____



New Site Development - Project Marley
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LOG OF BORING **B-16**
 SHEET 1 OF 2

DRILLER L. SKAALA (IMEG-ROCK ISLAND)
 DRILL RIG DIEDRICH - D50 TRACK MOUNTED

BORING NO. / LOCATION B-16 DRY AT COMPLETION YES

DATE 2024.11.19 SURFACE ELEV. 568.3 FT.
 REFUSAL _____ FT. ELEV. _____ FT.
 SAMPLED 40.0 FT.
 TOP OF ROCK _____ FT. ELEV. _____ FT.
 BEGAN CORING _____ FT. ELEV. _____ FT.
 FOOTAGE CORED _____ LF
 BOTTOM OF HOLE DEPTH 40.0 FT. ELEV. 528.3 FT.

WATER LEVEL DATA (IF APPLICABLE)
 SEEPAGE: 19.0 FEET
 COMPLETION: 13.0 FEET (CAVE IN)
 BACKFILLED AT COMPLETION

BORING ADVANCED BY HOLLOW STEM AUGER X 140 LB. AUTO HAMMER X

STRATUM DEPTH	SAMPLE DEPTH		SAMPLE OR RUN NO.	SAMPLE TYPE	FIELD RESULTS		LABORATORY RESULTS				STRATUM DESCRIPTION	
	FROM	TO			N-Value	Qp	%M	DD	UCS	Gr		
FT. ELEV.	FT.	FT.										
-												SANDY CLAY (ORGANIC TOPSOIL): Brown 0.5
-												FILL:
-												Brown Clayey Sand and Gravel 1.5
2.5 - 565.8	1.5	3.0	1	SS	3 - 5 - 4 N = 9		4.7					FINE-GRAINED SAND (ALLUVIUM): Brown Moist Loose 3.5
5.0 - 563.3	3.5	5.0	2	SS	3 - 4 - 4 N = 8		5.1					FINE TO MEDIUM-GRAINED SAND (ALLUVIUM): Brown Moist Loose 11.5
7.5 - 560.8	6.5	8.0	3	SS	3 - 4 - 7 N = 11		3.6					
10.0 - 558.3	8.5	10.0	4	SS	6 - 7 - 10 N = 17		1.9					
12.5 - 555.8	11.5	13.0	5	SS	5 - 8 - 11 N = 19		3.0					MEDIUM TO COARSE-GRAINED SAND (ALLUVIUM): Brown Damp Medium Dense
15.0 - 553.3	13.5	15.0	6	SS	4 - 5 - 12 N = 17		2.9					
17.5 - 550.8												
20.0 - 548.3	18.5	20.0	7	SS	2 - 3 - 4 N = 7		18.5					Very Moist and Loose at 18.5 Feet

CONTINUED...

REMARKS: _____



New Site Development - Project Marley
 3809 60th Avenue West
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 IMEG Project Number: 24006496.00

LOG OF BORING **B-16**
 SHEET 2 OF 2

DRILLER L. SKAALA (IMEG-ROCK ISLAND)
 DRILL RIG DIEDRICH - D50 TRACK MOUNTED

BORING NO. / LOCATION B-16 DRY AT COMPLETION YES

DATE 2024.11.19 SURFACE ELEV. 568.3 FT.
 REFUSAL _____ FT. ELEV. _____ FT.
 SAMPLED 40.0 FT.
 TOP OF ROCK _____ FT. ELEV. _____ FT.
 BEGAN CORING _____ FT. ELEV. _____ FT.
 FOOTAGE CORED _____ LF
 BOTTOM OF HOLE DEPTH 40.0 FT. ELEV. 528.3 FT.

WATER LEVEL DATA (IF APPLICABLE)
 SEEPAGE: 19.0 FEET
 COMPLETION: 13.0 FEET (CAVE IN)
 BACKFILLED AT COMPLETION

BORING ADVANCED BY HOLLOW STEM AUGER X 140 LB. AUTO HAMMER X

STRATUM DEPTH	SAMPLE DEPTH		SAMPLE OR RUN NO.	SAMPLE TYPE	FIELD RESULTS		LABORATORY RESULTS				STRATUM DESCRIPTION	
	FROM	TO			N-Value	Qp	%M	DD	UCS	Gr		
FT. ELEV.	FT.	FT.										
22.5 545.8												MEDIUM TO COARSE-GRAINED SAND (ALLUVIUM): Brown Moist Loose to Medium Dense
25.0 543.3	23.5	25.0	8	SS	3 - 4 - 5 N = 9	6.3						
27.5 540.8												
30.0 538.3	28.5	30.0	9	SS	5 - 5 - 5 N = 10	12.6						
32.5 535.8												
35.0 533.3	33.5	35.0	10	SS	4 - 5 - 5 N = 10	10.0						
37.5 530.8												
40.0 528.3	38.5	40.0	11	SS	4 - 5 - 6 N = 11	6.7						

END OF BORING

REMARKS: _____



New Site Development - Project Marley
 3809 60th Avenue West
 Rock Island, Illinois
 IMEG Project Number: 24006496.00

LOG OF BORING **B-17**
 SHEET 1 OF 2

DRILLER L. SKAALA (IMEG-ROCK ISLAND)
 DRILL RIG DIEDRICH - D50 TRACK MOUNTED

BORING NO. / LOCATION B-17 DRY AT COMPLETION YES

DATE 2024.11.25 SURFACE ELEV. 567.0 FT.
 REFUSAL _____ FT. ELEV. _____ FT.
 SAMPLED 40.0 FT.
 TOP OF ROCK _____ FT. ELEV. _____ FT.
 BEGAN CORING _____ FT. ELEV. _____ FT.
 FOOTAGE CORED _____ LF
 BOTTOM OF HOLE DEPTH 40.0 FT. ELEV. 527.0 FT.

WATER LEVEL DATA (IF APPLICABLE)
 SEEPAGE: 17.5 FEET
 COMPLETION: 15.0 FEET (CAVE IN)
 BACKFILLED AT COMPLETION

BORING ADVANCED BY HOLLOW STEM AUGER X 140 LB. AUTO HAMMER X

STRATUM DEPTH	SAMPLE DEPTH		SAMPLE OR RUN NO.	SAMPLE TYPE	FIELD RESULTS		LABORATORY RESULTS				STRATUM DESCRIPTION	
	FROM	TO			N-Value	Qp	%M	DD	UCS	Gr		
FT. ELEV.	FT.	FT.										
-												SANDY CLAY (ORGANIC TOPSOIL): 0.5
-												FILL:
-												Brown Clayey Sand and Gravel 1.5
2.5 - 564.5	1.5	3.0	1	SS	2 - 4 - 6 N = 10		2.2					FINE-GRAINED SAND (ALLUVIUM):
-												Brown
-												Damp
-												Medium Dense
5.0 - 562.0	3.5	5.0	2	SS	2 - 5 - 5 N = 10		5.4					
-												
-												
7.5 - 559.5	6.5	8.0	3	SS	6 - 5 - 7 N = 12		2.8					FINE TO MEDIUM-GRAINED SAND (ALLUVIUM):
-												Brown
-												Damp
-												Medium Dense
10.0 - 557.0	8.5	10.0	4	SS	3 - 6 - 10 N = 16		3.0					
-												
-												
12.5 - 554.5	11.5	13.0	5	SS	6 - 6 - 7 N = 13		7.0					MEDIUM TO COARSE-GRAINED SAND (ALLUVIUM):
-												Brown
-												Moist
-												Medium Dense
15.0 - 552.0	13.5	15.0	6	SS	6 - 7 - 8 N = 15		8.2					
-												
-												
17.5 - 549.5												
-												
-												
20.0 - 547.0	18.5	20.0	7	SS	7 - 8 - 5 N = 13		12.1					

CONTINUED...

REMARKS: _____



New Site Development - Project Marley
 3809 60th Avenue West
 Rock Island, Illinois
 IMEG Project Number: 24006496.00

LOG OF BORING **B-17**
 SHEET 2 OF 2

DRILLER L. SKAALA (IMEG-ROCK ISLAND)
 DRILL RIG DIEDRICH - D50 TRACK MOUNTED

BORING NO. / LOCATION B-17 DRY AT COMPLETION YES

DATE 2024.11.25 SURFACE ELEV. 567.0 FT.
 REFUSAL _____ FT. ELEV. _____ FT.
 SAMPLED 40.0 FT.
 TOP OF ROCK _____ FT. ELEV. _____ FT.
 BEGAN CORING _____ FT. ELEV. _____ FT.
 FOOTAGE CORED _____ LF
 BOTTOM OF HOLE DEPTH 40.0 FT. ELEV. 527.0 FT.

WATER LEVEL DATA (IF APPLICABLE)
 SEEPAGE: 17.5 FEET
 COMPLETION: 15.0 FEET (CAVE IN)
 BACKFILLED AT COMPLETION

BORING ADVANCED BY HOLLOW STEM AUGER X 140 LB. AUTO HAMMER X

STRATUM DEPTH	SAMPLE DEPTH		SAMPLE OR RUN NO.	SAMPLE TYPE	FIELD RESULTS		LABORATORY RESULTS				STRATUM DESCRIPTION	
	FROM	TO			N-Value	Qp	%M	DD	UCS	Gr		
FT. ELEV.	FT.	FT.										
22.5 544.5												MEDIUM TO COARSE-GRAINED SAND (ALLUVIUM): Brown Moist Loose
25.0 542.0	23.5	25.0	8	SS	2 - 3 - 4 N = 7		11.0					
27.5 539.5												
30.0 537.0	28.5	30.0	9	SS	5 - 4 - 5 N = 9		6.3					
32.5 534.5												
35.0 532.0	33.5	35.0	10	SS	3 - 3 - 3 N = 6		5.7					
37.5 529.5												
40.0 527.0	38.5	40.0	11	SS	4 - 3 - 4 N = 7		8.1					

END OF BORING

REMARKS: _____



New Site Development - Project Marley
 3809 60th Avenue West
 Rock Island, Illinois
 IMEG Project Number: 24006496.00

LOG OF BORING **B-18**
 SHEET 1 OF 2

DRILLER L. SKAALA (IMEG-ROCK ISLAND)
 DRILL RIG DIEDRICH - D50 TRACK MOUNTED

BORING NO. / LOCATION B-18 DRY AT COMPLETION YES

DATE 2024.11.25 SURFACE ELEV. 569.7 FT.
 REFUSAL _____ FT. ELEV. _____ FT.
 SAMPLED 40.0 FT.
 TOP OF ROCK _____ FT. ELEV. _____ FT.
 BEGAN CORING _____ FT. ELEV. _____ FT.
 FOOTAGE CORED _____ LF
 BOTTOM OF HOLE DEPTH 40.0 FT. ELEV. 529.7 FT.

WATER LEVEL DATA (IF APPLICABLE)
 SEEPAGE: 18.5 FEET
 COMPLETION: 15.0 FEET (CAVE IN)
 BACKFILLED AT COMPLETION

BORING ADVANCED BY HOLLOW STEM AUGER X 140 LB. AUTO HAMMER X

STRATUM DEPTH	SAMPLE DEPTH		SAMPLE OR RUN NO.	SAMPLE TYPE	FIELD RESULTS		LABORATORY RESULTS				STRATUM DESCRIPTION
	FROM	TO			N-Value	Qp	%M	DD	UCS	Gr	
	FT.	FT.									
0.5											SANDY CLAY (ORGANIC TOPSOIL): Brown
											FILL:
2.5	1.5	3.0	1	SS	5 - 6 - 7 N = 13		9.2				Brown Clayey Sand, Moist, Medium Dense
5.0	3.5	5.0	2	SS	3 - 3 - 4 N = 7		7.2				FINE TO MEDIUM-GRAINED SAND (ALLUVIUM):
											Brown
											Moist
											Loose to Medium Dense
7.5	6.5	8.0	3	SS	4 - 5 - 7 N = 12		6.6				
10.0	8.5	10.0	4	SS	3 - 5 - 7 N = 12		3.0				
12.5	11.5	13.0	5	SS	10 - 10 - 12 N = 22		2.9				Cobbles at 11.5 Feet
15.0	13.5	15.0	6	SS	4 - 8 - 11 N = 19		3.0				MEDIUM TO COARSE-GRAINED SAND (ALLUVIUM):
											Brown
											Damp
											Medium Dense
17.5											
20.0	18.5	20.0	7	SS	4 - 4 - 4 N = 8		18.6				Loose and Moist at 18.5 Feet

CONTINUED...

REMARKS: _____



New Site Development - Project Marley
 3809 60th Avenue West
 Rock Island, Illinois
 IMEG Project Number: 24006496.00

LOG OF BORING **B-19**
 SHEET 1 OF 2

DRILLER L. SKAALA (IMEG-ROCK ISLAND)
 DRILL RIG DIEDRICH - D50 TRACK MOUNTED

BORING NO. / LOCATION B-19 DRY AT COMPLETION YES

DATE 2024.11.25 SURFACE ELEV. 569.5 FT.
 REFUSAL _____ FT. ELEV. _____ FT.
 SAMPLED 40.0 FT.
 TOP OF ROCK _____ FT. ELEV. _____ FT.
 BEGAN CORING _____ FT. ELEV. _____ FT.
 FOOTAGE CORED _____ LF
 BOTTOM OF HOLE DEPTH 40.0 FT. ELEV. 529.5 FT.

WATER LEVEL DATA (IF APPLICABLE)
 SEEPAGE: 19.0 FEET
 COMPLETION: 14.0 FEET (CAVE IN)
 BACKFILLED AT COMPLETION

BORING ADVANCED BY HOLLOW STEM AUGER X 140 LB. AUTO HAMMER X

STRATUM DEPTH	SAMPLE DEPTH		SAMPLE OR RUN NO.	SAMPLE TYPE	FIELD RESULTS		LABORATORY RESULTS				STRATUM DESCRIPTION	
	FROM	TO			N-Value	Qp	%M	DD	UCS	Gr		
FT. ELEV.	FT.	FT.										
2.5 567.0	1.5	3.0	1	SS	6 - 5 - 7 N = 12		12.1					FILL: Dark Brown Clayey Sand Moist Medium Dense
5.0 564.5	3.5	5.0	2	SS	3 - 4 - 3 N = 7		5.3					FINE TO MEDIUM-GRAINED SAND (ALLUVIUM): Brown Damp Loose to Medium Dense
7.5 562.0	6.5	8.0	3	SS	3 - 4 - 7 N = 11		4.0					
10.0 559.5	8.5	10.0	4	SS	3 - 5 - 7 N = 12		2.4					
12.5 557.0	11.5	13.0	5	SS	11 - 11 - 12 N = 23		2.9					Cobbles at 11.5 Feet
15.0 554.5	13.5	15.0	6	SS	4 - 7 - 12 N = 19		2.2					MEDIUM TO COARSE-GRAINED SAND (ALLUVIUM): Brown Damp Medium Dense
17.5 552.0												
20.0 549.5	18.5	20.0	7	SS	4 - 3 - 4 N = 7		16.0					Very Moist and Loose at 18.5 Feet

CONTINUED...

REMARKS: _____



New Site Development - Project Marley
 3809 60th Avenue West
 Rock Island, Illinois
 IMEG Project Number: 24006496.00

LOG OF BORING **B-19**
 SHEET 2 OF 2

DRILLER L. SKAALA (IMEG-ROCK ISLAND)
 DRILL RIG DIEDRICH - D50 TRACK MOUNTED

BORING NO. / LOCATION B-19 DRY AT COMPLETION YES

DATE 2024.11.25 SURFACE ELEV. 569.5 FT.
 REFUSAL _____ FT. ELEV. _____ FT.
 SAMPLED 40.0 FT.
 TOP OF ROCK _____ FT. ELEV. _____ FT.
 BEGAN CORING _____ FT. ELEV. _____ FT.
 FOOTAGE CORED _____ LF
 BOTTOM OF HOLE DEPTH 40.0 FT. ELEV. 529.5 FT.

WATER LEVEL DATA (IF APPLICABLE)
 SEEPAGE: 19.0 FEET
 COMPLETION: 14.0 FEET (CAVE IN)
 BACKFILLED AT COMPLETION

BORING ADVANCED BY HOLLOW STEM AUGER X 140 LB. AUTO HAMMER X

STRATUM DEPTH	SAMPLE DEPTH		SAMPLE OR RUN NO.	SAMPLE TYPE	FIELD RESULTS		LABORATORY RESULTS				STRATUM DESCRIPTION	
	FROM	TO			N-Value	Qp	%M	DD	UCS	Gr		
FT. ELEV.	FT.	FT.										
22.5 547.0												MEDIUM TO COARSE-GRAINED SAND (ALLUVIUM): Brown Moist Medium Dense
25.0 544.5	23.5	25.0	8	SS	4 - 5 - 6 N = 11	10.5						
27.5 542.0												
30.0 539.5	28.5	30.0	9	SS	9 - 9 - 5 N = 14	7.7						
32.5 537.0												
35.0 534.5	33.5	35.0	10	SS	3 - 3 - 3 N = 6	11.6						
37.5 532.0												
40.0 529.5	38.5	40.0	11	SS	4 - 5 - 4 N = 9	11.9						

END OF BORING

40.0

REMARKS: _____



New Site Development - Project Marley
 3809 60th Avenue West
 Rock Island, Illinois
 IMEG Project Number: 24006496.00

LOG OF BORING **B-20**
 SHEET 1 OF 2

DRILLER L. SKAALA (IMEG-ROCK ISLAND)
 DRILL RIG DIEDRICH - D50 TRACK MOUNTED

BORING NO. / LOCATION B-20 DRY AT COMPLETION YES

DATE 2024.11.19 SURFACE ELEV. 569.1 FT.
 REFUSAL _____ FT. ELEV. _____ FT.
 SAMPLED 40.0 FT.
 TOP OF ROCK _____ FT. ELEV. _____ FT.
 BEGAN CORING _____ FT. ELEV. _____ FT.
 FOOTAGE CORED _____ LF
 BOTTOM OF HOLE DEPTH 40.0 FT. ELEV. 529.1 FT.

WATER LEVEL DATA (IF APPLICABLE)
 SEEPAGE: 19.0 FEET
 COMPLETION: 13.0 FEET (CAVE IN)
 BACKFILLED AT COMPLETION

BORING ADVANCED BY HOLLOW STEM AUGER X 140 LB. AUTO HAMMER X

STRATUM DEPTH	SAMPLE DEPTH		SAMPLE OR RUN NO.	SAMPLE TYPE	FIELD RESULTS		LABORATORY RESULTS				STRATUM DESCRIPTION	
	FROM	TO			N-Value	Qp	%M	DD	UCS	Gr		
FT. ELEV.	FT.	FT.										
0.0 569.1												SANDY CLAY (ORGANIC TOPSOIL): Brown FILL: 0.5
2.5 566.6	1.5	3.0	1	SS	10 - 12 - 10 N = 22		6.0					Dark Brown Claye Sand with Gravel, Moist Medium Dense 3.5
5.0 564.1	3.5	5.0	2	SS	3 - 4 - 5 N = 9		6.5					FINE-GRAINED SAND (ALLUVIUM): Brown Moist Loose to Medium Dense
7.5 561.6	6.5	8.0	3	SS	4 - 5 - 6 N = 11		12.3					
10.0 559.1	8.5	10.0	4	SS	5 - 6 - 8 N = 14		2.4					FINE TO MEDIUM-GRAINED SAND (ALLUVIUM): Brown Damp Medium Dense Cobbles at 11.5 Feet 8.5
12.5 556.6	11.5	13.0	5	SS	8 - 13 - 13 N = 26		2.7					
15.0 554.1	13.5	15.0	6	SS	4 - 15 - 20 N = 35		3.2					
17.5 551.6												
20.0 549.1	18.5	20.0	7	SS	4 - 5 - 6 N = 11		18.5					MEDIUM TO COARSE-GRAINED SAND (ALLUVIUM): Brown Very Moist, Medium Dense 18.5

CONTINUED...

REMARKS: _____



New Site Development - Project Marley
 3809 60th Avenue West
 Rock Island, Illinois
 IMEG Project Number: 24006496.00

LOG OF BORING **B-20**
 SHEET 2 OF 2

DRILLER L. SKAALA (IMEG-ROCK ISLAND)
 DRILL RIG DIEDRICH - D50 TRACK MOUNTED

BORING NO. / LOCATION B-20 DRY AT COMPLETION YES

DATE 2024.11.19 SURFACE ELEV. 569.1 FT.
 REFUSAL _____ FT. ELEV. _____ FT.
 SAMPLED 40.0 FT.
 TOP OF ROCK _____ FT. ELEV. _____ FT.
 BEGAN CORING _____ FT. ELEV. _____ FT.
 FOOTAGE CORED _____ LF
 BOTTOM OF HOLE DEPTH 40.0 FT. ELEV. 529.1 FT.

WATER LEVEL DATA (IF APPLICABLE)
 SEEPAGE: 19.0 FEET
 COMPLETION: 13.0 FEET (CAVE IN)
 BACKFILLED AT COMPLETION

BORING ADVANCED BY HOLLOW STEM AUGER X 140 LB. AUTO HAMMER X

STRATUM DEPTH	SAMPLE DEPTH		SAMPLE OR RUN NO.	SAMPLE TYPE	FIELD RESULTS		LABORATORY RESULTS				STRATUM DESCRIPTION	
	FROM	TO			N-Value	Qp	%M	DD	UCS	Gr		
FT. ELEV.	FT.	FT.										
22.5 546.6												MEDIUM TO COARSE-GRAINED SAND (ALLUVIUM): Brown Moist Medium Dense
25.0 544.1	23.5	25.0	8	SS	5 - 8 - 6 N = 14		11.4					
27.5 541.6												
30.0 539.1	28.5	30.0	9	SS	4 - 5 - 7 N = 12		9.9					
32.5 536.6												
35.0 534.1	33.5	35.0	10	SS	4 - 5 - 5 N = 10		5.5					
37.5 531.6												
40.0 529.1	38.5	40.0	11	SS	5 - 6 - 7 N = 13		7.9					40.0

END OF BORING

REMARKS: _____



New Site Development - Project Marley
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LOG OF BORING **B-21**
 SHEET 1 OF 2

DRILLER L. SKAALA (IMEG-ROCK ISLAND)
 DRILL RIG DIEDRICH - D50 TRACK MOUNTED

BORING NO. / LOCATION B-21 DRY AT COMPLETION YES

DATE 2024.11.22 SURFACE ELEV. 567.4 FT.
 REFUSAL _____ FT. ELEV. _____ FT.
 SAMPLED 40.0 FT.
 TOP OF ROCK _____ FT. ELEV. _____ FT.
 BEGAN CORING _____ FT. ELEV. _____ FT.
 FOOTAGE CORED _____ LF
 BOTTOM OF HOLE DEPTH 40.0 FT. ELEV. 527.4 FT.

WATER LEVEL DATA (IF APPLICABLE)
 SEEPAGE: 17.5 FEET
 COMPLETION: 15.0 FEET (CAVE IN)
 BACKFILLED AT COMPLETION

BORING ADVANCED BY HOLLOW STEM AUGER X 140 LB. AUTO HAMMER X

STRATUM DEPTH	SAMPLE DEPTH		SAMPLE OR RUN NO.	SAMPLE TYPE	FIELD RESULTS		LABORATORY RESULTS				STRATUM DESCRIPTION	
	FROM	TO			N-Value	Qp	%M	DD	UCS	Gr		
FT. ELEV.	FT.	FT.										
0.0 567.4												SANDY CLAY (ORGANIC TOPSOIL): Brown 0.5
												FILL:
2.5 564.9	1.5	3.0	1	SS	7 - 6 - 8 N = 14		12.8					Dark Brown Silty Clayey Sand, Moist, Medium Dense
												3.5
5.0 562.4	3.5	5.0	2	SS	6 - 5 - 6 N = 11		2.3					FINE TO MEDIUM-GRAINED SAND (ALLUVIUM): Brown Damp Medium Dense
7.5 559.9	6.5	8.0	3	SS	6 - 6 - 10 N = 16		3.5					
10.0 557.4	8.5	10.0	4	SS	6 - 7 - 9 N = 16		3.2					
12.5 554.9	11.5	13.0	5	SS	4 - 4 - 6 N = 10		3.5					
												13.5
15.0 552.4	13.5	15.0	6	SS	3 - 4 - 7 N = 11		5.0					MEDIUM TO COARSE-GRAINED SAND (ALLUVIUM): Brown Moist Medium Dense
17.5 549.9												
20.0 547.4	18.5	20.0	7	SS	4 - 6 - 6 N = 12		12.2					

CONTINUED...

REMARKS: _____



New Site Development - Project Marley
 3809 60th Avenue West
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 IMEG Project Number: 24006496.00

LOG OF BORING **B-21**
 SHEET 2 OF 2

DRILLER L. SKAALA (IMEG-ROCK ISLAND)
 DRILL RIG DIEDRICH - D50 TRACK MOUNTED

BORING NO. / LOCATION B-21 DRY AT COMPLETION YES

DATE 2024.11.22 SURFACE ELEV. 567.4 FT.
 REFUSAL _____ FT. ELEV. _____ FT.
 SAMPLED 40.0 FT.
 TOP OF ROCK _____ FT. ELEV. _____ FT.
 BEGAN CORING _____ FT. ELEV. _____ FT.
 FOOTAGE CORED _____ LF
 BOTTOM OF HOLE DEPTH 40.0 FT. ELEV. 527.4 FT.

WATER LEVEL DATA (IF APPLICABLE)
 SEEPAGE: 17.5 FEET
 COMPLETION: 15.0 FEET (CAVE IN)
 BACKFILLED AT COMPLETION

BORING ADVANCED BY HOLLOW STEM AUGER X 140 LB. AUTO HAMMER X

STRATUM DEPTH	SAMPLE DEPTH		SAMPLE OR RUN NO.	SAMPLE TYPE	FIELD RESULTS		LABORATORY RESULTS				STRATUM DESCRIPTION
	FROM	TO			N-Value	Qp	%M	DD	UCS	Gr	
	FT.	FT.									
22.5											MEDIUM TO COARSE-GRAINED SAND (ALLUVIUM): Brown Moist Medium Dense
25.0	23.5	25.0	8	SS	5 - 4 - 6 N = 10		27.0				
27.5											
30.0	28.5	30.0	9	SS	5 - 6 - 5 N = 11		14.3				
32.5											
35.0	33.5	35.0	10	SS	13 - 15 - 16 N = 31		8.5				HIGHLY WEATHERED LIMESTONE: Gray Moist Dense
37.5											
40.0	38.5	40.0	11	SS	18 - 19 - 18 N = 37		5.3				WEATHERED LIMESTONE: Gray Damp, Dense

END OF BORING

REMARKS: _____



New Site Development - Project Marley
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LOG OF BORING **B-22**
 SHEET 1 OF 2

DRILLER L. SKAALA (IMEG-ROCK ISLAND)
 DRILL RIG DIEDRICH - D50 TRACK MOUNTED

BORING NO. / LOCATION B-22 DRY AT COMPLETION YES

DATE 2024.11.21 SURFACE ELEV. 567.2 FT.
 REFUSAL _____ FT. ELEV. _____ FT.
 SAMPLED 40.0 FT.
 TOP OF ROCK _____ FT. ELEV. _____ FT.
 BEGAN CORING _____ FT. ELEV. _____ FT.
 FOOTAGE CORED _____ LF
 BOTTOM OF HOLE DEPTH 40.0 FT. ELEV. 527.2 FT.

WATER LEVEL DATA (IF APPLICABLE)
 SEEPAGE: 17.0 FEET
 COMPLETION: 14.0 FEET (CAVE IN)
 BACKFILLED AT COMPLETION

BORING ADVANCED BY HOLLOW STEM AUGER X 140 LB. AUTO HAMMER X

STRATUM DEPTH	SAMPLE DEPTH		SAMPLE OR RUN NO.	SAMPLE TYPE	FIELD RESULTS		LABORATORY RESULTS				STRATUM DESCRIPTION	
	FROM	TO			N-Value	Qp	%M	DD	UCS	Gr		
FT. ELEV.	FT.	FT.										
-												SANDY CLAY (ORGANIC TOPSOIL): Brown 0.5
												FILL:
2.5 564.7	1.5	3.0	1	SS	7 - 6 - 8 N = 14		6.5					Red-Brown Clayey Sand, Moist, Medium Dense
5.0 562.2	3.5	5.0	2	SS	3 - 5 - 7 N = 12		9.4					Brown to Dark Brown Clayey Sand, Moist Medium Dense
7.5 559.7	6.5	8.0	3	SS	4 - 6 - 8 N = 14		5.3					FINE TO MEDIUM-GRAINED SAND (ALLUVIUM): Brown Damp to Moist Medium Dense
10.0 557.2	8.5	10.0	4	SS	7 - 11 - 15 N = 26		5.0					Cobbles at 9.0 Feet
12.5 554.7	11.5	13.0	5	SS	4 - 7 - 9 N = 16		5.6					Very Moist at 13.5 Feet
15.0 552.2	13.5	15.0	6	SS	3 - 5 - 7 N = 12		19.4					
17.5 549.7												
20.0 547.2	18.5	20.0	7	SS	3 - 4 - 6 N = 10		14.1					MEDIUM TO COARSE-GRAINED SAND (ALLUVIUM): Brown Very Moist, Medium Dense

CONTINUED...

REMARKS: _____



New Site Development - Project Marley
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LOG OF BORING **B-22**
 SHEET 2 OF 2

DRILLER L. SKAALA (IMEG-ROCK ISLAND)
 DRILL RIG DIEDRICH - D50 TRACK MOUNTED

BORING NO. / LOCATION B-22 DRY AT COMPLETION YES

DATE 2024.11.21 SURFACE ELEV. 567.2 FT.
 REFUSAL _____ FT. ELEV. _____ FT.
 SAMPLED 40.0 FT.
 TOP OF ROCK _____ FT. ELEV. _____ FT.
 BEGAN CORING _____ FT. ELEV. _____ FT.
 FOOTAGE CORED _____ LF
 BOTTOM OF HOLE DEPTH 40.0 FT. ELEV. 527.2 FT.

WATER LEVEL DATA (IF APPLICABLE)
 SEEPAGE: 17.0 FEET
 COMPLETION: 14.0 FEET (CAVE IN)
 BACKFILLED AT COMPLETION

BORING ADVANCED BY HOLLOW STEM AUGER X 140 LB. AUTO HAMMER X

STRATUM DEPTH	SAMPLE DEPTH		SAMPLE OR RUN NO.	SAMPLE TYPE	FIELD RESULTS		LABORATORY RESULTS				STRATUM DESCRIPTION	
	FROM	TO			N-Value	Qp	%M	DD	UCS	Gr		
FT. ELEV.	FT.	FT.										
22.5 544.7												MEDIUM TO COARSE-GRAINED SAND (ALLUVIUM): Brown Moist Medium Dense
25.0 542.2	23.5	25.0	8	SS	5 - 7 - 9 N = 16		11.0					
27.5 539.7												
30.0 537.2	28.5	30.0	9	SS	6 - 8 - 8 N = 16		12.6					
32.5 534.7												
35.0 532.2	33.5	35.0	10	SS	12 - 26 - 33 N = 59		8.4					HIGHLY WEATHERED LIMESTONE: Gray-Brown Moist Very Dense
37.5 529.7												
40.0 527.2	38.5	40.0	11	SS	13 - 15 - 17 N = 32		6.4					WEATHERED LIMESTONE: Gray Damp, Dense

END OF BORING

REMARKS: _____



New Site Development - Project Marley
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 Rock Island, Illinois
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LOG OF BORING **B-23**
 SHEET 1 OF 2

DRILLER L. SKAALA (IMEG-ROCK ISLAND)
 DRILL RIG DIEDRICH - D50 TRACK MOUNTED

BORING NO. / LOCATION B-23 DRY AT COMPLETION YES

DATE 2024.11.21 SURFACE ELEV. 567.6 FT.
 REFUSAL _____ FT. ELEV. _____ FT.
 SAMPLED 40.0 FT.
 TOP OF ROCK _____ FT. ELEV. _____ FT.
 BEGAN CORING _____ FT. ELEV. _____ FT.
 FOOTAGE CORED _____ LF
 BOTTOM OF HOLE DEPTH 40.0 FT. ELEV. 527.6 FT.

WATER LEVEL DATA (IF APPLICABLE)
 SEEPAGE: 19.0 FEET
 COMPLETION: 14.5 FEET (CAVE IN)
 BACKFILLED AT COMPLETION

BORING ADVANCED BY HOLLOW STEM AUGER X 140 LB. AUTO HAMMER X

STRATUM DEPTH	SAMPLE DEPTH		SAMPLE OR RUN NO.	SAMPLE TYPE	FIELD RESULTS		LABORATORY RESULTS				STRATUM DESCRIPTION
	FROM	TO			N-Value	Qp	%M	DD	UCS	Gr	
	FT.	FT.									
0.0 - 0.5											SANDY CLAY (ORGANIC TOPSOIL): Brown 0.5
0.5 - 2.5											FILL: Red-Brown Clayey Sand, Moist, Medium Dense
2.5 - 5.0	1.5	3.0	1	SS	12 - 10 - 7 N = 17		6.5				Red-Brown Fine to Medium-Grained Sand with Gravel Damp, Medium Dense
5.0 - 7.5	3.5	5.0	2	SS	11 - 7 - 9 N = 16		3.1				
7.5 - 10.0	6.5	8.0	3	SS	3 - 8 - 11 N = 19		6.2				FINE TO MEDIUM-GRAINED SAND (ALLUVIUM): Brown Moist Medium Dense 8.5
10.0 - 12.5	8.5	10.0	4	SS	4 - 11 - 12 N = 23		5.4				MEDIUM TO COARSE-GRAINED SAND (ALLUVIUM): Brown Damp to Moist Medium Dense
12.5 - 15.0	11.5	13.0	5	SS	4 - 7 - 7 N = 14		2.7				
15.0 - 17.5	13.5	15.0	6	SS	3 - 5 - 5 N = 10		3.1				
17.5 - 20.0	18.5	20.0	7	SS	11 - 7 - 5 N = 12		12.9				Very Moist at 18.5 Feet

CONTINUED...

REMARKS: _____



New Site Development - Project Marley
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LOG OF BORING **B-23**
 SHEET 2 OF 2

DRILLER L. SKAALA (IMEG-ROCK ISLAND)
 DRILL RIG DIEDRICH - D50 TRACK MOUNTED

BORING NO. / LOCATION B-23 DRY AT COMPLETION YES

DATE 2024.11.21 SURFACE ELEV. 567.6 FT.
 REFUSAL _____ FT. ELEV. _____ FT.
 SAMPLED 40.0 FT.
 TOP OF ROCK _____ FT. ELEV. _____ FT.
 BEGAN CORING _____ FT. ELEV. _____ FT.
 FOOTAGE CORED _____ LF
 BOTTOM OF HOLE DEPTH 40.0 FT. ELEV. 527.6 FT.

WATER LEVEL DATA (IF APPLICABLE)
 SEEPAGE: 19.0 FEET
 COMPLETION: 14.5 FEET (CAVE IN)
 BACKFILLED AT COMPLETION

BORING ADVANCED BY HOLLOW STEM AUGER X 140 LB. AUTO HAMMER X

STRATUM DEPTH	SAMPLE DEPTH		SAMPLE OR RUN NO.	SAMPLE TYPE	FIELD RESULTS		LABORATORY RESULTS				STRATUM DESCRIPTION	
	FROM	TO			N-Value	Qp	%M	DD	UCS	Gr		
	FT.	FT.										
22.5											MEDIUM TO COARSE-GRAINED SAND (ALLUVIUM): Brown Damp to Moist Medium Dense COARSE-GRAINED SAND (ALLUVIUM): Brown Damp to Moist Dense	
25.0	23.5	25.0	8	SS	3 - 5 - 9 N = 14	13.8						
27.5												
30.0	28.5	30.0	9	SS	4 - 6 - 8 N = 14	11.2						
32.5												
35.0	33.5	35.0	10	SS	9 - 16 - 17 N = 33	4.7						
37.5												
40.0	38.5	40.0	11	SS	10 - 15 - 16 N = 31	4.0						
												33.5
												40.0

END OF BORING

REMARKS: _____



New Site Development - Project Marley
 3809 60th Avenue West
 Rock Island, Illinois
 IMEG Project Number: 24006496.00

LOG OF BORING **B-24**
 SHEET 1 OF 2

DRILLER L. SKAALA (IMEG-ROCK ISLAND)
 DRILL RIG DIEDRICH - D50 TRACK MOUNTED

BORING NO. / LOCATION B-24 DRY AT COMPLETION YES

DATE 2024.11.22 SURFACE ELEV. 569.8 FT.
 REFUSAL _____ FT. ELEV. _____ FT.
 SAMPLED 40.0 FT.
 TOP OF ROCK _____ FT. ELEV. _____ FT.
 BEGAN CORING _____ FT. ELEV. _____ FT.
 FOOTAGE CORED _____ LF
 BOTTOM OF HOLE DEPTH 40.0 FT. ELEV. 529.8 FT.

WATER LEVEL DATA (IF APPLICABLE)
 SEEPAGE: 18.5 FEET
 COMPLETION: 14.0 FEET (CAVE IN)
 BACKFILLED AT COMPLETION

BORING ADVANCED BY HOLLOW STEM AUGER X 140 LB. AUTO HAMMER X

STRATUM DEPTH	SAMPLE DEPTH		SAMPLE OR RUN NO.	SAMPLE TYPE	FIELD RESULTS		LABORATORY RESULTS				STRATUM DESCRIPTION	
	FROM	TO			N-Value	Qp	%M	DD	UCS	Gr		
FT. ELEV.	FT.	FT.										
0.0 569.8												SANDY CLAY (ORGANIC TOPSOIL): Brown 0.5
												FILL: Brown Clayey Sand with Gravel 1.5
2.5 567.3	1.5	3.0	1	SS	7 - 7 - 6 N = 13		4.0					FINE-GRAINED SAND (ALLUVIUM): Brown Damp Medium Dense Loose at 3.5 Feet
5.0 564.8	3.5	5.0	2	SS	4 - 4 - 4 N = 8		4.2					
7.5 562.3	6.5	8.0	3	SS	5 - 7 - 13 N = 20		5.2					FINE TO MEDIUM-GRAINED SAND (ALLUVIUM): Brown Damp to Moist Medium Dense
10.0 559.8	8.5	10.0	4	SS	4 - 8 - 11 N = 23		5.9					
12.5 557.3	11.5	13.0	5	SS	5 - 10 - 11 N = 21		4.8					
15.0 554.8	13.5	15.0	6	SS	4 - 7 - 9 N = 16		2.7					MEDIUM TO COARSE-GRAINED SAND (ALLUVIUM): Brown Damp Medium Dense
17.5 552.3												
20.0 549.8	18.5	20.0	7	SS	5 - 5 - 5 N = 10		17.3					Very Moist at 18.5 Feet

CONTINUED...

REMARKS: _____



New Site Development - Project Marley
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LOG OF BORING **B-24**
 SHEET 2 OF 2

DRILLER L. SKAALA (IMEG-ROCK ISLAND)
 DRILL RIG DIEDRICH - D50 TRACK MOUNTED

BORING NO. / LOCATION B-24 DRY AT COMPLETION YES

DATE 2024.11.22 SURFACE ELEV. 569.8 FT.
 REFUSAL _____ FT. ELEV. _____ FT.
 SAMPLED 40.0 FT.
 TOP OF ROCK _____ FT. ELEV. _____ FT.
 BEGAN CORING _____ FT. ELEV. _____ FT.
 FOOTAGE CORED _____ LF
 BOTTOM OF HOLE DEPTH 40.0 FT. ELEV. 529.8 FT.

WATER LEVEL DATA (IF APPLICABLE)
 SEEPAGE: 18.5 FEET
 COMPLETION: 14.0 FEET (CAVE IN)
 BACKFILLED AT COMPLETION

BORING ADVANCED BY HOLLOW STEM AUGER X 140 LB. AUTO HAMMER X

STRATUM DEPTH	SAMPLE DEPTH		SAMPLE OR RUN NO.	SAMPLE TYPE	FIELD RESULTS		LABORATORY RESULTS				STRATUM DESCRIPTION	
	FROM	TO			N-Value	Qp	%M	DD	UCS	Gr		
FT. ELEV.	FT.	FT.										
22.5 547.3												MEDIUM TO COARSE-GRAINED SAND (ALLUVIUM): Brown Moist Medium Dense
25.0 544.8	23.5	25.0	8	SS	4 - 6 - 7 N = 13		9.3					
27.5 542.3												
30.0 539.8	28.5	30.0	9	SS	4 - 5 - 5 N = 10		6.8					
32.5 537.3												
35.0 534.8	33.5	35.0	10	SS	12 - 23 - 27 N = 50		9.4					HIGHLY WEATHERED LIMESTONE: Gray-Brown Moist
37.5 532.3												
40.0 529.8	38.5	40.0	11	SS	13 - 23 - 25 N = 48		7.3					

END OF BORING

REMARKS: _____



New Site Development - Project Marley
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 IMEG Project Number: 24006496.00

LOG OF BORING **B-25**
 SHEET 1 OF 2

DRILLER L. SKAALA (IMEG-ROCK ISLAND)
 DRILL RIG DIEDRICH - D50 TRACK MOUNTED

BORING NO. / LOCATION B-25 DRY AT COMPLETION YES

DATE 2024.11.22 SURFACE ELEV. 570.2 FT.
 REFUSAL _____ FT. ELEV. _____ FT.
 SAMPLED 40.0 FT.
 TOP OF ROCK _____ FT. ELEV. _____ FT.
 BEGAN CORING _____ FT. ELEV. _____ FT.
 FOOTAGE CORED _____ LF
 BOTTOM OF HOLE DEPTH 40.0 FT. ELEV. 530.2 FT.

WATER LEVEL DATA (IF APPLICABLE)
 SEEPAGE: 19.0 FEET
 COMPLETION: 14.0 FEET (CAVE IN)
 BACKFILLED AT COMPLETION

BORING ADVANCED BY HOLLOW STEM AUGER X 140 LB. AUTO HAMMER X

STRATUM DEPTH	SAMPLE DEPTH		SAMPLE OR RUN NO.	SAMPLE TYPE	FIELD RESULTS		LABORATORY RESULTS				STRATUM DESCRIPTION	
	FROM	TO			N-Value	Qp	%M	DD	UCS	Gr		
FT. ELEV.	FT.	FT.										
0.0 570.2												SANDY CLAY (ORGANIC TOPSOIL): Brown 0.5
												FILL: Brown Clayey Sand with Gravel 1.5
2.5 567.7	1.5	3.0	1	SS	6 - 7 - 7 N = 14		3.9					FINE-GRAINED SAND (ALLUVIUM): Brown Damp to Moist Medium Dense
5.0 565.2	3.5	5.0	2	SS	3 - 4 - 5 N = 9		8.7					
7.5 562.7	6.5	8.0	3	SS	4 - 8 - 12 N = 20		3.4					FINE TO MEDIUM-GRAINED SAND (ALLUVIUM): Brown Damp Medium Dense
10.0 560.2	8.5	10.0	4	SS	4 - 7 - 13 N = 20		3.7					
12.5 557.7	11.5	13.0	5	SS	5 - 10 - 12 N = 22		3.2					
15.0 555.2	13.5	15.0	6	SS	4 - 7 - 10 N = 17		4.3					MEDIUM TO COARSE-GRAINED SAND (ALLUVIUM): Brown Damp Medium Dense
17.5 552.7												
20.0 550.2	18.5	20.0	7	SS	4 - 5 - 6 N = 11		11.3					Very Moist at 18.5 Feet

CONTINUED...

REMARKS: _____



New Site Development - Project Marley
 3809 60th Avenue West
 Rock Island, Illinois
 IMEG Project Number: 24006496.00

LOG OF BORING **B-25**
 SHEET 2 OF 2

DRILLER L. SKAALA (IMEG-ROCK ISLAND)
 DRILL RIG DIEDRICH - D50 TRACK MOUNTED

BORING NO. / LOCATION B-25 DRY AT COMPLETION YES

DATE 2024.11.22 SURFACE ELEV. 570.2 FT.
 REFUSAL _____ FT. ELEV. _____ FT.
 SAMPLED 40.0 FT.
 TOP OF ROCK _____ FT. ELEV. _____ FT.
 BEGAN CORING _____ FT. ELEV. _____ FT.
 FOOTAGE CORED _____ LF
 BOTTOM OF HOLE DEPTH 40.0 FT. ELEV. 530.2 FT.

WATER LEVEL DATA (IF APPLICABLE)
 SEEPAGE: 19.0 FEET
 COMPLETION: 14.0 FEET (CAVE IN)
 BACKFILLED AT COMPLETION

BORING ADVANCED BY HOLLOW STEM AUGER X 140 LB. AUTO HAMMER X

STRATUM DEPTH	SAMPLE DEPTH		SAMPLE OR RUN NO.	SAMPLE TYPE	FIELD RESULTS		LABORATORY RESULTS				STRATUM DESCRIPTION	
	FROM	TO			N-Value	Qp	%M	DD	UCS	Gr		
FT. ELEV.	FT.	FT.										
22.5 547.7												MEDIUM TO COARSE-GRAINED SAND (ALLUVIUM): Brown Very Moist Medium Dense
25.0 545.2	23.5	25.0	8	SS	3 - 5 - 7 N = 12		11.6					
27.5 542.7												
30.0 540.2	28.5	30.0	9	SS	4 - 5 - 6 N = 11		7.2					
32.5 537.7												
35.0 535.2	33.5	35.0	10	SS	11 - 22 - 26 N = 48		8.0					HIGHLY WEATHERED LIMESTONE: Gray-Brown Moist Dense
37.5 532.7												
40.0 530.2	38.5	40.0	11	SS	12 - 22 - 26 N = 48		7.9					

END OF BORING

REMARKS: _____



New Site Development - Project Marley
 3809 60th Avenue West
 Rock Island, Illinois
 IMEG Project Number: 24006496.00

LOG OF BORING **B-26**
 SHEET 1 OF 2

DRILLER L. SKAALA (IMEG-ROCK ISLAND)
 DRILL RIG DIEDRICH - D50 TRACK MOUNTED

BORING NO. / LOCATION B-26 DRY AT COMPLETION YES

DATE 2024.11.21 SURFACE ELEV. 569.6 FT.
 REFUSAL _____ FT. ELEV. _____ FT.
 SAMPLED 40.0 FT.
 TOP OF ROCK _____ FT. ELEV. _____ FT.
 BEGAN CORING _____ FT. ELEV. _____ FT.
 FOOTAGE CORED _____ LF
 BOTTOM OF HOLE DEPTH 40.0 FT. ELEV. 529.6 FT.

WATER LEVEL DATA (IF APPLICABLE)
 SEEPAGE: 19.0 FEET
 COMPLETION: 15.0 FEET (CAVE IN)
 BACKFILLED AT COMPLETION

BORING ADVANCED BY HOLLOW STEM AUGER X 140 LB. AUTO HAMMER X

STRATUM DEPTH	SAMPLE DEPTH		SAMPLE OR RUN NO.	SAMPLE TYPE	FIELD RESULTS		LABORATORY RESULTS				STRATUM DESCRIPTION
	FROM	TO			N-Value	Qp	%M	DD	UCS	Gr	
	FT.	FT.									
0.0 - 0.5											SANDY CLAY (ORGANIC TOPSOIL): Brown
0.5 - 2.5											FILL: Brown Clayey Sand, Moist, Medium Dense
2.5 - 5.0	1.5	3.0	1	SS	11 - 8 - 6 N = 14		8.5				
5.0 - 7.5	3.5	5.0	2	SS	2 - 4 - 5 N = 9		5.8				Red-Brown Fine to Medium Grained Sand, Moist Loose
7.5 - 10.0	6.5	8.0	3	SS	6 - 10 - 12 N = 22		5.3				FINE TO MEDIUM-GRAINED SAND (ALLUVIUM): Brown Moist Loose
10.0 - 12.5	8.5	10.0	4	SS	4 - 9 - 14 N = 23		3.4				
12.5 - 15.0	11.5	13.0	5	SS	8 - 9 - 9 N = 18		2.7				
15.0 - 17.5	13.5	15.0	6	SS	3 - 5 - 7 N = 12		2.7				MEDIUM TO COARSE-GRAINED SAND (ALLUVIUM): Brown Damp Medium Dense
17.5 - 20.0	18.5	20.0	7	SS	9 - 8 - 4 N = 12		14.6				Very Moist at 18.5 Feet

CONTINUED...

REMARKS: _____



New Site Development - Project Marley
 3809 60th Avenue West
 Rock Island, Illinois
 IMEG Project Number: 24006496.00

LOG OF BORING **B-27**
 SHEET 1 OF 2

DRILLER L. SKAALA (IMEG-ROCK ISLAND)
 DRILL RIG DIEDRICH - D50 TRACK MOUNTED

BORING NO. / LOCATION B-27 DRY AT COMPLETION YES

DATE 2024.11.21 SURFACE ELEV. 568.5 FT.
 REFUSAL _____ FT. ELEV. _____ FT.
 SAMPLED 40.0 FT.
 TOP OF ROCK _____ FT. ELEV. _____ FT.
 BEGAN CORING _____ FT. ELEV. _____ FT.
 FOOTAGE CORED _____ LF
 BOTTOM OF HOLE DEPTH 40.0 FT. ELEV. 528.5 FT.

WATER LEVEL DATA (IF APPLICABLE)
 SEEPAGE: 18.5 FEET
 COMPLETION: 15.0 FEET (CAVE IN)
 BACKFILLED AT COMPLETION

BORING ADVANCED BY HOLLOW STEM AUGER X 140 LB. AUTO HAMMER X

STRATUM DEPTH	SAMPLE DEPTH		SAMPLE OR RUN NO.	SAMPLE TYPE	FIELD RESULTS		LABORATORY RESULTS				STRATUM DESCRIPTION	
	FROM	TO			N-Value	Qp	%M	DD	UCS	Gr		
FT. ELEV.	FT.	FT.										
0.0 568.5												SANDY CLAY (ORGANIC TOPSOIL): Brown 0.5
												FILL:
2.5 566.0	1.5	3.0	1	SS	11 - 8 - 6 N = 14		7.8					Brown Clayey Sand, Moist, Medium Dense
5.0 563.5	3.5	5.0	2	SS	2 - 4 - 5 N = 9		6.1					Red-Brown Fine to Medium Grained Sand, Moist Loose
7.5 561.0	6.5	8.0	3	SS	6 - 10 - 12 N = 22		4.7					FINE TO MEDIUM-GRAINED SAND (ALLUVIUM): Brown Moist Loose 6.5
10.0 558.5	8.5	10.0	4	SS	4 - 9 - 14 N = 23		3.5					
12.5 556.0	11.5	13.0	5	SS	8 - 9 - 9 N = 18		3.1					
15.0 553.5	13.5	15.0	6	SS	3 - 5 - 7 N = 12		3.5					MEDIUM TO COARSE-GRAINED SAND (ALLUVIUM): Brown Damp Medium Dense 13.5
17.5 551.0												
20.0 548.5	18.5	20.0	7	SS	9 - 8 - 4 N = 12		15.2					Very Moist at 18.5 Feet

CONTINUED...

REMARKS: _____



New Site Development - Project Marley
 3809 60th Avenue West
 Rock Island, Illinois
 IMEG Project Number: 24006496.00

LOG OF BORING **B-27**
 SHEET 2 OF 2

DRILLER L. SKAALA (IMEG-ROCK ISLAND)
 DRILL RIG DIEDRICH - D50 TRACK MOUNTED

BORING NO. / LOCATION B-27 DRY AT COMPLETION YES

DATE 2024.11.21 SURFACE ELEV. 568.5 FT.
 REFUSAL _____ FT. ELEV. _____ FT.
 SAMPLED 40.0 FT.
 TOP OF ROCK _____ FT. ELEV. _____ FT.
 BEGAN CORING _____ FT. ELEV. _____ FT.
 FOOTAGE CORED _____ LF
 BOTTOM OF HOLE DEPTH 40.0 FT. ELEV. 528.5 FT.

WATER LEVEL DATA (IF APPLICABLE)
 SEEPAGE: 18.5 FEET
 COMPLETION: 15.0 FEET (CAVE IN)
 BACKFILLED AT COMPLETION

BORING ADVANCED BY HOLLOW STEM AUGER X 140 LB. AUTO HAMMER X

STRATUM DEPTH	SAMPLE DEPTH		SAMPLE OR RUN NO.	SAMPLE TYPE	FIELD RESULTS		LABORATORY RESULTS				STRATUM DESCRIPTION	
	FROM	TO			N-Value	Qp	%M	DD	UCS	Gr		
	FT.	FT.										FT.
22.5												MEDIUM TO COARSE-GRAINED SAND (ALLUVIUM): Brown Very Moist Medium Dense
25.0	23.5	25.0	8	SS	5 - 5 - 6 N = 11		14.3					
27.5												
30.0	28.5	30.0	9	SS	6 - 5 - 6 N = 11		14.7					
32.5												
35.0	33.5	35.0	10	SS	27 - 25 - 21 N = 46		10.0					HIGHLY WEATHERED LIMESTONE: Gray-Brown Moist Dense
37.5												
40.0	38.5	40.0	11	SS	25 - 20 - 19 N = 39		5.1					WEATHERED LIMESTONE: Gray Damp, Dense

END OF BORING

REMARKS: _____



Appendix C
Soil Description Charts

Project Marley
3809 60th Avenue West
Rock Island, Illinois

December 13, 2024
IMEG No. 24006496.00



Soils Descriptions

Soils descriptions are based on the Unified Soil Classification System and ASTM D2488 (visual-manual procedure) unless otherwise indicated. Coarse-grained soils (sands and larger) have more than 50% of dry weight retained on a #200 sieve. They are described as boulders, cobbles, gravel or sand. Fine-grained soils have less than 50% of their dry weight retained on a #200 sieve. They are described as clays or silts depending on their liquid and plastic limits. There can be some sand content in the clays and can be some silt or clay content in the sands. Adjectives are used to further describe these materials. For example:

Lean clay with sand is a clay of low plasticity, thus lean, having 15% to 29% sand grains mixed into it. Sandy lean clay is a clay of low plasticity having 30% to 50% sand grains mixed into it.

Relative Properties of Sand or Gravel in Clay	
Descriptive Term	Percent of Dry Weight
Trace Sand*	Less than 15
With Sand*	15 to 30
Sandy	30 to 50

*or Gravel, Gravelly

Relative Amount of Fines Passing #200 Sieve in Sand or Gravel	
Descriptive Term	Percent of Dry Weight
Trace Clay*	Less than 5
With Clay	5 to 12
Clayey	12 to 50

*or Silt, Silty

Grain-Size Terminology	
Descriptive Term	Diameter (inches)
Boulders	> 12
Cobbles	3 to 12
Gravel	#4 Sieve to 3
Sand	#200 to #4 Sieve
Silt or Clay	< #200 Sieve

Description of Fine-Grained Soils	
For Liquid Limits Less Than 50	
PI > 7	Lean Clay
4 < PI < 7	Silty Clay
PI < 4*	Silt
For Liquid Limits of 50 and Higher	
Plots on or Above A-Line	Fat Clay
Plots Below A-Line	Elastic Silt

*or below A-Line

Definitions	
Liquid Limit (LL)	Moisture content where soil changes from plastic to liquid state as determined by ASTM D4318
Plastic Limit (PL)	Moisture content where soil changes from plastic to semi-solid state as determined by ASTM D4318
Plasticity Index (PI)	Numerical difference between liquid limit and plastic limit (PI = LL - PL)



Consistency of Cohesive (Clayey) Soils				
Description	UCS (psf)	N ^{blows/foot}	CBR*	Appearance
Very Soft	0 to 500	0 to 2	0.0 to 0.4	Extruded through fingers when squeezed
Soft	500 to 1000	2 to 4	0.4 to 0.8	Molded by very light finger pressure
Medium	1000 to 2000	4 to 8	0.8 to 1.6	Molded by light finger pressure
Stiff	2000 to 4000	8 to 15	1.6 to 3.2	Readily indented by thumb
Very Stiff	4000 to 8000	15 to 30	3.2 to 6.4	Readily indented by thumbnail
Hard	8000+	30+	6.4+	Hard to indent by thumbnail

*California Bearing Ratio (CBR) = subgrade support value for paving expressed as a percent of value for standard crushed stone

Relative Density of Cohesionless (Sand) Soils		
Description	N ^{blows/foot}	Friction Angle (degrees)
Very Loose	0 to 4	26 to 30
Loose	4 to 10	28 to 34
Medium	10 to 30	30 to 40
Dense	30 to 50	33 to 45
Very Dense	50+	50+

Grain-Size Terminology	
Descriptive Term	Diameter (inches)
Boulders	> 12
Cobbles	3 to 12
Gravel	#4 Sieve to 3
Sand	#200 to #4 Sieve
Silt or Clay	< #200 Sieve

Note: Lower limits are for fine, clean sand and should be reduced by up to 5 degrees for silty sands. The upper limits are for coarse clean sands.

Comments on Soil Color Descriptions	
Dark Gray, Blue, or Green	Constant submergence with a total absence of available oxygen
Gray with Concretions	Saturation with water of limited oxygen supply
Red-Brown, Yellow-Brown, and Olive-Brown	Abundant supply of oxygen under good condition of drainage
Red-Brown, Yellow-Brown, and Olive-Brown with Gray Mottles	Abundant supply of oxygen under poor drainage conditions (occasional to frequent saturation)

UNIFIED SOIL CLASSIFICATION SYSTEM

Criteria for Assigning Group Symbols and Group Names Using Laboratory Tests ^A				Soil Classification		
				Group Symbol	Group Name ^B	
Coarse-Grained Soils More than 50% retained on No. 200 sieve	Gravels More than 50% of coarse fraction retained on No. 4 sieve	Clean Gravels Less than 5% fines ^C	$C_u \geq 4$ and $C_c \leq 3$ ^E	GW	Well-graded gravel ^F	
			$C_u < 4$ and/or $1 > C_c > 3$ ^E	GP	Poorly graded gravel ^F	
		Gravels with Fines More than 12% fines ^C	Fines classify as ML or MH	GM	Silty gravel ^{F, G, H}	
			Fines classify as CL or MH	GC	Clayey gravel ^{F, G, H}	
	Sands 50% or more of coarse fraction passes No. 4 sieve	Clean Sands Less than 5% fines ^D	$C_u \leq 4$ and $1 \leq C_c \leq 3$ ^E	SW	Well-graded sand ^I	
			$C_u < 6$ and/or $1 > C_c > 3$ ^E	SP	Poorly graded sand ^I	
		Sands with Fines More than 12% fines ^D	Fines classify as ML or MH	SM	Silty sand ^{G, H, I}	
			Fines classify as CL or CH	SC	Clayey sand ^{G, H, I}	
Fine-Grained Soils 50% or more passes the No. 200 sieve	Silts and Clays Liquid limits less than 50	inorganic	$PI > 7$ and plots on or above "A" line ^J	CL	Lean clay ^{K, L, M}	
			$PI < 4$ and plots below "A" line ^J	ML	Silt ^{K, L, M}	
		organic	Liquid limit - oven dried	< 0.75	OL	Organic clay ^{K, L, M, N}
			Liquid limit - not dried			Organic silt ^{K, L, M, O}
	Silts and Clays Liquid limit 50 or more	inorganic	PI plots on or above "A" line ^J	CH	Fat clay ^{K, L, M}	
			PI plots below "A" line ^J	MH	Elastic silt ^{K, L, M}	
		organic	Liquid limit - oven dried	< 0.75	OH	Organic clay ^{K, L, M, P}
			Liquid limit - not dried			Organic silt ^{K, L, M, Q}
Highly Organic Soils	Primarily organic matter, dark in color, and organic odor			PT	Peat	

Table Notes:

^A Based on the material passing the 3-in. (75 mm) sieve.

^B If field sample contained cobbles or boulders, or both, add "with cobbles" or "boulders", or "both" to group name.

^C Gravels with 5 to 12% fines require dual symbols: GW-GM well-graded gravel with silt, GW-GC well-graded gravel with clay, GP-GM poorly graded gravel with silt, GP-GC poorly graded gravel with clay.

^D Sands with 5 to 12 % fines require dual symbols: SW-SM well-graded sand with silt, SW-SC well-graded sand with clay, SP-SM poorly graded sand with silt, SP-SC poorly graded sand with clay.

$${}^E C_u = D_{60} / D_{10} \qquad C_c = \frac{(D_{30})^2}{D_{10} \times D_{60}}$$

^F If soil contains $\geq 15\%$ sand, add "with sand" to group name.

^G If fines classify as CL-ML, use dual symbol GC-GM, or SC-SM.

^H If fines are organic, add "with organic fines" to group name.

^I If soil contains $\geq 15\%$ gravel, add "with gravel" to group name.

^J If Atterberg limits plot in shaded area, soil is a CL-ML, silty clay.

^K If soil contains 15 to 29% plus No. 200, add "with sand" or "with gravel", whichever is predominant.

^L If soil contains $\geq 30\%$ plus No. 200 predominantly sand, add "sandy" to group name.

^M If soil contains $\geq 30\%$ plus No. 200 predominantly gravel, add "gravelly" to group name.

^N $PI \geq 4$ and plots on or above "A" line.

^O $PI < 4$ or plots below "A" line.

^P PI plots on or above "A" line.

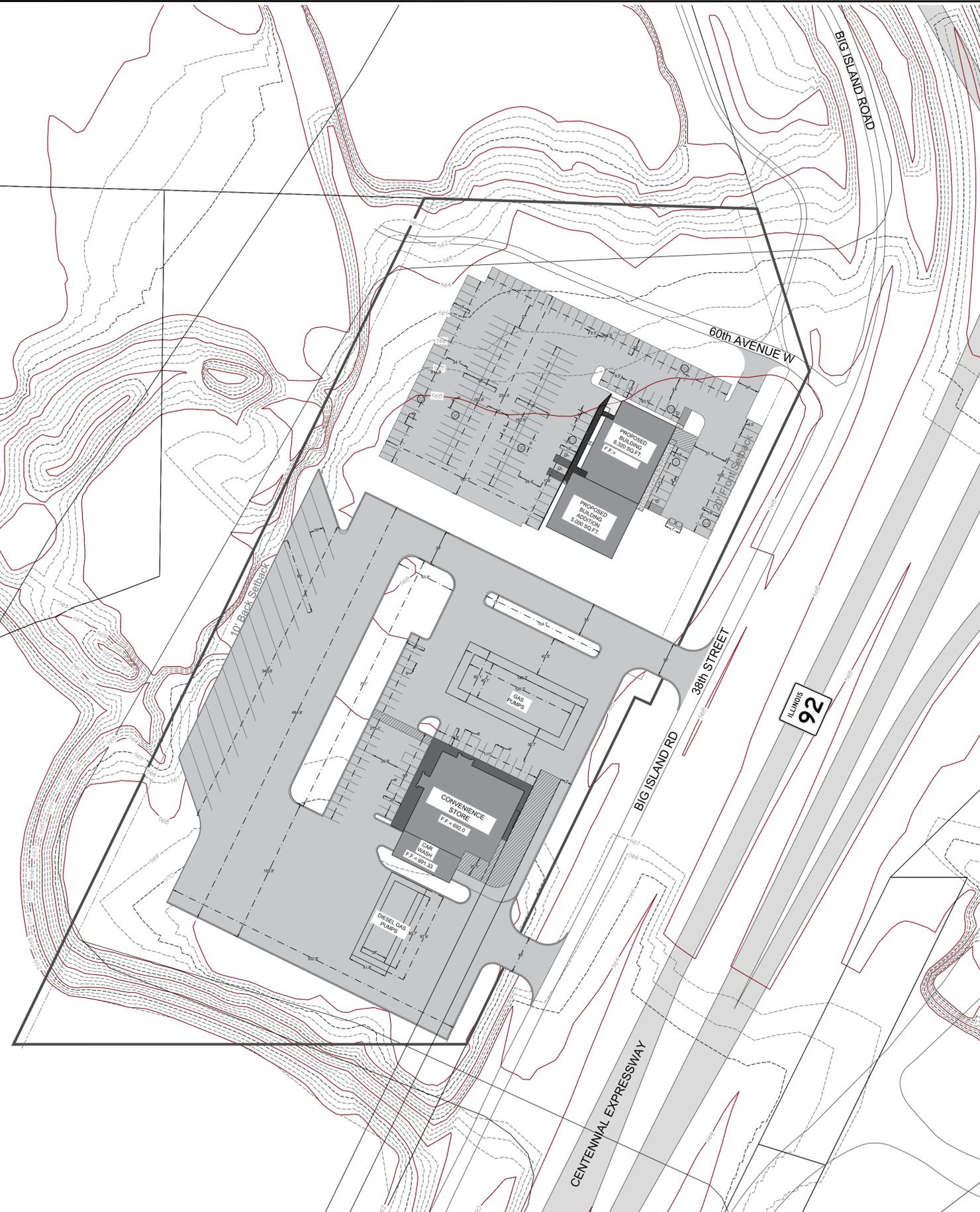
^Q PI plots below "A" line.



Appendix D
Available Project Information

Project Marley
3809 60th Avenue West
Rock Island, Illinois

December 13, 2024
IMEG No. 24006496.00



ZONING
 B4 - Highway District
 Min Lot Width:
 Maximum Building Height:

Setbacks:
 Front: 20'
 Rear: 10'
 Side: None

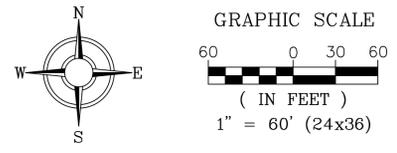
Parking:



SITE PLAN

RYMAK CONSTRUCTION GROUP RI CASINO 10 ACRES

TO THE CITY OF ROCK ISLAND, IL



LEGEND:					
-----	EASEMENT	⊗	EXISTING GAS VALVE	~	EXISTING CONTOUR LINE
-----	SETBACK LINE	○	EXISTING WATER VALVE	~	PROPOSED CONTOUR LINE
-----	CENTERLINE	⊙	EXISTING UTILITY POLE	○ 715.00 JC	SPOT ELEVATION TOP OF CURB
-----	PROPERTY BOUNDARY	⊛	EXISTING LIGHT POLE	○ 715.00 FL	SPOT ELEVATION FL. GUTTER
-----	EXISTING FENCE	⊙	EXISTING TREE	○ 715.00 TW	SPOT ELEVATION SIDEWALK
-----	EXISTING SANITARY	⊙	EXISTING BUSH	○ 715.00 FF	FINISHED FLOOR ELEVATION
-----	PROPOSED SANITARY	⊙	EXISTING MANHOLE		
-----	EXISTING STORM SEWER	⊙	EXISTING FIRE HYDRANT		
-----	PROPOSED STORM SEWER	⊙	FOUND PROPERTY PIN		
-----	EXISTING WATER	⊙	CONTROL POINT		
-----	PROPOSED WATER	⊙			
-----	EXISTING GAS LINE	⊙			
-----	EXISTING ELECTRIC	⊙			



DATE: 6/24/2024

563 386.4236 office 386.4231 fax
 2224 East 12th Street, Davenport, IA 52803

DRAWN BY: PAR
CHECKED BY: CRT

DRAWING LOCATION
 S:RYMAK/RI CASINO 10 ACRES

NO.	REVISIONS: DESCRIPTION	DATE

PROJECT SITE PLAN
 RI CASINO 10 ACRES
 3809 60TH AVENUE WEST
 ROCK ISLAND, IL 61201

DEVELOPER
 RYMAK CONSTRUCTION GROUP
 208 18TH STREET, SUITE 206
 ROCK ISLAND, IL 61201

SHEET NO.
 C1