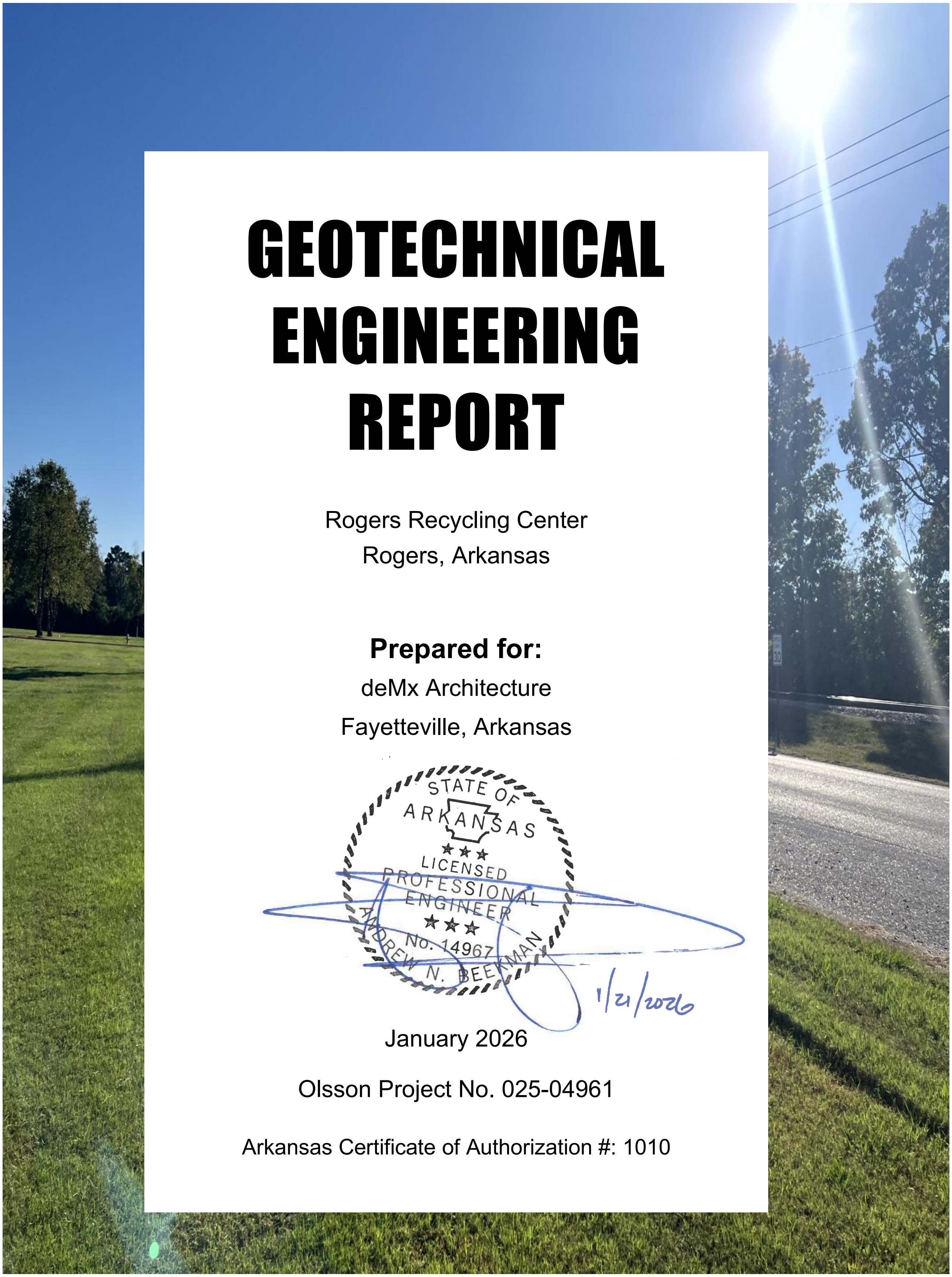

GEOTECHNICAL ENGINEERING REPORT

Rogers Recycling Center
Rogers, Arkansas

Prepared for:
deMx Architecture
Fayetteville, Arkansas

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 14967
ANDREW N. BEEKMAN

1/21/2026

January 2026

Olsson Project No. 025-04961

Arkansas Certificate of Authorization #: 1010

olsson

January 21, 2026

deMx Architecture
Attn: Tim Maddox
104 N East Ave
Fayetteville, AR 72701

RE: Geotechnical Engineering Report
Rogers Recycling Center
Rogers, Arkansas
Olsson Project No. 025-04961

Dear Mr. Maddox:

In general accordance with our "Professional Services Agreement" dated August 27th, 2025, Olsson, Inc. has completed the authorized geotechnical exploration services for the above-referenced project. The geotechnical exploration was conducted to evaluate the subsurface conditions and provide geotechnical recommendations for the design and construction of the proposed development. The enclosed report summarizes the project characteristics as we understand them, presents the findings of the field exploration and laboratory testing, discusses the observed subsurface conditions, and provides our geotechnical engineering recommendations.

We appreciate the opportunity to provide our geotechnical engineering services for this project. If you have any questions or need further assistance, please contact us at your convenience.

Respectfully submitted,
Olsson, Inc.
Arkansas Certificate of Authority #: 1010

Amir Hamdan
Assistant Engineer
602.376.0911
ahamdan@olsson.com

Andrew Beekman, PE
Senior Engineer
903.941.8885
abeekman@olsson.com

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EXECUTIVE SUMMARY

Two borings extended vertically to 15 feet within the building footprint, and 1 boring vertically extended to 5 feet in the pavement area were completed for the new Recycling Center development.

The near-surface soils were soft and weak to depths of about 2 feet below the ground surface. These soils are not suitable for the direct support of foundations, floor slabs or new fill material. If similar soil conditions are encountered during the time of construction, these soils will need to be removed from the vicinity of planned development unless they can be successfully stabilized in place.

The structure can be supported on a shallow foundation system supported on native stiff to very stiff clays, native medium dense to very dense gravels, or newly placed and compacted fill material. Shallow foundations may be designed using a net allowable bearing pressure of 2,000 psf.

We recommend that floor slabs be supported by a minimum of 12 inches of newly placed and compacted fill material. New pavements should be supported by a minimum of 8 inches of newly placed and compacted fill material.

This Executive Summary provides a limited overview of the report and is subject to any and all clarifications, conditions, contingencies, limitations and/or qualifications that may exist in the body of the report. The Client nor any other party may rely solely on this Executive Summary. Client and any other party using this report must review the entire report and interpret the information contained in this Executive Summary in conjunction with the remainder of the report.

1. PROJECT UNDERSTANDING

1.1 Project Information

We understand that this project comprises of a new Recycling Center development in Rogers, Arkansas. The project site is generally located within the current recycling center property at the southeast corner of N Arkansas Street and Stave Miller Road in Benton County, Rogers, Arkansas.

The preliminary site layout used during this geotechnical exploration includes the new Recycling Center on the south part of the lot below the existing recycling building with associated parking to the west and north. Access to the building will include an entrance on the southwest portion of the lot which will connect to N Arkansas Road. We understand that permeable pavers are planned in a portion of the new parking areas; however, providing specific recommendations for the permeable pavers is outside of our scope of services.

Based on the site plan prepared by Olsson and dated December 16, 2025, the facility will include a new approximately 11,869 square-foot, single-story, slab-on-grade, metal-framed structure. Based on similar projects, we have assumed maximum building loads and other details as shown in **Table 1**.

Table 1. Project Information.

Project Detail	Value	Notes
Plan Area –Building	11,869 Sq	Provided by deMX Architecture
Finished Floor Elevation	1365.00 feet	Provided by Olsson
Maximum Column Load	40 kips	Estimated by Olsson
Maximum Wall Load	3 kips/linear foot	
Floor Slab Load	150 pounds/square foot	

We understand that existing site elevations range from 1,353 to 1,366 feet throughout the project site. As such, up to 2 feet of fill and 2 feet of excavation may be required to achieve the design site grades. No stand-alone retaining walls are anticipated to be required to achieve site grading.

If the structural loads or site grading exceed these anticipated/assumed values, the geotechnical engineer should be contacted to verify that the recommendations contained in this report remain valid.

1.2 Site Description

The project site consists of an empty portion of the existing recycling center property south of the existing building. The project site has not gone under any earthwork or regrading operations since the construction of the current building in 2010. Publicly available aerial photographs indicated the site was previously used for agricultural purposes dating back as late as 1985 to 2010 when the first building was constructed. From 2021-2024 surrounding properties construction consisted of commercial warehouse facilities just west of the project site. A preliminary site plan on an aerial image is shown in **Figure 1**.

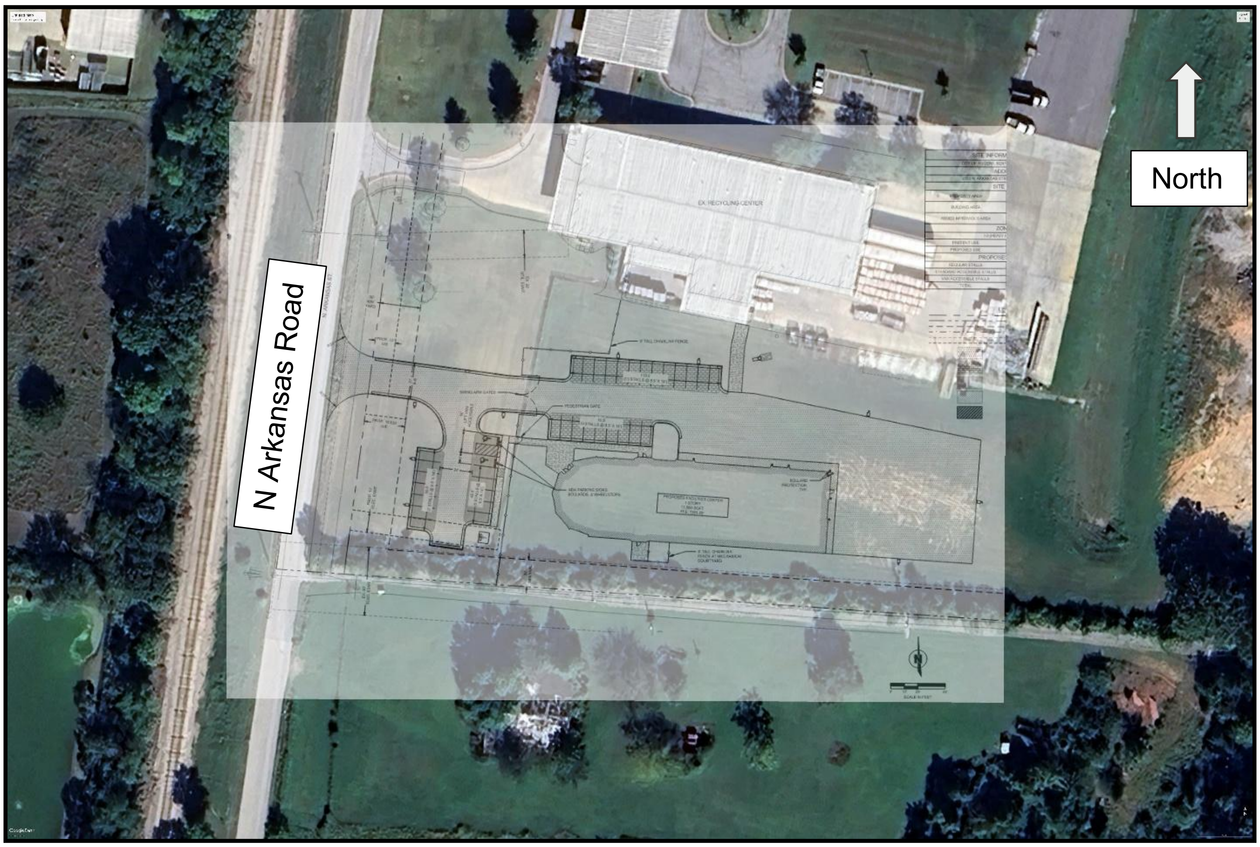


Figure 1. 2024 Google Earth Aerial Imagery with Preliminary Site Plan.

2. SUBSURFACE CONDITIONS

2.1 Subsurface Profile

The subsurface information was gathered by completing 2 borings to a depth of 15 feet within the building footprint, and 1 boring to 5 feet within the pavement areas. Laboratory tests included gradation, moisture content, and Atterberg limits. A boring location map, boring logs, and a description of our field exploration program, are provided in **Appendix A**. Laboratory test results are presented in **Appendix B**.

The appended borehole reports represent subsurface conditions at the specific boring locations at the time of our field exploration; variations may occur between or beyond the borings. The stratification lines shown on the logs represent the approximate boundary between material types. However, the transition between layers may be gradual. The depths referenced in the following paragraphs are relative to the site grade at the time of our exploration.

The subsurface soils at this site comprised alluvial materials primarily consisting of lean clay (CL) and clayey gravel (GC). The lean clay extended from the ground surface to depths of about 2 feet and these soils were generally very soft to soft. Below a depth of two feet, the on-site soils generally consisted of a combination of gravelly lean clay (CL) and clayey gravel (GC) soils, although an approximately 18-inch-thick layer of fat clay soils were encountered below depths of 5 feet at two boring locations. These deeper soils were generally medium dense to very dense and stiff to very stiff in consistency. All borings extended to planned depths without encountering auger refusal material.

2.2 Water Level Observations

Subsurface water was not encountered in the soil test borings at the time of drilling operations. However, water levels may fluctuate over time with variations in precipitation, site grading, drainage, and adjacent land use. Perched subsurface water conditions can also develop in seams of loose or granular soils.

Long-term monitoring with piezometers generally provides a more representative indication of the potential range of subsurface water conditions. Such monitoring was not completed as part of this exploration. Olsson can provide additional monitoring upon written request of the Owner and/or Olsson's client. Recommendations for addressing effects of water in design and during construction are presented in **Section 5.4** of this report. Any retaining wall foundation design or global stability analysis must take into consideration changing water conditions.

3. GEOTECHNICAL CONSIDERATIONS

Low-shear-strength soils (SPT N-values of 5 blows per foot or less; or unconfined compressive strength of 0.75 tsf or less) were encountered beginning at the ground surface and extending to depths of about 1 to 2 feet below the ground surface at the performed boring locations. These low-strength soils consisted of native lean clay soils. These soils are not suitable for supporting typical foundation loads, slabs-on-grade, pavements or new fills without removal and replacement or ground improvement.

4. STRUCTURES DESIGN

Based on the results of our borings, laboratory testing, and engineering evaluation, our opinion is that the subsurface conditions are suitable for supporting the proposed structure on a shallow foundation system consisting of spread footings.

4.1 Shallow Foundations

Based on the results of our exploration, engineering evaluation, and the understanding that the finished floor elevation (FFE) is 1365.0 feet, the proposed structure may be supported on a conventional shallow foundation system on native, relatively undisturbed stiff to very stiff clays, medium dense to very dense gravels or on newly placed and compacted structural fill.

Design parameters for shallow foundations supported in structural fill or engineer approved native soils are tabulated below. Recommended shallow foundation design parameters are provide in **Table 2**.

Table 2. Shallow Foundation Design Parameters.

Design Parameter	Recommended Value
Net Allowable Soil Bearing Pressure	2,000 psf (continuous); 2,500 psf (individual, column)
Estimated Total Settlement	1 inch
Estimated Differential Settlement	0.5 inch within 40 feet
Minimum Foundation Depth	2.0 feet
Minimum Foundation Size	2.5 feet (Continuous) 3.0 feet (Square)
Ultimate Friction Coefficient	0.30

The net allowable bearing pressure is the bearing pressure in excess of the minimum surrounding overburden pressure at the foundation level. The net allowable soil bearing pressure may be increased by 1/3 for transient loads such as wind or seismic loads.

Minimum foundation depth is measured from the lowest adjacent final ground surface. In no case should footings have dimensions smaller than allowed by local building codes.

Soft or otherwise unsuitable soils could be encountered during foundation construction. Based on the results of our borings and our understanding of site grading plans, we anticipate that soft soils are more likely to be exposed at plan foundation depths in the west portion of the building footprint. We recommend that any soft or unstable soils exposed in the foundation trenches be further undercut until the recommended native bearing materials are exposed. After overexcavation of any weak soils in foundation trenches, the foundations can be overpoured full-depth with reinforced concrete or the foundation trenches may be backfilled up to plan bottom of foundation elevations with controlled low strength material (CLSM) or flowable fill, or approved structural fill material. If structural fill will be placed and compacted below bottom of foundation elevations, the foundation trench should be widened a minimum distance of 1 foot beyond the foundation perimeter in all directions for each 1 foot of overexcavation below plan bottom of foundation elevations and the structural fill material should be placed and compacted in accordance with **Section 5.3**.

Foundation subgrades should be observed by an Olsson representative to identify unsuitable soils and provide remediation recommendations as necessary. After foundation subgrades have been observed and any required remedial measures are performed, concrete should be placed as quickly as possible to avoid exposure of the foundation subsoils to wetting, drying, or freezing. If foundation soils are subjected to such conditions, Olsson should be contacted to reevaluate the foundation bearing materials.

Provided shallow foundations are designed and constructed in accordance with the recommendations of this report, total post-construction settlements are anticipated to be less than the values tabulated in **Table 2**. To reduce the effects of differential settlement, floor slabs should be separated from wall and column footings with expansion joints.

4.2 Floor Slabs

Recommendations for design of concrete slab-on-grade floors, including preparation of the underlying subgrade, are presented below.

4.2.1 Floor Slab Subgrade Preparation

Based on the results of our exploration and engineering evaluation, we recommend floor slabs be supported by a minimum of 12 inches of low-plasticity structural fill. This structural fill thickness can be achieved through a combination of over-excavation and recompaction of site soils or structural fill placed to raise site grades.

Structural fill soils should extend 5 feet beyond the building perimeter and be moisture-conditioned and recompacted in accordance with **Section 5.3**.

4.2.2 Floor Slab Design Considerations

Care should be taken to maintain the recommended subgrade moisture content and density between site grading operations and placement of the floor slab. Periodic applications of water may be necessary to maintain the proper moisture content of the subgrade.

In many construction projects, floor slab areas are disturbed by construction equipment traffic and are exposed to the elements between completion of grading operations and placement of the floor slab. Therefore, we recommend that the final floor slab subgrade be proofrolled and evaluated for moisture content and density immediately prior to placement of the granular leveling course or floor slab concrete. Unsuitable soils should be moisture conditioned and recompacted in accordance with **Table 3** or be stabilized in accordance with **Section 5.2**.

Provided the recommendations presented in this report are implemented, a subgrade modulus of 100 pounds per square inch per inch (psi/in or pci) may be used to design the floor slab.

If a granular leveling and drainage course is used beneath floor slabs, the material should be free-draining, well-graded, and compacted in accordance with **Table 3** prior to slab placement. In finished areas, the design engineer or architect should be consulted regarding the use and position (above or below the granular leveling course) of a vapor retarder. In other areas, vapor retarder should be placed in accordance with recommendations outlined in ACI 302.1R-15, “Guide to Concrete Floor and Slab Construction.”

The procedures recommended above will reduce future subgrade volume change and resultant floor slab movement. However, depending on many factors - including the size and shape of the floor area, the location of construction joints in the slab, the rigidity of the slab and foundation connection, and the magnitude of movement that occurs - cracks within the floor slab should be anticipated. Leaking utility lines or water allowed to accumulate beneath the slab could lead to significant slab movement.

4.3 Seismic Site Classification

For this project site, the soil conditions encountered at the boring are consistent with Site Class “D” as defined by ASCE 7-16. Our review of the site class is based on the soil conditions encountered in the borings during the exploration and our assumption that the encountered soil layers are underlain by similar native materials extended to a minimum depth of 100 feet.

4.4 Utilities and Landscaping

Bedding material below and above for site utilities should be in accordance with local building codes. The remaining utility trench should consist of structural fill placed in accordance with **Table 3**. We also recommend clay plugs or water stops be installed where utility lines enter the building. If clay plugs are used, these should be extended a minimum of 5 feet from the building exterior.

To reduce the effects of moisture fluctuations in and around the structure and pavements caused by landscaping and maintenance, we recommend the following:

- Downspout drainage should discharge onto splash blocks extending at least 5 feet away from the building.
- Incorporate splash blocks for external hose connections to prevent localized flooding of foundation or backfill soils. Cutoff valves should be installed inside the building to prevent unauthorized use of external hose connections.
- Restrict the type and location of landscaping vegetation around the proposed structure. Maintain a minimum distance between the structure and trees or shrubs equal to the mature radius of the tree or shrub plus 3 feet. Plant native and decorative grasses at least 5 feet from buildings. Poorly placed vegetation can result in settlement induced by desiccation or uplift caused by root growth. These recommendations may be modified in consultation with a landscape architect.
- Ensure that irrigation near the building is carefully controlled and minimized. Avoid installing sprinklers adjacent to foundations or retaining walls and inform building maintenance personnel of the importance of avoiding excessive watering.

5. EARTHWORK AND CONSTRUCTION CONSIDERATIONS

5.1 Demolition of Existing Facilities

All existing structures within the proposed building must be removed. We recommend existing utilities within the proposed structure be removed. All demolition debris should be removed from the site and disposed of in accordance with applicable regulations.

The base of demolition excavations should be observed by an Olsson representative prior to placement of structural fill. Excavations resulting from demolition activities must be backfilled with structural fill in accordance with the recommendations provided in **Section 5.3** of this report.

5.2 Site Preparation

Vegetation, topsoil, roots, and other deleterious materials deemed unsuitable by an Olsson geotechnical engineer, or their authorized field representative, should be removed from the proposed construction area and replaced with controlled fill. We recommend site clearing, grubbing, and stripping be performed during dry weather conditions. Operation of heavy equipment on the site during wet conditions could result in excessive rutting and mixing of organic debris with the underlying soils.

Soils which cannot be adequately densified in-place should be removed and replaced with approved structural fills or stabilized under the direction of an Olsson representative. As previously discussed, we anticipate that on-site soils may be soft and unstable to average depths of about 2 feet below existing grades. The extent of areas requiring removal or stabilization will depend on the conditions observed at the time of construction. Undercut areas should be backfilled with stable fill material similar in composition to the surrounding soils.

5.3 Structural Fill

We recommend that fill materials placed within the building footprint or placed within 12 inches of the base of the pavements have a liquid limit less than 45, and a plasticity index less than 25. Locally available clayey gravel borrow soil with a PI greater than 25 but containing less than 35 percent passing the No. 200 sieve is also acceptable for use as structural fill in all areas. All structural fill soils should also be relatively free of organic materials (less than about 2 percent by weight), debris, and particles larger than 3 inches in nominal diameter.

Based on our site observations and Atterberg limits testing performed as part of this exploration, the on-site soils within 5 feet of the ground surface generally appear suitable for reuse as structural fill. The near-surface lean clay soils may require extensive drying before they are suitable for reuse as structural fill material. Samples of all proposed structural fills, including on-site soils, should be submitted to Olsson at least seven days before placement for testing and approval.

Proper lift thickness depends on the type of compaction equipment used, but in general, we recommend a maximum lift thickness of 8 inches in loose measurement. Thinner lifts could be required in confined areas such as around manholes, behind retaining walls, or within footing and utility trenches. Soils should be compacted using equipment of appropriate type and size to achieve the recommendations presented in this report. Water flooding is not an acceptable compaction method for any soil type.

We recommend that structural fill and backfill be compacted in accordance with the criteria stated in **Section 5.3**. Utility trenches, foundation excavations and pavement curbs should be backfilled as soon as possible to reduce the risk of water infiltration into the subgrade.

An Olsson field representative should periodically observe fill placement operations and perform field moisture-density tests to document whether moisture content and compaction requirements are being achieved.

The moisture content of suitable borrow soils should be within the ranges specified in **Table 3**. More stringent moisture limits may be necessary with certain soils. Adjustment of moisture content may be necessary to allow compaction in accordance with project specifications.

Table 3. Structural Fill Placement Guidelines.

Area of Fill Placement	Suitable Material (USCS or Description)	Compaction (ASTM D698 - Standard Proctor)	Moisture Content (Percent of Optimum)
Granular Cushion beneath floor slab	ASTM C-33 No. 57 Aggregate or Approved Alternative	95%*	As necessary to obtain density
Aggregate Base beneath pavements	Class 7 Aggregate Base or Approved Alternative	95%	-2 to +2 percent
Structural Fill placed below foundations, floor slab and pavements	Approved Soils with LL < 45 and PI < 25, with PI > 25 with % Passing No. 200 Sieve < 35, or Approved Alternative	95%	-2 to +2 percent
Utility trenches	Cohesive Structural Fill or CLSM	95%	-2 to +2 percent
** Or **70** percent Relative Density as described below*			

Granular fill materials may not produce a definable moisture-density curve when tested in accordance with ASTM D698 (Standard Proctor). Such materials could alternatively be compacted to a minimum of typically 70 percent relative density as determined by ASTM D4253 (Standard Test Methods for Maximum Index Density and Unit Weight of Soils Using a Vibratory Table) and D4254 (Standard Test Methods for Minimum Index Density and Unit Weight of Soils and Calculations of Relative Density).

Controlled low strength material (CLSM) or flowable fill may be considered for utility or other small backfills. We recommend flowable fill have a compressive strength between 100 and 300 pounds per square inch (psi). CLSM with a maximum compressive strengths less than 300 psi can be readily excavated with a backhoe. CLSM can be placed in a single lift, without personnel entering the excavation and without the need for compaction equipment.

5.4 Dewatering Considerations

While we do not anticipate groundwater will affect shallow foundation and paving construction activities, it may be a factor in utility excavations. Variations in groundwater elevation could occur because of seasonal changes in rainfall, temperature, snowmelt, runoff, localized irrigation demand, or other factors. Saturated soils and higher groundwater elevations should be anticipated in areas near drainage channels and ditches.

The contractor should utilize their experience in this area and experience with similar projects to determine the most effective method of dewatering and the effects of such methods on nearby structures, utilities, or pavements.

5.5 Equipment Mobility

Some of the soils encountered at this site may be susceptible to softening under the action of construction equipment traffic in combination with wet weather. Mitigation of equipment mobility problems and management of soft surficial soils will depend on the severity of the problem, the season in which construction is performed, and prevailing weather conditions.

During construction, provisions should be made to quickly remove seepage water or storm water from excavations. Water should not be allowed to collect near foundations, floor slabs, pavements, or retaining walls either during or after construction. Undercut or excavated areas should be sloped toward one corner to facilitate the collection and removal of rainwater or surface runoff. Site grading should provide rapid drainage of water away from the structure and pavement areas throughout construction.

Additional guidelines for reducing equipment mobility problems are as follows:

- Optimize surface water drainage at the site.
- Allow for rain days in the construction schedule and wait for dry weather conditions to prevail whenever possible. Avoid operating construction equipment on the site during wet conditions. Rutting the surface will aggravate mobility problems.
- Use construction equipment that is suited for the intended job under the site conditions. Heavy rubber-tired equipment typically requires better site conditions than light, track-mounted equipment.

It may be necessary to take steps to aggressively improve equipment mobility if construction must proceed under unfavorable conditions. More aggressive methods for addressing equipment mobility problems may range from removing several feet of soft wet soils to utilizing crushed stone materials and/or appropriate stabilization fabrics or geogrids. Other methods include chemical stabilization with Portland cement, lime, fly ash, or cement kiln dust (CKD). The stabilization approach should be determined at the time of construction in consultation with an Olsson geotechnical engineer.

The contractor is responsible for creating and maintaining a stable working platform. Soils that are disturbed by construction activity or adverse weather conditions should be corrected by the contractor to conform with project specifications and this report.

6. PAVEMENT DESIGN

6.1 Pavement Subgrade Preparation

Proper pavement performance depends on a subgrade that is relatively uniform, with no abrupt changes in the degree of support. Non-uniform pavement support can result from variations in soil type or moisture content, as well as at the transition from cut to fill areas or where improperly placed utility backfill has been placed across or through pavement areas. Improper subgrade preparation such as inadequate vegetation removal, failure to identify soft or unstable areas by proofrolling, or inadequate compaction can also result in non-uniform subgrade support.

We recommend the proposed pavements be supported by a minimum of 8 inches of low-plasticity structural fill. This structural fill thickness can be achieved through a combination of over-excavation and recompaction of site soils or structural fill placed to raise site grades. Structural fill soils should extend 2 feet beyond the pavement edges and be moisture-conditioned and recompacted in accordance with **Section 5.3**.

Construction scheduling often produces a delay between completion of grading operations and commencement of paving operations. In these instances, pavement areas can be disturbed by construction equipment traffic, desiccation, or wetting. Therefore, we recommend that the final pavement subgrade be proofrolled and evaluated for moisture content and density immediately prior to paving. The proofroll should be performed with a loaded dump truck or similar rubber-tired equipment with a minimum weight of 25 tons. Unsuitable soils should be moisture conditioned and recompacted in accordance with **Table 3** or be stabilized in accordance with **Section 5.3**.

6.2 Recommended Pavement Sections

Pavement design is influenced by the anticipated traffic loads and volume, site subgrade conditions, pavement materials, and the desired design life. Changes in traffic conditions can have a significant impact on the service life of the pavement. Such changes could include increases in overall traffic counts, increases in truck traffic, or the unanticipated application of static or turning loads.

Our recommended minimum pavement thicknesses are presented in **Table 4**. The minimum thicknesses are based on the subgrade conditions, our experience with similar pavement applications, and recognized structural coefficients. The recommended design sections require that the site be properly prepared in accordance with this report and that site drainage be provided to minimize the future wetting of the pavement subgrade.

Table 4. Recommended Pavement Sections.

	Layer/Material	Layer Thickness (inches)		
		Parking Areas	Drive Areas	Heavy Vehicle Areas
Full Depth AC	AC Surface Course	2.0	2.0	--
	AC Base Course	4.0	6.0	--
	Prepared subgrade in accordance with **Section 6.1**	12.0	12.0	--
AC w/Granular Base	AC Surface Course	4.0	2.0	--
	AC Base Course	--	4.0	--
	Class 7 Aggregate Base or Equivalent	6.0	6.0	--
	Prepared subgrade in accordance with **Section 6.1**	12.0	12.0	--
Portland Cement Concrete	Portland Cement Concrete	5.0	6.0	8.0
	Class 7 Aggregate Base or Equivalent	6.0	6.0	6.0
	Prepared subgrade in accordance with **Section 6.1**	12.0	12.0	12.0

Standard duty pavement sections are intended for passenger car parking areas and are not suitable for tractor-trailer traffic. Heavy duty pavement sections are intended for areas that will experience high traffic volumes or heavy axle loads such as main access drives and delivery or recycle truck routes. We recommend Portland cement concrete pavements be used in areas with frequent start-stop or turning traffic such as entrance and exit aprons or the parking stalls closest to buildings, as well as areas that support stationary loads such as dumpsters.

Surface drainage around the pavement and proper maintenance are also important for long-term performance. Curbs should be backfilled as soon as possible after construction of the pavement. Backfills should be compacted and should be sloped to prevent water from ponding and infiltration under the pavement. All pavement joints should be sealed, and any cracks should be quickly patched or sealed to prevent moisture from leaching into and softening the subgrade.

7. REPORT LIMITATIONS

The conclusions and recommendations presented in this report are based on the information available regarding the proposed construction, geotechnical information obtained from our field exploration and laboratory testing, as well as our experience with similar projects. Our borings and testing represent a limited statistical sampling of the subsurface. Conditions may be encountered during construction that are substantially different from those encountered in this exploration and adjustments to design and construction may be necessary.

In the event of any changes in the nature of the proposed project as outlined in this report, the opinions in this report cannot be considered valid unless Olsson reviews the changes, and the opinions of this report are modified or affirmed by Olsson.

The scope of this exploration did not include any environmental assessment for the presence of wetlands and/or hazardous or toxic materials in the soil or groundwater on or near the site. Any statements in this report regarding odors, discoloration, or suspicious conditions are strictly for the information of our client.

This report is based on generally accepted professional geotechnical engineering practice at the time of this report, within this geographic area. No warranty, express or implied, is intended or made. This report has been prepared for the exclusive use of our client and their authorized representatives for specific application to the discussed project.

APPENDIX A
Exploration Maps, Logs, and Information

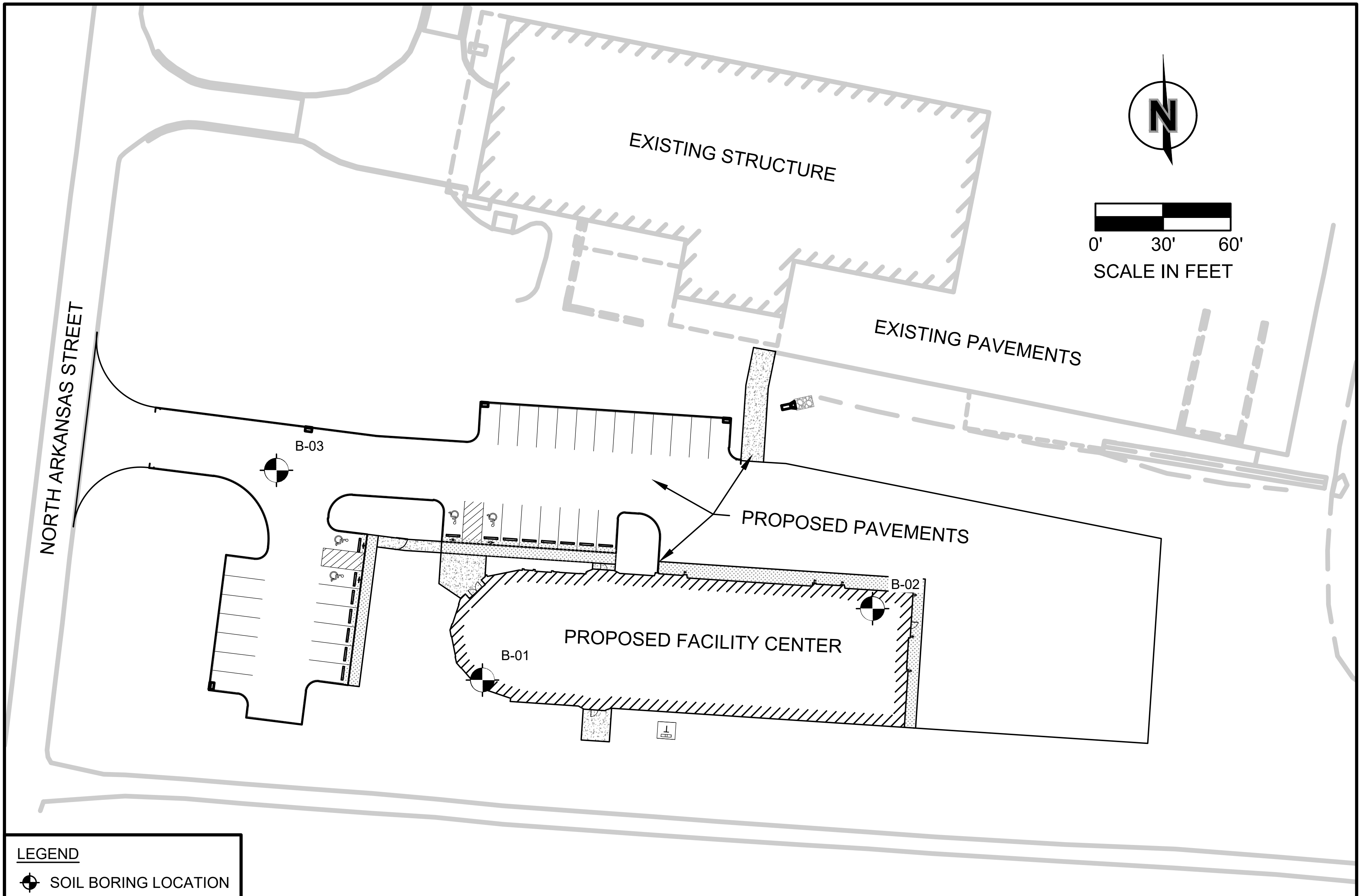
Field Exploration

Our drill crew advanced the borings for this exploration with a truck-mounted drill rig using continuous-flight augers. Boring locations were located in the field by the drill crew using a hand-held GPS unit. The approximate locations of the borings are shown on the Boring Location Map.

Samples were obtained using the methods and at the depths shown on the logs. Recovered samples were sealed in containers, labeled, and protected for transportation to the laboratory for testing.

We interpolated the ground surface elevation at the boring locations using a topographic map provided by Olsson. The surface elevations at the boring locations, rounded to the nearest half-foot, are presented on the boring logs.

The drill crew prepared field boring logs during drilling operations. The field logs include drilling and sampling methods, sampling intervals, groundwater measurements, and general descriptions of the observed soil conditions. The final boring logs represent our engineering interpretation of the field logs based on visual classification and laboratory testing of the collected samples.



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DATE: Jan 14, 2026 11:23am USER: rreynoldseast

PROJECT NO:	025-04961
DRAWN BY:	RARE
DATE:	01.14.2026

BORING LOCATION MAP
ROGERS RECYCLING CENTER
ROGERS, ARKANSAS

olsson®

BORING LOG NO. B-01

PROJECT NAME	CLIENT
Rogers Recycling Center	**deMX Architecture**
PROJECT NUMBER	LOCATION
025-04961	**Rogers, Arkansas**

LAT: 36.353024 LONG: -94.112095
APPROX. SURFACE ELEV. (ft):1364

ELEVATION (ft)	MATERIAL DESCRIPTION	GRAPHIC LOG	DEPTH (ft)	SAMPLE TYPE NUMBER	CLASSIFICATION (USCS)	BLOWS/6" (N-VALUE)	UNC STR (tsf)	MOISTURE (%)	DRY DENSITY (pcf)	LL/PI (%)	ADDITIONAL DATA/ REMARKS
	ROOT ZONE, 1-inch thick	0.1'									
	LEAN CLAY WITH SAND (CL), soft, brown, moist, trace roots	2.0'	1	SPT-1	CL	1-2-2 (4)		23.5		34/14	P-200 = 85%
	CLAYEY GRAVEL (GC), dense to very dense, reddish brown, moist, with chert fragments		2								
			3	SPT-2		6-19-20 (39)		27.0			
			4								
1359.0			5								
			6	SPT-3		29-27-23 (50)		34.2			
			7								
		8.5'	8								
	FAT CLAY (CH), very stiff, reddish brown, moist	10.0'	9	SPT-4		7-10-9 (19)		40.5			
1354.0	CLAYEY GRAVEL (GC), medium dense, reddish brown, moist		10								
			11								
			12								
			13								
		15.0'	14	SPT-5		5-12-8 (20)		37.0			
1349.0	**BASE OF BORING AT 15.0 FEET**		15								
			16								
			17								
			18								
			19								

WATER LEVEL OBSERVATIONS		
WD	▽	Not Encountered
IAD	▼	Not Encountered
AD	▼	Not Performed

olsson

STARTED:	Dec 23 2025	FINISHED:	Dec 23 2025
DRILL CO.:	Building & Earth	EQUIPMENT:	Geoprobe 7822
DRILLER:		LOGGED BY:	J. St. Pierre
METHOD:	Hollow Stem Auger		

BORING LOG NO. B-02

PROJECT NAME	CLIENT
Rogers Recycling Center	**deMX Architecture**
PROJECT NUMBER	LOCATION
025-04961	**Rogers, Arkansas**

LAT: 36.353121 LONG: -94.111510
APPROX. SURFACE ELEV. (ft):1366

ELEVATION (ft)	MATERIAL DESCRIPTION	DEPTH (ft)	SAMPLE TYPE NUMBER	CLASSIFICATION (USCS)	BLOWS/6" (N-VALUE)	UNC STR (tsf)	MOISTURE (%)	DRY DENSITY (pcf)	LL/PI (%)	ADDITIONAL DATA/ REMARKS
	ROOT ZONE, 1-inch thick	0.1'								
	LEAN CLAY (CL), soft, brown, moist, trace roots	1.0'								
	GRAVELLY LEAN CLAY (CL), medium stiff to very stiff, reddish brown, moist, with chert fragments	1–2	SPT-1		2-4-4 (8)		20.2			
		3–4	SPT-2		9-8-13 (21)		25.1			P-200 = 63%
1361.0		5.0'								
	FAT CLAY (CH), very stiff, reddish brown, moist	5–6.5	SPT-3	CH	5-9-16 (25)				74/45	
		6.5'								
	CLAYEY GRAVEL (GC), medium dense to very dense, reddish brown, moist	8.5–10	SPT-4		22-24-30 (54)		26.1			
1356.0		10								
		13.5–15	SPT-5		10-8-10 (18)		41.6			
1351.0		15.0'								
	BASE OF BORING AT 15.0 FEET									

WATER LEVEL OBSERVATIONS		
WD	▽	Not Encountered
IAD	▼	Not Encountered
AD	▼	Not Performed

STARTED:	Dec 23 2025	FINISHED:	Dec 23 2025
DRILL CO.:	Building & Earth	EQUIPMENT:	Geoprobe 7822
DRILLER:		LOGGED BY:	J. St. Pierre
METHOD:	Hollow Stem Auger		

BORING LOG NO. B-03

PROJECT NAME	CLIENT
Rogers Recycling Center	**deMX Architecture**
PROJECT NUMBER	LOCATION
025-04961	**Rogers, Arkansas**

LAT: 36.353274 LONG: -94.112412
APPROX. SURFACE ELEV. (ft):1362

ELEVATION (ft)	MATERIAL DESCRIPTION	GRAPHIC LOG	DEPTH (ft)	SAMPLE TYPE NUMBER	CLASSIFICATION (USCS)	BLOWS/6" (N-VALUE)	UNC STR (tsf)	MOISTURE (%)	DRY DENSITY (pcf)	LL/PI (%)	ADDITIONAL DATA/ REMARKS
	LEAN CLAY (CL), very soft, brown, moist, with organics (2.0')		0–2.0	SPT-1	CL	1-1-1 (2)		20.0		35/12	P-200 = 89%
	GRAVELLY LEAN CLAY (CL), hard, reddish brown, moist (3.5')		2.0–3.5	SPT-2		7-23-45 (68)		20.5			
1357.0	CLAYEY GRAVEL (GC), dense, reddish brown, moist (5.0')		3.5–5.0	SPT-3		23-33-14 (47)		24.2			
	BASE OF BORING AT 5.0 FEET										

Elevation scale: 1357.0 (5 ft), 1352.0 (10 ft), 1347.0 (15 ft). Depth scale: 1–19 ft.

WATER LEVEL OBSERVATIONS		
WD	▽	Not Encountered
IAD	▼	Not Encountered
AD	▼	Not Performed

olsson

STARTED:	Dec 23 2025	FINISHED:	Dec 23 2025
DRILL CO.:	Building & Earth	EQUIPMENT:	Geoprobe 7822
DRILLER:		LOGGED BY:	J. St. Pierre
METHOD:	Hollow Stem Auger		

APPENDIX B
Laboratory Test Results

SUMMARY OF LABORATORY RESULTS

PROJECT NAME: Rogers Recycling Center
PROJECT NUMBER: 025-04961
CLIENT: deMX Architecture
PROJECT LOCATION: Rogers, Arkansas

BORING NUMBER	SAMPLE ID	SAMPLE TYPE	SAMPLE DEPTH (FT)	MOISTURE CONTENT (%)	DRY DENSITY (PCF)	VOID RATIO	SATURATION (%)	UNCONFINED STRENGTH (tsf)	STRAIN (%)	ATTERBERG LIMITS			P-200	USCS CLASS
										LIQUID LIMIT	PLASTIC LIMIT	PLASTICITY INDEX		
B-01	1	SPT	0.5 - 2	23.5						34	20	14	85.0	CL
B-01	2	SPT	2.5 - 4	27.0										
B-01	3	SPT	5 - 6.5	34.2										
B-01	4	SPT	8.5 - 10	40.5										
B-01	5	SPT	13.5 - 15	37.0										
B-02	1	SPT	0.5 - 2	20.2										
B-02	2	SPT	2.5 - 4	25.1									63.0	
B-02	3	SPT	5 - 6.5							74	29	45		CH
B-02	4	SPT	8.5 - 10	26.1										
B-02	5	SPT	13.5 - 15	41.6										
B-03	1	SPT	0.5 - 2	20.0						35	23	12	89.0	CL
B-03	2	SPT	2 - 3.5	20.5										
B-03	3	SPT	3.5 - 5	24.2										

ROGERS RECYCLING CENTER

Rogers, Arkansas

January 2026

Olsson Project No. 025-04961

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 14967
ANDREW N. BEEKMAN

1/21/2026