Geotechnical Engineering Report

Walmart AMP Addition

5079 West Northgate Road
Rogers, Arkansas
GTS Project No. 26-15041

May 22, 2026

Prepared For:

Walton Arts Center
495 West Dickson Street
Fayetteville, Arkansas 72701

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GTS, Inc.
Geotechnical & Testing Services

May 22, 2026

Walton Arts Center
495 West Dickson Street
Fayetteville, Arkansas 72701

Through: Mr. Bob Pless, Executive Director, Facilities

RE: Geotechnical Engineering Report
Walmart AMP Addition
5079 West Northgate Road
Rogers, Arkansas
Project No. 26-15041

Mr. Pless:

This report contains the results of the subsurface exploration and geotechnical engineering analysis performed for a planned addition to the existing Walmart AMP, located at the real property addresses of 5079 West Northgate Road in Rogers, Arkansas. A general boundary outline of the evaluated property is shown in Figure 1 within this report.

We appreciate the opportunity to provide engineering services to you on this project. We encourage retaining GTS, Inc. to be involved in any pre-bid and pre-construction meetings to allow us to discuss the following findings and recommendations. Please contact us if the assumptions stated in this report are incorrect and/or if further explanation is required for portions of this report.

Sincerely,

GTS, Inc.
Geotechnical & Testing Services

Certificate of Authorization No. 1251, expires 12/31/2027

CERTIFICATE OF AUTHORIZATION
GTS, INC.
No. 1251
ARKANSAS

5/22/26

REGISTERED
PROFESSIONAL
ENGINEER
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Jeremy Hoffman
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PROJECT DESCRIPTION and INFORMATION

Introduction

Our services were performed in accordance with GTS Proposal No. GTS126044, authorized by Mr. Bob Pless with the Walton Arts Center on April 6, 2026. The intent of the authorized scope of services was to explore the subsurface soil/rock conditions at the project site in order to prepare recommendations for the future addition's foundations, slabs-on-grade, and mass grading.

It should be noted that GTS previously provided a "Geotechnical Engineering Report" within and/or near this site (reference GTS Project No. 18-1-5-204, dated November 2, 2018). The scope of services included performing 17 soil borings across the property, identified as Borings B-1 through B-9 and SB-1 through SB-8. 2018 Borings B-3, B-5, B-6, and SB-2 were located within or immediately adjacent to this project site and have been utilized in conjunction with the new boring locations, detailed below, to provide the geotechnical engineering recommendations provided in this report.

The scope of services for this report included evaluating the subsurface conditions at three (3) boring locations; identified as Borings NB-1 through NB-3. Borings NB-1 through NB-3 were located within the planned addition footprint and were advanced to depths of about 20 to 30 feet below existing grades. Soil and rock samples obtained from the borings were brought to our laboratory for further testing and analysis.

Our currently authorized scope of services is concluded with the issuance of this Geotechnical Engineering Report.

Project Site

The project site is located within the existing Walmart AMP facility, located at 5079 Northgate Road in Rogers, Arkansas. The planned development is located within a land parcel recognized as Parcel No. 02-22638-000 by Benton County, which has a total combined footprint area of about 6.18 acres.

The project site surface generally consisted of in-situ concrete and asphalt pavement areas associated with the existing Walmart AMP facility.

Based on elevation data available on Google Earth, the site slopes gently downhill from north to south, with about 1 foot of topographic relief over about 100 linear feet.

The general boundary of the site is outlined in yellow in Figure 1 on the following page.

Figure 1: General Boundary of the Project Site (Outlined in Yellow)

Planned Development

Our current understanding of the planned development is based on an email exchange and telephone conversation between Mr. Michael Collins of J.S. Held, LLC and Mr. David Berry, P.E. of GTS, Inc. (GTS) that took place on March 6, 2026. During the referenced correspondence, the following document was also provided to GTS:

- **One (2) page site plan excerpt, unsigned and dated January 2026.** Included an excerpt from a site layout plan for the project.

Planned development at the project site consists of a new building addition to the northern portion of the existing AMP facility. The planned addition will add a total footprint area of approximately 4,000 square feet and will be one story in height with a mezzanine on the east end of the structure. GTS anticipates the planned structure will be constructed utilizing structural steel framing with a concrete slab-on-grade and a suspended concrete slab (mezzanine area). An elevator is also understood to be constructed in association with the planned addition.

Based on email correspondence between Matthew Waidner, P.E. with TSW Engineers that took place on May 21, 2026, we understand that the planned addition will have maximum column loads of about 11 kips and maximum wall loads of about 2.7 kips per linear foot.

Planned Pavements

To our current understanding, no new pavements are planned in association with this project. As such, providing pavement recommendations is outside of our authorized scope of services.

Planned Site Grading

This report uses the terms “existing grade” and “finished subgrade”. Existing grade describes the site elevations at the time of our field drilling and sampling. Finished subgrade is used in this report to describe the Civil Engineer-designed top-of-soil elevations at the site upon completion of grading.

No site grading plans were provided to GTS prior to the issuance of this report. Based on the type of structure planned, we anticipate plan finished subgrade will generally match existing grades at the site, and little to no cut or fill will be required at the site.

If site grading plans differ significantly from our understanding, GTS should be allowed to review the site grading plans and potentially amend our recommendations for this development.

SUMMARY of SUBSURFACE FINDINGS

Site Geology

Based on available geologic maps, the project site is located in the geologic unit mapped as the Boone Formation (Mb). The following description of this unit was obtained from the Stratigraphic Summary of Arkansas (Arkansas Geological Commission IC-36, 2004):

> *The Boone consists of gray fine to coarse grained fossiliferous limestone interbedded with chert. Some sections may be predominantly limestone or chert. The cherts tend to be dark in color in the lower part of the sequence and light in color in the upper part of the section. The quantity of chert varies considerably both vertically and horizontally. The Boone is well known for dissolutional features such as sinkholes, caves, and enlarged fissures. The thickness of the Boone is 300 to 350 feet in most of northern Arkansas.*

The subsurface conditions encountered at our borings are consistent with this geologic formation.

Surface

At the time of our field exploration, the surface of the boring locations generally consisted of concrete pavement with underlying crushed aggregate material.

The encountered concrete was measured to be about 4 to 7 inches in thickness, while the underlying crushed aggregate material was measured to be about 6 inches in thickness at the performed boring locations.

Subsurface Conditions

Existing Fill

Existing fill materials were identified underlying the existing concrete pavement sections at Borings NB-1 through NB-3. The fill extended to depths of about 5 to 13 ½ feet below existing grades. The existing fill materials consisted of a combination of clays, sand- and gravel-based soils containing variable plasticity as well as variable clay, sand, and gravel (chert) content.

The existing fill materials had low to moderate, but generally moderate, shear strength at the time of drilling and sampling. Standard Penetration Test (SPT) N-values of 5 to 23 blows per foot of penetration (bpf) were recorded within the fill materials.

Stratum I – Sands and Gravels

A combination of presumed native sand- and gravel-based soils, each containing variable clay, sand, and gravel (chert) content, was encountered immediately below the existing fill material at each boring location. The Stratum I soils extended to the terminal depths of the performed boring locations at about 20 to 30 feet below existing grades.

These soils had moderate shear strength at the time of drilling and sampling. Standard Penetration Test (SPT) N-values of 15 to 33 bpf were recorded within the Stratum I soils at the performed boring locations.

Hard Drilling/Auger Refusal Depths

For the purposes of this report, “hard drilling conditions” are defined as any depth within a boring where a partial N-Value of 30 or more was achieved for any 6-inch increment during SPT sampling or where a complete N-value of 50 bpf or greater was encountered.

Hard drilling conditions and/or auger refusal material were not encountered at any of the performed boring locations, and all borings were drilled to their planned completion depths at about 20 to 30 feet below existing grade.

Water Measurements

The borings were observed for the presence of free water while drilling and immediately after boring completion. No water was observed in the boreholes at these times.

The depths to water are date-dependent measurements of groundwater levels at the time of the field exploration. We anticipate perched groundwater could form at the native soils/fill material interface or atop intact chert seams at the site. However, longer-term observations in piezometers or observation wells sealed from the influence of surface water are often required to define groundwater levels in these soil types. The installation and periodic measurement of monitoring wells would be required to establish seasonal piezometric surfaces below this project site.

GEOTECHNICAL ENGINEERING ANALYSIS

Geotechnical Considerations

Existing Fill

As stated previously, existing fill materials extended to depths between about 5 and 13 ½ feet below existing grades at the performed boring locations. The existing fill materials consisted of a combination of clays, sand- and gravel-based soils containing variable plasticity as well as variable clay, sand, and gravel (chert) content.

GTS has no information regarding the placement and compaction history of the existing fill material located at the site. However, based on the in-place strengths measured at the boring locations, it is the opinion of GTS that the majority of the existing fill material was likely placed following standard construction industry practices.

Because there can be variations in the thickness, quality, and composition of existing fill and given the potential for unsuitable materials to be buried within or under the existing fill, it should be recognized that there is assumed risk of unpredictable settlement and structural performance associated with constructing shallow foundations, on-grade slabs, and/or pavements over existing fill. This risk cannot be eliminated unless the full depth of the existing fill is removed and replaced with new, approved, select fill.

However, based on the shear strength encountered within the existing fill material, and our current understanding of planned loading for the new structure, we anticipate the existing fill material at the site will be suitable for supporting the planned addition provided the encountered subgrade soils are stable at the time of mass grading and construction and are generally free of deleterious material.

If the Client/Owner elects to take on this additional risk and leave the existing fill materials in-place for this development, the Client/Owner should understand that some premature surface distress and increased maintenance may occur in future improved areas supported above the existing fill. Again, this risk cannot be eliminated without completely removing and replacing the existing fill in the development areas with new fill, but the risk can be reduced by performing thorough testing and evaluation of the existing fill during construction.

Moisture-Sensitive Soils

The lean clays and clayey sands (Portion of Existing Fill and Stratum I) are susceptible to strength loss with increases in moisture content and/or when exposed to repetitive construction traffic. Ground improvement should be anticipated during wet periods of the year; therefore, it will be advantageous to perform earthwork operations during an extended period of dry weather.

Foundation Recommendations

Based on the subsurface conditions encountered at the boring locations, we recommend that the planned addition be supported on a shallow foundation system. The shallow foundation system should be designed as a conventional, open-trench foundations supported directly on native, moderate shear strength clays, sands, and gravels (Existing Fill), on new, tested and approved select fill material, placed and compacted above the approved native soils. Recommendations have been provided in Table 1 below.

Table 1: Footing Foundation Recommendations

Maximum Net Allowable Bearing Pressure (psf)	Bearing Soil Description	Depth to Bearing Soils
2,000 (continuous)	Moderate Shear Strength Clays/Sands/Gravels (Existing Fill) or New Select Fill Material[1]	Generally Anticipated Within 1 to 2 Feet Below Existing Grade at the Site
2,500 (column)		

[1] The recommended bearing stratum should be relatively undisturbed and have moderate shear strength. Foundation construction recommendations are provided in the Foundation Construction Recommendations section of this report.

An ultimate passive pressure of 550 psf may be used for footings cast directly against near-vertical sides in relatively undisturbed, native soils; in newly placed select fill material; or select fill compacted against the vertical footing face. Passive resistance for exterior footings should be neglected in the upper 2 feet of the soil profile unless pavement or sidewalks are constructed directly against the building exterior.

We recommend an ultimate coefficient of sliding friction of 0.32 for the interaction between the base of the footing and tested and approved bearing materials for soils. Total long-term and differential settlement of footing foundations bearing on soil materials, designed and constructed as recommended in this report and per the Mass Grading Recommendations section of this report, will be less than 1 inch, and ¾ inch in 50 feet, respectively.

Footing Foundation Construction Recommendations

General Dimensions

Continuous formed and isolated column foundations should have minimum widths of 18 inches and 30 inches, respectively. A minimum foundation depth of 18 inches below lowest adjoining final grades should be used to protect against frost heave.

Allowable Backfill Materials

Approved select fill material or aggregate base course may be used to backfill foundation over-excavations, if required, to reach suitable bearing soils in the building footprint. We recommend all foundation over-excavations be backfilled with similar material.

Specifications regarding these materials are shown in the Geotechnical Report Requirements and Specifications section of this report. Other backfill materials and alternative foundation support options can also be provided upon request.

Construction Guidelines

Foundation excavations should be cleaned of loose soils, debris, and water. Soils exposed at plan bearing depths should be evaluated by GTS prior to placement of approved backfill, reinforcing bar, and concrete. Relatively frequent control joints should be installed within any masonry or other movement-sensitive walls.

Where newly placed and compacted fill material is exposed at plan bottom of foundation elevations (if any), we recommend the fill be re-compacted with a jumping jack or similar type of compaction equipment and field-tested for in-place density and moisture content immediately before placement of reinforcing bar and concrete. We recommend that the approved soil fill material be tested for in-place density at each column location and every 25 linear feet of continuous foundation trench. The fill may be scarified, moisture conditioned and recompacted in place to reach the project specifications.

Where weak and unstable soils are encountered in the bottom of foundation trench excavations, these weak and unsuitable soils should be removed from the foundation trenches full-depth. After unsuitable soils are removed from the foundation trenches and stable soils are encountered, approved fill material may be placed as recommended in the Geotechnical Report Requirements and Specifications of this report.

Where chert rock is encountered at the bottom of foundation trench excavations, we recommend that these materials be over-excavated a minimum depth of 1 foot to allow for the placement of 1 foot of approved select fill material or aggregate base course material between the bottom of the shallow foundations and the chert material. This is due to the potential for differential settlement within the planned structure, as previously discussed in this report.

If select fill material or aggregate base is used to backfill foundation trench over-excavations, the over-excavation should extend at least 8 inches beyond the footing perimeter for every 12 inches of depth below the bottom of footing, per Figure 2. Select fill material and aggregate base should be placed and compacted as recommended in the Geotechnical Report Requirements and Specifications of this report.

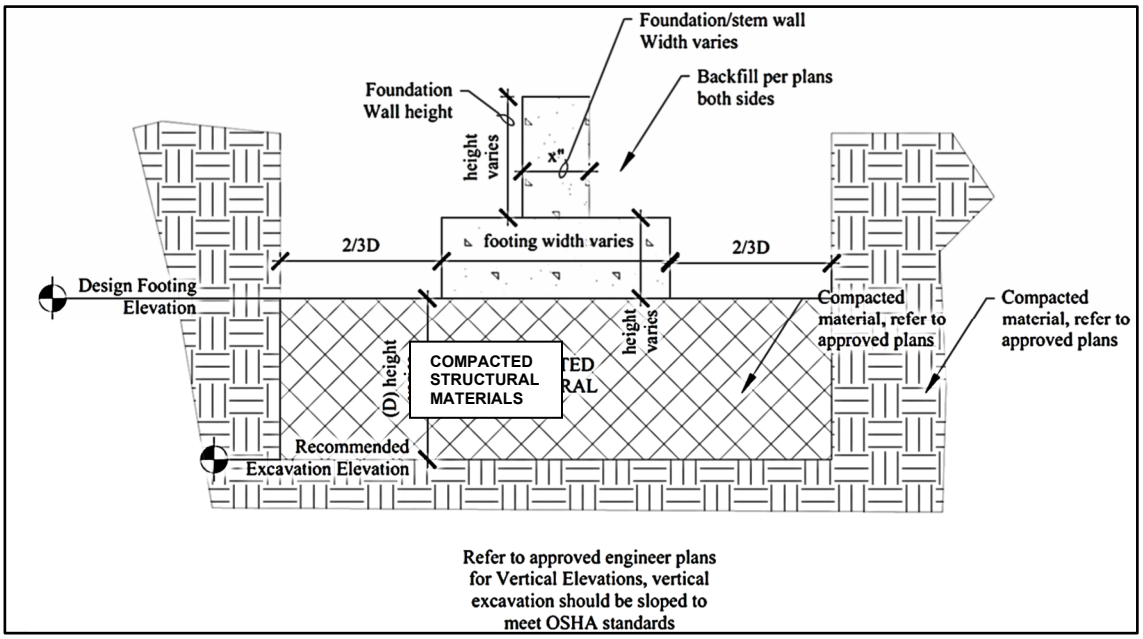

Figure 2: Foundation Trench Backfill Detail for Approved Soil Fill

Interaction Between New and Existing Structures

As-built information has not been provided to GTS, Inc. regarding the foundation type nor bearing depth of existing buildings at the project site. Care should be taken not to disturb the bearing soils beneath the existing building foundations. It is recommended that, where possible, excavations below existing footings not extend below an imaginary plane extending out and down from the outside edge of existing footings at a slope of approximately 2H:1V. Even with these criteria, excavations that extend below the level of existing foundations should be backfilled the same day they are excavated. Where this is impractical, shoring or underpinning of existing foundations may be required.

Some overlap in stress distribution from new and existing footings may occur, which may cause minor movement of the existing footings and supported structures. Maintaining a clear distance at least equal to the width of the new column spread footings between the edges of the new and existing footings could significantly reduce this risk. Connections between the new and existing structures should be designed to allow for the anticipated differential movement.

Floor Slab Support Recommendations

Support Recommendations

New floor slabs-on-grade should be supported on a minimum of 1 foot of new approved select fill material, placed and compacted above stable on-site soils in our to establish uniform bearing support. Additional fill material or processing is likely to be required to support new floor slabs if the on-site, native soils are weak and unstable.

Specific recommendations concerning construction of the floor slab subgrade, including the potential need for additional approved select fill to stabilize unstable subgrade soils, are provided in the Mass Grading Recommendations section of this report.

Floor Slab-On-Grade Design

Concrete floor slabs constructed as slab-on-grade and supported on a minimum 1-foot-thick layer of tested and approved select fill or on tested and approved, native Stratum I soils (prepared as recommended in this report) can be designed using a modulus of subgrade reaction (k) value of 150 pounds per square inch, per inch. We recommend that a minimum of 4 inches of free draining gravel or sand be placed beneath the slab-on-grade to act as a capillary break. This layer is termed a “subbase” layer.

To be effective as a capillary break, the subbase should have a maximum of 5 percent by dry weight passing the No. 200 sieve. The modulus of subgrade reaction value applies to the top of the subbase layer. The top of the subbase should be compacted using a vibratory plate.

If rutting of the subbase layer is a concern for concrete placement, the subbase layer may be topped with an additional 2 to 4 inches of gravel or sand having sufficient fines to allow compaction. The optional topping layer is termed the “base” layer. The base layer, if used, should be compacted to a minimum of 95 percent Standard Proctor maximum dry density (ASTM D698) at a workable moisture content that allows the density to be achieved. The base layer should have a percent passing the No. 100 sieve ranging from 10 to 30 percent by dry weight. ARDOT Class 7 Aggregate Base Course material is acceptable to use in the base layer.

A vapor barrier having a minimum thickness of 10 mil is recommended immediately below the concrete unless otherwise recommended by the finished flooring manufacturer or other members of the design team.

The general components of a floor slab, inclusive of the optional base course, are shown in Figure 3 on the following page. The shown reinforcing steel location provides general guidance only. The location and composition of reinforcing steel should be determined by a structural engineer.

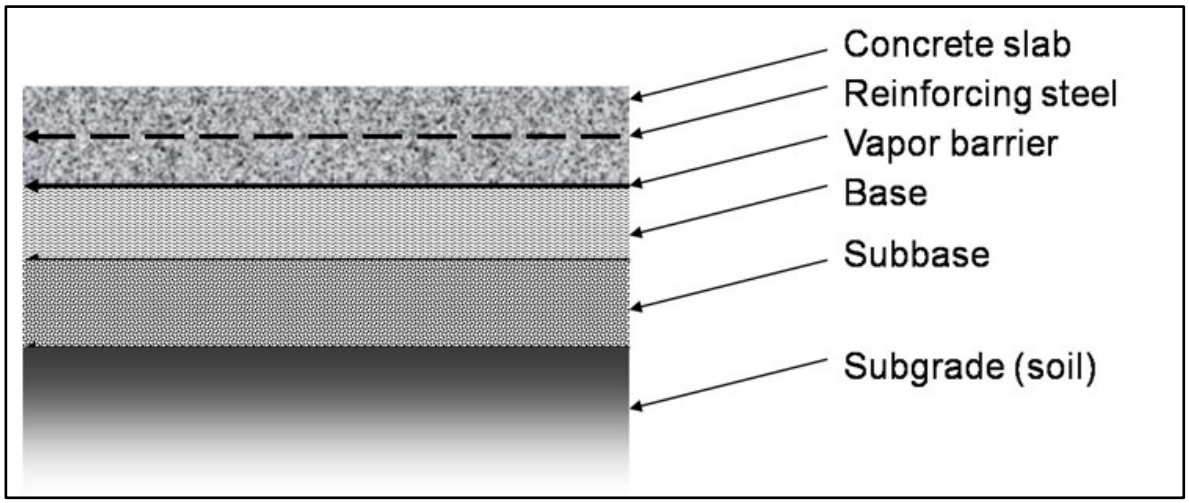

Figure 3: General Floor Slab-on-Grade Section

IBC Site Classification

Based on our knowledge of the reginal geology, the subsurface conditions encountered at the boring locations as well as the assumed site grading, the subsurface conditions are consistent with a Site Class D per the International Building Code (IBC), 2021 Edition.

The 2021 International Building Code (IBC) uses a site profile extending to a depth of 100 feet for seismic site classification. The deepest boring performed at this site was extended to a maximum depth of approximately 30 feet below existing grade. The subsurface conditions below the boring depth to 100 feet were estimated based on our experience and knowledge of geologic conditions of the general area. Additional deeper borings or geophysical testing may be performed to confirm the conditions below the current boring depth. These supplemental services could be provided upon request.

MASS GRADING RECOMMENDATIONS

Stripping of Surface Organics

Mass grading should extend a minimum of 5 feet outside of the building footprints and a minimum lateral distance of 2 feet behind back of curb in all directions.

Any remaining surface organics and/or silts (if present) should be removed from areas of planned development. Additionally, any remaining concrete pavements, asphalt pavements, and the underlying crushed aggregate material should be removed from areas of planned development. These materials may be stockpiled and potentially be reused as fill material, at the discretion of the design team. Based on our borings, we anticipate maximum removal depths of about 1 foot below existing grade will be required to remove the in-place concrete pavements and underlying crushed aggregate from the site. This depth does not include the depth to stump and grub any existing trees or root balls at the site.

It is our experience that properties with existing and pre-existing structures have a higher potential for encountering unknown conditions during mass grading and construction. These conditions include backfilled basements, trash pits, concrete foundations and underground utilities associated with the previous structures.

Buried utility lines should also be relocated or abandoned, as necessary. Excavations after removing buried utilities should be backfilled with new select fill as recommended in this report. Any abandoned utility lines not removed through excavation should be grouted and plugged.

General Mass Grading

After stripping surface materials, completing cuts for grading, and to allow for a minimum of 1 foot of approved fill material beneath planned floor slabs-on-grade (if necessary), but prior to placing new fill; the exposed soils should be evaluated for stability by GTS. The exposed soils should be evaluated for stability by observing overlapping passes with a loaded tandem-axle dump truck (i.e., proof-rolling) weighing at least 25 tons. If proof-rolling cannot be performed due to access limitations, GTS may evaluate the stability of the exposed soils through evaluation with an engineer's hand probe rod, static cone penetrometer, dynamic cone penetrometer or through the excavation of test pits.

If the exposed soils are stable they are suitable for directly supporting the placement and compaction of new fill material.

Where unstable soils are identified by proof-rolling or testing, they should be scarified, moisture conditioned and compacted. Alternatively, the unstable soils can be removed and replaced full depth with new select fill if they cannot be effectively improved in-place.

If the prepared subgrade material becomes saturated, desiccated, frozen, or otherwise damaged prior to construction of the floor slab section, the affected subgrade material should be scarified, moisture conditioned and compacted prior to placing the aggregate base course material. Final conditioning of the finished subgrade should be performed immediately prior to placement of the floor slab or pavement base course material.

Potential instabilities when on-site soils at the undercut depth are moist to wet are considered in the Weather and Instability Related Considerations report section.

Weather and Instability Considerations

Soil stability is directly related to the moisture within and below the exposed soils. If the near-surface lean clays and sands (portion of Stratum I) soils are moist to wet or have undergone freeze-thaw cycles after mass grading and/or placement and compaction, we expect that these soils will likely be unstable.

If the exposed subgrade soils are unstable but otherwise suitable to remain in-place based on their classification or depth below plan finish grades, they may be scarified and allowed to dry to achieve stability if the construction timeframe and prevailing weather conditions allow. Alternatively, the unstable soils could be undercut and replaced full depth with new approved soil fill. For budgeting purposes, an average undercut depth of about 2 feet below existing grade is anticipated when the on-site soils are moist to wet.

Bridging lifts may be considered **outside of the building footprints** to stabilize the soils if they remain unstable at the 2-foot undercut depth. To be clear, bridging lifts should not be used within the building footprints and should generally only be used in areas of planned pavement. We recommend that the use and construction of bridging lifts be overseen by GTS. The thickness of the bridging lift will depend on site conditions at the time of site grading and should be evaluated and recommended by GTS.

Other ground improvement methods, such as chemical stabilization with Portland cement or Class C fly ash or use of geotextiles/geogrids, could be provided during construction based on the actual site conditions at that time. The appropriate method of improvement, if required, would depend on factors such as schedule, weather, the size of area to be improved, and the nature of the instability. Performing site grading operations during warm, dry periods would help reduce the amount of subgrade stabilization required.

Fill Placement

Lifts of fill material required to reach plan finished subgrade elevations should be composed of tested and approved fill material and placed per the specifications shown in this report. Fill should be placed in near-horizontal lifts beginning in areas requiring the deepest amount of fill. The fill should be benched into the native soils each lift. Fill should not be placed on frozen, saturated, desiccated, or unstable soils. We recommend that fill material placed within the building footprint consist of select fill material.

Re-Use of On-Site Soils as Fill

The on-site existing fill material was comprised of a combination of materials that were suitable (lean clays, sands, gravels) and unsuitable (fat clays); however we do anticipate that these materials would likely be intermixed during mass grading or stockpiling, and the intermixed soils are anticipate to be suitable for reuse as fill material at the site provided these materials are crushed into fragments less than 3 inches in any dimension before re-use as fill material or during compaction breakdown. Additionally, we anticipate that the lean clay portion of these soils will also require stockpiling and extensive drying time before being suitable for reuse as fill material at the site.

The on-site native sands and gravels (Stratum I) are anticipated to be suitable for reuse as fill material; however, these materials will need to be broken down such that no piece is larger than 3 inches in any dimension. However, based on the depths to encounter these materials, we do not anticipate they will be a viable fill source for this project.

Soil classifications discussed in this report are based on approximately 2-inch diameter samples obtained during our field sampling. This type of sampling follows industry standards; however, this type of sampling can under- or over-estimate the amount of gravel within a soil formation.

Both on-site soils and any imported fill should also be tested and approved prior to use as fill on this site. Imported fill containing rock will need to be screened or crushed into pieces no greater than 3 inches in any dimension prior to reuse.

Utility Trench Backfill

All trench excavations should be made with sufficient working space to permit construction including backfill placement and compaction. Utility trenches are a common source of water infiltration and migration. If utility trenches are backfilled with relatively clean granular material, they should be capped with at least 18 inches of cohesive fill to reduce the infiltration and conveyance of surface water through the trench backfill.

Grading and Drainage

During construction, grades should be developed to direct surface water flow away from or around the site. Exposed subgrades should be sloped to provide positive drainage so that saturation of the subgrade is avoided. Surface water should not be permitted to accumulate on the site.

Final grades should be sloped away from the building and pavements on all sides to promote effective drainage and prevent water from ponding. Downspouts should discharge water a minimum of 10 feet beyond the footprint of the building. This can be accomplished through the use of splash-blocks and downspout extensions. Also, the interface between the building and

pavements or sidewalks should be effectively sealed to prevent water from infiltrating into the slab-on-grade and pavement subgrade.

Rock Excavation Potential

Based on the results of our borings, we do not anticipate rock excavation means and methods will be required above a depth of 20 to 30 feet below existing grades at the site.

Excavations

The contractor, by his contract, is usually responsible for designing and constructing stable, temporary excavations and should shore, slope or bench the sides of the excavations as required to maintain stability of the excavation sides and bottom. All excavations should comply with applicable local, state and federal safety regulations, including the current Occupational Safety and Health Administration (OSHA) Excavation and Trench Safety Standards.

GEOTECHNICAL REPORT REQUIREMENTS and SPECIFICATIONS

Unless otherwise stated in this report, the recommendations contained in this report are based on the compaction specifications and material types noted in Table 2, Table 3, and the paragraphs on the following page.

Table 2: Compaction Criteria

Type of Material	Moisture-Density Specification	Minimum Dry Density (percentage of Proctor)	Range from Optimum Moisture Content (%)
Soil Fill Material	ASTM D698 (Standard Proctor)	98	-1 to +3
Scarified and Recompacted On-Site Soils	ASTM D698 (Standard Proctor)	98	-1 to +3
ARDOT Class 7 Aggregate Base Course	ASTM D1557 (Modified Proctor)	95	Adequate to Achieve Compaction

Table 3: Soil Fill Material Requirements

Type of Soil Fill	Location/Use	Maximum LL	Maximum PI	USCS Classifications
Select Fill	All Areas	40[A]	18[A]	GM, GC, GP, SC, CL, Chert

A Plasticity requirements may be waived provided the fill has a minimum of 65% retained on the No. 200 sieve.

Fill material should have a maximum nominal aggregate size of 3 inches or less after placement and compaction. If there are questions regarding the effectiveness of compaction equipment breaking down the material, a test pad should be constructed using the rock fill material and observed by GTS during compaction.

Fill proposed for use in the top 1 foot of pavement subgrade should have a laboratory CBR value of at least 8.

Fill needed for site grading should be placed in loose lifts not exceeding 9 inches in thickness (compacted lift thickness of approximately 6 to 7 inches). We recommend the fill be tested for density every lift during site grading, with a minimum of one test every 2,500 square feet of building area and every 10,000 square feet of pavement area.

Where select fill or aggregate base course is used to backfill foundation overexcavations up to plan bottom of foundation elevations, the fill should be tested each lift, at each column location and every 25 linear feet of continuous foundation. Additionally, we recommend that the new fill material is tested for in-place density immediately before placement of reinforcing bar and concrete.

Flowable fill, if used to backfill foundation overexcavations, should have a minimum compressive strength of 400 psi, and should be tested for compressive strength each day of placement.

The recommended moisture content and compaction of the fill should be maintained until fills are completed and floor slabs and pavements are constructed.

SUBSURFACE EXPLORATION and PROCEDURES

The original scope of services included performing three (3) boring locations; identified as Borings NB-1 through NB-3. Borings NB-1 through NB-3 were located within the planned building addition footprint and were advanced to depths of about 20 to 30 feet below existing grades.

The boring locations were established in the field by GTS using a recreation-grade hand-held GPS unit. The approximate boring locations are shown on the attached Boring Location Diagrams in Appendix A. The locations and elevations of the borings should be considered accurate only to the degree implied by the methods used to define them. The results of the borings are attached to this report in Appendix A.

The borings were drilled with a track mounted Geoprobe 7822DT drill rig. Disturbed samples and estimates of the in-situ shear strengths of the soil were obtained using an automatic-hammer-driven split-barrel sampler in general accordance with the Standard Penetration Test (SPT) at the boring locations.

An automatic SPT-hammer was used to advance the split-barrel sampler in the boreholes. A significantly greater efficiency is achieved with the automatic hammer compared to the conventional safety hammer operated with a cathead and rope. This higher efficiency has an appreciable effect on the SPT-N value. The effect of the automatic hammer's efficiency has been considered in the interpretation and analysis of the subsurface information for this report.

The soil samples obtained in the field were sealed to reduce moisture loss and taken to the GTS soil laboratory for further examination, testing, and classification. The results of laboratory tests on select samples are shown on the boring logs and are provided in Appendix B.

Field logs were prepared during the drilling and sampling of the borings. These logs report sampling methods, sampling intervals, groundwater conditions, and notes regarding soil, drilling conditions observed between sample depths. The final boring logs, included in this report, have been prepared based on the field logs and have been modified, where appropriate, based on the results of the laboratory observation.

LABORATORY TESTING and PROCEDURES

The soil samples were examined in our laboratory by an experienced geotechnical engineer and classified based on the soil's texture and plasticity, in accordance with the Unified Soil Classification System. The estimated Unified Soil Classification System group symbols are shown on the boring logs.

The laboratory testing was performed by GTS in general accordance with the American Society for Testing and Materials (ASTM) test designations shown in Table 4.

Table 4: Laboratory Test Method Designations

Laboratory Test	Test Designation	
Moisture Content of Soil and Rock	ASTM D2216-10	Method A
Visual Classification of Soil Types	ASTM D2488	
Atterberg Limits	ASTM D4318	Method A
Sieve Analysis	ASTM D6913	Method A
USCS Classification	ASTM D2487	

GEOTECHNICAL REPORT LIMITATIONS

The recommendations contained in this report are based on our interpretation of subsurface conditions encountered at the discrete boring locations. Variations between the subsurface conditions anticipated in this report and actual project site conditions may occur away from the boring locations. If significant differences between the findings of the borings and site conditions are observed, GTS should be contacted to assess the variation and, if necessary, reevaluate the recommendations contained in this report. In addition, the involvement of GTS during site grading and foundation/floor slab construction is encouraged to note any differences between site conditions and anticipated conditions.

The recommendations contained in this report are based on the understood project described in the Project Description and Information section of this report. The recommendations should not be relied upon if the project description changes from the one noted in this report.

ENVIRONMENTAL EXCLUSION

A Geotechnical Engineering Report assesses the engineering properties of soil and rock. No environmental assessment of a project site is performed during a geotechnical exploration. If the owner is concerned about the potential for environmental hazards at the project site, additional studies should be performed by GTS.

APPENDIX A

Boring Location Diagram

Boring Logs

Soil Classification Legend

Walton Arts Center
Walmart AMP Addition
5079 West Northgate Road
Rogers, Arkansas
GTS Project No. 26-15041

Boring Location Diagram (Aerial Imagery taken 10/4/2025)

LOG OF BORING NO.NB-1

Walmart AMP Addition
5079 West Northgate Road
Rogers, Arkansas

GTS, Inc.
Geotechnical & Testing Services
Fayetteville, AR

Project No.: 26-15041 Location: Shown on attached Boring Location Diagram

DEPTH, FT	SYMBOL	SAMPLES	SAMPLE No.	RECOVERY (in.)	DESCRIPTION OF MATERIAL	USCS	%<#200	HAND PENETROMETER, TSF ■ / LAB. COHESION, TSF ▲ (0.4, 0.8, 1.2, 1.6) / WATER CONTENT, % ● PL — LL (20, 40, 60, 80)	BLOWS PER FT
					Surface Description= Concrete = 7 inches				
0					CONCRETE - 7 inches				
					CRUSHED GRAVEL - 6 inches				
			1	12	EXISTING FILL - predominantly brown and red, clayey gravel, with chert fragments			●	11
2.5			2	6		FILL		●	10
			3	6				●	10
5			4	0	- predominantly brown and red, moist, clayey sand, with chert fragments below about 5 feet			●	11
7.5									
			5	4		FILL	46	●——	7
10									
12.5									
			6	0	CLAYEY SAND, with gravel medium dense, red, with chert fragments			●	20
15						SC			
17.5									

COMPLETION DEPTH: 20 ft.
DATE: 4/29/2026
RIG: Geoprobe 7822DT, Track-Mounted, Auto Hammer Assisted

DEPTH TO WATER: DURING DRILLING: 5'
AT COMPLETION: N/A
AT 24 HOURS: Backfilled

LOG OF BORING NO.NB-1

Walmart AMP Addition
5079 West Northgate Road
Rogers, Arkansas

GTS, Inc.
Geotechnical & Testing Services
Fayetteville, AR

Project No.: 26-15041 Location: Shown on attached Boring Location Diagram

DEPTH, FT	SYMBOL	SAMPLES	SAMPLE No.	RECOVERY (in.)	DESCRIPTION OF MATERIAL	USCS	%<#200	HAND PENETROMETER, TSF ■ / LAB. COHESION, TSF ▲ (0.4, 0.8, 1.2, 1.6) / WATER CONTENT, % ● PL — LL (20, 40, 60, 80)	BLOWS PER FT
			7	8	CLAYEY SAND, with gravel (continued) medium dense, red, with chert fragments	SC			28
20					BOTTOM OF BORING AT ABOUT 20 FEET				
22.5									
25									
27.5									
30									
32.5									
35									

LOG OF BORING NO.NB-2

Walmart AMP Addition
5079 West Northgate Road
Rogers, Arkansas

GTS, Inc.
Geotechnical & Testing Services
Fayetteville, AR

Project No.: 26-15041 Location: Shown on attached Boring Location Diagram

DEPTH, FT	SYMBOL	SAMPLES	SAMPLE No.	RECOVERY (in.)	DESCRIPTION OF MATERIAL	USCS	%<#200	HAND PENETROMETER, TSF ■ / LAB. COHESION, TSF ▲ (0.4, 0.8, 1.2, 1.6) / WATER CONTENT, % ● PL — LL (20, 40, 60, 80)	BLOWS PER FT
					Surface Description= Concrete = 6 inches				
0					CONCRETE - 6 inches				
					CRUSHED GRAVEL - 6 inches				
			1	12	EXISTING FILL - predominantly red and gray, clayey gravel, with chert fragments	FILL		●	10
2.5			2	10	- a combination of red and gray, lean and fat clay, with chert fragments	FILL		●	13
			3	14				●	23
5			4	12	CLAYEY SAND, with gravel dense to medium dense, red and orange , with chert fragments	SC	46	●	33
7.5									
			5	16				●	15
10									
12.5									
			6	6				●	23
15									
17.5									

COMPLETION DEPTH: 20 ft.
DATE: 4/29/2026
RIG: Geoprobe 7822DT, Track-Mounted, Auto Hammer Assisted

DEPTH TO WATER: DURING DRILLING: Dry
AT COMPLETION: Dry
AT 24 HOURS: Backfilled

LOG OF BORING NO.NB-2

Walmart AMP Addition
5079 West Northgate Road
Rogers, Arkansas

GTS, Inc.
Geotechnical & Testing Services
Fayetteville, AR

Project No.: 26-15041 Location: Shown on attached Boring Location Diagram

DEPTH, FT	SYMBOL	SAMPLES	SAMPLE No.	RECOVERY (in.)	DESCRIPTION OF MATERIAL	USCS	%<#200	HAND PENETROMETER, TSF ■ / LAB. COHESION, TSF ▲ (0.4, 0.8, 1.2, 1.6) / WATER CONTENT, % ● PL — LL (20, 40, 60, 80)	BLOWS PER FT
			7	15	CLAYEY SAND, with gravel medium dense, red and orange, with chert fragments	SC			25
20					BOTTOM OF BORING AT ABOUT 20 FEET				
22.5									
25									
27.5									
30									
32.5									
35									

LOG OF BORING NO.NB-3

Walmart AMP Addition
5079 West Northgate Road
Rogers, Arkansas

GTS, Inc.
Geotechnical & Testing Services
Fayetteville, AR

Project No.: 26-15041 Location: Shown on attached Boring Location Diagram

DEPTH, FT	SYMBOL	SAMPLES	SAMPLE No.	RECOVERY (in.)	DESCRIPTION OF MATERIAL	USCS	%<#200	HAND PENETROMETER, TSF ■ / LAB. COHESION, TSF ▲ (0.4, 0.8, 1.2, 1.6) / WATER CONTENT, % ● (PL, LL; 20, 40, 60, 80)	BLOWS PER FT
0					Surface Description= Concrete = 4 inches				
					CONCRETE - 4 inches				
					CRUSHED GRAVEL - 6 inches				
			1	17	EXISTING FILL - predominantly brown, red, and gray, clayey gravel, with chert fragments				20
2.5			2	12					11
			3	10			84		8
5			4	17	- predominantly red and brown, lean and fay clay, with chert fragments	Fill			17
7.5									
			5	14					5
10									
12.5									
			6	1	SANDY GRAVEL dense, red, with chert layers/seams				33
15									
17.5									

COMPLETION DEPTH: 30 ft.
DATE: 4/28/2026
RIG: Geoprobe 7822DT, Track-Mounted, Auto Hammer Assisted

DEPTH TO WATER: DURING DRILLING: Dry
AT COMPLETION: Dry
AT 24 HOURS: Backfilled

LOG OF BORING NO.NB-3

Walmart AMP Addition
5079 West Northgate Road
Rogers, Arkansas

GTS, Inc.
Geotechnical & Testing Services
Fayetteville, AR

Project No.: 26-15041 Location: Shown on attached Boring Location Diagram

DEPTH, FT	SYMBOL	SAMPLES	SAMPLE No.	RECOVERY (in.)	DESCRIPTION OF MATERIAL	USCS	%<#200	HAND PENETROMETER, TSF ■ / LAB. COHESION, TSF ▲ (0.4, 0.8, 1.2, 1.6) / WATER CONTENT, % • (PL — LL; 20, 40, 60, 80)	BLOWS PER FT
					SANDY GRAVEL medium dense, red, with chert fragments	GP			
			7	8				•	25
20						GP			
22.5									
			8	16	CLAYEY GRAVEL, with sand medium dense, red and brown, with chert fragments	GC		•	28
25									
27.5									
			9	12				•	18
30					BOTTOM OF BORING AT ABOUT 30 FEET				
32.5									
35									

SOIL CLASSIFICATION LEGEND

APPARENT CONSISTENCY OF COHESIVE SOILS (PECK, HANSON & THORNBURN 1974, AASHTO 1988)				
Descriptor	**SPT N_{60} (blows/foot)***	**Pocket Penetrometer, Qp (tsf)**	**Torvane (tsf)**	**Field Approximation**
Very Soft	< 2	< 0.25	< 0.12	Easily penetrated several inches by fist
Soft	2 – 4	0.25 – 0.50	0.12 – 0.25	Easily penetrated several inches by thumb
Medium Stiff	5 – 7	0.50 – 1.0	0.25 – 0.50	Penetrated several inches by thumb w/moderate effort
Stiff	8 – 11	1.0 – 2.0	0.50 – 1.0	Readily indented by thumbnail
Very Stiff	12 – 29	2.0 – 4.0	1.0 – 2.0	Indented by thumb but penetrated only with great effort
Hard	≥ 30	> 4.0	> 2.0	Indented by thumbnail with difficulty

* Using SPT N_{60} is considered a crude approximation for cohesive soils.

APPARENT DENSITY OF COHESIONLESS SOILS (AASHTO 1988)	
Descriptor	**SPT N_{60} Value (blows/foot)**
Very Loose	0 – 3
Loose	4 – 8
Medium Dense	9 – 29
Dense	30 – 49
Very Dense	≥ 50

MOISTURE (ASTM D2488-06)	
Descriptor	**Criteria**
Dry	Absence of moisture, dusty, dry to the touch, well below optimum moisture content (per ASTM D698 or D1557)
Moist	Damp but no visible water
Wet	Visible free water, usually soil is below water table, well above optimum moisture content (per ASTM D698 or D1557)

PERCENT OR PROPORTION OF SOILS (ASTM D2488-06)	
Descriptor	**Criteria**
Trace	Particles are present but estimated < 5%
Few	5 – 10%
Little	15 – 25%
Some	30 – 45%
Mostly	50 – 100%
Percentages are estimated to nearest 5% in the field. Use "about" unless percentages are based on laboratory testing.	

SOIL PARTICLE SIZE (ASTM D2488-06)	
Descriptor	**Size**
Boulder	> 12 inches
Cobble	3 to 12 inches
Gravel - Coarse Fine	¾ inch to 3 inches No. 4 sieve to ¾ inch
Sand - Coarse Medium Fine	No. 10 to No. 4 sieve (4.75mm) No. 40 to No. 10 sieve (2mm) No. 200 to No. 40 sieve (.425mm)
Silt and Clay ("fines")	Passing No. 200 sieve (0.075mm)

UNIFIED SOIL CLASSIFICATION SYSTEM (ASTM D2488)				
Major Division			**Group Symbol**	**Description**
Coarse Grained Soils (more than 50% retained on #200 sieve)	**Gravel** (50% or more retained on No. 4 sieve)	Clean Gravel	GW	Well-graded gravels and gravel-sand mixtures, little or no fines
			GP	Poorly graded gravels and gravel-sand mixtures, little or no fines
		Gravel with fines	GM	Silty gravels and gravel-sand-silt mixtures
			GC	Clayey gravels and gravel-sand-clay mixtures
	Sand (> 50% passing No. 4 sieve)	Clean sand	SW	Well-graded sands and gravelly sands, little or no fines
			SP	Poorly-graded sands and gravelly sands, little or no fines
		Sand with fines	SM	Silty sands and sand-silt mixtures
			SC	Clayey sands and sand-clay mixtures
Fine Grained Soils (50% or more passing #200 sieve)	**Silt and Clay** (liquid limit < 50)		ML	Inorganic silts, rock flour and clayey silts
			CL	Inorganic clays of low-medium plasticity, gravelly, sandy & lean clays
			OL	Organic silts and organic silty clays of low plasticity
	Silt and Clay (liquid limit > 50)		MH	Inorganic silts and clayey silts
			CH	Inorganic clays or high plasticity, fat clays
			OH	Organic clays of medium to high plasticity
Highly Organic Soils			PT	Peat, muck and other highly organic soils

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GRAPHIC SYMBOL LEGEND		
SPT		Standard Penetration Test (2" OD), ASTM D1586
GRAB		Grab Sample
ST		Shelby Tube, ASTM D1587 (pushed)
AUGER		Boring Advanced Through Drilling
CORE		Rock coring

APPENDIX B

Results of Laboratory Classification Testing

GTS, Inc.
Geotechnical & Testing Services

1915 North Shiloh Drive
Fayetteville, Arkansas 72704

Office: (479) 521-7645

Office Locations

Fayetteville, Arkansas
Little Rock, Arkansas
Fort Smith, Arkansas
Tulsa, Oklahoma
Dallas, Texas

PROJECT: Walmart AMP Addition

DATE: 5/6/2026

JOB NO: 26-15041

BORING NO.	NB-1
SAMPLE NO.	S-5
DEPTH (FT)	8.5 to 10
PLASTIC LIMIT	18
LIQUID LIMIT	53
PLASTICITY INDEX	35

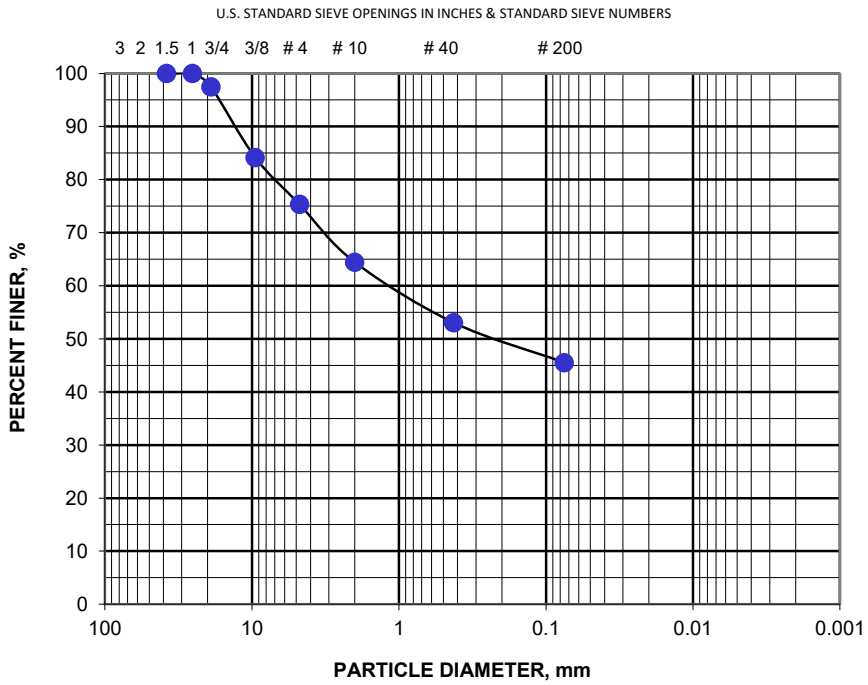
SIEVE SIZE	PERCENT PASSING
3.00"	100.0%
1.50"	100.0%
1.00"	100.0%
3/4"	97.5%
3/8"	84.2%
No. 4	75.4%
No. 10	64.5%
No. 40	53.1%
No. 200	45.5%

MOISTURE CONTENT (%) 23.7

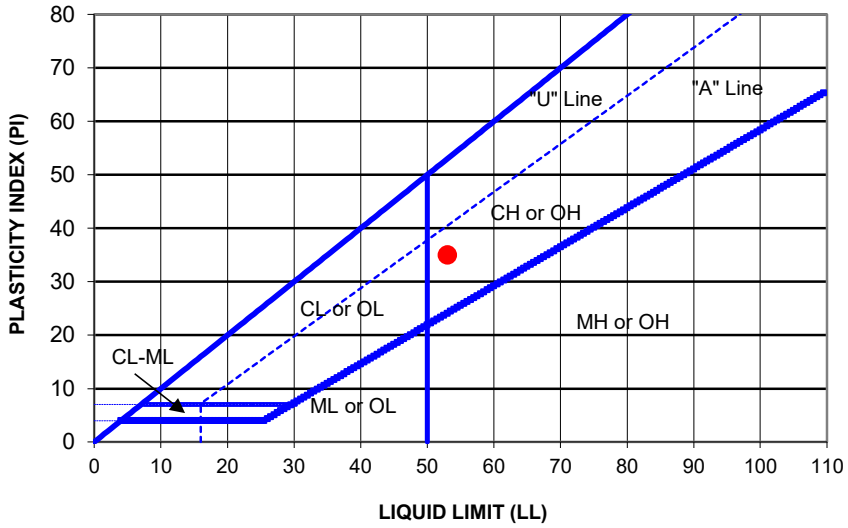
VISUAL DESCRIPTION	red and brown, with chert fragments

ASTM DESCRIPTION	AASHTO CLASSIFICATION	AASHTO GI
Clayey Sand with Gravel, SC	**A-7-6**	**11**

GRAIN SIZE DISTRIBUTION CURVE



PLASTICITY CHART



GTS, Inc.
Geotechnical & Testing Services

1915 North Shiloh Drive
Fayetteville, Arkansas 72704

Office: (479) 521-7645

Office Locations

Fayetteville, Arkansas
Little Rock, Arkansas
Fort Smith, Arkansas
Tulsa, Oklahoma
Dallas, Texas

PROJECT: Walmart AMP Addition

DATE: 5/6/2026

JOB NO: 26-15041

BORING NO.	NB-2
SAMPLE NO.	S-2
DEPTH (FT)	3.5 to 5
PLASTIC LIMIT	21
LIQUID LIMIT	64
PLASTICITY INDEX	43

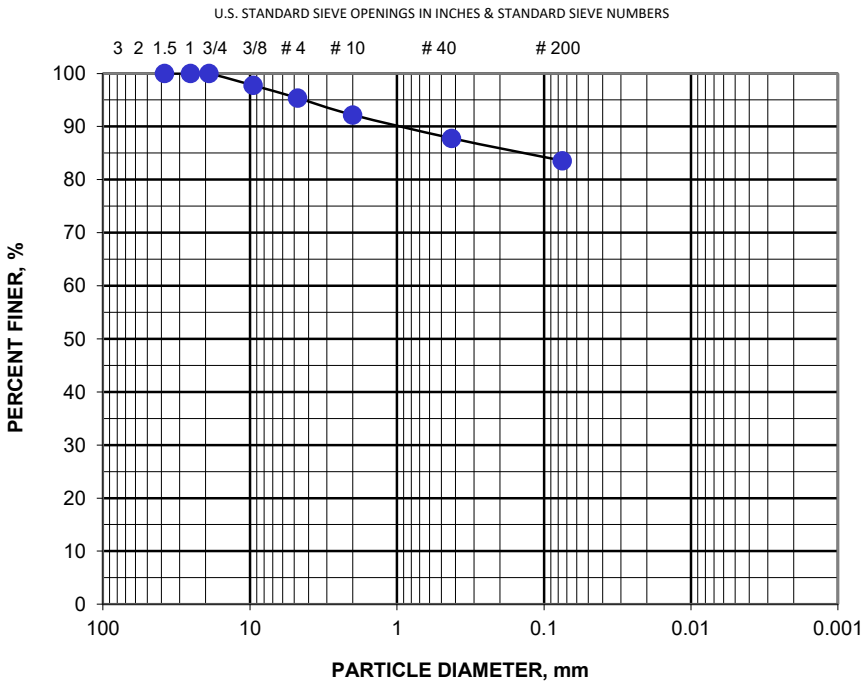
SIEVE SIZE	PERCENT PASSING
3.00"	100.0%
1.50"	100.0%
1.00"	100.0%
3/4"	100.0%
3/8"	97.8%
No. 4	95.4%
No. 10	92.2%
No. 40	87.8%
No. 200	83.6%

MOISTURE CONTENT (%) 34.9

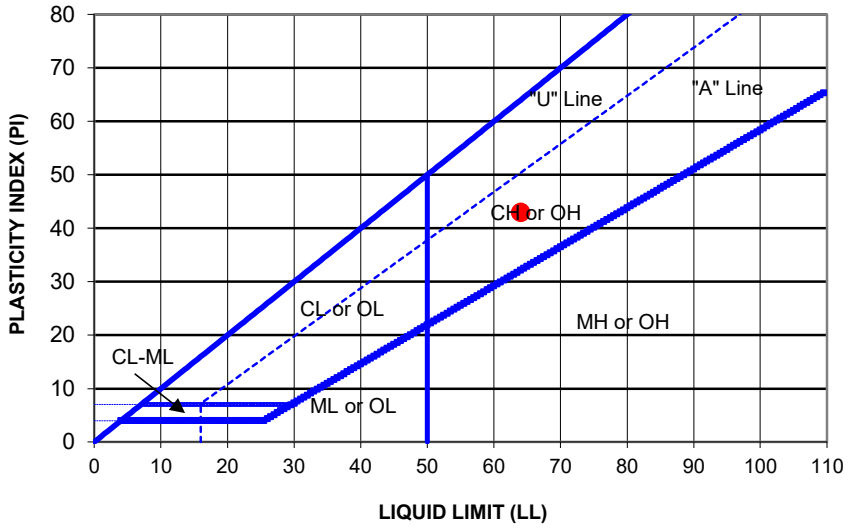
VISUAL DESCRIPTION	red and brown

ASTM DESCRIPTION	AASHTO CLASSIFICATION	AASHTO GI
Fat Clay with Sand, CH	**A-7-6**	**38**

GRAIN SIZE DISTRIBUTION CURVE



PLASTICITY CHART



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Tulsa, Oklahoma
Dallas, Texas

PROJECT: Walmart AMP Addition

DATE: 5/6/2026

JOB NO: 26-15041

BORING NO.	NB-2
SAMPLE NO.	S-5
DEPTH (FT)	8.5 to 10
PLASTIC LIMIT	26
LIQUID LIMIT	53
PLASTICITY INDEX	27

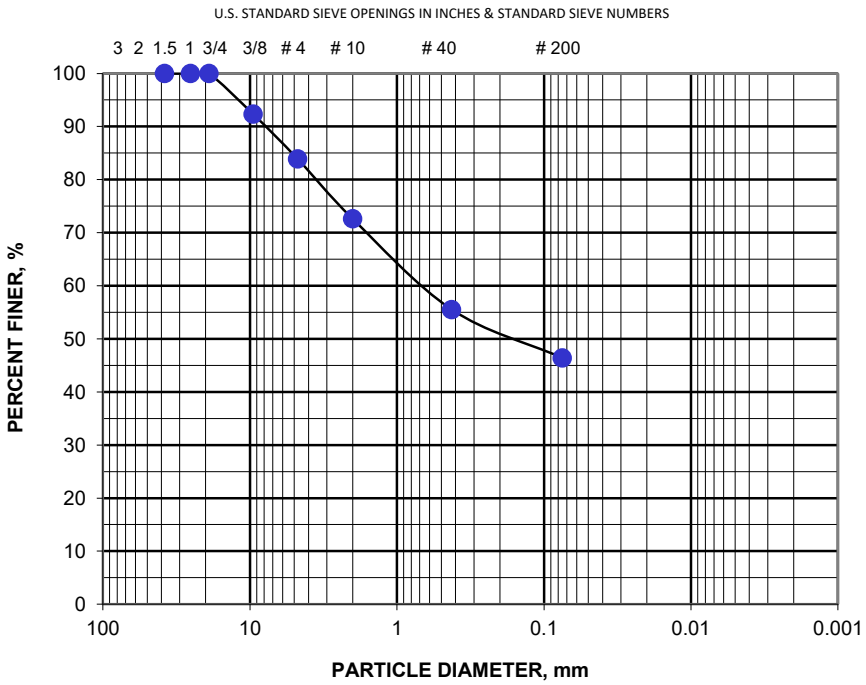
SIEVE SIZE	PERCENT PASSING
3.00"	100.0%
1.50"	100.0%
1.00"	100.0%
3/4"	100.0%
3/8"	92.3%
No. 4	83.9%
No. 10	72.6%
No. 40	55.5%
No. 200	46.4%

MOISTURE CONTENT (%) 47.0

VISUAL DESCRIPTION	red and orange, with chert fragments

ASTM DESCRIPTION	AASHTO CLASSIFICATION	AASHTO GI
Clayey Sand with Gravel, SC	**A-7-6**	**8**

GRAIN SIZE DISTRIBUTION CURVE



PLASTICITY CHART