GEOTECHNICAL EXPLORATION
CLERMONT COUNTY VETERANS VILLAGE
AMELIA, OHIO

Prepared for:

CLERMONT METROPOLITAN HOUSING AUTHORITY
ERROR! REFERENCE SOURCE NOT FOUND.

Prepared by:

UES
CINCINNATI, OHIO

Date: February 6, 2026

UES Project No.:

A25133.00696.000

SAFETY
TEAMWORK
RESPONSIVENESS
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February 6, 2026

Ms. Alicia Morlatt
Executive Director
Clermont Metropolitan Housing Authority
65 S Market Street
Batavia, Ohio 45103

Re: Geotechnical Exploration
Clermont County Veterans Village
Batavia, Ohio
Project No. A25133.00696.000

Dear Ms. Morlatt,

Presented in this report are the results of our geotechnical exploration completed for the Clermont County Veterans Village project in Amelia, Ohio. Our services were performed in general accordance with our Proposal A25133.00696.000, which was dated October 29, 2025 and authorized on November 19, 2025

We appreciate the opportunity to provide the geotechnical services for this project. If you have any questions regarding this report, or if we may be of any additional service to you, please do not hesitate to contact us.

Respectfully submitted,
UES PROFESSIONAL SOLUTIONS 25, LLC

Josh Weaver, EIT
Staff Engineer

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Geotechnical Department Manager

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Copies submitted: CMHA (email)

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1.0 INTRODUCTION

UES prepared this geotechnical exploration report for the Clermont Metropolitan Housing Authority (CMHA) for the Clermont County Veterans Village project located at 2139 State Route 125 in Amelia, Ohio. Our services documented in this report were provided in general accordance with the terms and scope of services described in our Proposal A25133.00696.000, which was dated October 29, 2025.

The purposes of the geotechnical exploration were to evaluate the general subsurface profile at the site and the engineering properties of the soils and bedrock; and to develop recommendations for the geotechnical aspects of the design and construction of the project, as defined in our proposal. Our scope of services included site reconnaissance, geotechnical borings, laboratory testing, engineering analyses, and preparation of this report. At this time, a proposed grading plan has not been provided. Recommendations provided in this report should be considered preliminary until review of the proposed grading plan with respect to the conditions encountered is reviewed by UES.

2.0 PROJECT INFORMATION

Our understanding of the project characteristics was derived from our correspondence with Model Group, as well as review of the provided Proposed Development Plan titled “2413-A Veterans Village Prelim Topo R3” and prepared by Creative Housing Solutions, LLC dated September 19, 2025.

We understand that the project will consist of a new residential development planned off of the south side of State Route 125, and to the east of the intersection between Whispering Woods Drive and State Route 125 in Amelia, Ohio. Based on review of the Preliminary Site Plan, the Clermont County Veterans Village development will include construction of: 1) 7 single-story one to two bedroom structures; 2) a pickle ball court; 3) a picnic shelter; and; 4) a single-story clubhouse building. In addition, a proposed roadway is planned to extend from State Route 125 to about 700 feet to the south. The proposed roadway provides access to the referenced structures and creates an oval shape the provides parking in the font of the structures. The proposed structures are generally positioned around the perimeter of the oval shaped roadway. UES assumes that the proposed structures will be slab on grade and planned to be supported with shallow depth spread type foundations. Proposed grading, finish-floor elevations, structural loads, etc. were not provided at this time; therefore, UES assumes excavations and/or fill of less than about 5 feet, and column, wall and floor slab loads of 150 kips,4 kips per foot, and 100 psf respectively.

3.0 SITE CONDITIONS AND GEOLOGY

The site is about 13 acres located on the south side of State Route 125 in Amelia, Ohio. At present, the site primarily consists of thickly wooded areas with the exception of a relatively open area at the north end of the site that contains an existing residential structre. Existing topography within the portion of the site planned for the structures generally ranges from about 864 within the central portion and slopes downward gently in all directions to near about elevation 858 to 852 feet amsl. Along the proposed access drive, the existing topography slopes downward to the north to an existing creek channel near about elevation 832 feet amsl.

According to Ohio Department of Natural Resources (ODNR) Ohio Geology Interactive Map, Illinoian age glacial (loam till) soils are present in the project site. The thickness of the overburden soil in the project area is estimated to be approximately 5 to 15 feet.

The underlying bedrock in the project area belongs to the Grant Lake Formation and Grant Lake Limestone Undifferentiated. These layers are comprised of interbedded shale and limestone and consist of approximately 50 to 80 percent shale and 20 to 50 percent limestone. The rock is described as gray to bluish gray and weathers light gray to yellowish gray. Bedding is thin to thick, irregular, can be planar, wavy, and nodular. The project area doesn't lie in a karst prone area. The potential geological hazards include toe cutting and erosion along the banks of natural drainages by water currents.

4.0 SUBSURFACE EXPLORATION

The subsurface exploration consisted of eleven (11) borings (numbered B-1 through B-11). The boring locations were selected by UES and were staked in the field by UES using a Real Time Kinetics (RTK) type GPS. The locations of the borings are shown on our Exploration Plan, which is included in Appendix A.

The borings were drilled on January 9, 2026 with an ATV drill rig advancing 2 ¼-inch inner diameter hollow stem augers (HSA), as indicated on the boring logs presented in Appendix B. Sampling of the overburden soils and bedrock was accomplished ahead of the augers at the depths indicated on the boring logs, with a 2-inch-outside-diameter (O.D.) split-barrel sampler in general accordance with the procedures outlined by ASTM D1586. Standard Penetration Tests (SPTs) were performed with the split-barrel sampler to obtain the standard penetration resistance or N-value[1] of the sampled material.

Observations for groundwater were made in the borings during drilling, and immediately at the completion of drilling.

A staff engineer from UES provided technical direction during the field exploration, observed drilling and sampling, assisted in obtaining samples, and prepared field logs of the material encountered.

Representative portions of the split-barrel samples were placed in glass jars with lids to preserve the in-situ moisture contents of the samples. The glass jars were marked and labeled in the field for identification when returned to our laboratory. The borings were backfilled with auger cuttings.

[1] The standard penetration resistance, or N-value, is defined as the number of blows required to drive the split-barrel sampler 12 inches with a 140-pound hammer falling 30 inches. Since the split-barrel sampler is driven 18 inches or until refusal, the blows for the first 6 inches are for seating the sampler, and the number of blows for the final 12 inches is the N-value, which is reported as blows per foot (or bpf). Additionally, "refusal" of the split-barrel sampler occurs when the sampler is driven less than 6 inches with 50 blows of the hammer.

5.0 LABORATORY REVIEW AND TESTING

Upon completion of the fieldwork, the samples recovered from the borings were transported to our Soil Mechanics Laboratory, where they were visually reviewed and classified by the Project Geotechnical Engineer.

Laboratory testing was performed on selected soil samples to estimate engineering and index properties. Laboratory testing of the selected soil samples included various combinations of the following tests: moisture content and Atterberg Limits. The results of these tests are summarized in the Tabulation of Laboratory Tests in Appendix D. Additionally, the results of laboratory tests are presented on the boring logs included within Appendix B.

The boring logs, which are included in Appendix B, were prepared by the Project Geotechnical Engineer based on the field logs, the visual classification of the soil samples in the laboratory, and the laboratory test results. Soil Classification Sheets are also included in Appendix B, which describe the terms and symbols used on the boring logs.

6.0 SUBSURFACE CONDITIONS

6.1 Stratification

Generally, the site is capped with a surficial layer of topsoil underlain by stiff to very stiff natural glacial soils, and residuum, which overlies shale bedrock.. Weak natural soils were present at/near the existing creek channel within isolated Boring B-10. Groundwater was encountered at Boring B-1 at a deph of about 13.5 feet. More specific descriptions of the subsurface conditions are provided in the subsections below, and on the boring logs containing detailed material descriptions are located in Appendix B.

6.1.1 Topsoil

Topsoil was encountered in each of the borings. The thickness of the topsoil varied from about 6 inches to 8 inches. Given the site is wooded, actual topsoil thicknesses and/or presence of highly organic soil, roots, etc., is expected to vary across the entire site and may exceed the thicknesses measured at the boring locations.

6.1.2 Sediments

Sediments deposited by flowing water were encountered in Boring B-10 beneath the topsoil and extended to a depth of about 3.0 feet below the existing ground surface. The sediment layer was described as soft high plasticity fat clay. It is expected that this sediment soil will be present along/near majority of the existing creek channel.

6.1.3 Glacial Soils

Glacial soils (or glacial till) are soils that have been deposited, transported, or reworked in place by the advancement or retreat of a glacier across the area. Glacial gouge is a type of glacial till that typically refers to till that involves the glacier “gouging” into the underlying bedrock and mixing the “gouged” bedrock with the other soils and debris that are being transported by the advancement of the glacier. In general, glacial gouge includes a mixture of shale and limestone fragments, which may be sub-angular or sub-rounded by the gouging process, with clays, silty clays, sands, and gravels.

Glacial soils were encountered beneath the existing topsoil or sediments in each of the borings and extended to depths of about 2 to 13.9 feet. Generally, the glacial soils were cohesive soils described as very stiff moderate plasticity lean clay containing various amounts of sand and gravel. At Boring B-1, glacial till classified as Fat Clay was present between depths of about 3 and 8 feet. In Boring B-7, a layer of gravel, sand, and rock fragments was present from approximate depth of 11.7 to 13.9 feet. SPT N-Values of the cohesive glacial soils ranged overall from 9 to 41 blows per foot (bpf) with unconfined compressive strengths of 1.25 to greater than 4 tons per square foot (tsf) were recorded using a Hand Penetrometer indicating a stiff to very stiff consistency.

Three glacial soil samples were classified in the laboratory using Atterberg Limits tests. Among them two were lean clay (CL) and one was fat clay (CH). Liquid Limits (LL) of the cohesive soils were 51, 40 and 35 percent with corresponding Plasticity Indices (PI) of 30, 20, and 14 percent. Natural moisture contents were variable and recorded to range from about 9 to 25 percent.

6.1.4 Residuum

Residual soils (or residuum) are soils that have formed by the in-situ weathering of the underlying bedrock into a soil. Occasionally, layers of the bedrock (i.e., shale or limestone layers) may be encountered within the residual soils.

Residual soils were encountered in most borings beneath the glacial soils at depths of about 2 to 8 feet, and extended to the top of the bedrock surface. The residual soils encountered in the borings were very stiff to hard lean clay. Many of the residual soil samples obtained contained few to many rock fragments. SPT N-Values of the residuum soils ranged overall from 15 to 45 bpf and unconfined compressive strengths of 2 to in excess of 4.5 tsf were recorded using a Hand Penetrometer indicating very stiff to hard consistency. Atterberg Limits tests performed on samples of the residual soil yielded Liquid Limits of 23 and 45 percent, Plastic Limits of 14 and 19 percent with corresponding Plasticity Indices ranging from 19 to 26 percent.

6.1.5 Bedrock:

Bedrock was encountered and visually confirmed through SPT sampling in two of the eleven borings. The bedrock was encountered at depths ranging from 12 to 14 ft. below the existing ground surface in borings B-1, B-2, B-4, B-6, and B-7. Bedrock was encountered at depths ranging from 3 to 6 feet below the existing ground surface in borings B-3, B-10, and B-11. No bedrock was recovered during exploration in B-5, B-8 and B-9. The bedrock was described as a brown to gray weathered shale with limestone layers.

6.2 Groundwater Conditions

As mentioned in Section 4.0, groundwater observations were made in the borings at the time of our exploration. Groundwater was encountered in Boring B-1 at a depth of about 13.5 feet during drilling and at about 11.5 feet at the completion of drilling. The remainder of the borings did not encounter groundwater at the time of drilling.

While a significant amount of groundwater was not encountered during the field exploration, It is common to encounter groundwater seepage or perched groundwater within interbedded granular layers in the glacial till, overburden soil/bedrock interface, and fractures within the bedrock. Additionally, groundwater levels and seepage amounts are expected to vary with time, location, season of the year, amounts of precipitation and water level in nearby natural drainages or creeks. Groundwater fluctuations should be considered during the design and construction of the project.

7.0 GEOTECHNICAL CONCLUSIONS/DISCUSSION

Based on our engineering reconnaissance of the site, the borings, the visual examination of the recovered samples, the laboratory test results, our understanding of the proposed project, our engineering analyses, and our experience as Geotechnical Engineers in the Greater Cincinnati Area, UES concludes that the site appears suitable to support the proposed Veterans Village development. In general, proposed earthwork construction can be completed using conventional means and methods and new structures can be supported using shallow depth spread foundations bearing at conventional depths. However, it is UES opinion that the following items will have an impact on the proposed development and construction of the project: 1) the presence of dense woods and vegetation will likely require deeper stripping depths to remove slightly organic soil and root bulbs; 2) earthwork and/or building construction on or near the existing slopes associated with the existing creek channel will require specific earthwork and foundation construction considerations to prevent slope instability; 3) the weak sediment soils encountered along the creek channel are considered unsuitable for new fill placement and/or foundation support for a culvert crossing, embankment fill, etc.; and, 4) the presence of relatively shallow bedrock could have an impact on excavation activities at the site. Additional discussion with respect to the items noted above are provided in the subsections below.

7.1 Site Stripping

The root matted topsoil thickness was measured to range from about 6 to 8 inches across the site. Given the wooded nature of the site, UES concludes that site stripping depths may exceed the root matted thickness of 6 to 8 inches to remove root bulbs and underlying highly organic soil that may be present in and around root systems, heavy vegetated areas, etc. For planning purposes, a stripping depth of up to 12 inches should be expected with localized areas extending potentially to 18 inches or more.

7.2 Construction Along Slopes

Based on the existing grades and proposed site layout, UES expects that earthwork construction will be performed along the existing slopes in order to establish the proposed subgrade for the planned creek crossing and/or to establish the proposed finish grade for the two buildings planned near the crest of the existing slope (i.e., the buildings within the vicinity of Borings B-6 and B-7). While the proposed site grades are not known, it should be expected that earthwork performed along the existing slopes will likely require toe key excavations into very stiff to hard residual soil or weathered bedrock to initiate new fill slopes, benching new fill into the existing slopes and potentially require the installation of subsurface drainage (i.e., blanket drains or bench drains) if groundwater or seepage is encountered. In addition, the two structures currently planned along the crest of the existing slope may require deeper foundation embedment and/or a minimum setback distance to reduce the potential for slope instability depending on the proposed grades, finish floor elevation, etc. Once the grading plan is available for the site, UES should review in order to provide specific recommendations pertaining to fill slope construction, subsurface drainage and foundation recommendations for structures along the crest of slopes.

7.3 Weak Sediment Soils

Boring B-10 was performed near the embankment of the existing creek channel. Based on the findings, there is about 3 feet of soft silt/sediment material present that will need to be removed prior to placing new fill and/or prior to constructing foundations or structures associated with a culvert and/or bridge crossing. As a result, UES recommends including some contingency budget/allowance for over-excavations to remove soft sediment materials from along the existing creek channel in the proposed development areas.

7.4 Shallow Bedrock

Weathered shale bedrock was generally present around 10 feet of the existing ground surface; however, was present within about 3 to 5 feet of the ground surface at Borings B-3, B-10 and B-11. Based on the proposed grading, it is possible that bedrock excavations may be required to install below grade utilities, foundations, etc. In general, the upper portion of the bedrock is relatively weathered and soft and should be able to be excavated with a large hydraulic track hoe. However, for excavations that will need to extend several feet into bedrock may require special or advanced bedrock removal techniques such as rock hammering or trenching.

8.0 GEOTECHNICAL RECOMMENDATIONS

Our geotechnical engineering design and construction recommendations for the project are provided in the following sub sections. Please note the recommendations contained herein should be considered preliminary until a final grading plan, site layout, finish floor elevations, etc. are made available for review by UES.

8.1 Excavation Support

Excavation support should be the responsibility of the Contractor. Excavation support should be designed and implemented such that excavations are adequately ventilated and braced, shored, and/or sloped in order to protect and ensure the safety of workers within and near the excavations and to protect adjacent ground, slopes, structures, and infrastructure. Federal, state, and local safety regulations should be satisfied. The analyses, discussions, conclusions, and recommendations throughout this report are not to be interpreted as pre-engineering compliance with any safety regulation.

Normal earth excavation equipment should be suitable for excavation operations that are associated with the overburden soils and upper portion of the bedrock. All excavations should comply with OSHA requirements. For below-grade excavations, the natural cohesive soils should be classified as an OSHA Type A soil with slope excavations of 0.75H:1V. Temporary excavations extending more than 20 feet need to be reviewed, approved and/or designed by a licensed engineer. If groundwater is encountered or soils are overly wet, UES should be contacted to evaluate excavations. If soil types other than what had been mentioned above are encountered, UES should also be contacted to evaluate stability.

8.2 Site Preparation and Earthwork

As stated in Section 2.0, proposed grading was not provided at the time of this report; we anticipate that relatively minimal earthwork will be required to achieve proposed grades for much of the site with the exception of the proposed creek crossing that may require more substantial earthwork construction.

The initial preparation of the site for grading should include the removal of trees, vegetation, heavy root systems, and topsoil from the proposed cut, fill, pavement, and structure areas. The topsoil and highly organic soil may be stockpiled for future use in landscaped areas, if permitted by specification, whereas the vegetation, including the heavy root systems, should be disposed of off-site in accordance with applicable regulations.

In addition, UES assumes that the existing residential structure will be demolished. UES recommends that any existing structures, utilities, etc. located within the limits of proposed structures or roadways, including a 10 feet wide buffer, be completely removed and the demolition debris hauled off to an appropriate landfill or stockpiled at the site if approved by the owner. UES should review the demolition activities after completion to confirm the suitability of the soils exposed by the demolition. UES recommends that excavations associated with demolition activities be backfilled with engineered fill meeting the requirements of this report.

8.2.1 Undercutting and Subgrade Preparation

Following clearing and stripping the site of existing vegetation and topsoil and site demolition activities, the exposed subgrade within structure, pavement, and proposed fill areas should be thoroughly proof rolled using a heavily loaded piece of equipment (e.g., a loaded tandem-axle dump truck weighing at least 40,000 pounds) under the review of the Project Geotechnical Engineer, or a representative thereof. Although not anticipated, soft or yielding soils observed during the proof rolling should be undercut to stiff, non-yielding, cohesive soils or medium dense to dense, well-graded, cohesionless soils.

Where undercuts are performed, the excavations should be backfilled with new compacted fill satisfying the material and compaction requirements presented in Section 8.2.2. The undercut soils may be reused provided that they conform to the recommendations contained in this report regarding acceptable fill materials. We recommend that the Contract Documents include a bid item for the recommended undercutting, as deemed necessary, and the replacement with new compacted and tested fill on a "per cubic yard of in-place compacted fill" basis.

8.2.2 Fill Materials, Placement, and Compaction

New fill materials should consist of approved on-site, non-organic, granular or clayey soils or approved borrow material including dense-graded aggregate (DGA or ODOT 304) or low plasticity clays (LL<50 and PI< 25) that are relatively free of topsoil, vegetation, trash, frozen materials, particles over 6 inches in maximum dimension, or other deleterious materials.

Table 1. Percent compaction and moisture-conditioning recommendations for fill and backfill.

Area	Minimum Percent Compaction [a]	Acceptable Moisture Content Range [b]
Structural [c]	98% of SPMDD	-2% to +3% of OMC
Non-structural	95% of SPMDD	-2% to +3% of OMC
Floor slab subgrade	98% of SPMDD	-2% to +3% of OMC
Pavement subgrade: ≤ 12 inches below subgrade	98% of SPMDD	±2% of OMC

Notes:
[a] SPMDD = standard Proctor maximum dry density determined from ASTM D698.
[b] OMC = optimum moisture content determined from ASTM D698.
[c] Structural fill and backfill for foundations are defined as fill and backfill located within the zones of influence of structures. The zone of influence of a structure is defined as the area below the footprint of the structure and 2H:1V outward and downward projections from the bearing elevation of the structure.

The fill should be placed in shallow level lifts (or layers), 6 to 8 inches in loose thickness. Each lift should be moisture-conditioned to within the acceptable moisture content range provided Table 1 and compacted with a sheepsfoot (clayey soils) roller, smooth drum vibratory roller (granular soils), or self-propelled compactor to at least the minimum percent compaction indicated in the same table. Moisture-conditioning may include: aeration and drying of wetter soils; wetting of drier soils; and/or thoroughly mixing wetter and drier soils into a uniform mixture.

8.2.3 Earthwork Design and Construction Considerations

We recommend that the permanent cut and fill slopes for this project be designed not steeper than 3H:1V. Any new fill placed along existing sloping ground surface having a gradient of 10H:1V or steeper must be benched into the existing slope. Each bench should have a minimum width of 5 feet or as needed to accommodate compaction equipment and expose very stiff natural soils or bedrock throughout the bench. Depending on the proposed grading, a toe key excavation may be required at the base of proposed fill slopes. For this, the toe key excavation should be about 10 feet wide and extend at least 2 feet into the underlying shale bedrock. If groundwater or seepage is encountered during toe key or benching activities, the geotechnical engineer should be contacted to provide subsurface drainage recommendations.

Gentler slopes (flatter than 3H:1V) should be used whenever possible for ease of maintenance. Additionally, we recommend that the fill slopes be slightly overbuilt and then trimmed back to the design slope to achieve a well-compacted surface. Silt and/or sand soils should also be excluded from the surficial 5 feet of the fill slopes, as these materials are more susceptible to erosion.

Experience indicates that the overburden soils and upper portion of the shale bedrock can be excavated with conventional earthwork construction equipment (i.e., dozers, hoes, loaders, scrapers, etc.). For excavations that will extend several feet into the bedrock may require more advanced rock removal techniques such as hydraulic hammering or ripping. Maintaining the moisture content of bearing and subgrade soils within the acceptable ranges provided in Table 1 is very important during and after construction for the proposed structures. The clayey bearing and subgrade soils should not be allowed to become excessively wet or dried during or after construction, and measures should be taken to prevent water from ponding on these soils and to prevent these soils from desiccating during dry weather.

Groundwater is not expected to have a significant impact on the proposed site grading, but may impact excavating and backfilling of the deeper excavations. Consequently, the Contractor must be prepared to dewater the site and to remove groundwater flow and seepage that accumulates in excavations, on fill surfaces, or at subgrade levels.

Positive drainage should be established to promote the rapid drainage of surface water away from the proposed structures and to prevent the ponding of water adjacent to these structures. Finish grading in grass and landscaped areas should be sloped down and away from the structures at 10 percent for at least 10 feet, and then at a gradient of at least 2 percent beyond the initial 10 feet from the structures. Proposed pavements should drain away from the structures at a minimum of 2 percent. The final grades should direct the surface water to stormwater collection systems.

Due to the moisture-sensitivity of placing clay soils as fill, we recommend that the earthwork operations be carried out during the drier season of the year and that a sufficient gradient be maintained at the ground surface to prevent ponding of surface water. In our experience, the weather conditions are historically more favorable for earthwork during the months of May through October in southern Ohio. Regardless of the time of year, asphalt, concrete, or fill should not be placed over frozen or saturated soils, and frozen or saturated soils should not be used as compacted fill or backfill.

Best management practices (BMPs) should be implemented to reduce the effects of erosion and the siltation of adjacent properties. Upon completion of earthwork, disturbed areas should be stabilized. It is also recommended that riprap and/or suitable armoring be used at the outlets of storm sewers and headwalls to reduce flow velocities and protect against erosion.

8.3 Foundation Design and Construction

As discussed in Section 7.0, the proposed residential structures, club house, etc. can be supported atop shallow depth spread foundations bearing on stiff to very stiff natural soil. For the two proposed buildings (i.e., within the vicinity of Borings B-6 and B-7) located along/near the existing slope, a deeper foundation embedment may be required to prevent slope instability and/or lateral movement of the foundations. UES can provide additional foundation recommendations for these two structures once a final grading plan is available. Shallow foundation recommendations are provided below..

8.3.1 Shallow Foundations

Conventional spread foundations can be considered for the future buildings to bear directly atop stiff natural soil.. Spread foundations bearing on stiff natural soil can be designed for a maximum net allowable bearing pressure of 3,000 pounds per square foot (psf), full dead and full live load. Depending on the proposed finish floor elevations, it is possible some structure foundation may expose a combination of soil and bedrock at the design foundation bearing elevation which will create a differential bearing condition that could result in differential foundation movement (i.e., building foundations on soil will experience some settlement while foundations on bedrock will not) causing vertical cracks in foundations, foundation walls or masonry. Where this condition is encountered, UES recommends that either the entire building foundation be over-excavated to bear entirely within bedrock, or the portions of the foundation exposing bedrock should be over-excavated about 2 feet and re-established with engineered fill comprised of clayey type soils.

We recommend that the minimum lateral dimensions for continuous wall footings and isolated column footings be at least 18 and 24 inches, respectively. Exterior footings and footings in unheated interior areas should bear at least 32 inches below the lowest adjacent exterior/unheated grade for protection from frost penetration.

Where shallow foundations will be subjected to lateral loads, resistance to overturning and sliding may be evaluated using the parameters provided in Table 2. Furthermore, lateral resistance to sliding may be provided by a combination of friction and passive resistance; however, passive resistance should be ignored above the frost penetration depth of 30 inches. It also should be noted that the passive resistance parameters assume a level ground surface. If the ground is sloping down and away from the foundation in the area of passive resistance, we should be contacted to provide site-specific parameters. The frictional force should be based on dead normal loads only, and an appropriate factor of safety should be applied to the sliding resistance.

Table 2. Design parameters for laterally loaded shallow foundations.

Soil unit weight, γ (pcf)	125
Internal angle of friction, ϕ (°)	26
Cohesion, c (psf)	0
Ultimate coefficient of static friction, μ_{ult}	0.30 for concrete cast on native soils

8.3.2 General Shallow Foundation Construction Recommendations

Loose, soft, wet, frozen, or otherwise disturbed materials should be removed from the bearing surfaces of the foundations prior to the placement of reinforcing steel and concrete. If a crusted or saturated surface develops at the bearing surface for a foundation, we recommend that it be skimmed to expose a fresh surface before reinforcing steel and concrete are placed. Foundation concrete should be placed the same day as the excavation is made to prevent saturation or desiccation of the bearing surfaces.

Concrete mud mats may be placed over the bearing surfaces to protect the bearing materials from desiccation or softening via saturation. If concrete mud mats are utilized, the concrete should have a minimum compressive strength of 1,500 psi and a minimum thickness of 3 inches. The excavated bearing surface should be lowered at least the thickness of the mud mat, and the top of the mud mat should be at or below the design bearing elevation of the foundation. Prior to the placement of the concrete mud mat, the bearing surfaces should be cleaned of loose, soft, wet, frozen, or otherwise disturbed material.

Water should not be allowed to pond on top of either bearing soils within footing excavations, or on or around completed footings, to reduce potential softening or swelling of the bearing materials. Reinforcing steel and concrete should remain continuous through the foundation steps.

We recommend that foundation excavations be reviewed by the Project Geotechnical Engineer, or a representative thereof, prior to placing concrete to confirm that the bearing materials and surfaces are consistent with the design recommendations of this report.

8.4 Utility Construction

The Contractor should be prepared to maintain the sides of excavations and to minimize the sloughing of soils and waste material into the trenches. Temporary shoring should be used wherever the bottom of the trench excavation will be lower than a 2H:1V outward and downward projection from the foundations of existing/proposed structures or the inverts or bearing elevations of infrastructure.

We anticipate that select granular backfill will be used as pipe bedding and pipe zone backfill for the utilities. We recommend that the granular backfill be limited to the pipe bedding and minimum required pipe/utility cover. The remainder of the utility trenches should be backfilled with flowable fill or compacted clayey soils up to design subgrade elevation to reduce the potential for water collecting in these trenches and being absorbed by the surrounding clays, causing heave of foundations, slabs, pavement, etc.

Granular bedding and backfill that exhibits a well-defined moisture-density relationship should be compacted and moisture-conditioned per the requirements presented in Table 1; otherwise, the granular material should be compacted to at least the minimum relative densities indicated in Table 3.

Table 3. Relative density compaction recommendations for granular fill and backfill.

Area	Minimum Relative Density[a,b]
Structural	80%
Non-structural	75%
Floor slab and pavement subbase	80%

Notes:

[a] Relative density evaluated on the basis of the maximum and minimum index densities determined from ASTM D4253 and D4254, respectively.

[b] For granular soils that exhibit a well-defined moisture-density relationship, refer Table 1 for minimum percent compaction and moisture-conditioning requirements.

[c] Structural fill and backfill for foundations are defined as fill and backfill located within the zones of influence of structures. The zone of influence of a structure is defined as the area below the footprint of the structure and 2H:1V outward and downward projections from the bearing elevation of the structure.

Utility trench backfill should be placed in 6- to 8-inch-thick lifts with each lift compacted to at least the specified degree of compaction. Under no circumstances should the backfill be flushed in an attempt to obtain compaction.

If flowable fill is used, it should have a design strength of at least 30 psi for stability and not greater than 100 psi for future excavatability.

Prior to placing the bedding and utilities within the utility trench, soft, saturated, and compressible material should be removed from the bottom of the trench, exposing moist stiff soils or undisturbed bedrock.

If soft or unstable soils are encountered at the bottoms of the proposed utility trench excavations, we recommend that the soft or unstable materials be removed from below pipe invert for the full trench width, as necessary, and replaced with compacted crushed stone to provide a stable trench bottom. If the soil at the bottom of the over excavation is soft, the compacted crushed stone should be wrapped with a non-woven drainage geotextile (e.g., Mirafi 140N) to reduce the migration of fine-grained soils and fine granular bedding into the crushed stone. The depth of the undercut and crushed stone fill below the pipe invert may vary; however, the depth of undercut below pipe invert can be limited to a maximum of 24 inches. The crushed stone backfill should be placed and compacted in accordance with the recommendations for backfilling of this report. The specified pipe bedding should be placed over the compacted crushed stone and geotextile. We recommend that the Contract Documents include an item for the recommended undercutting of the soft, loose or unstable soils, as deemed necessary, and their replacement with the wrapped compacted crushed stone on a “per cubic yard of in-place compacted stone basis”.

8.5 Floor Slab

We anticipate that the floor slabs for the buildings will be designed as slab-on-grade concrete. Provided the site preparation and earthwork construction is performed in accordance with this report, the exposed subgrade should be suitable to provide support for the proposed floor slab. The concrete floor slab thicknesses should be designed based stiff clay soils at this site providing a modulus of subgrade reaction (k) of 100 pounds per cubic inch (pci) for point loads[2].

We recommend that the floor slab be underlain by a minimum 4-inch-thick subbase layer of dense-graded aggregate (DGA) or ODOT 304 to serve as a capillary break and reduce the potential for groundwater rising beneath and into the floor slab from the clayey subgrade via capillary action. The DGA subbase should be compacted per the requirements presented in Table 1. Immediately prior to placement of the granular base, we recommend that the top 8 inches of clayey floor slab subgrade be compacted and moisture-conditioned per the requirements presented in Table 1.

Additionally, we recommend that a vapor retarder/barrier be provided between the floor slab and the subbase where moisture-sensitive floor coverings will be applied to the floors, where moisture-sensitive products/packaging will be stored in direct contact with the floors, and where the humidity of the enclosed space is a concern. The effects of the vapor barrier on curling of the concrete floor slab should be considered in the mix design and placement of the concrete floor slab.

Care should be taken during slab-on-grade construction to not allow the subgrade to become desiccated or saturated. Additionally, consideration should be given to the timing of construction relative to the time of year and weather. If the slab construction is performed during relatively cold and wet weather, the use of cement-treatment of the subgrade may be beneficial to maintain progress during construction; otherwise, the subgrade is likely to be weakened by softening from saturation by rain and/or snow, leading to delays in reworking the subgrade to prepare it back to its pre-softened condition. A cost-benefit analysis may need to be performed to evaluate the need for cement-treatment.

We recommend that control joints be provided within the concrete slab-on-grade floors. These joints should be sealed to reduce surface water infiltration until the building is enclosed. The floor slab should be structurally separated from walls, columns, footings, and penetrations to allow independent movement of the floor.

8.6 Pavement Design and Construction

Proposed pavement subgrades should consist of low to moderate plasticity soils and be proofrolled with a tandem-axle dump loaded with at least 20 tons under the review of the Project Geotechnical Engineer, or representative thereof. At a minimum, UES recommends the immediate subgrade for pavements consist of at least 12 inches of low to moderate plasticity lean clay soil. Where high plasticity fat clay soil is present at the design subgrade, UES recommends the geotechnical engineer be consulted to provide recommendations for over-excavation and replacement or chemical stabilization depending on the actual plasticity of the subgrade soil. Soft or yielding soils observed during the proofroll should be undercut to stiff, non-yielding soils; however, for undercuts extending more than 2 feet below grade the geotechnical engineer should be consulted to provide supplemental recommendations. The undercut should be backfilled with new compacted fill satisfying the material and compaction requirements presented in

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2 For large area loads, the modulus of subgrade reaction would be lower, and settlement analyses would need to be completed to develop a specific modulus value for such loads.

Section 8.2. We recommend that the Contract Documents include an item for undercutting unsuitable soils and replacing them with new compacted and tested fill on a "per cubic yard of compacted replacement fill" basis. For pavement design, UES recommends a California Bearing Ratio (CBR) value of 3.

If the proposed pavement section includes an aggregate base, we recommend that caution be exercised so that the proposed aggregate base does not become saturated during or after construction. Water trapped in the aggregate base is capable of freezing, causing it to expand within the voids it occupies. Consequently, ice lenses may form and potentially heave the pavement. Furthermore, the thawing process can soften underlying cohesive subgrades, which reduces the pavement support provided by the subgrade, giving rise to "pumping" of the pavements under loads. Preferably, the aggregate base should be a free-draining material with provisions for draining the base through a system of underdrains.

Surface drainage should be directed away from the edges of proposed or existing pavements so that water does not pond next to pavements or flow onto pavements from unpaved areas. Such ponding or flow can cause deterioration of pavement subgrades and premature failure of pavements. If drainage ditches are used to intercept surface water before it reaches the pavements, the ditches should have an invert at least 6 inches below the pavement subgrade, and have a sufficient longitudinal gradient to rapidly drain the ditches and prevent ponding of water. In those areas where exterior grades do not fully slope away from the edges of the proposed pavement, we recommend that edge drains be installed along the perimeter of the pavement.

9.0 RECOMMENDED ADDITIONAL SERVICES

The conclusions and recommendations given in this report are based on: UES's understanding of the proposed design and construction, as outlined in this report; site observations; interpretation of the exploration data; and our experience. **As indicated, UES should review the final grading plan and evaluate the planned grading with respect to the subsurface conditions encountered. Once reviewed an update to this report or addendum can be issued, if needed**. Since the intent of the design recommendations is best understood by UES, we recommend that UES be included in the final design and construction process, and be retained to review the project plans and specifications to confirm that the recommendations given in this report have been correctly implemented. We recommend that UES be retained to participate in pre-bid and preconstruction conferences to reduce the risk of misinterpretation of the conclusions and recommendations in this report relative to the proposed construction of the subject project.

Since actual subsurface conditions between boring locations may vary from those encountered in the borings, our design recommendations are subject to adjustment in the field based on the subsurface conditions encountered during construction. Therefore, we recommend that UES be retained to provide construction observation services as a continuation of the design process to confirm the recommendations in this report and to revise them accordingly to accommodate differing subsurface conditions. Construction observation is intended to enhance compliance with project plans and specifications. It is not insurance, nor does it constitute a warranty or guarantee of any type. Regardless of construction observation, contractors, suppliers, and others are solely responsible for the quality of their work and for adhering to plans and specifications.

10.0 LIMITATIONS

This report has been prepared on behalf of, and for the exclusive use of, CMHA**Error! Reference source not found.** for specific application to the named project as described herein. If this report is provided to other parties, it should be provided in its entirety with all supplementary information. In addition, **Error! Reference source not found.** should make it clear that the information is provided for factual data only, and not as a warranty of subsurface conditions presented in this report.

UES has attempted to conduct the services reported herein in a manner consistent with that level of care and skill ordinarily exercised by members of the profession currently practicing in the same locality and under similar conditions. The recommendations and conclusions contained in this report are professional opinions. The report is not a bidding document and should not be used for that purpose.

Our scope for this phase of the project did not include any environmental assessment or investigation for the presence or absence of wetlands or hazardous or toxic materials in the soil, surface water, groundwater, or air, on or below or around this site. Any statements in this report or on the boring logs regarding odors noted or unusual or suspicious items or conditions observed are strictly for the information of our client. Our scope did not include an assessment of the effects of flooding and erosion of creeks or rivers adjacent to or on the project site.

The analyses, conclusions, and recommendations contained in this report are based on the data obtained from the subsurface exploration. The field exploration methods used indicate subsurface conditions only at the specific locations where samples were obtained, only at the time they were obtained, and only to the depths penetrated. Consequently, subsurface conditions may vary gradually, abruptly, and/or nonlinearly between sample locations and/or intervals.

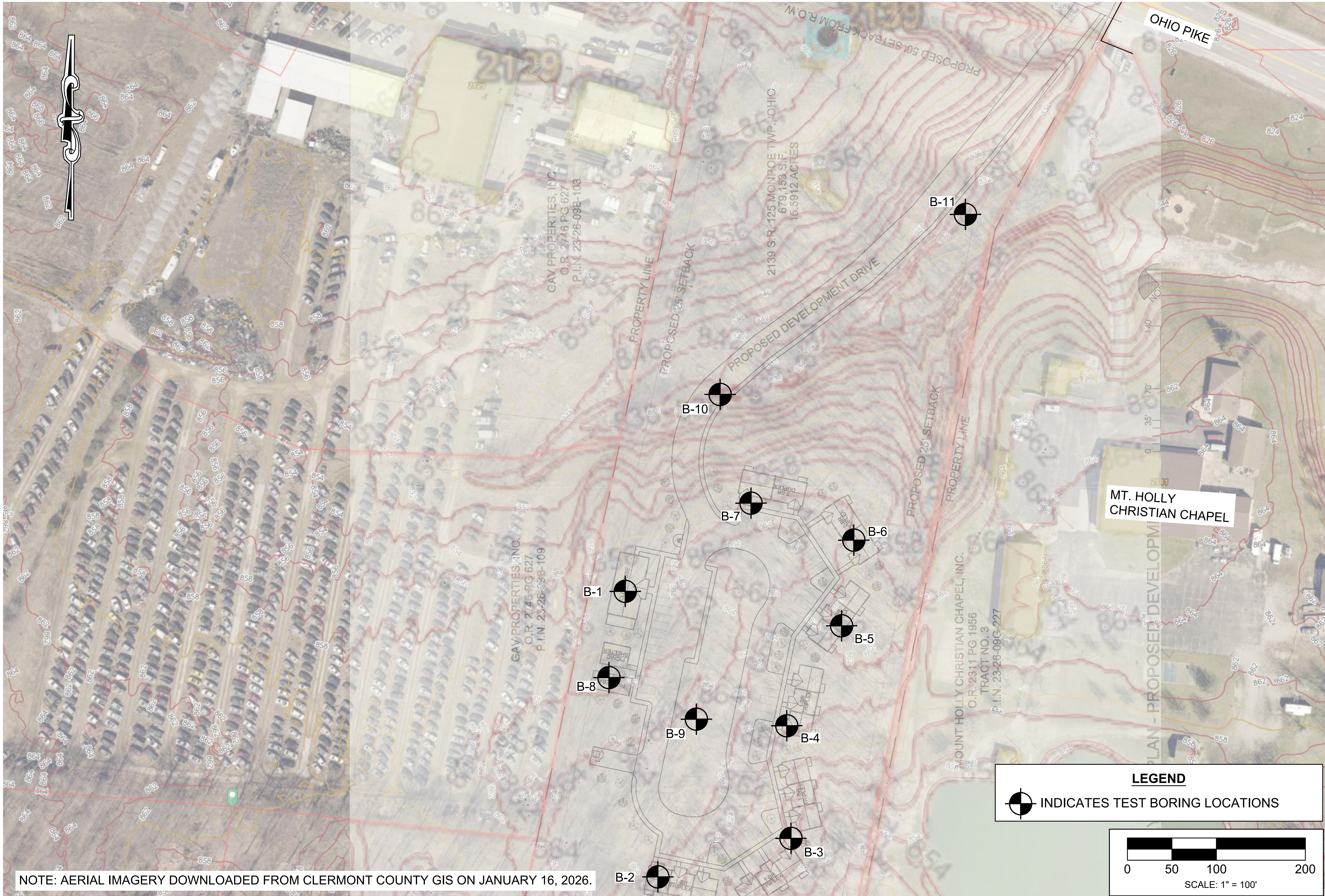
The conclusions or recommendations presented in this report should not be used without UES's review and assessment if the nature, design, or location of the facilities is changed, if there is a substantial lapse in time between the submittal of this report and the start of work at the site, or if there is a substantial interruption or delay during work at the site. If changes are contemplated or delays occur, UES must be allowed to review them to assess their impact on the findings, conclusions, and/or design recommendations given in this report. UES will not be responsible for any claims, damages, or liability associated with any other party's interpretations of the subsurface data or with reuse of the subsurface data or engineering analyses in this report.

The recommendations included in this report have been based in part on assumptions about variations in site stratigraphy that may be evaluated further during earthwork and foundation construction. UES should be retained to perform construction observation and continue its geotechnical engineering service using observational methods. UES cannot assume liability for the adequacy of its recommendations when they are used in the field without UES being retained to observe construction.

A copy of "Important Information about This Geotechnical-Engineering Report" that is published by the Geotechnical Business Council (GBC) of the Geoprofessional Business Association (GBA) is included in Appendix D for your review. The publication discusses some other limitations, as well as ways to manage risk associated with subsurface conditions.

APPENDIX A – PLANS

Exploration Plan, Sheet No. 1



UES

Project: CLERMONT COUNTY VETERANS VILLAGE

Location: BATAVIA, OHIO

Title: EXPLORATION PLAN

Client: MODEL GROUP

Date: 1/16/2026

Project No.: A25133.00696.000

Sheet No.: 1

APPENDIX B – BORING INFORMATION

Boring Logs

Soil Classification Sheet

SOIL BORING B-1

SHEET 1 OF 1

Project: Clermont County Veterans Village
Project Location: 2139 OH-125, Amelia, OH
Location Accuracy: Approximate
Coordinates: Latitude: 39.007753 Longitude: -84.174114
Surface Elevation: 860.20'

Project Number: A25133.00696.000
Client Name: Clermont Metropolitan Housing Authority
Logged By: Josh Weaver
Checked By: Jim Haines

Elevation (ft)	Visual Classification and Remarks	Depth (ft)	Sample Number	Sample Graphic	Blow Counts	N-Value (bpf) (uncorrected)	Recovery Length (in)	Pocket Pen (tsf)	Moisture Content (%)	Atterberg Limits (LL-PL-PI)
860.2	**TOPSOIL** [6 INCHES]	0.5								
	Brown, Trace Gray **LEAN CLAY** (**CL**) trace roots [Glacial Till] - moist, very stiff	3	1	SS	3-6-9	15	18	4.5+	22.20	
855	Brown, Trace Gray **FAT CLAY** (**CH**) trace oxide stains [Glacial Till] - moist, very stiff	8	2	SS	4-7-8	15	18	3.5	19.60	51-21-30
			3	SS	6-5-9	14	18	4.0		
850	Brown **LEAN CLAY** (**CL**) trace gravel, trace oxide stains [Residuum] - moist, very stiff to hard	11.7	4	SS	10-20-25	45	18	4.5+		
845	Gray **UNWEATHERED SHALE** and gray interbedded limestone layers [Bedrock] - moist, extremely weak	14.4	5	SS	32-50/5"	50/5"	11			
	Boring terminated at 14.4'									

Depth scale: 5, 10, 15, 20. Elevation scale: 855, 850, 845, 840.

Remarks:
-

Date Completed: 01/09/2026
Drilling Firm: Envirocore
Rig Type: -
Driller: Tom Beck
Drilling Method: Auger
Hammer Efficiency: -
Hammer Type: Auto

SAMPLE TYPES

SS - Small Split Spoon

WATER LEVEL OBSERVATIONS

▽ 13.5'

▼ 11.5'

Depth To Cave In: N/A

SOIL BORING B-2

UES™

Project: Clermont County Veterans Village
Project Location: 2139 OH-125, Amelia, OH
Location Accuracy: Approximate
Coordinates: Latitude: 39.006874 Longitude: -84.173964
Surface Elevation: 863.00'

Project Number: A25133.00696.000
Client Name: Clermont Metropolitan Housing Authority
Logged By: Josh Weaver
Checked By: Jim Haines

Elevation (ft)	Visual Classification and Remarks	Depth (ft)
863	**TOPSOIL** [8 INCHES]	0.7
	Brown, Trace Gray **LEAN CLAY** (**CL**) trace oxide stains [Glacial Till] - moist, very stiff	5.5
	Brown **LEAN CLAY** (**CL**) trace gravel, trace rock fragments [Residuum] - moist, very stiff to hard	11.7
	Olive Brown **HIGHLY WEATHERED SHALE** and gray interbedded limestone layers [Bedrock] - moist, extremely weak	14
	Boring terminated at 14'	

Sample Number	Sample Graphic	Blow Counts	N-Value (bpf) (uncorrected)	Recovery Length (in)	Pocket Pen (tsf)	Moisture Content (%)	Atterberg Limits (LL-PL-PI)
1	SS	4-7-7	14	18	2.25	15.0	
2	SS	5-8-10	18	15	3.75	18.5	
3	SS	7-11-14	25	18	4.5+	10.7	23-14-9
4	SS	8-13-17	30	18			
5	SS	50/6"	50/6"	6			

Remarks:
-

Date Completed:	01/09/2026
Drilling Firm:	Envirocore
Rig Type:	-
Driller:	Tom Beck
Drilling Method:	Auger
Hammer Efficiency:	-
Hammer Type:	Auto

SAMPLE TYPES

SS - Small Split Spoon

WATER LEVEL OBSERVATIONS

Dry

Depth To Cave In: N/A

SOIL BORING B-3

UES™

Project: Clermont County Veterans Village
Project Location: 2139 OH-125, Amelia, OH
Location Accuracy: Approximate
Coordinates: Latitude: 39.007000 Longitude: -84.173441
Surface Elevation: 857.40'

Project Number: A25133.00696.000
Client Name: Clermont Metropolitan Housing Authority
Logged By: Josh Weaver
Checked By: Jim Haines

Elevation (ft)	Visual Classification and Remarks	Depth (ft)	Sample Number	Sample Graphic	Blow Counts	N-Value (bpf) (uncorrected)	Recovery Length (in)	Pocket Pen (tsf)	Moisture Content (%)
857.4	**TOPSOIL** [7 INCHES]	0.6							
	Brown, Trace Gray **LEAN CLAY** (**CL**) with silt, trace oxide stains [Glacial Till] - moist, very stiff		1	SS	5-7-8	15	18	2.75	16.2
			2	SS	5-8-10	18	18	2.25	
		5.5							
	Olive Brown **HIGHLY WEATHERED SHALE** [Bedrock] - moist, extremely weak		3	SS	13-16-30	46	11		
			4	SS	13-50/5"	50/5"	9		
		9.4							
	Boring terminated at 9.4'								

Remarks:
-

Date Completed: 01/09/2026
Drilling Firm: Envirocore
Rig Type: -
Driller: Tom Beck
Drilling Method: Auger
Hammer Efficiency: -
Hammer Type: Auto

SAMPLE TYPES

SS - Small Split Spoon

WATER LEVEL OBSERVATIONS

Dry

Depth To Cave In: N/A

SOIL BORING B-4

SHEET 1 OF 1

Project: Clermont County Veterans Village
Project Location: 2139 OH-125, Amelia, OH
Location Accuracy: Approximate
Coordinates: Latitude: 39.007348 Longitude: -84.173466
Surface Elevation: 862.40'

Project Number: A25133.00696.000
Client Name: Clermont Metropolitan Housing Authority
Logged By: Josh Weaver
Checked By: Jim Haines

Elevation (ft)	Visual Classification and Remarks	Depth (ft)	Sample Number	Sample Graphic	Blow Counts	N-Value (bpf) (uncorrected)	Recovery Length (in)	Pocket Pen (tsf)	Moisture Content (%)
862.4	**TOPSOIL** [8 INCHES]	0.7							
	Brown, Trace Gray **LEAN CLAY** (**CL**) trace oxide stains [Glacial Till] - moist, very stiff	5.5	1	SS	3-5-6	11	18	2.5	19.3
			2	SS	3-6-7	13	18	3.0	21.0
	Brown **LEAN CLAY** (**CL**) trace rock fragments [Glacial Till] - moist, very stiff to hard	8	3	SS	3-6-7	13	16	4.5+	
	Brown **LEAN CLAY** (**CL**) trace limestone floaters, trace oxide stains [Residuum] - moist, very stiff to hard	11.7	4	SS	4-10-15	25	15	4.5+	
	Olive Brown **HIGHLY WEATHERED SHALE** and gray interbedded limestone layers [Bedrock] - moist, extremely weak	15	5	SS	23-32-22	54	6		
	Boring terminated at 15'								

Elevation scale: 860, 855, 850, 845, 840. Depth scale: 5, 10, 15, 20.

Remarks:
-

Date Completed:	01/09/2026
Drilling Firm:	Envirocore
Rig Type:	-
Driller:	Tom Beck
Drilling Method:	Auger
Hammer Efficiency:	-
Hammer Type:	Auto

SAMPLE TYPES

SS - Small Split Spoon

WATER LEVEL OBSERVATIONS

Dry

Depth To Cave In: N/A

SOIL BORING B-5

SHEET 1 OF 1

Project: Clermont County Veterans Village
Project Location: 2139 OH-125, Amelia, OH
Location Accuracy: Approximate
Coordinates: Latitude: 39.007659 Longitude: -84.173256
Surface Elevation: 861.60'

Project Number: A25133.00696.000
Client Name: Clermont Metropolitan Housing Authority
Logged By: Josh Weaver
Checked By: Jim Haines

Elevation (ft)	Visual Classification and Remarks	Depth (ft)	Sample Number	Sample Graphic	Blow Counts	N-Value (bpf) (uncorrected)	Recovery Length (in)	Pocket Pen (tsf)	Moisture Content (%)	Atterberg Limits (LL-PL-PI)
861.6	**TOPSOIL** [8 INCHES]	0.7								
860	Brown, Trace Gray **LEAN CLAY** (**CL**) [Glacial Till] - moist, stiff to very stiff	3	1	⊠	3-4-5	9	18	2.0		
855	Orangish Brown, Trace Gray **LEAN CLAY** (**CL**) trace oxide stains [Residuum] - moist, very stiff to hard	8	2	⊠	4-7-9	16	16	4.5+	17.5	45-19-26
			3	⊠	4-6-8	14	18	4.5+		
850	Brown **LEAN CLAY** (**CL**) trace gravel, trace rock fragments [Residuum] - moist, very stiff to hard	14.2	4	⊠	5-6-9	15	18	4.5+		
			5	⊠	16-50/3"	50/3"	6			
	Boring terminated at 14.2'									

Remarks:
-

Date Completed: 01/09/2026
Drilling Firm: Envirocore
Rig Type: -
Driller: Tom Beck
Drilling Method: Auger
Hammer Efficiency: -
Hammer Type: Auto

SAMPLE TYPES

⊠ SS - Small Split Spoon

WATER LEVEL OBSERVATIONS

Dry

Depth To Cave In: N/A

SOIL BORING B-6

SHEET 1 OF 1

UES™

Project: Clermont County Veterans Village
Project Location: 2139 OH-125, Amelia, OH
Location Accuracy: Approximate
Coordinates: Latitude: 39.007925 Longitude: -84.173214
Surface Elevation: 860.80'

Project Number: A25133.00696.000
Client Name: Clermont Metropolitan Housing Authority
Logged By: Josh Weaver
Checked By: Jim Haines

Elevation (ft)	Visual Classification and Remarks	Depth (ft)
860.8	TOPSOIL [6 INCHES]	0.5
	Brown, Trace Gray **LEAN CLAY** (**CL**) [Glacial Till] - moist, stiff	3
	Brown, Trace Gray **LEAN CLAY** (**CL**) trace gravel, trace oxide stains [Glacial Till] - moist, very stiff to hard	5.5
	Brown **LEAN CLAY** (**CL**) trace limestone fragments, trace gravel, trace oxide stains [Residuum] - moist, very stiff to hard	11.7
	Brown **HIGHLY WEATHERED SHALE** and gray interbedded limestone layers [Bedrock] - moist, extremely weak	15
	Boring terminated at 15'	

Elevation scale: 860, 855, 850, 845, 840. Depth scale: 5, 10, 15, 20.

Sample Number	Sample Graphic	Blow Counts	N-Value (bpf) (uncorrected)	Recovery Length (in)	Pocket Pen (tsf)	Moisture Content (%)
1	SS	3-5-7	12	18	1.25	17.5
2	SS	5-9-12	21	18	4.5+	
3	SS	10-16-19	35	18	4.5+	9.3
4	SS	5-14-16	30	16	4.5+	
5	SS	15-50-34	84	18		

Remarks:
-

Date Completed:	01/09/2026
Drilling Firm:	Envirocore
Rig Type:	-
Driller:	Tom Beck
Drilling Method:	Auger
Hammer Efficiency:	-
Hammer Type:	Auto

SAMPLE TYPES

SS - Small Split Spoon

WATER LEVEL OBSERVATIONS

Dry

Depth To Cave In: N/A

SOIL BORING B-7

SHEET 1 OF 1

Project: Clermont County Veterans Village
Project Location: 2139 OH-125, Amelia, OH
Location Accuracy: Approximate
Coordinates: Latitude: 39.008033 Longitude: -84.173624
Surface Elevation: 862.00'

Project Number: A25133.00696.000
Client Name: Clermont Metropolitan Housing Authority
Logged By: Josh Weaver
Checked By: Jim Haines

Elevation (ft)	Visual Classification and Remarks	Bottom Depth (ft)
862	**TOPSOIL** [8 INCHES]	0.7
	Brown, Trace Gray **LEAN CLAY** (**CL**) trace oxide stains [Glacial Till] - moist, very stiff	3
	Brown **LEAN CLAY** (**CL**) trace gravel, trace rock fragments [Glacial Till] - moist, very stiff to hard	11.7
	Brown **SAND AND GRAVEL** [Glacial Till] - moist, dense	13.9
	Brown **HIGHLY WEATHERED SHALE** [Bedrock] - moist, extremely weak	15
	Boring terminated at 15'	

Sample Number	Sample Graphic	Blow Counts	N-Value (bpf) (uncorrected)	Recovery Length (in)	Pocket Pen (tsf)	Moisture Content (%)
1	SS	3-4-5	9	17	3.0	18.8
2	SS	6-12-16	28	18	4.5+	9.4
3	SS	14-22-19	41	18	4.5+	
4	SS	6-14-22	36	18	4.5+	
5	SS	8-24-16	40	13		

Remarks:
-

Date Completed: 01/09/2026
Drilling Firm: Envirocore
Rig Type: -
Driller: Tom Beck
Drilling Method: Auger
Hammer Efficiency: -
Hammer Type: Auto

SAMPLE TYPES

SS - Small Split Spoon

WATER LEVEL OBSERVATIONS

Dry

Depth To Cave In: N/A

SOIL BORING B-8

SHEET 1 OF 1

Project: Clermont County Veterans Village
Project Location: 2139 OH-125, Amelia, OH
Location Accuracy: Approximate
Coordinates: Latitude: 39.007486 Longitude: -84.174172
Surface Elevation: 861.20'

Project Number: A25133.00696.000
Client Name: Clermont Metropolitan Housing Authority
Logged By: Josh Weaver
Checked By: Jim Haines

Elevation (ft)	Visual Classification and Remarks	Depth (ft)	Sample Number	Sample Graphic	Blow Counts	N-Value (bpf) (uncorrected)	Recovery Length (in)	Pocket Pen (tsf)
861.2	**TOPSOIL** [8 INCHES]	0.7						
	Brown, Trace Gray **LEAN CLAY** (**CL**) trace oxide stains [Glacial Till] - moist, very stiff		1	SS	3-4-5	9	18	3.25
			2	SS	4-7-8	15	18	3.75
			3	SS	5-6-8	14	18	4.25
		8						
	Brown **LEAN CLAY** (**CL**) trace gravel [Residuum] - moist, very stiff to hard		4	SS	12-17-18	35	18	4.5+
		10						
	Boring terminated at 10'							

Elevation scale: 860, 855, 850, 845, 840. Depth scale: 5, 10, 15, 20.

Remarks:
-

Date Completed: 01/09/2026
Drilling Firm: Envirocore
Rig Type: -
Driller: Tom Beck
Drilling Method: Auger
Hammer Efficiency: -
Hammer Type: Auto

SAMPLE TYPES

SS - Small Split Spoon

WATER LEVEL OBSERVATIONS

Dry

Depth To Cave In: N/A

SOIL BORING B-9

SHEET 1 OF 1

Project: Clermont County Veterans Village
Project Location: 2139 OH-125, Amelia, OH
Location Accuracy: Approximate
Coordinates: Latitude: 39.007363 Longitude: -84.173824
Surface Elevation: 864.50'

Project Number: A25133.00696.000
Client Name: Clermont Metropolitan Housing Authority
Logged By: Josh Weaver
Checked By: Jim Haines

Elevation (ft)	Visual Classification and Remarks	Depth (ft)	Sample Number	Sample Graphic	Blow Counts	N-Value (bpf) (uncorrected)	Recovery Length (in)	Pocket Pen (tsf)	Moisture Content (%)	Atterberg Limits (LL-PL-PI)
864.5	**TOPSOIL** [7 INCHES]	0.6								
	Orangish Brown, Trace Gray **LEAN CLAY** (**CL**) [Glacial Till] - moist, stiff to very stiff	3	1	SS	2-4-7	11	18	2.0	25.3	40-20-20
860	Brown **LEAN CLAY** (**CL**) trace oxide stains [Residuum] - moist, very stiff	5.5	2	SS	4-4-7	11	18	2.75		
855	Orangish Brown **LEAN CLAY** (**CL**) trace oxide stains, trace limestone fragments [Residuum] - moist, very stiff	10	3	SS	6-11-12	23	18	3.5		
			4	SS	7-12-17	29	18	4.5+		
	Boring terminated at 10'									

Elevation scale: 864.5, 860, 855, 850, 845, 840. Depth scale: 5, 10, 15, 20.

Remarks:
-

Date Completed: 01/09/2026
Drilling Firm: Envirocore
Rig Type: -
Driller: Tom Beck
Drilling Method: Auger
Hammer Efficiency: -
Hammer Type: Auto

SAMPLE TYPES

SS - Small Split Spoon

WATER LEVEL OBSERVATIONS

Dry

Depth To Cave In: N/A

SOIL BORING B-10

SHEET 1 OF 1

Project: Clermont County Veterans Village
Project Location: 2139 OH-125, Amelia, OH
Location Accuracy: Approximate
Coordinates: Latitude: 39.008367 Longitude: -84.173754
Surface Elevation: 835.60'

Project Number: A25133.00696.000
Client Name: Clermont Metropolitan Housing Authority
Logged By: Josh Weaver
Checked By: Jim Haines

Elevation (ft)	Visual Classification and Remarks	Depth (ft)	Sample Number	Sample Graphic	Blow Counts	N-Value (bpf) (uncorrected)	Recovery Length (in)	Pocket Pen (tsf)
835.6	**TOPSOIL** [8 INCHES]	0.7						
	Brown **FAT CLAY** (**CH**) [Sediment] - moist, very soft	3	1	SS	3-4-3	7	18	
	Brown **LEAN CLAY** (**CL**) trace roots [Glacial Till] - moist, stiff	5.5	2	SS	3-3-4	7	10	1.5
	Olive Brown **HIGHLY WEATHERED SHALE** and gray interbedded limestone layers [Bedrock] - moist, extremely weak	8.8	3	SS	10-25-27	52	17	
			4	SS	50/4"	50/4"	4	
	Boring terminated at 8.8'							

Remarks:
-

Date Completed:	01/09/2026
Drilling Firm:	Envirocore
Rig Type:	-
Driller:	Tom Beck
Drilling Method:	Auger
Hammer Efficiency:	-
Hammer Type:	Auto

SAMPLE TYPES

SS - Small Split Spoon

WATER LEVEL OBSERVATIONS

Dry

Depth To Cave In: N/A

SOIL BORING B-11

Project: Clermont County Veterans Village
Project Location: 2139 OH-125, Amelia, OH
Location Accuracy: Approximate
Coordinates: Latitude: 39.008937 Longitude: -84.172797
Surface Elevation: 831.80'

Project Number: A25133.00696.000
Client Name: Clermont Metropolitan Housing Authority
Logged By: Josh Weaver
Checked By: Jim Haines

Elevation (ft)	Visual Classification and Remarks	Depth (ft)	Sample Number	Blow Counts	N-Value (bpf) (uncorrected)	Recovery Length (in)	Pocket Pen (tsf)	Moisture Content (%)	Atterberg Limits (LL-PL-PI)
831.8	**TOPSOIL** [8 INCHES]	0.7							
	Brown **LEAN CLAY** (**CL**) [Glacial Till] - moist, very soft	2	1	4-5-6	11	16		22.5	35-21-14
	Brown **LEAN CLAY** (**CL**) trace rock fragments [Residuum] - moist, stiff to very stiff	3					2.0		
	Olive Brown **HIGHLY WEATHERED SHALE** and gray interbedded limestone layers [Bedrock] - moist, extremely weak		2	14-21-22	43	18		7.6	
		7.2	3	12-26-50/2"	76/8"	8			
	Boring terminated at 7.2'								

Elevation scale: 830, 825, 820, 815, 810. Depth scale: 5, 10, 15, 20.

Remarks:
-

Date Completed:	01/09/2026
Drilling Firm:	Envirocore
Rig Type:	-
Driller:	Tom Beck
Drilling Method:	Auger
Hammer Efficiency:	-
Hammer Type:	Auto

SAMPLE TYPES

SS - Small Split Spoon

WATER LEVEL OBSERVATIONS

Dry

Depth To Cave In: N/A

APPENDIX C– INCLUDED REFERENCE DOCUMENTS

NAVFAC DM-7.02 Table 1: Typical Properties of Compacted Soils

Naval Facilities Engineering Systems Command: DM-7.02 Foundations [and] Earth Structures Design Manual, Table 1 Typical Properties of Compacted Soils

Group Symbol	Soil Type	Range of Maximum Dry Unit Weight, pcf	Range of Optimum Moisture, percent	Typical Value of Compression (Percent of original height)		Typical Strength Characteristics				Typical Coefficient of Permeability, ft./min.	Range of CBR Values	Range of Subgrade Modulus K, pci
				At 1.4 tsf (20 psi)	At 3.6 tsf (50 psi)	Cohesion (as compacted), psf	Cohesion (saturated), psf	Effective Stress Envelope, degrees	Tan Ø			
GW	Well graded clean gravels, gravel-sand mixtures	125-135	11-8	0.3	0.6	0	0	>38	>0.79	$5x10^{-2}$	40-80	300-500
GP	Poorly graded clean gravels, gravel-sand mix	115-125	14-11	0.4	0.9	0	0	>37	>0.74	10^{-1}	30-60	250-400
GM	Silty gravels, poorly graded gravel-sand-silt	120-135	12-8	0.5	1.1	-	-	>34	>0.67	$>10^{-6}$	20-60	100-400
GC	Clayey gravels, poorly graded gravel-sand-clay	115-130	14-9	0.7	1.6	-	-	>31	>0.60	$>10^{-7}$	20-40	100-300
SW	Well graded clean sands, gravelly sands	110-130	16-9	0.6	1.2	0	0	38	0.79	$>10^{-3}$	20-40	200-300
SP	Poorly graded clean sands, sand-gravel mix	100-120	21-12	0.8	1.4	0	0	37	0.74	$>10^{-3}$	10-40	200-300
SM	Silty sands, poorly graded sand-silt mix	110-125	16-11	0.8	1.6	1050	420	34	0.67	$5x >10^{-5}$	10-40	100-300
SM-SC	Sand-silt clay mix with slightly plastic fines	110-130	15-11	0.8	1.4	1050	300	33	0.66	$2x >10^{-6}$	5-30	100-300
SC	Clayey sands, poorly graded sand-clay-mix	105-125	19-11	1.1	2.2	1550	230	31	0.60	$5x >10^{-7}$	5-20	100-300
ML	Inorganic silts and clayey silts	95-120	24-12	0.9	1.7	1400	190	32	0.62	$>10^{-5}$	15 or less	100-200
CL-ML	Mixture of inorganic silt and clay	100-120	22-12	1.0	2.2	1350	460	32	0.62	$3x >10^{-7}$	-	
CL	Inorganic calys of low to medium plasticity	95-120	24-12	1.3	2.5	1800	270	28	0.54	$>10^{-7}$	15 or less	50-200
OL	Organic silts and silt-clays, low plasticity	80-100	33-21	-	-	-	-	-	-	-	5 or less	50-100
MH	Inorganic clayey silts, elastic silts	70-95	40-24	2.0	3.8	1500	420	25	0.47	$5x >10^{-7}$	10 or less	50-100
CH	Inorganic clays of high plasticity	75-105	36-19	2.6	3.9	7150	230	19	0.35	$>10^{-7}$	15 or less	50-150
OH	Organic clays and silty clays	65-100	45-21	-	-	-	-		-	-	5 or less	25-100

Notes:

a. All properties are for condition of “Standard Proctor” maximum density, except for k and CBR which are for “modified Proctor” maximum density.
b. Typical strength characteristics are for effective strength envelopes and are obtained from USBR [United States Bureau of Reclamation] data.
c. Compression values are for vertical loading with complete lateral confinement,
d. (>) indicates that typical property is greater than the value shown. (-) indicates insufficient data available for an estimate.

APPENDIX D – LABORATORY TEST DATA

Tabulation of Laboratory Tests

Atterberg Limits Test Forms

TABULATION OF MOISTURE CONTENT LABORATORY TEST RESULTS

Client:	Model Group
Project No.:	A25133.00696.000
Project:	Clermont County Veterans Village - GEO

Boring Nbr	Depth Top	Sample Ref	Sample Id	Sample Type	WWT	DWT	Tare	Test Date	WC
B-1	1		S-1		66.56	57.11	14.55	1/20/2026	**22.2**
B-1	3.5		S-2		65.67	57.39	15.12	1/20/2026	**19.6**
B-2	1		S-1		66.22	59.43	14.05	1/20/2026	**15.0**
B-2	3.5		S-2		65.89	57.94	15.07	1/20/2026	**18.5**
B-2	6		S-3		71.81	66.8	20.04	1/20/2026	**10.7**
B-3	1		S-1		63.82	56.86	13.87	1/20/2026	**16.2**
B-4	1		S-1		63.43	55.33	13.27	1/20/2026	**19.3**
B-4	3.5		S-2		64.7	55.95	14.34	1/20/2026	**21.0**
B-5	3.5		S-2		63.33	55.89	13.67	1/20/2026	**17.6**
B-6	1		S-1		68.08	60.21	15.21	1/20/2026	**17.5**
B-6	6		S-3		67.29	62.82	14.92	1/20/2026	**9.3**
B-7	1		S-1		71.3	63.3	20.83	1/20/2026	**18.8**
B-7	3.5		S-2		65.37	61.04	15.09	1/20/2026	**9.4**
B-9	1		S-1		67.09	56.61	15.1	1/20/2026	**25.3**
B-11	1		S-1		67.13	57.59	15.23	1/20/2026	**22.5**

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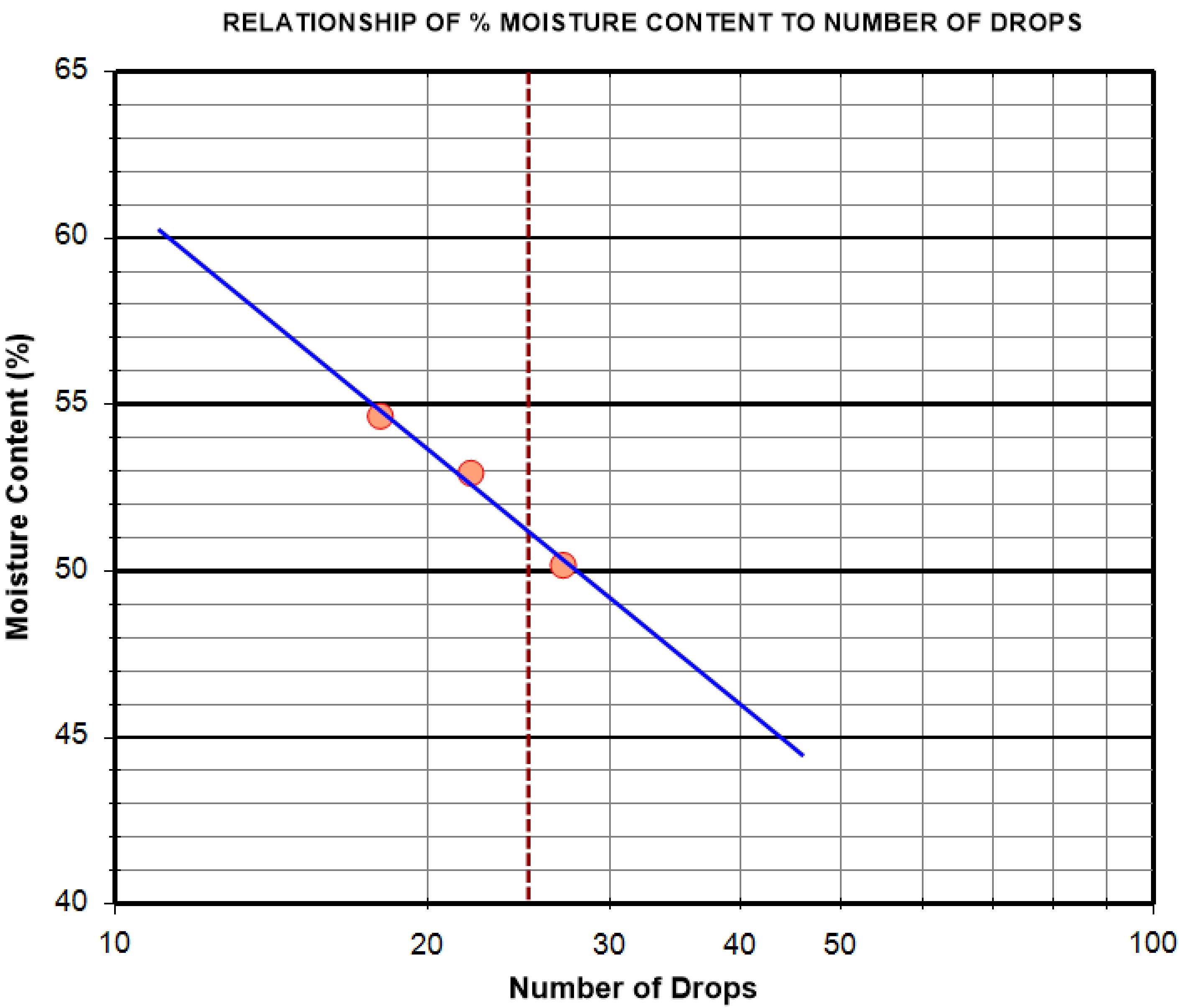
B-11	3.5		S-2		64.83	61.25	14.4	1/20/2026	**7.6**

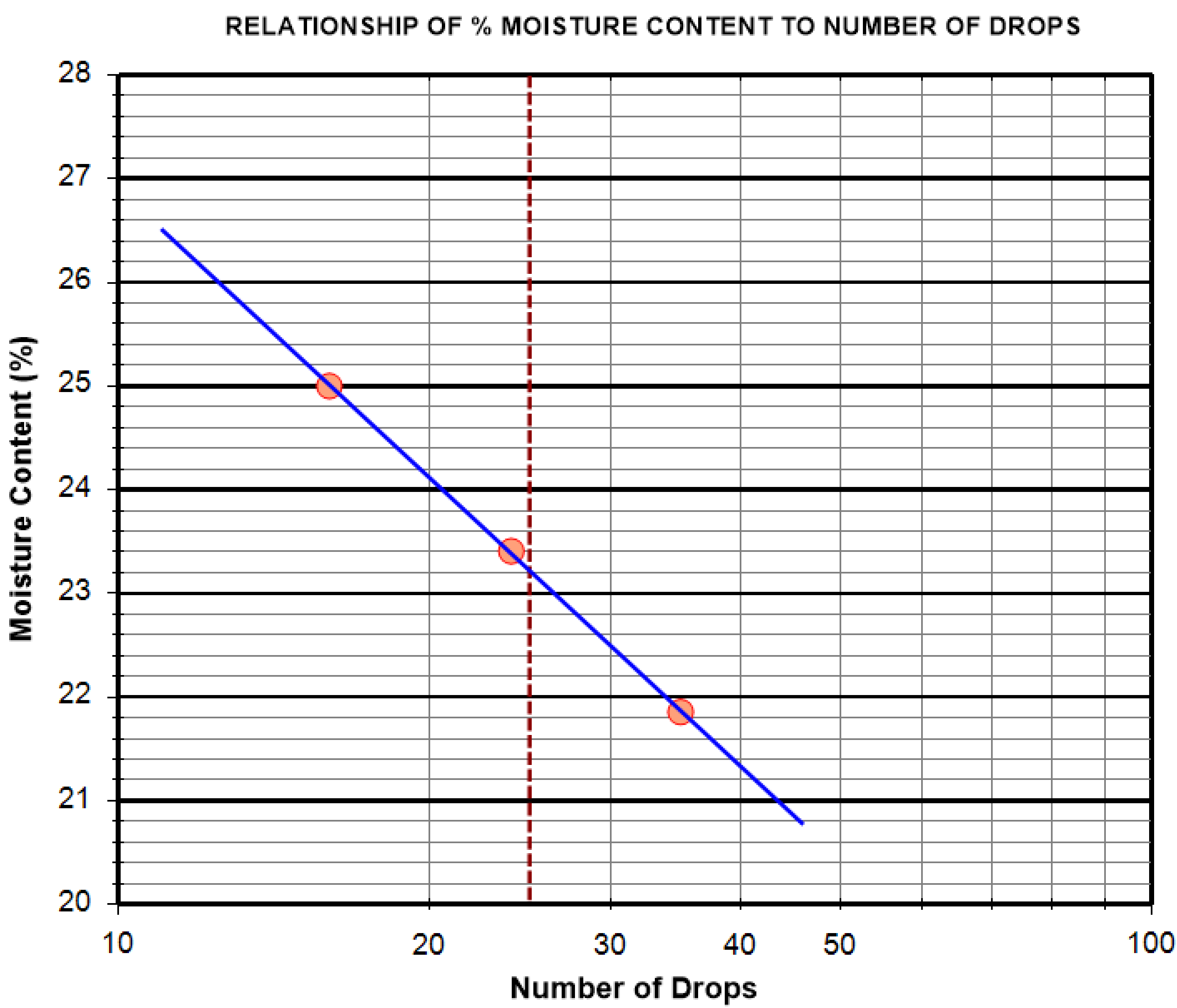
LIQUID LIMIT, PLASTIC LIMIT, AND PLASTICITY INDEX OF SOILS ASTM D-4318

Client:	Model Group					**Project No.:**	A25133.00696.000
Project:	Clermont County Veterans Village - GEO, Batavia, OH					**Date:**	1/23/2026
Boring No.:	B-1	**Sample No.:**	S-2	**Depth (ft.):**	3.5	**Sample Preparation Condition:**	Air Dried
Sample Description:	Brown Fat Clay					**In Situ Moisture Content:**	15.9%
Liquid Limit:	51	**Plastic Limit:**	21	**Plastic Index:**	30	**USCS:**	CH



LIQUID LIMIT, PLASTIC LIMIT, AND PLASTICITY INDEX OF SOILS ASTM D-4318

Client:	Model Group						**Project No.:**	A25133.00696.000
Project:	Clermont County Veterans Village - GEO, Batavia, OH						**Date:**	1/23/2026
Boring No.:	B-2	**Sample No.:**	S-3	**Depth (ft.):**	6	**Sample Preparation Condition:**		Air Dried
Sample Description:	Brown Fat Clay						**In Situ Moisture Content:**	7.3%
Liquid Limit:	23	**Plastic Limit:**	14	**Plastic Index:**	9	**USCS:**		CL



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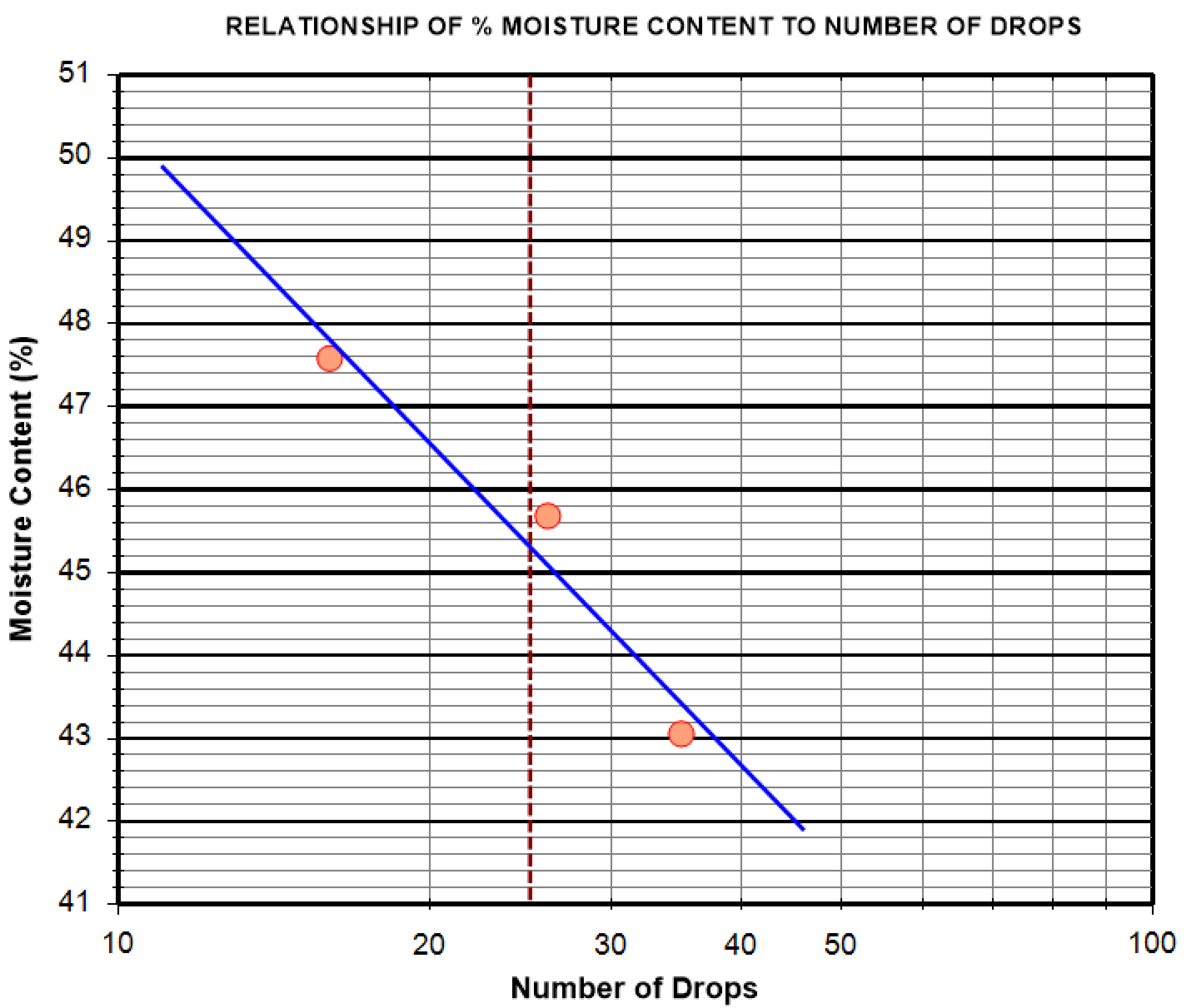
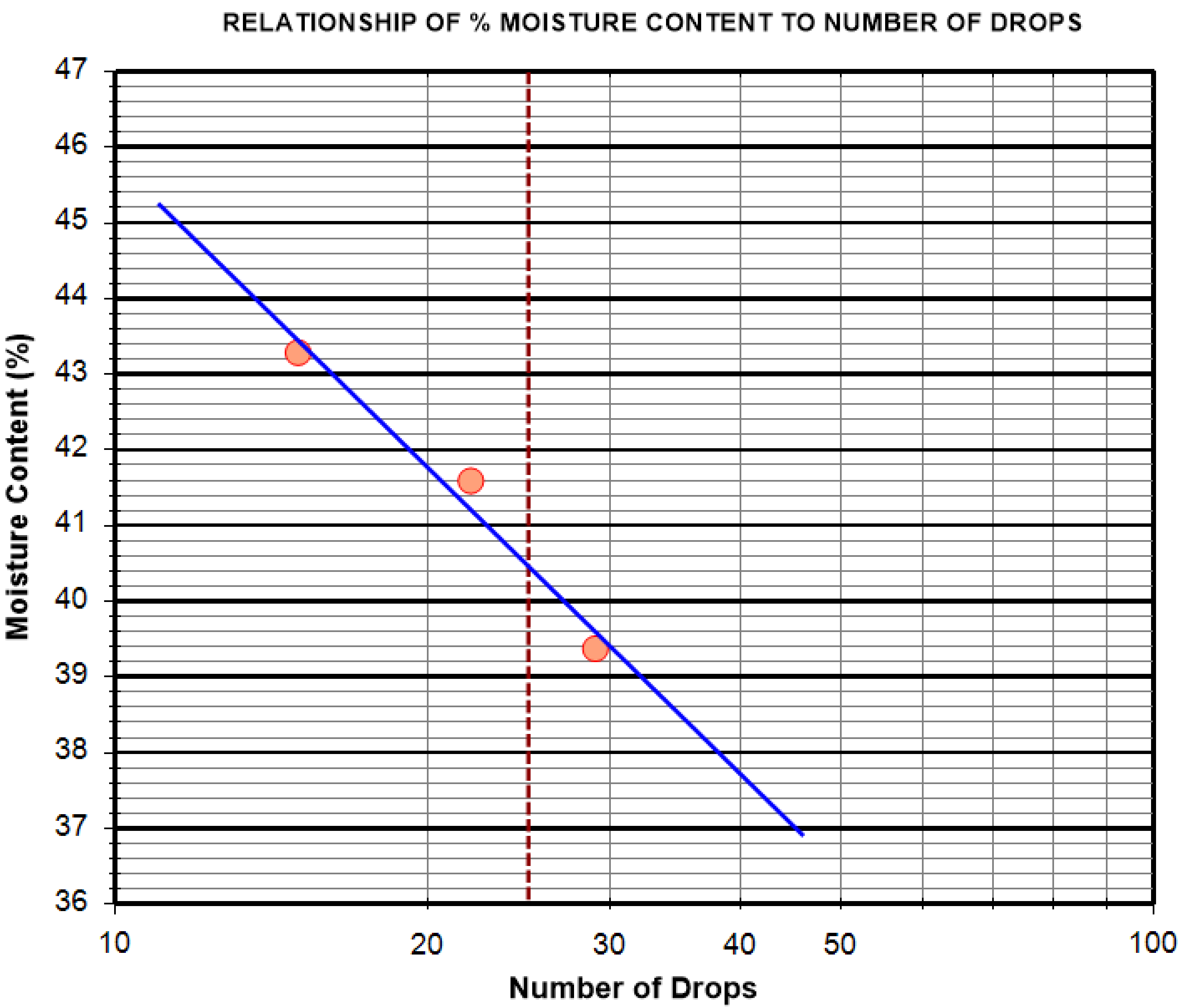
LIQUID LIMIT, PLASTIC LIMIT, AND PLASTICITY INDEX OF SOILS ASTM D-4318

Client:	Model Group							**Project No.:**	A25133.00696.000
Project:	Clermont County Veterans Village - GEO, Batavia, OH							**Date:**	1/28/2026
Boring No.:	B-5	**Sample No.:**	S-2	**Depth (ft.):**	3.5	**Sample Preparation Condition:**			Air Dried
Sample Description:								**In Situ Moisture Content:**	14.0%
Liquid Limit:	45	**Plastic Limit:**	19	**Plastic Index:**	26	**USCS:**			CL



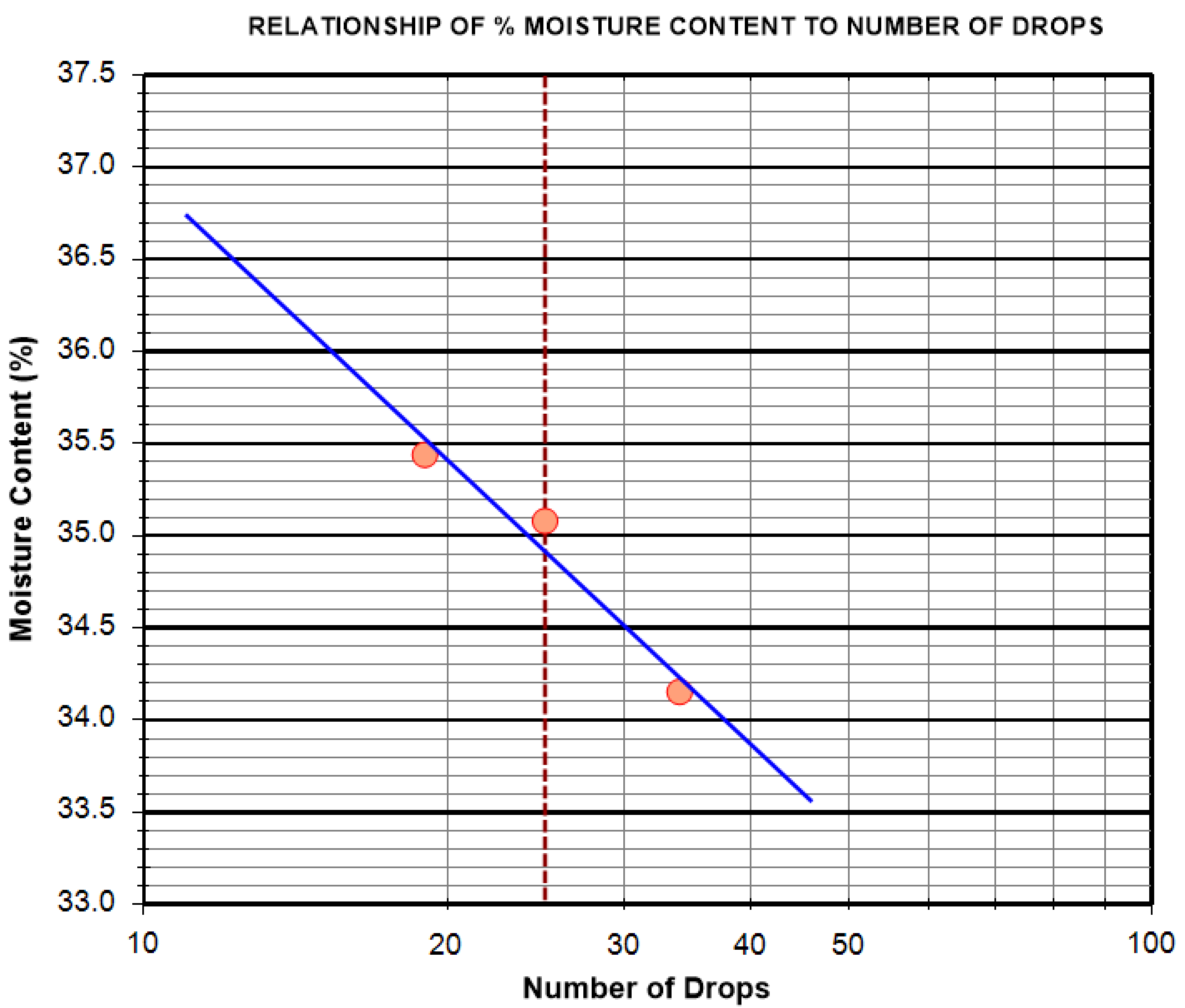
LIQUID LIMIT, PLASTIC LIMIT, AND PLASTICITY INDEX OF SOILS ASTM D-4318

Client:	Model Group					**Project No.:**	A25133.00696.000
Project:	Clermont County Veterans Village - GEO, Batavia, OH					**Date:**	1/23/2026
Boring No.:	B-9	**Sample No.:**	S-1	**Depth (ft.):**	1	**Sample Preparation Condition:**	Air Dried
Sample Description:						**In Situ Moisture Content:**	19.7%
Liquid Limit:	40	**Plastic Limit:**	20	**Plastic Index:**	20	**USCS:**	CL



LIQUID LIMIT, PLASTIC LIMIT, AND PLASTICITY INDEX OF SOILS ASTM D-4318

Client:	Model Group					**Project No.:**	A25133.00696.000
Project:	Clermont County Veterans Village - GEO, Batavia, OH					**Date:**	1/28/2026
Boring No.:	B-11	**Sample No.:**	S-1	**Depth (ft.):**	1.0	**Sample Preparation Condition:**	Air Dried
Sample Description:						**In Situ Moisture Content:**	18.5%
Liquid Limit:	35	**Plastic Limit:**	21	**Plastic Index:**	14	**USCS:**	CL



APPENDIX E - IMPORTANT INFORMATION ABOUT THIS GEOTECHNICAL-ENGINEERING REPORT

Important Information about This

Geotechnical-Engineering Report

Subsurface problems are a principal cause of construction delays, cost overruns, claims, and disputes.

While you cannot eliminate all such risks, you can manage them. The following information is provided to help.

Geotechnical Services Are Performed for Specific Purposes, Persons, and Projects

Geotechnical engineers structure their services to meet the specific needs of their clients. A geotechnical-engineering study conducted for a civil engineer may not fulfill the needs of a constructor — a construction contractor — or even another civil engineer. Because each geotechnical- engineering study is unique, each geotechnical-engineering report is unique, prepared *solely* for the client. No one except you should rely on this geotechnical-engineering report without first conferring with the geotechnical engineer who prepared it. *And no one — not even you* — should apply this report for any purpose or project except the one originally contemplated.

Read the Full Report

Serious problems have occurred because those relying on a geotechnical-engineering report did not read it all. Do not rely on an executive summary. Do not read selected elements only.

Geotechnical Engineers Base Each Report on a Unique Set of Project-Specific Factors

Geotechnical engineers consider many unique, project-specific factors when establishing the scope of a study. Typical factors include: the client's goals, objectives, and risk-management preferences; the general nature of the structure involved, its size, and configuration; the location of the structure on the site; and other planned or existing site improvements, such as access roads, parking lots, and underground utilities. Unless the geotechnical engineer who conducted the study specifically indicates otherwise, do not rely on a geotechnical-engineering report that was:

- not prepared for you;
- not prepared for your project;
- not prepared for the specific site explored; or
- completed before important project changes were made.

Typical changes that can erode the reliability of an existing geotechnical-engineering report include those that affect:

- the function of the proposed structure, as when it's changed from a parking garage to an office building, or from a light-industrial plant to a refrigerated warehouse;
- the elevation, configuration, location, orientation, or weight of the proposed structure;
- the composition of the design team; or
- project ownership.

As a general rule, *always* inform your geotechnical engineer of project changes—even minor ones—and request an assessment of their impact. *Geotechnical engineers cannot accept responsibility or liability for problems that occur because their reports do not consider developments of which they were not informed.*

Subsurface Conditions Can Change

A geotechnical-engineering report is based on conditions that existed at the time the geotechnical engineer performed the study. *Do not rely on a geotechnical-engineering report whose adequacy may have been affected by*: the passage of time; man-made events, such as construction on or adjacent to the site; or natural events, such as floods, droughts, earthquakes, or groundwater fluctuations. *Contact the geotechnical engineer before applying this report to determine if it is still reliable.* A minor amount of additional testing or analysis could prevent major problems.

Most Geotechnical Findings Are Professional Opinions

Site exploration identifies subsurface conditions only at those points where subsurface tests are conducted or samples are taken. Geotechnical engineers review field and laboratory data and then apply their professional judgment to render an opinion about subsurface conditions throughout the site. Actual subsurface conditions may differ — sometimes significantly — from those indicated in your report. Retaining the geotechnical engineer who developed your report to provide geotechnical-construction observation is the most effective method of managing the risks associated with unanticipated conditions.

A Report's Recommendations Are Not Final

Do not overrely on the confirmation-dependent recommendations included in your report. *Confirmation-dependent recommendations are not final,* because geotechnical engineers develop them principally from judgment and opinion. Geotechnical engineers can finalize their recommendations *only* by observing actual subsurface conditions revealed during construction. *The geotechnical engineer who developed your report cannot assume responsibility or liability for the report's confirmation-dependent recommendations if that engineer does not perform the geotechnical-construction observation required to confirm the recommendations' applicability.*

A Geotechnical-Engineering Report Is Subject to Misinterpretation

Other design-team members' misinterpretation of geotechnical-engineering reports has resulted in costly problems. Confront that risk by having your geotechnical engineer confer with appropriate members of the design team after submitting the report. Also retain your geotechnical engineer to review pertinent elements of the design team's plans and specifications. Constructors can also misinterpret a geotechnical-engineering report. Confront that risk by having your geotechnical engineer participate in prebid and preconstruction conferences, and by providing geotechnical construction observation.

Do Not Redraw the Engineer's Logs

Geotechnical engineers prepare final boring and testing logs based upon their interpretation of field logs and laboratory data. To prevent errors or omissions, the logs included in a geotechnical-engineering report should *never* be redrawn for inclusion in architectural or other design drawings. Only photographic or electronic reproduction is acceptable, *but recognize that separating logs from the report can elevate risk.*

Give Constructors a Complete Report and Guidance

Some owners and design professionals mistakenly believe they can make constructors liable for unanticipated subsurface conditions by limiting what they provide for bid preparation. To help prevent costly problems, give constructors the complete geotechnical-engineering report, *but* preface it with a clearly written letter of transmittal. In that letter, advise constructors that the report was not prepared for purposes of bid development and that the report's accuracy is limited; encourage them to confer with the geotechnical engineer who prepared the report (a modest fee may be required) and/or to conduct additional study to obtain the specific types of information they need or prefer. A prebid conference can also be valuable. *Be sure constructors have sufficient time* to perform additional study. Only then might you be in a position to give constructors the best information available to you, while requiring them to at least share some of the financial responsibilities stemming from unanticipated conditions.

Read Responsibility Provisions Closely

Some clients, design professionals, and constructors fail to recognize that geotechnical engineering is far less exact than other engineering disciplines. This lack of understanding has created unrealistic expectations that have led to disappointments, claims, and disputes. To help reduce the risk of such outcomes, geotechnical engineers commonly include a variety of explanatory provisions in their reports. Sometimes labeled "limitations," many of these provisions indicate where geotechnical engineers' responsibilities begin and end, to help others recognize their own responsibilities and risks. *Read these provisions closely.* Ask questions. Your geotechnical engineer should respond fully and frankly.

Environmental Concerns Are Not Covered

The equipment, techniques, and personnel used to perform an *environmental* study differ significantly from those used to perform a *geotechnical* study. For that reason, a geotechnical-engineering report does not usually relate any environmental findings, conclusions, or recommendations; e.g., about the likelihood of encountering underground storage tanks or regulated contaminants. *Unanticipated environmental problems have led to numerous project failures.* If you have not yet obtained your own environmental information, ask your geotechnical consultant for risk-management guidance. *Do not rely on an environmental report prepared for someone else.*

Obtain Professional Assistance To Deal with Mold

Diverse strategies can be applied during building design, construction, operation, and maintenance to prevent significant amounts of mold from growing on indoor surfaces. To be effective, all such strategies should be devised for the *express purpose* of mold prevention, integrated into a comprehensive plan, and executed with diligent oversight by a professional mold-prevention consultant. Because just a small amount of water or moisture can lead to the development of severe mold infestations, many mold- prevention strategies focus on keeping building surfaces dry. While groundwater, water infiltration, and similar issues may have been addressed as part of the geotechnical- engineering study whose findings are conveyed in this report, the geotechnical engineer in charge of this project is not a mold prevention consultant; *none of the services performed in connection with the geotechnical engineer's study were designed or conducted for the purpose of mold prevention. Proper implementation of the recommendations conveyed in this report will not of itself be sufficient to prevent mold from growing in or on the structure involved.*

Rely, on Your GBC-Member Geotechnical Engineer for Additional Assistance

Membership in the Geotechnical Business Council of the Geoprofessional Business Association exposes geotechnical engineers to a wide array of risk-confrontation techniques that can be of genuine benefit for everyone involved with a construction project. Confer with you GBC-Member geotechnical engineer for more information.

GBC GEOTECHNICAL BUSINESS COUNCIL
of the Geoprofessional Business Association

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