

GEO-TECHNOLOGY ASSOCIATES, INC.

GEOTECHNICAL AND
ENVIRONMENTAL CONSULTANTS

A Practicing Geoprofessional Business Association Member Firm



June 24, 2020

Rockefeller Group
92 Headquarters Plaza North Tower, 9th Floor
Morristown, New Jersey 07960

Attn: Mr. Zachary Csik

Re: Preliminary Geotechnical Engineering Report
Proposed Warehouse Building
Eastampton Township, Burlington County, New Jersey

Dear Zac:

In accordance with our agreement dated May 15, 2020 and executed on May 27, 2020, Geo-Technology Associates, Inc. (GTA) has performed a preliminary geotechnical exploration for the planning and design of a proposed warehouse building to be constructed in Eastampton Township, Burlington County, New Jersey. The subject site is located on the western side of U.S. Route 206 approximately 1,000 feet north of its intersection with Woodlane Road, and is identified as Lot 9.03 in Block 800 on the Eastampton Township tax map.

GTA was provided with a plan titled *Concept Sketch #1* prepared by Maser Consulting, P.A. dated October 2, 2019. The conceptual site plan indicates the site boundaries, and the layout and dimensions of the proposed warehouse building, pavement areas to the north and south of the building, a stormwater management basin (SWM) adjacently west of the building, and a potential SWM basin in the northwestern corner of the site. Existing ground surface topography and proposed grading were not indicated on the plan provided to us. Structural and utility plans were not available at the time this report was prepared.

The preliminary geotechnical exploration included the observation of 12 Standard Penetration Test (SPT) borings and 16 test pits throughout the area proposed for development, examining the encountered soils for their engineering classifications, and performing limited laboratory classification testing. The results of the field and laboratory testing and our preliminary findings and conclusions regarding the geotechnical implications of the existing site conditions on the proposed development are included in this report.

SITE CONDITIONS

The site is bounded by U.S. Route 206 to the east, commercial properties along Lina Lane and wooded areas to the north, wooded areas to the west, and a commercial property to the south. At the time of our study, the majority of the site was occupied by agricultural land with wooded areas present along the western site boundary and a few trees scattered along Route 206.

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Based on our visual observations and review of the ground surface topography as shown on Google Earth, the site generally slopes gently from about Elevation (EL) 62 feet in the northwestern portion of the site down to about EL 50 feet in the southwestern corner. The central portion of the proposed building area has a topographic high of about EL 57 feet, and the ground surface slopes gently down to about 55 feet along Route 206 and EL 52 feet in the west-central portion of the site.

PROPOSED CONSTRUCTION

The plan indicates the proposed warehouse structure will have dimensions of approximately 1,050 feet by 320 feet, with the long dimension generally aligned east to west. Proposed truck loading and trailer parking spaces are sited adjacently north of the proposed building, and automobile parking will be provided along the southerly side of the building. A proposed stormwater management basin (SWM) is indicated in the western portion of the site, and a potential SWM basin is indicated in the northwestern corner. Based on scaled measurements, we estimate the proposed and potential basin areas to be approximately 75,000 square feet and 49,000 square feet, respectively.

Proposed site grading and a finished floor elevation for the proposed structure were not available at the time this report was prepared. However, based on the existing surface grades, we anticipate that minimal cuts and fills ranging up to about 5 feet will likely be required to achieve the proposed building and site grades.

The structure is assumed to be of cast-in-place concrete and steel-frame construction. Based on our experience on projects of similar scope, we estimate that the proposed warehouse structure will have maximum column loads of approximately 150 to 200 kips, and bearing wall loads of approximately 8 to 10 kips per linear foot. Maximum ground floor slab live loads of approximately 400 pounds per square foot are anticipated for the structure.

SITE GEOLOGY

The subject site is situated within the Coastal Plains physiographic province characterized by unconsolidated deposits gently dipping to the southeast. As shown on the *Bedrock Geologic Map of Central and Southern New Jersey (1999)* published by the New Jersey Geological Survey, the majority of the site is underlain by the Mount Laurel Formation and the southeastern portion is underlain by the Navesink Formation. Both formations were deposited during the Upper Cretaceous Period of the Mesozoic Era. The Mount Laurel Formation is characterized by dark gray sand, which weathers to white or light yellow and is locally stained orange brown by iron oxides. The sand is chiefly quartz with minor glauconite and feldspar. The Navesink Formation is described as dark gray to dark green-gray, medium-grained sand, which weathers to light brown or red brown. The sand predominantly consists of glauconite and is described as clayey or silty. The unit is extensively bioturbated and locally contains large calcareous shells and sand-sized mica.

According to the *Surficial Geology of New Jersey (DGS07-2, 2013)* published as part of the Digital Geodata Series by the New Jersey Geological and Water Society, generated using data from the United States Geological Survey, the surficial geology of the site is mapped as Upper Stream Terrace Deposits. The deposits consist of yellow, reddish yellow, and yellowish brown sand and pebble gravel with minor silt and cobble gravel. The unit can be as much as 20 feet in thickness.

Please refer to the referenced publication for more detailed descriptions of the geologic members.

SUBSURFACE EXPLORATION

The subsurface exploration program consisted of 12 Standard Penetration Test (SPT) borings and 16 test pits throughout the areas proposed for development. The test pits were performed by Heritage Contracting Company, Inc. using a Caterpillar 313BCR track-mounted excavator on May 29, 2020 and the borings were performed by GTA using a Diedrich D50 track-mounted drill rig on June 1 and 2, 2020. The borings and test pits extended to depths ranging from approximately 10 to 25 feet and 13 to 15 feet below the ground surface, respectively. The exploration locations were selected by GTA and located in the field using a hand-held GPS unit. The approximate locations of the explorations performed for this study are shown on the Exploration Location Plan, which is included as Figure 2 in Appendix A. Detailed descriptions of the encountered subsurface conditions are indicated on the Logs of Borings and Logs of Test Pits, which are included in Appendix B. The ground surface elevations shown on the exploration logs were obtained from topographic information available on Google Earth and should be considered very approximate.

Standard Penetration Testing was performed in accordance with procedures of ASTM D158. Soil samples were obtained at two- to five-foot intervals within the boreholes. The SPT involves driving a 2-inch O.D., 1⅜-inch I.D. split-spoon sampler with a 140-pound hammer free-falling from a height of 30 inches. The number of blows required to drive the sampler was recorded in six-inch intervals. The SPT N-value, given as blows per foot, is defined as the total number of blows required to drive the sampler from the 6- to 18-inch interval.

The samples retrieved from the explorations were delivered to GTA's laboratory for visual classification by a geotechnical engineer and limited laboratory testing. The soil descriptions indicated on the logs are based on visual observations of the individual soil samples as summarized in the Notes for Exploration Logs included in Appendix B, supplemented by the laboratory test results.

LABORATORY TESTING

Laboratory testing performed for this study included gradation analyses for classification of the soils in accordance with the Unified Soil Classification System (USCS), and natural moisture content determinations. Classification of soils in accordance with the USCS provides information regarding the properties of the materials that will support the building and pavement loads or be used as controlled compacted fill or backfill. Detailed results of the laboratory testing performed for this study are included in Appendix C. The results of the laboratory tests are summarized in the following table:

SUMMARY OF LABORATORY TEST RESULTS

Exploration Location	Depth (Ft.)	Fines (%)	USCS Classification	NMC (%)
TP-1	4	29.4	Silty SAND (SM)	22.8
TP-3	6	15.4	Silty SAND (SM)	28.1
TP-9	14	21.6	Silty SAND (SM)	29.2
TP-12	1	27.5	Silty SAND (SM)	23.1

* NMC = Natural Moisture Content

INFILTRATION TEST RESULTS

In-situ infiltration tests were performed adjacent to Test Pits TP-2, TP-3, and TP-4 performed within the proposed SWM basin area and TP-1 performed within the potential basin area using a double-ring infiltrometer in accordance with the ASTM D3385 test procedure. The tests were performed at depths ranging from approximately 3 to 4 feet below the ground surface within the natural soils. The results of the infiltration tests performed for this study are summarized in the following table:

SUMMARY OF INFILTRATION TEST RESULTS

Test Pit Location	Approximate Test Depth* (ft)	Final Water Level Drop (in)	Time Interval (min)	USCS Classification	Measured Infiltration Rate (in/hr)
TP-1	4	¾	30	Silty SAND (SM)	1.5
TP-2	3½	¾	30	Silty SAND (SM)	1.5
TP-3	3	¼	30	Silty SAND (SM)	0.5
TP-4	3	2	20	Silty SAND (SM)	6

*Beneath the existing ground surface.

A factor of safety of at least 2 should be applied to the measured infiltration rates.

The primary conditions that affect the capacity to infiltrate water are the soil gradation and density properties and the presence of hydraulically restrictive layers such as silt or clay (fines), rock, or groundwater, each of which would restrict the flow of water into the underlying aquifer. The soil profile generally consisted loose to medium dense silty sands in the proposed and potential basin areas and pockets of cemented sands were encountered at varying depths. Groundwater was encountered in the basin test pits at depths ranging from about 4 to 5 feet below the ground surface.

In general, the silty sands tested in Test Pits TP-1, TP-2 and TP-3 appeared marginally receptive to infiltration with measured infiltration rates ranging from about 0.5 to 1.5 inches per

hour. The silty sand tested in TP-4, within the southern portion of the proposed SWM basin area, appeared receptive to infiltration with a measured infiltration rate of 6 inches per hour. We believe the variation in the infiltration results is likely due to the presence of groundwater within a few feet of the infiltration test depths.

We believe the infiltration test results and groundwater observations indicate that infiltration of collected stormwater is generally feasible at the basin locations within the silty sand soils. However, we believe the presence of groundwater at relatively shallow depths will likely impact the basin design. Scarifying or replacement of the soils may be necessary during construction depending on the basin design infiltration rate. In localized areas of very low or no infiltration, we recommend the soils be undercut and backfilled to the proposed bottom of basin elevation using granular soils, washed gravel, or sand meeting the design infiltration rate. We recommend additional test pits be performed in the basin area during the wet season, defined by the NJ Department of Environmental Protection as January through April, to determine the seasonal high groundwater level. Additional infiltration testing should also be performed at the proposed basin bottom elevation once it is established.

It will be important to limit disturbance and compaction of the infiltration surface during construction. Infiltration areas should not be exposed to unstabilized runoff that may contribute to sedimentation and clogging of the subgrade, and possible system failure, prior to the completion of construction. Where possible, the operation of heavy construction equipment directly on the infiltration area subgrades should be avoided or kept to a minimum. After grubbing and rough grading, infiltration areas should be tilled with a disc or rotary tiller followed by a leveling drag, to restore the soils to a loose condition.

Construction oversight by competent engineering personnel during installation of stormwater management facilities is critical to successful functioning of the system. Ideally, construction oversight should be provided by the geotechnical engineer, or qualified representative, retained by the project owner to document construction operations and assure that project specifications and special construction requirements are met. Periodic inspection and maintenance of the infiltration system will be required to maximize the efficiency and design life of the system.

SUBSURFACE CONDITIONS

An approximately 10- to 16-inch thick layer of topsoil was encountered at the ground surface in all of the explorations performed for this study, averaging approximately 12 inches. The natural soils encountered below the topsoil appear to be consistent with the geologic mapping, and generally consisted of predominantly loose to medium dense silty sands. Five of the explorations (B-9, B-10, TP-5, TP-13 and TP-15) encountered a layer of fine-grained soft to medium stiff sandy silt below the topsoil, which extended to depths of about 2 to 3 feet below the ground surface. Several of the explorations also encountered pockets of cemented sand at varying depths within the silty sand layers.

Groundwater was encountered all of the explorations performed for this study at depths ranging from about 2 to 8 feet below the ground surface, with exception to Boring B-6 which was terminated at a depth of 10 feet below the ground surface and did not encounter water. The

groundwater depths encountered generally correspond to approximately EL 47 feet to EL 55 feet using Google Earth surface elevations. Following the completion of drilling, temporary piezometers were installed in Borings B-1 and B-5. After approximately 24 hours, the depth to groundwater at each location was measured to be about 2 feet 9 inches below the ground surface, which correlated to about EL 52 feet. Fluctuations in the groundwater level typically occur due to several factors, including variations in precipitation, seasonal changes, and site development activities. It should be anticipated that seepage of perched or trapped water may also occur in construction excavations at potentially shallow depths throughout the site. We believe the groundwater conditions observed during our exploration are likely representative of the seasonal high groundwater level at the explored locations.

GEOTECHNICAL IMPLICATIONS OF SUBSURFACE CONDITIONS

General

Based on the results of this preliminary study, it is GTA's opinion that construction of the proposed warehouse is feasible, provided the geotechnical recommendations are followed, and the standard level of care is maintained during construction. Geotechnical issues that may impact site development include loose sands, cemented sands, and the potential to encounter groundwater at shallow depths.

GTA recommends that additional explorations and further analyses be performed after the site, grading, and stormwater management plans are more fully developed. Specific recommendations for the design of foundations, pavements, SWM facilities, retaining walls, and other geotechnical considerations can be provided at that time based on the final development plans and the design-phase exploration.

The remainder of this report presents GTA's preliminary assessment and conclusions regarding the geotechnical implications of the encountered subsurface conditions to the proposed development. Revisions to these conclusions and recommendations may be warranted depending on the subsurface conditions encountered in supplementary explorations.

Site Preparation Prior to Fill Placement

Site preparation should begin by clearing and grubbing any trees and surface vegetation, and stripping the topsoil from within and at least five feet beyond proposed building and pavement areas. An average of about 12 inches of topsoil was encountered in the explorations performed for this study. The actual topsoil stripping thickness may vary from the topsoil thicknesses shown on the exploration logs and will depend on local topsoil and vegetation development, soil moisture, construction traffic disturbance, and contractor care. Topsoil need not be stripped from proposed paved areas that will receive at least 5 feet of fill to achieve the planned pavement subgrade level. The excavated topsoil will not be suitable for reuse as controlled compacted fill or backfill within building or pavement areas, or as backfill against the building walls or atop utilities.

The natural subgrade materials exposed following this work should be evaluated by a geotechnical engineer. Soils that are observed to be soft or unstable during the evaluation should be selectively excavated, and the resultant excavations should be backfilled with controlled compacted fill. Fill placement should not be performed until the subgrade is evaluated by the geotechnical engineer. It should be anticipated that some undercutting will be required during site development to achieve a stable subgrade, particularly in areas where sandy silt soils are exposed following stripping, and/or following inclement weather periods.

Materials

The excavated coarse-grained (SM) natural site soils are considered suitable for reuse as controlled fill, with some limitations. Moisture conditioning of the on-site soils may be required to attain the recommended degree of compaction, depending on the prevailing weather conditions at the time the earthwork is performed. Portions of the sandy site soils have up to 30 percent fines (silt and clay) and will be somewhat susceptible to disturbance from excess moisture and construction vehicle traffic.

The on-site fine-grained soils, though generally encountered in relatively minor amounts, are very susceptible to moisture-related compaction problems and as such are considered less desirable for reuse as controlled compacted fill than the silty sand soils. These silty soils, occurring as relatively thin layers below the topsoil and overlying the silty sands, may need to be selectively segregated from the coarse-grained natural site soils prior to placement as controlled compacted fill if they are significantly above their optimum moisture content for compaction purposes at the time of construction. Ideally, the fine-grained soils should be placed in proposed landscape areas or detention basin embankments.

We recommend that basin liner or embankment core soils be specified based on a necessary permeability rate, rather than by material type such as clay, as clay soils do not appear to be present in any abundance at the site.

We recommend that the earthwork phase of the project be performed during the warmer, drier months of the year, if possible. Bid documents should clearly state that the geotechnical engineer will evaluate the suitability of the soils for various purposes at the time of construction, and that high moisture content will not be considered as a basis for rejection of soils as unsuitable. The need for moisture conditioning (drying) of the soils should be anticipated and included in the earthwork contract.

Off-site borrow materials, if required, should meet USCS designation SC, SM, SP, SW, GP, GM, or GW and be approved by the geotechnical engineer prior to use.

Groundwater

Groundwater was encountered in 27 of the 28 explorations at depths ranging from about 2 to 8 feet below the ground surface, which generally corresponded to about EL 47 to 55 feet based on Google Earth topographic information. Seepage of water perched atop relatively impermeable soil layers or trapped within locally porous soil zones could also occur in construction excavations at varying depths throughout the site. We anticipate that such

perched or trapped seepage will be able to be controlled by pumping from sumps located in the excavations. However, excavations extending more than about 2 or 3 feet below the observed groundwater level may require wells or well points to control the groundwater and achieve a stable excavation subgrade. Excavations extending up to about 2 to 3 feet below the groundwater level can probably be dewatered using conventional sumps and pumps, but it should be anticipated that undercutting to allow for the placement of at least a foot of AASHTO No. 57 stone aggregate to maintain a stable subgrade and a medium through which to pump. Depending on the site grading, it may be necessary to install stone-filled drainage trenches to lower the groundwater level to below the proposed grades. Positive drainage should be maintained during construction to prevent inundation of subgrade soils by surface water runoff. Excavations to remove wet, soft soils should be backfilled with controlled compacted fill or AASHTO No. 57 stone aggregate.

Fill Placement

All fill placed below proposed building and pavement areas should consist of controlled compacted fill and be installed under the observation of a representative from GTA. Mass fill should be spread in layers on the order of eight to ten inches in loose thickness and compacted to the following recommended specifications. Backfill placed in confined areas, such as foundation and utility excavations, should be spread in thinner layers and compacted to the same degree using manually operated compaction equipment.

RECOMMENDED COMPACTION SPECIFICATIONS

Structure / Fill Location	Compaction / Moisture Specification
Below foundations, retaining walls, floor slabs, and within wall backfill, or slopes steeper than 5H:1V	95% of ASTM D-1557 Moisture: ± 3% of optimum
Top 1 foot of pavement subgrade	95% of ASTM D-1557 Moisture: ± 2% of optimum
Fills below 1 foot of pavement subgrade	90% of ASTM D-1557 Moisture: ± 3% of optimum

All compactive effort should be verified by in-place density testing by a representative from GTA. The 2018 International Building Code, New Jersey Edition (2018 IBC) requires that fill subgrades and every lift of fill be observed and tested. New fills constructed on slopes steeper than 5H:1V should be keyed into existing slopes for stability considerations. All fill slopes steeper than 5H:1V should generally be placed as controlled fill and be compacted to minimum densities as specified above. Fill for slopes in non-structural areas, such as landscape berms, can be constructed as steep as 3H:1V up to a height of ten feet.

Acid-Producing Soils

The Navesink Formation contains soils that are known to be acid-producing, which are typically very dark in color. Where encountered, these soils should be tested, and if deemed to be acid-producing, should be segregated and stockpiled away from non-acidic materials so

that they may be placed in non-critical areas of the site in accordance with the management practice for “acid producing soils” as outlined by NJDEP. As a precaution, we recommend that utilities or footings that are in direct contact with acidic soils be constructed using materials that are resistant to corrosion, and concrete that is in direct contact with acidic soils should contain sulfate resistant cement. Alternatively, the excavations could be deepened and widened to allow for the placement of a minimum 1-foot thick layer of controlled compacted fill or AASHTO No. 57 stone aggregate. Testing can be performed at the time of construction to determine if such measures are needed.

Subsurface Utilities

It is our opinion that the natural soils and controlled compacted fill are considered suitable for support of subsurface utilities. GTA recommends that a six-inch thick granular bedding layer consisting of AASHTO No. 57 stone aggregate be placed where loose/soft soil is encountered to provide uniform support as dictated by site conditions. Additional stone thicknesses may be appropriate if water seepage is encountered in the excavations.

Contractors should provide adequate earth support and dewatering systems in utility trench excavations. Dewatering should be anticipated as previously discussed.

Utilities installed below pavements and other structural areas should be backfilled using controlled fill, compacted in accordance with the recommendations presented in the *Fill Placement* section of this report.

Foundations

Assuming maximum column and bearing wall loads of up to approximately 150 to 200 kips and 8 to 10 kips per linear foot, respectively, the proposed logistics facility may be supported on conventional shallow spread foundations established on the natural soils or on controlled compacted fill proper placed directly atop the natural soils. Foundation bearing pressures ranging from 3,000 to 4,000 pounds per square foot appear feasible. The supplementary geotechnical exploration should include additional SPT borings and/or dilatometer test (DMT) soundings to further evaluate the allowable bearing capacity of the natural soils. Minimum widths for wall footings of 24 inches and column footings of 30 inches are recommended to prevent a punching-type shear failure if the design, based on the above bearing pressure, results in a narrower footing.

We recommend that the footing subgrade soils be compacted by several passes of a vibratory trench roller prior to installing formwork and reinforcing steel. Undercutting may be required if the compaction effort is deemed insufficient. Footing subgrades requiring overexcavation may be backfilled to the design bearing grade with controlled compacted fill, open-graded crushed stone meeting the gradational requirements of AASHTO Size No. 57 aggregate, or concrete. The decision to undercut footings or perform other foundation remedial measures should be made in the field by the geotechnical engineer during footing construction.

Should seepage of perched or trapped water, or groundwater, be encountered during foundation construction, the excavation should be dewatered using sumps or well points and

removing the water by pumping away from the building site. Excavations to remove wet, soft soils should be backfilled with AASHTO No. 57 stone aggregate.

Floor Design

It is GTA's opinion that the floor slab can be designed as a concrete slab-on-grade bearing on medium dense natural soils or controlled compacted fill properly placed atop the natural soils. A design modulus of subgrade reaction (k) of 100 to 150 pounds per cubic inch (pci) appears feasible, pending further evaluation including DMT soundings. The slab may bear on wall projections; however, it should be jointed so that the foundation walls can settle slightly without affecting the slab.

Floor slab subgrade soils should be evaluated by a representative of the geotechnical engineer immediately prior to stone and concrete placement. This evaluation may include a combination of visual observations, proofrolling, hand-probing and field density tests to verify that the subgrade soils have been prepared properly. Contractors should anticipate that remedial work could be required to achieve a stable subgrade prior to stone placement, even if the subgrade soils had previously been compacted to the required densities. All interior utility trenches should be backfilled and compacted in accordance with our *Fill Placement* recommendations.

Pavements

GTA recommends the upper 18-inches of pavement subgrade be constructed of materials with the following characteristics:

Liquid Limit	35 or less
Plasticity Index	15 or less
Maximum Dry Density	105 pcf or greater
California Bearing Ratio (CBR)	5 or greater

The laboratory testing suggests that on-site granular soils (SM) will generally meet the above criteria but the fine-grained soils (ML) may not. Predominately fine-grained soils (silt and clay) are highly susceptible to disturbance and softening from excess moisture content and construction equipment traffic. Contractors should anticipate that remedial work may be required to achieve a stable subgrade prior to paving, even if the subgrade soils had previously been compacted to the required densities. For preliminary planning purposes, GTA suggests the pavements be designed based on a CBR value of 7 percent, which assumes that granular soils (either as controlled fill or natural) are predominant within the upper 1½ to 2 feet of roadway subgrade. However, if the pavement is underlain fine-grained soils, then the pavements should be designed assuming a CBR value of approximately 3 percent. CBR testing should be performed to confirm these estimated values. The permanent and/or temporary pavement design must consider that construction traffic may traverse paved roads that have not yet received the surface course.

Prior to construction of pavement sections, the pavement subgrade should be tested to verify design parameters and proofrolled with a loaded tandem axle dump truck under the observation of a geotechnical engineer to evaluate stability. Unsuitable soil should be overexcavated to stable subgrade soils or a maximum depth of about 1 to 2 feet below the proposed subgrade level. The resultant excavations should be backfilled with granular controlled compacted fill or subbase stone aggregate. Undercutting, reworking and drying, or the use of geosynthetics may be necessary in some areas for subgrade stabilization depending on the weather conditions at the time pavement construction proceeds.

The pavement section should be designed using applicable State or Local standards for the anticipated traffic loading. GTA should be provided the opportunity to perform or review the pavement section design.

ADDITIONAL GEOTECHNICAL EVALUATION

Additional explorations and further analyses will be required once the site, grading, and stormwater management plans are more fully developed to further evaluate and recommend design criteria for foundations, floor slabs, pavements, and SWM facilities.

LIMITATIONS

This report, including all supporting boring and test pit logs, field data, field notes, laboratory test data, calculations, estimates and other documents prepared by GTA in connection with this Project have been prepared for the exclusive use of Rockefeller Group (Client) pursuant to the agreement between GTA and Client dated May 15, 2020 and executed on May 27, 2020, and in accordance with generally accepted engineering practice. All terms and conditions set forth in the Agreement and the General Provisions attached thereto are incorporated herein by reference. No warranty, express or implied, is made herein. Use and reproduction of this report by any other person without the expressed written permission of GTA and Client is unauthorized and such use is at the sole risk of the user.

The analysis and recommendations contained in this report are based on the data obtained from limited observation and testing of the encountered materials. Borings and test pits indicate soil conditions only at specific locations and times and only at the depths penetrated. They do not necessarily reflect strata or variations that may exist between or beyond the exploration locations. Consequently, the analysis and recommendations must be considered preliminary until the subsurface conditions can be verified by supplementary design-phase studies and direct observation at the time of construction. If variations of subsurface conditions from those described in this report are noted during construction, recommendations in this report may need to be re-evaluated. The soil samples obtained in conjunction with this exploration will be discarded approximately 60 days after the date of this report unless other arrangements are made by the Client.

In the event that any changes in the nature, design, or location of the facilities are planned, the conclusions and recommendations contained in this report should not be considered valid unless the changes are reviewed and conclusions of this report are verified in writing. GTA is not responsible for any claims, damages, or liability associated with interpretation of subsurface data or reuse of the subsurface data or engineering analysis without written authorization from GTA.

The scope of our services for this geotechnical exploration 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 logs regarding odors or unusual or suspicious items or conditions observed are strictly for the information of our Client.

This report and the attached logs are instruments of service. The subject matter of this report is limited to the facts and matters stated herein. Absence of a reference to any other conditions or subject matter shall not be construed by the reader to imply approval by the writer.

We appreciate the opportunity to provide assistance to you for this project. Please contact us at (732) 271-9301 if you have questions regarding this report.

Very truly yours,
GEO-TECHNOLOGY ASSOCIATES, INC.



Allison Tether, P.G.
Senior Project Manager



Dennis C. Loh, P.E.
Vice President

AMT/DCL: at
Job No. 31200741
Attachments

- GBA—Important Information About Your Geotechnical Engineering Report
- Appendix A: Figures (2 pages)
 - Site Location Map
 - Exploration Location Plan
- Appendix B: Exploration Logs (29 pages)
 - Notes for Exploration Logs
 - Logs of Borings (12 pages)
 - Logs of Test Pits (16 pages)
- Appendix C: Laboratory Data (4 pages)
 - Particle Size Distribution Reports (4 pages)

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.

The Geoprofessional Business Association (GBA) has prepared this advisory to help you – assumedly a client representative – interpret and apply this geotechnical-engineering report as effectively as possible. In that way, you can benefit from a lowered exposure to problems associated with subsurface conditions at project sites and development of them that, for decades, have been a principal cause of construction delays, cost overruns, claims, and disputes. If you have questions or want more information about any of the issues discussed herein, contact your GBA-member geotechnical engineer. Active engagement in GBA exposes geotechnical engineers to a wide array of risk-confrontation techniques that can be of genuine benefit for everyone involved with a construction project.

Understand the Geotechnical-Engineering Services Provided for this Report

Geotechnical-engineering services typically include the planning, collection, interpretation, and analysis of exploratory data from widely spaced borings and/or test pits. Field data are combined with results from laboratory tests of soil and rock samples obtained from field exploration (if applicable), observations made during site reconnaissance, and historical information to form one or more models of the expected subsurface conditions beneath the site. Local geology and alterations of the site surface and subsurface by previous and proposed construction are also important considerations. Geotechnical engineers apply their engineering training, experience, and judgment to adapt the requirements of the prospective project to the subsurface model(s). Estimates are made of the subsurface conditions that will likely be exposed during construction as well as the expected performance of foundations and other structures being planned and/or affected by construction activities.

The culmination of these geotechnical-engineering services is typically a geotechnical-engineering report providing the data obtained, a discussion of the subsurface model(s), the engineering and geologic engineering assessments and analyses made, and the recommendations developed to satisfy the given requirements of the project. These reports may be titled investigations, explorations, studies, assessments, or evaluations. Regardless of the title used, the geotechnical-engineering report is an engineering interpretation of the subsurface conditions within the context of the project and does not represent a close examination, systematic inquiry, or thorough investigation of all site and subsurface conditions.

Geotechnical-Engineering Services are Performed for Specific Purposes, Persons, and Projects, and At Specific Times

Geotechnical engineers structure their services to meet the specific needs, goals, and risk management preferences of their clients. A geotechnical-engineering study conducted for a given civil engineer

will not likely meet the needs of a civil-works constructor or even a different civil engineer. Because each geotechnical-engineering study is unique, each geotechnical-engineering report is unique, prepared *solely* for the client.

Likewise, geotechnical-engineering services are performed for a specific project and purpose. For example, it is unlikely that a geotechnical-engineering study for a refrigerated warehouse will be the same as one prepared for a parking garage; and a few borings drilled during a preliminary study to evaluate site feasibility will not be adequate to develop geotechnical design recommendations for the project.

Do not rely on this report if your geotechnical engineer prepared it:

- for a different client;
- for a different project or purpose;
- for a different site (that may or may not include all or a portion of the original site); or
- before important events occurred at the site or adjacent to it; e.g., man-made events like construction or environmental remediation, or natural events like floods, droughts, earthquakes, or groundwater fluctuations.

Note, too, the reliability of a geotechnical-engineering report can be affected by the passage of time, because of factors like changed subsurface conditions; new or modified codes, standards, or regulations; or new techniques or tools. *If you are the least bit uncertain about the continued reliability of this report, contact your geotechnical engineer before applying the recommendations in it.* A minor amount of additional testing or analysis after the passage of time – if any is required at all – could prevent major problems.

Read this Report in Full

Costly problems have occurred because those relying on a geotechnical-engineering report did not read the report in its entirety. Do not rely on an executive summary. Do not read selective elements only. *Read and refer to the report in full.*

You Need to Inform Your Geotechnical Engineer About Change

Your geotechnical engineer considered unique, project-specific factors when developing the scope of study behind this report and developing the confirmation-dependent recommendations the report conveys. Typical changes that could erode the reliability of this report include those that affect:

- the site's size or shape;
- the elevation, configuration, location, orientation, function or weight of the proposed structure and the desired performance criteria;
- the composition of the design team; or
- project ownership.

As a general rule, *always* inform your geotechnical engineer of project or site changes – even minor ones – and request an assessment of their impact. *The geotechnical engineer who prepared this report cannot accept*

responsibility or liability for problems that arise because the geotechnical engineer was not informed about developments the engineer otherwise would have considered.

Most of the “Findings” Related in This Report Are Professional Opinions

Before construction begins, geotechnical engineers explore a site’s subsurface using various sampling and testing procedures. *Geotechnical engineers can observe actual subsurface conditions only at those specific locations where sampling and testing is performed.* The data derived from that sampling and testing were reviewed by your geotechnical engineer, who then applied professional judgement to form opinions about subsurface conditions throughout the site. Actual sitewide-subsurface conditions may differ – maybe significantly – from those indicated in this report. Confront that risk by retaining your geotechnical engineer to serve on the design team through project completion to obtain informed guidance quickly, whenever needed.

This Report’s Recommendations Are Confirmation-Dependent

The recommendations included in this report – including any options or alternatives – are confirmation-dependent. In other words, they are not final, because the geotechnical engineer who developed them relied heavily on judgement and opinion to do so. Your geotechnical engineer can finalize the recommendations *only after observing actual subsurface conditions* exposed during construction. If through observation your geotechnical engineer confirms that the conditions assumed to exist actually do exist, the recommendations can be relied upon, assuming no other changes have occurred. *The geotechnical engineer who prepared this report cannot assume responsibility or liability for confirmation-dependent recommendations if you fail to retain that engineer to perform construction observation.*

This Report Could Be Misinterpreted

Other design professionals’ misinterpretation of geotechnical-engineering reports has resulted in costly problems. Confront that risk by having your geotechnical engineer serve as a continuing member of the design team, to:

- confer with other design-team members;
- help develop specifications;
- review pertinent elements of other design professionals’ plans and specifications; and
- be available whenever geotechnical-engineering guidance is needed.

You should also confront the risk of constructors misinterpreting this report. Do so by retaining your geotechnical engineer to participate in prebid and preconstruction conferences and to perform construction-phase observations.

Give Constructors a Complete Report and Guidance

Some owners and design professionals mistakenly believe they can shift unanticipated-subsurface-conditions liability to constructors by limiting the information they provide for bid preparation. To help prevent the costly, contentious problems this practice has caused, include the complete geotechnical-engineering report, along with any attachments or appendices, with your contract documents, *but be certain to note*

conspicuously that you’ve included the material for information purposes only. To avoid misunderstanding, you may also want to note that “informational purposes” means constructors have no right to rely on the interpretations, opinions, conclusions, or recommendations in the report. Be certain that constructors know they may learn about specific project requirements, including options selected from the report, *only* from the design drawings and specifications. Remind constructors that they may perform their own studies if they want to, and *be sure to allow enough time* to permit them to do so. Only then might you be in a position to give constructors the information available to you, while requiring them to at least share some of the financial responsibilities stemming from unanticipated conditions. Conducting prebid and preconstruction conferences can also be valuable in this respect.

Read Responsibility Provisions Closely

Some client representatives, design professionals, and constructors do not realize that geotechnical engineering is far less exact than other engineering disciplines. This happens in part because soil and rock on project sites are typically heterogeneous and not manufactured materials with well-defined engineering properties like steel and concrete. That lack of understanding has nurtured unrealistic expectations that have resulted in disappointments, delays, cost overruns, claims, and disputes. To confront that risk, geotechnical engineers commonly include 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.

Geoenvironmental Concerns Are Not Covered

The personnel, equipment, and techniques used to perform an environmental study – e.g., a “phase-one” or “phase-two” environmental site assessment – differ significantly from those used to perform a geotechnical-engineering study. For that reason, a geotechnical-engineering report does not usually provide environmental findings, conclusions, or recommendations; e.g., about the likelihood of encountering underground storage tanks or regulated contaminants. *Unanticipated subsurface environmental problems have led to project failures.* If you have not obtained your own environmental information about the project site, ask your geotechnical consultant for a recommendation on how to find environmental risk-management guidance.

Obtain Professional Assistance to Deal with Moisture Infiltration and Mold

While your geotechnical engineer may have addressed groundwater, water infiltration, or similar issues in this report, the engineer’s services were not designed, conducted, or intended to prevent migration of moisture – including water vapor – from the soil through building slabs and walls and into the building interior, where it can cause mold growth and material-performance deficiencies. Accordingly, *proper implementation of the geotechnical engineer’s recommendations will not of itself be sufficient to prevent moisture infiltration.* **Confront the risk of moisture infiltration** by including building-envelope or mold specialists on the design team. **Geotechnical engineers are not building-envelope or mold specialists.**

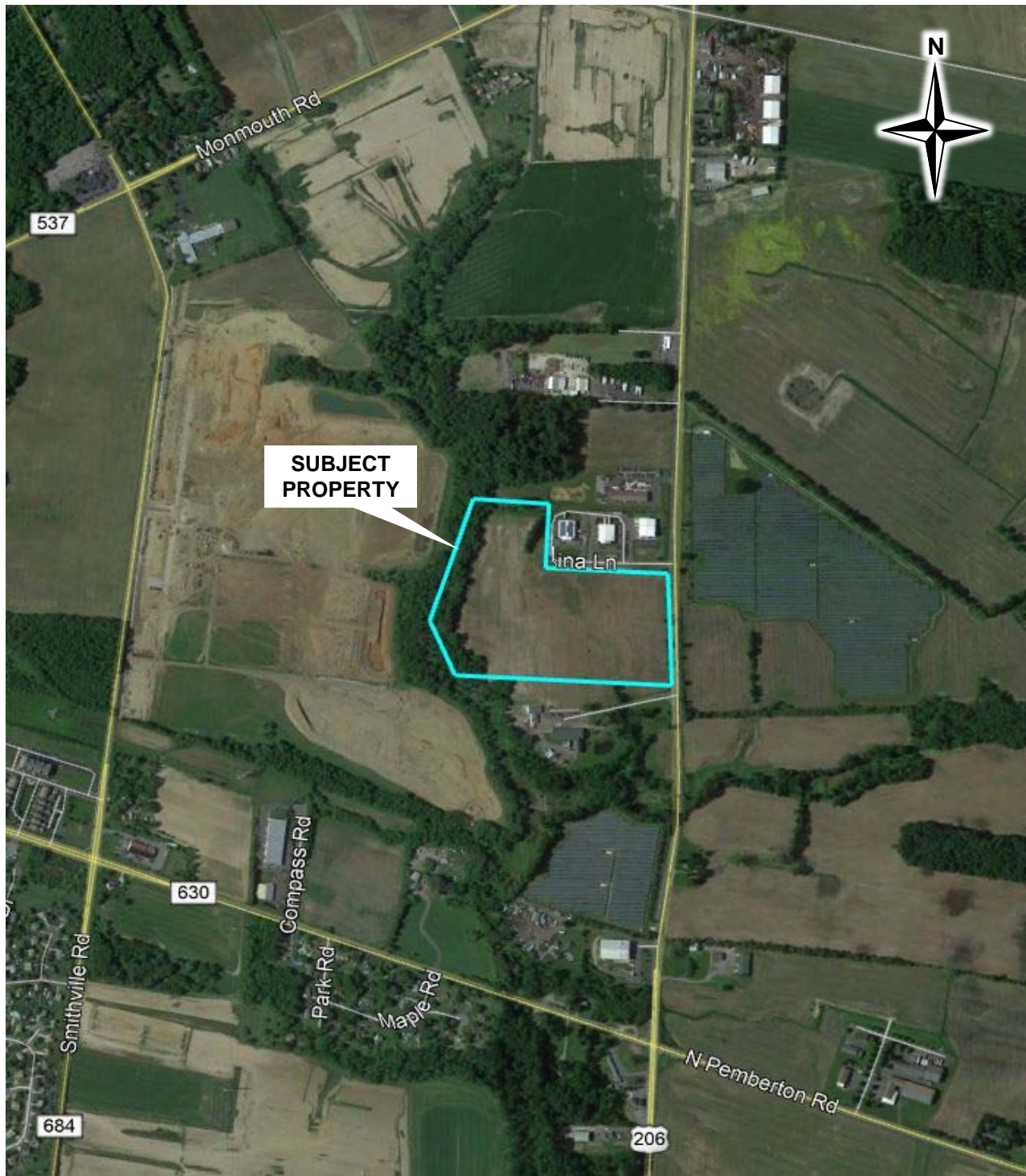


Telephone: 301/565-2733

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APPENDIX A

Figures



Note: Site boundary is approximate.

SITE LOCATION MAP



14 Worlds Fair Drive, Suite A
Somerset, New Jersey 08873
(732) 271-9301
fax (732) 271-9306

GEO-TECHNOLOGY ASSOCIATES, INC.

PROPOSED WAREHOUSE BUILDING

Eastampton Township,
Burlington County, New Jersey

Prepared For: Rockefeller Group

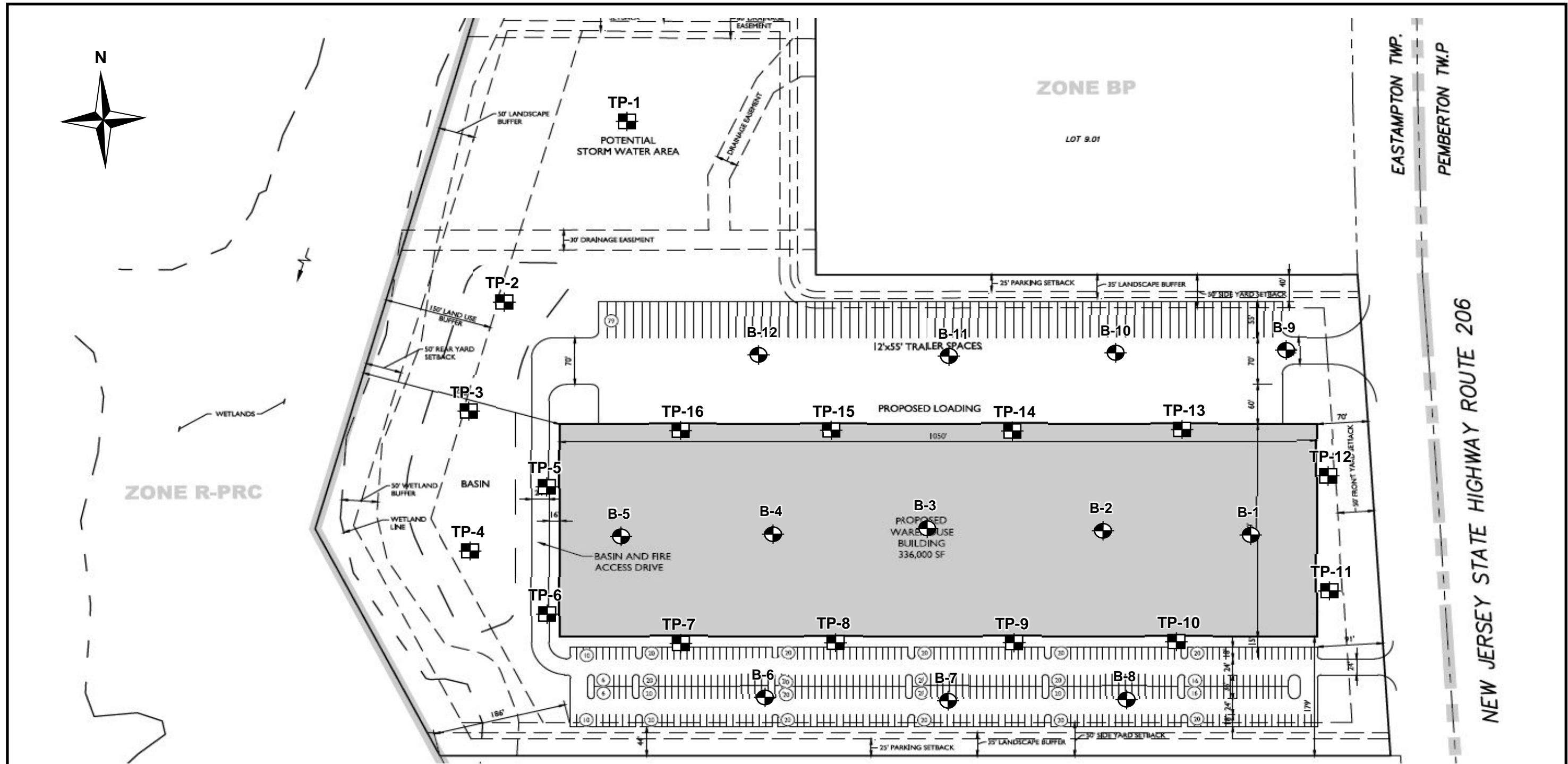
SOURCE: Google Maps

SCALE: NTS

DATE: JUN. 2020



PROJECT #: 31200741

Figure 1



*Base plan prepared by Maser Consulting, P.A. titled "Concept Sketch #1" dated October 2, 2019.

LEGEND:

- B-X**
 Indicates the approximate numbers and locations of borings performed by GTA for this study.
- TP-X**
 Indicates the approximate numbers and locations of test pits performed by GTA for this study.

EXPLORATION LOCATION PLAN



14 Worlds Fair Drive, Suite A
 Somerset, New Jersey 08873
 (732) 271-9301
 fax (732) 271-9306

GEO-TECHNOLOGY ASSOCIATES, INC.

PROPOSED WAREHOUSE BUILDING

Eastampton Township,
 Burlington County, New Jersey

Prepared For: Rockefeller Group

DESIGN BY: *	DRAWN BY: DSP	REVIEWED BY: AMT
SCALE: NTS	DATE: JUN. 2020	PROJECT #: 31200741

Figure 2

APPENDIX B

Exploration Logs

NOTES FOR EXPLORATION LOGS

KEY TO USCS TERMINOLOGY AND GRAPHIC SYMBOLS

MAJOR DIVISIONS (BASED UPON ASTM D 2488)			SYMBOLS	
			GRAPHIC	LETTER
COARSE-GRAINED SOILS <small>MORE THAN 50% OF MATERIAL IS LARGER THAN NO. 200 SIEVE SIZE</small>	GRAVEL AND GRAVELLY SOILS <small>MORE THAN 50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE</small>	CLEAN GRAVELS <small>(LESS THAN 15% PASSING THE NO. 200 SIEVE)</small>		GW
		GRAVELS WITH FINES <small>(MORE THAN 15% PASSING THE NO. 200 SIEVE)</small>		GP
	SAND AND SANDY SOILS <small>MORE THAN 50% OF COARSE FRACTION PASSING ON NO. 4 SIEVE</small>	CLEAN SANDS <small>(LESS THAN 15% PASSING THE NO. 200 SIEVE)</small>		SW
		SANDS WITH FINES <small>(MORE THAN 15% PASSING THE NO. 200 SIEVE)</small>		SP
		SANDS WITH FINES <small>(MORE THAN 15% PASSING THE NO. 200 SIEVE)</small>		SM
		SANDS WITH FINES <small>(MORE THAN 15% PASSING THE NO. 200 SIEVE)</small>		SC
FINE-GRAINED SOILS <small>MORE THAN 50% OF MATERIAL IS SMALLER THAN NO. 200 SIEVE SIZE</small>	SILT OR CLAY <small>(<15% RETAINED ON THE NO. 200 SIEVE)</small>			ML
	SILT OR CLAY WITH SAND OR GRAVEL <small>(15% TO 30% RETAINED ON THE NO. 200 SIEVE)</small>			CL
	SANDY OR GRAVELLY SILT OR CLAY <small>(>30% RETAINED ON THE NO. 200 SIEVE)</small>			OL
	ELASTIC SILTS AND FAT CLAYS <small>LIQUID LIMIT LESS THAN 50</small>			MH
	ELASTIC SILTS AND FAT CLAYS <small>LIQUID LIMIT GREATER THAN 50</small>			CH
	ELASTIC SILTS AND FAT CLAYS <small>LIQUID LIMIT GREATER THAN 50</small>			OH
HIGHLY ORGANIC SOILS				PT

NOTE: DUAL SYMBOLS ARE USED TO INDICATE COARSE-GRAINED SOILS WHICH CONTAIN AN ESTIMATED 5 TO 15% FINES BASED ON VISUAL CLASSIFICATION OR BETWEEN 5 AND 12% FINES BASED ON LABORATORY TESTING; AND FINE-GRAINED SOILS WHEN THE PLOT OF LIQUID LIMIT & PLASTICITY INDEX VALUES FALLS IN THE PLASTICITY CHART'S CROSS-HATCHED AREA. FINE-GRAINED SOILS ARE CLASSIFIED AS ORGANIC (OL OR OH) WHEN ENOUGH ORGANIC PARTICLES ARE PRESENT TO INFLUENCE ITS PROPERTIES. LABORATORY TEST RESULTS ARE USED TO SUPPLEMENT SOIL CLASSIFICATION BY THE VISUAL-MANUAL PROCEDURES OF ASTM D 2488.

ADDITIONAL TERMINOLOGY AND GRAPHIC SYMBOLS

ADDITIONAL DESIGNATIONS	DESCRIPTION		GRAPHIC SYMBOLS
	TOPSOIL		
	MAN MADE FILL		
	GLACIAL TILL		
	COBBLES AND BOULDERS		
RESIDUAL SOIL DESIGNATIONS	DESCRIPTION	"N" VALUE	
	HIGHLY WEATHERED ROCK	50 TO 50/1"	
	PARTIALLY WEATHERED ROCK	MORE THAN 50 BLOWS FOR 1" OF PENETRATION OR LESS, AUGER PENETRABLE	

COARSE-GRAINED SOILS (GRAVEL AND SAND)

DESIGNATION	BLOWS PER FOOT (BPF) "N"
VERY LOOSE	0 - 4
LOOSE	5 - 10
MEDIUM DENSE	11 - 30
DENSE	31 - 50
VERY DENSE	>50

NOTE: "N" VALUE DETERMINED AS PER ASTM D 1586

FINE-GRAINED SOILS (SILT AND CLAY)

CONSISTENCY	BPF "N"
VERY SOFT	<2
SOFT	2 - 4
MEDIUM STIFF	5 - 8
STIFF	9 - 15
VERY STIFF	16 - 30
HARD	>30

NOTE: ADDITIONAL DESIGNATIONS TO ADVANCE SAMPLER INDICATED IN BLOW COUNT COLUMN:
WOH = WEIGHT OF HAMMER
WOR = WEIGHT OF ROD(S)

SAMPLE TYPE

DESIGNATION	SYMBOL
SOIL SAMPLE	S-
SHELBY TUBE	U-
ROCK CORE	R-

WATER DESIGNATION

DESCRIPTION	SYMBOL
ENCOUNTERED DURING DRILLING	
UPON COMPLETION OF DRILLING	
24 HOURS AFTER COMPLETION	

NOTE: WATER OBSERVATIONS WERE MADE AT THE TIME INDICATED. POROSITY OF SOIL STRATA, WEATHER CONDITIONS, SITE TOPOGRAPHY, ETC. MAY CAUSE WATER LEVEL CHANGES.

LOG OF BORING NO. B-1

PROJECT: **Proposed Warehouse Building**
 PROJECT NO.: **31200741**
 PROJECT LOCATION: **Eastampton Township, Burlington County, NJ**

WATER LEVEL (ft): ∇ **4 Ft.** ∇ **3.5 Ft.** ∇ **2.75 Ft.**
 DATE: **6/1/2020** **6/1/2020** **6/2/2020**
 CAVED (ft): **In Auger** **N/A** **BOC**

DATE STARTED: **6/1/2020**
 DATE COMPLETED: **6/2/2020**
 DRILLING CONTRACTOR: **Geo-Technology Associates, Inc.**
 DRILLER: **Danny Hans**
 DRILLING METHOD: **Hollow Stem Auger**
 SAMPLING METHOD: **Split-Spoon**

GROUND SURFACE ELEVATION: **55 Ft.**
 DATUM: **Google Earth**
 EQUIPMENT: **Dietrich D50**
 HAMMER TYPE: **Automatic**
 LOGGED BY: **DSP**
 CHECKED BY: **AMT**

SAMPLE NUMBER	SAMPLE DEPTH (ft.)	SAMPLE RECOVERY (in.)	SAMPLE BLOWS/6 inches	N (blows/ft.)	ELEVATION (ft.)	DEPTH (ft.)	USCS	GRAPHIC SYMBOL	DESCRIPTION	
									DESCRIPTION	REMARKS
					55.0	0			12 In. of Topsoil	
1	0.0	15	2-2-3-3	5	54.0	2	SM		Dark yellow-brown, moist, loose to medium dense, Silty SAND - Dark brown at 2 Ft.	 Wet spoon at 4 to 6 Ft.
2	2.0	17	2-5-7-5	12		4				
3	4.0	19	2-3-2-2	5		6				
4	6.0	19	2-2-2-2	4		8			- Dark gray, wet, with shell fragments at 6 Ft.	
5	8.0	24	2-3-5-5	8		10				
						12				
6	13.0	24	3-5-8-9	13		14			- Olive-brown at 13 Ft.	
						16				
7	18.0	24	1-2-8-13	10		18				
						20				
						22				
8	23.0	24	5-6-9-10	15		24			- Very dark gray at 23 Ft.	
					30.0	26			Boring complete at 25 Ft. A 2-inch diameter temporary groundwater monitoring well was installed after drilling to a depth of 25 Ft.	
						28				
						30				

NOTES: **Location and elevation are approximate.**
BOC: Backfilled on completion



GEO-TECHNOLOGY ASSOCIATES, INC.

14 Worlds Fair Drive, Suite A
 Somerset, NJ 08873

LOG OF BORING NO. B-1

LOG OF BORING NO. B-2

PROJECT: **Proposed Warehouse Building**
 PROJECT NO.: **31200741**
 PROJECT LOCATION: **Eastampton Township, Burlington County, NJ**

WATER LEVEL (ft): ∇ **4 Ft.** ∇ **3 Ft.** ∇ **N/A**
 DATE: **6/1/2020** **6/1/2020** **-**
 CAVED (ft): **In Auger** **6.75 Ft.** **BOC**

DATE STARTED: **6/1/2020**
 DATE COMPLETED: **6/1/2020**
 DRILLING CONTRACTOR: **Geo-Technology Associates, Inc.**
 DRILLER: **Danny Hans**
 DRILLING METHOD: **Hollow Stem Auger**
 SAMPLING METHOD: **Split-Spoon**

GROUND SURFACE ELEVATION: **55 Ft.**
 DATUM: **Google Earth**
 EQUIPMENT: **Dietrich D50**
 HAMMER TYPE: **Automatic**
 LOGGED BY: **DSP**
 CHECKED BY: **AMT**

SAMPLE NUMBER	SAMPLE DEPTH (ft.)	SAMPLE RECOVERY (in.)	SAMPLE BLOWS/6 inches	N (blows/ft.)	ELEVATION (ft.)	DEPTH (ft.)	USCS	GRAPHIC SYMBOL	DESCRIPTION		REMARKS
									DESCRIPTION		
					55.0	0			11 In. of Topsoil		
1	0.0	18	2-2-2-2	4	54.1	2	SM		Dark yellow-brown, moist, very loose, Silty SAND		
2	2.0	16	3-6-7-6	13		4			- Dark brown at 3 Ft.		∇
3	4.0	24	2-4-5-6	9		6			- wet at 4 Ft.		∇ Wet spoon at 4 to 6 Ft.
4	6.0	24	3-3-3-3	6		8			- Olive-brown at 6 Ft.		
5	8.0	13	2-3-4-5	7		10			- Dark gray, with shell fragments at 8 Ft.		
						12					
						14			- Olive-brown at 13 Ft.		
6	13.0	24	2-4-5-7	9		16					
						18					
7	18.0	24	4-9-12-19	21		20			- Very dark gray at 19 Ft.		
						22					
8	23.0	24	5-6-9-10	15		24					
					30.0	26			Boring complete at 25 Ft.		
						28					
						30					

NOTES: **Location and elevation are approximate.**
BOC: Backfilled on completion



GEO-TECHNOLOGY ASSOCIATES, INC.

14 Worlds Fair Drive, Suite A
 Somerset, NJ 08873

LOG OF BORING NO. B-2

LOG OF BORING NO. B-3

Sheet 1 of 1

PROJECT: **Proposed Warehouse Building**
 PROJECT NO.: **31200741**
 PROJECT LOCATION: **Eastampton Township, Burlington County, NJ**

WATER LEVEL (ft): ∇ **4 Ft.** ∇ **3.5 Ft.** ∇ **N/A**
 DATE: **6/1/2020** **6/1/2020** **-**
 CAVED (ft): **In Auger** **7.75 Ft.** **BOC**

DATE STARTED: **6/1/2020**
 DATE COMPLETED: **6/1/2020**
 DRILLING CONTRACTOR: **Geo-Technology Associates, Inc.**
 DRILLER: **Danny Hans**
 DRILLING METHOD: **Hollow Stem Auger**
 SAMPLING METHOD: **Split-Spoon**

GROUND SURFACE ELEVATION: **57 Ft.**
 DATUM: **Google Earth**
 EQUIPMENT: **Dietrich D50**
 HAMMER TYPE: **Automatic**
 LOGGED BY: **DSP**
 CHECKED BY: **AMT**

SAMPLE NUMBER	SAMPLE DEPTH (ft.)	SAMPLE RECOVERY (in.)	SAMPLE BLOWS/6 inches	N (blows/ft.)	ELEVATION (ft.)	DEPTH (ft.)	USCS	GRAPHIC SYMBOL	DESCRIPTION		REMARKS
					57.0	0			11 In. of Topsoil		
1	0.0	19	2-1-2-3	3	56.1	2	SM		Dark yellow-brown, moist, very loose to loose, Silty SAND - Dark gray-brown at 2 Ft.		
2	2.0	17	3-4-4-5	8		4			- Dark brown, wet at 4 Ft.		∇ ∇ Wet spoon at 4 to 6 Ft.
3	4.0	18	1-1-3-3	4		6					
4	6.0	24	2-3-4-4	7		8			- Dark gray, with shell fragments at 8 Ft.		
5	8.0	15	1-1-3-3	4		10					
						12					
6	13.0	24	2-4-5-8	9		14			- Olive-brown at 13 Ft.		
						16					
						18					
7	18.0	24	2-3-9-10	12		20			- Very dark gray, medium dense at 19 Ft.		
						22					
8	23.0	24	2-6-10-15	16		24					
					32.0	26			Boring complete at 25 Ft.		
						28					
						30					

NOTES: **Location and elevation are approximate.**
BOC: Backfilled on completion



GEO-TECHNOLOGY ASSOCIATES, INC.

14 Worlds Fair Drive, Suite A
 Somerset, NJ 08873

LOG OF BORING NO. B-3

Sheet 1 of 1

LOG OF BORING NO. B-4

Sheet 1 of 1

PROJECT: **Proposed Warehouse Building**
 PROJECT NO.: **31200741**
 PROJECT LOCATION: **Eastampton Township, Burlington County, NJ**

WATER LEVEL (ft): ∇ **8 Ft.** ∇ **4.75 Ft.** ∇ **N/A**
 DATE: **6/2/2020** **6/2/2020** **-**
 CAVED (ft): **In Auger** **8.5 Ft.** **BOC**

DATE STARTED: **6/2/2020**
 DATE COMPLETED: **6/2/2020**
 DRILLING CONTRACTOR: **Geo-Technology Associates, Inc.**
 DRILLER: **Danny Hans**
 DRILLING METHOD: **Hollow Stem Auger**
 SAMPLING METHOD: **Split-Spoon**

GROUND SURFACE ELEVATION: **57 Ft.**
 DATUM: **Google Earth**
 EQUIPMENT: **Dietrich D50**
 HAMMER TYPE: **Automatic**
 LOGGED BY: **DSP**
 CHECKED BY: **AMT**

SAMPLE NUMBER	SAMPLE DEPTH (ft.)	SAMPLE RECOVERY (in.)	SAMPLE BLOWS/6 inches	N (blows/ft.)	ELEVATION (ft.)	DEPTH (ft.)	USCS	GRAPHIC SYMBOL	DESCRIPTION		REMARKS
									DESCRIPTION		
					57.0	0			12 In. of Topsoil		
1	0.0	11	1-3-3-3	6	56.0	2	SM	[Graphic Symbol]	Dark yellow-brown, moist, loose to medium dense, Silty SAND		
2	2.0	15	3-3-3-3	6		4					
3	4.0	23	2-3-4-4	7		6					∇
4	6.0	24	4-5-8-5	13		8			- Dark brown at 8 Ft.		
5	8.0	12	2-2-1-2	3		10			- Dark gray at 9 Ft.		∇ Wet spoon at 8 to 10 Ft.
						12					
6	13.0	14	1-2-4-7	6		14			- Olive-brown at 13 Ft.		
						16					
7	18.0	24	1-2-7-8	9		18			- Very dark gray at 19 Ft.		
						20					
						22					
8	23.0	24	2-4-7-9	11		24			- Dark gray, with shell fragments at 23 Ft.		
					32.0	26			Boring complete at 25 Ft.		
						28					
						30					

NOTES: **Location and elevation are approximate.**
BOC: Backfilled on completion



GEO-TECHNOLOGY ASSOCIATES, INC.

14 Worlds Fair Drive, Suite A
 Somerset, NJ 08873

LOG OF BORING NO. B-4

Sheet 1 of 1

LOG OF BORING NO. B-5

PROJECT: **Proposed Warehouse Building**
 PROJECT NO.: **31200741**
 PROJECT LOCATION: **Eastampton Township, Burlington County, NJ**

WATER LEVEL (ft): ∇ **6 Ft.** ∇ **3 Ft.** ∇ **2.75 Ft.**
 DATE: **6/1/2020** **6/1/2020** **6/2/2020**
 CAVED (ft): **In Auger** **6 Ft.** **BOC**

DATE STARTED: **6/1/2020**
 DATE COMPLETED: **6/2/2020**
 DRILLING CONTRACTOR: **Geo-Technology Associates, Inc.**
 DRILLER: **Danny Hans**
 DRILLING METHOD: **Hollow Stem Auger**
 SAMPLING METHOD: **Split-Spoon**

GROUND SURFACE ELEVATION: **55 Ft.**
 DATUM: **Google Earth**
 EQUIPMENT: **Dietrich D50**
 HAMMER TYPE: **Automatic**
 LOGGED BY: **DSP**
 CHECKED BY: **AMT**

SAMPLE NUMBER	SAMPLE DEPTH (ft.)	SAMPLE RECOVERY (in.)	SAMPLE BLOWS/6 inches	N (blows/ft.)	ELEVATION (ft.)	DEPTH (ft.)	USCS	GRAPHIC SYMBOL	DESCRIPTION		REMARKS
									DESCRIPTION		
					55.0	0			12 In. of Topsoil		
1	0.0	11	1-2-2-2	4	54.0	2	SM		Dark yellow-brown, moist, loose to medium dense, Silty SAND		∇ ∇ Wet spoon at 6 to 8 Ft.
2	2.0	19	5-6-7-8	13		4		- Dark olive-brown at 4 Ft.			
3	4.0	14	3-7-7-5	14		6		- Dark brown, wet at 6 Ft.			
4	6.0	24	2-3-3-4	6		8					
5	8.0	19	2-2-3-2	5		10					
						12					
6	13.0	24	2-5-6-6	11		14		- Very dark gray at 14 Ft.			
						16					
7	18.0	24	1-7-12-15	19		18		- Olive-brown at 18 Ft.			
						20					
						22					
8	23.0	24	4-5-9-10	14		24		- Very dark gray at 23 Ft.			
					30.0	26		Boring complete at 25 Ft. A 2-inch diameter temporary groundwater monitoring well was installed after drilling to a depth of 25 Ft.			
						28					
						30					

NOTES: **Location and elevation are approximate.**
BOC: Backfilled on completion



GEO-TECHNOLOGY ASSOCIATES, INC.

14 Worlds Fair Drive, Suite A
 Somerset, NJ 08873

LOG OF BORING NO. B-5

LOG OF BORING NO. B-6

Sheet 1 of 1

PROJECT: **Proposed Warehouse Building**
 PROJECT NO.: **31200741**
 PROJECT LOCATION: **Eastampton Township, Burlington County, NJ**

WATER LEVEL (ft): ∇ **N/E** ∇ **N/E** ∇ **N/A**
 DATE: **6/2/2020** **6/2/2020** **-**
 CAVED (ft): **In Auger** **3 Ft.** **BOC**

DATE STARTED: **6/2/2020**
 DATE COMPLETED: **6/2/2020**
 DRILLING CONTRACTOR: **Geo-Technology Associates, Inc.**
 DRILLER: **Danny Hans**
 DRILLING METHOD: **Hollow Stem Auger**
 SAMPLING METHOD: **Split-Spoon**

GROUND SURFACE ELEVATION: **57 Ft.**
 DATUM: **Google Earth**
 EQUIPMENT: **Dietrich D50**
 HAMMER TYPE: **Automatic**
 LOGGED BY: **DSP**
 CHECKED BY: **AMT**

SAMPLE NUMBER	SAMPLE DEPTH (ft.)	SAMPLE RECOVERY (in.)	SAMPLE BLOWS/6 inches	N (blows/ft.)	ELEVATION (ft.)	DEPTH (ft.)	USCS	GRAPHIC SYMBOL	DESCRIPTION	
									DESCRIPTION	REMARKS
					57.0	0			12 In. of Topsoil	
1	0.0	19	1-2-2-1	4	56.0	2	SM		Dark yellow-brown, moist, very loose to medium dense, Silty SAND	
2	2.0	16	2-2-3-3	5		4				
3	4.0	18	2-4-5-6	9		6			- Olive-brown at 6 Ft.	
4	6.0	23	5-6-7-7	13		8				
5	8.0	24	4-4-4-4	8		10			Boring complete at 10 Ft.	
					47.0	12				
						14				
						16				
						18				
						20				
						22				
						24				
						26				
						28				
						30				

NOTES: **Location and elevation are approximate.**
BOC: Backfilled on completion



GEO-TECHNOLOGY ASSOCIATES, INC.

14 Worlds Fair Drive, Suite A
 Somerset, NJ 08873

LOG OF BORING NO. B-6

Sheet 1 of 1

LOG OF BORING NO. B-7

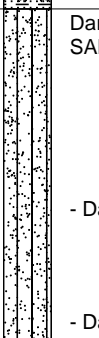
Sheet 1 of 1

PROJECT: **Proposed Warehouse Building**
 PROJECT NO.: **31200741**
 PROJECT LOCATION: **Eastampton Township, Burlington County, NJ**

WATER LEVEL (ft): ∇ **8 Ft.** ∇ **N/E** ∇ **N/A**
 DATE: **6/2/2020** **6/2/2020** **-**
 CAVED (ft): **In Auger** **3 Ft.** **BOC**

DATE STARTED: **6/2/2020**
 DATE COMPLETED: **6/2/2020**
 DRILLING CONTRACTOR: **Geo-Technology Associates, Inc.**
 DRILLER: **Danny Hans**
 DRILLING METHOD: **Hollow Stem Auger**
 SAMPLING METHOD: **Split-Spoon**

GROUND SURFACE ELEVATION: **56 Ft.**
 DATUM: **Google Earth**
 EQUIPMENT: **Dietrich D50**
 HAMMER TYPE: **Automatic**
 LOGGED BY: **DSP**
 CHECKED BY: **AMT**

SAMPLE NUMBER	SAMPLE DEPTH (ft.)	SAMPLE RECOVERY (in.)	SAMPLE BLOWS/6 inches	N (blows/ft.)	ELEVATION (ft.)	DEPTH (ft.)	USCS	GRAPHIC SYMBOL	DESCRIPTION	
									DESCRIPTION	REMARKS
					56.0	0			11 In. of Topsoil	
1	0.0	8	1-2-3-2	5	55.1	2	SM		Dark yellow-brown, moist, loose to medium dense, Silty SAND	
2	2.0	20	2-2-4-3	6		4				
3	4.0	21	2-2-3-4	5		6			- Dark olive-brown at 6 Ft.	
4	6.0	19	3-5-7-7	12		8				
5	8.0	24	3-4-4-4	8		10			- Dark brown at 9 Ft.	∇ Wet spoon at 8 to 10 Ft.
					46.0	10			Boring complete at 10 Ft.	
						12				
						14				
						16				
						18				
						20				
						22				
						24				
						26				
						28				
						30				

NOTES: **Location and elevation are approximate.**
BOC: Backfilled on completion



GEO-TECHNOLOGY ASSOCIATES, INC.

14 Worlds Fair Drive, Suite A
 Somerset, NJ 08873

LOG OF BORING NO. B-7

Sheet 1 of 1

LOG OF BORING NO. B-8

Sheet 1 of 1

PROJECT: **Proposed Warehouse Building**
 PROJECT NO.: **31200741**
 PROJECT LOCATION: **Eastampton Township, Burlington County, NJ**

WATER LEVEL (ft): ∇ **4 Ft.** ∇ **3 Ft.** ∇ **N/A**
 DATE: **6/2/2020** **6/2/2020** **-**
 CAVED (ft): **In Auger** **3.5 Ft.** **BOC**

DATE STARTED: **6/2/2020**
 DATE COMPLETED: **6/2/2020**
 DRILLING CONTRACTOR: **Geo-Technology Associates, Inc.**
 DRILLER: **Danny Hans**
 DRILLING METHOD: **Hollow Stem Auger**
 SAMPLING METHOD: **Split-Spoon**

GROUND SURFACE ELEVATION: **53 Ft.**
 DATUM: **Google Earth**
 EQUIPMENT: **Dietrich D50**
 HAMMER TYPE: **Automatic**
 LOGGED BY: **DSP**
 CHECKED BY: **AMT**

SAMPLE NUMBER	SAMPLE DEPTH (ft.)	SAMPLE RECOVERY (in.)	SAMPLE BLOWS/6 inches	N (blows/ft.)	ELEVATION (ft.)	DEPTH (ft.)	USCS	GRAPHIC SYMBOL	DESCRIPTION	
									DESCRIPTION	REMARKS
					53.0	0			10 In. of Topsoil	
1	0.0	18	1-2-4-5	6	52.2	0	SM		Dark brown, moist, loose to medium dense, Silty SAND	
2	2.0	16	3-5-8-7	13		2			- with pockets of cemented sand at 2 Ft.	∇
3	4.0	22	1-2-2-2	4		4			- wet at 4 Ft.	∇ Wet spoon at 4 to 6 Ft.
4	6.0	20	1-2-3-3	5		6			- Dark gray, with shell fragments at 7 Ft.	
5	8.0	24	3-5-6-8	11		8				
					43.0	10			Boring complete at 10 Ft.	
						12				
						14				
						16				
						18				
						20				
						22				
						24				
						26				
						28				
						30				

NOTES: **Location and elevation are approximate.**
BOC: Backfilled on completion



GEO-TECHNOLOGY ASSOCIATES, INC.

14 Worlds Fair Drive, Suite A
 Somerset, NJ 08873

LOG OF BORING NO. B-8

Sheet 1 of 1

LOG OF BORING NO. B-9

PROJECT: **Proposed Warehouse Building**
 PROJECT NO.: **31200741**
 PROJECT LOCATION: **Eastampton Township, Burlington County, NJ**

WATER LEVEL (ft): ∇ **4 Ft.** ∇ **2.75 Ft.** ∇ **N/A**
 DATE: **6/2/2020** **6/2/2020** **-**
 CAVED (ft): **In Auger** **3 Ft.** **BOC**

DATE STARTED: **6/2/2020**
 DATE COMPLETED: **6/2/2020**
 DRILLING CONTRACTOR: **Geo-Technology Associates, Inc.**
 DRILLER: **Danny Hans**
 DRILLING METHOD: **Hollow Stem Auger**
 SAMPLING METHOD: **Split-Spoon**

GROUND SURFACE ELEVATION: **57 Ft.**
 DATUM: **Google Earth**
 EQUIPMENT: **Dietrich D50**
 HAMMER TYPE: **Automatic**
 LOGGED BY: **DSP**
 CHECKED BY: **AMT**

SAMPLE NUMBER	SAMPLE DEPTH (ft.)	SAMPLE RECOVERY (in.)	SAMPLE BLOWS/6 inches	N (blows/ft.)	ELEVATION (ft.)	DEPTH (ft.)	USCS	GRAPHIC SYMBOL	DESCRIPTION		REMARKS
									DESCRIPTION		
					57.0	0			11 In. of Topsoil		
1	0.0	6	1-2-3-2	5	56.1		ML		Dark yellow-brown, moist, medium stiff, Sandy SILT		
2	2.0	19	2-2-3-4	5	55.0	2	SM		Dark gray-brown and dark brown, moist, very loose to loose, Silty SAND		∇
3	4.0	12	1-1-1-2	2		4			- Very dark gray, wet, with shell fragments at 4 Ft.		∇ Wet spoon at 4 to 6 Ft.
4	6.0	22	1-2-3-3	5		6					
5	8.0	24	3-4-6-6	10		8					
					47.0	10			Boring complete at 10 Ft.		
						12					
						14					
						16					
						18					
						20					
						22					
						24					
						26					
						28					
						30					

NOTES: **Location and elevation are approximate.**
BOC: Backfilled on completion



GEO-TECHNOLOGY ASSOCIATES, INC.

14 Worlds Fair Drive, Suite A
 Somerset, NJ 08873

LOG OF BORING NO. B-9

LOG OF BORING NO. B-10

PROJECT: **Proposed Warehouse Building**
 PROJECT NO.: **31200741**
 PROJECT LOCATION: **Eastampton Township, Burlington County, NJ**

WATER LEVEL (ft): ∇ **4 Ft.** ∇ **3 Ft.** ∇ **N/A**
 DATE: **6/2/2020** **6/2/2020** **-**
 CAVED (ft): **In Auger** **3.5 Ft.** **BOC**

DATE STARTED: **6/2/2020**
 DATE COMPLETED: **6/2/2020**
 DRILLING CONTRACTOR: **Geo-Technology Associates, Inc.**
 DRILLER: **Danny Hans**
 DRILLING METHOD: **Hollow Stem Auger**
 SAMPLING METHOD: **Split-Spoon**

GROUND SURFACE ELEVATION: **57 Ft.**
 DATUM: **Google Earth**
 EQUIPMENT: **Dietrich D50**
 HAMMER TYPE: **Automatic**
 LOGGED BY: **DSP**
 CHECKED BY: **AMT**

SAMPLE NUMBER	SAMPLE DEPTH (ft.)	SAMPLE RECOVERY (in.)	SAMPLE BLOWS/6 inches	N (blows/ft.)	ELEVATION (ft.)	DEPTH (ft.)	USCS	GRAPHIC SYMBOL	DESCRIPTION		REMARKS
									DESCRIPTION		
1	0.0	17	1-2-2-2	4	57.0	0			10 In. of Topsoil		
					56.2		ML		Dark yellow-brown, moist, soft, Sandy SILT		
2	2.0	17	2-2-2-5	4	55.0	2		SM	Dark gray, moist, very loose to loose, Silty SAND		∇ ∇ Wet spoon at 4 to 6 Ft.
						4			- Dark brown at 4 Ft.		
3	4.0	19	2-2-1-2	3		6			- Dark gray, wet, with shell fragments at 6 Ft.		
4	6.0	18	1-1-2-2	3		8					
5	8.0	20	2-3-3-4	6		10			Boring complete at 10 Ft.		
					47.0	12					
						14					
						16					
						18					
						20					
						22					
						24					
						26					
						28					
						30					

NOTES: **Location and elevation are approximate.**
BOC: Backfilled on completion



GEO-TECHNOLOGY ASSOCIATES, INC.

14 Worlds Fair Drive, Suite A
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LOG OF BORING NO. B-10

LOG OF BORING NO. B-11

PROJECT: **Proposed Warehouse Building**
 PROJECT NO.: **31200741**
 PROJECT LOCATION: **Eastampton Township, Burlington County, NJ**

WATER LEVEL (ft): ∇ **6 Ft.** ∇ **N/E** ∇ **N/A**
 DATE: **6/2/2020** **6/2/2020** **-**
 CAVED (ft): **In Auger** **2.75 Ft.** **BOC**

DATE STARTED: **6/2/2020**
 DATE COMPLETED: **6/2/2020**
 DRILLING CONTRACTOR: **Geo-Technology Associates, Inc.**
 DRILLER: **Danny Hans**
 DRILLING METHOD: **Hollow Stem Auger**
 SAMPLING METHOD: **Split-Spoon**

GROUND SURFACE ELEVATION: **57 Ft.**
 DATUM: **Google Earth**
 EQUIPMENT: **Dietrich D50**
 HAMMER TYPE: **Automatic**
 LOGGED BY: **DSP**
 CHECKED BY: **AMT**

SAMPLE NUMBER	SAMPLE DEPTH (ft.)	SAMPLE RECOVERY (in.)	SAMPLE BLOWS/6 inches	N (blows/ft.)	ELEVATION (ft.)	DEPTH (ft.)	USCS	GRAPHIC SYMBOL	DESCRIPTION	
									DESCRIPTION	REMARKS
					57.0	0			11 In. of Topsoil	
1	0.0	12	1-2-3-4	5	56.1	2	SM		Olive-brown, moist, loose, Silty SAND	∇ Wet spoon at 6 to 8 Ft.
2	2.0	22	3-4-5-6	9		4			- Dark brown at 3 Ft.	
3	4.0	18	2-4-3-2	7		6			- Dark gray, wet, with shell fragments at 4 Ft.	
4	6.0	14	2-2-2-3	4		8				
5	8.0	24	3-4-4-6	8		10				
					47.0	10			Boring complete at 10 Ft.	
						12				
						14				
						16				
						18				
						20				
						22				
						24				
						26				
						28				
						30				

NOTES: **Location and elevation are approximate.**
BOC: Backfilled on completion



GEO-TECHNOLOGY ASSOCIATES, INC.

14 Worlds Fair Drive, Suite A
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LOG OF BORING NO. B-11

LOG OF BORING NO. B-12

PROJECT: **Proposed Warehouse Building**
 PROJECT NO.: **31200741**
 PROJECT LOCATION: **Eastampton Township, Burlington County, NJ**

WATER LEVEL (ft): ∇ **6 Ft.** ∇ **N/E** ∇ **N/A**
 DATE: **6/2/2020** **6/2/2020** **-**
 CAVED (ft): **In Auger** **2.5 Ft.** **BOC**

DATE STARTED: **6/2/2020**
 DATE COMPLETED: **6/2/2020**
 DRILLING CONTRACTOR: **Geo-Technology Associates, Inc.**
 DRILLER: **Danny Hans**
 DRILLING METHOD: **Hollow Stem Auger**
 SAMPLING METHOD: **Split-Spoon**

GROUND SURFACE ELEVATION: **57 Ft.**
 DATUM: **Google Earth**
 EQUIPMENT: **Dietrich D50**
 HAMMER TYPE: **Automatic**
 LOGGED BY: **DSP**
 CHECKED BY: **AMT**

SAMPLE NUMBER	SAMPLE DEPTH (ft.)	SAMPLE RECOVERY (in.)	SAMPLE BLOWS/6 inches	N (blows/ft.)	ELEVATION (ft.)	DEPTH (ft.)	USCS	GRAPHIC SYMBOL	DESCRIPTION	
									DESCRIPTION	REMARKS
					57.0	0			12 In. of Topsoil	
1	0.0	19	1-4-4-6	8	56.0	2	SM		Dark yellow-brown, moist, loose, Silty SAND	∇ Wet spoon at 6 to 8 Ft.
2	2.0	16	4-3-5-3	8		4		- Dark brown at 4 Ft.		
3	4.0	18	1-3-5-3	8		6				
4	6.0	24	5-3-4-4	7		8		- Dark gray at 8 Ft.		
5	8.0	24	2-3-4-4	7		10		Boring complete at 10 Ft.		
					47.0	12				
						14				
						16				
						18				
						20				
						22				
						24				
						26				
						28				
						30				

NOTES: **Location and elevation are approximate.**
BOC: Backfilled on completion



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LOG OF BORING NO. B-12


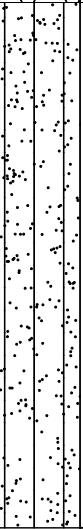
LOG OF TEST PIT NO. TP-1

PROJECT: **Proposed Warehouse Building**
 PROJECT LOCATION: **Eastampton Township, Burlington County, NJ**
 CLIENT: **Rockefeller Group**

PROJECT NO.: **31200741**

DATE STARTED: **5/29/2020**
 DATE COMPLETED: **5/29/2020**
 CONTRACTOR: **Heritage Contracting Company, Inc.**
 EQUIPMENT: **Caterpillar 313BCR**

GROUNDWATER ENCOUNTERED: **5 Ft.**
 GROUND SURFACE ELEVATION: **59 Ft.**
 DATUM: **Google Earth**
 LOGGED BY: **DSP**
 CHECKED BY: **AMT**

ELEVATION (ft.)	DEPTH (ft.)	USCS	GRAPHIC SYMBOL	DESCRIPTION	REMARKS
58.0	0			12 In. of Topsoil	
	2	SM		Dark yellow-brown (10YR 4/4), moist, Silty SAND - Olive-brown (2.5Y 4/3) at 3 Ft. - wet at 5 Ft. - Dark brown (7.5YR 3/4), with pockets of cemented sand at 8-1/2 Ft. - Dark gray (10YR 4/1), with shell fragments at 11 Ft.	- Infiltration rate = 1.5 in/hr at 4 Ft. - NMC = 22.8% ≡ Slight water seepage at 5 Ft.
44.0	15			Test pit complete at 15 Ft.	- Partial sidewall collapse at 8-1/2 Ft. - Moderate water seepage at 11 Ft.
	16				
	18				
	20				
	22				
	24				
	26				
	28				
	30				

NOTES: **Location and elevation are approximate.**
Backfilled on completion.



GEO-TECHNOLOGY ASSOCIATES, INC.

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LOG OF TEST PIT NO. TP-1


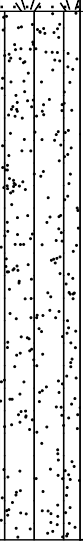
LOG OF TEST PIT NO. TP-2

PROJECT: **Proposed Warehouse Building**
 PROJECT LOCATION: **Eastampton Township, Burlington County, NJ**
 CLIENT: **Rockefeller Group**

PROJECT NO.: **31200741**

DATE STARTED: **5/29/2020**
 DATE COMPLETED: **5/29/2020**
 CONTRACTOR: **Heritage Contracting Company, Inc.**
 EQUIPMENT: **Caterpillar 313BCR**

GROUNDWATER ENCOUNTERED: **4 Ft.**
 GROUND SURFACE ELEVATION: **56 Ft.**
 DATUM: **Google Earth**
 LOGGED BY: **DSP**
 CHECKED BY: **AMT**

ELEVATION (ft.)	DEPTH (ft.)	USCS	GRAPHIC SYMBOL	DESCRIPTION	REMARKS
55.1	0			11 In. of Topsoil	
	2	SM		Olive-brown (2.5Y 4/3), moist, Silty SAND	▼ Infiltration rate = 1.5 in/hr at 3-1/2 Ft. Slight water seepage at 4 Ft.
	4			- wet, with pockets of cemented sand at 4 Ft.	
	6			- Dark brown (7.5YR 3/4) at 6 Ft.	
	8				
	10				
	12				
	14			- Very dark gray (10YR 3/1) at 13 Ft.	- Moderate water seepage at 13 Ft.
41.0	16			Test pit complete at 15 Ft.	
	18				
	20				
	22				
	24				
	26				
	28				
	30				

NOTES: **Location and elevation are approximate.**
Backfilled on completion.



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LOG OF TEST PIT NO. TP-2


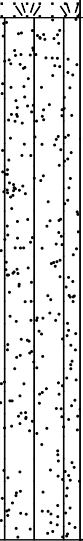
LOG OF TEST PIT NO. TP-3

PROJECT: **Proposed Warehouse Building**
 PROJECT LOCATION: **Eastampton Township, Burlington County, NJ**
 CLIENT: **Rockefeller Group**

PROJECT NO.: **31200741**

DATE STARTED: **5/29/2020**
 DATE COMPLETED: **5/29/2020**
 CONTRACTOR: **Heritage Contracting Company, Inc.**
 EQUIPMENT: **Caterpillar 313BCR**

GROUNDWATER ENCOUNTERED: **4 Ft.**
 GROUND SURFACE ELEVATION: **54 Ft.**
 DATUM: **Google Earth**
 LOGGED BY: **DSP**
 CHECKED BY: **AMT**

ELEVATION (ft.)	DEPTH (ft.)	USCS	GRAPHIC SYMBOL	DESCRIPTION	REMARKS
52.9	0			11 In. of Topsoil	
	2	SM		Dark yellow-brown (10YR 3/4) and dark brown (7.5YR 3/4), distinct gray (10YR 5/1) mottling, moist, Silty SAND with pockets of cemented sand	- Infiltration rate = 0.5 in/hr at 3 Ft. ▽ Slight water seepage at 4 Ft. - NMC = 28.1%
	4			- wet at 4 Ft.	
	6			- Olive-brown (2.5Y 4/3) at 6 Ft.	
	8				
	10				- Partial sidewall collapse at 10 Ft.
	12				- Moderate water seepage at 11 Ft.
	14			- Dark gray (10YR 4/1), wet, with shell fragments at 13 Ft.	
39.0	14			- Very dark gray (10YR 3/1) at 14 Ft.	
	16			Test pit complete at 15 Ft.	
	18				
	20				
	22				
	24				
	26				
	28				
	30				

NOTES: **Location and elevation are approximate.**
Backfilled on completion.



GEO-TECHNOLOGY ASSOCIATES, INC.

14 Worlds Fair Drive, Suite A
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LOG OF TEST PIT NO. TP-3


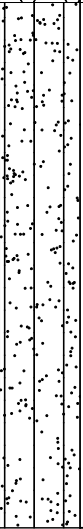

LOG OF TEST PIT NO. TP-4

PROJECT: **Proposed Warehouse Building**
 PROJECT LOCATION: **Eastampton Township, Burlington County, NJ**
 CLIENT: **Rockefeller Group**

PROJECT NO.: **31200741**

DATE STARTED: **5/29/2020**
 DATE COMPLETED: **5/29/2020**
 CONTRACTOR: **Heritage Contracting Company, Inc.**
 EQUIPMENT: **Caterpillar 313BCR**

GROUNDWATER ENCOUNTERED: **5 Ft.**
 GROUND SURFACE ELEVATION: **52 Ft.**
 DATUM: **Google Earth**
 LOGGED BY: **DSP**
 CHECKED BY: **AMT**

ELEVATION (ft.)	DEPTH (ft.)	USCS	GRAPHIC SYMBOL	DESCRIPTION	REMARKS
51.0	0			12 In. of Topsoil	
	2	SM		Dark yellow-brown (10YR 3/6), moist, Silty SAND with pockets of cemented sand - Olive brown (2.5YR 4/3) at 2 Ft.	- Infiltration rate = 6 in/hr at 3 Ft.  Moderate water seepage at 5 Ft. - Partial sidewall collapse at 7 Ft. - Moderate water seepage at 11 Ft.
	4			- wet at 5 Ft.	
	6				
	8				
	10			- Dark yellow-brown (10YR 4/6) at 11 Ft.	
	12			- Very dark gray (10YR 3/1) at 12 Ft.	
37.0	14				
	16			Test pit complete at 15 Ft.	
	18				
	20				
	22				
	24				
	26				
	28				
	30				

NOTES: **Location and elevation are approximate.**
Backfilled on completion.



GEO-TECHNOLOGY ASSOCIATES, INC.

14 Worlds Fair Drive, Suite A
 Somerset, NJ 08873

LOG OF TEST PIT NO. TP-4

LOG OF TEST PIT NO. TP-5

PROJECT: **Proposed Warehouse Building**
 PROJECT LOCATION: **Eastampton Township, Burlington County, NJ**
 CLIENT: **Rockefeller Group**

PROJECT NO.: **31200741**

DATE STARTED: **5/29/2020**
 DATE COMPLETED: **5/29/2020**
 CONTRACTOR: **Heritage Contracting Company, Inc.**
 EQUIPMENT: **Caterpillar 313BCR**

GROUNDWATER ENCOUNTERED: **4 Ft.**
 GROUND SURFACE ELEVATION: **54 Ft.**
 DATUM: **Google Earth**
 LOGGED BY: **DSP**
 CHECKED BY: **AMT**

ELEVATION (ft.)	DEPTH (ft.)	USCS	GRAPHIC SYMBOL	DESCRIPTION	REMARKS
	0			13 In. of Topsoil	
52.9		ML		Brown, moist, Sandy SILT	
52.0	2	SM		Olive brown, moist, Silty SAND with pockets of cemented sand - Dark yellow-brown and dark brown at 3 Ft.	▼ Moderate water seepage at 4 Ft.
	4				
	6				
	8				
	10				
	12			- Dark gray-brown at 12 Ft.	- Moderate water seepage at 12 Ft.
	14			- Very dark gray at 13-1/2 Ft.	
39.0	15			Test pit complete at 15 Ft.	
	16				
	18				
	20				
	22				
	24				
	26				
	28				
	30				

NOTES: **Location and elevation are approximate.**
Backfilled on completion.



GEO-TECHNOLOGY ASSOCIATES, INC.

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LOG OF TEST PIT NO. TP-5


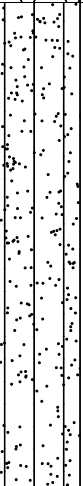
LOG OF TEST PIT NO. TP-6

PROJECT: **Proposed Warehouse Building**
 PROJECT LOCATION: **Eastampton Township, Burlington County, NJ**
 CLIENT: **Rockefeller Group**

PROJECT NO.: **31200741**

DATE STARTED: **5/29/2020**
 DATE COMPLETED: **5/29/2020**
 CONTRACTOR: **Heritage Contracting Company, Inc.**
 EQUIPMENT: **Caterpillar 313BCR**

GROUNDWATER ENCOUNTERED: **6 Ft.**
 GROUND SURFACE ELEVATION: **52 Ft.**
 DATUM: **Google Earth**
 LOGGED BY: **DSP**
 CHECKED BY: **AMT**

ELEVATION (ft.)	DEPTH (ft.)	USCS	GRAPHIC SYMBOL	DESCRIPTION	REMARKS
51.0	0			12 In. of Topsoil	
	2	SM		Dark gray-brown and olive-brown, moist, Silty SAND with pockets of cemented sand - Dark brown, wet at 2 Ft.	- Slight water seepage at 2 Ft.
	4				
	6			- Light olive-brown and dark gray-brown at 6 Ft.	▼ Moderate water seepage at 6 Ft.
	8				
	10			- Yellow-red at 9 Ft.	
	12			- Very dark gray at 11-1/2 Ft.	- Moderate water seepage at 10-1/2 Ft. - Partial sidewall collapse at 11 Ft.
38.0	14			Test pit complete at 14 Ft. due to full sidewall collapse.	
	16				
	18				
	20				
	22				
	24				
	26				
	28				
	30				

NOTES: **Location and elevation are approximate.**
Backfilled on completion.



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LOG OF TEST PIT NO. TP-6




LOG OF TEST PIT NO. TP-7

PROJECT: **Proposed Warehouse Building**
 PROJECT LOCATION: **Eastampton Township, Burlington County, NJ**
 CLIENT: **Rockefeller Group**

PROJECT NO.: **31200741**

DATE STARTED: **5/29/2020**
 DATE COMPLETED: **5/29/2020**
 CONTRACTOR: **Heritage Contracting Company, Inc.**
 EQUIPMENT: **Caterpillar 313BCR**

GROUNDWATER ENCOUNTERED: **4 Ft.**
 GROUND SURFACE ELEVATION: **55 Ft.**
 DATUM: **Google Earth**
 LOGGED BY: **DSP**
 CHECKED BY: **AMT**

ELEVATION (ft.)	DEPTH (ft.)	USCS	GRAPHIC SYMBOL	DESCRIPTION	REMARKS
54.0	0			12 In. of Topsoil	
	2	SM		Dark yellow-brown, moist, Silty SAND - Dark gray-brown at 2 Ft.	
	4			- Dark brown, wet at 4 Ft.	 Moderate water seepage at 4 Ft. - Partial sidewall collapse at 6 Ft.
	6				
	8				
	10				
	12				
	14			- Very dark gray at 13 Ft.	
40.0	16			Test pit complete at 15 Ft.	
	18				
	20				
	22				
	24				
	26				
	28				
	30				

NOTES: **Location and elevation are approximate.**
Backfilled on completion.



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LOG OF TEST PIT NO. TP-7


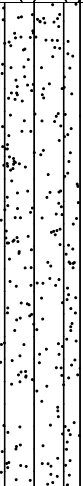

LOG OF TEST PIT NO. TP-8

PROJECT: **Proposed Warehouse Building**
 PROJECT LOCATION: **Eastampton Township, Burlington County, NJ**
 CLIENT: **Rockefeller Group**

PROJECT NO.: **31200741**

DATE STARTED: **5/29/2020**
 DATE COMPLETED: **5/29/2020**
 CONTRACTOR: **Heritage Contracting Company, Inc.**
 EQUIPMENT: **Caterpillar 313BCR**

GROUNDWATER ENCOUNTERED: **3 Ft.**
 GROUND SURFACE ELEVATION: **58 Ft.**
 DATUM: **Google Earth**
 LOGGED BY: **DSP**
 CHECKED BY: **AMT**

ELEVATION (ft.)	DEPTH (ft.)	USCS	GRAPHIC SYMBOL	DESCRIPTION	REMARKS
57.0	0			12 In. of Topsoil	
	2	SM		Dark yellow-brown, moist, Silty SAND - Dark olive-brown, wet at 3 Ft.	 Slight water seepage at 3 Ft. - Partial sidewall collapse at 3 Ft.
	4				
	6				
	8				
	10				
	12			- Dark brown at 11 Ft.	
	14			- Olive-brown at 13 Ft.	- Rapid seepage at 13 Ft.
44.0	14			Test pit complete at 14 Ft. due to full sidewall collapse and rapid water seepage.	
	16				
	18				
	20				
	22				
	24				
	26				
	28				
	30				

NOTES: **Location and elevation are approximate.**
Backfilled on completion.



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LOG OF TEST PIT NO. TP-8




LOG OF TEST PIT NO. TP-9

PROJECT: **Proposed Warehouse Building**
 PROJECT LOCATION: **Eastampton Township, Burlington County, NJ**
 CLIENT: **Rockefeller Group**

PROJECT NO.: **31200741**

DATE STARTED: **5/29/2020**
 DATE COMPLETED: **5/29/2020**
 CONTRACTOR: **Heritage Contracting Company, Inc.**
 EQUIPMENT: **Caterpillar 313BCR**

GROUNDWATER ENCOUNTERED: **6 Ft.**
 GROUND SURFACE ELEVATION: **54 Ft.**
 DATUM: **Google Earth**
 LOGGED BY: **DSP**
 CHECKED BY: **AMT**

ELEVATION (ft.)	DEPTH (ft.)	USCS	GRAPHIC SYMBOL	DESCRIPTION	REMARKS
52.7	0			16 In. of Topsoil	
	2	SM		Dark yellow-brown, moist, Silty SAND	
	4			- Dark gray-brown at 3 Ft.	
	6			- Dark brown, with pockets of cemented sand at 5 Ft.	
	8			- wet at 6 Ft.	 Moderate water seepage at 6 Ft.
	10				
	12			- Dark gray, with shell fragments at 11 Ft.	- Moderate water seepage at 11 Ft. - Partial sidewall collapse at 11 Ft.
	14			- Very dark gray at 14 Ft.	
39.0	16			Test pit complete at 15 Ft.	
	18				
	20				
	22				
	24				
	26				
	28				
	30				

NOTES: **Location and elevation are approximate.**
Backfilled on completion.



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LOG OF TEST PIT NO. TP-9








LOG OF TEST PIT NO. TP-10

PROJECT: **Proposed Warehouse Building**
 PROJECT LOCATION: **Eastampton Township, Burlington County, NJ**
 CLIENT: **Rockefeller Group**

PROJECT NO.: **31200741**

DATE STARTED: **5/29/2020**
 DATE COMPLETED: **5/29/2020**
 CONTRACTOR: **Heritage Contracting Company, Inc.**
 EQUIPMENT: **Caterpillar 313BCR**

GROUNDWATER ENCOUNTERED: **2.5 Ft.**
 GROUND SURFACE ELEVATION: **54 Ft.**
 DATUM: **Google Earth**
 LOGGED BY: **DSP**
 CHECKED BY: **AMT**

ELEVATION (ft.)	DEPTH (ft.)	USCS	GRAPHIC SYMBOL	DESCRIPTION	REMARKS
52.9	0			13 In. of Topsoil	
	2	SM		Very dark gray-brown, distinct gray mottling, moist, Silty SAND with pockets of cemented sand - wet at 2-1/2 Ft.	 Slight water seepage at 2-1/2 Ft.
	4			- Dark brown at 3-1/2 Ft.	
	8			- Dark gray at 7 Ft.	
	12			- with shell fragments at 11 Ft.	
39.0	14			- Very dark gray at 13 Ft.	- Moderate water seepage at 11 Ft.
	16			Test pit complete at 15 Ft.	
	18				
	20				
	22				
	24				
	26				
	28				
	30				

NOTES: **Location and elevation are approximate.**
Backfilled on completion.



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LOG OF TEST PIT NO. TP-10


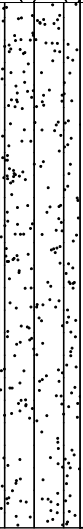
LOG OF TEST PIT NO. TP-11

PROJECT: **Proposed Warehouse Building**
 PROJECT LOCATION: **Eastampton Township, Burlington County, NJ**
 CLIENT: **Rockefeller Group**

PROJECT NO.: **31200741**

DATE STARTED: **5/29/2020**
 DATE COMPLETED: **5/29/2020**
 CONTRACTOR: **Heritage Contracting Company, Inc.**
 EQUIPMENT: **Caterpillar 313BCR**

GROUNDWATER ENCOUNTERED: **4 Ft.**
 GROUND SURFACE ELEVATION: **55 Ft.**
 DATUM: **Google Earth**
 LOGGED BY: **DSP**
 CHECKED BY: **AMT**

ELEVATION (ft.)	DEPTH (ft.)	USCS	GRAPHIC SYMBOL	DESCRIPTION	REMARKS
54.0	0			12 In. of Topsoil	
	2	SM		Dark gray-brown, moist, Silty SAND with pockets of cemented sand - Dark brown at 2 Ft.	▼ Rapid water seepage at 4 Ft. - Partial sidewall collapse at 6 Ft.
	4			- wet at 4 Ft.	
	6			- Dark gray with shell fragments at 6 Ft.	
40.0	14			- Very dark gray at 14 Ft.	
	16			Test pit complete at 15 Ft.	
	18				
	20				
	22				
	24				
	26				
	28				
	30				

NOTES: **Location and elevation are approximate.**
Backfilled on completion.



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LOG OF TEST PIT NO. TP-11


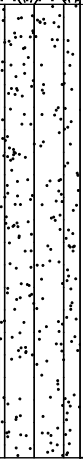
LOG OF TEST PIT NO. TP-12

PROJECT: **Proposed Warehouse Building**
 PROJECT LOCATION: **Eastampton Township, Burlington County, NJ**
 CLIENT: **Rockefeller Group**

PROJECT NO.: **31200741**

DATE STARTED: **5/29/2020**
 DATE COMPLETED: **5/29/2020**
 CONTRACTOR: **Heritage Contracting Company, Inc.**
 EQUIPMENT: **Caterpillar 313BCR**

GROUNDWATER ENCOUNTERED: **4 Ft.**
 GROUND SURFACE ELEVATION: **56 Ft.**
 DATUM: **Google Earth**
 LOGGED BY: **DSP**
 CHECKED BY: **AMT**

ELEVATION (ft.)	DEPTH (ft.)	USCS	GRAPHIC SYMBOL	DESCRIPTION	REMARKS
55.1	0			11 In. of Topsoil	
	2	SM		Dark gray-brown, moist, Silty SAND - Dark brown with pockets of cemented sand at 2-1/2 Ft. - wet at 4 Ft. - Very dark gray, with shell fragments at 5 Ft.	- NMC = 23.1% ▼ Moderate water seepage at 4 Ft. - Partial sidewall collapse at 5 Ft.
43.0	12			Test pit complete at 13 Ft. due to full sidewall collapse.	
	14				
	16				
	18				
	20				
	22				
	24				
	26				
	28				
	30				

NOTES: **Location and elevation are approximate.**
Backfilled on completion.



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LOG OF TEST PIT NO. TP-12

LOG OF TEST PIT NO. TP-13



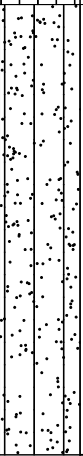
Sheet 1 of 1

PROJECT: **Proposed Warehouse Building**
 PROJECT LOCATION: **Eastampton Township, Burlington County, NJ**
 CLIENT: **Rockefeller Group**

PROJECT NO.: **31200741**

DATE STARTED: **5/29/2020**
 DATE COMPLETED: **5/29/2020**
 CONTRACTOR: **Heritage Contracting Company, Inc.**
 EQUIPMENT: **Caterpillar 313BCR**

GROUNDWATER ENCOUNTERED: **4 Ft.**
 GROUND SURFACE ELEVATION: **56 Ft.**
 DATUM: **Google Earth**
 LOGGED BY: **DSP**
 CHECKED BY: **AMT**

ELEVATION (ft.)	DEPTH (ft.)	USCS	GRAPHIC SYMBOL	DESCRIPTION	REMARKS
55.0	0			12 In. of Topsoil	
	2	ML		Dark yellow-brown, moist, Sandy SILT	
53.0	4	SM		Dark brown, distinct gray mottling, moist, Silty SAND with pockets of cemented sand - Dark gray, wet, with shell fragments at 4 Ft.	▼ Moderate water seepage at 4 Ft. - Partial sidewall collapse at 5 Ft.
	6				
	8				
	10				
	12				
	14				
41.0	16			Test pit complete at 15 Ft.	
	18				
	20				
	22				
	24				
	26				
	28				
	30				

NOTES: **Location and elevation are approximate.**
Backfilled on completion.



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LOG OF TEST PIT NO. TP-13

Sheet 1 of 1


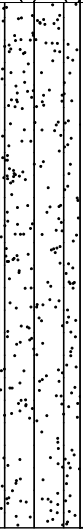

LOG OF TEST PIT NO. TP-14

PROJECT: **Proposed Warehouse Building**
 PROJECT LOCATION: **Eastampton Township, Burlington County, NJ**
 CLIENT: **Rockefeller Group**

PROJECT NO.: **31200741**

DATE STARTED: **5/29/2020**
 DATE COMPLETED: **5/29/2020**
 CONTRACTOR: **Heritage Contracting Company, Inc.**
 EQUIPMENT: **Caterpillar 313BCR**

GROUNDWATER ENCOUNTERED: **4 Ft.**
 GROUND SURFACE ELEVATION: **56 Ft.**
 DATUM: **Google Earth**
 LOGGED BY: **DSP**
 CHECKED BY: **AMT**

ELEVATION (ft.)	DEPTH (ft.)	USCS	GRAPHIC SYMBOL	DESCRIPTION	REMARKS
55.0	0			12 In. of Topsoil	
	2	SM		Dark yellow-brown, moist, Silty SAND - Olive-brown at 2 Ft. - Dark brown, with pockets of cemented sand at 3 Ft. - Dark gray, wet, with shell fragments at 4 Ft.	 Moderate water seepage at 4 Ft. - Partial sidewall collapse at 9 Ft.
41.0	15			Test pit complete at 15 Ft.	
	16				
	18				
	20				
	22				
	24				
	26				
	28				
	30				

NOTES: **Location and elevation are approximate.**
Backfilled on completion.



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LOG OF TEST PIT NO. TP-14



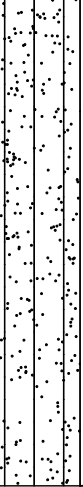
LOG OF TEST PIT NO. TP-15

PROJECT: **Proposed Warehouse Building**
 PROJECT LOCATION: **Eastampton Township, Burlington County, NJ**
 CLIENT: **Rockefeller Group**

PROJECT NO.: **31200741**

DATE STARTED: **5/29/2020**
 DATE COMPLETED: **5/29/2020**
 CONTRACTOR: **Heritage Contracting Company, Inc.**
 EQUIPMENT: **Caterpillar 313BCR**

GROUNDWATER ENCOUNTERED: **6.5 Ft.**
 GROUND SURFACE ELEVATION: **57 Ft.**
 DATUM: **Google Earth**
 LOGGED BY: **DSP**
 CHECKED BY: **AMT**

ELEVATION (ft.)	DEPTH (ft.)	USCS	GRAPHIC SYMBOL	DESCRIPTION	REMARKS
56.0	0			11 In. of Topsoil	
55.0	2	ML		Dark yellow-brown, moist, Sandy SILT	
	4	SM		Dark brown, distinct gray mottling, moist, Silty SAND with pockets of cemented sand	
	6			- Dark gray, wet, with shell fragments at 6-1/2 Ft.	▼ Moderate water seepage at 6-1/2 Ft.
	8				- Partial sidewall collapse at 9 Ft.
42.0	14			Test pit complete at 15 Ft.	
	16				
	18				
	20				
	22				
	24				
	26				
	28				
	30				

NOTES: **Location and elevation are approximate.**
Backfilled on completion.



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LOG OF TEST PIT NO. TP-15


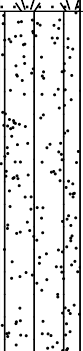

LOG OF TEST PIT NO. TP-16

PROJECT: **Proposed Warehouse Building**
 PROJECT LOCATION: **Eastampton Township, Burlington County, NJ**
 CLIENT: **Rockefeller Group**

PROJECT NO.: **31200741**

DATE STARTED: **5/29/2020**
 DATE COMPLETED: **5/29/2020**
 CONTRACTOR: **Heritage Contracting Company, Inc.**
 EQUIPMENT: **Caterpillar 313BCR**

GROUNDWATER ENCOUNTERED: **7 Ft.**
 GROUND SURFACE ELEVATION: **57 Ft.**
 DATUM: **Google Earth**
 LOGGED BY: **DSP**
 CHECKED BY: **AMT**

ELEVATION (ft.)	DEPTH (ft.)	USCS	GRAPHIC SYMBOL	DESCRIPTION	REMARKS
56.1	0			11 In. of Topsoil	
	2	SM		Dark yellow-brown, moist, Silty SAND	- Partial sidewall collapse at 3 Ft.  Moderate water seepage at 7 Ft.
	4			- Dark brown at 5 Ft.	
	6			- Dark gray, wet, with shell fragments at 7 Ft.	
47.0	10			Test pit complete at 10 Ft. due to full sidewall collapse.	
	12				
	14				
	16				
	18				
	20				
	22				
	24				
	26				
	28				
	30				

NOTES: **Location and elevation are approximate.**
Backfilled on completion.



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LOG OF TEST PIT NO. TP-16

APPENDIX C

Laboratory Data

Particle Size Distribution Report



ASTM Specifications performed my include: D421, D422, D2216, D2217, and D4318.

% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.7	10.3	67.4	21.6	

Colloids	LL	PL	D ₈₅	D ₆₀	D ₅₀	D ₃₀	D ₁₅	D ₁₀	C _c	C _u
	NP	NP	0.3932	0.2660	0.2295	0.1611				

Material Description	USCS	AASHTO
<input type="radio"/> Silty SAND	SM	A-2-4(0)

Project No. 31200741 Project: Proposed Warehouse <input type="radio"/> Source of Sample: TP-9 Date: <input type="radio"/> 6/3/2020	Client: Rockefeller Group Depth: 14
GEO-TECHNOLOGY ASSOCIATES, INC. <small>14 Worlds Fair Drive, Suite A Somerset, NJ 08873</small>	

Remarks:
 ONMC = 29.2%

Figure

Tested By: DSP **Checked By:** _____

Particle Size Distribution Report



ASTM Specifications performed my include: D421, D422, D2216, D2217, and D4318.

% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	11.8	12.9	18.0	29.8	27.5	

Colloids	LL	PL	D ₈₅	D ₆₀	D ₅₀	D ₃₀	D ₁₅	D ₁₀	C _c	C _u
	NP	NP	4.0002	0.4837	0.3177	0.1298				

Material Description	USCS	AASHTO
<input type="radio"/> Silty SAND	SM	A-2-4(0)

Project No. 31200741	Client: Rockefeller Group
Project: Proposed Warehouse	
<input type="radio"/> Source of Sample: TP-12	Depth: 1
Date: <input type="radio"/> 6/3/2020	

Remarks:
 ONMC = 23.1%



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Figure

Tested By: DSP **Checked By:** _____