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REPORT OF SUBSURFACE EXPLORATION

Morehead Road Realignment
Concord, North Carolina
ESP Project No. E4B-UH26.300

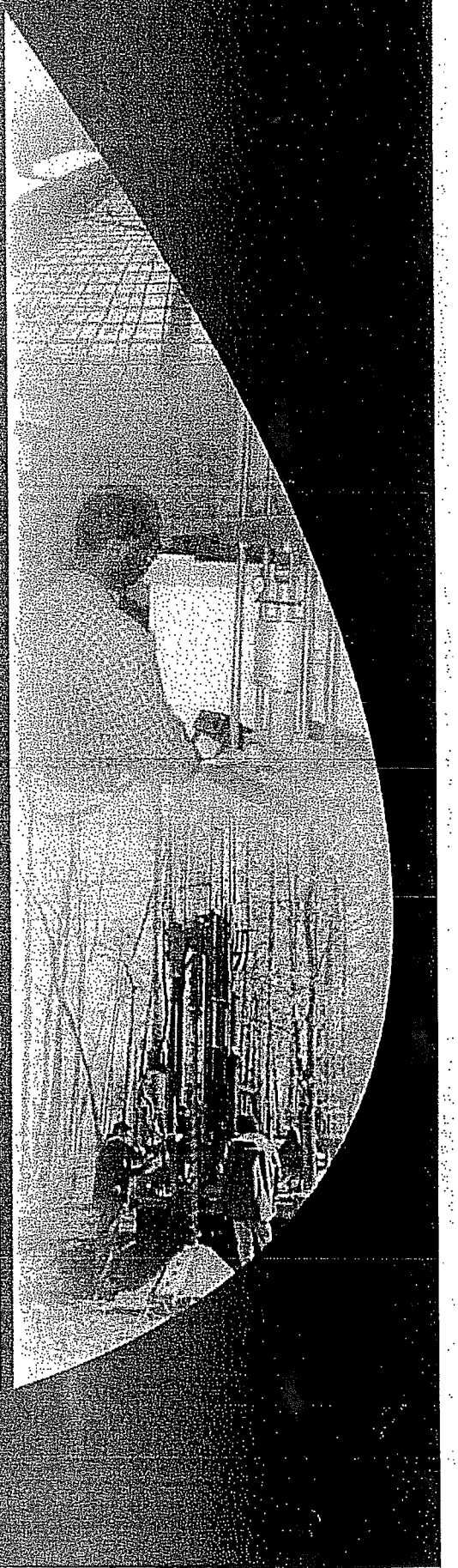
Prepared for:

Speedway Motorsports, Inc.
6425 Idlewild Road
Building 3, Suite 205
Charlotte, North Carolina 28212

Prepared by:

ESP Associates, P.A.
4601 Corporate Drive, NW
Suite 165
Charlotte, North Carolina 28027

January 8, 2007



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January 8, 2007

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Speedway Motorsports, Inc.
6425 Idlewild Road
Building 3, Suite 205
Charlotte, North Carolina 28212

Attention: Mr. Robert L. Davis

Reference: **REPORT OF SUBSURFACE EXPLORATION**
Morehead Road Realignment
Concord, North Carolina
ESP Project No. E4B-UH26.300

Dear Mr. Davis:

ESP Associates, P.A. (ESP) has completed the subsurface exploration for the Morehead Road Realignment in Concord, North Carolina. This exploration was performed in general accordance with our Proposal No. E4B-06044 dated July 31, 2006. Authorization to proceed with this study was provided by written execution of our proposal by Mr. Robert Davis with Speedway Motorsports.

The purpose of the exploration was to evaluate the general subsurface conditions within the proposed roadway areas with regard to the design and construction of the pavement systems and culvert system. ESP understands that a bottomless culvert will be utilized at the creek crossing in order to reduce the amount of creek disturbance. This report presents our findings, conclusions and recommendations for culvert foundation design and pavement design, as well as construction considerations for the proposed culvert foundation and paved areas.

ESP appreciates the opportunity to assist you during this phase of the project. If you should have any questions concerning this report, or if we may be of further assistance, please contact us.

Sincerely,

ESP Associates, P.A.

Jason K. Tacia
Project Manager

NORTH CAROLINA PROFESSIONAL SEAL 1/8/07 ENGINEER CHAD SHERMAN

D. Chad Sherman, P.E.
N.C. Registration No. 28947

JKT/DCS/kcl

Copies Submitted: (3)

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1.0 INTRODUCTION

1.1 SITE AND PROJECT DESCRIPTION

The project site is approximate 5,300 feet of 5-lane road realignment on Parcels 4598651647 and 4598930476 in the City of Concord, North Carolina. Plans are to construct a roadway and culvert within the site. The majority of the site is cleared with grass cover and the terrain is a series of rolling hills throughout. Relief on the site is on the order of 70 to 90 feet. There is a jurisdictional stream that will require a crossing at the south eastern portion of the proposed roadway. ESP understands that several underground utilities are present within the project site.

1.2 PURPOSE OF SERVICES

The purpose of the exploration was to evaluate the general subsurface conditions within the proposed culvert and pavement areas with regard to the design and construction of the culvert and pavement systems. This report presents our findings, conclusions and recommendations for culvert, and pavement design, as well as construction considerations for the proposed paved areas. This report also contains a brief description of the field and laboratory testing procedures performed for this study and a discussion of the soil conditions encountered at the site.

2.0 EXPLORATION PROCEDURES

2.1 FIELD

Twelve (12) soil test borings (Borings B-1 through B-12) were performed at the approximate locations shown on the attached "Boring Location Plan". The borings were located in the field by a representative from our office using the proposed centerline stakes for the proposed Morehead Road Realignment. The soil test borings were extended to depths ranging between 9.9 and 19.4 feet below the existing ground surface using a CME 550X drill rig mounted on an ATV carrier. Hollow-stem, continuous flight augers were used to advance the borings into the ground.

Standard Penetration Tests were performed at designated intervals in the soil test borings in general accordance with ASTM D 1586 in order to obtain data for estimating soil strength and consistency. In conjunction with the penetration testing, split-spoon soil samples were recovered for soil classification and potential laboratory testing. Water level measurements were attempted at the termination of drilling and up to 3 days after drilling. A brief description of the field testing procedures is included in the Appendix.

While in the field, a representative of the geotechnical engineer visually examined each sample to evaluate the type of soil encountered, soil plasticity, moisture condition, organic content, presence of lenses and seams, colors and apparent geological origin. The results of the visual soil classifications for the borings, as well as field test results, are presented on the individual "Test Boring Records", included in the Appendix. Similar soils were grouped into strata on the logs. The strata lines represent approximate boundaries between the soil types; however, the actual transition between soil types in the field may be gradual in both the horizontal and vertical directions.

2.2 LABORATORY

Select samples of the on-site soils obtained during the field testing program were tested in the laboratory. Tests performed included Standard Proctor compaction, and California Bearing Ratio. The limited testing program was designed to determine selected engineering properties of the on-site soils relative to their use for the project. The results of the soil tests performed for this study, along with a brief description of the laboratory procedures used, are presented in the Appendix.

3.0 SUBSURFACE CONDITIONS

3.1 PHYSIOGRAPHY AND AREA GEOLOGY

The referenced property is located in Concord, North Carolina which is in the Piedmont Physiographic Province. The Piedmont Province generally consists of hills and ridges which are intertwined with an established system of draws and streams. The Piedmont Province is predominately underlain by igneous rock (formed from molten material) and metamorphic rock (formed by heat, pressure and/or chemical action), which were initially formed during the Precambrian and Paleozoic eras.

The virgin soils encountered in this area are the residual product of in-place chemical weathering of rock which was similar to the rock presently underlying the site. In areas not altered by erosion or disturbed by the activities of man, the typical residual soil profile consists of clayey soils near the surface, where soil weathering is more advanced, underlain by sandy silts and silty sands. The boundary between soil and rock is not sharply defined. This transitional zone termed "partially weathered rock" is normally found overlying the parent bedrock. Partially weathered rock is defined, for engineering purposes, as residual material with Standard Penetration Resistances in excess of 100 blows per foot. Weathering is facilitated by fractures, joints and by the presence of less resistant rock types. Consequently, the profile of the partially weathered rock and hard rock is quite irregular and erratic, even over short horizontal distances. Also, it is common to find lenses and boulders of hard rock and zones of partially weathered rock within the soil mantle, well above the general bedrock level.

3.2 SUBSURFACE

Subsurface conditions as indicated by the borings generally consist of topsoil, and fill underlain by residual soils. The residual soils have formed from the weathering of the parent bedrock.

The residual soils generally transition with depth into partially weathered rock. The generalized subsurface conditions at the site are described below. For more detailed soil descriptions and stratifications at a particular boring location, the respective "Test Boring Record" should be reviewed. The Test Boring Records are included in the Appendix.

Surface: A topsoil/grassmat layer approximately 6 to 18 inches thick was encountered at each boring performed.

Fill/Alluvium: Underlying the topsoil in Borings B-4, B-9, and B-11, fill and/or alluvium soils were encountered. The fill and alluvium soils consists of very soft to stiff silty clays and sandy silty clays; and very loose to dense silty sands and clayey silty sands. Standard Penetration Resistances (N-values) in the fill ranged from 2 to 33 blows per foot (bpf). The fill and/or alluvium extends to depths ranging between 0.5 and 12.5 feet below existing ground surface.

Residuum: Beneath the fill and/or alluvium soil in Borings B-4, B-9, and B-11, and underlying the topsoil in Borings B-1, B-2, B-3, B-5, B-6, B-7, B-8 and B-12, residual soils were encountered. The residuum generally consists of stiff to very stiff sandy silts to sandy silty clays and very loose to dense sandy silts and silty sands. N-values in the residuum varied between 2 and 78 bpf with the majority ranging from 11 to 25 bpf. The residuum extends to depths ranging between 9.3 and 18.5 feet. Soil Test Borings B-1, B-2, and B-7 through B-9 were terminated in the residual soils at depths of 15 feet below existing ground surface.

Partially Weathered Rock: Underlying the residuum in Borings B-3, B-4, B-6 and B-10, partially weathered rock (PWR) was encountered. PWR is defined as residual soils exhibiting N-values in excess of 100 bpf. When sampled, the PWR generally breaks down into sands and silty sands. Borings B-3 through B-6, and B-10 through B-12 were terminated in the PWR at depths ranging between 6.5 and 19.4 feet below existing ground surface.

3.3 SUBSURFACE WATER

Water level measurements at the termination of each boring observed indicated water was not present in the borings. Water level measurements at 3 days after drilling indicated water levels ranged from 1.8 to 11.5 feet below the existing ground surface in Borings B-1 through B-6 and B-11. Water level measurements at 3 days after drilling indicated water was not present in Borings B-7 through B-10. It should be noted that a rain event occurred between water measurement observations and likely inflated water levels. Hole cave-in depths ranged between 5 and 14.5 feet below the existing ground surface in Borings B-7 through B-10 and B-12. Hole cave-in depths may provide an indication of water present.

Subsurface water levels tend to fluctuate with seasonal and climatic variations, as well as with some types of construction operations. Therefore, water may be encountered during construction at depths not indicated during this study.

4.0 CONCLUSIONS AND RECOMMENDATIONS

4.1 GENERAL

Our conclusions and recommendations are based on the project information previously discussed and on the data obtained from the field and laboratory testing program. If the structural loading, geometry or proposed culvert and/or roadway locations are changed or significantly differ from those discussed, or if conditions are encountered during construction that differ from those encountered by the borings, ESP requests the opportunity to review our recommendations based on the new information and make any necessary changes.

4.2 SITE DEVELOPMENT

The results of the field testing program and analyses indicate the majority of the of the property appears to be suitable for constructing the proposed roadways and the lightly to moderately loaded culvert, provided the following measures are considered.

A) Fill and/or alluvium soils were encountered in Borings B-4, B-9, and B-11. The fill and/or alluvium soils extended to depths ranging between 0.5 and 12.5 feet below the existing ground surface. In addition, soft fill and/or alluvial and residual soil should be anticipated along the proposed roadway.

B) Partially Weathered rock was encountered in Borings B-3 through B-6 and B-10 through B-12 at depths ranging between 6.5 and 19 feet below the existing ground surface. If final subgrade elevations and/or utility depths extend into the weathered rock, difficult excavation or materials requiring blasting may be encountered. The presence of rock, and/or weathered rock should be considered when establishing design grades for the utilities and pavement areas. The depth to, and thickness of, weathered rock and rock lenses and seams can vary dramatically in short distances and between boring locations; therefore, weathered rock or bedrock may be encountered during construction at locations and depths between boring locations not tested during this exploration.

C) Considering the relatively shallow water level in several of the borings performed at the site, it is our opinion that groundwater could be encountered. We recommend that stabilized groundwater levels be considered when establishing final site grades. If final grades are set near existing elevations in the areas where water encountered, a permanent underlain system will be required. Due to the rain event that occurred prior

to ESP observing subsequent water levels, the water levels observed at termination of drilling may be a better indication of depth to water.

4.3 EXISTING FILL AND ALLUVIAL

Results from the soil test borings performed at the site indicate that fill soils are present in Borings B-4, B-9, and B-11. The fill and/or alluvial soils extends to depths varying between 0.5 and 12.5 feet below the existing ground surface. Standard Penetration Resistances (N-values) obtained in the fill ranged from 2 to 33 bpf, indicating highly variable fill and alluvial material. Based on our visual observations of the split-spoon samples recovered and the driller's field observations, the fill encountered in the soil test borings appeared clean of concentrated organics, debris and other deleterious materials.

Concentrated organics, debris and other deleterious materials were not observed in the soil test borings performed by ESP Associates. However, due to the limited testing performed and the wide spacing of the borings, the possibility of deleterious inclusions and variable density material in or under the existing fill and alluvial, material cannot be completely ruled out. The presence of the existing fill beneath pavement areas presents the risk of increased settlement and subsequently possible increased long term maintenance of the pavement areas. If the owner is not willing to accept the risk, then the existing fill and alluvium soils should be removed and replaced with compacted suitable structural fill.

To reduce the risk imposed by the existing fill, additional evaluations including test pit excavations, hand auger borings with dynamic cone penetrometer tests, proofrolling and additional soil test borings could be performed to further evaluate the character and continuity of the fill. If the owner chooses to allow the existing fill to remain in place beneath the pavement, a thorough field evaluation should be performed by a representative of the geotechnical engineer or a senior soils technician under his direction at the time of construction.

4.4 SUBGRADE SOIL CONDITIONS

Subsurface conditions along the proposed roadway generally consist of very soft to very stiff sandy silty clays, sandy silts and silty clays underlain by loose to very dense silty and clayey sands with depth. However, we anticipate a large portion of the roadway section will require fill.

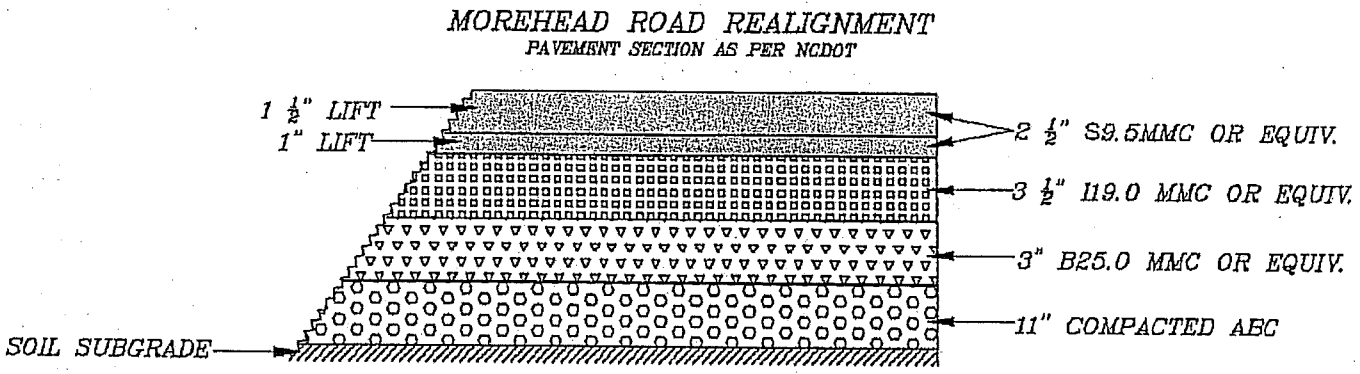
Standard Proctor compaction and California Bearing Ration (CBR) tests were performed on a bulk sample obtained from potential cut areas along the roadway alignment. Maximum dry density of the soils was 113.7 pounds per cubic foot (pcf) with optimum moisture content of 15.7 percent. The soaked CBR average value was 7.

4.5 PAVEMENT AREAS

We recommend that special care be given to providing adequate drainage away from pavement areas to reduce infiltration of surface water to the base course and subgrade materials in these areas. If highly plastic materials are allowed to become saturated during the life of the pavement section, then there will be a strength reduction of the materials that could result in a reduced life of the pavement section. All water should be routed away from the pavement areas and adequate slopes provided to maintain drainage off site. Pavement areas should be proofrolled prior to placing structural fill and/or base course. Proofrolling procedures are outlined in subsequent sections of this report.

Typically, ESP designs pavement sections utilizing the "AASHTO Guide for design of Pavement Structures," dated 1993. However, Ms. Lea Wagner of NCDOT District 1: Albemarle office had requested the utilization of a pavement section similar to the pavement section presently on Morehead Road. This pavement section is shown in Figure 3. In conversations with Mr. Robert Davis of Speedway Motorsports, the suggested pavement section from NCDOT will be utilized.

Figure # 3



4.6 CUT AND FILL SLOPES

For landscaping and mowing concerns, final project slopes should be designed to be 3 horizontal to 1 vertical or flatter. Slopes can be designed as steep as 2 horizontal to 1 vertical; however, soil erosion, slope sloughing and slope maintenance should be expected. If designing slopes steeper than 3 horizontal to 1 vertical, a slope stability analysis should be performed to verify stability of the slope. The tops and bases of all slopes should be located a minimum of 5 feet from structural and pavement limits. The fill slopes should be adequately compacted as outlined below, and all slopes should be seeded and maintained after construction.

Retaining walls were not shown on the information provided to us. Retaining wall analysis was not apart of our scope of services. However, any retaining walls should be designed using appropriate soil parameters based on the site and construction conditions. Also, any walls

designed must be properly analyzed by the wall design engineer with respect to global stability analysis and other design parameters.

4.7 CULVERT FOUNDATION SUPPORT

As previously mentioned, undercutting of loose and soft soils will be required during culvert foundation construction. The following table (Table # 1) shows the available net allowable soil bearing capacities for the residual soils or partially weathered rock encountered at varying depths at each boring location.

Table # 1

ALLOWABLE BEARING CAPACITIES			
Boring No.	**Depth to Observed Groundwater (feet)**	**Approx. Bearing Depth[1] (feet)**	**Net Allowable Bearing Pressure (psf)**
B-3	3.0	18.5	4,000
B-4	5.5	14.0	4,000
B-5	2.5	9.0	4,000
B-6	11.5	13.0	4,000

The above noted bearing capacities can be obtained by extending the foundations to suitable soils or undercutting to suitable soils and backfilling with washed stone wrapped in a non-woven geotextile filter fabric such as Mirafi 140N (or equivalent). If undercutting and replacement with washed stone is selected, the excavation should be widened one foot for every vertical foot of undercut. As mentioned above, all foundations in the vicinity of the creek should be designed to extend downward to a depth of at least 2 feet below the creek bed to reduce the potential for scour and/or soil loss. As an alternative, undercut excavations could be backfilled with a lean concrete (i.e. minimum 28-day strength of 2,000 psi) to the design foundation elevation.

The foundation excavations should be observed by a representative of the geotechnical engineer in order to verify the soil suitability between our boring locations. Due to the variable nature of the residual soil conditions, undercutting below the above noted depths may be required.

We recommend that the foundations maintain a minimum dimension of 24 inches to reduce the possibility of a localized, punching-type shear failure.

4.8 LATERAL DESIGN PARAMETERS

Since the proposed culvert will be constructed below the proposed roadways, we recommend that the structures be designed with regard to the lateral pressure exerted by the compacted fill. We recommend that the "at rest" lateral earth pressure coefficient be used if the headwalls, wing walls are restrained from rotation and that the "active" lateral earth pressure coefficient be used if rotation is not restrained. The lateral earth pressure coefficient is based on a conservatively estimated angle of internal friction for compacted backfill. We recommend that an "at rest" lateral earth pressure $K_o = 0.53$ and an "active" lateral earth pressure $K_a = 0.36$ be used in conjunction with a soil backfill unit weight of 130 pounds per cubic foot (pcf) during culvert design. In addition to the lateral loads exerted by the soil against the culverts, allowance should be included for lateral stresses imposed by any temporary or long term surcharge loads.

We anticipate that the proposed head/wing walls will be constructed either as a modular block segmental retaining wall system or cast-in-place concrete. ESP recommends the proposed backfill soils be evaluated to verify they meet the required design parameters. Three to four weeks time should be allowed for this verification. In addition, we recommend a global stability analysis be performed for all retaining wall structures prior to construction.

In backfilling against the head/wing walls and culvert structure, care should be taken to prevent the backfill from being over-compacted, as this could result in excessive internal stresses against

the culvert. In the same regard, excessively heavy equipment should not be used for the compaction of the fill or operated adjacent to the structure.

5.0 CONSTRUCTION CONSIDERATIONS

5.1 EXISTING UTILITIES

Based on a review of the site plans provided to us and our visual observations during the subsurface exploration, we understand that several underground utility lines are present within the proposed roadway. We recommend all existing lines be removed and relocated outside of the proposed pavement areas. Additionally, all trench backfill material should be removed and the subgrade in all trench excavations be evaluated by a representative of the geotechnical engineer prior to backfilling. The subgrade evaluation should consist of visual observations, probing with a steel rod and/or performing hand auger borings with Dynamic Cone Penetrometer tests to evaluate their suitability for receiving structural fill. Once all trenches are evaluated and approved, they should be backfilled with adequately compacted structural fill.

5.2 SITE PREPARATION

The entire culvert and pavement areas should be stripped of all topsoil, high plasticity near surface soils, trash, debris and other organic materials to a minimum of 10 feet beyond the structural and pavement limits. Upon completion of the stripping operations, the exposed subgrade in areas to receive fill should be proofrolled with a loaded dump truck or similar pneumatic tired vehicle (minimum loaded weight of 20 tons) under the observation of a representative of the geotechnical engineer. The proofrolling procedures should consist of four complete passes of the exposed areas, with two of the passes being in a direction perpendicular to the preceding ones. After excavation of the site has been completed, the exposed subgrade in cut areas should also be proofrolled as previously described. Any areas which deflect, rut or

pump excessively during proofrolling or fail to improve sufficiently after successive passes should be undercut to suitable soils and replaced with structural fill.

Existing fill and/or alluvium soils were encountered in Borings B-4, B-9, and B-11 performed at the site. The depth of the fill varied between 0.5 and 12.5 feet below existing grades. The existing fill observed did not contain concentrated organics or deleterious materials, however, some of the near surface Standard Penetration Tests performed in the fill indicate that these soils may be unstable. Unsuitable and/or unsuitable soils may be encountered between the borings during site grading or excavation for foundations, that were not encountered in the borings. Some undercutting of the soft near surface soils should be anticipated. The extent of the undercut required should be evaluated in the field by an experienced representative of the geotechnical engineer while monitoring construction activity. The evaluation should consist of a comprehensive proofrolling program and thorough field evaluation during construction. After the proofrolling operation has been completed and approved, final site grading should proceed immediately. If construction progresses during wet weather, the proofrolling operation should be repeated with at least one pass in each direction immediately prior to placing base course in the pavement areas. If unstable conditions are exposed during this operation, then undercutting should be performed.

5.3 TEMPORARY EXCAVATION STABILITY

Since the excavation for the proposed bottomless culvert may extend approximately 9 to 18.5 feet below final grades, shoring and bracing or flattening (laying back) of the slopes will be required to obtain a safe working environment. In this regard, we anticipate that the residual soils and compacted structural fill will remain stable on an approximately 1(H) to 1(V) slope for the short period that they should remain open, if the dewatering of the soils is performed as outlined. However, this should be verified in the field at the time of construction. A flatter slope may be required. All excavations should be conducted in a safe manner and comply with all

local, state and federal guidelines and codes. We recommend that all excavated soils be placed away from the edges of the excavation, at a distance equaling or exceeding the depth of the excavation.

Excavations greater than four feet in depth should be sloped or shored in accordance with local, state, and federal regulations, including OSHA "Construction Standard for Excavations" (29 CFR Part 1926.650-652). The contractor is usually solely responsible for site safety. This information is provided only as a service and under no circumstances should ESP be assumed to be responsible for construction site safety.

5.4 TEMPORARY BASE STABILITY

Based on our experience with similar subsurface conditions and construction activities, we anticipate that soils at the bottom of the deeper excavations may soften or loosen prior to completing foundation construction. Hydrostatic pressures, construction equipment and construction traffic among other factors, can be contributing factors to reducing the allowable bearing capacity at the exposed bearing elevation. We recommend that construction traffic be kept off the base of the excavations. Upon completion of the excavations for the proposed bottomless culvert, we recommend placing a "working mat" at the bottom of the excavation on soils suitable for foundation support. The "working mat" should consist of washed stone such as NCDOT #57 wrapped, and overlapped, in a non-woven needle punched geotextile such as Mirafi 140N or approved equivalent. Overlapping the fabric from the exterior edges of the stone mat to beneath the foundations should be adequate. The working mat should extend a minimum of 2 feet beyond the edge of the foundation area. The working mat should be at least 12 inches thick and is dependent on the exposed conditions.

5.5 TEMPORARY DEWATERING

Based on existing ground surface elevations, stabilized groundwater levels and proposed subgrade elevations, we anticipate that dewatering will be required at the site. We expect that temporary dewatering could be adequately handled with pumping from sumps excavated at least 3 feet below the bottom of the excavations. Pumping from the sumps should be maintained until fill placement in the excavation is a minimum of 3 feet above the water level. At no time should pumping be performed directly beneath the exposed subgrade elevation since this could result in disturbance of the bearing materials and a loss of soil strength and increased settlement.

5.6 DIFFICULT EXCAVATION

Based on the results of the soil test borings, it appears that the majority of the general excavation will be in firm to stiff and loose to dense residual soil. We anticipate that the residual soil can be excavated using pans, scrapers, backhoes and front end loaders. However, we anticipate that partially weathered rock, intermittent rock lenses and/or boulders may be encountered during general site grading and excavation for the installation of footings and utilities.

The depth to, and thickness of, PWR and rock lenses or seams, can vary dramatically in short distances and between boring locations; therefore, PWR or bedrock may be encountered during construction at locations or depths between boring locations, not encountered during this exploration.

It has been our past experience in this geologic area that materials having Standard Penetration Resistances of less than 50 blows per 0.4 foot can generally be excavated using pans and scrapers by first loosening with a ripper attached to a suitable sized dozer such as a Caterpillar D-8 or D-9. On earthwork projects requiring ripping, questions sometimes develop as to whether the materials can be removed by ripping or whether blasting is required. It should be noted that

ripping is dependent upon finding the right combination of equipment and techniques used, as well as the operator's skill and experience. The success of the ripping operation is dependent on finding the proper combinations for the conditions encountered. Excavation of the weathered rock is typically much more difficult in confined excavations. Jackhammering or blasting is anticipated to be required for materials having Standard Penetration Resistances in excess of 50 blows per 0.2 foot.

We would like to point out that our experience indicates rock in a weathered, boulder and massive form varies erratically in location and depth in the Piedmont Geologic Province, which contains Concord, North Carolina. Therefore, there is always a potential that these materials could be encountered at shallow depths between the boring locations.

5.7 FILL MATERIAL AND PLACEMENT

All fill used for site grading operations should consist of a clean (free of organics and debris), low plasticity soil (Plasticity Index less than 30). The proposed fill should have a maximum dry density of at least 90 pounds per cubic foot as determined by a Standard Proctor compaction test, ASTM D 698. All fill should be placed in loose lifts not exceeding 8 inches in thickness and compacted to a minimum of 95 percent of its Standard Proctor maximum dry density, with at least 100 percent achieved at the surface. We recommend that field density tests, including one-point Proctor verification tests, be performed on the fill as it is being placed at a frequency determined by an experienced geotechnical engineer to verify the compaction criteria. Any fills that may be constructed greater than 15 feet in height should be evaluated with regard to long term settlement, consolidation and slope stability. These analysis should be requested of the geotechnical engineer once grading plans are complete and available.

Based on the results of the soil test borings performed in the cut areas and our past experience with similar type materials, the existing residual soils observed can be used as structural fill; however, some moisture conditioning will likely be required.

6.0 LIMITATIONS OF REPORT

This report has been prepared in accordance with generally accepted geotechnical engineering practice with regard to the specific conditions and requirements of this site. The conclusions and recommendations contained in this report were based on the applicable standards of our practice in this geographic area at the time this report was prepared. No other warranty, expressed or implied, is made.

The analysis and recommendations submitted herein are based, in part, upon the data obtained from the subsurface exploration. The nature and extent of variations between the borings will not be known until construction is underway. If variations appear evident, then we request the opportunity to re-evaluate the recommendations of this report. In the event that any changes in the nature, design, or location of the structures are planned, the conclusions and recommendations contained in this report will not be considered valid unless the changes are reviewed and conclusions modified or verified in writing by ESP.

In order to verify that earthwork and foundation recommendations are properly interpreted and implemented, we recommend that ESP be provided the opportunity to review the final plans and specifications. Any concerns observed will be brought to our client's attention in writing.

FIELD EXPLORATION PROCEDURES

Soil Test Boring: Twelve (12) soil test borings were drilled at the approximate locations shown on the attached Boring Location Plan, Figure 2. Soil sampling and penetration testing were performed in accordance with ASTM D 1586.

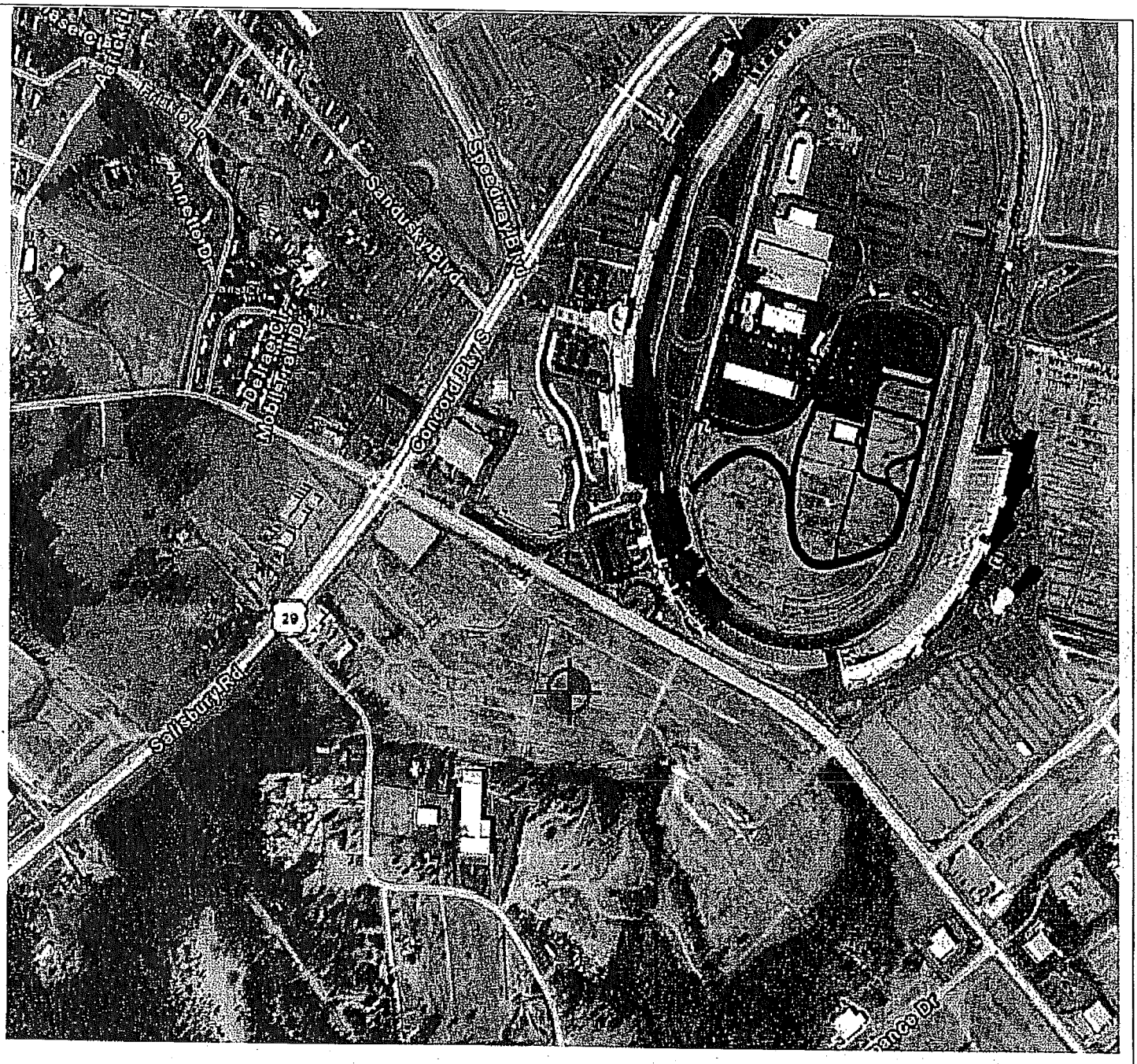
The borings were advanced with hollow-stem augers and, at standard intervals, soil samples were obtained with a standard 1.4-inch I.D., 2-inch O.D., split-tube sampler. The sampler was first seated six (6) inches to penetrate loose cuttings, then driven an additional foot with blows of a 140-pound hammer falling 30 inches. The number of hammer blows is designated the "Standard Penetration Resistance." When properly evaluated, the Standard Penetration Resistances provide an index to soil strength, relative density, and ability to support foundations.

Select portions of each soil sample were placed in sealed containers and taken to our office. The samples were examined by a representative of the geotechnical engineer for classification. Test Boring Records are attached showing the soil descriptions and Standard Penetration Resistances.

LABORATORY TESTING PROCEDURES

Standard Proctor Compaction Test: Select samples of the on-site and borrow soils were obtained from auger cuttings / test pits to determine their suitability as fill material. Standard Proctor Compaction Tests (ASTM D 698) were performed on these soils to determine their compaction characteristics including maximum dry density and optimum moisture content. The test results are presented on the attached Compaction Test Sheets included in the Appendix.

California Bearing Ratio Test (CBR): The results of the compaction tests described above were utilized in compacting the samples for laboratory CBR tests. The California Bearing Ratio, usually abbreviated as CBR, is a punching shear test. It provides data that is a semi-empirical index of the strength and deflection characteristics of a soil, that has been correlated with pavement performance to establish design criteria for pavement thickness. The test is performed on a six-inch diameter, five-inch thick disc of compacted soil that is confined in a steel cylinder. Before testing, the sample is inundated in water under a confining pressure approximately equal to the weight of the future pavement in order to determine the potential swelling, and to simulate the worst possible condition that can occur in the field. A piston, approximately two inches in diameter, is then forced into the soil at a standard rate to determine the resistance to penetration. The CBR is the ratio, expressed as a percentage, of the actual load required to produce a 0.1 inch deflection to that required to produce the same deflection in a certain standard crushed stone. The results of the CBR tests are shown on the attached California Bearing Ratio Test Results sheet.

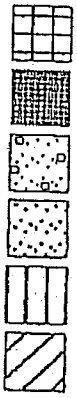


Site Location

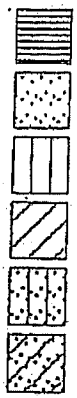
ESP ASSOCIATES, P.A. engineering • surveying • planning	Site Location Plan Morehead Road Realignment Concord, North Carolina	Job No. E4B-UH26.300	Drawn by: DMC
		Figure No. **1**	Checked by: DMC
			Date: 12/19/06
			Scale: NTS

LEGEND TO SOIL CLASSIFICATION AND SYMBOLS

SOIL TYPES
(Shown in Graphic Log)



Asphalt / Concrete
Topsoil
Gravel
Sand
Silt
Clay



Organic
Sandy
Silty
Clayey
Silty Sand
Clayey Sand

Sandy Silt
Clayey Silt
Sandy Clay
Silty Clay
Partially Weathered Rock
Cored Rock

SAMPLER TYPES
(Shown in Samples Column)

Shelby Tube
Split Spoon
Rock Core
No Recovery

CONSISTENCY OF COHESIVE SOILS

CONSISTENCY	STD. PENETRATION RESISTANCE BLOWS / FOOT
Very Soft	0 to 2
Soft	3 to 4
Firm	5 to 8
Stiff	9 to 15
Very Stiff	16 to 30
Hard	31 to 50
Very Hard	Over 50

WATER LEVELS
(Shown in Water Level Column)

▽ = Water Level at Termination of Boring

▼ = Water Level Taken After 24 Hours

◥ = Loss of Drilling Water

HC = Hole Cave

CONSISTENCY OF COHESIONLESS SOILS

CONSISTENCY	STD. PENETRATION RESISTANCE BLOWS / FOOT
Very Loose	0 to 4
Loose	5 to 10
Medium Dense	11 to 30
Dense	31 to 50
Very Dense	Over 50

TERMS

Standard - Penetration Resistance The Number of Blows of a 140 lb. Hammer Falling 30 In. Required to Drive a 1.4 in I.D. Split Spoon Sampler 1 Foot (N-Value) As Specified in ASTM D-1586.

REC - Total Length of Rock Recovered in the Core Barrel Divided by the Total Length of the Core Run Times 100 (expressed as a percentage).

RQD - Total Length of Sound Rock Segments Recovered that are Longer Than or Equal to 4" (mechanical breaks included) Divided by the Total Length of the Core Run Times 100 (expressed as a percentage).

Dynamic Cone - Penetrometer Test Data The Number of Blows of a 15 lb. Hammer Falling 20 In. Required to Drive a Cone Point 1 3/4 In. When Properly Evaluated, it can be compared to the Standard Penetration Resistance.

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PROJECT: Morehead Road
Concord, NC, North Carolina

TEST BORING RECORD B-1

PROJECT No.:	ELEVATION: Existing	DRILLING METHOD:
UH26.300	Ground Surface	3-1/4" ID Hollow stem
LOGGED BY:	BORING DEPTH:	DRILL RIG:
Jason Tacla	15 FEET	CME550X (ATV)
DATE DRILLED:	WATER LEVEL:	
11/10/06	Dry @ TOB ▼ 1.8 Ft @ 3 days	

NOTES:
Drilling services provided by Ameridrill

Boring Location: Station 34 + 00

DEPTH (ft)	SOIL DESCRIPTION
0	TOPSOIL/GRASSMAT
	RESIDUUM: Firm Dark Reddish Brown Fine Sandy Silty CLAY
5	Stiff Dark Reddish Brown Fine Sandy Silty CLAY
	Medium Dense Light Grayish Brown Silty SAND
15	Boring was terminated at 15 feet. Hole cave-in was observed at 6.5 feet.

WATER LEVEL: ▼ HC

SAMPLE

STANDARD PENETRATION TEST DATA (Blows/ft)

DEPTH (ft)	BPF
0	
5	8
10	10
15	17
20	25
25	15
30	
35	

DEPTH MEASUREMENTS ARE SHOWN TO ILLUSTRATE THE GENERAL ARRANGEMENTS OF THE SOIL TYPES ENCOUNTERED AT THE BORING LOCATIONS.

DO NOT USE DEPTH MEASUREMENTS FOR DETERMINATION OF DISTANCES OR QUANTITIES.

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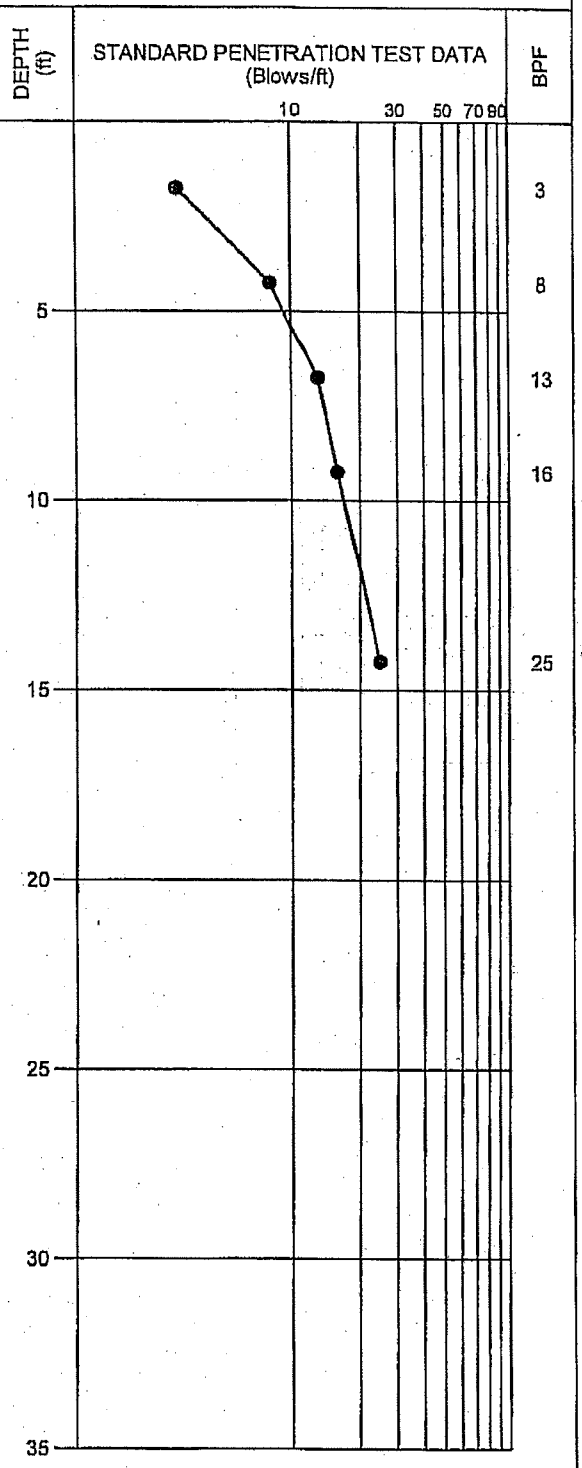
Concord, NC 28027 704.793.9855

TBR UH26.300.GPJ LOG-LAB.GDT 12/21/06

PROJECT:	Morehead Road Concord, NC, North Carolina	TEST BORING RECORD B-2

PROJECT No.:	ELEVATION: Existing	DRILLING METHOD:	NOTES:
UH26.300	Ground Surface	3-1/4" ID Hollow stem	Drilling services provided by Ameridrill
LOGGED BY:	BORING DEPTH:	DRILL RIG:	Boring Location: Station 32 + 10
Jason Tacia	15 FEET	CME550X (ATV)	
DATE DRILLED:	WATER LEVEL:		
11/10/06	Dry @ TOB ▼ 10.3 Ft @ 3 days		

DEPTH (ft)	GRAPHIC LOG	SOIL DESCRIPTION	WATER LEVEL	SAMPLE
0		TOPSOIL/GRASSMAT		
		RESIDUUM: Very Loose to Loose Light Grayish Brown Silty SAND		
5		Medium Dense Gray Clayey SAND		
		Medium Dense Light Grayish Brown Clayey Silty SAND		
10			▼ HC	
		Medium Dense Light Blackish Brown Silty Fine to Coarse Grained SAND		
15		Boring was terminated at 15 feet. Hole cave-in was observed at 11.4 feet.		
20				
25				
30				
35				



DEPTH MEASUREMENTS ARE SHOWN TO ILLUSTRATE THE GENERAL ARRANGEMENTS OF THE SOIL TYPES ENCOUNTERED AT THE BORING LOCATIONS.

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TBR UH26.300.GPJ LOG-LAB.GDT 12/21/06

PROJECT: Morehead Road
Concord, NC, North Carolina

TEST BORING RECORD B-3

PROJECT No.:	ELEVATION: Existing	DRILLING METHOD:
UH26.300	Ground Surface	3-1/4" ID Hollow stem
LOGGED BY:	BORING DEPTH:	DRILL RIG:
Jason Tacia	19.4 FEET	CME550X (ATV)
DATE DRILLED:	WATER LEVEL:	
11/10/06	Dry @ TOB ▼ 3.0 Ft @ 3 days	

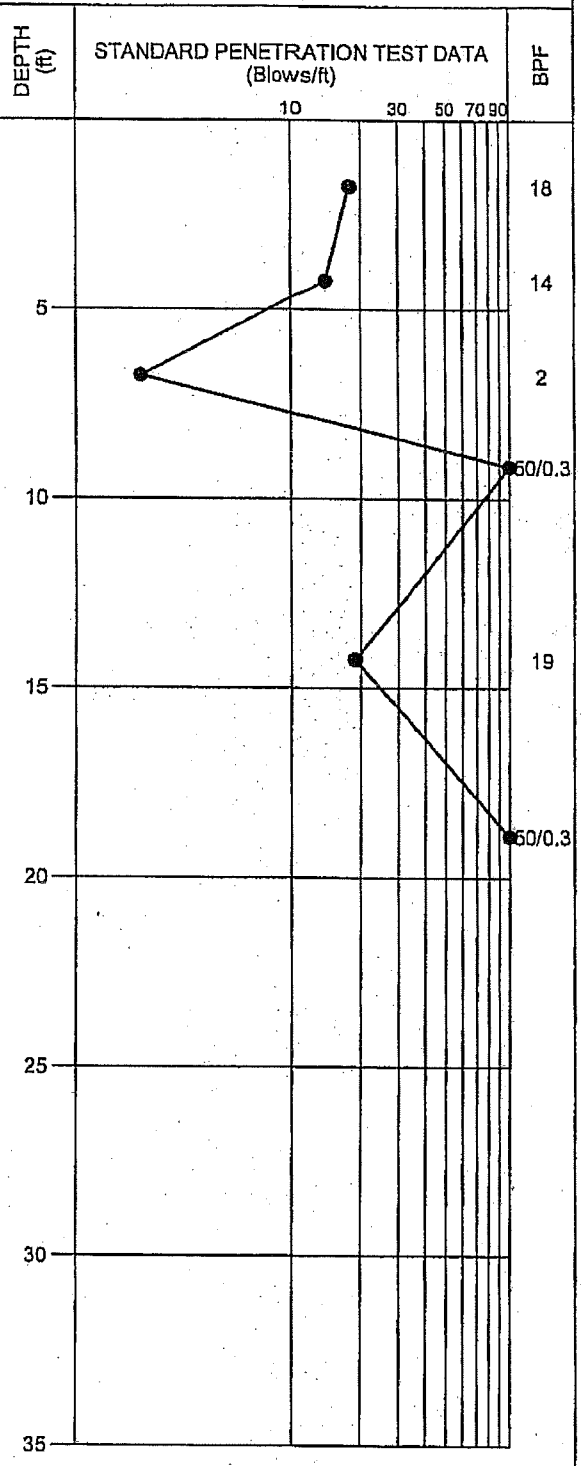
NOTES:
Drilling services provided by Ameridrill

Boring Location: Station 30 + 25

Located 20 feet North East of Center Line of Road

South East Corner of Proposed Culvert Crossing

DEPTH (ft)	SOIL DESCRIPTION	WATER LEVEL	SAMPLE
0	TOPSOIL/GRASSMAT		
	RESIDUUM: Medium Dense Light Blueish Gray Silty Fine Grained SAND with Rootlets	▼	
5	Very Loose to Very Dense Light Orangeish Gray Silty Fine to Coarse Grained SAND (wet At 6.5')	HC	
10	PARTIALLY WEATHERED ROCK: Light Grayish Pink Silty Fine to Coarse Grained SAND		
	Medium Dense Light Grayish Pink Silty Fine to Coarse Grained SAND		
15	Medium Dense Light Orangeish Gray Silty Fine to Coarse Grained SAND		
20	PARTIALLY WEATHERED ROCK: Light Orangeish Pink Coarse Grained SAND		
	Boring was terminated at 19.4 feet. Hole cave-in was observed at 7 feet.		
25			
30			
35			



DEPTH MEASUREMENTS ARE SHOWN TO ILLUSTRATE THE GENERAL ARRANGEMENTS OF THE SOIL TYPES ENCOUNTERED AT THE BORING LOCATIONS.

DO NOT USE DEPTH MEASUREMENTS FOR DETERMINATION OF DISTANCES OR QUANTITIES.

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TBR UH26.300.GPJ LOG-LAB.GDT 12/21/06

PROJECT:	Morehead Road Concord, NC, North Carolina	TEST BORING RECORD B-4

PROJECT No.:	ELEVATION: Existing	DRILLING METHOD:
UH26.300	Ground Surface	3-1/4" ID Hollow stem
LOGGED BY:	BORING DEPTH:	DRILL RIG:
Jason Tacia	18.9 FEET	CME550X (ATV)
DATE DRILLED:	WATER LEVEL:	
11/10/06	Dry @ TOB ▼ 5.5 Ft @ 3 days	

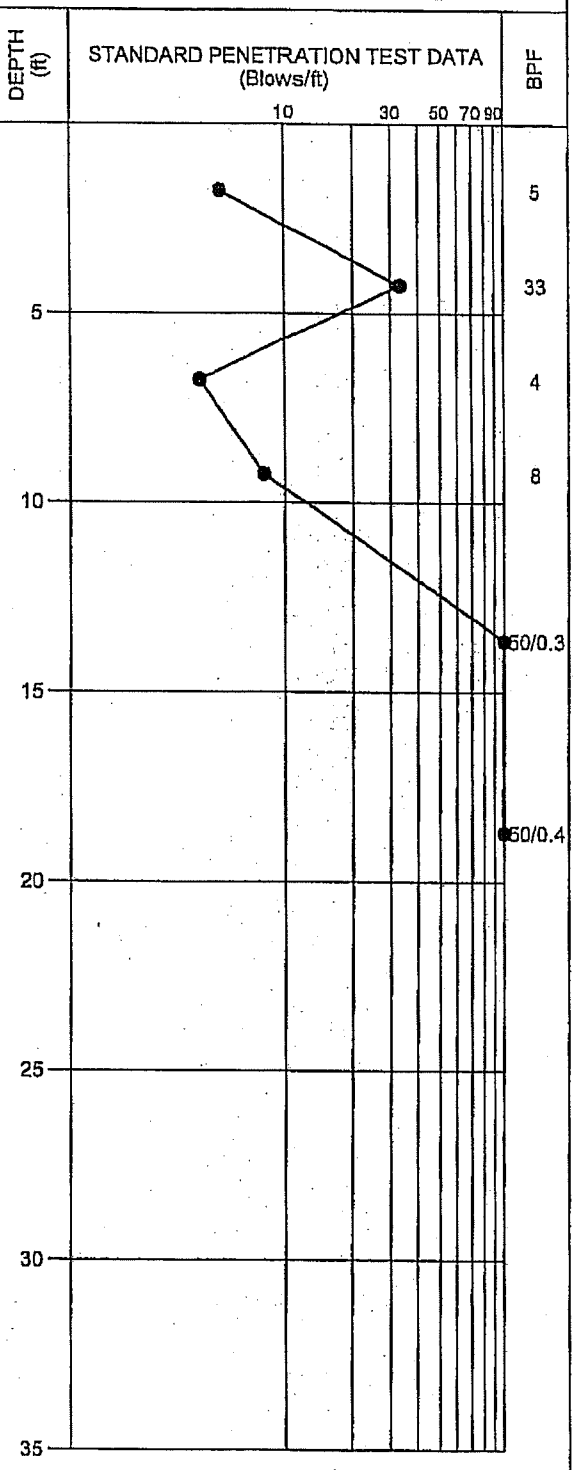
NOTES:
Drilling services provided by Ameridrill

Boring Location: Station 30 + 25

Located 20 feet South West of Center Line of Road

South West Corner of Proposed Culvert Crossing

DEPTH (ft)	GRAPHIC LOG	SOIL DESCRIPTION	WATER LEVEL	SAMPLE
0		TOPSOIL/ROOTMAT		
		FILL: Loose Orange Silty Fine Grained SAND		
5		FILL: Dense White Silty SAND with Quartz Rock	▼	
		ALLUVIUM: Firm Light Orangeish Black and Grayish Fine Sandy Silty CLAY (Moist)		
		ALLUVIUM: Very Dense Light Brownish Orange Silty Fine to Medium Grained SAND (Moist)	HC	
10				
		PARTIALLY WEATHERED ROCK: Dark Grayish Black Silty Fine to Coarse Grained SAND		
15				
		Boring was terminated at 18.9 feet. Hole cave-in was observed at 9 feet.		
20				
25				
30				
35				



DEPTH MEASUREMENTS ARE SHOWN TO ILLUSTRATE THE GENERAL ARRANGEMENTS OF THE SOIL TYPES ENCOUNTERED AT THE BORING LOCATIONS.

DO NOT USE DEPTH MEASUREMENTS FOR DETERMINATION OF DISTANCES OR QUANTITIES.

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TBR UH26.300.GPJ LOG-LAB.GDT 12/21/06

PROJECT:	Morehead Road Concord, NC, North Carolina	

TEST BORING RECORD B-5

PROJECT No.:	ELEVATION: Existing	DRILLING METHOD:
UH26.300	Ground Surface	3-1/4" ID Hollow stem
LOGGED BY:	**BORING DEPTH:**	**DRILL RIG:**
Jason Tacla	9.3 FEET	CME550X (ATV)
DATE DRILLED:	**WATER LEVEL:**	
11/10/06	Dry @ TOB ▼ 2.5 Ft @ 3 days	

NOTES:
Drilling services provided by Ameridrill

Boring Location: Station 29 + 50

Located 20 feet North East of Center Line of Road

North East Corner of Proposed Culvert Crossing

DEPTH (ft)	GRAPHIC LOG	SOIL DESCRIPTION	WATER LEVEL	SAMPLE
0		TOPSOIL/ROOTMAT		
		RESIDUUM: Loose to Medium Dense Reddish and Whitelsh Orange Silty Fine to Medium Grained SAND with Rock Fragments	▼	
5			HC	
		PARTIALLY WEATHERED ROCK: Reddish and Whitelsh Orange Silty Fine to Medium Grained SAND with Rock Fragments		
10		Boring was terminated at 9.3 feet. Hole cave-in was observed at 5.7 feet.		
15				
20				
25				
30				
35				

DEPTH (ft)	STANDARD PENETRATION TEST DATA (Blows/ft) 10 30 50 70 90	BPF
0		
		9
5		16
		50/0.5
10		50/0.3
15		
20		
25		
30		
35		

DEPTH MEASUREMENTS ARE SHOWN TO ILLUSTRATE THE GENERAL ARRANGEMENTS OF THE SOIL TYPES ENCOUNTERED AT THE BORING LOCATIONS.

DO NOT USE DEPTH MEASUREMENTS FOR DETERMINATION OF DISTANCES OR QUANTITIES.

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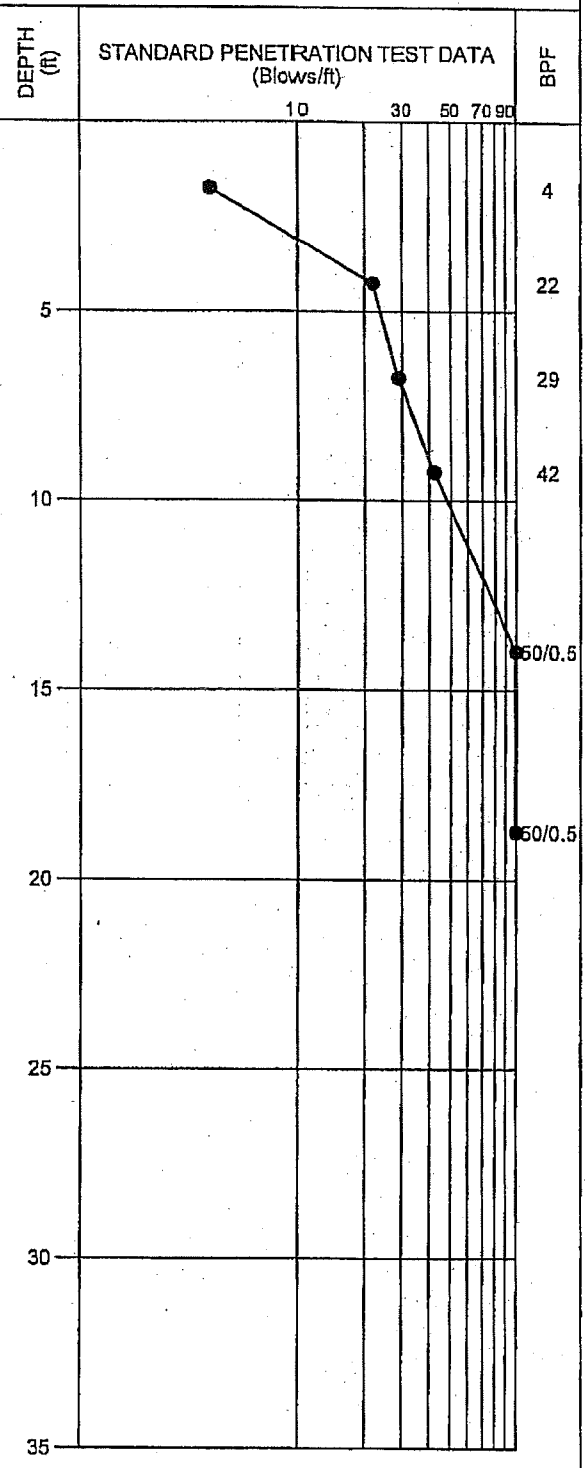
TBR UH26.300.GPJ LOG-LAB.GDT 12/21/06

PROJECT:	Morehead Road Concord, NC, North Carolina	TEST BORING RECORD B-6

PROJECT No.:	ELEVATION: Existing	DRILLING METHOD:
UH26.300	Ground Surface	3-1/4" ID Hollow stem
LOGGED BY:	BORING DEPTH:	DRILL RIG:
Jason Tacia	19 FEET	CME550X (ATV)
DATE DRILLED:	WATER LEVEL:	
11/10/06	Dry @ TOB ▼ 11.5 Ft @ 3 days	

NOTES:
Drilling services provided by Ameridrill
Boring Location: Station. 29 + 50
Located 20 feet North West of Center Line of Road
North West Corner of Proposed Culvert Crossing

DEPTH (ft)	GRAPHIC LOG	SOIL DESCRIPTION	WATER LEVEL	SAMPLE
		TOPSOIL/ROOTMAT		
		RESIDUUM: Very Loose Orangeish Brown Silty SAND with Manganese Stains		
5		Medium Dense Light Brownish Pink Silty Fine to Medium Grained SAND		
		Dense Light Orangeish Black Silty Fine to Medium Grained SAND	▼	
10				
		PARTIALLY WEATHERED ROCK: Orangeish White Silty Fine to Coarse Grained SAND	HC	
15				
		Boring was terminated at 19 feet. Hole cave-in was observed at 14.4 feet.		
20				
25				
30				
35				



DEPTH MEASUREMENTS ARE SHOWN TO ILLUSTRATE THE GENERAL ARRANGEMENTS OF THE SOIL TYPES ENCOUNTERED AT THE BORING LOCATIONS.

DO NOT USE DEPTH MEASUREMENTS FOR DETERMINATION OF DISTANCES OR QUANTITIES.

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TBR UH26.300.GPJ LOG-LAB.GDT 12/21/06

PROJECT: Morehead Road
Concord, NC, North Carolina

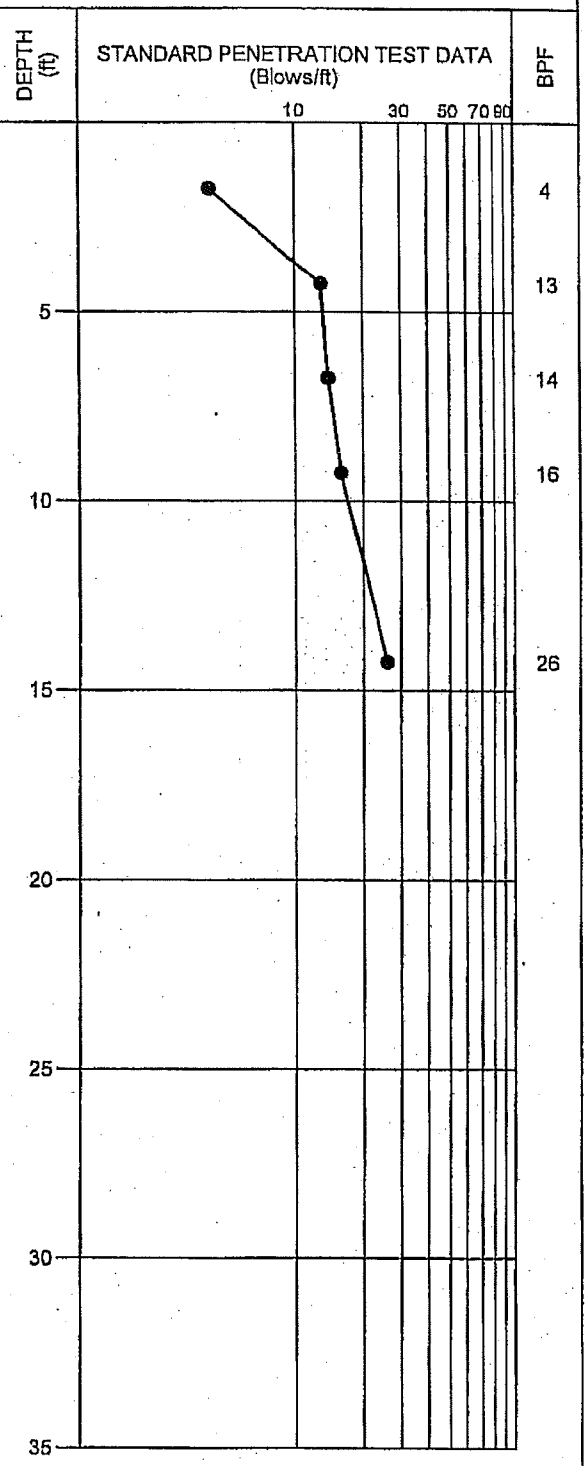
TEST BORING RECORD B-7

PROJECT No.:	ELEVATION: Existing	DRILLING METHOD:
UH26.300	Ground Surface	3-1/4" ID Hollow stem
LOGGED BY:	BORING DEPTH:	DRILL RIG:
Jason Tacia	15 FEET	CME550X (ATV)
DATE DRILLED:	WATER LEVEL:	
11/10/06	Dry @ TOB	Dry @ 3 days

NOTES:
Drilling services provided by Ameridrill

Boring Location: Station 27 + 20

DEPTH (ft)	SOIL DESCRIPTION	WATER LEVEL	SAMPLE
0	TOPSOIL/GRASSMAT		
	RESIDUUM: Very Loose to Medium Dense Blackish Orange Clayey Silty Fine Grained SAND		
5			
	Medium Dense Brownish Orange Silty Fine Grained SAND		
10		HC	
15	Boring was terminated at 15 feet. Hole cave-in was observed at 10 feet.		
20			
25			
30			
35			



DEPTH MEASUREMENTS ARE SHOWN TO ILLUSTRATE THE GENERAL ARRANGEMENTS OF THE SOIL TYPES ENCOUNTERED AT THE BORING LOCATIONS.

DO NOT USE DEPTH MEASUREMENTS FOR DETERMINATION OF DISTANCES OR QUANTITIES.

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TBR UH26.300.GPJ LOG-LAB.GDT 12/21/06

PROJECT:	Morehead Road Concord, NC, North Carolina	TEST BORING RECORD B-8

PROJECT No.:	ELEVATION: Existing	DRILLING METHOD:	NOTES:
UH26.300	Ground Surface	3-1/4" ID Hollow stem	Drilling services provided by Ameridrill
LOGGED BY:	BORING DEPTH:	DRILL RIG:	Boring Location: Station 23 + 40
Jason Tacla	15 FEET	CME550X (ATV)	
DATE DRILLED:	WATER LEVEL:		
11/10/06	Dry @ TOB	Dry @ 3 days	

DEPTH (ft)	GRAPHIC LOG	SOIL DESCRIPTION	WATER LEVEL	SAMPLE
		TOPSOIL/GRASSMAT		
		RESIDUUM: Medium Dense Brownish Orange Silty SAND		
5		Medium Dense Grayish Orange Silty Clayey SAND		
		Medium Dense Orangeish Gray Silty Fine to Coarse Grained SAND with Rock Fragments		
10			HC	
15		Boring was terminated at 15 feet. Hole cave-in was observed at 11 feet.		
20				
25				
30				
35				

DEPTH (ft)	STANDARD PENETRATION TEST DATA (Blows/ft) 10 30 50 70 90	BPF
5		28
10		17
15		23
20		21
25		30
30		
35		

DEPTH MEASUREMENTS ARE SHOWN TO ILLUSTRATE THE GENERAL ARRANGEMENTS OF THE SOIL TYPES ENCOUNTERED AT THE BORING LOCATIONS.

DO NOT USE DEPTH MEASUREMENTS FOR DETERMINATION OF DISTANCES OR QUANTITIES.

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PROJECT:	Morehead Road Concord, NC, North Carolina	
PROJECT No.: UH26.300	ELEVATION: Existing Ground Surface	DRILLING METHOD: 3-1/4" ID Hollow stem
LOGGED BY: Jason Tacla	BORING DEPTH: 15 FEET	DRILL RIG: CME550X (ATV)
DATE DRILLED: 11/10/06	WATER LEVEL: Dry @ TOB	Dry @ 3 days

TEST BORING RECORD B-9

NOTES:
Drilling services provided by Ameridrill

Boring Location: Station 19 + 00

DEPTH (ft)	SOIL DESCRIPTION
0	TOPSOIL/GRASSMAT
	FILL: Medium Dense Orange Clayey Silty Fine Grained SAND
	FILL: Firm Black Fine Sandy Silty CLAY with Rootlets
5	RESIDUUM: Loose to Dense Reddish Orange Silty SAND
10	
15	Very Dense Grayish Orange Silty Fine to Coarse Grained SAND
	Boring was terminated at 15 feet. Hole cave-in was observed at 11 feet.
20	
25	
30	
35	

WATER LEVEL: HC

SAMPLE: ⊠ ⊠ ⊠ ⊠ ⊠

STANDARD PENETRATION TEST DATA (Blows/ft)

DEPTH (ft)	BPF
0	16
5	7
	6
10	34
15	78
20	
25	
30	
35	

DEPTH MEASUREMENTS ARE SHOWN TO ILLUSTRATE THE GENERAL ARRANGEMENTS OF THE SOIL TYPES ENCOUNTERED AT THE BORING LOCATIONS.

DO NOT USE DEPTH MEASUREMENTS FOR DETERMINATION OF DISTANCES OR QUANTITIES.

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TBR UH26.300.GPJ LDG-LAB.GDT 12/21/06

PROJECT:	Morehead Road Concord, NC, North Carolina	TEST BORING RECORD B-10

PROJECT No.:	ELEVATION: Existing	DRILLING METHOD:
UH26.300	Ground Surface	3-1/4" ID Hollow stem
LOGGED BY:	BORING DEPTH:	DRILL RIG:
Jason Tacia	14.3 FEET	CME550X (ATV)
DATE DRILLED:	WATER LEVEL:	
11/10/06	Dry @ TOB	Dry @ 3 days

NOTES:
Drilling services provided by Ameridrill

Boring Location: Station 15 + 25

Sample Taken for Standard Moisture-Density Relationship and CBR Testing

DEPTH (ft)	SOIL DESCRIPTION
0	TOPSOIL/GRASSMAT
	RESIDUUM: Soft Red Silty CLAY
5	Very Stiff Yellowish Orange Fine Sandy SILT
	Medium Dense Brownish Orange Silty Fine to Medium Grained SAND
10	
15	PARTIALLY WEATHERED ROCK: Orangeish White Silty Fine to Coarse Grained SAND
	Boring was terminated at 14.3 feet. Hole cave-in was observed at 10.8 feet.
20	
25	
30	
35	

WATER LEVEL: HC

SAMPLE

DEPTH (ft)	STANDARD PENETRATION TEST DATA (Blows/ft) 10 30 50 70 90	BPF
5		4
		18
		19
10		21
		50/0.3
15		
20		
25		
30		
35		

DEPTH MEASUREMENTS ARE SHOWN TO ILLUSTRATE THE GENERAL ARRANGEMENTS OF THE SOIL TYPES ENCOUNTERED AT THE BORING LOCATIONS.

DO NOT USE DEPTH MEASUREMENTS FOR DETERMINATION OF DISTANCES OR QUANTITIES.

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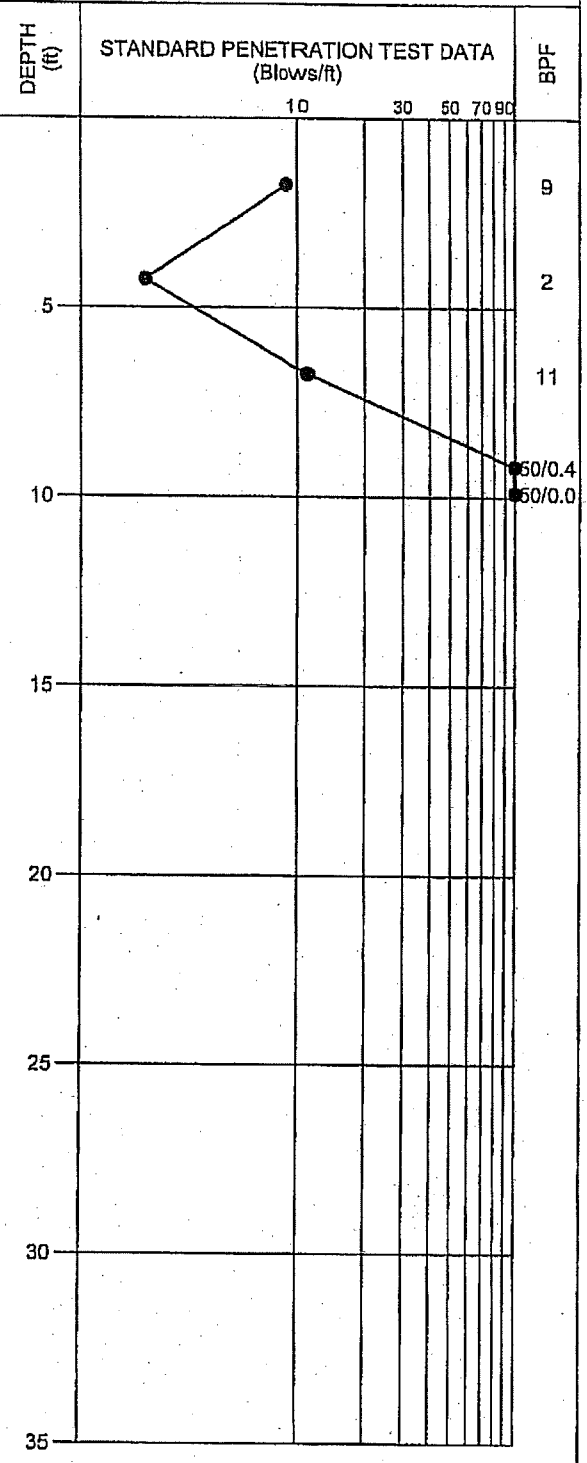
TBR UH26.300.GPJ LOG-LAB.GDT 12/21/06

PROJECT:	Morehead Road Concord, NC, North Carolina	TEST BORING RECORD B-11

PROJECT No.:	ELEVATION: Existing	DRILLING METHOD:	NOTES:
UH26.300	Ground Surface	3-1/4" ID Hollow stem	Drilling services provided by Ameridrill
LOGGED BY:	BORING DEPTH:	DRILL RIG:	Boring Location: Station 12 + 00
Jason Tacia	9.9 FEET	CME550X (ATV)	
DATE DRILLED:	WATER LEVEL:		
11/10/06	Dry @ TOB ▼ 4.0 Ft @ 3 days		

DEPTH (ft)	GRAPHIC LOG	SOIL DESCRIPTION	WATER LEVEL	SAMPLE
		TOPSOIL/GRASSMAT		
		FILL: Stiff Brownish Orange Fine Sandy Silty CLAY		
5		ALLUVIUM: Very Soft Light Orangeish Brown Silty CLAY (Moist to Very Moist)	▼ HC	
		RESIDUUM: Medium Dense Blueish Orange Clayey Silty Fine to Medium Grained SAND		
		PARTIALLY WEATHERED ROCK: Blueish Orange Clayey Silty SAND		
10		Auger refusal encountered at 9.9 feet. Boring was terminated at 9.9 feet. Hole cave-in was observed at 5 feet.		
15				
20				
25				
30				
35				



DEPTH MEASUREMENTS ARE SHOWN TO ILLUSTRATE THE GENERAL ARRANGEMENTS OF THE SOIL TYPES ENCOUNTERED AT THE BORING LOCATIONS.

DO NOT USE DEPTH MEASUREMENTS FOR DETERMINATION OF DISTANCES OR QUANTITIES.

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TBR UH26.300.GPJ LOG-LAB.GDT 12/21/06

PROJECT: Morehead Road
Concord, NC, North Carolina

TEST BORING RECORD B-12

PROJECT No.:	ELEVATION: Existing	DRILLING METHOD:
UH26.300	Ground Surface	3-1/4" ID Hollow stem
LOGGED BY:	BORING DEPTH:	DRILL RIG:
Jason Tacia	14.5 FEET	CME550X (ATV)
DATE DRILLED:	WATER LEVEL:	
11/10/06	Dry @ TOB	Dry @ 3 days

NOTES:
Drilling services provided by Ameridrill

Boring Location: Station 8 + 00

DEPTH (ft)	SOIL DESCRIPTION	WATER LEVEL	SAMPLE	BPF
0	TOPSOIL/GRASSMAT			
	RESIDUUM: Medium Dense Orange Silty Clayey Fine Grained SAND			14
5	Medium Dense Orangeish White Silty Fine to Coarse Grained SAND			45
				24
10		HC		24
	PARTIALLY WEATHERED ROCK: Orangeish White Silty SAND			60/0.4
15	Boring was terminated at 14.5 feet. Hole cave-in was observed at 10.5 feet.			
20				
25				
30				
35				

STANDARD PENETRATION TEST DATA (Blows/ft)
10 30 50 70 90

DEPTH MEASUREMENTS ARE SHOWN TO ILLUSTRATE THE GENERAL ARRANGEMENTS OF THE SOIL TYPES ENCOUNTERED AT THE BORING LOCATIONS.

DO NOT USE DEPTH MEASUREMENTS FOR DETERMINATION OF DISTANCES OR QUANTITIES.

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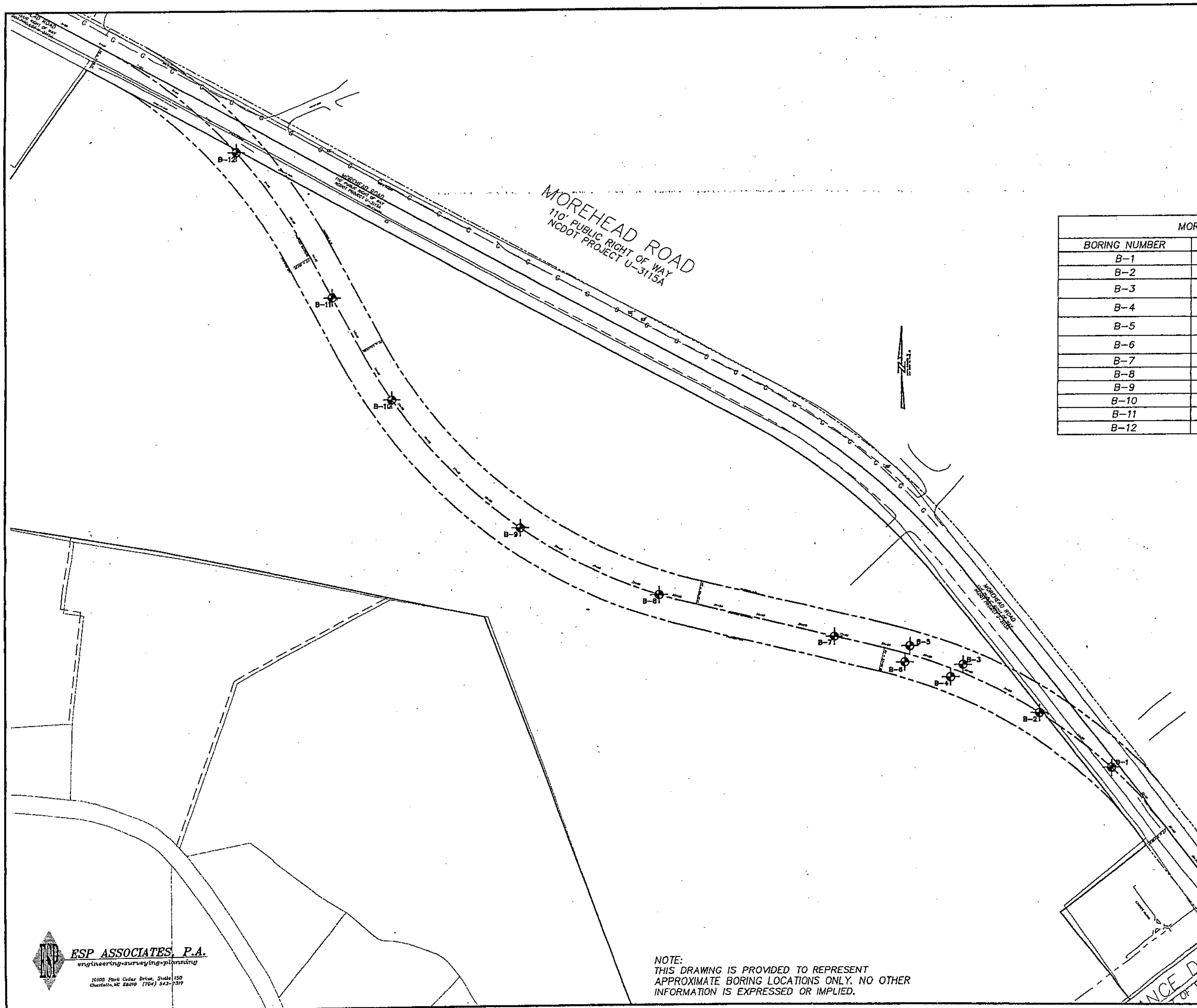
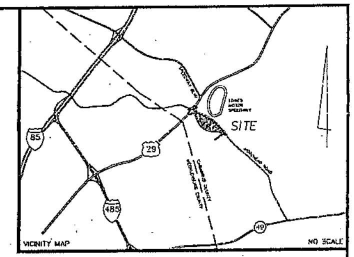
TBR_UH26.300.GPJ LOG-LAB.GDT 12/21/06





MOREHEAD ROAD REALIGNMENT		
BORING NUMBER	STATION	LOCATION
B-1	34+00	CENTERLINE
B-2	32+10	CENTERLINE
B-3	30+25	20' NE OF CENTERLINE
B-4	30+25	20' SW OF CENTERLINE
B-5	29+50	20' NE OF CENTERLINE
B-6	29+50	20' SW OF CENTERLINE
B-7	27+20	CENTERLINE
B-8	23+40	CENTERLINE
B-9	19+00	CENTERLINE
B-10	15+25	CENTERLINE
B-11	12+00	CENTERLINE
B-12	8+00	CENTERLINE

LEGEND

⌖ = APPROXIMATE BORING LOCATION

NOTE:
THIS DRAWING IS PROVIDED TO REPRESENT APPROXIMATE BORING LOCATIONS ONLY. NO OTHER INFORMATION IS EXPRESSED OR IMPLIED.

STOP
800-632-4949

ESP ASSOCIATES, P.A.
engineering•surveying•planning
10100 Park Cedar Drive, Suite 150
Charlotte, NC 28210 (704) 543-7317

NO.	DATE	REVISION	BY

SHEET TITLE: BORING LOCATION PLAN

PROJECT: MOREHEAD ROAD REALIGNMENT

CLIENT: SPEEDWAY MOTORSPORTS, INC.
6425 IDLEWILD ROAD
BUILDING 3, SUITE 205
CHARLOTTE, NORTH CAROLINA 28212

SCALE: NTS
DATE: 01/15/2007
DRAWN BY: DRJ
CHECKED BY: JKT
DRAWING NO.: 2

2 of 2