



**Poquoson City Public Schools
Request for Proposal**

**SBO-26-001
PHS Tennis Court Project**

**ADDENDUM NUMBER 1
May 6, 2026**

This addendum provides answers to offeror's questions. If you have any questions about this Addendum, please contact Andrew Roberts via email at andrew.roberts@poquoson.k12.va.us.

QUESTIONS:

Question 1: When was the last time the courts were redone?

Response: The last work completed on the tennis courts was in June 2022. The courts were coated and lines painted at that time.

Question 2: When were the courts first constructed?

Response: The original drawings for Poquoson High School, dating from approximately 1974–1975, include the tennis courts. Core samples taken from the site indicate evidence of three different paving layers associated with the courts.

Question 3: What is your preference for the fix?

Response: As stated in the RFP, "Proposals will be evaluated using a best-value approach to identify the solution that provides the greatest overall benefit to the Owner, considering quality, reliability, and cost."

Question 4: Are the courts currently in use?

Response: No. Poquoson City Public Schools closed these courts due to significant cracking that created a safety hazard. The courts are currently chained, locked, and clearly posted as closed.

Question 5: Can I get the elevation of the courts?

Response: It is the responsibility of the offeror to conduct any measurements, inspections, or evaluations necessary for preparation of their proposal. Please contact Andrew Roberts at andrew.roberts@poquoson.k12.va.us to schedule a site visit prior to arriving on campus.

Question 6: Where is the drainage issue?

Response: The exact cause of the drainage issue has not been identified. Multiple drains are visible at the surface; however, they appear to drain only into the courts, with no visible outlet or discharge point. Offerors are responsible for conducting their own evaluations and investigations as necessary in preparing their proposals.

Question 7: What is needed for an estimated completion date?

Response: The RFP states August 21, 2026 as the date for completion.

Question 8: Does the fencing and/or the posts need to be redone?

Response: The RFP provides offerors the flexibility to assess and recommend the most appropriate fencing solution as part of their proposal. Both repair and full replacement are acceptable options. Our objective is to select the proposal that delivers the greatest overall value based on quality, reliability, and cost.

Question 9: Can the geotechnical study be made available?

Response: Yes. The geotechnical study will be attached to this addendum for any offeror to review.

Question 10: In regard to the fencing work, we can provide demolition, disposal, and installation of new fencing to match the existing pattern. Based on our assessment, most of the fence posts appear to be rusted and the chain-link fabric is loose. While tightening the existing netting is possible as a temporary fix, the deteriorated condition of the posts would require full removal and replacement to ensure long-term stability and performance. Kindly advise which areas you would prefer for full fence

replacement versus minor repairs (such as net tightening), so we can proceed accordingly and finalize the scope.

Response: The RFP provides offerors the flexibility to assess and recommend the most appropriate fencing solution as part of their proposal. Both repair and full replacement are acceptable options. Our objective is to select the proposal that delivers the greatest overall value based on quality, reliability, and cost.

Question 11: We respectfully submit for your consideration a request to approve products as an accepted substitute on PHS Tennis Court Project.

Response: Requests for substitution will not be approved prior to award. Bidders shall base their proposals on the materials specified in the solicitation. Substitution requests may be considered after award in accordance with the contract documents.

This Addendum 1 is incorporated into the RFP Documents and will be made part of the resulting contract. Please acknowledge receipt of this Addendum in the space provided in the proposal form section of the Request for Proposal.

ALL OTHER TERMS AND CONDITIONS REMAIN THE SAME.

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Note: This report was originally delivered in a web-based format. **Blue Bold** text in the report indicates a referenced section heading. The PDF version also includes hyperlinks which direct the reader to that section and clicking on the  Terracon logo will bring you back to this page. For more interactive features, please view your project online at client.terracon.com.

Refer to each individual Attachment for a listing of contents.

Introduction

This report presents the results of our Subsurface Exploration and Geotechnical Engineering Report for the tennis courts at Poquoson High School, located at 51 Odd Road in Poquoson, VA. The purpose of these services was to provide information and analysis relative to:

- Subsurface soil conditions
- Estimated groundwater conditions
- Existing pavement section
- Potential sources of unacceptable surficial quality of existing pavement
- Site preparation and earthwork
- Reusability of on-site soils
- Pavement design and construction

The Scope of Services for this project included the advancement of test borings, laboratory testing, engineering analysis, and preparation of this report.

Drawings showing the site and boring locations are shown on the [Site Location and Exploration Plan](#) attachment. Laboratory testing results and logs of the soil test borings are presented in the [Exploration and Laboratory Results](#) attachment.

Project Description

Our initial understanding of the project was provided in our proposal and was discussed during project planning. A period of collaboration has transpired since the project was initiated, and our final understanding of the project conditions is as follows:

Item	Description
Information Provided	An email containing the Geotechnical Scope of Work was provided by the client on June 11, 2025.
Project Description	The City of Poquoson Public Schools is planning a complete renovation of the existing four-court tennis facility at Poquoson High School. The courts show cracking consistent with elevated moisture at or below the existing pavement surface.

Site Conditions

The following description of site conditions is derived from our site visit in association with the field exploration and our review of publicly available geologic and topographic maps.

Item	Description
Parcel Information	The project is located at Poquoson High School at 51 Odd Road in Poquoson, VA. Latitude: 37.129050°N, Longitude: 76.378225°W (approximate) See Site Location
Existing Improvements	4-inch vertical drains are present and are spaced equally between and outside of each court. It appeared that the drains were installed without a discharge avenue other than infiltration into the underlying aggregate base and/or subgrade.
Current Ground Cover	Flexible asphalt pavement.
Existing Topography	Based on topography provided from the City of Poquoson Parcel Viewer online GIS mapping, the existing tennis court is at elevation (EL) 6-ft with the landscaped areas immediately surrounding the tennis courts at EL 5 to 6 feet (NAVD88).

We collected photographs at the time of our field exploration and during our review of the soils and core samples. Representative photos are provided in our [Photography and Core Log](#).

Geotechnical Characterization

We have developed a general characterization of the subsurface conditions based upon our review of the subsurface exploration, geologic setting, historical maps and documents, and our understanding of the project. This characterization, termed [GeoModel](#), forms the basis of our analyses of the site. Conditions observed at each exploration point are indicated on the individual logs. The individual logs can be found in the [Exploration and Laboratory Results](#) and the GeoModel can be found in the [Figures](#) section of this report.

As part of our analyses, we identified the following model layers within the subsurface profile. For a more detailed view of the model layer depths at each boring location, refer to the [GeoModel](#).

Model Layer	Layer Name	General Description
1	PAVEMENT/ TENNIS COURTS	7 inches of Asphalt underlain by 4 inches of Aggregate Base Material
2	FILL	Fill, Silty Sand
3	ALLUVIUM	Silty Sand (SM), Clayey Sand (SC), and Sandy lean Clay (CL)

The presence of groundwater at each boring location was examined during drilling as observed through the relative wetness of the recovered soil samples during the drilling operations. Groundwater was estimated to be encountered at a depth of approximately 2 to 3 feet below top of the tennis court surface. This corresponds to elevations of roughly 3 to 4 feet (NAVD88). Seasonal high groundwater table indications were observed throughout the subgrade directly below the pavement. Upon completion, the boreholes were backfilled with auger spoils and capped with cold patch asphalt for safety considerations.

Groundwater conditions will vary with environmental variations, and seasonal conditions, such as the frequency and magnitude of rainfall patterns and man-made influences, such as existing swales, drainage ponds, underdrains and areas of covered soil (paved parking lots, sidewalks, etc.). In the project’s area, seasonal groundwater fluctuations are common. We recommend that the contractor determine the actual groundwater levels at the time of the construction to determine groundwater impact on the construction procedures, if necessary.

Shrink Swell Discussion

The soils recovered during our field investigation were tested and evaluated for their potential to expand or contract with moisture changes (typically termed shrink-swell). Shallow foundations and other on-grade features constructed on expansive soils at certain depths may be subjected to detrimental uplift or horizontal forces caused by the swelling of these soils as a result of an increase in the moisture content. Conversely, as these soils lose moisture they may shrink, adversely affecting the foundations. The depth to which soils are normally affected by moisture changes extends from the ground surface to approximately 3 to 4 feet below existing grades in this area, depending on site topography and drainage characteristics.

The soil survey of Poquoson, Virginia as prepared by the United States Department of Agriculture (USDA), Soil Conservation Service (SCS; later renamed the Natural Resource Conservation Service – NRCS), dated August 1989, identifies the predominant soil types at the site as 24-Tomotley-Urban land complex fine sandy loam. The soil survey indicates these soils exhibit a linear extensibility of up to 2.9, which is indicative of a low expansive (shrink-swell) potential. The soils encountered in the borings appear to be consistent with this soil series.

Geologic Setting

The project site is located within the Atlantic Coastal Plain physiographic province. Bedrock of the Late Mesozoic age is present at depths of greater than 2,000 ft, and is overlain by Lower and Upper Cretaceous, Tertiary, Pleistocene and Recent Sediments.

Across the outer Coastal Plain, the Pliocene age Yorktown Formation of the Tertiary Period is widespread, occurring from Maryland to North Carolina. Its age is estimated between 4.8 million and 2.8 million years and is estimated to have been deposited during three transgressive episodes. The depositional environment was shallow marine in nature, consisting of inner shelf, barrier-island, estuarine and lagoonal patterns. The Yorktown Formation is a glauconitic, fossiliferous, Silty to Clayey greenish-gray fine Sand. This material has been pre-consolidated by an increased effective overburden pressure generated due to a drop in the sea level at the end of the Tertiary Period, and by previously overlying sediments, which eroded away as the sea level subsequently lowered.

As sea levels rose during the Pleistocene Epoch of the Quaternary Period, areas within the project limits were filled and overlain by soils of the Tomotley-Urban land complex unit, which is composed of loamy alluvial sediments. The geologic stratigraphy encountered in our subsurface explorations generally consisted of marine deposited Sands and Clays of this formation.

Geotechnical Overview

Based on observations during the field work activities and review of the core samples returned to our laboratory, it appears that 3 layers of asphalt concrete make up the pavement profile for the existing tennis courts. Each layer appears to have been placed individually and not as part of multi-layer design. All layers exhibit cracking consistent with reflective cracking and attributed to excessive moisture within the pavement and its subgrade. At the surface, cracking can be seen within the paved sections as well as at the seams of two adjoining sections. Reflective cracking appears to be present and is caused in subsequent asphalt layers when cracks in the lower pavement layers are not properly addressed prior to paving over it. The cores at B-02, B-03, and B-04 show

deterioration at the interface between pavement layers. Factors that are believed to have caused the existing pavement to fail prior to reaching a 20-year design life include:

- Presence of a high groundwater table
- Soils and grading around perimeter of pavement traps moisture beneath pavement by not allowing it to drain properly
- Floor drains installed at locations across the pavement surface introduce additional moisture into already poorly draining subgrade

Our opinion of pavement section thickness design has been developed based on our understanding of the intended use and subgrade preparation recommended herein and adjusted with consideration to local practice. The **Pavements** section includes typical pavement component thicknesses as related to tennis court surfaces.

The recommendations contained in this report are based upon the results of field and laboratory testing (presented in the **Exploration and Laboratory Results** attachment), engineering analyses, and our current understanding of the proposed project. The **General Comments** section provides an understanding of the report limitations.

The site appears suitable for the proposed construction, based upon geotechnical conditions encountered in the test borings, and provided that the recommendations included in this report are implemented in the design and construction phases of this project.

Earthwork

Earthwork is anticipated to include demolition, excavations, structural fill placement, and new pavement. The following sections provide recommendations for use in the preparation of specifications for the work. Recommendations include critical quality criteria, as necessary, to render the site in the state considered in our geotechnical engineering evaluation for pavements.

Demolition

The proposed tennis courts will be constructed in the same footprint as the existing tennis courts. The net pole foundations should be removed at each court. We recommend all perimeter fencing be removed to allow equipment access during construction.

Site Preparation

Existing pavement will be used as the foundation of the new tennis courts. A stone slip sheet, consisting of a minimum of 6 inches of properly compacted, dense graded aggregate such as VDOT #21A or 21B, will be installed on the surface of the existing asphalt to separate the original pavement section from the new pavement section. The new asphalt pavement layers may then be installed on top of the aggregate base layer. Prior to placing fill, existing vegetation, topsoil, and root mats should be completely removed from cracks in existing pavement and, where applicable, around the perimeter of the existing tennis courts.

Although no evidence of underground facilities (such as septic tanks, cesspools, basements, and utilities) was observed during the exploration and site reconnaissance, such features could be encountered during construction. If unexpected fills or underground facilities are encountered, such features should be removed, and the excavation thoroughly cleaned prior to backfill placement and/or construction.

Subgrade Preparation

The subgrade should be proofrolled with an adequately loaded vehicle such as a fully loaded tandem-axle dump truck. The proofrolling should be performed under the observation of the Geotechnical Engineer or representative. Areas excessively deflecting under the proofroll should be delineated and subsequently addressed by the Geotechnical Engineer. Such areas should either be removed or modified by treating/applying/mixing.

Properly compacted Structural fill should be used to re-establish bearing elevation where the net pole foundations were removed. All exposed areas which will receive fill, once properly cleared and benched where necessary, should be scarified to a minimum depth of 10 inches, moisture conditioned as necessary, and compacted per the compaction requirements in this report. Compacted structural fill soils should then be placed to the proposed design grade and the moisture content and compaction of subgrade soils should be maintained until foundation or pavement construction.

Based upon the subsurface conditions determined from the geotechnical exploration, subgrade soils exposed during construction are anticipated to be relatively workable; however, the workability of the subgrade may be affected by precipitation, repetitive construction traffic or other factors. If unworkable conditions develop, workability may be improved by scarifying and drying.

Combinations of excess surface moisture from precipitation ponding on the site and the construction traffic, including heavy compaction equipment, may create pumping and general deterioration of the bearing capabilities of the surface soils. Therefore, subgrade improvements, such as moisture manipulation, should be expected.

Fill Material Types

Fill required to achieve design grade should be classified as structural fill, if applicable. Structural fill should extend laterally beyond the pavement areas by 2 ft.

All structural fill should be compacted to a dry density of at least 98% of the Standard Proctor maximum dry density, in accordance with ASTM D 698. The moisture content of the structural should be within +/- 3 percentage points of the optimum moisture content at the time of placement. In general, the compaction should be accomplished by placing the fill in maximum 10-inch loose lifts and mechanically compacting each lift to at least the specified minimum dry density.

We recommend that fill placement be monitored on a full-time basis by a qualified Geotechnical Engineering firm to verify that the specified materials are used, and the required degree of compaction is achieved.

Reuse of On-Site Soil: Excavated on-site soil are considered unsuitable for reuse as Structural fill.

Imported Fill Materials: Imported fill materials should meet the following material property requirements. Regardless of its source, compacted fill should consist of approved materials that are free of organic matter and debris. Frozen material should not be used, and fill should not be placed on a frozen subgrade.

Soil Type ¹	USCS Classification	Acceptable Parameters (for Structural Fill)
Granular	GW, GP, GM, GC, SW, SP, SP-SM, SM	Liquid Limit less than 25% Plasticity index less than 6% Less than 25% passing No. 200 sieve

1. A sample of each material type should be submitted to the Geotechnical Engineer for evaluation prior to use on this site.

Fill Placement and Compaction Requirements

Structural fill should meet the compaction requirements indicated in the table below.

Item	Structural Fill
Maximum Lift Thickness	10 inches or less in loose thickness when heavy, self-propelled compaction equipment is used 4 to 6 inches in loose thickness when hand-guided equipment (i.e. jumping jack or plate compactor) is used
Minimum Compaction Requirements	98% of maximum dry density as determined by the Standard Proctor (ASTM D698)
Water Content Range	±3 percentage points of optimum as determined by the Standard Proctor (ASTM D698)

Earthwork Construction Considerations

Upon completion of filling and grading (if applicable), care should be taken to maintain the subgrade water content prior to construction of grade-supported improvements such as pavements. Construction traffic over the completed subgrades should be avoided. The site should also be graded to prevent ponding of surface water on the prepared subgrades. Water collecting over or adjacent to construction areas should be removed. If the subgrade freezes, desiccates, saturates, or is disturbed, the affected material should be removed, or the materials should be scarified, moisture conditioned, and recompacted.

As a minimum, excavations should be performed in accordance with OSHA 29 CFR, Part 1926, Subpart P, "Excavations" and its appendices, and in accordance with any applicable local and/or state regulations.

Construction site safety is the sole responsibility of the contractor who controls the means, methods, and sequencing of construction operations. Under no circumstances shall the information provided herein be interpreted to mean Terracon is assuming responsibility for construction site safety or the contractor's activities; such responsibility shall neither be implied nor inferred.

Excavations or other activities resulting in ground disturbance have the potential to affect adjoining properties and structures. Our scope of services does not include review of available final grading information or consider potential temporary grading performed by the contractor for potential effects such as ground movement beyond the project limits. A preconstruction/ precondition survey should be conducted to document nearby property/infrastructure prior to any site development activity. Excavation or ground disturbance activities adjacent or near property lines should be monitored or instrumented for potential ground movements that could negatively affect adjoining property and/or structures.

Construction Observation and Testing

The earthwork efforts should be observed by the Geotechnical Engineer (or others under their direction). Observation should include documentation of adequate removal of surficial materials (vegetation, topsoil, and pavements), as well as proofrolling and mitigation of unsuitable areas delineated by the proofroll where applicable.

Each lift of compacted fill should be tested, evaluated, and reworked, as necessary, as recommended by the Geotechnical Engineer prior to placement of additional lifts. Each lift of fill should be tested for density and water content at a frequency of at least one test for every 5,000 square feet in pavement areas (minimum of 3 tests per lift).

In addition to the documentation of the essential parameters necessary for construction, the continuation of the Geotechnical Engineer into the construction phase of the project provides the continuity to maintain the Geotechnical Engineer's evaluation of subsurface conditions, including assessing variations and associated design changes.

Pavements

General Pavement Comments

A critical aspect of pavement performance is site preparation. Pavement designs noted in this section must be applied to the site which has been prepared as recommended in the **Earthwork** section.

Given the presence of a high groundwater table at this site and considering some of the existing surrounding grades are at the same elevation as the existing tennis court, it is recommended that the finish grade of the new tennis court be elevated above its current elevation. Also, the tennis court itself should be graded to provide positive drainage off the tennis court.

Pavement Section Thicknesses

The following table provides our opinion of typical thickness of Asphalt concrete (AC) pavement sections:

Section	Thickness (inches)	Subgrade
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	AC ¹		Aggregate Base Course ²	
	Surface ³	Base		
Tennis Court	4	-	6	Firm, Stable, and Compacted

1. All materials should meet VDOT Standard Specifications for Highway and Bridge Construction.
 - Asphalt Surface - SM-9.5A
2. VDOT No. 21A or 21B stone compacted to a dry density of at least 100% of the Standard Proctor maximum dry density (ASTM D 698).
3. Placed in two 2-inch lifts.

Pavement Drainage

Pavements should be sloped to provide rapid drainage of surface water. Water allowed to pond on or adjacent to the pavements could saturate the subgrade and contribute to premature pavement deterioration. In addition, the pavement subgrade should be graded to provide positive drainage within the granular base section. Appropriate sub-drainage or connection to a suitable daylight outlet should be provided to remove water from the granular subbase.

Pavement Maintenance

The pavement sections represent minimum recommended thicknesses and, as such, periodic upkeep should be anticipated. Preventive maintenance should be planned and provided for through an on-going pavement management program. Maintenance activities are intended to slow the rate of pavement deterioration and to preserve the pavement investment. Pavement care consists of both localized (e.g., crack and joint sealing and patching) and global maintenance (e.g., surface sealing). Additional engineering consultation is recommended to determine the type and extent of a cost-effective program. Even with periodic maintenance, some movements and related cracking may still occur, and repairs may be required.

Pavement performance is affected by its surroundings. In addition to providing preventive maintenance, the civil engineer should consider the following recommendations in the design and layout of pavements:

- Final grade adjacent to paved areas should slope down from the edges at a minimum 2%.

- Subgrade and pavement surfaces should have a minimum 1% slope to promote proper surface drainage.
- Install pavement drainage systems surrounding areas anticipated for frequent wetting.
- Install joint sealant and seal cracks immediately.

General Comments

Our analyses and opinions are based upon our understanding of the project, the geotechnical conditions in the area, and the data obtained from our site exploration. Variations will occur between exploration point locations or due to the modifying effects of construction or weather. The nature and extent of such variations may not become evident until during or after construction. Terracon should be retained as the Geotechnical Engineer, where noted in this report, to provide observation and testing services during pertinent construction phases. If variations appear, we can provide further evaluation and supplemental recommendations. If variations are noted in the absence of our observation and testing services on-site, we should be immediately notified so that we can provide evaluation and supplemental recommendations.

Our Scope of Services does not include either specifically or by implication any environmental or biological (e.g., mold, fungi, bacteria) assessment of the site or identification or prevention of pollutants, hazardous materials or conditions. If the owner is concerned about the potential for such contamination or pollution, other studies should be undertaken.

Our services and any correspondence are intended for the sole benefit and exclusive use of our client for specific application to the project discussed and are accomplished in accordance with generally accepted geotechnical engineering practices with no third-party beneficiaries intended. Any third-party access to services or correspondence is solely for information purposes to support the services provided by Terracon to our client. Reliance upon the services and any work product is limited to our client and is not intended for third parties. Any use or reliance of the provided information by third parties is done solely at their own risk. No warranties, either express or implied, are intended or made.

Site characteristics as provided are for design purposes and not to estimate excavation cost. Any use of our report in that regard is done at the sole risk of the excavating cost estimator as there may be variations on the site that are not apparent in the data that could significantly effect excavation cost. Any parties charged with estimating excavation costs should seek their own site characterization for specific purposes to obtain the specific level of detail necessary for costing. Site safety and cost estimating including excavation support and dewatering requirements/design are the responsibility of others. Construction and site development have the potential to affect adjacent properties. Such

Subsurface Exploration and Geotechnical Engineering Report

Poquoson High School Tennis Court Renovation | Poquoson, VA

October 2, 2025 | Terracon Project No. LM255035



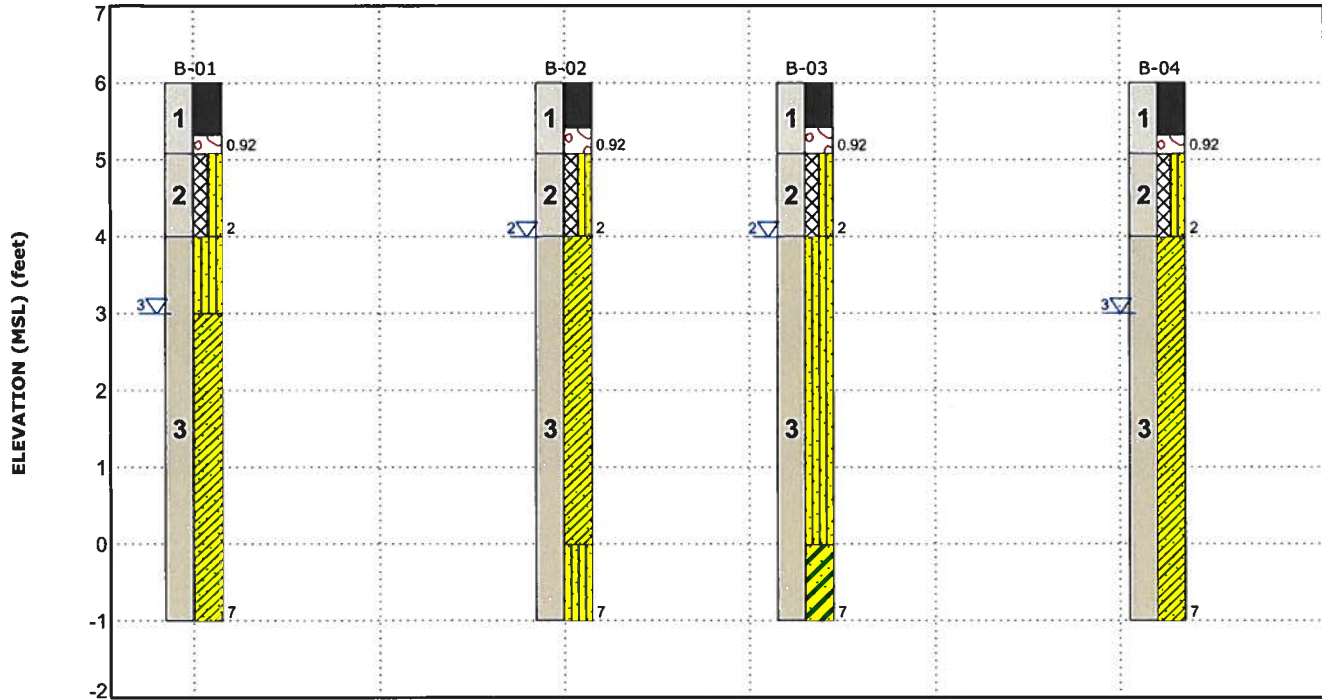
impacts can include damages due to vibration, modification of groundwater/surface water flow during construction, foundation movement due to undermining or subsidence from excavation, as well as noise or air quality concerns. Evaluation of these items on nearby properties are commonly associated with contractor means and methods and are not addressed in this report. The owner and contractor should consider a preconstruction/precondition survey of surrounding development. If changes in the nature, design, or location of the project are planned, our conclusions and recommendations shall not be considered valid unless we review the changes and either verify or modify our conclusions in writing.

Figures

Contents:

GeoModel

GeoModel



This is not a cross section. This is intended to display the Geotechnical Model only. See individual logs for more detailed conditions.

Model Layer	Layer Name	General Description	Legend	
1	SURFACE	Aphalt and Aggregate		Asphalt
2	FILL	Fill, Silty SAND		Silty Sand
3	ALLUVIUM	Silty SAND (SM), Clayey SAND (SC), Sandy Lean CLAY (CL)		Clayey Sand
				Sandy Lean Clay
				Aggregate Base Course

First Water Observation

NOTES:

Layering shown on this figure has been developed by the geotechnical engineer for purposes of modeling the subsurface conditions as required for the subsequent geotechnical engineering for this project. Numbers adjacent to soil column indicate depth below ground surface.

Groundwater levels are temporal. The levels shown are representative of the date and time of our exploration. Significant changes are possible over time.
 Water levels shown are as measured during and/or after drilling. In some cases, boring advancement methods mask the presence/absence of groundwater. See individual logs for details.

Attachments

Exploration and Testing Procedures

Field Exploration

Number of Borings	Approximate Boring Depth (feet)	Location
4	7	Existing tennis court

Boring Layout and Elevations: The boring locations were chosen based on the condition of the existing asphalt. Boring locations as shown on the [Exploration Plan](#) and Boring Logs (provided in the [Exploration and Laboratory Results](#) attachment) are based on GPS coordinates collected at the time of subsurface exploration using handheld GPS equipment (estimated horizontal accuracy of about ± 10 feet). Approximate ground surface elevations were obtained from the City of Poquoson ParcelViewer.

Subsurface Exploration Procedures: The subsurface exploration at each location was facilitated by coring the existing flexible pavement section utilizing a 4-inch inner diameter, water-cooled, thin-walled, rotary coring bit. Flexible pavement base material was removed utilizing a 3" diameter hand auger. The flexible pavement core and base material were measured in the field. Photographs of each core are provided in the [Photography and Core Log](#) attachment. Dynamic Cone Penetrometer (DCP) measurements were performed in general accordance with ASTM D 6951. The tests were performed at 1-foot intervals from existing top of subgrade to a depth of approximately 7 feet. The soil samples were obtained with a 3" diameter hand auger.

The pavement cores and a representative sample of the subgrade strata to a depth of 7 feet at each location were labeled and transported to our laboratory for review. Likewise, a representative portion of soil was collected with each DCP, placed in a glass jar, sealed, labeled, and returned to our laboratory for review and laboratory testing. All boreholes were backfilled upon completion with the drilling spoils and patched with cold patch asphalt.

The sampling depths, penetration distances, and other sampling information were recorded by the on-site field engineer. The samples were placed in appropriate containers and taken to our soil laboratory for testing and classification by a Geotechnical Engineer or Geologist. The final boring logs represent the Geotechnical Engineer's, or Geologist's, interpretation of the soils and include modifications based on observations and tests of the samples in our laboratory.

Laboratory Testing

Index Testing and Classification: The project engineer reviewed the field data and assigned laboratory tests. The laboratory testing program included the following types of tests:

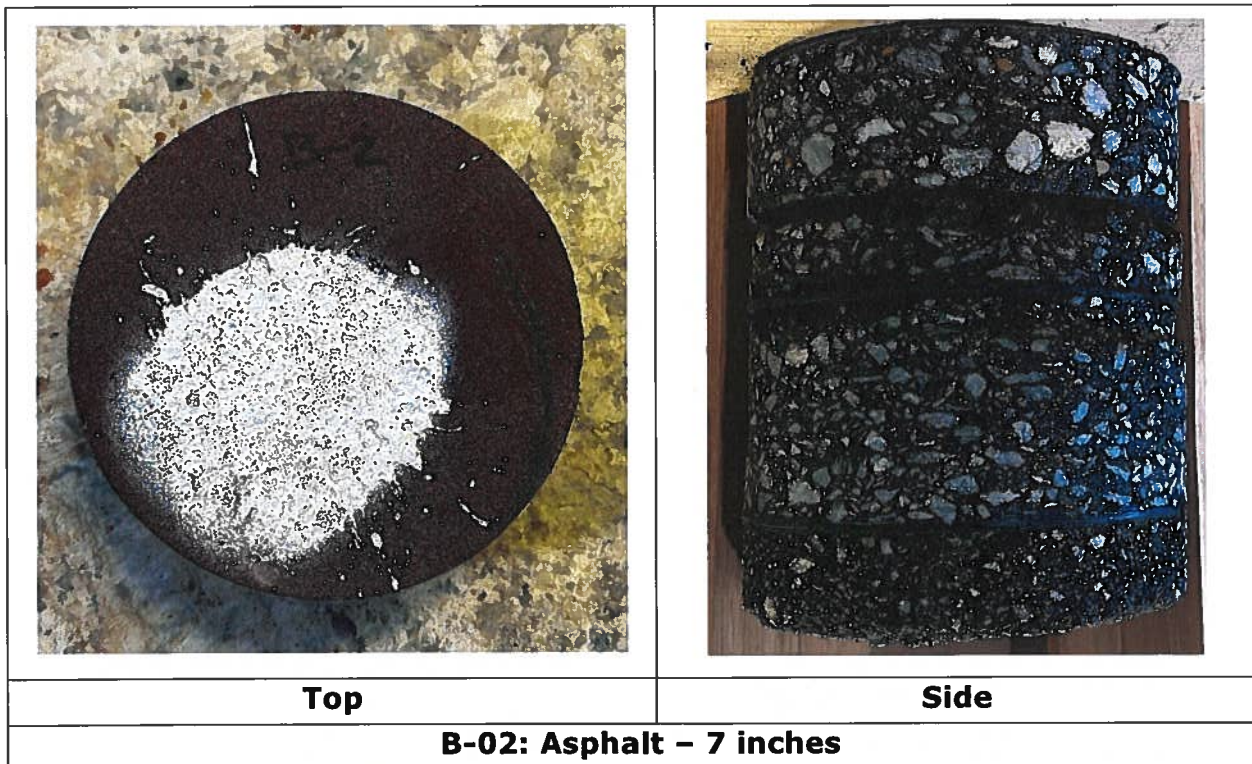
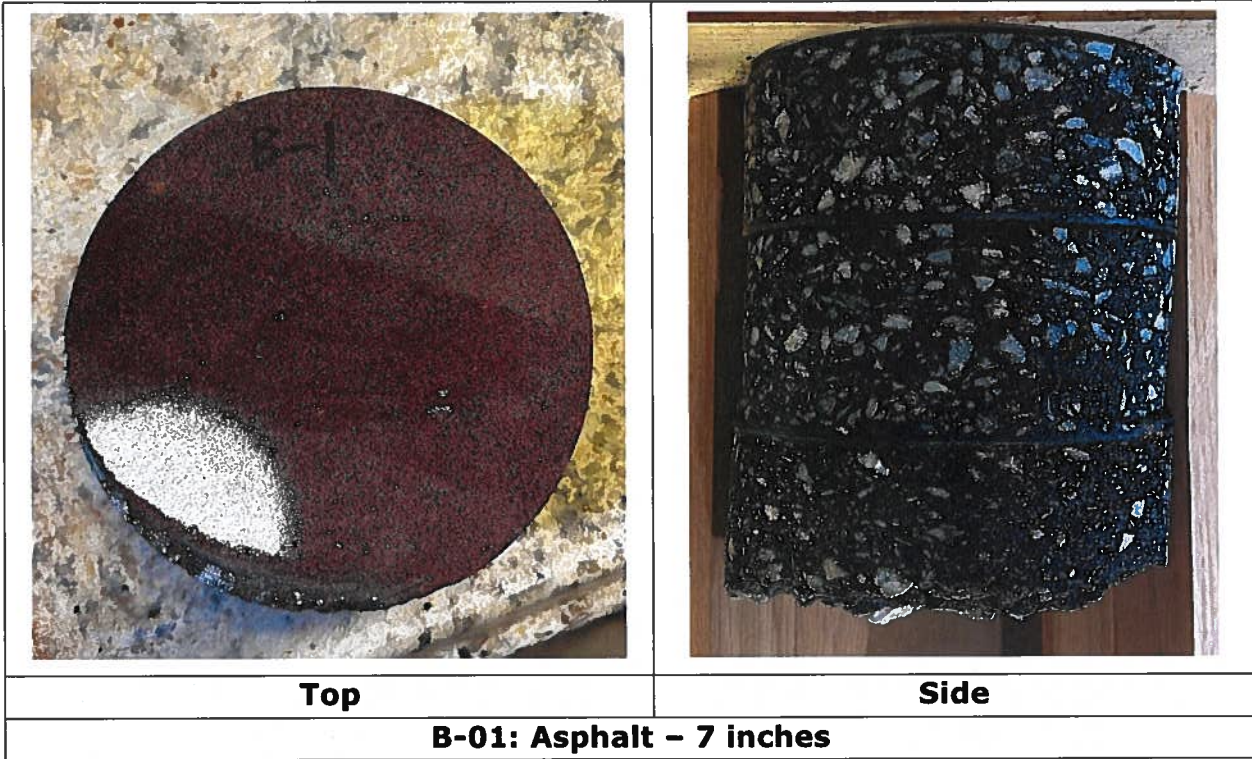
- Moisture Content
- Atterberg Limits
- #200 Sieve Wash

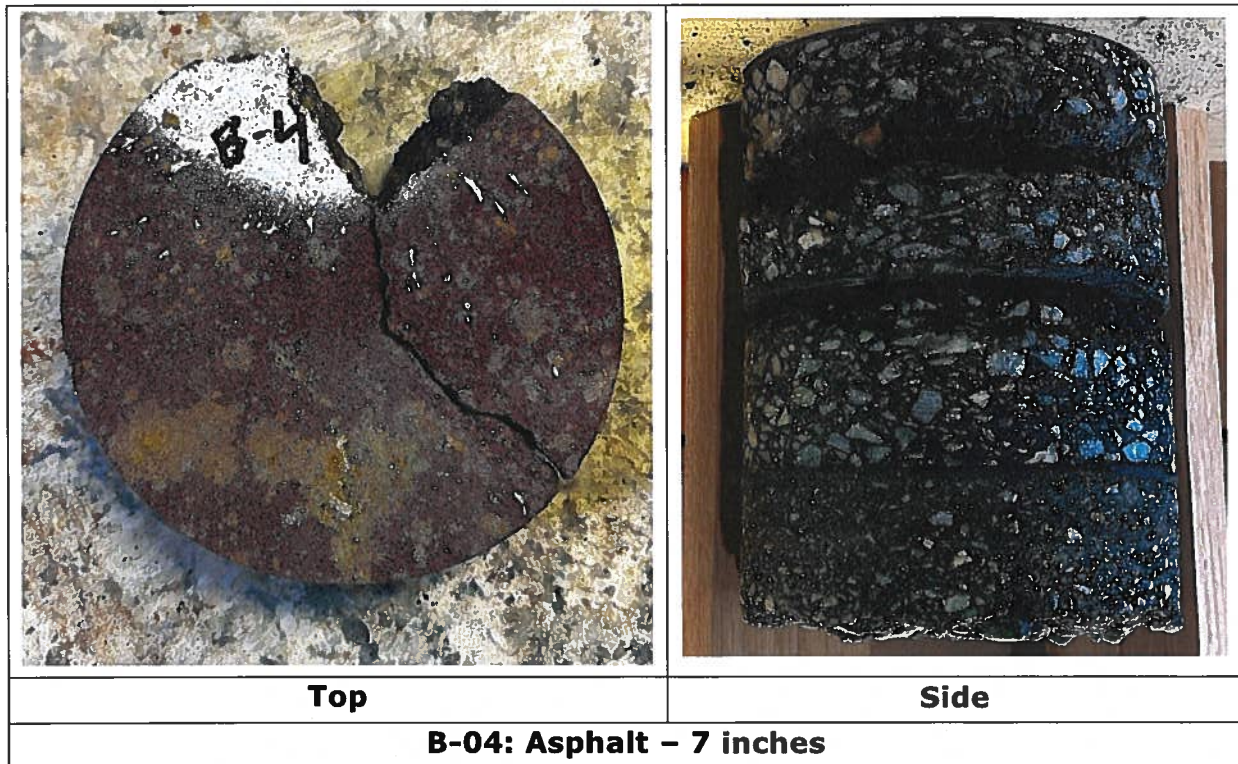
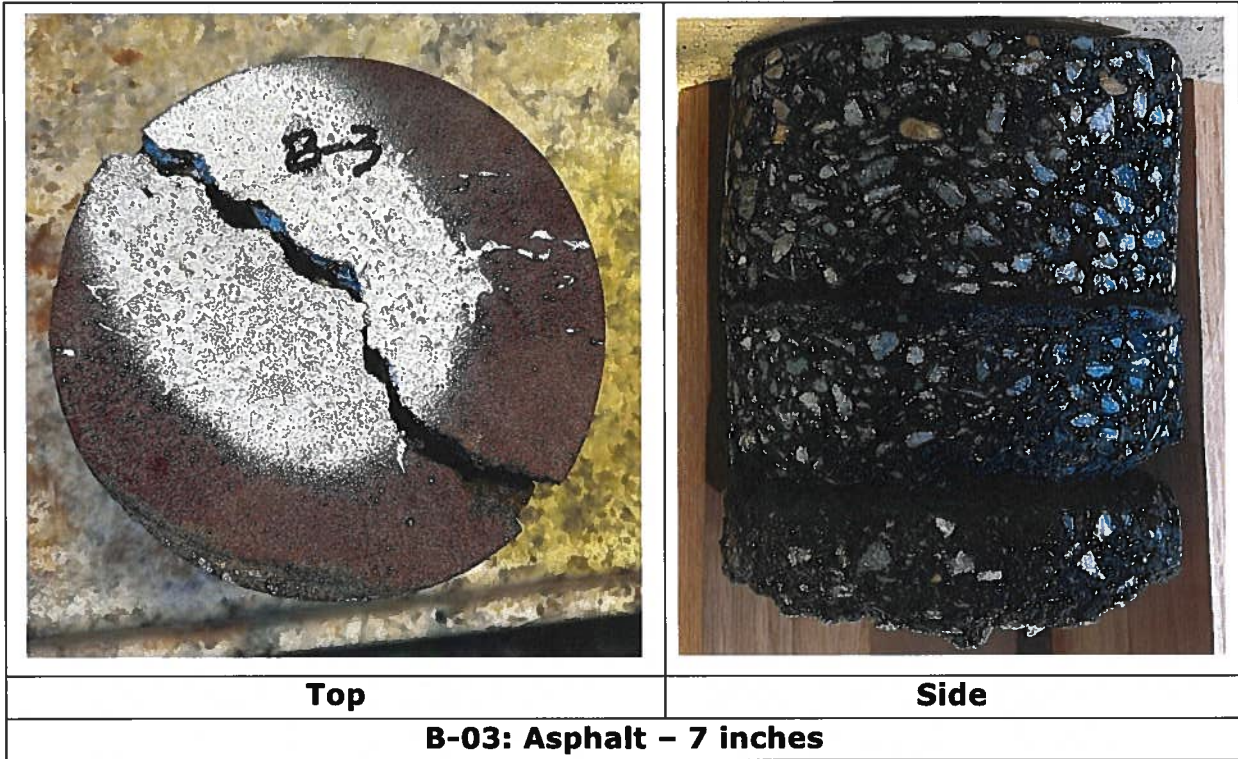
The laboratory testing program often included examination of soil samples by an engineer. Based on the results of our field and laboratory programs, we described and classified the soil samples in accordance with the Unified Soil Classification System.

Photography and Core Log











Bottom (B-04 surface layer)

Site Location and Exploration Plans

Contents:

Site Location Plan
Exploration Plan

Subsurface Exploration and Geotechnical Engineering Report
 Poquoson High School Tennis Court Renovation | Poquoson, VA
 October 2, 2025 | Terracon Project No. LM255035

Site Location

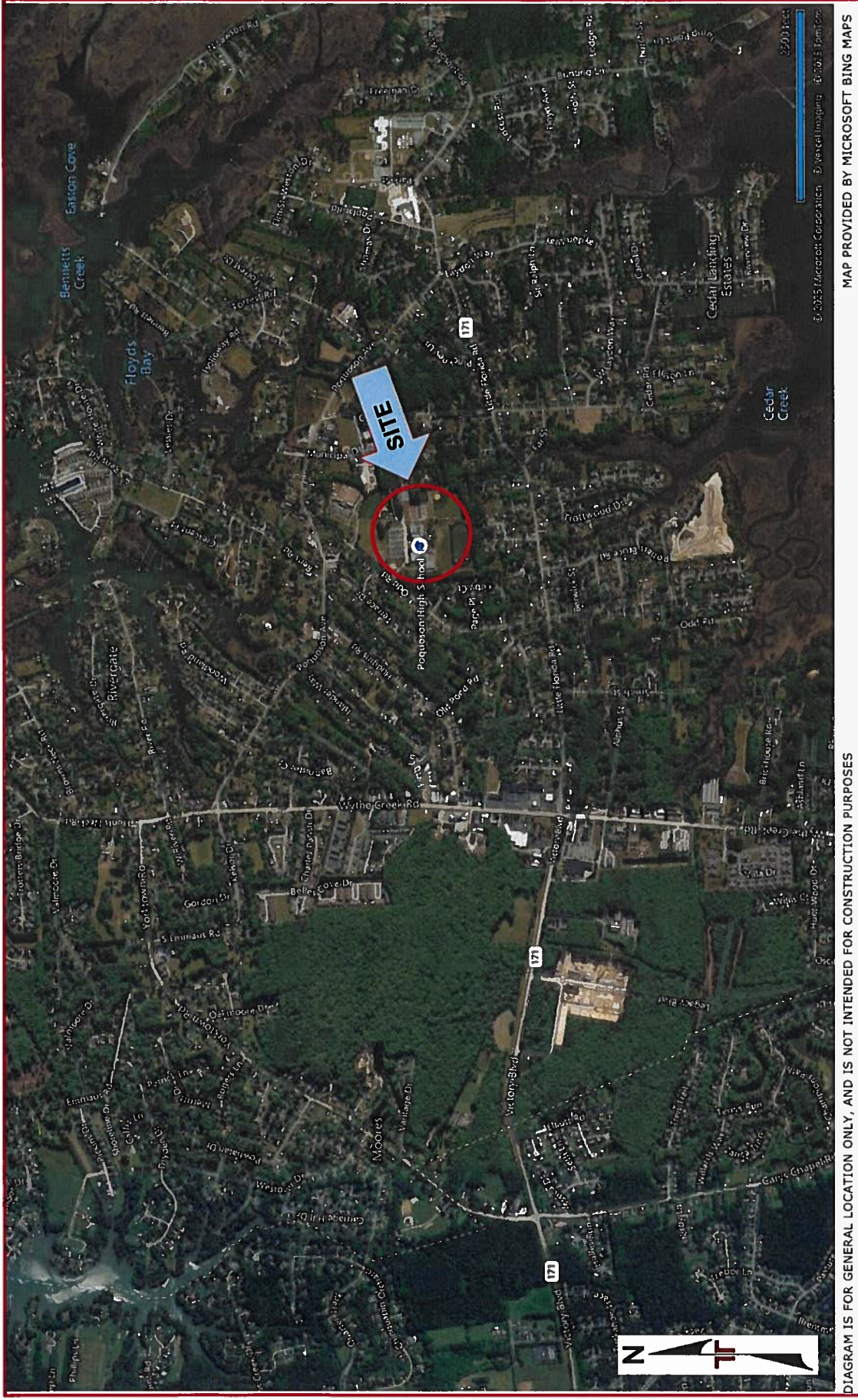
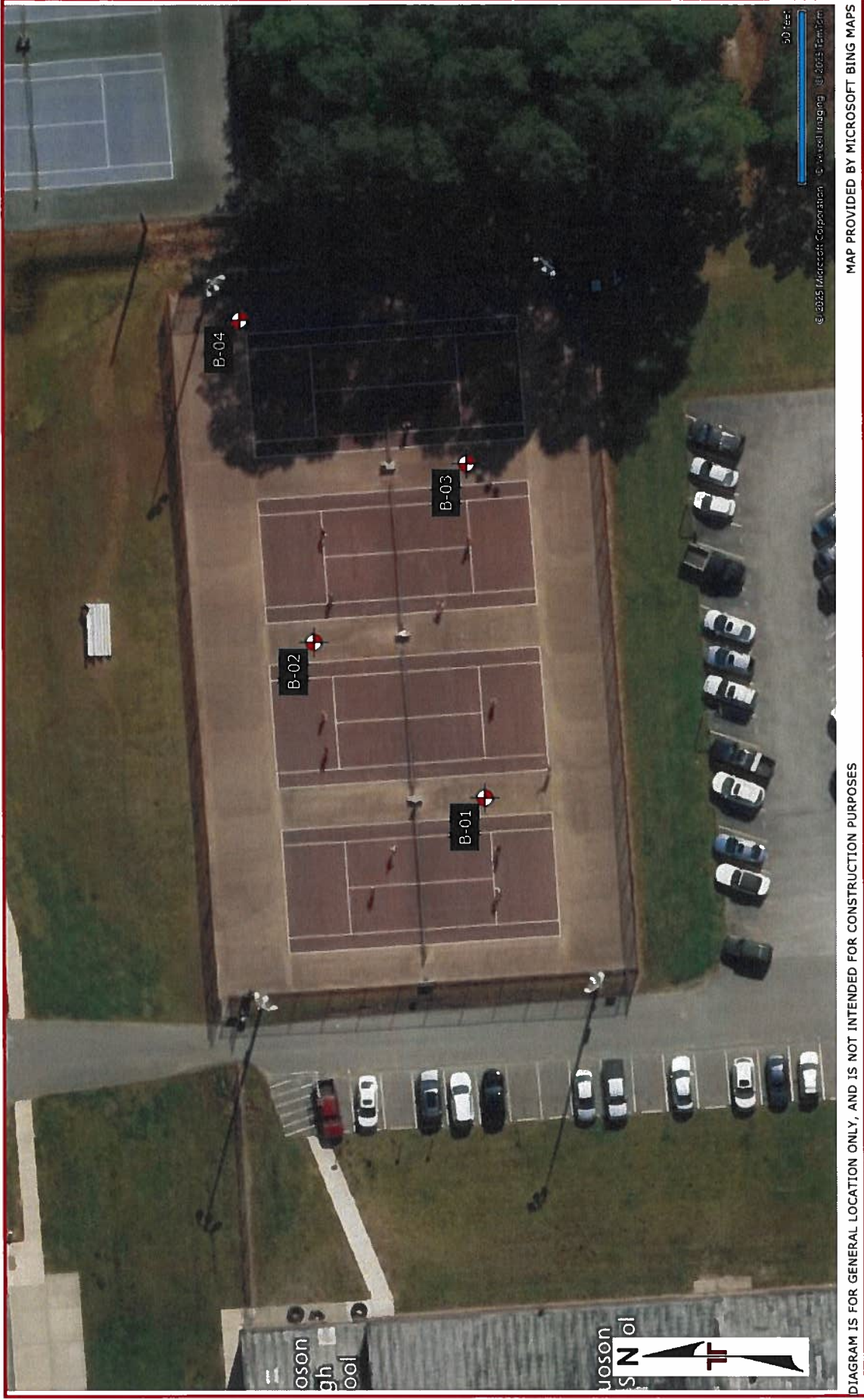


DIAGRAM IS FOR GENERAL LOCATION ONLY, AND IS NOT INTENDED FOR CONSTRUCTION PURPOSES

MAP PROVIDED BY MICROSOFT BING MAPS

Exploration Plan



Exploration and Laboratory Results

Contents:

Boring Logs (B-01 through B-04)
Summary of Laboratory Results
Pavement Core Photo Logs

Boring Log No. B-01

Graphic Log	Location: See Exploration Plan		Depth (Ft.)	Water Level Observations	Sample Type	Field Test Results	Water Content (%)	Atterberg Limits	
	Latitude: 37.1290° Longitude: -76.3784°							LL-PL-PI	Percent Fines
	Elevation: 6 (Ft.)								
7" ASPHALT	0.6	5.33							
AGGREGATE BASE COURSE	0.9	5.08							
FILL - SILTY SAND (SM), fine to medium grained, dark gray, moist, loose	2.0	4		↓		4-4-7 N=6			
SILTY SAND (SM), fine to medium grained, dark gray, moist, loose	3.0	3		↓		4-5-8 N=7			30.1
SANDY LEAN CLAY (CL), trace organics, grayish brown, wet, soft to very soft	7.0	-1		↓		4-4-4 N=4			
			5	▽		0-0-2 N=1			
						0-0-0 N=0	20.8		
						0-0-0 N=0			
Boring Terminated at 7 Feet									

See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (if any).
 See Supporting Information for explanation of symbols and abbreviations.

Notes

Water Level Observations



Drill Rig
Hand Auger

Hammer Type
DCP

Driller
C. Hayes

Advancement Method
Hand Auger

Logged by
C. Hayes

Abandonment Method
Boring backfilled with Auger Cuttings
Surface capped with asphalt

Boring Started
08-27-2025

Boring Completed
08-27-2025

Boring Log No. B-02

Graphic Log	Location: See Exploration Plan		Depth (Ft.)	Water Level Observations	Sample Type	Field Test Results	Water Content (%)	Atterberg Limits	
	Latitude: 37.1292° Longitude: -76.3782°							LL-PL-PI	Percent Fines
	Depth (Ft.)	Elevation: 6 (Ft.)							
	0.6	5.42							
	0.9	5.08							
	2.0	4		▽	↓	5-10-11 N=10			
					↓	8-10-11 N=10			
					↓	4-6-10 N=8	20.1	29-17-12	53.5
					↓	3-5-9 N=7			
			5		↓	4-7-8 N=7			
	6.0	0			↓	3-4-8 N=6	29.7		
	7.0	-1			↓				
Boring Terminated at 7 Feet									

See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (if any).
 See Supporting Information for explanation of symbols and abbreviations.

Water Level Observations



Drill Rig
Hand Auger

Hammer Type
DCP

Driller
C. Hayes

Notes

Advancement Method
Hand Auger

Logged by
C. Hayes

Abandonment Method
Boring backfilled with Auger Cuttings
Surface capped with asphalt

Boring Started
08-27-2025

Boring Completed
08-27-2025

Boring Log No. B-03

Graphic Log	Location: See Exploration Plan		Depth (Ft.)	Water Level Observations	Sample Type	Field Test Results	Water Content (%)	Atterberg Limits	
	Latitude: 37.1290° Longitude: -76.3780°	Elevation: 6 (Ft.)						LL-PL-PI	Percent Fines
0.6	7" ASPHALT		5.42						
0.9	AGGREGATE BASE COURSE		5.08						
2.0	FILL - SILTY SAND (SM) , fine to medium grained, orange and brown, moist to wet, medium dense		4	▽	↓	10-11-11 N=11	11.7		
	SILTY SAND (SM) , fine grained, dark greenish gray, wet, medium dense to loose				↓	10-10-11 N=10			
					↓	9-10-10 N=10			
					↓	4-5-6 N=6	25.0		
					↓	5-5-7 N=6			
6.0			0		↓	5-4-6 N=5			
7.0	CLAYEY SAND (SC) , fine to medium grained, gray, wet, loose		-1		↓				
Boring Terminated at 7 Feet									

See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (if any).
 See Supporting Information for explanation of symbols and abbreviations.

Notes

Water Level Observations



Drill Rig
Hand Auger

Hammer Type
DCP

Driller
C. Hayes

Logged by
C. Hayes

Boring Started
08-27-2025

Boring Completed
08-27-2025

Advancement Method
Hand Auger

Abandonment Method
Boring backfilled with Auger Cuttings
Surface capped with asphalt

Boring Log No. B-04

Graphic Log	Location: See Exploration Plan		Depth (Ft.)	Water Level Observations	Sample Type	Field Test Results	Water Content (%)	Atterberg Limits	
	Latitude: 37.1292° Longitude: -76.3779°							Elevation: 6 (Ft.)	
	0.6	7" ASPHALT	5.33						
	0.9	AGGREGATE BASE COURSE	5.08						
	2.0	FILL - SILTY SAND (SM) , fine to medium grained, dark gray, moist, loose	4	↓		4-4-7 N=6			
		SANDY LEAN CLAY (CL) , orange and dark brown to dark grayish brown, moist to wet, medium stiff to very soft		▽		4-5-8 N=7	17.1	30-17-13	50.4
				↓		4-4-4 N=4			
				↓		0-0-2 N=1			
				↓		0-0-0 N=0			
				↓		0-0-0 N=0	23.4		
Boring Terminated at 7 Feet									

See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (if any).
 See Supporting Information for explanation of symbols and abbreviations.

Notes

Water Level Observations



Drill Rig
Hand Auger

Hammer Type
DCP

Driller
C. Hayes

Advancement Method
Hand Auger

Logged by
C. Hayes

Abandonment Method
Boring backfilled with Auger Cuttings
Surface capped with asphalt

Boring Started
08-27-2025

Boring Completed
08-27-2025

PAVEMENT SECTION COMPOSITION AND DESCRIPTION

Project Name:	<u>Poquoson High School Tennis Court Renovation</u>	Date of Extraction:	<u>13-Aug-2025</u>
Project Number:	<u>LM255035</u>	Project Location:	<u>Poquoson, Virginia</u>

Boring/Core Identification:	<u>B-1</u>	Boring/Core GPS Coordinates:	
		Latitude:	<u>37.129028° N</u>
		Longitude:	<u>76.378366° W</u>

General Core Location: Refer to Boring Location Plan

Pavement Section Composition:	Asphalt <u>7.0</u> in.	Void Underlying Pavement:	<u>No</u> (yes/no)
	Aggregate Base <u>4.0</u> in.	Void Depth Below Pavement:	<u>N/A</u> in.

Welded Wire Fabric (WWF) or Rebar:	<u>No</u> (WWF/Rebar/Both)
Embedment Depths from Top of Core:	<u>N/A</u> in. Rebar
	<u>N/A</u> in. Welded Wire Fabric

Vapor Barrier or Geotextile Fabric: No (yes/no)
 Description of Vapor Barrier or Geotextile: _____

General Core Notes and Remarks: _____

Top of Core



Bottom of Core



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 Tel: 757-564-6452 Fax: 757-564-6453

PAVEMENT SECTION COMPOSITION AND DESCRIPTION

Project Name:	<u>Poquoson High School Tennis Court</u> <u>Renovation</u>	Date of Extraction:	<u>13-Aug-2025</u>
Project Number:	<u>LM255035</u>	Project Location:	<u>Poquoson, Virginia</u>

Boring/Core Identification:	<u>B-2</u>	Boring/Core GPS Coordinates:	
		Latitude:	<u>37.129162° N</u>
		Longitude:	<u>76.378212° W</u>

General Core Location: Refer to Boring Location Plan

Pavement Section	Asphalt	<u>7.0</u>	in.	Void Underlying Pavement:	<u>No</u>	(yes/no)
Composition:	Aggregate Base	<u>4.0</u>	in.	Void Depth Below Pavement:	<u>N/A</u>	in.

Welded Wire Fabric (WWF) or Rebar:	<u>No</u>	(WWF/Rebar/Both)
Embedment Depths from Top of Core:	<u>N/A</u>	in. Rebar
	<u>N/A</u>	in. Welded Wire Fabric

Vapor Barrier or Geotextile Fabric: No (yes/no)
 Description of Vapor Barrier or Geotextile: _____

General Core Notes and Remarks: _____

Top of Core



Bottom of Core



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 Williamsburg, Virginia 23185
 Tel: 757-564-6452 Fax: 757-564-6453

PAVEMENT SECTION COMPOSITION AND DESCRIPTION

Project Name: Poquoson High School Tennis Court Renovation Date of Extraction: 13-Aug-2025
 Project Number: LM255035 Project Location: Poquoson, Virginia

Boring/Core Identification: **B-3** Boring/Core GPS Coordinates:
 Latitude: 37.129042° N
 Longitude: 76.378035° W

General Core Location: Refer to Boring Location Plan

Pavement Section Composition: Asphalt 7.0 in. Void Underlying Pavement: No (yes/no)
 Aggregate Base 4.0 in. Void Depth Below Pavement: N/A in.

Welded Wire Fabric (WWF) or Rebar: No (WWF/Rebar/Both)
 Embedment Depths from Top of Core: N/A in. Rebar
N/A in. Welded Wire Fabric

Vapor Barrier or Geotextile Fabric: No (yes/no)
 Description of Vapor Barrier or Geotextile: _____

General Core Notes and Remarks: _____

Top of Core



Bottom of Core

PAVEMENT SECTION COMPOSITION AND DESCRIPTION

Project Name: Poquoson High School Tennis Court Renovation Date of Extraction: 13-Aug-2025
 Project Number: LM255035 Project Location: Poquoson, Virginia

Boring/Core Identification: **B-4** Boring/Core GPS Coordinates:
 Latitude: 37.129220° N
 Longitude: 76.377893° W

General Core Location: Refer to Boring Location Plan

Pavement Section Composition: Asphalt 7.0 in. Void Underlying Pavement: No (yes/no)
 Aggregate Base 4.0 in. Void Depth Below Pavement: N/A in.

Welded Wire Fabric (WWF) or Rebar: No (WWF/Rebar/Both)
 Embedment Depths from Top of Core: N/A in. Rebar
 N/A in. Welded Wire Fabric

Vapor Barrier or Geotextile Fabric: No (yes/no)
 Description of Vapor Barrier or Geotextile: _____

General Core Notes and Remarks: _____

Top of Core



Bottom of Core



701 Alexander Lee Parkway
 Williamsburg, Virginia 23185
 Tel: 757-564-6452 Fax: 757-564-6453






Supporting Information

Contents:

General Notes

Unified Soil Classification System

General Notes

Sampling	Water Level	Field Tests
 Dynamic Cone Penetrometer	 Water Initially Encountered  Water Level After a Specified Period of Time  Water Level After a Specified Period of Time  Cave In Encountered Water levels indicated on the soil boring logs are the levels measured in the borehole at the times indicated. Groundwater level variations will occur over time. In low permeability soils, accurate determination of groundwater levels is not possible with short term water level observations.	N Standard Penetration Test Resistance (Blows/Ft.) (HP) Hand Penetrometer (T) Torvane (DCP) Dynamic Cone Penetrometer UC Unconfined Compressive Strength (PID) Photo-Ionization Detector (OVA) Organic Vapor Analyzer

Descriptive Soil Classification

Soil classification as noted on the soil boring logs is based Unified Soil Classification System. Where sufficient laboratory data exist to classify the soils consistent with ASTM D2487 "Classification of Soils for Engineering Purposes" this procedure is used. ASTM D2488 "Description and Identification of Soils (Visual-Manual Procedure)" is also used to classify the soils, particularly where insufficient laboratory data exist to classify the soils in accordance with ASTM D2487. In addition to USCS classification, coarse grained soils are classified on the basis of their in-place relative density, and fine-grained soils are classified on the basis of their consistency. See "Strength Terms" table below for details. The ASTM standards noted above are for reference to methodology in general. In some cases, variations to methods are applied as a result of local practice or professional judgment.

Location And Elevation Notes

Exploration point locations as shown on the Exploration Plan and as noted on the soil boring logs in the form of Latitude and Longitude are approximate. See Exploration and Testing Procedures in the report for the methods used to locate the exploration points for this project. Surface elevation data annotated with +/- indicates that no actual topographical survey was conducted to confirm the surface elevation. Instead, the surface elevation was approximately determined from topographic maps of the area.

Strength Terms

Relative Density of Coarse-Grained Soils (More than 50% retained on No. 200 sieve.) Density determined by Standard Penetration Resistance		Consistency of Fine-Grained Soils (50% or more passing the No. 200 sieve.) Consistency determined by laboratory shear strength testing, field visual-manual procedures or standard penetration resistance		
Relative Density	Standard Penetration or N-Value (Blows/Ft.)	Consistency	Unconfined Compressive Strength Qu (tsf)	Standard Penetration or N-Value (Blows/Ft.)
Very Loose	0 - 3	Very Soft	less than 0.25	0 - 1
Loose	4 - 9	Soft	0.25 to 0.50	2 - 4
Medium Dense	10 - 29	Medium Stiff	0.50 to 1.00	5 - 8
Dense	30 - 50	Stiff	1.00 to 2.00	9 - 15
Very Dense	> 50	Very Stiff	2.00 to 4.00	16 - 30
		Hard	> 4.00	> 30

Relevance of Exploration and Laboratory Test Results

Exploration/field results and/or laboratory test data contained within this document are intended for application to the project as described in this document. Use of such exploration/field results and/or laboratory test data should not be used independently of this document.

Unified Soil Classification System

Criteria for Assigning Group Symbols and Group Names Using Laboratory Tests ^A			Soil Classification		
			Group Symbol	Group Name ^B	
Coarse-Grained Soils: More than 50% retained on No. 200 sieve	Gravels: More than 50% of coarse fraction retained on No. 4 sieve	Clean Gravels: Less than 5% fines ^C	$Cu \geq 4$ and $1 \leq Cc \leq 3$ ^E	GW	Well-graded gravel ^F
		Gravels with Fines: More than 12% fines ^C	$Cu < 4$ and/or $[Cc < 1$ or $Cc > 3.0]$ ^E	GP	Poorly graded gravel ^F
			Fines classify as ML or MH	GM	Silty gravel ^{F, G, H}
	Sands: 50% or more of coarse fraction passes No. 4 sieve	Clean Sands: Less than 5% fines ^D	$Cu \geq 6$ and $1 \leq Cc \leq 3$ ^E	SW	Well-graded sand ^I
			$Cu < 6$ and/or $[Cc < 1$ or $Cc > 3.0]$ ^E	SP	Poorly graded sand ^I
		Sands with Fines: More than 12% fines ^D	Fines classify as ML or MH	SM	Silty sand ^{G, H, I}
Fines classify as CL or CH	SC		Clayey sand ^{G, H, I}		
Fine-Grained Soils: 50% or more passes the No. 200 sieve	Silts and Clays: Liquid limit less than 50	Inorganic:	$PI > 7$ and plots above "A" line ^J	CL	Lean clay ^{K, L, M}
			$PI < 4$ or plots below "A" line ^J	ML	Silt ^{K, L, M}
		Organic:	$(LL \text{ oven dried}) / (LL \text{ not dried}) < 0.75$	OL	Organic clay ^{K, L, M, N}
			OH	Organic silt ^{K, L, M, O}	
	Silts and Clays: Liquid limit 50 or more	Inorganic:	PI plots on or above "A" line	CH	Fat clay ^{K, L, M}
			PI plots below "A" line	MH	Elastic silt ^{K, L, M}
Organic:		<	OH	Organic clay ^{K, L, M, P}	
Highly organic soils:	Primarily organic matter, dark in color, and organic odor		PT	Peat	

^A Based on the material passing the 3-inch (75-mm) sieve.

^B If field sample contained cobbles or boulders, or both, add "with cobbles or boulders, or both" to group name.

^C Gravels with 5 to 12% fines require dual symbols: GW-GM well-graded gravel with silt, GW-GC well-graded gravel with clay, GP-GM poorly graded gravel with silt, GP-GC poorly graded gravel with clay.

^D Sands with 5 to 12% fines require dual symbols: SW-SM well-graded sand with silt, SW-SC well-graded sand with clay, SP-SM poorly graded sand with silt, SP-SC poorly graded sand with clay.

^E $Cu = D_{60}/D_{10}$ $Cc = \frac{(D_{30})^2}{D_{10} \times D_{60}}$

^F If soil contains $\geq 15\%$ sand, add "with sand" to group name.

^G If fines classify as CL-ML, use dual symbol GC-GM, or SC-SM.

^H If fines are organic, add "with organic fines" to group name.

^I If soil contains $\geq 15\%$ gravel, add "with gravel" to group name.

^J If Atterberg limits plot in shaded area, soil is a CL-ML, silty clay.

^K If soil contains 15 to 29% plus No. 200, add "with sand" or "with gravel," whichever is predominant.

^L If soil contains $\geq 30\%$ plus No. 200 predominantly sand, add "sandy" to group name.

^M If soil contains $\geq 30\%$ plus No. 200, predominantly gravel, add "gravelly" to group name.

^N $PI \geq 4$ and plots on or above "A" line.

^O $PI < 4$ or plots below "A" line.

^P PI plots on or above "A" line.

^Q PI plots below "A" line.

