Geotechnical Engineering Report

MNCPPC Lyttonsville Park Facility Park
Montgomery County, Maryland
DMY Project No. 03.06272.01

Prepared for

Clark | Azar & Associates, Inc.
June 15, 2023

DMY
ENGINEERING CONSULTANTS INC.

Chantilly, VA
Williamsburg, VA
Washington, DC
Gaithersburg, MD

June 15, 2023

Mr. Matt Edelman
Project Manager
Clark | Azar & Associates, Inc.
20440 Century Boulevard, Suite 220
Germantown, MD 20874

Reference: Geotechnical Engineering Report
M-NCPPC Lyttonsville Park Facility Park
Montgomery County, Maryland
DMY Project No. 03.06272.01

Dear Mr. Edelman:

DMY Engineering Consultants Inc. (DMY) is pleased to submit this geotechnical engineering report for the above-referenced project. This report presents the review of the information provided to us, the discussion of the site and subsurface conditions encountered, and our geotechnical recommendations.

We appreciate the opportunity to be of service to you on this project and would be happy to discuss our findings with you. We look forward to serving as your geotechnical engineer on the remainder of this project and on future projects.

Respectfully,

DMY ENGINEERING CONSULTANTS INC.

Digitally signed by Assefa Melorie
Date: 2023.06.15 08:07:54 -04'00'

Assefa Melorie, Ph.D.
Staff Geotechnical Engineer

STATE OF MARYLAND
XIN CHEN
37166
PROFESSIONAL ENGINEER

Digitally signed by Xin Chen
Date: 2023.06.15 08:18:51 -04'00'

Xin Chen, Ph.D., P.E., MBA.
Vice President

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1.0 PROJECT OVERVIEW

1.1. PROJECT INFORMATION AND SITE CONDITIONS

DMY Engineering Consultants Inc. (DMY) was retained by Clark | Azar & Associates, Inc. (herein referred as "Client") to perform a geotechnical investigation for the development of a new neighborhood park located near 2205 Kansas Avenue, Silver Spring in Montgomery County of Maryland. The 0.84-acre parcel is adjacent to the existing Georgetown Branch and the CSX/WMATA right-of-way at the end of Talbot Avenue between Kansas Avenue and Michigan Avenue. The parcel fronts the future Capital Crescent Trail and Purple Line light rail on the north side and is approximately 0.25 mile from the future Purple Line Lyttonsville Station. The land is to be transferred to The Maryland-National Capital Park and Planning Commission (M-NCPPC) upon completion of the Purple Line as part of the Capital Crescent Trail greenway corridor. The site, which was formerly forested, has been cleared and is currently used as a construction staging area. Figure 1 in Appendix A shows the approximate project location. It is also our understanding that the proposed project will consist of the construction of stormwater management facilities for the proposed development of a new neighborhood park.

The description of the proposed project given above is based on the information provided to us by the Client and information gathered during our site reconnaissance. If any of the assumptions or project information is incorrect, DMY should be informed so that we may revise our geotechnical recommendations, if necessary.

1.2. SCOPE OF SERVICES

The purposes of this study were to obtain the subsurface soil and groundwater information for the proposed construction. Our study was performed in accordance with our proposal dated April 20, 2023, as authorized by Client on April 24, 2023. Our scope of services included the following:

- Reviewing the project information provided to us;
- Drilling Standard Penetration Test (SPT) borings at two (2) locations;
- Drilling two (2) auger borings in adjacent to the corresponding SPT borings;
- Performing two (2) infiltration test in accordance with the Montgomery County Soil Testing Guidelines for Stormwater Management Practices;
- Performing laboratory tests on selected soil samples.
- Evaluating field and laboratory data;
- Preparing this geotechnical engineering report.

2.0 FIELD EXPLORATION AND LABORATORY TESTING

2.1. FIELD EXPLORATION

The field exploration consisted of drilling two (2) Standard Penetration Test (SPT) borings (SWM-1 and SWM-2). Two (2) auger borings (INF-1 and INF-2) were also drilled adjacent to the corresponding SPT

borings for in-situ infiltration tests. The boring and infiltration test locations were selected and located in the field by the Client. Boring SWM-1 was offset 17 feet towards 290 degrees West due to the presence of construction equipment and overhead powerline at the original boring location. Figure 2 Boring and Infiltration Test Location Plan in Appendix A shows the approximate boring and infiltration test locations provided by the client.

The SPT borings were drilled by a CME-55 ATV drill rig (3.25-inch hollow-stem auger with split spoon sampler per ASTM D1586). Groundwater levels were measured at each SPT boring during the drilling, at the end of drilling, and 24 hours after completion of drilling.

The infiltration tests were conducted in general accordance with Montgomery County Soil Testing Guidelines for Stormwater Management Practices effective in October 2012. After 24-hour groundwater measurements and infiltration tests, both SPT and auger borings were backfilled with auger cuttings. The field exploration procedures are included in Appendix B.

Following field operations, the soil samples were transported to the laboratory for further analysis and testing. The samples will be stored in the laboratory for a period of 90 days from the submittal date of this report. After this period, the samples will be discarded unless we are instructed otherwise.

2.2. LABORATORY TESTING

Representative soil samples were selected and tested in laboratory to verify field classifications and to determine pertinent engineering properties. The laboratory testing results are included in Appendix C of this report. The laboratory testing program included the following:

- USDA classification with Hydrometer analysis (ASTM D7928) 2 Tests

3.0 SITE GEOLOGY AND SUBSURFACE CONDITIONS

3.1. SITE GEOLOGY

According to the Geologic Map of Montgomery County, Maryland dated 1968, the project site is located in the upland section of Piedmont Plateau Province. The Piedmont Province is a Physiographic Province of the larger Appalachian division, bounded between the Blue Ridge Mountains to the west and the Atlantic Seaboard fall line to the east. The underlying formation at the project site is Wissahickon Formation, Lower Pelitic Schist. This Formation is formerly mapped as oligoclase facies of Wissahickon Formation. It is medium- to coarse-grained biotite-oligoclase-muscovite-quartz schist with garnet, staurolite, and kyanite; fine- to medium-grained semipelitic schist; and fine-grained granular to weakly schistose psammitic granulite; psammitic beds increase upward; apparent thickness 5,500 feet or more.

According to the Natural Resources Conservation Service Web Soil Survey, the project area consists of the following soil units:

- 2UB—Glenelg-Urban land complex, 0 to 8 % slopes: consists of mainly clay loam, loam, and very channery sandy loam.

3.2. SUBSURFACE CONDITIONS

The subsurface conditions encountered at the locations explored are shown in the boring logs in Appendix B. The records represent our interpretation of the subsurface conditions in accordance with generally accepted geotechnical engineering practice. The lines designating the interfaces between various strata on the boring logs are approximate, as the actual transitions between soil strata are often gradual. In the absence of foreign substances, it is difficult to distinguish between natural soils and clean soil fills. Although individual test borings are representative of the subsurface conditions at the precise boring locations on the dates shown, they are not necessarily indicative of the subsurface conditions at other locations or at other times. Below is the generalized subsurface soil stratigraphy based on our subsurface investigation:

Fill Materials (F3)
The existing fill materials, classified as POORLY GRADED GRAVEL (GP), Silty GRAVEL (GM) and Silty SAND (SM) were encountered during our field exploration. This stratum was extended up to 2 feet below the existing site grades.

Residual Soils (R2, R3)
The residual soils encountered were identified as SANDY SILT (ML) and SILTY SAND (SM). This stratum extended to the boring termination depths of 10 feet. SPT N-values ranging from 6 to 18 blows per foot (bpf) were recorded for the granular soil, indicating loose to medium dense relative density and 12 blows per foot (bpf) was recorded for the cohesive soil, indicating a stiff consistency.

Groundwater
Groundwater was not encountered in all borings during the drilling, at the end of drilling or 24 hours after completion of drilling. It should be noted that groundwater levels fluctuate with seasonal and climatic variations and may be different at other times and locations than those stated in this report.

4.0 GEOTECHNICAL EVALUATIONS AND RECOMMENDATIONS

4.1. STORMWATER MANAGEMENT

Infiltration tests were conducted in two (2) infiltration borings drilled at close proximity to the corresponding soil profile boring in general accordance with the Montgomery County's Soil Testing Guidelines for SWM Practices, dated October 6th, 2012. Below is the summary of the infiltration results.

Table 4-1: Summary of Infiltration Tests

Infiltration Test Location	Infiltration Test Depth (feet)	USDA Classification	Hydrologic Soil Group	Infiltration Test Results (inches/hour)				
				1st Hr.	2nd Hr.	3rd Hr.	4th Hr.	Average
INF-1/SWM-1	6.0	Sandy Loam	C	0.72	0.60	0.48	0.48	0.57
INF-2/SWM-2	6.0	Loam	C	0.12	0.72	0.00	0.48	0.33

4.2. EARTHWORK RECOMMENDATIONS

4.2.1 Site Preparation

The site preparation shall be performed in accordance with Maryland-National Capital Park and Planning Commission (MNCPPC)'s specification *Section 200.07 – Excavation, Filling & Grading,* Paragraph *"E. Site Preparation".* All areas to be paved will be proof rolled at subgrade using a 20-ton, fully-loaded dump truck or another pneumatic-tire vehicle of similar size and weight. Any soft, loose, or unsuitable soils should be removed and replaced with suitable materials. Exposed subgrades should be sloped and sealed at all times to facilitate rainfall runoff. Ponding water on subgrade shall be prohibited.

4.2.2 Fills and Backfills

The fills and backfill materials shall meet the minimum requirements in MNCPPC's specification *Section 200.04 – Excavation, Filling & Grading,* Paragraph *"A. Fill and Backfill".* The fill and backfill materials shall also have a Liquid Limit less than 40, a Plasticity Index less than 15. Before field operations begin, a representative sample of each proposed fill should be collected and tested to determine its Atterberg Limits, gradation, maximum dry density, optimum moisture content, and natural moisture content. The test results will be used to evaluate the suitability of each proposed fill for quality control purposes during fill placement.

Fill materials should be placed in lifts not exceeding 8 inches in loose thickness and moisture conditioned to within 2 percentage points of the optimum moisture content. For non-structural areas, each layer of fill shall be compacted to 85% of maximum dry density obtained in accordance with ASTM Standard D 698. For paved surfaces and structural backfill, each layer of fill shall be compacted to 95% of maximum dry density obtained in accordance with ASTM Standard D 698.

4.2.3 Construction Water Control

Based on our subsurface exploration at this site, it is not anticipated that the permanent groundwater table will be encountered above the design subgrade levels. However, perched water may be anticipated. The surface of the site should be properly graded to keep drainage of the surface water away from the proposed construction areas.

4.3.3 Pre-Construction Survey

We recommend that a pre-construction photographic survey on the adjacent structures be performed prior to the construction. It has been our experience that such pre-construction surveys can usually help prevent potential claims as a result of pre-existing damages that were not apparent to nearby property owners until they began to observe their building following the construction of adjoining properties.

4.3.4 Construction Inspection

All earthwork (including but not limited to site preparation, fill placement and compaction) should be inspected by a geotechnical engineer licensed in the State of Maryland or an engineering technician

under the supervision of such an engineer. The geotechnical engineer or his/her representative should inspect subgrades, observe the placement of fill and backfill, perform field density tests (i.e., compaction tests), and perform laboratory testing of fill and backfill materials.

4.3.5 Post Geotechnical Report Service

We recommend that DMY Engineering Consultants Inc., under a separate cost proposal, be given the opportunity to review the final design plans and specifications. This review will evaluate whether the recommendations and comments provided herein have been understood and properly implemented.

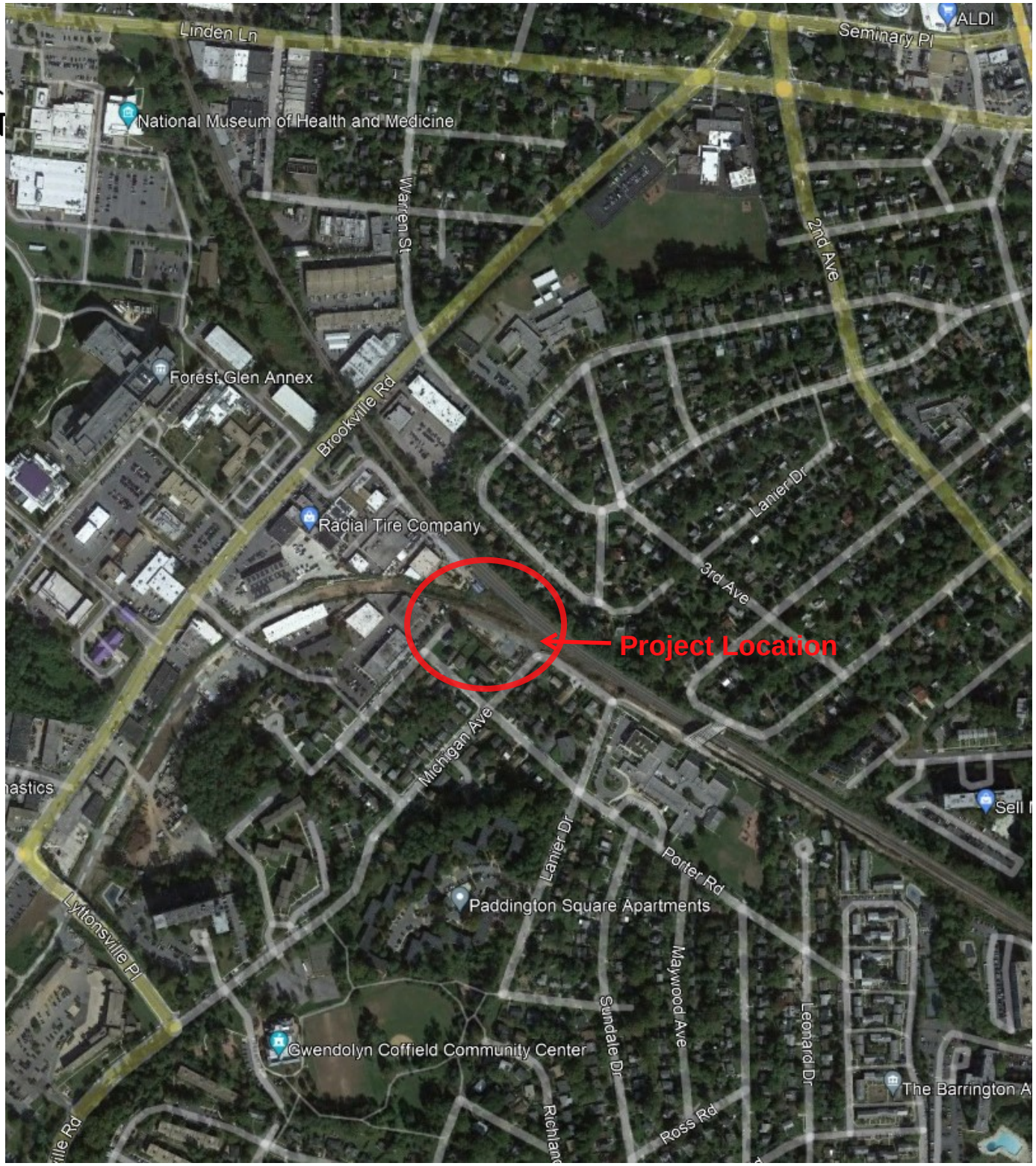
5.0 LIMITATIONS

The recommendations provided are based in part on project information provided to us and are only applied to the specific project and site discussed in this report. If the project information section in this report contains incorrect information or if additional information is available, DMY should be contacted to review our recommendations. We can then modify our recommendations for the proposed project.

Regardless of the thoroughness of a subsurface investigation, there is always a possibility that subsurface conditions may vary from those documented during a subsurface exploration at specific locations. In addition, the construction process itself may alter subsurface conditions. Therefore, experienced geotechnical personnel should be engaged to observe and document the construction procedures used and the conditions encountered. Unanticipated conditions and inadequate procedures should be reported to the design team along with timely recommendations. We recommend that DMY be retained to provide this service based upon our familiarity with the project, the subsurface conditions, and the intent of the recommendations.

We have prepared this report for use by the design professionals for design purposes in accordance with generally accepted geotechnical engineering practices. No other warranty, expressed or implied, is made as to the professional advice included in this report.

APPENDIX A FIGURES



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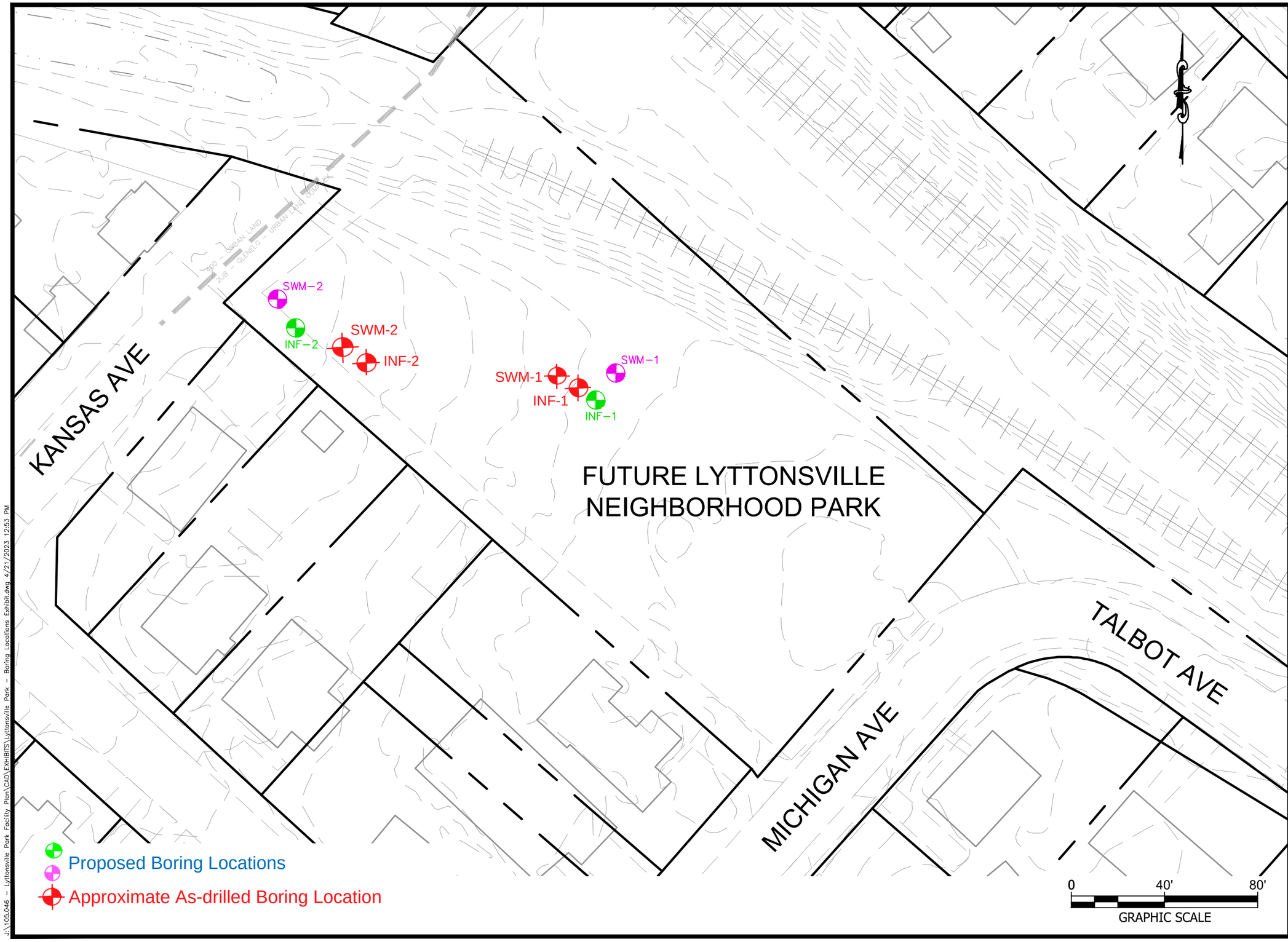
SITE LOCATION MAP

DMY ENGINEERING CONSULTANTS INC.
4170 LAFAYETTE CENTER DR, SUITE 500
CHANTILLY, VIRGINIA 20151
PHONE: (703) 665-0586
FAX: (301) 768-4169

MNCPPC Lyttonsville Park Facility Park
Montgomery County, Maryland

DATE:	DRAFTED BY:	PROJECT NO.:
6/12/2023	AM	03.06272.01
SCALE:	CHECKED BY:	FIGURE NO.:
NTS	XC	1



CLARK | AZAR & ASSOCIATES
20440 Century Blvd, Suite 220
Germantown, MD. 20874
T(301) 528-2010
www.clarkazar.com
A Woman Owned Small Business

FUTURE PARK DEVELOPMENT
LYTTONSVILLE NEIGHBORHOOD PARK
2205 KANSAS AVENUE
SILVER SPRING, MARYLAND 20910

DATE:	APRIL 2023
CAA PROJECT NO.	105.046
DRAWN BY:	ME
CHECKED BY:	JA
CAD DRAWING FILE: Lyttonsville Park - Boring Locations Exhibit.dwg	

SHEET TITLE

BORING LOCATIONS

EXHIBIT A

J:\105.046 – Lyttonsville Park Facility Plan\CAD\EXHIBITS\Lyttonsville Park – Boring Locations Exhibit.dwg 4/21/2023 12:53 PM

APPENDIX B FIELD OPERATIONS AND RESULTS

SUBSURFACE EXPLORATION PROCEDURES

Soil Borings – Hollow Stem Auger

In hollow stem auger drilling, the drill rig utilizes continuous flight, hollow stem (center opening ranges from 2-1/4 to 4-1/4 inches in size) augers to advance the boreholes. During drilling or formation cutting, the center of the hollow augers is filled with rods connected to a plug at the bottom bit. Once the desired drilling depth is reached, the center plug and rods can be pulled out, leaving the hollow augers in place to hold the borehole open for sampling and well installation. Sampling is performed through the center opening in the hollow stem augers by means of the split-barrel sampling procedure in accordance with ASTM D1586. Usually, drilling fluid is not used during the soil drilling using this procedure.

Standard Penetration Tests

In this process, a 2 foot long, 2 inch outside-diameter split-barrel sampler attached to the end of a string of drilling rods is driven 18 inches into the ground by successive blows of a 140 pound hammer freely dropping 30 inches. The number of blows needed for each 6 inches of penetration is recorded. The blows required for the first 6 inches of penetration are allowed for seating the sampler into any loose cuttings, and the sum of the blows required for penetration of the second and third 6 inch increments constitutes the standard penetration resistance or N-value. After the test, the sampler is extracted from the ground and opened to allow visual examination and classification of the retained soil sample. The N-value can be used as a qualitative indication of the in-place relative density of cohesionless soils (sands). In a less reliable way, it also indicates the consistency of cohesive soils (clays/silts). This indication is qualitative, since many factors can significantly affect the N-value and prevent a direct correlation among drilling crews, drill rigs, drilling procedures, and hammer-rod-sampler assemblies. The N-value also has been empirically correlated with various soil properties including strength, compressibility and potential for difficult excavation.

REFERENCE NOTES FOR BORING LOGS

I. Drilling and Sampling Symbols:

SS	-	Split Spoon Sampler	RB	-	Rock Bit Drilling
ST	-	Shelby Tube Sampler	BS	-	Bulk Sample of Cuttings
RC	-	Rock Core; NX, BX, AX	PA	-	Power Auger (no sample)
PM	-	Pressuremeter	HSA	-	Hollow Stem Auger
DC	-	Dutch Cone Penetrometer	WS	-	Wash Sample

Standard Penetration Test (SPT) resistance refers to the blows per foot (bpf) of a 140 lb hammer falling 30 inches on a 2 in. O.D. split-spoon sampler as specified in ASTM D-1586. The blow count is commonly referred to as the N-value.

II. Correlation of Penetration Resistances to Soil Properties:

Relative Density of Cohesionless Soils

SPT-N (bpf)	Relative Density
0 – 3	Very Loose
4 – 9	Loose
10 – 29	Medium Dense
30 – 50	Dense
>50	Very Dense

Consistency of Cohesive Soils

SPT-N (bpf)	Consistency
0 – 1	Very Soft
2 – 4	Soft
5 – 8	Firm
9 – 15	Stiff
16 – 30	Very Stiff
31 – 50	Hard
>50	Very Hard

Weathered Rock (WR) may be defined as SPT-N values exceeding 60 bpf depending on site specific conditions. Refer carefully to boring logs.

Rock Fragments, gravel, cobbles, boulders, or debris may produce N-values that are not representative of actual soil properties.

III. Unified Soil Classification Symbols:

GP – Poorly Graded Gravel
GW – Well Graded Gravel
GM – Silty Gravel
GC – Clayey Gravels
SP – Poorly Graded Sands
SW – Well Graded Sands
SM – Silty Sands
SC – Clayey Sands

ML – Low Plasticity Silts
MH – High Plasticity Silts
CL – Low Plasticity Clays
CH – High Plasticity Clays
OL – Low Plasticity Organics
OH – High Plasticity Organics
CL-ML – Dual Classification (Typical)

IV. Laboratory Testing and Water Level Symbols:

LL – Liquid Limit (%)
PI – Plastic Index (%)
W – Moisture Content (%)
DD – Dry Density (PCF)
NP – Non Plastic
-200 – Percent Passing No. 200 Sieve
PP – Pocket Penetrometer (TSF)


Water Level at Time of Drilling, or as Shown


Water Level at End of Drilling, or as Shown


Water Level after 24 Hours, or as Shown

PROJECT NAME: MNCPPC Lyttonsville Park Facility Park
PROJECT NO.: 03.06272.01
LOCATION: Montgomery County, MD
CLIENT: Clark | Azar & Associates, Inc.

SWM-1

PAGE 1 OF 1

DATE(S) DRILLED:5/20/2023
DRILLING METHOD(S): 3.25 in HSA
DRILLING EQUIPMENT: CME-55 ATV
DRILLER: D. Vazquez LOGGER: A. Melorie
SURFACE ELEVATION: 326.0
NORTH: 486743.9141
EAST: 1298720.0951

GROUND WATER WAS NOT ENCOUNTERED DURING DRILLING

DRY AFTER 24 HRS

FIELD DATA | **LAB DATA**

DEPTH (FT)	ELEVATION (FT)	SPT BLOW COUNTS	SAMPLE LEGEND	SAMPLE INTERVAL	% RECOVERY	ROCK QUALITY DESIGNATION %	RMR	GEOLOGIC STRATA	GRAPHIC LOG	MATERIAL DESCRIPTION OF STRATA	LIQUID LIMIT (LL)	PLASTICITY INDEX (PI)	MOISTURE CONTENT (%)
				0.0						0.0 / 326.0 coarse poorly-graded gravel FILL, trace silt, medium dense, moist **FL-GP**			
	325	21 10 11 7			42			F3					
								F3		1.0 / 325.0 Dark gray, fine to coarse silty sand FILL, trace gravel, medium dense, moist **FL-SM**			
				2.0						2.0 / 324.0 Brown, fine to medium SILTY SAND, contains mica, medium dense, moist **SM**			
		6 6 7 9			67								
				4.0									
5		6 7 7 8			33								
	320			6.0				R3					
		7 9 9 9			75								
				8.0									
		6 6 8 12			83								
10										10.0 / 316.0 Boring Terminated			

REMARKS: Offset of 17ft to 290 degrees West was done to avoid overhead powerline and construction equipments; Cave-in depth = 7.5 feet; Elevation and coordinates were provided by client; The hole left open for 24 hours ground water readings;

PAGE 1 OF 1

SWM-1

DMY ENGINEERING CONSULTANTS INC.
4170 Lafayette Center Drive, Suite 500
Chantilly, Virginia, 20151
tel: (703) 665-0586 fax: (301) 768-4169

SPT_LOG:C:\USERS\ASSEFA\ONEDRIVE - ZCC DMY\DOCUMENTS - GEOTECHNICAL PRACTICE\PROPOSAL-PROJECT\MD - GAITHERSBURG\03.06272.01 MNCPPC LYTTONSVILLE PARK FACILITY\B-DRILLING\03 BORING LOGS\BORING LOGS_20230526.GPJ:BOR

PROJECT NAME: MNCPPC Lyttonsville Park Facility Park
PROJECT NO.: 03.06272.01
LOCATION: Montgomery County, MD
CLIENT: Clark | Azar & Associates, Inc.

SWM-2

PAGE 1 OF 1

DATE(S) DRILLED:5/20/2023
DRILLING METHOD(S): 3.25 in HSA
DRILLING EQUIPMENT: CME-55 ATV
DRILLER: D. Vazquez LOGGER: A. Melorie
SURFACE ELEVATION: 315.0
NORTH: 486775.5626
EAST: 1298575.0261

GROUND WATER WAS NOT ENCOUNTERED DURING DRILLING

DRY AFTER 24 HRS

FIELD DATA | **LAB DATA**

DEPTH (FT)	ELEVATION (FT)	SPT BLOW COUNTS	SAMPLE LEGEND	SAMPLE INTERVAL	% RECOVERY	ROCK QUALITY DESIGNATION %	RMR	GEOLOGIC STRATA	GRAPHIC LOG	MATERIAL DESCRIPTION OF STRATA	LIQUID LIMIT (LL)	PLASTICITY INDEX (PI)	MOISTURE CONTENT (%)
		16 29 9 10		0.0	33			F3		0.0 / 315.0 Gray and brown, medium to coarse silty gravel FILL, dense, moist **FL-GM**			
								F3		1.0 / 314.0 Brown, fine to coarse silty sand FILL, trace gravel, dense, moist **FL-SM**			
		7 6 6 6		2.0	75			R2		2.0 / 313.0 Dark brown, sandy SILT, contains mica, stiff, moist **ML**			
5	310	4 4 4 4		4.0	58					4.0 / 311.0 Mottled, fine to medium SILTY SAND, loose, moist **SM**			
		2 3 3 3		6.0	100			R3					
		3 3 3 4		8.0	100								
10	305									10.0 / 305.0 Boring Terminated			

REMARKS: Cave-in depth = 7 feet; The hole left open for 24 hours groundwater readings; Elevation and coordinates were provided by client;

PAGE 1 OF 1

SWM-2

DMY ENGINEERING CONSULTANTS INC.
4170 Lafayette Center Drive, Suite 500
Chantilly, Virginia, 20151
tel: (703) 665-0586 fax: (301) 768-4169

SPT_LOG:C:\USERS\ASSEFA\ONEDRIVE - ZCC DMY\DOCUMENTS - GEOTECHNICAL PRACTICE\PROPOSAL-PROJECTMD - GAITHERSBURG\03.06272.01 MNCPPC LYTTONSVILLE PARK FACILITY\B-DRILLING\03 BORING LOGS\BORING LOGS_20230526.GPJ;BOR

APPENDIX C LABORATORY TESTING RESULTS

MNCPPC Lyttonsville Park Facility

Project Number: 03.06272.01

Location: Montgomery County, MD

Sample Date:

Jay Kay Testing
(814) 404-9283
www.jaykaytesting.com

Summary of Laboratory Testing

Sample Identification		Depth				Atterberg Limits				Compaction					
Boring ID	Sample ID	Top, ft	Bottom, ft	NMC, % (ASTM D-2216)	Organic Matter, % (ASTM D-2974)	Liquid Limit, % (ASTM D-4318)	Plastic Limit, % (ASTM D-4318)	Plasticity Index, % (ASTM D-4318)	Specific Gravity (ASTM D-854)	Maximum Dry Density, lb/ft³	Optimum Moisture Content, %	AASHTO Classification (M-145)	% < 0.002 mm	% Fines	USCS Classification (ASTM D-2487)
SWM-1	S-4	6	8	-	-	-	-	-	-	-	-	-	-	-	-
SWM-2	S-4	6	8	-	-	-	-	-	-	-	-	-	-	-	-
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MNCPPC Lyttonsville Park Facility

Project Number: 03.06272.01

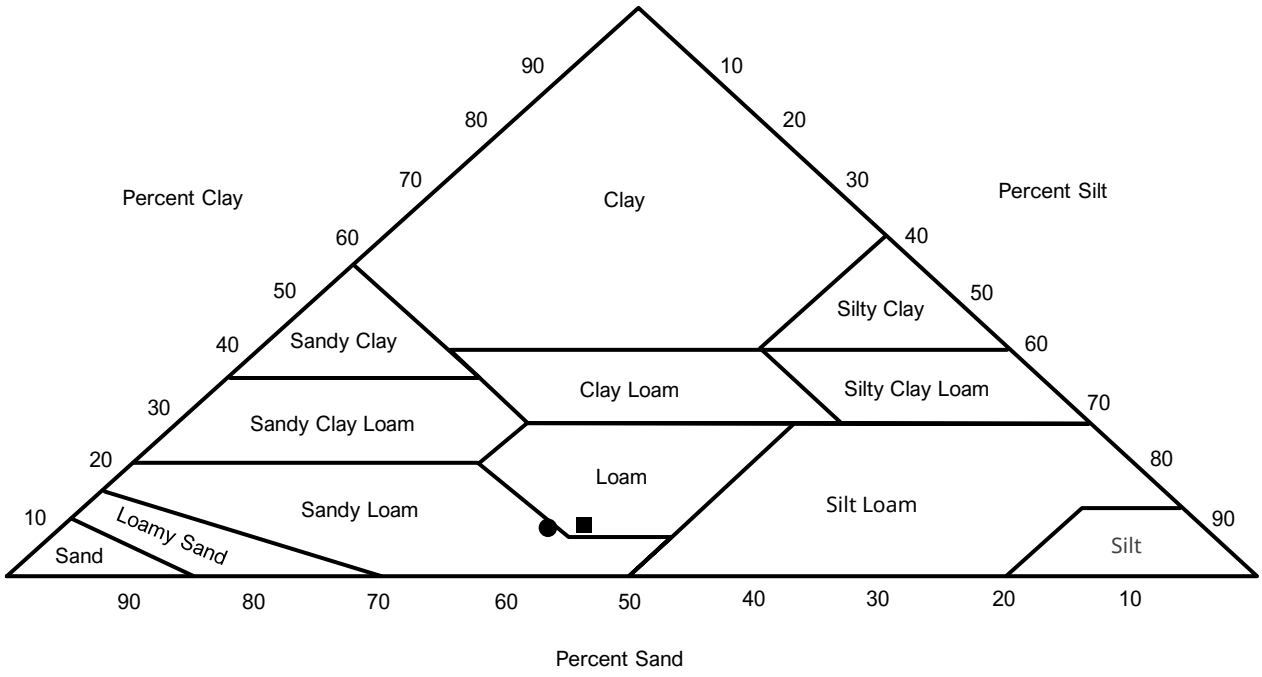
Location: Montgomery County, MD

Sample Date:

Jay Kay Testing
(814) 404-9283
www.jaykaytesting.com

USDA Soil Textural Analysis

Summary of USDA Results



	Boring ID	Sample ID	Top	Btm	% Sand	% Silt	% Clay	USDA Texture
●	SWM-1	S-4	6	8	52.5%	39.0%	8.5%	Sandy Loam
■	SWM-2	S-4	6	8	49.4%	41.6%	9.0%	Loam

MNCPPC Lyttonsville Park Facility

Project Number: 03.06272.01

Jay Kay Testing

Boring ID	Sample ID	Top	Btm
SWM-1	S-4	6'	8'

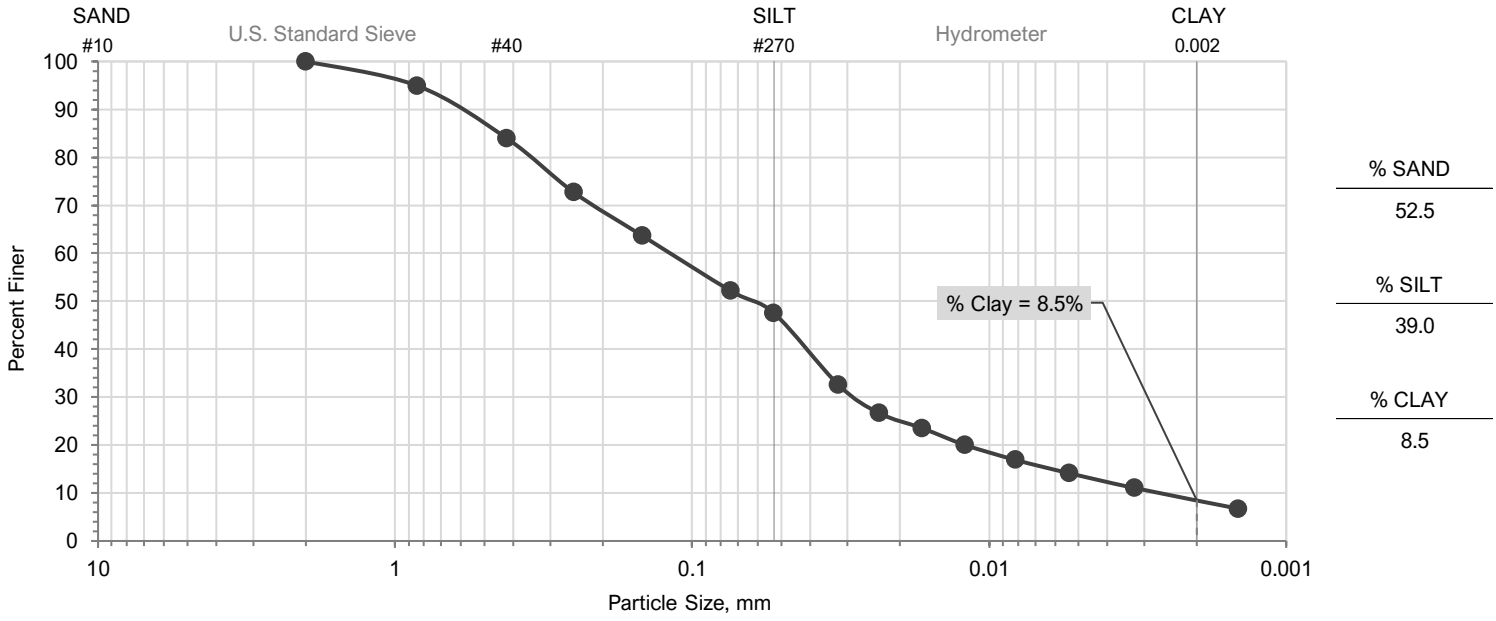
Location: Montgomery County, MD

Sample Date: -

USDA Summation Curve

Test Method: ASTM D-6913 / ASTM D-7928

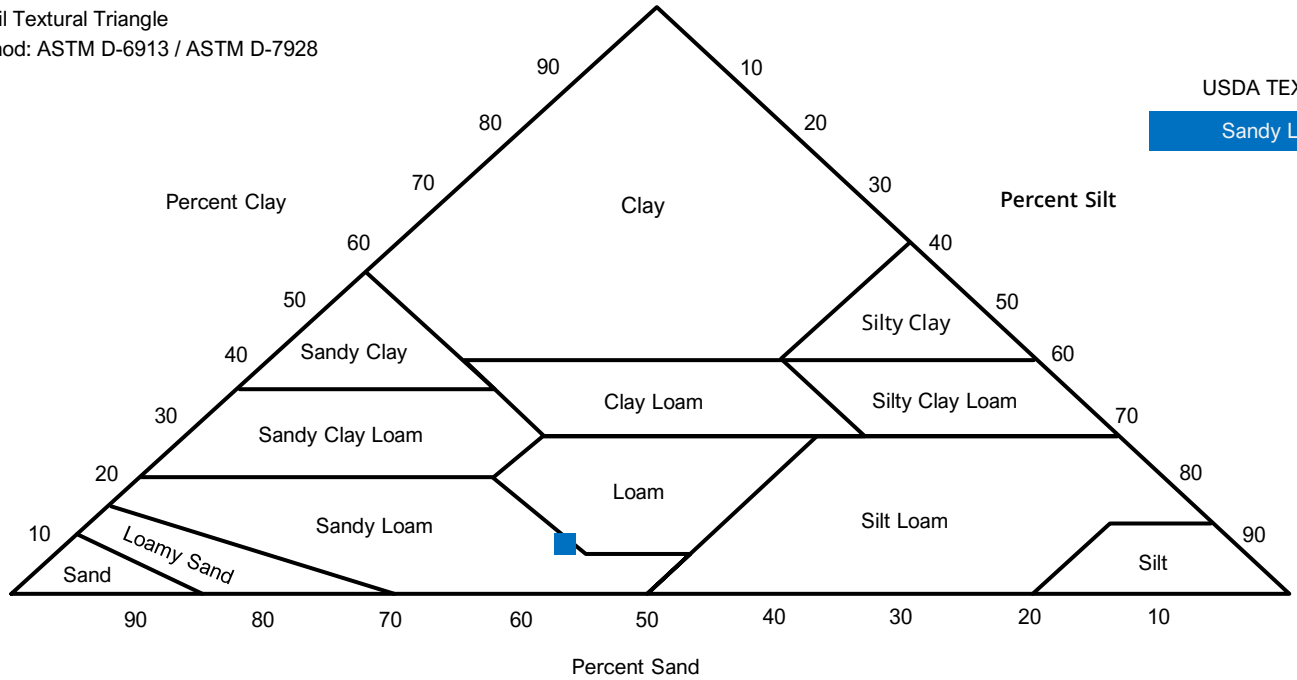
USDA Soil Textural Analysis



% SAND	% SILT	% CLAY
52.5	39.0	8.5

USDA Soil Textural Triangle

Test Method: ASTM D-6913 / ASTM D-7928



USDA TEXTURE

Sandy Loam

NMC	LL	PL	PI
-	-	-	-

05/26/23 Tested by: ST/JT Reviewed by: AM Jay Kay Testing

MNCPPC Lyttonsville Park Facility

Project Number: 03.06272.01

Jay Kay Testing

Boring ID	Sample ID	Top	Btm
SWM-2	S-4	6'	8'

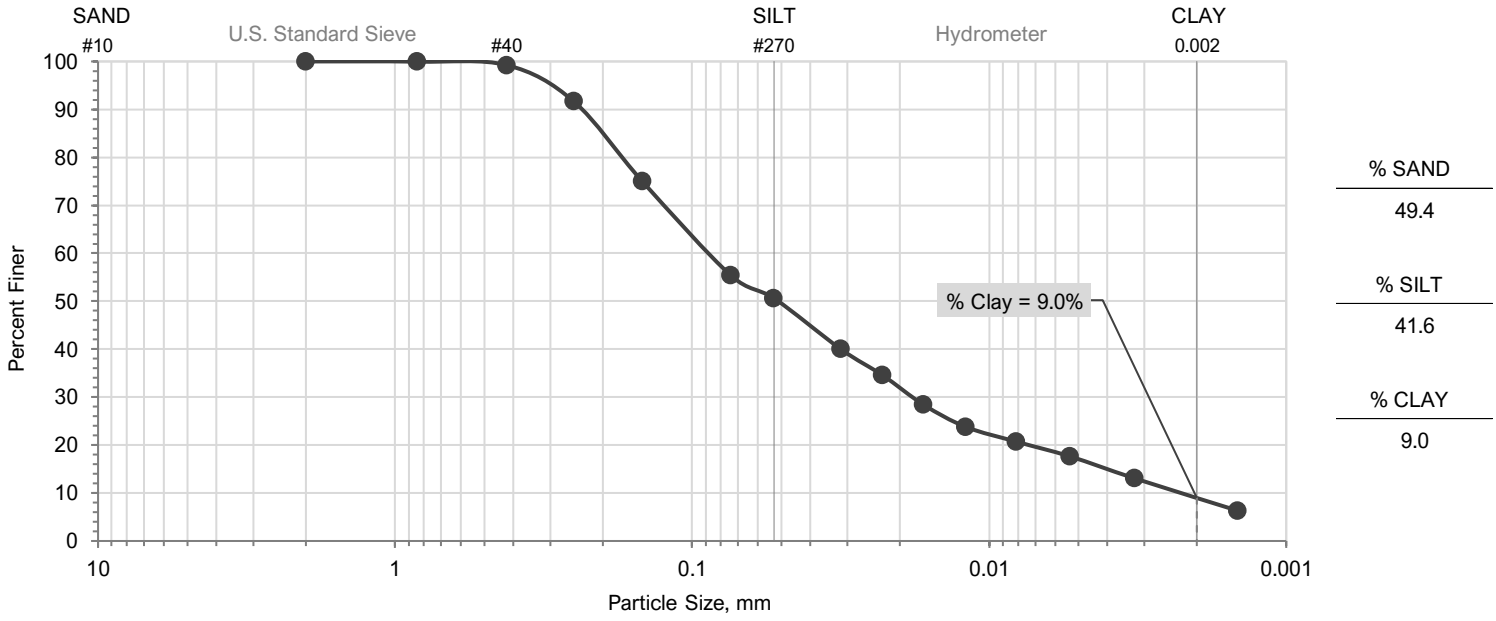
Location: Montgomery County, MD

Sample Date: -

USDA Summation Curve

Test Method: ASTM D-6913 / ASTM D-7928

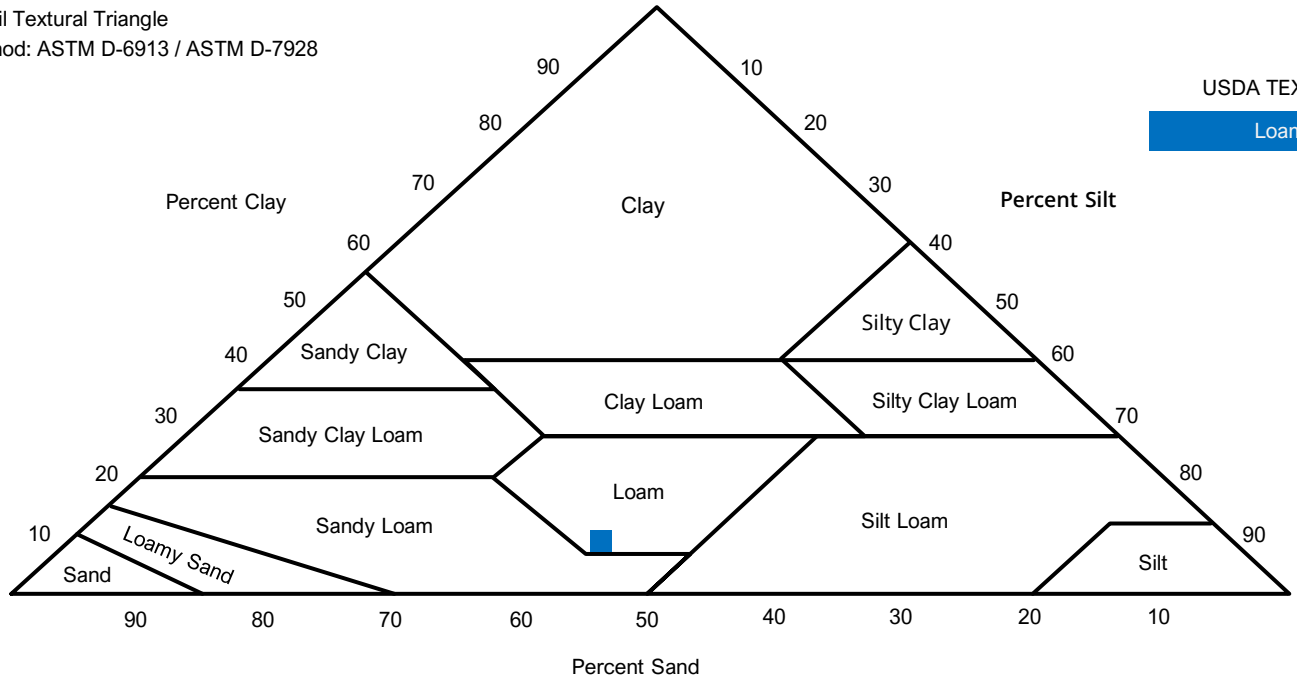
USDA Soil Textural Analysis



% SAND	% SILT	% CLAY
49.4	41.6	9.0

USDA Soil Textural Triangle

Test Method: ASTM D-6913 / ASTM D-7928



NMC	LL	PL	PI
-	-	-	-

05/26/23 Tested by: ST/JT Reviewed by: AM Jay Kay Testing