SUBSURFACE INVESTIGATION REPORT:

2060 ROUTE 35

Tax Block 422, Lot 8.01
Borough of Sayreville
Middlesex County, New Jersey

Dated: February 18, 2025

Prepared by:

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Borough of Sayreville
Middlesex County, New Jersey

Date: February 18, 2025

To: Marc Leber, East Point Engineering

Introduction

This report summarizes the results of a subsurface investigation conducted at Block 442, Lot 8.01, 2060 Route 35 in the Borough of Sayreville, Middlesex County, New Jersey. The investigation included a hand auger soil boring, soil classifications, and permeability testing.

Site Description

The property is mapped within the DouC—Downer-Urban land complex, characterized by 5% to 10% slopes, as identified in the Middlesex County Soil Survey. A detailed description of the Downer series from the Soil Web Survey is included as an attachment.

Investigation Methodology

1. **Excavation and Sampling:**
    - One soil boring was excavated using the hand auger method.
    - Soil boring location is illustrated in the attached site sketch.
    - Disturbed soil sample was collected from boring for further laboratory analysis.

2. **Soil Classification:**
    - Soil log indicated that imported fill was placed on this site.
    - Imported fill was observed for a depth of approximately 8 ft. at the location of the soil boring. The imported fill material was determined to be clay and silt loam.
    - Below the imported fill material the soil was determined to be Sandy Loam, which is consistent with DouC—Downer-Urban land complex, as mapped in the Middlesex County Soil Survey.
    - Soil Sample was taken at a depth of 115” to 125” and classified as Sandy Loam.
    - No groundwater seepage was observed in test pit.

3. **Permeability Testing:**
    - Disturbed soil sample was dried and passed through the No. 10 sieve and subjected to permeability testing.

Results

Permeability testing was conducted on a subsoil sample from a boring depth of 115” to 125”. The slowest replicate result is summarized below:

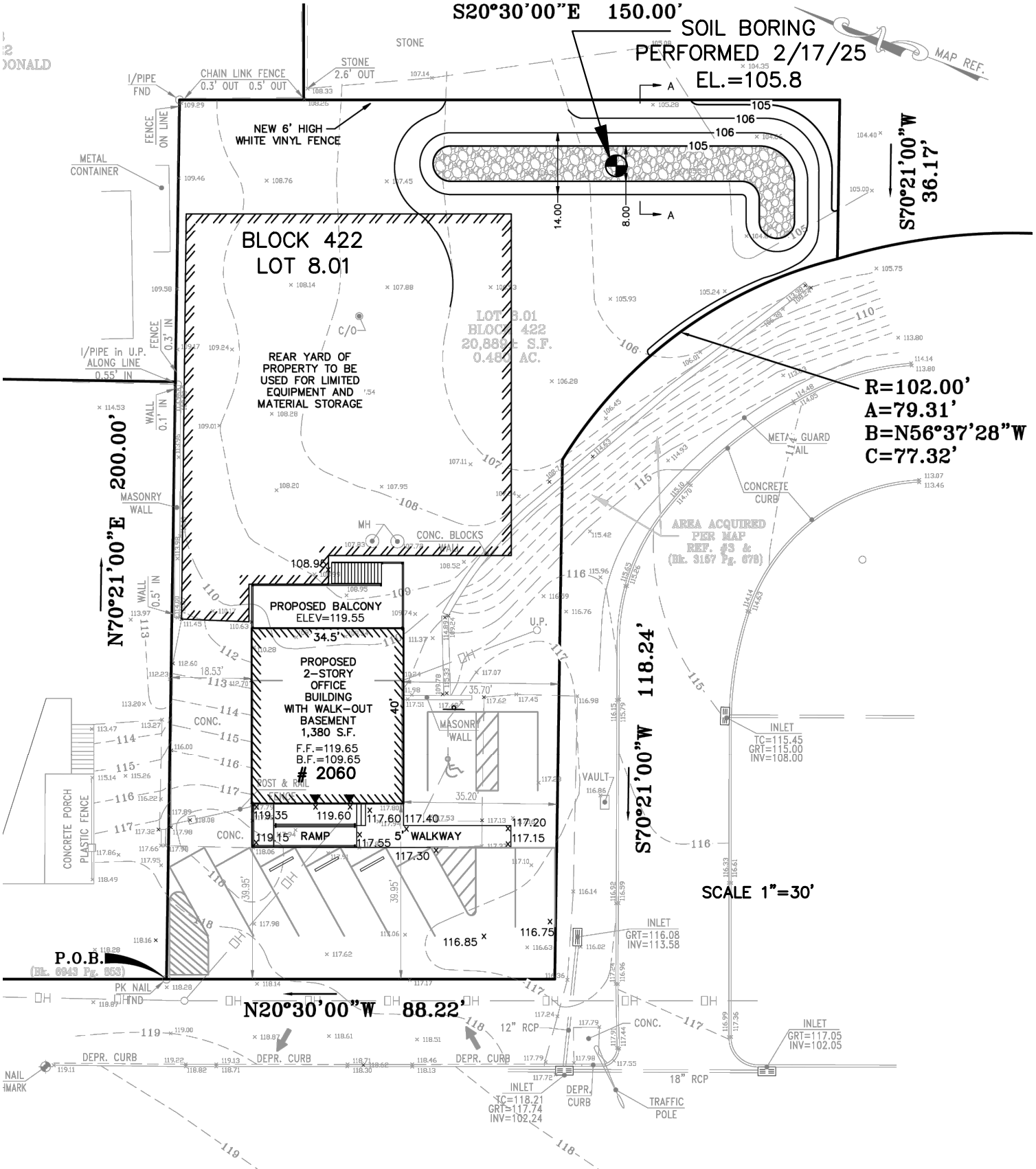
Soil Boring (SB)	Permeability Rate (inches/hour)	K3 Permeability Rating (range: 2–6 in/hr)
SB #1	5.1	Within Range

Conclusion

The investigation confirms fill material was imported to this site. The fill material ranges from Clay to Silt Loam. The depth of the imported fill is approximately 8 ft. Below this, the site is primarily Sandy Loam, at a depth greater than 110”, with permeability rates consistent with the K3 classification. No groundwater was encountered during the investigation.

Attachments

- Soil Boring Location Sketch
- Soil Boring #1 – Log, Photos, Permeability Testing Results
- Web Soil Survey - Soil Map Location
- Web Soil Survey - Soil Series Description



NEW JERSEY STATE HIGHWAY ROUTE No. 35

100' R.O.W.

SOIL BORING LOCATION SKETCH

BOROUGH OF SAYREVILLE

BLOCK 422 LOT 8.01

2060 Route 35

Borough of Sayreville

Middlesex County, New Jersey

Soil Log #1: February 17, 2025

Weather: 35º F, windy, 40 mph wind gusts, mostly clear

DEPTH	COLOR	TEXTURE	CONSISTENCE/ STRUCTURE	MOTTLING
0”- 9”	7.5YR 4/6 strong brown	Fill Silt loam	Friable	None
9”- 74”	10 YR 6/6 brownish yellow	Fill Clay w/5% Gravel	Friable	None
74”- 95”	10YR 6/4 light yellowish brown	Fill Silt loam	Friable	None
95”- 110”	10YR 5/8 yellowish brown	Original grade Sandy loam w/15% gravel	Friable	None

DEPTH	COLOR	TEXTURE	CONSISTENCE/ STRUCTURE	MOTTLING
110”- 125”+	7.5YR 5/8 Strong brown	Sandy loam	Friable small sand grains	None

There was no Standing Water in the excavation.

Soil sample taken at 115 - 125”.

SOIL BORING PHOTOS

MIDDLESEX COUNTY / BOROUGH OF SAYREVILLE
2060 ROUTE 35, BLOCK 442, LOT 8.01

N.J.A.C. 7-9A-6.2
TUBE PERMEAMETER TEST
FORM 3B

SOIL BORING #1 SURFACE ELEVATION = 115.8'
DISTURBED SAMPLE TAKEN @ 115"-125" DEPTH
SAMPLE DRIED AND PASSED THROUGH #10 SIEVE FOR TESTING

SAMPLE DIMENSIONS	A	B
RADIUS OF SAMPLE TUBE, CM	3.65	3.65
LENGTH OF SAMPLE, INCHES	3.00	3.00
SAMPLE VOLUME, CC	318.93	318.93
SAMPLE WEIGHT, GRAMS	459.35	453.59
BULK DENSITY, GRAMS/CC	1.44	1.42

STANDPIPE USED - NO

HEIGHT OF WATER ABOVE RIM, MM:		
BEGINNING OF INTERVAL, H1	120.00	120.00
END OF INTERVAL, H2	115.00	115.00

TIME OF TEST INTERVAL, MIN.	A	B
TEST 1	1.267	1.417
TEST 2	1.350	1.450
TEST 3	1.367	1.517
FINAL TEST TIME	1.367	1.517

CALCULATION OF PERMEABILITY:	A	B	SLOWEST
K, INCHES/HOUR=60 x LENGTH x LN(H1/H2) / TIME	5.6	5.1	5.1
K, FEET PER SECOND	1.3E-04	1.2E-04	1.2E-04

DEFECTS IN SAMPLE: NONE PERM. RATING K3: 2 TO 6 IN/HR

"I hereby certify that the information furnished on this form of this application is true and accurate. I am aware falsification of data is a violation of the Water Polution Control Act (N.J.S.A. 58:10A-1 et seq.) and is subject to penalties as prescribed in N.J.A.C. 7:14-8."

GREGORY J. HNAT, PE
NJ LIC. NO. 24GE06160700
2/17/2025

THOMAS P. SANTRY, P.A.
128 EAST RIVER ROAD
RUMSON, NJ 07760

Map Scale: 1:544 if printed on A landscape (11" x 8.5") sheet.

N

Meters
0 5 10 20 30

Feet
0 25 50 100 150

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 18N WGS84

MAP LEGEND

Area of Interest (AOI)

- Area of Interest (AOI)

Soils

- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features

- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features

- Streams and Canals

Transportation

- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background

- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Middlesex County, New Jersey
Survey Area Data: Version 20, Sep 3, 2024

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Oct 9, 2022—Oct 16, 2022

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
DouC	Downer-Urban land complex, 5 to 10 percent slopes	0.7	100.0%
Totals for Area of Interest		**0.7**	**100.0%**

Middlesex County, New Jersey

DouC—Downer-Urban land complex, 5 to 10 percent slopes

Map Unit Setting

National map unit symbol: 4jvg
Elevation: 10 to 330 feet
Mean annual precipitation: 28 to 59 inches
Mean annual air temperature: 46 to 79 degrees F
Frost-free period: 161 to 231 days
Farmland classification: Not prime farmland

Map Unit Composition

Downer and similar soils: 60 percent
Urban land: 30 percent
Minor components: 10 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Downer

Setting

Landform: Low hills
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Loamy fluviomarine deposits and/or gravelly fluviomarine deposits

Typical profile

A - 0 to 8 inches: loamy sand
E - 8 to 13 inches: loamy sand
Bt - 13 to 30 inches: sandy loam
C - 30 to 60 inches: stratified gravelly sand to sandy clay loam

Properties and qualities

Slope: 5 to 10 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.60 to 6.00 in/hr)
Depth to water table: About 48 to 122 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Low (about 5.5 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3e
Hydrologic Soil Group: A
Ecological site: F153DY160NJ - Well Drained Coarse-Loamy Upland

Hydric soil rating: No

Description of Urban Land

Setting

Parent material: Surface covered by pavement, concrete, buildings, and other structures underlain by disturbed and natural soil material

Typical profile

C - 0 to 60 inches: variable

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 8s
Hydric soil rating: Unranked

Minor Components

Fort mott

Percent of map unit: 5 percent
Landform: Ridges, terraces
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Interfluve
Down-slope shape: Convex, linear
Across-slope shape: Linear
Ecological site: F153DY160NJ - Well Drained Coarse-Loamy Upland
Hydric soil rating: No

Sassafras

Percent of map unit: 5 percent
Landform: Low hills, knolls
Landform position (two-dimensional): Backslope, summit
Landform position (three-dimensional): Interfluve
Down-slope shape: Convex
Across-slope shape: Linear
Ecological site: F149AY170MD - Well Drained Fine-Loamy Upland
Hydric soil rating: No

Data Source Information

Soil Survey Area: Middlesex County, New Jersey
Survey Area Data: Version 20, Sep 3, 2024