NEW YORK STATE DEPARTMENT OF TRANSPORTATION

GEOTECHNICAL DATA REPORT

VAN WYCK EXPRESSWAY CAPACITY AND ACCESS IMPROVEMENTS TO JFK AIRPORT PROJECT

QUEENS COUNTY, NEW YORK

PROJECT IDENTIFICATION NUMBER (PIN): X735.82

AUGUST 2019

NEW YORK STATE OF OPPORTUNITY. | Department of Transportation

WSP

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WSP USA
ONE PENN PLAZA
NEW YORK, NY 10119

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1 INTRODUCTION

1.1 PROJECT OVERVIEW

The Van Wyck Expressway (VWE) Capacity and Access Improvements to John F. Kennedy (JFK) Airport Project is located along an approximately 4.3-mile segment of the VWE, also known as Interstate 678 (I-678), in Queens County, New York. The northern project limit is Hoover Avenue and the southern project limit is the southern end of the Federal Circle at the entrance to JFK Airport. The project site location is shown in Figure 1. The VWE/I-678 is a major transportation corridor providing access to and from JFK Airport, which is a major international gateway to the United States. The VWE also serves as the major route for commercial truck traffic to get to and from the airport.

The purpose of the project is to provide increased capacity on the VWE between the Kew Gardens Interchange (KGI) and JFK Airport to improve vehicular access to and from JFK Airport. In addition, the project will address operational, geometric, and structural deficiencies on the VWE between the KGI and JFK Airport.

1.2 PURPOSE AND SCOPE OF SERVICES

This Geotechnical Data Report includes information on the subsurface conditions within the project limits. The information available from the preliminary subsurface investigation performed for this project and historical subsurface information from other projects described in this report are not intended to be used as the sole source of information on subsurface conditions for final design of the project. It is expected that additional investigations will be performed as required in the Design Build contract documents and to meet the minimum geotechnical site investigation criteria outlined in the NYSDOT Geotechnical Design Manual (GDM).

The geotechnical work performed for the preparation of this report involved the following tasks:

- Collecting and reviewing logs of previous borings, and geotechnical and foundation drawings for projects on or near I-678 within the project limits.
- Developing a preliminary subsurface investigation including selection of boring locations, borehole depths, sampling intervals, designation of soil boring numbers, and staking out of boring locations in accordance with current NYSDOT policy.
- Arranging for and subcontracting the drilling and sampling.
- Field logging of soil samples. Final boring logs and the soil sample descriptions and classifications shown on the logs were prepared by NYSDOT.
- Delivering soil samples to NYSDOT Geotechnical Engineering Bureau (GEB), which conducted the laboratory testing and provided the resulting data.
- Arranging for and delivering selected soil samples to subcontracted geotechnical laboratory for percolation test borings.

- Performing a field survey to determine the horizontal coordinates and elevation of the as-drilled borings.
- Preparing this report.

2 SITE CONDITIONS

2.1 SITE HISTORY

As part of a post-World War II $200-million development program, and in anticipation of an increased population size, the City of New York sought to expand its highway and parkway system to allow for greater movement throughout the five boroughs. The six-lane VWE was envisioned to help carry passengers quickly from the newly constructed Idlewild Airport (present-day JFK Airport) to Midtown Manhattan.

In 1945, the City of New York developed a plan to expand the then-existing Van Wyck Boulevard into an expressway. The City of New York acquired the necessary land in 1946 and construction began in 1948, lasting until 1953. The Long Island Rail Road (LIRR) bridges for Jamaica Station, which were originally constructed in 1910, were reconstructed in 1950 to accommodate the widened roadway. The designation of the VWE as an interstate highway started with the northern sections of the roadway between the Whitestone Expressway and KGI in the 1960s. By 1970, the entire expressway was a fully designated interstate: I-678 (the VWE).

In 1998, the Port Authority of New York and New Jersey (PANYNJ) began work on AirTrain JFK, an elevated automated guideway transit system linking downtown Jamaica to JFK Airport. AirTrain JFK utilizes the median of a section of the VWE to create an unimpeded link, connecting two major transportation hubs in Queens. As part of the AirTrain JFK project, portions of the VWE were repaved, entrance and exit ramps were reconstructed, and retaining walls were added.

Currently, the VWE consists of three unrestricted general-use lanes in each direction. A service road runs parallel to the expressway on each side, connecting to the entrance and exit ramps.

2.2 EXISTING CONDITIONS

The area adjacent to the VWE includes a variety of residential, commercial, educational, and transportation uses. Jamaica Station, which is a major transportation hub connecting to nine LIRR lines, four subway lines, and 14 bus lines, is near the northern end of the project corridor. Four LIRR bridges cross over the VWE near Jamaica Station. Existing New York City Transit (NYCT) underground subway lines (F, E, J, Z) run under portions of the VWE, Jamaica Avenue and Hillside Avenue bridges, and in the vicinity of the LIRR bridges. The AirTrain JFK, an elevated railway, operates between Jamaica Station and JFK Airport with foundations and piers within the median of the VWE within most of the project limits.

Several neighborhoods are adjacent to the project corridor, including the Kew Gardens, Briarwood, Jamaica, Richmond Hill, and South Ozone Park neighborhoods. Both the Kew Gardens and Jamaica neighborhoods have active urban centers near the northern part of the corridor. The Jamaica Business District is a busy urban center along Atlantic Avenue (east of the project corridor) that contains numerous retail establishments, performing arts venues, and a transportation hub, as well as City University of New York York College. The neighborhoods

adjacent to the central and southern parts of the corridor are primarily residential with some commercial and retail development.

3 GEOLOGIC SETTING

3.1 REGIONAL GEOLOGY

This project site lies within the Atlantic Coastal Plain physiographic province and is underlain by geologic units consisting of Pleistocene and Cretaceous sediments and Precambrian crystalline bedrock. The bedrock surface, which dips southeastward, is located between 500 and 600 feet below ground surface and consists primarily of well-foliated gneiss. Overlying the bedrock is sequence of Cretaceous sediments, over 400 feet in thickness, which consists of interbedded sands, silt, clay, and some gravel beds. Above the Cretaceous sediments are thick Pleistocene glacial deposits, thin recent alluvium and man-made fill.

The near surface deposits and topography of the area are principally the result of Pleistocene glaciation. Pleistocene glacial erosion removed the majority of the Tertiary sediments and cut channels into the underlying Cretaceous materials. Outwash from the earliest glaciations produced sand and gravel channel fills (Jameco Gravel). Between stages of glaciation, marine deposits known as the Gardiners Clay were deposited unconformably on the Jameco Gravel. The Gardiners Clay is typically a dark gray silt and clay with marine shells and plant material. Late Pleistocene glaciation produced a sequence of glacial outwash deposits that overlies the Gardiners Clay, or unconformably overlies the Cretaceous sediments in some areas. The terminus of the last Pleistocene ice sheet lies just north of the project area and is called the Harbor Hill Moraine. Materials deposited south of the terminal moraine formed a great outwash plain, along with occasional lake, beach, and wind-blown sediments. These deposits consist primarily of sorted and stratified clay to coarse gravel-size materials. Subsequent sea level rise and regional uplift, due to glacial rebound, has created recent alluvial deposits. In most areas, man-made fill also cap the underlying deposits up to several feet.

3.2 SURFICIAL GEOLOGY

The surficial geologic map is shown in Figure 2. As indicated on the Lower Hudson sheet of the surficial geologic map of New York, the majority of the project site consists of outwash sand and gravel (shown as map symbol “og”). The outwash sand and gravel is characterized as coarse to fine gravel with sand, proglacial fluvial deposition, well rounded and stratified, generally finer texture away from the ice border, and with a variable thickness of approximately 6 to 70 feet. For the portion of the project site north of Jamaica Station, the surficial material is classified as till moraine (shown as map symbol “tm”). Till moraine is described as more variably sorted than till, generally more permeable than till, with deposition adjacent to ice, more variably drained, and may include ablation till. Till moraine is classified with a variable thickness of approximately 33 to 100 feet.

The geologic map in Figure 3 shows deeper soils and indicates that the subsurface of much of the project site is dominated by Upper Cretaceous coastal plain deposits. These deposits, ranging from 0 to 2,000 feet below sea level, are known as the Monmouth Group, Matawan Group, and

Magothy Formation, and are primarily silty clay, glauconitic sandy clay, sand, and gravel (shown as map symbol “Km”). For the portion of the project site north of Jamaica Station, the Upper Cretaceous to Mesozoic-age Raritan Formation (shown as map symbol “Kr”) is the main geologic unit, comprising of clay, silty clay, sand, and gravel (Fisher 1970).

3.3 BEDROCK GEOLOGY

Bedrock was not encountered in any historical borings or any of the borings performed for the preliminary subsurface investigation for this project. The bedrock, generally thought to be Precambrian, consists predominantly of complexly folded and faulted gneisses and schists that were eroded to a peneplain before deposition of the overlying Upper Cretaceous units. The typical strike of the bedrock surface in Queens County is approximately N 50 degrees E, and the surface typically dips to the southeast at approximately 80 feet per mile, an angle of about 52 minutes. Small bedrock outcrops occur in the northwestern part of the County near the East River, and bedrock lies approximately 1,100 feet below sea level at Far Rockaway, in the southeastern part of the County. In most of Queens County, the bedrock surface was weathered to clay prior to deposition of the Upper Cretaceous strata (Soren 1978). A well map and geologic cross section developed from selected historical wells/borings is shown on Figure 4 (Soren, 1978).

4 EXISTING DATA

NYSDOT provided available historical drawings and boring logs as relevant reference information regarding subsurface conditions of the project site.

The as-built soil boring location plans and the official NYSDOT boring logs for the Kew Gardens Interchange Infrastructure and Operational Improvements project PIN X735.75 are included in Appendix B-1. These borings were performed in 2009. The historical boring location plans, select historical expressway profiles and grading, select structure foundation drawings, and the historical NYSDOT boring logs along portions of the VWE within the project limits are included in Appendix B-2. These borings were performed generally in the 1940s, 1950s, and 1960s. Boring location plans and general subsurface profiles at Hillside Avenue and Jamaica Avenue bridges performed in 2002 are also included in Appendix B-2.

The PANYNJ JFK Airtrain corridor and VWE subsurface information, boring logs within the project limits, and location plans are included in Appendix B-3. These borings were performed in the 1990s. The field investigation program included soil borings ranging from 40 to 125 feet depth below existing ground surface of the VWE corridor and the adjacent service roads. The horizontal and vertical datums used by PANYNJ differ from those used by NYSDOT. Elevations are referenced to Mean Low Water at Jamaica Bay which is equal to 2.233 feet below Mean Sea Level at Sandy Hook, New Jersey, as established by the United States Coast and Geodetic Survey. Horizontal coordinates are based on the JFK horizontal control system. Existing NYSDOT and PANYNJ JFK Airtrain boring locations shown on Figures 5 and 6.1 to 6.8 are approximate and based on available aerial location plans.

Existing boring logs, boring location plans, and laboratory testing data for the subsurface investigation conducted within the project limits near the LIRR Jamaica Station and Johnson Avenue Yard facilities in 2012 are included in Appendix B-4. The borings were drilled by Jersey Boring and Drilling of Newark, New Jersey. Boring depths near the VWE ranged from 37 to 52 feet below existing ground surface. Boring inspection and logs were provided by HNTB. All elevations for existing available LIRR borings are reported in feet and refer to the North American Vertical Datum of 1988 (NAVD 88). The horizontal datum for these borings is the North American Datum of 1983 (NAD 83), with horizontal coordinates provided in the New York Long Island State Plane coordinate system. Existing LIRR boring locations shown on Figures 5 and 6.1 to 6.8 are based on as-built survey coordinates.

5 SUBSURFACE INVESTIGATION PROGRAM

5.1 BORINGS

A preliminary geotechnical subsurface investigation program was carried out consisting of geotechnical borings, laboratory testing, and percolation testing. The field drilling operation was subcontracted by WSP to Warren George, Inc. (WGI) of Jersey City, New Jersey. Full time on-site observation was provided by geotechnical engineers from Entech Engineering, PC of New York, New York, a subconsultant to WSP.

A total of fifty (50) borings, DM-W-01 to DM-W-33 and DM-B-34 to DM-B-50 were performed from September 11 to November 10, 2017. Depths of these borings ranged from approximately 52 to 122 feet below the existing ground surface. An additional four (4) percolation test borings, PT-X-01 to PT-X-04 were performed from April 9 to April 20, 2018. Depths for these borings ranged from 12 to 14 feet below existing ground surface. A summary of the borings is presented in Table 5.1.

Borings were labeled following the NYSDOT GDM protocol for identifying each type of subsurface exploration and the design element for which the exploration was progressed. The abbreviation DM refers to drilling mud, W for retaining wall, B for bridge, PT for percolation test hole, and X for miscellaneous. The boring location key plan is provided on Figure 5. The boring location plans showing the final as-drilled boring locations are provided on Figures 6.1 to 6.8. The official NYSDOT boring logs are included in Appendix A-1.

The geotechnical investigation program was planned and coordinated by WSP geotechnical engineers. NYSDOT participated in the development of the program to review for conformation to the NYSDOT technical requirements, and to assist with logistical requirements for site access and underground utilities protection. The subsurface investigation was generally performed in conformance with the requirements stated in the NYSDOT GDM, Chapter 4, Geotechnical Field Investigation, revision 1, dated December 10, 2013, and Chapter 5, Soil and Rock Classification and Logging, dated June 17, 2013.

Table 5.1 Summary of Exploratory Borings

Boring No.	End of Boring Depth (ft.)	Northing (U.S. Survey Feet)	Easting (U.S. Survey Feet)	Surface Elevation (U.S. Survey Feet)
DM-W-01 (OW)	52	193417.1	1035782.0	44.3
DM-W-02	52	193046.3	1035947.6	41.3
DM-W-03	52	192740.1	1036078.4	42.1
DM-W-04A	5	192739.0	1036339.5	43.1
DM-W-05	52	192551.9	1036157.4	42.9
DM-W-06A	8	192421.5	1036208.4	43.5
DM-W-07 (OW)	52	192349.8	1036239.8	44.0
DM-W-08	52	191864.8	1036449.2	45.8
DM-W-09	52	191896.2	1036697.8	45.1
DM-W-10	52	191625.7	1036556.0	45.8
DM-W-11 (OW)	52	191135.1	1036763.9	43.2
DM-W-12	52	190937.7	1036841.8	42.3
DM-W-13	5	189354.5	1037512.4	36.6
DM-W-14	52	189403.1	1037796.8	37.3
DM-W-15	52	189246.0	1037555.8	37.3
DM-W-16	52	189228.4	1037867.9	37.2
DM-W-17 (OW)	52	188787.3	1037720.5	39.7
DM-W-18B	52	186085.2	1038734.3	29.7
DM-W-19	52	185785.2	1038843.8	28.6
DM-W-20 (OW)	52	185260.1	1039044.1	29.3
DM-W-21B	52	185483.1	1039254.4	28.4
DM-W-22C	52	184712.2	1039243.7	32.8
DM-W-23	52	184381.2	1039244.0	34.5
DM-W-24	52	184106.9	1039248.7	33.6
DM-W-25	52	184131.0	1039566.8	31.5
DM-W-26	52	183847.5	1039235.8	30.5
DM-W-27A	52	183855.6	1039569.1	28.4
DM-W-28	52	183712.4	1039568.6	23.9
DM-W-29	52	183372.0	1039238.8	26.3
DM-W-30 (OW)	52	183445.8	1039571.4	23.7
DM-W-31	52	182727.6	1039175.6	22.0
DM-W-32A	52	182948.3	1039578.5	26.1
DM-W-33	62	181403.4	1038984.4	20.2
DM-W-33B	26	181406.5	1038990.5	20.1
DM-B-34J	24	196682.8	1034749.1	72.3
DM-B-35	30	193807.9	1035612.7	43.3

Boring No.	End of Boring Depth (ft.)	Northing (U.S. Survey Feet)	Easting (U.S. Survey Feet)	Surface Elevation (U.S. Survey Feet)
DM-B-36	77	193548.1	1035723.5	42.5
DM-B-37	102	193258.6	1035852.8	43.9
DM-B-38	77	192120.9	1036602.9	43.8
DM-B-39	122	191582.7	1036843.0	44.5
DM-B-40	77	191444.3	1036625.0	44.7
DM-B-41	102	189798.6	1037625.7	33.5
DM-B-42	122	188144.2	1038323.3	32.6
DM-B-43	102	186361.9	1038987.5	29.5
DM-B-44B	122	185100.4	1039390.5	29.1
DM-B-45	102	183175.8	1039573.4	26.6
DM-B-46	77	182346.9	1039421.8	24.3
DM-B-47	116	182155.3	1039149.6	10.9
DM-B-48	77	181582.8	1039248.9	23.2
DM-B-49	77	181122.4	1039185.1	32.4
DM-B-50B	52	180467.2	1038684.9	20.2
PT-X-01 (OW)	12	187011.2	1038659.5	32.0
PT-X-02	12	187091.8	1038417.2	32.0
PT-X-03	14	181578.1	1039928.2	19.0
PT-X-04 (OW)	14	181498.2	1039370.4	20.1

Note:

1. “OW” indicates borings where groundwater monitoring wells were installed. After percolation testing at depths shown, test borings PT-X-01 and PT-X-04 were drilled to final depths of 45 feet and 25 feet, respectively, for installation of groundwater monitoring wells.
2. Refer to boring logs and boring survey data in Appendices A-1 and A-2, respectively, for descriptions of all borings including abandoned boring attempts and locations of offsets.
3. Horizontal coordinates are reported on the New York State Plane Coordinate System (NYSPCS) of 1983, Long Island Zone (NAD 83) in U.S. survey feet. Elevation is reported on the North American Vertical Datum of 1988 (NAVD 88) in U.S. Survey feet. Refer to Appendix A-2 for the as-drilled boring survey data for all borings.

5.2 SOIL DRILLING AND SAMPLING

The borings were drilled using two truck-mounted mud-rotary drill rigs. Boreholes were advanced by rotary drilling and maintained open using flush-jointed steel casing, when necessary. The One Call utility mark-out request was performed by WGI prior to the start of the investigation. The top six (6) feet were excavated using hand augering tools for utility clearance at all boring locations. Both automatic and safety type hammers were used during the subsurface investigation.

Field exploration work was conducted in general accordance with the standards of the American Society for Testing and Materials (ASTM) and NYSDOT GDM and standard specifications. The borings were drilled through the overburden with Standard Penetration Test (SPT) split-spoon sampling, based on ASTM D1586, Standard Test Method for Standard Penetration Test and Split-Barrel Sampling of Soils. Soil samples were obtained using a 2.0-inch outer diameter, 1-3/8 inch inside diameter, SPT split-barrel sampler driven 24 inches into the soil. The sampler was driven by successive blows of a 140-pound hammer dropped from a height of 30 inches. The SPT N-values represent the number of blows required for 1-foot penetration into the soil after an initial 6-inch driven “seating” depth.

Entech engineers provided observation of the drilling and sampling and prepared field boring logs which included sample depths, SPT blow counts, and sample recovery. In general, soil sampling was performed continuously from the existing ground surface down to a depth of 12 feet, and at 5 foot intervals below that depth. All soil samples were collected, stored, and transported with care to preserve sample integrity at all times. Split-barrel samples were collected and stored in water tight glass jars to maintain in situ moisture content. A sufficient amount of sample was collected, based on the actual sample recovery, to meet laboratory sample size testing requirements.

Several borings were terminated before reaching the intended termination depth due to the presence of obstructions; borings were terminated at depths up to 24 feet below the existing ground surface. These borings were abandoned, backfilled, and offset to another location. The boring logs provided by the NYSDOT indicate an adjacent continuation of these borings. Drilling mud was lost during several occasions due to gravel layers, boulders and other obstructions. Notes on the boring logs and the boring survey data in Appendices A-1 and A-2, respectively, describe abandoned boring attempts and locations of offsets.

The boring logs in Appendix A-1 were prepared by NYSDOT GEB and include descriptions and classifications for soil samples, SPT N-Values, surveyed locations and surface elevations, and boring depths. The performance of the borings required maintenance and protection of pedestrian and vehicular (to some extent) traffic. Any penetration of asphalt or concrete pavement made during the drilling operation was repaired with equal or similar material. All borings, except the ones with installed groundwater monitoring wells, were backfilled with soil cuttings and the surface patched upon completion.

No environmental investigations or sampling were performed as part of the geotechnical investigation. The soil samples were transported to NYSDOT GEB for laboratory testing. Laboratory testing of soil samples, except for the percolation test borings, was performed by

NYSDOT GEB in Albany, New York. The samples from the percolation test borings were transported to TerraSense, LLC, in Totowa, New Jersey.

5.3 GROUNDWATER OBSERVATION WELLS

A total of six (6) groundwater monitoring wells were installed. Each observation well consists of a nominal 2-inch diameter poly-vinyl chloride (PVC) pipe set in an open hole. The lower section of the pipe is slotted and the bottom capped, and the annular space around the pipe is backfilled with filter sand. Bentonite seals were installed above and below the filter sand.

Water levels were measured using an electric water-level indicator consisting of a weighted electric probe attached to a length of cable that is marked at intervals. Groundwater levels were recorded between September 21, 2017 and May 24, 2018. Groundwater observation data for all monitoring wells is provided in Table 5.2. Groundwater observation well installation logs for percolation test borings PT-X-01 and PT-X-04 are provided in Appendix A-7.

Table 5.2 Summary of Groundwater Observations for Monitoring Wells

Boring/Well No.	Surface Elevation (US Survey ft.)	Date Installed	Screen Depth Range (ft.)	Date	Time	Ground Water Depth (ft.)	Ground Water Elevation (ft.)
DM-W-1	44.3	9/28/2017	40 - 50	10/3/2017	10:45 AM	25.9	18.4
				10/6/2017	9:10 AM	25.9	18.4
				10/10/2017	12:10 PM	25.9	18.4
				10/13/2017	12:15 PM	26.0	18.3
				10/16/2017	8:45 AM	25.9	18.4
				10/18/2017	11:15 AM	26.0	18.3
				10/23/2017	12:10 PM	26.0	18.3
				10/27/2017	1:15 PM	26.0	18.3
				11/1/2017	8:30 AM	25.9	18.3
				11/3/2017	2:10 PM	25.9	18.3
				11/7/2017	12:45 PM	25.9	18.4
				11/8/2017	3:15 PM	26.0	18.3
				11/9/2017	11:20 AM	26.0	18.3
				1/24/2018	9:00 AM	26.3	18.0
				4/19/2018	12:30 PM	25.6	18.7
				5/24/2018	10:45 AM	25.5	18.8
DM-W-7	44.0	9/22/2017	40 - 50	9/25/2017	9:30 AM	26.7	17.3
				9/29/2017	9:30 AM	26.6	17.4
				10/3/2017	10:30 AM	26.7	17.3
DM-W-11	43.2	9/22/2017	36 - 46	9/25/2017	2:55 PM	27.6	15.6
				9/29/2017	1:00 PM	28.0	15.2
				10/6/2017	1:00 PM	28.1	15.1
				11/7/2017	10:30 AM	28.2	15.0
				11/8/2017	3:05 PM	28.2	15.0
				11/9/2017	11:10 AM	28.2	15.0
				1/24/2018	9:30 AM	28.4	14.8
				4/20/2018	3:30 PM	27.9	15.3
				5/24/2018	10:57 AM	27.5	15.7
DM-W-17	39.7	9/21/2017	35 - 45	9/25/2017	3:10 PM	26.7	13.0
				9/29/2017	1:00 PM	26.0	13.7
				10/6/2017	1:00 PM	26.9	12.8
				11/7/2017	10:45 AM	26.9	12.8
				11/8/2017	2:55 PM	26.9	12.8
				11/9/2017	11:00 AM	26.6	13.1
				1/24/2018	10:00 AM	27.1	12.6
				4/20/2018	3:00 PM	26.2	13.6
				5/24/2018	11:10 AM	26.2	13.6

Boring/Well No.	Surface Elevation (U.S. Survey feet)	Date Installed	Screen Depth Range (ft.)	Date	Time	Ground Water Depth (ft.)	Ground Water Elevation (ft.)
DM-W-20	29.3	9/20/2017	20 - 30	9/21/2017	2:40 PM	21.0	8.3
				9/29/2017	1:00 PM	21.3	8.0
				10/6/2017	1:00 PM	21.4	7.9
				11/7/2017	10:00 AM	19.3	10.0
				11/8/2017	2:45 PM	21.3	8.0
				11/9/2017	10:50 AM	21.3	8.0
				1/24/2018	10:15 AM	21.5	7.8
				4/19/2018	1:00 PM	20.4	8.9
				5/24/2018	11:25 AM	20.6	8.7
DM-W-30	23.7	9/26/2017	36 - 46	9/29/2017	1:00 PM	16.7	7.0
				10/6/2017	1:00 PM	18.0	5.7
				11/7/2017	11:05 AM	18.3	5.4
				11/8/2017	2:35 PM	18.3	5.4
				11/9/2017	10:40 AM	18.3	5.4
				1/24/2018	10:45 AM	18.5	5.2
				4/19/2018	1:30 PM	17.3	6.4
				5/24/2018	11:33 AM	17.5	6.2
PT-X-01	32.0	4/13/2018	34 - 44	4/19/2018	1:50 PM	20.3	11.7
				4/20/2018	4:50 PM	20.4	11.6
				4/26/2018	8:20 PM	20.4	11.6
				5/9/2018	7:40 PM	20.5	11.5
				5/24/2018	10:24 AM	20.3	11.6
PT-X-04	20.1	4/18/2018	14 - 24	4/19/2018	1:10 PM	15.6	4.5
				4/20/2018	4:00 PM	15.7	4.5
				4/26/2018	8:36 PM	15.6	4.5
				5/9/2018	7:57 PM	15.9	4.3
				5/24/2018	11:48 AM	15.8	4.3

Note:

1. All groundwater depth reading units are in feet below existing ground surface.
2. Elevation is reported on the North American Vertical Datum of 1988 (NAVD 88) in U.S. Survey feet.

5.4 PERCOLATION TESTING

In addition to the 50 test borings, an additional total of four (4) test borings for percolation testing were performed along the Van Wyck Expressway between 115th and 116th Avenue and near the Belt Parkway for initial feasibility testing of proposed biorentention areas and ponds for the stormwater management systems. Percolation tests were performed in general accordance with the procedures for hydraulic conductivity testing methods from NYSDOT GDM Chapter 4, Geotechnical Field Investigation, Section 4.3.2.7.1, and the infiltration testing requirements from NYS Stormwater Management Design Manual, Appendix D.

A solid 4-inch diameter steel casing was installed to the depths of the bottom of the proposed absorption trenches, cleaned of loose debris, filled with coarse sand over the bottom, and saturated for twenty-four hours. The percolation rate measurements were obtained by filling the hole with approximately 24 inches of clean water and then measuring the drop over one hour increments. This procedure (filling the casing each time) was repeated three additional times. The final field rate of infiltration for each percolation test boring is the average rate of the four drops after each filling with water. Split spoon samples were taken continuously to a depth of four feet below bottom of casing after the testing was complete.

The percolation test boring logs, percolation test reports with infiltration data, and laboratory testing data on grab and SPT split spoon samples collected from the percolation test borings are provided in Appendices A-4, A-5, and A-6, respectively.

5.5 SURVEY DATUM & COORDINATE SYSTEM

The as-drilled locations and ground elevations of the borings were surveyed by B. Thayer Associates of Long Island City, New York, a subconsultant to WSP. Elevations are reported on the North American Vertical Datum of 1988 (NAVD 88) in U.S. survey feet. Horizontal coordinates are reported on the New York State Plane Coordinate System (NYSPCS) of 1983, Long Island Zone (NAD 83) in U.S. survey feet.

The as-drilled boring survey data for all borings is provided in Appendix A-2.

5.6 LABORATORY TESTING

NYSDOT GEB selected samples for laboratory analyses. All laboratory testing and soil classification, except for the percolation test borings, was performed by the NYSDOT GEB. The laboratory test results received from NYSDOT are included in Appendix A-3. The following laboratory tests were performed in accordance with NYSDOT Geotechnical Test Methods, except for the determination of sulfate and chloride content in soil which were performed in accordance with AASHTO:

- Eight hundred and two (802) natural moisture content tests, performed on specimens obtained from disturbed split spoon samples.

- Three hundred and eighty-two (382) particle size (gradation) analyses, consisting of mechanical sieve and hydrometer analyses. Hydrometer analyses were only performed on eighty-two (82) out of the 382 total particle size analyses.
- Fifteen (15) Atterberg limit tests (liquid and plastic limits), performed on specimens obtained from disturbed split spoon samples.
- Eighty-two (82) specific gravity tests, used to determine the specific gravity of soil solids passing a sieve by means of a water pycnometer. The specific gravity of a soil solids is used in calculating the phase relationships of soils, such as void ratio and degree of saturation.
- Thirteen (13) tests to determine the pH value of soil by pH meter. The pH value is a measure of a solution's alkaline versus acid strength.
- Six (6) tests to determine water-soluble sulfate ion content in soil following AASHTO T 290 and six (6) tests to determine water-soluble chloride ion content in soil following AASHTO T 291.

The water content of nearly all the samples recovered in the borings was determined. The water content provided on official NYSDOT boring logs in Appendix A-1 shows water content percentage for all soil samples tested.

The following laboratory tests were performed by TerraSense, LLC on disturbed samples collected from the percolation test borings in accordance with the testing standards listed in brackets:

- Twenty (20) natural moisture content tests (ASTM D2216), performed on specimens obtained from disturbed split spoon samples.
- Eight (8) particle size (gradation) analyses (ASTM D6913), consisting of mechanical sieve analyses. No hydrometer analyses were performed on samples collected from percolation test borings.

The laboratory test results for the percolation test borings are included in Appendix A-6.

6 LIMITATIONS

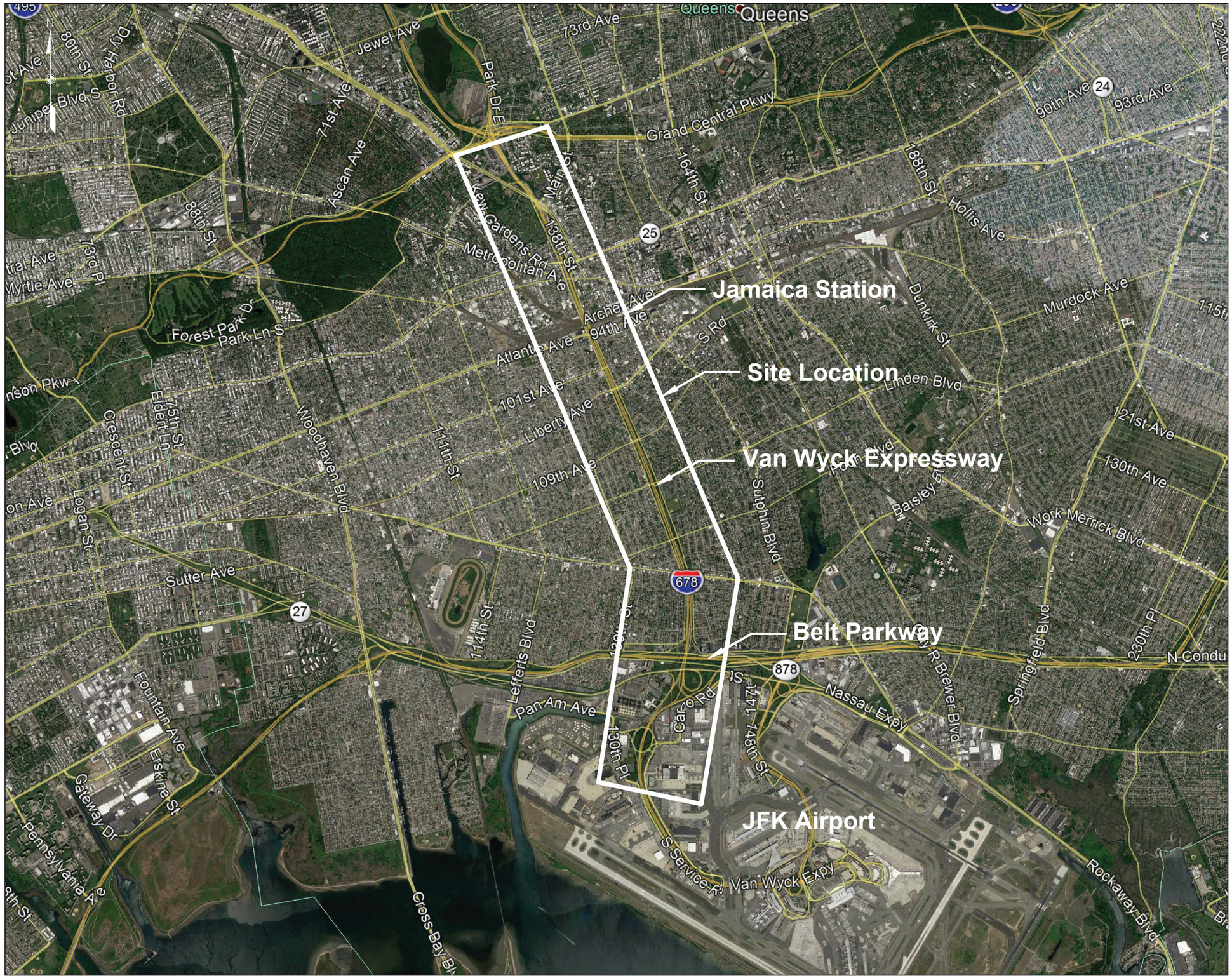
The data presented in this report represent site conditions during the time period in which the work was performed and are valid as of the date of preparation. However, changes in the condition of the project site can occur over time as a result of either natural processes or human activity. Soil properties, groundwater, and sea and tide level conditions may vary seasonally and over time.

The data obtained during these investigations are also from a limited number of observations, borings, samples, and tests, and are specific to the locations explored. The data does not completely define subsurface conditions throughout the project site, which may vary within short distances. This warranty is in lieu of all other warranties, either expressed or implied. Existing data collected from other projects not under WSP's supervision are for information only. Methods of investigation and testing used by others may be different from those used by WSP.

Furthermore, the investigations did not include the evaluation or assessment of any potential environmental hazards or groundwater contamination that may be present at the project site. Laboratory testing performed on the soil samples, retrieved from the borings, did not include any environmental testing. This report does not include any investigation and/or testing related to potential chemical, toxic, radioactive, fungal, or other types of contaminants on site. We understand that such investigations will be performed by others.

7 REFERENCES

1. New York State Department of Transportation. (2018). Geotechnical Design Manual. New York, N.Y.: Geotechnical Engineering Bureau Office of Technical Services.
2. New York State Department of Transportation. (2018). Geotechnical Test Methods. New York, N.Y.: Geotechnical Engineering Bureau Office of Technical Services.
3. Cadwell, D. H. (1989). Surficial Geologic Map of New York - Lower Hudson Sheet: New York State Museum and Science Service, Map and Chart Series 40, scale 1:250,000.
4. Fisher, D.W., Isachsen, Y.W., and Rickard, L.V. (1970). Geologic map of New York State; Lower Hudson sheet: New York State Museum and Science Service, Map and Chart Series 15, scale 1:250,000.
5. Soren, J. (1978). Subsurface geology and paleogeography of Queens County, Long Island, New York: U.S. Department of the Interior U.S. Geological Survey, New York State Department of Environmental Conservation, Water-Resources Investigations Report 77-84
6. AASHTO T 290, Standard Method of Test for Determining Water-Soluble Sulfate Ion Content in Soil, Standard by American Association of State and Highway Transportation Officials, 1995
7. AASHTO T 291, Standard Method of Test for Determining Water-Soluble Chloride Ion Content in Soil, Standard by American Association of State and Highway Transportation Officials, 1994
8. ASTM D1586-11, Standard Test Method for Standard Penetration Test (SPT) and Split-Barrel Sampling of Soils, ASTM International, West Conshohocken, PA, 2011, www.astm.org
9. ASTM D2216-10, Standard Test Methods for Laboratory Determination of Water (Moisture) Content of Soil and Rock by Mass, ASTM International, West Conshohocken, PA, 2010, www.astm.org
10. ASTM D6913 / D6913M-17, Standard Test Methods for Particle-Size Distribution (Gradation) of Soils Using Sieve Analysis, ASTM International, West Conshohocken, PA, 2017, www.astm.org
11. ASTM D2488-17e1, Standard Practice for Description and Identification of Soils (Visual-Manual Procedures), ASTM International, West Conshohocken, PA, 2017, www.astm.org



Reference: Google Earth. (2018). Van Wyck Expressway, Queens, New York. 40°41'16.55"N, 73°48'32.86"W, Eye Alt 49670 feet. Retrieved April 15, 2019 from http://www.earth.google.com.

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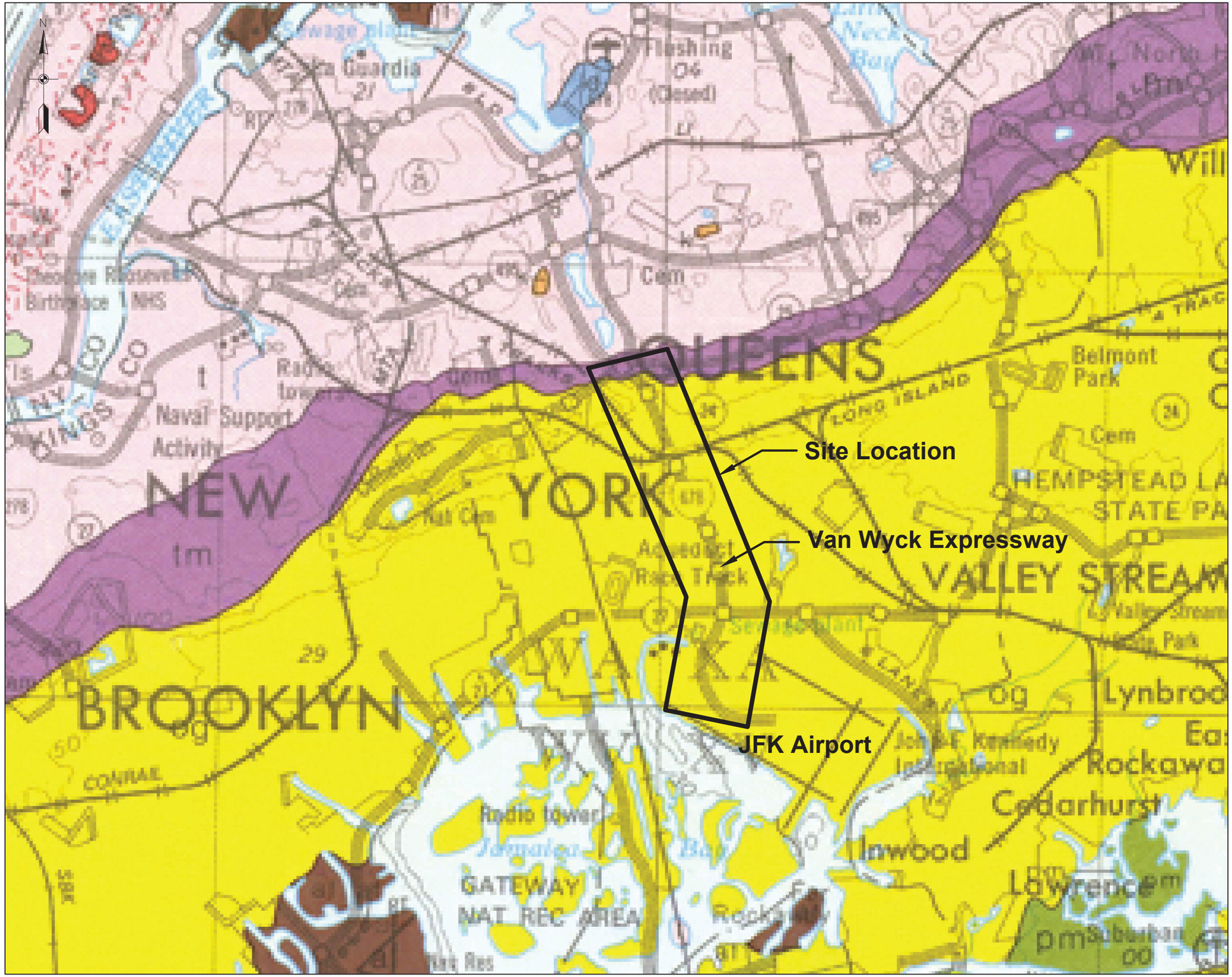
Project
Van Wyck Expressway Capacity and Access Improvements to JFK Airport Project, Queens County, New York

Drawing Title
Site Location Plan

Figure No.: 1

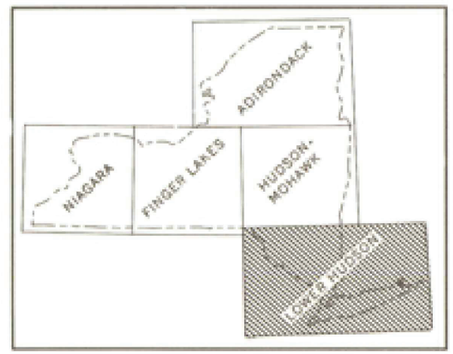
Drawn By: EZ | Scale: NTS | Date: 4/2019



og — Outwash sand and gravel
Coarse to fine gravel with sand,
proglacial fluvial deposition,
well rounded and stratified,
generally finer texture away from ice border,
thickness variable (2-20 meters).

tm — Till moraine
More variably sorted than till,
generally more permeable than till,
deposition adjacent to ice,
more variably drained,
may include ablation till,
thickness variable (10-30 meters).

t — Till
Variable texture (e.g. clay, silt-clay, boulder clay),
usually poorly sorted diamict,
deposition beneath glacier ice,
relatively impermeable (loamy matrix),
variable clast content — ranging from abundant well-rounded diverse lithologies in valley tills to relatively angular, more limited lithologies in upland tills,
tends to be sandy in areas underlain by gneiss or sandstone,
potential land instability on steep slopes,
thickness variable (1-50 meters).



Reference: Cadwell, D. H. (1989). Surficial Geologic Map of New York - Lower Hudson Sheet: New York State Museum and Science Service, Map and Chart Series 40, scale 1:250,000.

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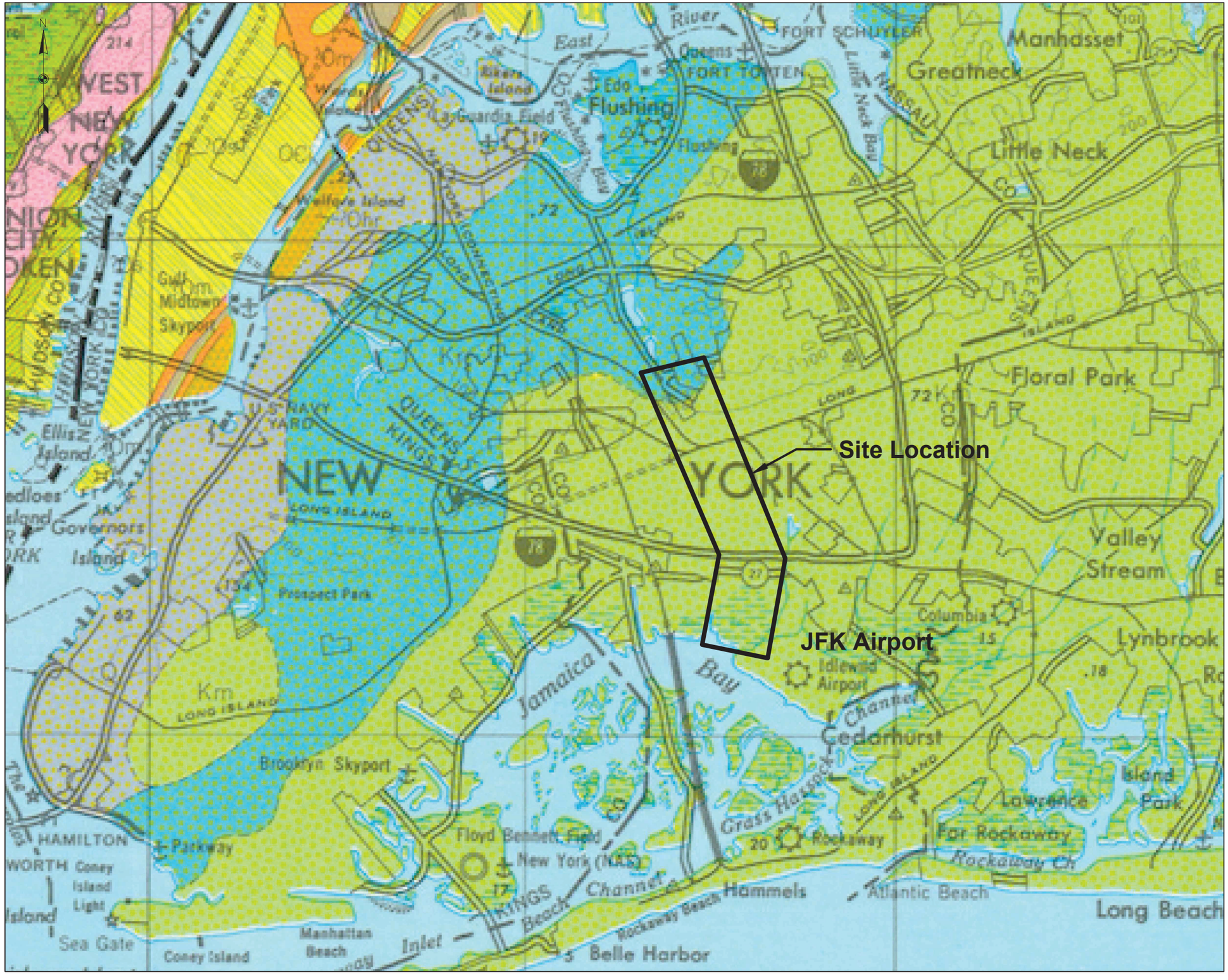
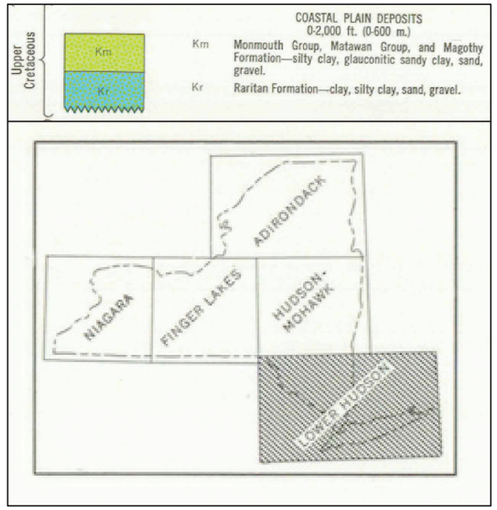
Project
Van Wyck Expressway Capacity and Access Improvements to JFK Airport Project, Queens County, New York

Drawing Title
Surficial Geology Map

Figure No.: 2

Drawn By: EZ | Scale: NTS | Date: 4/2019





Reference: Fisher, D.W., Isachsen, Y.W., and Rickard, L.V. (1970). Geologic map of New York State; Lower Hudson sheet: New York State Museum and Science Service, Map and Chart Series 15, scale 1:250,000.

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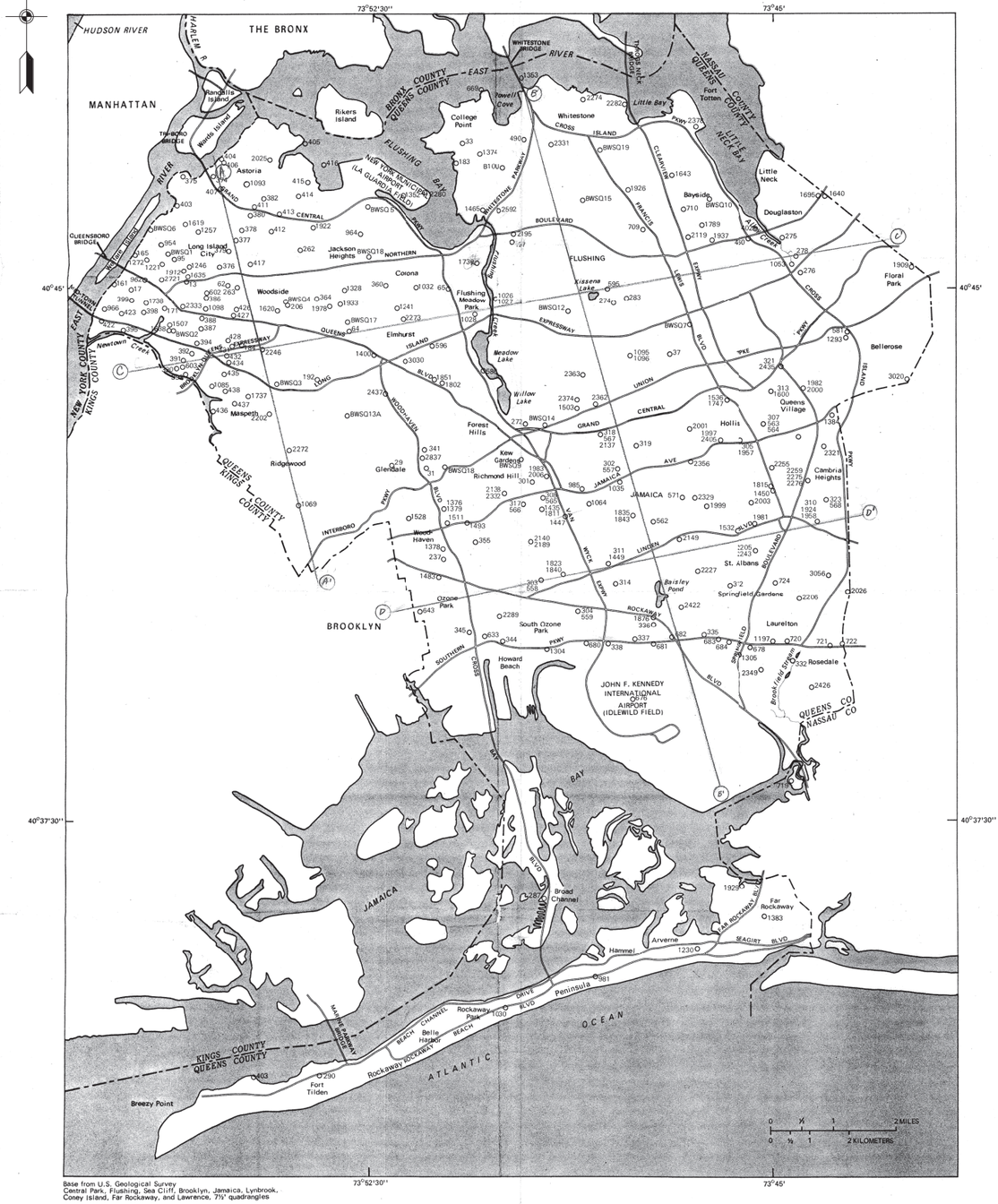
Project
Van Wyck Expressway Capacity and Access Improvements to JFK Airport Project, Queens County, New York

Drawing Title
Coastal Plain Deposit Map

Figure No.: 3

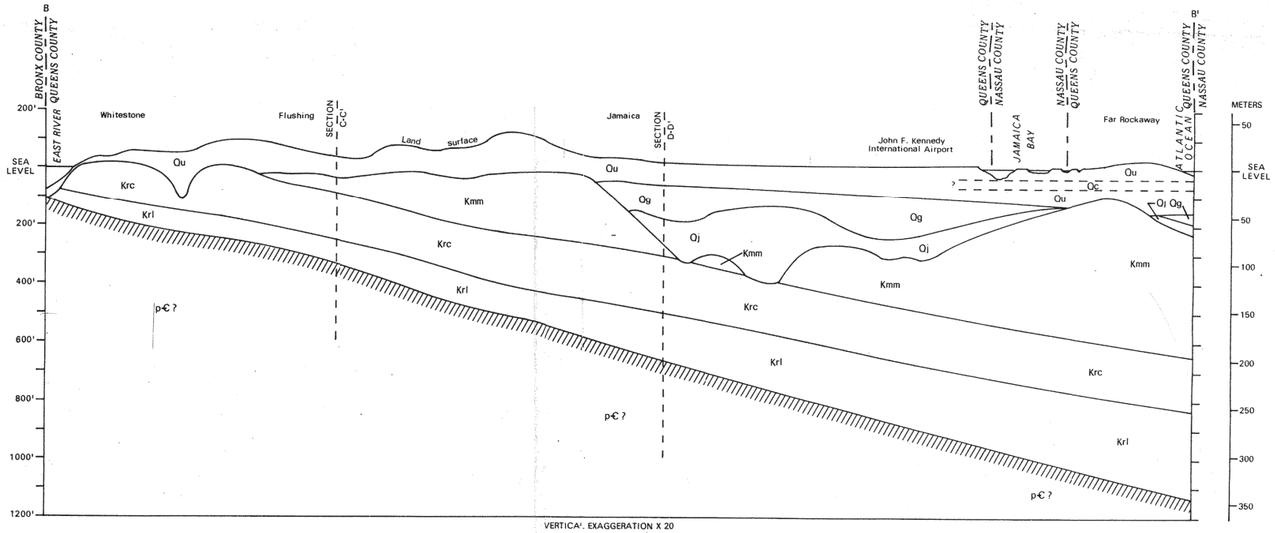
Drawn By: EZ	Scale: NTS	Date: 4/2019

PREPARED BY THE
UNITED STATES DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY



Base from U.S. Geological Survey
Central Park, Flushing, Sea Cliff, Brooklyn, Jamaica, Lynbrook, Coney Island, Far Rockaway, and Lawrence, 7½' quadrangles

A. LOCATIONS OF SELECTED WELLS IN QUEENS COUNTY



EXPLANATION

SECTIONS

Qu Qc — Upper Pleistocene deposits

Thin Holocene deposits are not shown; include "20-foot" clay, Qc

UNCONFORMITY

Qg — Gardiners Clay

Qj — Jameco Gravel

UNCONFORMITY

Kmm — Magothy Formation-Matawan Group undifferentiated

DISCONFORMITY

Krc — Clay member

Krl — Lloyd Sand Member

UNCONFORMITY

p€ ? — Bedrock

Pleistocene — Sangamon Interglaciation Wisconsin Glaciation — QUATERNARY

Upper Cretaceous — Portlan Formation — CRETACEOUS

PRE-CAMBRIAN ?

MAP

o1064 — Well or test boring

Prefix letter "Q" (Queens) is omitted from well number except for prefix letters "BWSQ" which dence special test boring by New York City, Boar of Water Supply, and prefix letter "B" whic denotes New York City Planning Depart-mentest boring

Reference: Soren, J. (1978). Subsurface geology and paleogeography of Queens County, Long Island, New York: U.S. Department of the Interior U.S. Geological Survey, New York State Department of Environmental Conservation, Water-Resources Investigations Report 77-84

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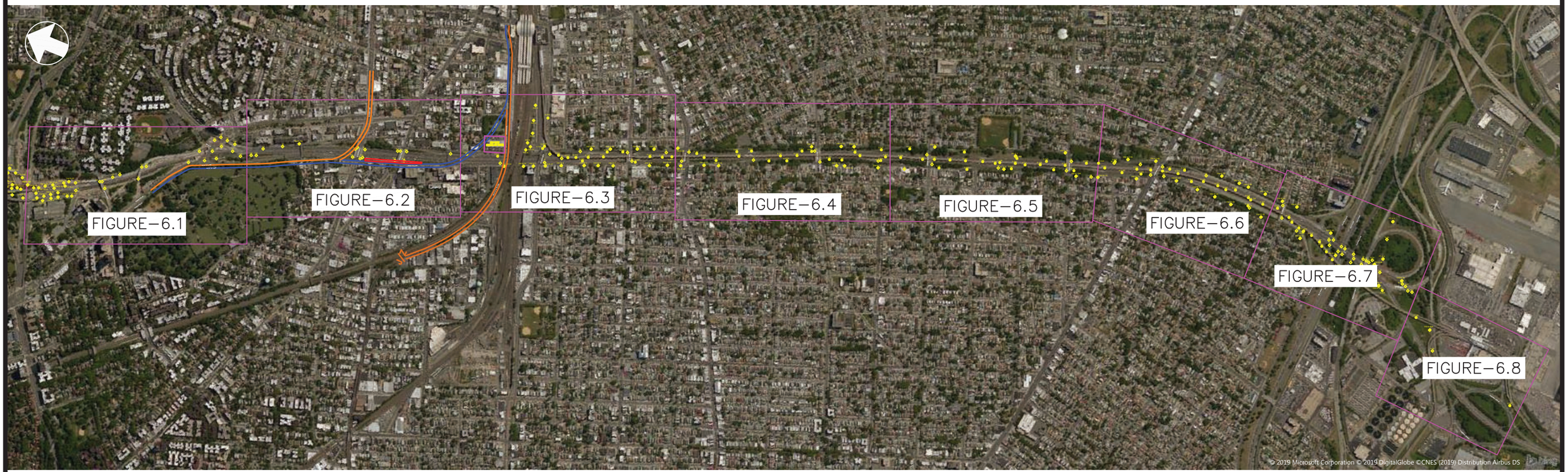
Project
Van Wyck Expressway Capacity and Access Improvements to JFK Airport Project, Queens County, New York

Drawing Title
Well Map and Geologic Section

Figure No.: 4

Drawn By: EZ | Scale: NTS | Date: 4/2019



BORING LOCATION KEY PLAN

GENERAL NOTES:

1. FINAL AS–DRILLED BORING LOCATIONS SHOWN FOR PIN X735.82. HORIZONTAL COORDINATES ARE REPORTED ON NEW YORK STATE PLANE COORDINATE SYSTEM (NYSPCS) OF 1983, LONG ISLAND ZONE (NAD 83) HORIZONTAL DATUM IN U.S. SURVEY FEET, AND ELEVATION IS REPORTED ON THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88) IN U.S. SURVEY FEET. REFER TO BORING LOGS IN APPENDIX A FOR DETAILED DESCRIPTIONS OF SUBSURFACE CONDITIONS ENCOUNTERED.
2. EXISTING NYSDOT AND PANYNJ AIRTRAIN BORING LOCATIONS SHOWN ARE APPROXIMATE AND BASED ON AVAILABLE AERIAL LOCATION PLANS. ACTUAL AS–DRILLED LOCATIONS SHOULD BE VERIFIED BY THE CONTRACTOR USING THE AVAILABLE INFORMATION IN APPENDIX B. REFER TO BORING LOGS IN APPENDIX B FOR DETAILED DESCRIPTIONS OF SUBSURFACE CONDITIONS ENCOUNTERED.
3. LOCATIONS AND EXTENTS SHOWN OF EXISTING NYCT TUNNELS AND STRUCTURES ARE APPROXIMATE. ACTUAL LOCATIONS SHOULD BE VERIFIED BY THE CONTRACTOR.

LEGEND:

- NYSDOT TEST BORING PIN X735.82
- NYSDOT TEST BORING PIN X735.75
- PANYNJ AIRTRAIN TEST BORING
- EXISTING NYSDOT TEST BORING
- EXISTING LIRR BORING

wsp

VAN WYCK EXPRESSWAY CAPACITY AND ACCESS IMPROVEMENTS TO JFK AIRPORT PROJECT QUEENS COUNTY

BORING LOCATION KEY PLAN

SCALE: N.T.S.	DATE: JUNE 2019	**FIGURE 5**
DRAWN BY: J. MORALES	CHECKED BY: E. ZEQJA	

MATCH LINE — SEE FIGURE 6.2

NOTE:

1. SEE FIGURE 5 FOR GENERAL NOTES.

LEGEND:

- NYSDOT TEST BORING PIN X735.82
- NYSDOT TEST BORING PIN X735.75
- PANYNJ AIRTRAIN TEST BORING
- EXISTING NYSDOT TEST BORING
- EXISTING LIRR BORING

0 200 400

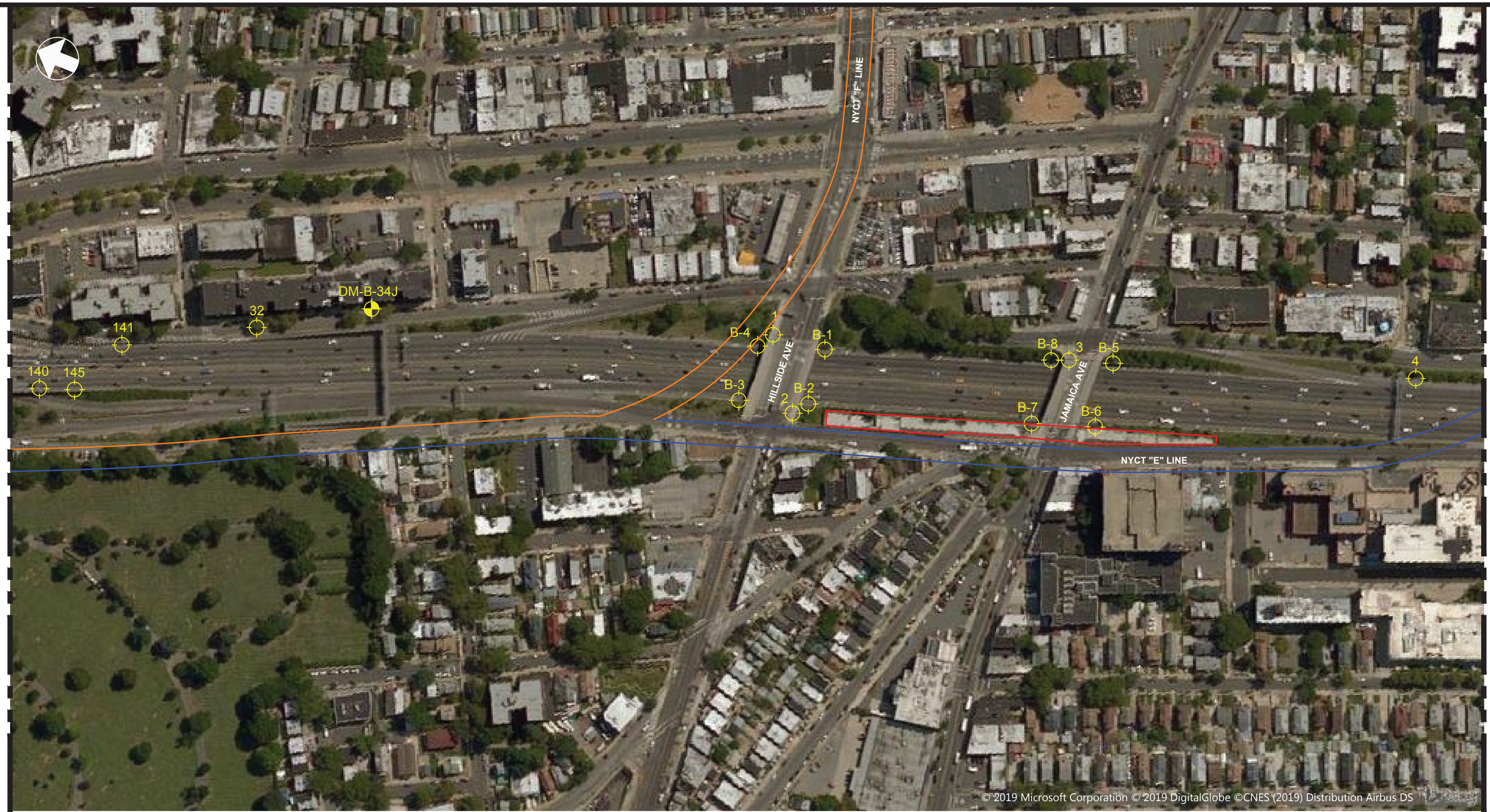
SCALE IN FEET

wsp

VAN WYCK EXPRESSWAY CAPACITY AND ACCESS IMPROVEMENTS TO JFK AIRPORT PROJECT QUEENS COUNTY

BORING LOCATION PLAN

SCALE: 1" = 200	DATE: JUNE 2019	**FIGURE 6.1**
DRAWN BY: J. MORALES	CHECKED BY: E. ZEQJA	



NOTE:

1. SEE FIGURE 5 FOR GENERAL NOTES.

LEGEND:

- NYSDOT TEST BORING PIN X735.82
- NYSDOT TEST BORING PIN X735.75
- PANYNJ AIRTRAIN TEST BORING
- EXISTING NYSDOT TEST BORING
- EXISTING LIRR BORING

0 200 400

SCALE IN FEET

wsp

VAN WYCK EXPRESSWAY CAPACITY AND ACCESS IMPROVEMENTS TO JFK AIRPORT PROJECT QUEENS COUNTY

BORING LOCATION PLAN

SCALE: 1" = 200	DATE: JUNE 2019	**FIGURE 6.2**
DRAWN BY: J. MORALES	CHECKED BY: E. ZEQJA	

MATCH LINE – SEE FIGURE 6.2

MATCH LINE – SEE FIGURE 6.4

NYCT "E" LINE

NYCT "J" & "Z" LINE

ARCHER AVE

ATLANTIC AVE

101 ST AVE

(NYC TRANSIT ELECTRICAL SUB-STATION)

RW-1 RW-2 RW-3 RW-8 RW-9 RW-10

4-150 4-149 4-147 4-148

5-065P 5-064 5-063 5-062 5-061 5-273 5-272 5-271 5-270 5-269

3-857 3-856 3-855

5 6 7 9 10 33 34 35

DM-B-35 DM-B-36 DM-B-37 DM-B-38

DM-W-1 DM-W-2 DM-W-3 DM-W-4A DM-W-5 DM-W-6A DM-W-7 DM-W-8 DM-W-9 DM-W-10

NOTE:

1. SEE FIGURE 5 FOR GENERAL NOTES.

LEGEND:

- NYSDOT TEST BORING PIN X735.82
- NYSDOT TEST BORING PIN X735.75
- PANYNJ AIRTRAIN TEST BORING
- EXISTING NYSDOT TEST BORING
- EXISTING LIRR BORING

0 200 400

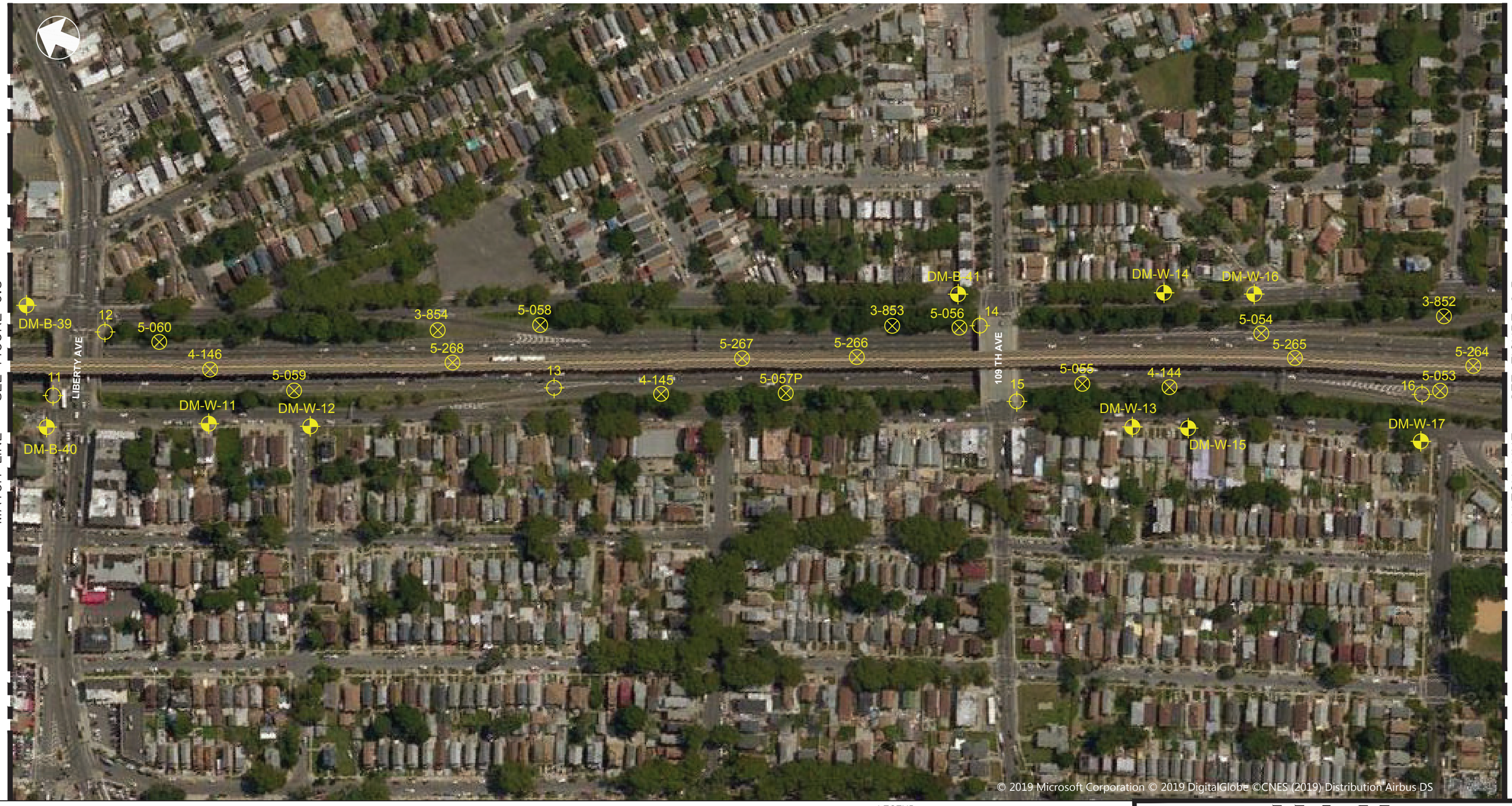
SCALE IN FEET

wsp

VAN WYCK EXPRESSWAY CAPACITY AND ACCESS IMPROVEMENTS TO JFK AIRPORT PROJECT QUEENS COUNTY

BORING LOCATION PLAN

SCALE: 1" = 200	DATE: JUNE 2019	**FIGURE 6.3**
DRAWN BY: J. MORALES	CHECKED BY: E. ZEQJA	



NOTE:

1. SEE FIGURE 5 FOR GENERAL NOTES.

LEGEND:

- NYSDOT TEST BORING PIN X735.82
- NYSDOT TEST BORING PIN X735.75
- PANYNJ AIRTRAIN TEST BORING
- EXISTING NYSDOT TEST BORING
- EXISTING LIRR BORING

0 200 400

SCALE IN FEET

wsp

VAN WYCK EXPRESSWAY CAPACITY AND ACCESS IMPROVEMENTS TO JFK AIRPORT PROJECT QUEENS COUNTY

BORING LOCATION PLAN

SCALE: 1" = 200	DATE: JUNE 2019	**FIGURE 6.4**
DRAWN BY: J. MORALES	CHECKED BY: E. ZEQJA	

MATCH LINE – SEE FIGURE 6.4

MATCH LINE – SEE FIGURE 6.6

DM-B-42
5-052
3-851
17
5-263
4-143
LINDEN BLVD
5-262
5-261
5-260
18
5-051
36
5-050
5-259
4-142
5-258
19
PT-X-2
5-049
PT-X-1
3-850
5-257
4-141
5-256
5-048
DM-B-43
21
4-139
5-255
FOCH BLVD
4-140
20
5-047
DM-W-18B
37

NOTE:

1. SEE FIGURE 5 FOR GENERAL NOTES.

LEGEND:

- NYSDOT TEST BORING PIN X735.82
- NYSDOT TEST BORING PIN X735.75
- PANYNJ AIRTRAIN TEST BORING
- EXISTING NYSDOT TEST BORING
- EXISTING LIRR BORING

0 200 400

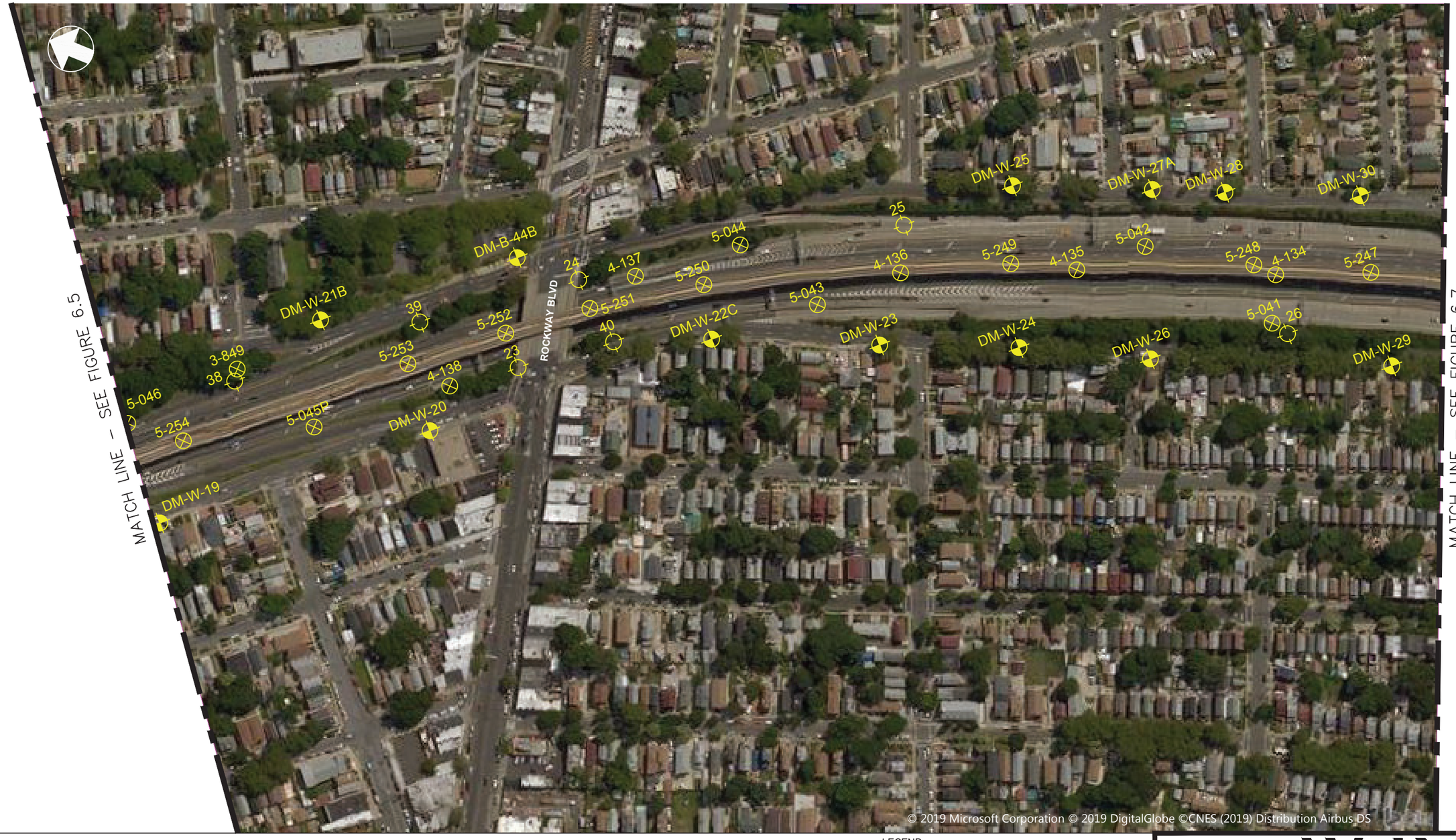
SCALE IN FEET

wsp

VAN WYCK EXPRESSWAY CAPACITY AND ACCESS IMPROVEMENTS TO JFK AIRPORT PROJECT QUEENS COUNTY

BORING LOCATION PLAN

SCALE: 1" = 200	DATE: JUNE 2019	**FIGURE 6.5**
DRAWN BY: J. MORALES	CHECKED BY: E. ZEQJA	



NOTE:

1. SEE FIGURE 5 FOR GENERAL NOTES.

LEGEND:

- NYSDOT TEST BORING PIN X735.82
- NYSDOT TEST BORING PIN X735.75
- PANYNJ AIRTRAIN TEST BORING
- EXISTING NYSDOT TEST BORING
- EXISTING LIRR BORING

0 200 400

SCALE IN FEET

wsp

VAN WYCK EXPRESSWAY CAPACITY AND ACCESS IMPROVEMENTS TO JFK AIRPORT PROJECT QUEENS COUNTY

BORING LOCATION PLAN

SCALE: 1" = 200	DATE: JUNE 2019	**FIGURE 6.6**
DRAWN BY: J. MORALES	CHECKED BY: E. ZEQJA	

MATCH LINE – SEE FIGURE 6.6

MATCH LINE – SEE FIGURE 6.8

NOTE:

1. SEE FIGURE 5 FOR GENERAL NOTES.

LEGEND:

- NYSDOT TEST BORING PIN X735.82
- NYSDOT TEST BORING PIN X735.75
- PANYNJ AIRTRAIN TEST BORING
- EXISTING NYSDOT TEST BORING
- EXISTING LIRR BORING

0 200 400

SCALE IN FEET

wsp

VAN WYCK EXPRESSWAY CAPACITY AND ACCESS IMPROVEMENTS TO JFK AIRPORT PROJECT QUEENS COUNTY

BORING LOCATION PLAN

SCALE: 1" = 200	DATE: JUNE 2019	**FIGURE 6.7**
DRAWN BY: J. MORALES	CHECKED BY: E. ZEQJA	

NOTE:

1. SEE FIGURE 5 FOR GENERAL NOTES.

LEGEND:

- NYSDOT TEST BORING PIN X735.82
- NYSDOT TEST BORING PIN X735.75
- PANYNJ AIRTRAIN TEST BORING
- EXISTING NYSDOT TEST BORING
- EXISTING LIRR BORING

0 200 400

SCALE IN FEET

WSP

VAN WYCK EXPRESSWAY CAPACITY AND ACCESS IMPROVEMENTS TO JFK AIRPORT PROJECT QUEENS COUNTY

BORING LOCATION PLAN

SCALE: 1" = 200	DATE: JUNE 2019	**FIGURE 6.8**
DRAWN BY: J. MORALES	CHECKED BY: E. ZEQJA	

APPENDIX

A SUBSURFACE DATA

APPENDIX

A-1 OFFICIAL NYSDOT GEOTECHNICAL ENGINEERING BUREAU BORING LOGS PIN X735.82

SM 282 E 12/02

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
GEOTECHNICAL ENGINEERING BUREAU
SUBSURFACE EXPLORATION LOG

PSN 12505 BORNUM 1
REGION 11
COUNTY QUEENS
PIN X735.82
PROJECT VAN WYCK EXPRESSWAY WIDENING

HOLE DM-W-1
LINE
STA
OFFSET ft
SURF. ELEV. 44.3
DEPTH TO WATER SEE NOTE

ACTUAL COORDINATES (N) 193,417.120 (E) 1,035,782.000 **DATUM** NAD83
DATE START 28-SEP-2017 **DATE FINISH** 28-SEP-2017

CASING	**O. D.**	4 1/2	**in**	**I. D.**	4	**in**	**WT OF HAMMER-CASING**	140	**lb**	**HAMMER FALL-CASING**	30 **in**
SAMPLER	**O. D.**	2	**in**	**I. D.**	1 3/8	**in**	**WT OF HAMMER-SAMPLER**	140	**lb**	**HAMMER FALL-SAMPLER**	30 **in**

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)	DESCRIPTION OF SOIL AND ROCK	
	0.0	J1					10%	(0.00) Brown Silty GRAVEL Sandy	(M-NPL)
		J2					15%	(2.00) Brown Gravelly SILT Clayey	(M-LPL)
	5.0	J3					15%	(4.00) Brown Clayey SILT Sandy With Gravel Pieces	(M-LPL)
		J4	17	30	20	25	4%	(6.00) Brown Sandy GRAVEL	(M-NPL)
	10.0	J5	32	26	32	24	5%		
		J6	20	17	15	13	13%	(10.00) Brown SAND With Gravel Pieces And Mica	(M-NPL)
	15.0	J7	7	11	12	15	14%	(15.00) Brown Gravelly Coarse SAND With Mica	(M-NPL)
	20.0	J8	9	9	9	9	16%	(20.00) Brown Coarse SAND With Gravel Pieces And Mica	(M-NPL)
	25.0								

The subsurface information shown here was obtained for design and estimate purposes. It is made available so that users may have access to the same information available to the State. It is presented in good faith. By the nature of the exploration process, the information represents only a small fraction of the total volume of the material at the site. Interpolation between data samples may not be indicative of the actual material encountered.

CONTRACT _____ **CONTRACTOR** Warren George

DRILL RIG OPERATOR S.LAURENZA
SOIL & ROCK DESCRIPTION D.LANDAU/J.RYBICKI
REG GEOTECHNICAL ENGINEER Prakash C. Roy
DATE APPROVED 08-JUL-2019 REVISION # 2
RESIDENT ENGINEER
STRUCTURE NAME **B.I.N.**

SM 282 E 12/02

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
GEOTECHNICAL ENGINEERING BUREAU
SUBSURFACE EXPLORATION LOG

PSN 12505 BORNUM 1
REGION 11
COUNTY QUEENS
PIN X735.82
PROJECT VAN WYCK EXPRESSWAY WIDENING

HOLE DM-W-1
LINE
STA
OFFSET ft
SURF. ELEV. 44.3
DEPTH TO WATER SEE NOTE

ACTUAL COORDINATES (N) 193,417.120 (E) 1,035,782.000 **DATUM** NAD83
DATE START 28-SEP-2017 **DATE FINISH** 28-SEP-2017

CASING	**O. D.**	4 1/2	**in**	**I. D.**	4	**in**	**WT OF HAMMER-CASING**	140	**lb**	**HAMMER FALL-CASING**	30	**in**
SAMPLER	**O. D.**	2	**in**	**I. D.**	1 3/8	**in**	**WT OF HAMMER-SAMPLER**	140	**lb**	**HAMMER FALL-SAMPLER**	30	**in**

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)	DESCRIPTION OF SOIL AND ROCK	
	25.0	J9	10	10	9	8	16%	(25.00) Brown SAND With Gravel Pieces And Mica	(M-NPL)
	30.0	J10	9	9	10	10	18%	(30.00) Brown Silty Coarse SAND With Gravel Pieces And Mica	(M-NPL)
	35.0	J11	9	7	10	11	22%	(35.00) Brown Silty SAND With Gravel Pieces And Mica	(M-NPL)
	40.0	J12	5	8	9	8	21%	(40.00) Brown Silty SAND With Mica	(M-NPL)
	45.0	J13	7	10	10	10	20%	(45.00) Brown Silty SAND With Gravel Pieces And Mica	(M-NPL)
	50.0								

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CONTRACT _____ **CONTRACTOR** Warren George

DRILL RIG OPERATOR S.LAURENZA
SOIL & ROCK DESCRIPTION D.LANDAU/J.RYBICKI
REG GEOTECHNICAL ENGINEER Prakash C. Roy
DATE APPROVED 08-JUL-2019 REVISION # 2
RESIDENT ENGINEER
STRUCTURE NAME **B.I.N.**

SM 282 E 12/02

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
GEOTECHNICAL ENGINEERING BUREAU
SUBSURFACE EXPLORATION LOG

PSN 12505 BORNUM 1
REGION 11
COUNTY QUEENS
PIN X735.82
PROJECT VAN WYCK EXPRESSWAY WIDENING
ACTUAL COORDINATES (N) 193,417.120 (E) 1,035,782.000 **DATUM** NAD83
DATE START 28-SEP-2017 **DATE FINISH** 28-SEP-2017

HOLE DM-W-1
LINE
STA
OFFSET ft
SURF. ELEV. 44.3
DEPTH TO WATER SEE NOTE

CASING	**O. D.**	4 1/2	**in**	**I. D.**	4	**in**	**WT OF HAMMER-CASING**	140	**lb**	**HAMMER FALL-CASING**	30	**in**
SAMPLER	**O. D.**	2	**in**	**I. D.**	1 3/8	**in**	**WT OF HAMMER-SAMPLER**	140	**lb**	**HAMMER FALL-SAMPLER**	30	**in**

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)	DESCRIPTION OF SOIL AND ROCK
	50.0	J14	23	28	26	28	24%	(50.00) Brown Silty Fine SAND With Mica (M-NPL)

BOTTOM OF HOLE AT 52.00 ft

Notes
1.- "Jars 1 through 3" were hand cleared
2.- automatic hammer used for all other sampling
3.- Vertical Datum: NAVD 88.
4.- Open well piezometer was installed. See water readings below
5. Rig Chattering noted at 14 ft, possibly due to gravel.

DATE	TIME	DEPTH ft			ARTESIAN HEAD HEIGHT ABOVE GROUND	FILLED WITH WATER AT END OF DAY
		HOLE	CASING	WATER		
03-Oct-17	10:45	50.00		25.90		
06-Oct-17	09:10	50.00		25.90		
10-Oct-17	12:10	50.00		25.90		
13-Oct-17	12:15	50.00		26.00		
16-Oct-17	08:45	50.00		25.90		
18-Oct-17	11:15	50.00		26.00		
23-Oct-17	12:10	50.00		26.00		
27-Oct-17	13:15	50.00		26.00		
01-Nov-17	08:30	50.00		25.90		
03-Nov-17	14:10	50.00		25.90		
07-Nov-17	12:45	50.00		25.90		
08-Nov-17	15:15	50.00		26.00		
09-Nov-17	11:20	50.00		26.00		
24-Jan-18	09:00	50.00		26.30		
19-Apr-18	12:30	50.00		25.60		
24-May-18	10:45	50.00		25.50		

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CONTRACT **CONTRACTOR** Warren George

DRILL RIG OPERATOR S.LAURENZA
SOIL & ROCK DESCRIPTION D.LANDAU/J.RYBICKI
REG GEOTECHNICAL ENGINEER Prakash C. Roy
DATE APPROVED 08-JUL-2019 REVISION # 2
RESIDENT ENGINEER
STRUCTURE NAME **B.I.N.**

SM 282 E 12/02

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
GEOTECHNICAL ENGINEERING BUREAU
SUBSURFACE EXPLORATION LOG

PSN 12505 BORNUM 2
REGION 11
COUNTY QUEENS
PIN X735.82
PROJECT VAN WYCK EXPRESSWAY WIDENING

HOLE DM-W-2
LINE
STA
OFFSET ft
SURF. ELEV. 41.3

ACTUAL COORDINATES (N) 193,046.270 (E) 1,035,947.610 **DATUM** NAD83 **DEPTH TO WATER** SEE NOTE

DATE START 05-OCT-2017 **DATE FINISH** 05-OCT-2017

CASING	**O. D.**	4 1/2	**in**	**I. D.**	4	**in**	**WT OF HAMMER-CASING**	140	**lb**	**HAMMER FALL-CASING**	30 **in**
SAMPLER	**O. D.**	2	**in**	**I. D.**	1 3/8	**in**	**WT OF HAMMER-SAMPLER**	140	**lb**	**HAMMER FALL-SAMPLER**	30 **in**

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)	DESCRIPTION OF SOIL AND ROCK	
	0.0	J1					17%	(0.00) Brown Gravelly CLAY Silty	(M-PL)
		J2					8%	(2.00) Brown Silty GRAVEL Clayey With Mica	(M-LPL)
	5.0	J3					4%	(4.00) Brown Sandy GRAVEL Silty	(M-NPL)
		J4	6	12	11	10	5%	(6.00) Brown Gravelly SAND Silty	(M-NPL)
	10.0	J5	17	22	20	21	4%	(8.00) Brown Gravely SAND Silty	(M-NPL)
		J6	9	11	10	8	13%	(10.00) Brown Gravelly SAND With Mica	(M-NPL)
	15.0	J7	9	7	7	9	15%	(15.00) Brown Gravelly SAND With Mica	(M-NPL)
	20.0	J8	12	10	11	15	21%	(20.00) Brown Gravelly SAND Silty With Mica	(M-NPL)
	25.0								

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CONTRACT _____ **CONTRACTOR** Warren George

DRILL RIG OPERATOR S.LAURENZA
SOIL & ROCK DESCRIPTION D.LANDAU/S.MASLANKA
REG GEOTECHNICAL ENGINEER Prakash C. Roy
DATE APPROVED 30-JUL-2019 REVISION # 2
RESIDENT ENGINEER
STRUCTURE NAME **B.I.N.**

SM 282 E 12/02

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
GEOTECHNICAL ENGINEERING BUREAU
SUBSURFACE EXPLORATION LOG

PSN 12505 BORNUM 2
REGION 11
COUNTY QUEENS
PIN X735.82
PROJECT VAN WYCK EXPRESSWAY WIDENING
ACTUAL COORDINATES (N) 193,046.270 (E) 1,035,947.610 **DATUM** NAD83
DATE START 05-OCT-2017 **DATE FINISH** 05-OCT-2017

HOLE DM-W-2
LINE
STA
OFFSET ft
SURF. ELEV. 41.3
DEPTH TO WATER SEE NOTE

CASING	**O. D.**	4 1/2	**in**	**I. D.**	4	**in**	**WT OF HAMMER-CASING**	140	**lb**	**HAMMER FALL-CASING**	30	**in**
SAMPLER	**O. D.**	2	**in**	**I. D.**	1 3/8	**in**	**WT OF HAMMER-SAMPLER**	140	**lb**	**HAMMER FALL-SAMPLER**	30	**in**

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)	DESCRIPTION OF SOIL AND ROCK	
	25.0	J9	13	11	10	11	18%	(25.00) Brown Gravelly SAND Silty With Mica	(M-NPL)
	30.0	J10	7	6	9	10	25%	(30.00) Brown SAND With Mica	(M-NPL)
	35.0	J11	8	6	8	10	22%	(35.00) Brown SAND With Gravel Pieces And Mica	(M-NPL)
	40.0	J12	15	20	20	20	16%	(40.00) Brown SAND With Gravel Pieces And Mica	(M-NPL)
	45.0	J13	11	10	9	8	19%	(45.00) Brown Gravelly SAND With Mica	(M-NPL)
	50.0								

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CONTRACT _____ **CONTRACTOR** Warren George

DRILL RIG OPERATOR S.LAURENZA
SOIL & ROCK DESCRIPTION D.LANDAU/S.MASLANKA
REG GEOTECHNICAL ENGINEER Prakash C. Roy
DATE APPROVED 30-JUL-2019 REVISION # 2
RESIDENT ENGINEER
STRUCTURE NAME **B.I.N.**

SM 282 E 12/02

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
GEOTECHNICAL ENGINEERING BUREAU
SUBSURFACE EXPLORATION LOG

PSN 12505 BORNUM 2
REGION 11
COUNTY QUEENS
PIN X735.82
PROJECT VAN WYCK EXPRESSWAY WIDENING

HOLE DM-W-2
LINE
STA
OFFSET ft
SURF. ELEV. 41.3

ACTUAL COORDINATES (N) 193,046.270 (E) 1,035,947.610 **DATUM** NAD83 **DEPTH TO WATER** SEE NOTE

DATE START 05-OCT-2017 **DATE FINISH** 05-OCT-2017

CASING	**O. D.**	4 1/2	**in**	**I. D.**	4	**in**	**WT OF HAMMER-CASING**	140	**lb**	**HAMMER FALL-CASING**	30 **in**
SAMPLER	**O. D.**	2	**in**	**I. D.**	1 3/8	**in**	**WT OF HAMMER-SAMPLER**	140	**lb**	**HAMMER FALL-SAMPLER**	30 **in**

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)	DESCRIPTION OF SOIL AND ROCK	
	50.0	J14	10	12	15	13	20%	(50.00) Brown SAND With Gravel Pieces And Mica	(M-NPL)

BOTTOM OF HOLE AT 52.00 ft

Notes
1.- Jars 1 through 3 were hand cleared.
2.- Safety hammer used for all other sampling.
3.- Vertical Datum: NAVD 88.
4.- Rotary mud drilling, no groundwater reading taken
5.- Borehole backfilled and patched upon completion.

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CONTRACT **CONTRACTOR** Warren George

DRILL RIG OPERATOR S.LAURENZA
SOIL & ROCK DESCRIPTION D.LANDAU/S.MASLANKA
REG GEOTECHNICAL ENGINEER Prakash C. Roy
DATE APPROVED 30-JUL-2019 REVISION # 2
RESIDENT ENGINEER
STRUCTURE NAME **B.I.N.**

SM 282 E 12/02

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
GEOTECHNICAL ENGINEERING BUREAU
SUBSURFACE EXPLORATION LOG

PSN 12505 BORNUM 3
REGION 11
COUNTY QUEENS
PIN X735.82
PROJECT VAN WYCK EXPRESSWAY WIDENING

HOLE DM-W-3
LINE
STA
OFFSET ft
SURF. ELEV. 42.1

ACTUAL COORDINATES (N) 192,740.140 (E) 1,036,078.430 **DATUM** NAD83 **DEPTH TO WATER** SEE NOTE

DATE START 21-SEP-2017 **DATE FINISH** 21-SEP-2017

CASING	**O. D.**	4 1/2	**in**	**I. D.**	4	**in**	**WT OF HAMMER-CASING**	140	**lb**	**HAMMER FALL-CASING**	30 **in**
SAMPLER	**O. D.**	2	**in**	**I. D.**	1 3/8	**in**	**WT OF HAMMER-SAMPLER**	140	**lb**	**HAMMER FALL-SAMPLER**	30 **in**

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)	DESCRIPTION OF SOIL AND ROCK	
	0.0	J1					5%	(0.00) Brown Gravelly SAND Silty With Mica	(M-NPL)
		J2					7%	(2.00) Brown Gravelly SAND Silty With Mica	(M-NPL)
	5.0	J3					4%	(4.00) Brown Gravelly SAND Silty With Mica	(M-NPL)
		J4	5	8	8	17	6%	(6.00) Brown SAND With Gravel Pieces And Mica	(M-NPL)
	10.0	J5	12	16	11	11	4%	(8.00) Brown Gravelly SAND With Mica	(M-NPL)
		J6	12	10	8	10	12%	(10.00) Brown Gravelly SAND Silty With Mica	(M-NPL)
	15.0	J7	11	8	13	11	8%	(15.00) Brown Sandy GRAVEL Silty With Mica	(M-NPL)
	20.0	J8	9	8	11	8	20%	(20.00) Brown Silty SAND With Gravel Pieces And Mica	(M-NPL)
	25.0								

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CONTRACT _____ **CONTRACTOR** WARREN GEORGE

DRILL RIG OPERATOR S.LAURENZA
SOIL & ROCK DESCRIPTION D.LANDAU/S.MASLANKA
REG GEOTECHNICAL ENGINEER Prakash C. Roy
DATE APPROVED 30-JUL-2019 REVISION # 1
RESIDENT ENGINEER
STRUCTURE NAME **B.I.N.**

SM 282 E 12/02

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
GEOTECHNICAL ENGINEERING BUREAU
SUBSURFACE EXPLORATION LOG

PSN 12505 BORNUM 3
REGION 11
COUNTY QUEENS
PIN X735.82
PROJECT VAN WYCK EXPRESSWAY WIDENING
ACTUAL COORDINATES (N) 192,740.140 (E) 1,036,078.430 **DATUM** NAD83
DATE START 21-SEP-2017 **DATE FINISH** 21-SEP-2017

HOLE DM-W-3
LINE
STA
OFFSET ft
SURF. ELEV. 42.1
DEPTH TO WATER SEE NOTE

CASING	**O. D.**	4 1/2	**in**	**I. D.**	4	**in**	**WT OF HAMMER-CASING**	140	**lb**	**HAMMER FALL-CASING**	30	**in**
SAMPLER	**O. D.**	2	**in**	**I. D.**	1 3/8	**in**	**WT OF HAMMER-SAMPLER**	140	**lb**	**HAMMER FALL-SAMPLER**	30	**in**

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)	DESCRIPTION OF SOIL AND ROCK	
	25.0	J9	6	7	6	9	17%	(25.00) Brown Silty SAND With Gravel Pieces And Mica	(M-NPL)
	30.0	J10	9	6	12	11	20%	(30.00) Brown Silty SAND With Gravel Pieces And Mica	(M-NPL)
	35.0	J11	6	5	9	8	21%	(35.00) Brown Silty SAND Gravely With Mica	(M-NPL)
	40.0	J12	13	11	17	18	25%	(40.00) Brown Silty Fine SAND With Mica	(M-NPL)
	45.0	J13	8	10	10	16	25%	(45.00) Brown Silty Fine SAND With Gravel Pieces And Mica	(M-NPL)
	50.0								

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CONTRACT _____ **CONTRACTOR** WARREN GEORGE

DRILL RIG OPERATOR S.LAURENZA
SOIL & ROCK DESCRIPTION D.LANDAU/S.MASLANKA
REG GEOTECHNICAL ENGINEER Prakash C. Roy
DATE APPROVED 30-JUL-2019 REVISION # 1
RESIDENT ENGINEER
STRUCTURE NAME **B.I.N.**

SM 282 E 12/02

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
GEOTECHNICAL ENGINEERING BUREAU
SUBSURFACE EXPLORATION LOG

PSN 12505 BORNUM 3
REGION 11
COUNTY QUEENS
PIN X735.82
PROJECT VAN WYCK EXPRESSWAY WIDENING

HOLE DM-W-3
LINE
STA
OFFSET ft
SURF. ELEV. 42.1
DEPTH TO WATER SEE NOTE

ACTUAL COORDINATES (N) 192,740.140 (E) 1,036,078.430 **DATUM** NAD83
DATE START 21-SEP-2017 **DATE FINISH** 21-SEP-2017

CASING	**O. D.**	4 1/2	**in**	**I. D.**	4	**in**	**WT OF HAMMER-CASING**	140	**lb**	**HAMMER FALL-CASING**	30 **in**
SAMPLER	**O. D.**	2	**in**	**I. D.**	1 3/8	**in**	**WT OF HAMMER-SAMPLER**	140	**lb**	**HAMMER FALL-SAMPLER**	30 **in**

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)	DESCRIPTION OF SOIL AND ROCK	
	50.0	J14	16	19	27	28	19%	(50.00) Brown Silty SAND Gravelly With Mica	(M-NPL)

BOTTOM OF HOLE AT 52.00 ft

Notes
1.- Hand cleared to 6 ft. J1, J2, & J3 were grab samples
2.- Automatic hammer used for all other samplings
3.- Vertical Datum: NAVD 88
4.- Rotary mud drilling, no groundwater reading taken

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CONTRACT **CONTRACTOR** WARREN GEORGE

DRILL RIG OPERATOR S.LAURENZA
SOIL & ROCK DESCRIPTION D.LANDAU/S.MASLANKA
REG GEOTECHNICAL ENGINEER Prakash C. Roy
DATE APPROVED 30-JUL-2019 REVISION # 1
RESIDENT ENGINEER
STRUCTURE NAME **B.I.N.**

SM 282 E 12/02

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
GEOTECHNICAL ENGINEERING BUREAU
SUBSURFACE EXPLORATION LOG

PSN 12505 BORNUM 4.1
REGION 11
COUNTY QUEENS
PIN X735.82
PROJECT VAN WYCK EXPRESSWAY WIDENING

HOLE DM-W-4A
LINE
STA
OFFSET ft
SURF. ELEV. 43.1

ACTUAL COORDINATES (N) 192,739.010 (E) 1,036,339.510 **DATUM** NAD83 **DEPTH TO WATER** SEE NOTE

DATE START 25-SEP-2017 **DATE FINISH** 25-SEP-2017

CASING O. D. in **I. D.** in **WT OF HAMMER-CASING** lb **HAMMER FALL-CASING** in
SAMPLER O. D. in **I. D.** in **WT OF HAMMER-SAMPLER** lb **HAMMER FALL-SAMPLER** in

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)		DESCRIPTION OF SOIL AND ROCK	
	0.0	J1					5%	(0.00)	Brown Silty SAND Gravelly With Root Fibers And Asphalt Pieces	(M-NPL)
		J2					4%	(2.00)	Brown Gravelly SAND Silty With Mica	(M-NPL)
	5.0	J3					2%	(4.00)	Brown Gravelly SAND Silty With Mica	(M-NPL)
									BOTTOM OF HOLE AT 5.00 ft	

Notes
1.- Hand (augering) cleared up to 5 ft. All 3 jars were grab samples
2.- Boring terminated at 5 ft, hand augering could not advance due to gravelly sand. Boring re-attempted at another location
3.- Horizontal Datum: NAD 83
4.- Vertical Datum: NAVD 88
5.- Ground water not encountered

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CONTRACT **CONTRACTOR** Warren George

DRILL RIG OPERATOR A.Medrano
SOIL & ROCK DESCRIPTION S.Maslanka,D.Landau
REG GEOTECHNICAL ENGINEER Prakash C. Roy
DATE APPROVED 30-JUL-2019 REVISION # 1
RESIDENT ENGINEER
STRUCTURE NAME **B.I.N.**

SM 282 E 12/02

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
GEOTECHNICAL ENGINEERING BUREAU
SUBSURFACE EXPLORATION LOG

PSN 12505 BORNUM 5
REGION 11
COUNTY QUEENS
PIN X735.82
PROJECT VAN WYCK EXPRESSWAY WIDENING

HOLE DM-W-5
LINE
STA
OFFSET ft
SURF. ELEV. 42.9

ACTUAL COORDINATES (N) 192,551.880 (E) 1,036,157.440 **DATUM** NAD83 **DEPTH TO WATER** SEE NOTE

DATE START 29-SEP-2017 **DATE FINISH** 29-SEP-2017

CASING	**O. D.**	4 1/2	**in**	**I. D.**	4	**in**	**WT OF HAMMER-CASING**	140	**lb**	**HAMMER FALL-CASING**	30	**in**
SAMPLER	**O. D.**	2	**in**	**I. D.**	1 3/8	**in**	**WT OF HAMMER-SAMPLER**	140	**lb**	**HAMMER FALL-SAMPLER**	30	**in**

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)	DESCRIPTION OF SOIL AND ROCK	
	0.0	J1					7%	(0.00) Brown Sandy GRAVEL Silty With Mica	(M-NPL)
		J2					6%	(2.00) Brown Sandy GRAVEL Silty With Mica And Root Fibers	(M-NPL)
	5.0	J3					6%	(4.00) Brown Sandy GRAVEL Silty	(M-NPL)
		J4	3	5	7	9	6%	(6.00) Brown Sandy GRAVEL Silty	(M-NPL)
		J5	7	7			9%	(8.00) Brown Sandy GRAVEL Silty With Mica	(M-NPL)
	10.0	J6	13	13			8%	(9.00) Brown Sandy SILT With Mica	(M-NPL)
		J7	14	19	20	20	19%	(10.00) Brown Silty SAND With Mica	(M-NPL)
	15.0								
		J8	26	26	28	25	10%	(15.00) Brown Gravelly SAND Silty With Mica	(M-NPL)
	20.0								
		J9	11	11	13	10	16%	(20.00) Brown Gravelly SAND Silty With Mica	(M-NPL)
	25.0								

The subsurface information shown here was obtained for design and estimate purposes. It is made available so that users may have access to the same information available to the State. It is presented in good faith. By the nature of the exploration process, the information represents only a small fraction of the total volume of the material at the site. Interpolation between data samples may not be indicative of the actual material encountered.

CONTRACT _____ **CONTRACTOR** Warren George

DRILL RIG OPERATOR S.LAURENZA
SOIL & ROCK DESCRIPTION D.LANDAU/J.RYBICKI
REG GEOTECHNICAL ENGINEER Prakash C. Roy
DATE APPROVED 30-JUL-2019 REVISION # 1
RESIDENT ENGINEER
STRUCTURE NAME **B.I.N.**

SM 282 E 12/02

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
GEOTECHNICAL ENGINEERING BUREAU
SUBSURFACE EXPLORATION LOG

PSN 12505 BORNUM 5
REGION 11
COUNTY QUEENS
PIN X735.82
PROJECT VAN WYCK EXPRESSWAY WIDENING
ACTUAL COORDINATES (N) 192,551.880 (E) 1,036,157.440 **DATUM** NAD83
DATE START 29-SEP-2017 **DATE FINISH** 29-SEP-2017

HOLE DM-W-5
LINE
STA
OFFSET ft
SURF. ELEV. 42.9
DEPTH TO WATER SEE NOTE

CASING	**O. D.**	4 1/2	**in**	**I. D.**	4	**in**	**WT OF HAMMER-CASING**	140	**lb**	**HAMMER FALL-CASING**	30	**in**
SAMPLER	**O. D.**	2	**in**	**I. D.**	1 3/8	**in**	**WT OF HAMMER-SAMPLER**	140	**lb**	**HAMMER FALL-SAMPLER**	30	**in**

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)	DESCRIPTION OF SOIL AND ROCK	
	25.0	J10	6	9	10	14	27%	(25.00) Brown Silty SAND With Gravel Pieces And Mica	(M-NPL)
	30.0	J11	9	11	10	9	23%	(30.00) Brown Silty SAND With Gravel Pieces And Mica	(M-NPL)
	35.0	J12	6	6	9	11	23%	(35.00) Brown Gravelly SAND With Mica	(M-NPL)
	40.0	J13	5	6	9	8	24%	(40.00) Brown Gravelly SAND With Mica	(M-NPL)
	45.0	J14	6	7	6	9	23%	(45.00) Brown Silty SAND With Mica	(M-NPL)
	50.0								

The subsurface information shown here was obtained for design and estimate purposes. It is made available so that users may have access to the same information available to the State. It is presented in good faith. By the nature of the exploration process, the information represents only a small fraction of the total volume of the material at the site. Interpolation between data samples may not be indicative of the actual material encountered.

CONTRACT _____ **CONTRACTOR** Warren George

DRILL RIG OPERATOR S.LAURENZA
SOIL & ROCK DESCRIPTION D.LANDAU/J.RYBICKI
REG GEOTECHNICAL ENGINEER Prakash C. Roy
DATE APPROVED 30-JUL-2019 REVISION # 1
RESIDENT ENGINEER
STRUCTURE NAME **B.I.N.**

SM 282 E 12/02

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
GEOTECHNICAL ENGINEERING BUREAU
SUBSURFACE EXPLORATION LOG

PSN 12505 BORNUM 5
REGION 11
COUNTY QUEENS
PIN X735.82
PROJECT VAN WYCK EXPRESSWAY WIDENING

HOLE DM-W-5
LINE
STA
OFFSET ft
SURF. ELEV. 42.9
DEPTH TO WATER SEE NOTE

ACTUAL COORDINATES (N) 192,551.880 (E) 1,036,157.440 **DATUM** NAD83
DATE START 29-SEP-2017 **DATE FINISH** 29-SEP-2017

CASING	**O. D.**	4 1/2	**in**	**I. D.**	4	**in**	**WT OF HAMMER-CASING**	140	**lb**	**HAMMER FALL-CASING**	30 **in**
SAMPLER	**O. D.**	2	**in**	**I. D.**	1 3/8	**in**	**WT OF HAMMER-SAMPLER**	140	**lb**	**HAMMER FALL-SAMPLER**	30 **in**

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)	DESCRIPTION OF SOIL AND ROCK	
	50.0	J15	6	8	7	7	22%	(50.00) Brown Silty SAND With Gravel Pieces And Mica	(M-NPL)

BOTTOM OF HOLE AT 52.00 ft

Notes
1.- Hand cleared to 6 ft. Jars 1 through 3 were grab samples
2.- Automatic hammer used for all other samples
3.- Vertical Datum: NAVD 88
4.- Ground water reading not taken, rotary mud used
5.- Borehole backfilled and plugged upon completion

The subsurface information shown here was obtained for design and estimate purposes. It is made available so that users may have access to the same information available to the State. It is presented in good faith. By the nature of the exploration process, the information represents only a small fraction of the total volume of the material at the site. Interpolation between data samples may not be indicative of the actual material encountered.

CONTRACT **CONTRACTOR** Warren George

DRILL RIG OPERATOR S.LAURENZA
SOIL & ROCK DESCRIPTION D.LANDAU/J.RYBICKI
REG GEOTECHNICAL ENGINEER Prakash C. Roy
DATE APPROVED 30-JUL-2019 REVISION # 1
RESIDENT ENGINEER
STRUCTURE NAME **B.I.N.**

SM 282 E 12/02

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
GEOTECHNICAL ENGINEERING BUREAU
SUBSURFACE EXPLORATION LOG

PSN 12505 BORNUM 6
REGION 11
COUNTY QUEENS
PIN X735.82
PROJECT VAN WYCK EXPRESSWAY WIDENING
ACTUAL COORDINATES (N) 192,420.820 (E) 1,036,206.450 **DATUM** NAD83
DATE START 25-SEP-2017 **DATE FINISH** 25-SEP-2017

HOLE DM-W-6
LINE
STA
OFFSET ft
SURF. ELEV. 43.6
DEPTH TO WATER SEE NOTE

CASING O. D. in **I. D.** in **WT OF HAMMER-CASING** lb **HAMMER FALL-CASING** in
SAMPLER O. D. in **I. D.** in **WT OF HAMMER-SAMPLER** lb **HAMMER FALL-SAMPLER** in

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)	DESCRIPTION OF SOIL AND ROCK
	0.0	J1					6%	(0.00) Dark Brown Silty SAND With Gravel Pieces,Slag And Asphalt (M-NPL)

BOTTOM OF HOLE AT 3.00 ft

Notes
1.- All jars were grab samples, hand cleared up to 3 ft.
2.- Boring terminated at 3 ft, refusal due to gravel, cobbles & roots borehole was re-attempted at another location. See DM-W-6A
3.- Horizontal Datum: NAD 83
4.- Vertical Datum: NAVD 88
5.- Ground water not encountered

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CONTRACT **CONTRACTOR** Warren George

DRILL RIG OPERATOR J.MEYRES
SOIL & ROCK DESCRIPTION D.LANDAU/S.MASLANKA
REG GEOTECHNICAL ENGINEER Prakash C. Roy
DATE APPROVED 30-JUL-2019 REVISION # 1
RESIDENT ENGINEER
STRUCTURE NAME **B.I.N.**

SM 282 E 12/02

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
GEOTECHNICAL ENGINEERING BUREAU
SUBSURFACE EXPLORATION LOG

PSN 12505 BORNUM 6.1
REGION 11
COUNTY QUEENS
PIN X735.82
PROJECT VAN WYCK EXPRESSWAY WIDENING

HOLE DM-W-6A
LINE
STA
OFFSET ft
SURF. ELEV. 43.5

ACTUAL COORDINATES (N) 192,421.540 (E) 1,036,208.410 **DATUM** NAD83 **DEPTH TO WATER** SEE NOTE

DATE START 25-SEP-2017 **DATE FINISH** 25-SEP-2017

CASING	**O. D.**	4 1/2	**in**	**I. D.**	4	**in**	**WT OF HAMMER-CASING**	140	**lb**	**HAMMER FALL-CASING**	30	**in**
SAMPLER	**O. D.**	2	**in**	**I. D.**	1 3/8	**in**	**WT OF HAMMER-SAMPLER**	140	**lb**	**HAMMER FALL-SAMPLER**	30	**in**

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)		DESCRIPTION OF SOIL AND ROCK	
	0.0	J1					4%	(0.00)	Brown Sandy GRAVEL Silty	(M-NPL)
	5.0	J2					14%	(3.00)	Brown Sandy GRAVEL Silty With Red Brick Pieces (P.F)	(M-NPL)
		J3	35	57	100		12%	(6.00)	Gray Gravelly SAND With Red Brick Pieces And Concrete Pieces	(M-NPL)

BOTTOM OF HOLE AT 8.00 ft

Notes
1.- J1 & J2 were grab samples, hand cleared up to 6 ft
2.- Safety hammer used for all other sampling
3.- Boring was terminated at 8 ft. Water was being lost from 6' to 8' in the hole and drillers not being confident as to what being drilled. Borehole abandonned.
4.- No ground water reading taken, rotary mud used
5.- Vertical Datum: NAVD 88

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CONTRACT **CONTRACTOR** Warren George

DRILL RIG OPERATOR J.MEYRES
SOIL & ROCK DESCRIPTION D.LANDAU/S.MASLANKA
REG GEOTECHNICAL ENGINEER Prakash C. Roy
DATE APPROVED 30-JUL-2019 REVISION # 1
RESIDENT ENGINEER
STRUCTURE NAME **B.I.N.**

SM 282 E 12/02

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
GEOTECHNICAL ENGINEERING BUREAU
SUBSURFACE EXPLORATION LOG

PSN 12505 BORNUM 7
REGION 11
COUNTY QUEENS
PIN X735.82
PROJECT VAN WYCK EXPRESSWAY WIDENING
ACTUAL COORDINATES (N) 192,349.830 (E) 1,036,239.760 **DATUM** NAD83
DATE START 22-SEP-2017 **DATE FINISH** 22-SEP-2017

HOLE DM-W-7
LINE
STA
OFFSET ft
SURF. ELEV. 44
DEPTH TO WATER SEE NOTE

CASING	**O. D.**	4 1/2	**in**	**I. D.**	4	**in**	**WT OF HAMMER-CASING**	140	**lb**	**HAMMER FALL-CASING**	30	**in**
SAMPLER	**O. D.**	2	**in**	**I. D.**	1 3/8	**in**	**WT OF HAMMER-SAMPLER**	140	**lb**	**HAMMER FALL-SAMPLER**	30	**in**

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)	DESCRIPTION OF SOIL AND ROCK	
	0.0	J1					19%	(0.00) Brown Clayey SILT Sandy With Gravel Pieces	(M-LPL)
		J2					16%	(2.00) Brown Sandy SILT Clayey With Gravel Pieces	(M-LPL)
	5.0	J3					8%	(4.00) Red/Brown Gravelly SAND Silty	(M-NPL)
		J4	5	12	24	13	5%	(6.00) Red/Brown Silty SAND With Gravel Pieces	(M-NPL)
	10.0	J5	11	16	21	28	7%	(8.00) Red/Brown Silty SAND With Gravel Pieces	(M-NPL)
		J6	10	17	17	15	13%	(10.00) Red/Brown Gravelly SAND Silty	(M-NPL)
	15.0	J7	12	11	11	7	18%	(15.00) Red/Brown Silty SAND With Gravel Pieces	(M-NPL)
	20.0	J8	11	11	15	12	16%	(20.00) Red/Brown Silty SAND With Gravel Pieces	(M-NPL)
	25.0								

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CONTRACT _____ **CONTRACTOR** Warren George

DRILL RIG OPERATOR S.LAURENZA
SOIL & ROCK DESCRIPTION R.DIETZ
REG GEOTECHNICAL ENGINEER Prakash C. Roy
DATE APPROVED 30-JUL-2019 REVISION # 1
RESIDENT ENGINEER
STRUCTURE NAME **B.I.N.**

SM 282 E 12/02

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
GEOTECHNICAL ENGINEERING BUREAU
SUBSURFACE EXPLORATION LOG

PSN 12505 BORNUM 7
REGION 11
COUNTY QUEENS
PIN X735.82
PROJECT VAN WYCK EXPRESSWAY WIDENING
ACTUAL COORDINATES (N) 192,349.830 (E) 1,036,239.760 **DATUM** NAD83
DATE START 22-SEP-2017 **DATE FINISH** 22-SEP-2017

HOLE DM-W-7
LINE
STA
OFFSET ft
SURF. ELEV. 44
DEPTH TO WATER SEE NOTE

CASING	**O. D.**	4 1/2	**in**	**I. D.**	4	**in**	**WT OF HAMMER-CASING**	140	**lb**	**HAMMER FALL-CASING**	30 **in**
SAMPLER	**O. D.**	2	**in**	**I. D.**	1 3/8	**in**	**WT OF HAMMER-SAMPLER**	140	**lb**	**HAMMER FALL-SAMPLER**	30 **in**

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)	DESCRIPTION OF SOIL AND ROCK	
	25.0	J9	12	9	12	10	16%	(25.00) Brown SAND With Gravel Pieces	(M-NPL)
	30.0	J10	8	9	11	10	21%	(30.00) Brown SAND With Gravel Pieces	(M-NPL)
	35.0	J11	7	8	10	12	22%	(35.00) Brown SAND With Gravel Pieces	(M-NPL)
	40.0	J12	7	13	15	15	19%	(40.00) Brown Gravelly SAND With Mica	(M-NPL)
	45.0	J13	14	16	14	14	27%	(45.00) Gray Silty Fine SAND With Mica	(W-NPL)
	50.0								

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CONTRACT _____ **CONTRACTOR** Warren George

DRILL RIG OPERATOR S.LAURENZA
SOIL & ROCK DESCRIPTION R.DIETZ
REG GEOTECHNICAL ENGINEER Prakash C. Roy
DATE APPROVED 30-JUL-2019 REVISION # 1
RESIDENT ENGINEER
STRUCTURE NAME **B.I.N.**

SM 282 E 12/02

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
GEOTECHNICAL ENGINEERING BUREAU
SUBSURFACE EXPLORATION LOG

PSN 12505 BORNUM 7
REGION 11
COUNTY QUEENS
PIN X735.82
PROJECT VAN WYCK EXPRESSWAY WIDENING

HOLE DM-W-7
LINE
STA
OFFSET ft
SURF. ELEV. 44

ACTUAL COORDINATES (N) 192,349.830 (E) 1,036,239.760 **DATUM** NAD83 **DEPTH TO WATER** SEE NOTE

DATE START 22-SEP-2017 **DATE FINISH** 22-SEP-2017

CASING	**O. D.**	4 1/2	**in**	**I. D.**	4	**in**	**WT OF HAMMER-CASING**	140	**lb**	**HAMMER FALL-CASING**	30 **in**
SAMPLER	**O. D.**	2	**in**	**I. D.**	1 3/8	**in**	**WT OF HAMMER-SAMPLER**	140	**lb**	**HAMMER FALL-SAMPLER**	30 **in**

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)	DESCRIPTION OF SOIL AND ROCK	
	50.0	J14	14	16	16	15	22%	(50.00) Gray Silty Fine SAND With Mica	(W-NPL)

BOTTOM OF HOLE AT 52.00 ft

Notes
1.- J1 to J3 were grab samples, hand cleared up to 6 ft
2.- Automatic hammer used for all other samples
3.- Vertical Datum: NAD 88
4.- Rotary mud drilling
5.- Open Well Piezometer was installed. Removed on 10/05/2017. See Water reading below

DATE	TIME	DEPTH ft			ARTESIAN HEAD HEIGHT ABOVE GROUND	FILLED WITH WATER AT END OF DAY
		HOLE	CASING	WATER		
25-Sep-17	09:00	50.00		26.70		
29-Sep-17	09:30	50.00		26.60		
03-Oct-17	10:00	50.00		26.70		

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CONTRACT **CONTRACTOR** Warren George

DRILL RIG OPERATOR S.LAURENZA
SOIL & ROCK DESCRIPTION R.DIETZ
REG GEOTECHNICAL ENGINEER Prakash C. Roy
DATE APPROVED 30-JUL-2019 REVISION # 1
RESIDENT ENGINEER
STRUCTURE NAME **B.I.N.**

SM 282 E 12/02

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
GEOTECHNICAL ENGINEERING BUREAU
SUBSURFACE EXPLORATION LOG

PSN 12505 BORNUM 8
REGION 11
COUNTY QUEENS
PIN X735.82
PROJECT VAN WYCK EXPRESSWAY WIDENING
ACTUAL COORDINATES (N) 191,864.830 (E) 1,036,449.200 **DATUM** NAD83

HOLE DM-W-8
LINE
STA
OFFSET ft
SURF. ELEV. 45.8
DEPTH TO WATER SEE NOTE

DATE START 18-SEP-2017 **DATE FINISH** 20-SEP-2017

CASING	**O. D.**	4 1/2	**in**	**I. D.**	4	**in**	**WT OF HAMMER-CASING**	140	**lb**	**HAMMER FALL-CASING**	30 **in**
SAMPLER	**O. D.**	2	**in**	**I. D.**	1 3/8	**in**	**WT OF HAMMER-SAMPLER**	140	**lb**	**HAMMER FALL-SAMPLER**	30 **in**

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)	DESCRIPTION OF SOIL AND ROCK	
	0.0	J1					14%	(0.00) Brown Sandy SILT Clayey With Gravel Pieces	(M-LPL)
		J2					22%	(2.00) Brown Sandy SILT Clayey With Gravel Pieces	
	5.0	J3					13%	(4.00) Brown Sandy SILT With Gravel Pieces	(M-NPL)
		J4	3	4	7	5	10%	(6.00) Brown Silty SAND With Gravel Pieces	(M-NPL)
	10.0	J5	12	19	16	24	5%	(8.00) Brown Gravelly SAND Silty With Mica	(M-NPL)
		J6						(10.00) See Note 2	
	15.0	J7	6	7	10	9	19%	(15.00) Brown Fine Gravelly SAND Silty With Mica	(M-NPL)
	20.0	J8	7	10	14	12	18%	(20.00) Brown Fine Gravelly SAND Silty With Mica	(M-NPL)
	25.0								

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CONTRACT _____ **CONTRACTOR** WARREN GEORGE

DRILL RIG OPERATOR S.LAURENZA
SOIL & ROCK DESCRIPTION D.LANDAU/S.MASLANKA
REG GEOTECHNICAL ENGINEER Prakash C. Roy
DATE APPROVED 30-JUL-2019 REVISION # 1
RESIDENT ENGINEER
STRUCTURE NAME **B.I.N.**

SM 282 E 12/02

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
GEOTECHNICAL ENGINEERING BUREAU
SUBSURFACE EXPLORATION LOG

PSN 12505 BORNUM 8
REGION 11
COUNTY QUEENS
PIN X735.82
PROJECT VAN WYCK EXPRESSWAY WIDENING
ACTUAL COORDINATES (N) 191,864.830 (E) 1,036,449.200 **DATUM** NAD83
DATE START 18-SEP-2017 **DATE FINISH** 20-SEP-2017

HOLE DM-W-8
LINE
STA
OFFSET ft
SURF. ELEV. 45.8
DEPTH TO WATER SEE NOTE

CASING	**O. D.**	4 1/2	**in**	**I. D.**	4	**in**	**WT OF HAMMER-CASING**	140	**lb**	**HAMMER FALL-CASING**	30 **in**
SAMPLER	**O. D.**	2	**in**	**I. D.**	1 3/8	**in**	**WT OF HAMMER-SAMPLER**	140	**lb**	**HAMMER FALL-SAMPLER**	30 **in**

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)	DESCRIPTION OF SOIL AND ROCK	
	25.0	J9	9	11	11	10	17%	(25.00) Brown Fine Gravelly SAND Silty With Mica	(M-NPL)
	30.0	J10	7	8	11	19	22%	(30.00) Brown Silty SAND With Gravel Pieces And Mica	(M-NPL)
	35.0	J11	8	7	8	9	23%	(35.00) Brown Silty Fine SAND With Mica	(M-NPL)
	40.0	J12	12	14	17	16	23%	(40.00) Light Brown Fine Sandy SILT With Mica	(M-NPL)
	45.0	J13	14	19	25	21		(45.00) See Note 2	
	50.0								

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CONTRACT **CONTRACTOR** WARREN GEORGE

DRILL RIG OPERATOR S.LAURENZA
SOIL & ROCK DESCRIPTION D.LANDAU/S.MASLANKA
REG GEOTECHNICAL ENGINEER Prakash C. Roy
DATE APPROVED 30-JUL-2019 REVISION # 1
RESIDENT ENGINEER
STRUCTURE NAME **B.I.N.**

SM 282 E 12/02

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
GEOTECHNICAL ENGINEERING BUREAU
SUBSURFACE EXPLORATION LOG

PSN 12505 BORNUM 8
REGION 11
COUNTY QUEENS
PIN X735.82
PROJECT VAN WYCK EXPRESSWAY WIDENING

HOLE DM-W-8
LINE
STA
OFFSET ft
SURF. ELEV. 45.8

ACTUAL COORDINATES (N) 191,864.830 (E) 1,036,449.200 **DATUM** NAD83 **DEPTH TO WATER** SEE NOTE

DATE START 18-SEP-2017 **DATE FINISH** 20-SEP-2017

CASING	**O. D.**	4 1/2	**in**	**I. D.**	4	**in**	**WT OF HAMMER-CASING**	140	**lb**	**HAMMER FALL-CASING**	30 **in**
SAMPLER	**O. D.**	2	**in**	**I. D.**	1 3/8	**in**	**WT OF HAMMER-SAMPLER**	140	**lb**	**HAMMER FALL-SAMPLER**	30 **in**

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)	DESCRIPTION OF SOIL AND ROCK	
	50.0	J14	10	12	18	16	24%	(50.00) Brown Fine Sandy SILT With Gravel Pieces And Mica	(M-NPL)

BOTTOM OF HOLE AT 52.00 ft

Notes
1.- Jars 1 to 3 are grab samples. Hand cleared up to 6 ft.
2.- J6 (10'-12') & J13 (45'-47'): Neither Visual nor field description used due to no recovery
3.- Automatic hammer used for all other samples
4.- Vertical Datum: NAVD 88
5.- No ground water reading, rotary mud drilling

The subsurface information shown here was obtained for design and estimate purposes. It is made available so that users may have access to the same information available to the State. It is presented in good faith. By the nature of the exploration process, the information represents only a small fraction of the total volume of the material at the site. Interpolation between data samples may not be indicative of the actual material encountered.

CONTRACT **CONTRACTOR** WARREN GEORGE

DRILL RIG OPERATOR S.LAURENZA
SOIL & ROCK DESCRIPTION D.LANDAU/S.MASLANKA
REG GEOTECHNICAL ENGINEER Prakash C. Roy
DATE APPROVED 30-JUL-2019 REVISION # 1
RESIDENT ENGINEER
STRUCTURE NAME **B.I.N.**

SM 282 E 12/02

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
GEOTECHNICAL ENGINEERING BUREAU
SUBSURFACE EXPLORATION LOG

PSN 12505 BORNUM 9
REGION 11
COUNTY QUEENS
PIN X735.82
PROJECT VAN WYCK EXPRESSWAY WIDENING

HOLE DM-W-9
LINE
STA
OFFSET ft
SURF. ELEV. 45.1

ACTUAL COORDINATES (N) 191,896.180 (E) 1,036,697.800 **DATUM** NAD83 **DEPTH TO WATER** SEE NOTE

DATE START 05-OCT-2017 **DATE FINISH** 05-OCT-2017

CASING	**O. D.**	4 1/2	**in**	**I. D.**	4	**in**	**WT OF HAMMER-CASING**	140	**lb**	**HAMMER FALL-CASING**	30 **in**
SAMPLER	**O. D.**	2	**in**	**I. D.**	1 3/8	**in**	**WT OF HAMMER-SAMPLER**	140	**lb**	**HAMMER FALL-SAMPLER**	30 **in**

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)		DESCRIPTION OF SOIL AND ROCK	
	0.0	J1					4%	(0.00)	Brown Fine Sandy SILT With Gravel Pieces,Root Fibers,Glass&Slag	(M-NPL)
		J2					17%	(2.00)	Orange SILT With Gravel Pieces	(M-NPL)
	5.0	J3					2%	(5.00)	Brown Sandy GRAVEL With Mica	(M-NPL)
		J4	21	40	56	46	4%	(7.00)	Brown Gravelly SAND With Mica	(M-NPL)
	10.0	J5	37	28	22	20	4%			
		J6	40	32	30	22	9%	(11.00)	Brown Gravelly SAND Silty With Mica	(M-NPL)
	15.0	J7	13	12	13	14	11%	(15.00)	Brown Gravelly Coarse SAND With Mica	(M-NPL)
	20.0	J8	12	13	15	16	12%	(20.00)	Brown Gravelly Coarse SAND Silty With Mica	(M-NPL)
	25.0									

The subsurface information shown here was obtained for design and estimate purposes. It is made available so that users may have access to the same information available to the State. It is presented in good faith. By the nature of the exploration process, the information represents only a small fraction of the total volume of the material at the site. Interpolation between data samples may not be indicative of the actual material encountered.

CONTRACT **CONTRACTOR** Warren George

DRILL RIG OPERATOR J.MEYRES
SOIL & ROCK DESCRIPTION J.RYBICKI/S.MASLANKA
REG GEOTECHNICAL ENGINEER Prakash C. Roy
DATE APPROVED 30-JUL-2019 REVISION # 1
RESIDENT ENGINEER
STRUCTURE NAME **B.I.N.**

SM 282 E 12/02

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
GEOTECHNICAL ENGINEERING BUREAU
SUBSURFACE EXPLORATION LOG

PSN 12505 BORNUM 9
REGION 11
COUNTY QUEENS
PIN X735.82
PROJECT VAN WYCK EXPRESSWAY WIDENING

HOLE DM-W-9
LINE
STA
OFFSET ft
SURF. ELEV. 45.1
DEPTH TO WATER SEE NOTE

ACTUAL COORDINATES (N) 191,896.180 (E) 1,036,697.800 **DATUM** NAD83
DATE START 05-OCT-2017 **DATE FINISH** 05-OCT-2017

CASING	**O. D.**	4 1/2	**in**	**I. D.**	4	**in**	**WT OF HAMMER-CASING**	140	**lb**	**HAMMER FALL-CASING**	30 **in**
SAMPLER	**O. D.**	2	**in**	**I. D.**	1 3/8	**in**	**WT OF HAMMER-SAMPLER**	140	**lb**	**HAMMER FALL-SAMPLER**	30 **in**

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)	DESCRIPTION OF SOIL AND ROCK	
	25.0	J9	16	27	18	16	17%	(25.00) Brown Gravelly SAND With Mica	(M-NPL)
	30.0	J10	7	8	9	16	20%	(30.00) Brown SAND With Gravel Pieces And Mica	(M-NPL)
	35.0	J11	8	9	10	14	19%	(35.00) Brown SAND With Gravel Pieces And Mica	(M-NPL)
	40.0	J12	12	9	10	13	28%	(40.00) Brown Silty Fine SAND With Mica	(M-NPL)
	45.0	J13	25	25	27	27	19%	(45.00) Brown Silty Fine SAND With Gravel Pieces And Mica	(M-NPL)
	50.0								

The subsurface information shown here was obtained for design and estimate purposes. It is made available so that users may have access to the same information available to the State. It is presented in good faith. By the nature of the exploration process, the information represents only a small fraction of the total volume of the material at the site. Interpolation between data samples may not be indicative of the actual material encountered.

CONTRACT _____ **CONTRACTOR** Warren George

DRILL RIG OPERATOR J.MEYRES
SOIL & ROCK DESCRIPTION J.RYBICKI/S.MASLANKA
REG GEOTECHNICAL ENGINEER Prakash C. Roy
DATE APPROVED 30-JUL-2019 REVISION # 1
RESIDENT ENGINEER
STRUCTURE NAME **B.I.N.**

SM 282 E 12/02

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
GEOTECHNICAL ENGINEERING BUREAU
SUBSURFACE EXPLORATION LOG

PSN 12505 BORNUM 9
REGION 11
COUNTY QUEENS
PIN X735.82
PROJECT VAN WYCK EXPRESSWAY WIDENING

HOLE DM-W-9
LINE
STA
OFFSET ft
SURF. ELEV. 45.1
DEPTH TO WATER SEE NOTE

ACTUAL COORDINATES (N) 191,896.180 (E) 1,036,697.800 **DATUM** NAD83
DATE START 05-OCT-2017 **DATE FINISH** 05-OCT-2017

CASING	**O. D.**	4 1/2	**in**	**I. D.**	4	**in**	**WT OF HAMMER-CASING**	140	**lb**	**HAMMER FALL-CASING**	30 **in**
SAMPLER	**O. D.**	2	**in**	**I. D.**	1 3/8	**in**	**WT OF HAMMER-SAMPLER**	140	**lb**	**HAMMER FALL-SAMPLER**	30 **in**

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)	DESCRIPTION OF SOIL AND ROCK	
	50.0	J14	13	18	20	29	22%	(50.00) Brown Silty Fine SAND With Gravel Pieces And Mica	(M-NPL)

BOTTOM OF HOLE AT 52.00 ft

Notes
1.- Jars 1 to 3 are grab samples. Hand clearded up to 7 ft
2.- Safety hammer used for all other sampling
3.- No ground water reading taken, rotary mud drilling
4.- Vertical Datum: NAVD 88

The subsurface information shown here was obtained for design and estimate purposes. It is made available so that users may have access to the same information available to the State. It is presented in good faith. By the nature of the exploration process, the information represents only a small fraction of the total volume of the material at the site. Interpolation between data samples may not be indicative of the actual material encountered.

CONTRACT **CONTRACTOR** Warren George

DRILL RIG OPERATOR J.MEYRES
SOIL & ROCK DESCRIPTION J.RYBICKI/S.MASLANKA
REG GEOTECHNICAL ENGINEER Prakash C. Roy
DATE APPROVED 30-JUL-2019 REVISION # 1
RESIDENT ENGINEER
STRUCTURE NAME **B.I.N.**

SM 282 E 12/02

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
GEOTECHNICAL ENGINEERING BUREAU
SUBSURFACE EXPLORATION LOG

PSN 12505 BORNUM 10
REGION 11
COUNTY QUEENS
PIN X735.82
PROJECT VAN WYCK EXPRESSWAY WIDENING

HOLE DM-W-10
LINE
STA
OFFSET ft
SURF. ELEV. 45.8

ACTUAL COORDINATES (N) 191,625.730 (E) 1,036,556.030 **DATUM** NAD83 **DEPTH TO WATER** SEE NOTE

DATE START 15-SEP-2017 **DATE FINISH** 15-SEP-2017

CASING	**O. D.**	4 1/2	**in**	**I. D.**	4	**in**	**WT OF HAMMER-CASING**	140	**lb**	**HAMMER FALL-CASING**	30	**in**
SAMPLER	**O. D.**	2	**in**	**I. D.**	1 3/8	**in**	**WT OF HAMMER-SAMPLER**	140	**lb**	**HAMMER FALL-SAMPLER**	30	**in**

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)	DESCRIPTION OF SOIL AND ROCK	
	0.0	J1					6%	(0.00) Brown Coarse Sandy GRAVEL Silty	(M-NPL)
		J2					3%	(2.00) Brown Silty Coarse SAND Gravelly	(M-NPL)
	5.0	J3					3%	(4.00) Brown Silty Coarse SAND Gravelly	(M-NPL)
		J4	20	22	23	18	3%	(6.00) Brown Silty Coarse SAND Gravelly	(M-NPL)
		J5	24	18	25	25	2%	(8.00) Brown Silty SAND Gravelly	(M-NPL)
	10.0	J6	12	13	13	14	6%	(10.00) Brown Coarse Sandy GRAVEL Silty	(M-NPL)
	15.0	J7	6	8	8	8	12%	(15.00) Brown Silty Coarse SAND Gravelly	(M-NPL)
	20.0	J8	6	8	14	17	18%	(20.00) Brown Silty Coarse SAND With Gravel Pieces	(M-NPL)
	25.0								

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CONTRACT _____ **CONTRACTOR** Warren George

DRILL RIG OPERATOR S.LAURENZA
SOIL & ROCK DESCRIPTION D.LANDAU/S.MURPHY
REG GEOTECHNICAL ENGINEER Prakash C. Roy
DATE APPROVED 30-JUL-2019 REVISION # 1
RESIDENT ENGINEER
STRUCTURE NAME **B.I.N.**

SM 282 E 12/02

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
GEOTECHNICAL ENGINEERING BUREAU
SUBSURFACE EXPLORATION LOG

PSN 12505 BORNUM 10
REGION 11
COUNTY QUEENS
PIN X735.82
PROJECT VAN WYCK EXPRESSWAY WIDENING

HOLE DM-W-10
LINE
STA
OFFSET ft
SURF. ELEV. 45.8
DEPTH TO WATER SEE NOTE

ACTUAL COORDINATES (N) 191,625.730 (E) 1,036,556.030 **DATUM** NAD83
DATE START 15-SEP-2017 **DATE FINISH** 15-SEP-2017

CASING	**O. D.**	4 1/2	**in**	**I. D.**	4	**in**	**WT OF HAMMER-CASING**	140	**lb**	**HAMMER FALL-CASING**	30 **in**
SAMPLER	**O. D.**	2	**in**	**I. D.**	1 3/8	**in**	**WT OF HAMMER-SAMPLER**	140	**lb**	**HAMMER FALL-SAMPLER**	30 **in**

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)	DESCRIPTION OF SOIL AND ROCK	
	25.0	J9	6	8	9	10	14%	(25.00) Brown Silty Coarse SAND Gravelly	(M-NPL)
	30.0	J10	5	5	7	8	22%	(30.00) Brown Silty SAND With Gravel Pieces	(M-NPL)
	35.0	J11	7	9	10	7	27%	(35.00) Brown Silty SAND	(M-NPL)
	40.0	J12	8	11	10	8	29%	(40.00) Brown Silty Fine SAND	(M-NPL)
	45.0	J13	11	15	17	15	27%	(45.00) Brown Silty Fine SAND	(M-NPL)
	50.0								

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CONTRACT **CONTRACTOR** Warren George

DRILL RIG OPERATOR S.LAURENZA
SOIL & ROCK DESCRIPTION D.LANDAU/S.MURPHY
REG GEOTECHNICAL ENGINEER Prakash C. Roy
DATE APPROVED 30-JUL-2019 REVISION # 1
RESIDENT ENGINEER
STRUCTURE NAME **B.I.N.**

SM 282 E 12/02

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
GEOTECHNICAL ENGINEERING BUREAU
SUBSURFACE EXPLORATION LOG

PSN 12505 BORNUM 10
REGION 11
COUNTY QUEENS
PIN X735.82
PROJECT VAN WYCK EXPRESSWAY WIDENING

HOLE DM-W-10
LINE
STA
OFFSET ft
SURF. ELEV. 45.8

ACTUAL COORDINATES (N) 191,625.730 (E) 1,036,556.030 **DATUM** NAD83 **DEPTH TO WATER** SEE NOTE

DATE START 15-SEP-2017 **DATE FINISH** 15-SEP-2017

CASING	**O. D.**	4 1/2	**in**	**I. D.**	4	**in**	**WT OF HAMMER-CASING**	140	**lb**	**HAMMER FALL-CASING**	30 **in**
SAMPLER	**O. D.**	2	**in**	**I. D.**	1 3/8	**in**	**WT OF HAMMER-SAMPLER**	140	**lb**	**HAMMER FALL-SAMPLER**	30 **in**

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)	DESCRIPTION OF SOIL AND ROCK
	50.0	J14	6	12	13	12	30%	(50.00) Gray Fine SAND Silty (M-NPL)

BOTTOM OF HOLE AT 52.00 ft

Notes
1.- J1 to J3 were grab samples. Hand cleared up to 6 ft
2.- Automatic hammer used for all other samples
3.- Vertical Datum: NAVD 88
4.- No Ground water reading taken, rotary mud drilling

The subsurface information shown here was obtained for design and estimate purposes. It is made available so that users may have access to the same information available to the State. It is presented in good faith. By the nature of the exploration process, the information represents only a small fraction of the total volume of the material at the site. Interpolation between data samples may not be indicative of the actual material encountered.

CONTRACT **CONTRACTOR** Warren George

DRILL RIG OPERATOR S.LAURENZA
SOIL & ROCK DESCRIPTION D.LANDAU/S.MURPHY
REG GEOTECHNICAL ENGINEER Prakash C. Roy
DATE APPROVED 30-JUL-2019 REVISION # 1
RESIDENT ENGINEER
STRUCTURE NAME **B.I.N.**

SM 282 E 12/02

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
GEOTECHNICAL ENGINEERING BUREAU
SUBSURFACE EXPLORATION LOG

PSN 12505 BORNUM 11
REGION 11
COUNTY QUEENS
PIN X735.82
PROJECT VAN WYCK EXPRESSWAY WIDENING

HOLE DM-W-11
LINE
STA
OFFSET ft
SURF. ELEV. 43.2

ACTUAL COORDINATES (N) 191,135.080 (E) 1,036,763.940 **DATUM** NAD83 **DEPTH TO WATER** SEE NOTE

DATE START 22-SEP-2017 **DATE FINISH** 22-SEP-2017

CASING	**O. D.**	4 1/2	**in**	**I. D.**	4	**in**	**WT OF HAMMER-CASING**	140	**lb**	**HAMMER FALL-CASING**	30	**in**
SAMPLER	**O. D.**	2	**in**	**I. D.**	1 3/8	**in**	**WT OF HAMMER-SAMPLER**	140	**lb**	**HAMMER FALL-SAMPLER**	30	**in**

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)	DESCRIPTION OF SOIL AND ROCK	
	0.0	J1					13%	(0.00) Brown Clayey SAND Silty With Gravel Pieces	(M-LPL)
		J2					12%	(2.00) Brown Clayey SAND Silty With Gravel Pieces	(M-LPL)
	5.0	J3					6%	(4.00) Brown Gravelly SAND Silty With Mica	(M-NPL)
		J4	5	6	7	6	6%	(6.00) Brown And Orange Gravelly SAND With Mica	(M-NPL)
		J5	6	9	15	13	4%	(8.00) Brown And Orange Gravelly SAND With Mica	(M-NPL)
	10.0	J6	13	16	14	13	4%	(10.00) Brown And Orange Gravelly SAND With Mica	(M-NPL)
	15.0	J7	6	6	8	10	12%	(15.00) Brown Silty SAND With Gravel Pieces And Mica	(M-NPL)
	20.0	J8	7	8	11	10	17%	(20.00) Brown Silty Coarse SAND With Gravel Pieces And Mica	(M-NPL)
	25.0								

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CONTRACT _____ **CONTRACTOR** Warren George

DRILL RIG OPERATOR A.MEDRANO
SOIL & ROCK DESCRIPTION D.LANDAU/S.MASLANKA
REG GEOTECHNICAL ENGINEER Prakash C. Roy
DATE APPROVED 30-JUL-2019 REVISION # 1
RESIDENT ENGINEER
STRUCTURE NAME **B.I.N.**

SM 282 E 12/02

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
GEOTECHNICAL ENGINEERING BUREAU
SUBSURFACE EXPLORATION LOG

PSN 12505 BORNUM 11
REGION 11
COUNTY QUEENS
PIN X735.82
PROJECT VAN WYCK EXPRESSWAY WIDENING
ACTUAL COORDINATES (N) 191,135.080 (E) 1,036,763.940 **DATUM** NAD83
DATE START 22-SEP-2017 **DATE FINISH** 22-SEP-2017

HOLE DM-W-11
LINE
STA
OFFSET ft
SURF. ELEV. 43.2
DEPTH TO WATER SEE NOTE

CASING	**O. D.**	4 1/2	**in**	**I. D.**	4	**in**	**WT OF HAMMER-CASING**	140	**lb**	**HAMMER FALL-CASING**	30 **in**
SAMPLER	**O. D.**	2	**in**	**I. D.**	1 3/8	**in**	**WT OF HAMMER-SAMPLER**	140	**lb**	**HAMMER FALL-SAMPLER**	30 **in**

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)	DESCRIPTION OF SOIL AND ROCK	
	25.0	J9	8	7	9	9	20%	(25.00) Brown Silty SAND With Gravel Pieces And Mica	(M-NPL)
	30.0	J10	6	10	13	11	24%	(30.00) Brown Silty SAND With Mica	(M-NPL)
	35.0	J11	11	15	17	17	25%	(35.00) Brown Silty Fine SAND With Gravel Pieces And Mica	(M-NPL)
	40.0	J12	9	8	10	10	28%	(40.00) Brown Silty Fine SAND With Mica	(M-NPL)
	45.0	J13	12	17	27	21	26%	(45.00) Brown Silty Fine SAND With Mica	(M-NPL)
	50.0								

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CONTRACT **CONTRACTOR** Warren George

DRILL RIG OPERATOR A.MEDRANO
SOIL & ROCK DESCRIPTION D.LANDAU/S.MASLANKA
REG GEOTECHNICAL ENGINEER Prakash C. Roy
DATE APPROVED 30-JUL-2019 REVISION # 1
RESIDENT ENGINEER
STRUCTURE NAME **B.I.N.**

SM 282 E 12/02

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
GEOTECHNICAL ENGINEERING BUREAU
SUBSURFACE EXPLORATION LOG

PSN 12505 BORNUM 11
REGION 11
COUNTY QUEENS
PIN X735.82
PROJECT VAN WYCK EXPRESSWAY WIDENING

HOLE DM-W-11
LINE
STA
OFFSET ft
SURF. ELEV. 43.2

ACTUAL COORDINATES (N) 191,135.080 (E) 1,036,763.940 **DATUM** NAD83 **DEPTH TO WATER** SEE NOTE

DATE START 22-SEP-2017 **DATE FINISH** 22-SEP-2017

CASING	**O. D.**	4 1/2	**in**	**I. D.**	4	**in**	**WT OF HAMMER-CASING**	140	**lb**	**HAMMER FALL-CASING**	30	**in**
SAMPLER	**O. D.**	2	**in**	**I. D.**	1 3/8	**in**	**WT OF HAMMER-SAMPLER**	140	**lb**	**HAMMER FALL-SAMPLER**	30	**in**

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)	DESCRIPTION OF SOIL AND ROCK
	50.0	J14	14	17	20	23	24%	(50.00) Brown Silty SAND With Mica (M-NPL)

BOTTOM OF HOLE AT 52.00 ft

Notes
1.- Jars 1 to 3 were grab samples. Hand cleared up to 6 ft
2.- Safety hammer used for all other sampling
3.- Vertical Datum: NAVD 88
4.- An open well Piezometer was installed.

DATE	TIME	DEPTH ft			ARTESIAN HEAD HEIGHT ABOVE GROUND	FILLED WITH WATER AT END OF DAY
		HOLE	CASING	WATER		
24-Jan-18	09:30	46.00		28.40		
20-Apr-18	15:30	46.00		27.90		
24-May-18	10:57	46.00		27.50		
25-Sep-18	14:55	46.00		27.60		
29-Sep-18	13:00	46.00		28.00		
06-Oct-18	13:00	46.00		28.10		
07-Nov-18	10:30	46.00		28.20		
08-Nov-18	15:05	46.00		28.20		
09-Nov-18	11:10	46.00		28.20		

CONTRACT **CONTRACTOR** Warren George

DRILL RIG OPERATOR A.MEDRANO
SOIL & ROCK DESCRIPTION D.LANDAU/S.MASLANKA
REG GEOTECHNICAL ENGINEER Prakash C. Roy
DATE APPROVED 30-JUL-2019 REVISION # 1
RESIDENT ENGINEER
STRUCTURE NAME **B.I.N.**

SM 282 E 12/02

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
GEOTECHNICAL ENGINEERING BUREAU
SUBSURFACE EXPLORATION LOG

PSN 12505 BORNUM 12
REGION 11
COUNTY QUEENS
PIN X735.82
PROJECT VAN WYCK EXPRESSWAY WIDENING

HOLE DM-W-12
LINE
STA
OFFSET ft
SURF. ELEV. 42.3
DEPTH TO WATER SEE NOTE

ACTUAL COORDINATES (N) 190,937.660 (E) 1,036,841.760 **DATUM** NAD83
DATE START 11-SEP-2017 **DATE FINISH** 12-SEP-2017

CASING	**O. D.**	4 1/2	**in**	**I. D.**	4	**in**	**WT OF HAMMER-CASING**	140	**lb**	**HAMMER FALL-CASING**	30	**in**
SAMPLER	**O. D.**	2	**in**	**I. D.**	1 3/8	**in**	**WT OF HAMMER-SAMPLER**	140	**lb**	**HAMMER FALL-SAMPLER**	30	**in**

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)	DESCRIPTION OF SOIL AND ROCK	
	0.0	J1					15%	(0.00) Brown Gravelly SAND With Mica	(M-NPL)
	5.0	J2	12	11	10	9		(6.00) See Note 2	
		J3	9	11	12	12	13%	(8.00) Brown Silty SAND With Gravel Pieces And Mica	(M-NPL)
	10.0	J4	5	10	12	8	13%	(10.00) Brown Sandy GRAVEL	(M-NPL)
	15.0	J5	8	14	13	10	11%	(15.00) Brown Gravelly SAND Silty	(M-NPL)
	20.0	J6	9	10	12	12	15%	(20.00) Brown Silty SAND With Gravel Pieces And Mica	(M-NPL)
	25.0								

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CONTRACT _____ **CONTRACTOR** Warren George

DRILL RIG OPERATOR S.LAURENZA
SOIL & ROCK DESCRIPTION D.LANDAU/S.MASLANKA
REG GEOTECHNICAL ENGINEER Wiener Nivose
DATE APPROVED 29-JUL-2019 REVISION # 1
RESIDENT ENGINEER
STRUCTURE NAME **B.I.N.**

SM 282 E 12/02

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
GEOTECHNICAL ENGINEERING BUREAU
SUBSURFACE EXPLORATION LOG

PSN 12505 BORNUM 12
REGION 11
COUNTY QUEENS
PIN X735.82
PROJECT VAN WYCK EXPRESSWAY WIDENING
ACTUAL COORDINATES (N) 190,937.660 (E) 1,036,841.760 **DATUM** NAD83
DATE START 11-SEP-2017 **DATE FINISH** 12-SEP-2017

HOLE DM-W-12
LINE
STA
OFFSET ft
SURF. ELEV. 42.3
DEPTH TO WATER SEE NOTE

CASING	**O. D.**	4 1/2	**in**	**I. D.**	4	**in**	**WT OF HAMMER-CASING**	140	**lb**	**HAMMER FALL-CASING**	30	**in**
SAMPLER	**O. D.**	2	**in**	**I. D.**	1 3/8	**in**	**WT OF HAMMER-SAMPLER**	140	**lb**	**HAMMER FALL-SAMPLER**	30	**in**

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)	DESCRIPTION OF SOIL AND ROCK	
	25.0	J7	12	12	17	13	14%	(25.00) Brown Silty Fine SAND With Mica	(M-NPL)
	30.0	J8	7	10	10	10	19%	(30.00) Brown Silty SAND With Gravel Pieces And Mica	(M-NPL)
	35.0	J9	12	12	15	15	21%	(35.00) Brown Silty Fine SAND With Mica	(M-NPL)
	40.0	J10	10	12	13	13	25%	(40.00) Dark Brown Silty Fine SAND With Mica	(M-NPL)
	45.0	J11	16	13	25	20	24%	(45.00) Dark Brown Silty Fine SAND With Gravel Pieces And Mica	(M-NPL)
	50.0								

The subsurface information shown here was obtained for design and estimate purposes. It is made available so that users may have access to the same information available to the State. It is presented in good faith. By the nature of the exploration process, the information represents only a small fraction of the total volume of the material at the site. Interpolation between data samples may not be indicative of the actual material encountered.

CONTRACT _____ **CONTRACTOR** Warren George

DRILL RIG OPERATOR S.LAURENZA
SOIL & ROCK DESCRIPTION D.LANDAU/S.MASLANKA
REG GEOTECHNICAL ENGINEER Wiener Nivose
DATE APPROVED 29-JUL-2019 REVISION # 1
RESIDENT ENGINEER
STRUCTURE NAME **B.I.N.**

SM 282 E 12/02

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
GEOTECHNICAL ENGINEERING BUREAU
SUBSURFACE EXPLORATION LOG

PSN 12505 BORNUM 12
REGION 11
COUNTY QUEENS
PIN X735.82
PROJECT VAN WYCK EXPRESSWAY WIDENING

HOLE DM-W-12
LINE
STA
OFFSET ft
SURF. ELEV. 42.3
DEPTH TO WATER SEE NOTE

ACTUAL COORDINATES (N) 190,937.660 (E) 1,036,841.760 **DATUM** NAD83
DATE START 11-SEP-2017 **DATE FINISH** 12-SEP-2017

CASING	**O. D.**	4 1/2	**in**	**I. D.**	4	**in**	**WT OF HAMMER-CASING**	140	**lb**	**HAMMER FALL-CASING**	30 **in**
SAMPLER	**O. D.**	2	**in**	**I. D.**	1 3/8	**in**	**WT OF HAMMER-SAMPLER**	140	**lb**	**HAMMER FALL-SAMPLER**	30 **in**

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)	DESCRIPTION OF SOIL AND ROCK	
	50.0	J12	10	10	15	20	15%	(50.00) Dark Brown Gravelly SAND With Mica	(M-NPL)

BOTTOM OF HOLE AT 52.00 ft

Notes
1.- Jar 1 was grab sample. Hand cleared up to 6 ft
6" of Asphalt from 0 to 1/2 ft
2.- No visual description, Jar J2 was broken
3.- Safety hammer used for all other sampling
4.- Vertical Datum: NAVD 88
5.- Rotary mud drilling, no groundwater reading taken

CONTRACT **CONTRACTOR** Warren George

DRILL RIG OPERATOR S.LAURENZA
SOIL & ROCK DESCRIPTION D.LANDAU/S.MASLANKA
REG GEOTECHNICAL ENGINEER Wiener Nivose
DATE APPROVED 29-JUL-2019 REVISION # 1
RESIDENT ENGINEER
STRUCTURE NAME **B.I.N.**

SM 282 E 12/02

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
GEOTECHNICAL ENGINEERING BUREAU
SUBSURFACE EXPLORATION LOG

PSN 12505 BORNUM 13
REGION 11
COUNTY QUEENS
PIN X735.82
PROJECT VAN WYCK EXPRESSWAY WIDENING
ACTUAL COORDINATES (N) 189,354.470 (E) 1,037,512.420 **DATUM** NAD83
DATE START 13-SEP-2017 **DATE FINISH** 14-SEP-2017

HOLE DM-W-13
LINE
STA
OFFSET ft
SURF. ELEV. 36.6
DEPTH TO WATER SEE NOTE

CASING **O. D.** in **I. D.** in **WT OF HAMMER-CASING** lb **HAMMER FALL-CASING** in
SAMPLER **O. D.** in **I. D.** in **WT OF HAMMER-SAMPLER** lb **HAMMER FALL-SAMPLER** in

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)	DESCRIPTION OF SOIL AND ROCK
	0.0	J1					8%	(0.00)
	5.0							

Notes
1.- J1 was grab sample. Hand cleared up to 5ft.
2.- Water pipe encountered at 5 ft and boring was abandoned.
3.- Automatic hammer used for all other sampling
4.- Vertical Datum: NAVD 88
5.- Groundwater not encountered

The subsurface information shown here was obtained for design and estimate purposes. It is made available so that users may have access to the same information available to the State. It is presented in good faith. By the nature of the exploration process, the information represents only a small fraction of the total volume of the material at the site. Interpolation between data samples may not be indicative of the actual material encountered.

CONTRACT **CONTRACTOR** Warren George

DRILL RIG OPERATOR J.MEYRES
SOIL & ROCK DESCRIPTION D.LANDAU/S.MASLANKA
REG GEOTECHNICAL ENGINEER Prakash C. Roy
DATE APPROVED 30-JUL-2019 REVISION # 2
RESIDENT ENGINEER
STRUCTURE NAME **B.I.N.**

SM 282 E 12/02

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
GEOTECHNICAL ENGINEERING BUREAU
SUBSURFACE EXPLORATION LOG

PSN 12505 BORNUM 14
REGION 11
COUNTY QUEENS
PIN X735.82
PROJECT VAN WYCK EXPRESSWAY WIDENING

HOLE DM-W-14
LINE
STA
OFFSET ft
SURF. ELEV. 37.3

ACTUAL COORDINATES (N) 189,403.110 (E) 1,037,796.810 **DATUM** NAD83 **DEPTH TO WATER** SEE NOTE

DATE START 04-OCT-2017 **DATE FINISH** 04-OCT-2017

CASING	**O. D.**	4 1/2	**in**	**I. D.**	4	**in**	**WT OF HAMMER-CASING**	140	**lb**	**HAMMER FALL-CASING**	30 **in**
SAMPLER	**O. D.**	2	**in**	**I. D.**	1 3/8	**in**	**WT OF HAMMER-SAMPLER**	140	**lb**	**HAMMER FALL-SAMPLER**	30 **in**

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)	DESCRIPTION OF SOIL AND ROCK	
	0.0	J1					6%	(0.00) Brown Sandy SILT With Gravel Pieces, Slag And Root Fibers	(M-NPL)
		J2					4%	(2.00) Brown Gravelly SAND Silty With Mica	(M-NPL)
	5.0	J3					5%	(4.00) Brown Silty SAND With Gravel Pieces And Mica	(M-NPL)
		J4	5	7	8	9	4%	(7.00) Brown And Orange Silty SAND With Gravel Pieces And Mica	(M-NPL)
	10.0	J5	8	9	9	10	4%	(9.00) Brown And Orange Silty SAND With Gravel Pieces And Mica	(M-NPL)
		J6	8	8	7	7	4%	(11.00) Brown And Orange Silty SAND With Gravel Pieces And Mica	(M-NPL)
	15.0	J7	6	6	6	8	10%	(15.00) Brown Silty SAND Gravelly With Mica	(M-NPL)
	20.0	J8	8	8	11	11	17%	(20.00) Brown Silty SAND Gravelly With Mica	(M-NPL)
	25.0								

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CONTRACT **CONTRACTOR** Warren George

DRILL RIG OPERATOR J.MEYRES
SOIL & ROCK DESCRIPTION D.LANDAU/J.RYBICKI
REG GEOTECHNICAL ENGINEER Prakash C. Roy
DATE APPROVED 29-JUL-2019 REVISION # 1
RESIDENT ENGINEER
STRUCTURE NAME **B.I.N.**

SM 282 E 12/02

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
GEOTECHNICAL ENGINEERING BUREAU
SUBSURFACE EXPLORATION LOG

PSN 12505 BORNUM 14
REGION 11
COUNTY QUEENS
PIN X735.82
PROJECT VAN WYCK EXPRESSWAY WIDENING

HOLE DM-W-14
LINE
STA
OFFSET ft
SURF. ELEV. 37.3

ACTUAL COORDINATES (N) 189,403.110 (E) 1,037,796.810 **DATUM** NAD83 **DEPTH TO WATER** SEE NOTE

DATE START 04-OCT-2017 **DATE FINISH** 04-OCT-2017

CASING	**O. D.**	4 1/2	**in**	**I. D.**	4	**in**	**WT OF HAMMER-CASING**	140	**lb**	**HAMMER FALL-CASING**	30	**in**
SAMPLER	**O. D.**	2	**in**	**I. D.**	1 3/8	**in**	**WT OF HAMMER-SAMPLER**	140	**lb**	**HAMMER FALL-SAMPLER**	30	**in**

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)	DESCRIPTION OF SOIL AND ROCK	
	25.0	J9	8	8	9	10	24%	(25.00) Brown Silty Fine SAND With Mica	(M-NPL)
	30.0	J10	11	11	12	10	23%	(30.00) Brown Silty Fine SAND With Mica	(M-NPL)
	35.0	J11	16	15	15	20	16%	(35.00) Brown Silty SAND With Gravel Pieces And Mica	(M-NPL)
	40.0	J12	12	12	19	14	19%	(40.00) Brown Silty SAND With Gravel Pieces And Mica	(M-NPL)
	45.0	J13	15	16	13	12	21%	(45.00) Brown And Orange Silty SAND With Gravel Pieces And Mica	(M-NPL)
	50.0								

The subsurface information shown here was obtained for design and estimate purposes. It is made available so that users may have access to the same information available to the State. It is presented in good faith. By the nature of the exploration process, the information represents only a small fraction of the total volume of the material at the site. Interpolation between data samples may not be indicative of the actual material encountered.

CONTRACT _____ **CONTRACTOR** Warren George

DRILL RIG OPERATOR J.MEYRES
SOIL & ROCK DESCRIPTION D.LANDAU/J.RYBICKI
REG GEOTECHNICAL ENGINEER Prakash C. Roy
DATE APPROVED 29-JUL-2019 REVISION # 1
RESIDENT ENGINEER
STRUCTURE NAME **B.I.N.**

SM 282 E 12/02

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
GEOTECHNICAL ENGINEERING BUREAU
SUBSURFACE EXPLORATION LOG

PSN 12505 BORNUM 14
REGION 11
COUNTY QUEENS
PIN X735.82
PROJECT VAN WYCK EXPRESSWAY WIDENING

HOLE DM-W-14
LINE
STA
OFFSET ft
SURF. ELEV. 37.3

ACTUAL COORDINATES (N) 189,403.110 (E) 1,037,796.810 **DATUM** NAD83 **DEPTH TO WATER** SEE NOTE

DATE START 04-OCT-2017 **DATE FINISH** 04-OCT-2017

CASING	**O. D.**	4 1/2	**in**	**I. D.**	4	**in**	**WT OF HAMMER-CASING**	140	**lb**	**HAMMER FALL-CASING**	30 **in**
SAMPLER	**O. D.**	2	**in**	**I. D.**	1 3/8	**in**	**WT OF HAMMER-SAMPLER**	140	**lb**	**HAMMER FALL-SAMPLER**	30 **in**

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)	DESCRIPTION OF SOIL AND ROCK	
	50.0	J14	15	22	19	17	22%	(50.00) Light Brown Silty Fine SAND With Gravel Pieces And Mica	(M-NPL)

BOTTOM OF HOLE AT 52.00 ft

1.- J1 - J3 Jars were hand cleared
2.- Safety hammer used for all other sampling
3.- Rotary mud drilling, no groundwater reading taken

The subsurface information shown here was obtained for design and estimate purposes. It is made available so that users may have access to the same information available to the State. It is presented in good faith. By the nature of the exploration process, the information represents only a small fraction of the total volume of the material at the site. Interpolation between data samples may not be indicative of the actual material encountered.

CONTRACT **CONTRACTOR** Warren George

DRILL RIG OPERATOR J.MEYRES
SOIL & ROCK DESCRIPTION D.LANDAU/J.RYBICKI
REG GEOTECHNICAL ENGINEER Prakash C. Roy
DATE APPROVED 29-JUL-2019 REVISION # 1
RESIDENT ENGINEER
STRUCTURE NAME **B.I.N.**

SM 282 E 12/02

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
GEOTECHNICAL ENGINEERING BUREAU
SUBSURFACE EXPLORATION LOG

PSN 12505 BORNUM 15
REGION 11
COUNTY QUEENS
PIN X735.82
PROJECT VAN WYCK EXPRESSWAY WIDENING
ACTUAL COORDINATES (N) 189,246.000 (E) 1,037,555.790 **DATUM** NAD83
DATE START 13-SEP-2017 **DATE FINISH** 13-SEP-2017

HOLE DM-W-15
LINE
STA
OFFSET ft
SURF. ELEV. 37.3
DEPTH TO WATER SEE NOTE

CASING	**O. D.**	4 1/2	**in**	**I. D.**	4	**in**	**WT OF HAMMER-CASING**	140	**lb**	**HAMMER FALL-CASING**	30	**in**
SAMPLER	**O. D.**	2	**in**	**I. D.**	1 3/8	**in**	**WT OF HAMMER-SAMPLER**	140	**lb**	**HAMMER FALL-SAMPLER**	30	**in**

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)	DESCRIPTION OF SOIL AND ROCK	
	0.0							(0.00) See Note 1	
	5.0	J1	8	13	12	11	5%	(6.00) Brown And Orange Silty SAND With Gravel Pieces	(M-NPL)
		J2	9	16	18	15	6%	(8.00) Brown And Orange Silty SAND With Gravel Pieces	(M-NPL)
	10.0	J3	7	7	9	8	18%	(10.00) Brown Gravelly Coarse SAND With Mica	(M-NPL)
	15.0	J4	6	6	9	8	18%	(15.00) Brown Gravelly SAND With Mica	(M-NPL)
	20.0	J5	9	9	12	8	22%	(20.00) Brown Silty Fine SAND With Gravel Pieces And Mica	(M-NPL)
	25.0								

The subsurface information shown here was obtained for design and estimate purposes. It is made available so that users may have access to the same information available to the State. It is presented in good faith. By the nature of the exploration process, the information represents only a small fraction of the total volume of the material at the site. Interpolation between data samples may not be indicative of the actual material encountered.

CONTRACT _____ **CONTRACTOR** Warren George

DRILL RIG OPERATOR S.LAURENZA
SOIL & ROCK DESCRIPTION D.LANDAU/S.MASLANKA
REG GEOTECHNICAL ENGINEER Prakash C. Roy
DATE APPROVED 30-JUL-2019 REVISION # 1
RESIDENT ENGINEER
STRUCTURE NAME **B.I.N.**

SM 282 E 12/02

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
GEOTECHNICAL ENGINEERING BUREAU
SUBSURFACE EXPLORATION LOG

PSN 12505 BORNUM 15
REGION 11
COUNTY QUEENS
PIN X735.82
PROJECT VAN WYCK EXPRESSWAY WIDENING
ACTUAL COORDINATES (N) 189,246.000 (E) 1,037,555.790 **DATUM** NAD83
DATE START 13-SEP-2017 **DATE FINISH** 13-SEP-2017

HOLE DM-W-15
LINE
STA
OFFSET ft
SURF. ELEV. 37.3
DEPTH TO WATER SEE NOTE

CASING	**O. D.**	4 1/2	**in**	**I. D.**	4	**in**	**WT OF HAMMER-CASING**	140	**lb**	**HAMMER FALL-CASING**	30 **in**
SAMPLER	**O. D.**	2	**in**	**I. D.**	1 3/8	**in**	**WT OF HAMMER-SAMPLER**	140	**lb**	**HAMMER FALL-SAMPLER**	30 **in**

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)	DESCRIPTION OF SOIL AND ROCK	
	25.0	J6	7	8	13	11	22%	(25.00) Brown Silty Fine SAND With Mica	(M-NPL)
	30.0	J7	14	10	13	10	26%	(30.00) Brown Silty Fine SAND With Gravel Pieces And Mica	(M-NPL)
	35.0	J8	15	13	16	11	21%	(35.00) Brown Silty SAND With Gravel Pieces And Mica	(M-NPL)
	40.0	J9	11	12	12	9	24%	(40.00) Brown Silty SAND With Gravel Piecse And Mica	(M-NPL)
	45.0	J10	11	8	9	10	24%	(45.00) Brown Silty SAND With Mica	(M-NPL)
	50.0								

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CONTRACT _____ **CONTRACTOR** Warren George

DRILL RIG OPERATOR S.LAURENZA
SOIL & ROCK DESCRIPTION D.LANDAU/S.MASLANKA
REG GEOTECHNICAL ENGINEER Prakash C. Roy
DATE APPROVED 30-JUL-2019 REVISION # 1
RESIDENT ENGINEER
STRUCTURE NAME **B.I.N.**

SM 282 E 12/02

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
GEOTECHNICAL ENGINEERING BUREAU
SUBSURFACE EXPLORATION LOG

PSN 12505 BORNUM 15
REGION 11
COUNTY QUEENS
PIN X735.82
PROJECT VAN WYCK EXPRESSWAY WIDENING

HOLE DM-W-15
LINE
STA
OFFSET ft
SURF. ELEV. 37.3

ACTUAL COORDINATES (N) 189,246.000 (E) 1,037,555.790 **DATUM** NAD83 **DEPTH TO WATER** SEE NOTE

DATE START 13-SEP-2017 **DATE FINISH** 13-SEP-2017

CASING	**O. D.**	4 1/2	**in**	**I. D.**	4	**in**	**WT OF HAMMER-CASING**	140	**lb**	**HAMMER FALL-CASING**	30 **in**
SAMPLER	**O. D.**	2	**in**	**I. D.**	1 3/8	**in**	**WT OF HAMMER-SAMPLER**	140	**lb**	**HAMMER FALL-SAMPLER**	30 **in**

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)	DESCRIPTION OF SOIL AND ROCK	
	50.0	J11	14	16	18	19	26%	(50.00) Brown And Orange Silty Fine SAND With Mica	(M-NPL)

BOTTOM OF HOLE AT 52.00 ft

Notes
1.- Hand augering to 6 ft depth. No soil description due to no jar samples taken
2.- Automatic hammer used for all other sampling
3.- Rotary mud drilling, no groundwater reading taken
4.- Vertical Datum: NAVD 88

The subsurface information shown here was obtained for design and estimate purposes. It is made available so that users may have access to the same information available to the State. It is presented in good faith. By the nature of the exploration process, the information represents only a small fraction of the total volume of the material at the site. Interpolation between data samples may not be indicative of the actual material encountered.

CONTRACT **CONTRACTOR** Warren George

DRILL RIG OPERATOR S.LAURENZA
SOIL & ROCK DESCRIPTION D.LANDAU/S.MASLANKA
REG GEOTECHNICAL ENGINEER Prakash C. Roy
DATE APPROVED 30-JUL-2019 REVISION # 1
RESIDENT ENGINEER
STRUCTURE NAME **B.I.N.**

SM 282 E 12/02

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
GEOTECHNICAL ENGINEERING BUREAU
SUBSURFACE EXPLORATION LOG

PSN 12505 BORNUM 16
REGION 11
COUNTY QUEENS
PIN X735.82
PROJECT VAN WYCK EXPRESSWAY WIDENING

HOLE DM-W-16
LINE
STA
OFFSET ft
SURF. ELEV. 37.2

ACTUAL COORDINATES (N) 189,228.440 (E) 1,037,867.880 **DATUM** NAD83 **DEPTH TO WATER** SEE NOTE

DATE START 04-OCT-2017 **DATE FINISH** 04-OCT-2017

CASING	**O. D.**	4 1/2	**in**	**I. D.**	4	**in**	**WT OF HAMMER-CASING**	140	**lb**	**HAMMER FALL-CASING**	30	**in**
SAMPLER	**O. D.**	2	**in**	**I. D.**	1 3/8	**in**	**WT OF HAMMER-SAMPLER**	140	**lb**	**HAMMER FALL-SAMPLER**	30	**in**

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)	DESCRIPTION OF SOIL AND ROCK	
	0.0	J1					11%	(0.00) Brown Gravelly Coarse SAND Silty With Mica And Pieces Of Wood	(M-NPL)
		J2					4%	(2.00) Brown Gravelly Coarse SAND With Mica	(M-NPL)
	5.0	J3					4%	(4.00) Brown Gravelly SAND With Mica And Root Fibers	(M-NPL)
		J4	6	4	5	7	5%	(6.00) Brown Silty SAND With Gravel Pieces And Mica	(M-NPL)
	10.0	J5	6	9	12	11	5%	(8.00) Brown Gravelly SAND Silty With Mica	(M-NPL)
		J6	7	8	11	9	4%	(10.00) Brown Gravelly SAND Silty With Mica	(M-NPL)
	15.0	J7	6	6	7	8	19%	(15.00) Brown Silty SAND With Mica	(W-NPL)
	20.0	J8	6	8	12	13	20%	(20.00) Brown Silty SAND With Gravel Pieces And Mica	(W-NPL)
	25.0								

The subsurface information shown here was obtained for design and estimate purposes. It is made available so that users may have access to the same information available to the State. It is presented in good faith. By the nature of the exploration process, the information represents only a small fraction of the total volume of the material at the site. Interpolation between data samples may not be indicative of the actual material encountered.

CONTRACT _____ **CONTRACTOR** Warren George

DRILL RIG OPERATOR A.MEDRANO
SOIL & ROCK DESCRIPTION D.LANDAU/J.RYBICKI
REG GEOTECHNICAL ENGINEER Prakash C. Roy
DATE APPROVED 30-JUL-2019 REVISION # 1
RESIDENT ENGINEER
STRUCTURE NAME **B.I.N.**

SM 282 E 12/02

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
GEOTECHNICAL ENGINEERING BUREAU
SUBSURFACE EXPLORATION LOG

PSN 12505 BORNUM 16
REGION 11
COUNTY QUEENS
PIN X735.82
PROJECT VAN WYCK EXPRESSWAY WIDENING
ACTUAL COORDINATES (N) 189,228.440 (E) 1,037,867.880 **DATUM** NAD83
DATE START 04-OCT-2017 **DATE FINISH** 04-OCT-2017

HOLE DM-W-16
LINE
STA
OFFSET ft
SURF. ELEV. 37.2
DEPTH TO WATER SEE NOTE

CASING	**O. D.**	4 1/2	**in**	**I. D.**	4	**in**	**WT OF HAMMER-CASING**	140	**lb**	**HAMMER FALL-CASING**	30	**in**
SAMPLER	**O. D.**	2	**in**	**I. D.**	1 3/8	**in**	**WT OF HAMMER-SAMPLER**	140	**lb**	**HAMMER FALL-SAMPLER**	30	**in**

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)	DESCRIPTION OF SOIL AND ROCK	
	25.0	J9	6	8	11	8	20%	(25.00) Brown Silty SAND With Gravel Pieces And Mica	(W-NPL)
	30.0	J10	9	8	11	13	19%	(30.00) Brown Silty Coarse SAND With Mica	(W-NPL)
	35.0	J11	6	7	12	13	21%	(35.00) Brown Silty SAND With Gravel Pieces And Mica	(W-NPL)
	40.0	J12	5	5	6	7	22%	(40.00) Brown Silty SAND With Gravel Pieces And Mica	(W-NPL)
	45.0	J13	7	6	9	11	26%	(45.00) Brown Silty Fine SAND With Gravel Pieces And Mica	(W-NPL)
	50.0								

The subsurface information shown here was obtained for design and estimate purposes. It is made available so that users may have access to the same information available to the State. It is presented in good faith. By the nature of the exploration process, the information represents only a small fraction of the total volume of the material at the site. Interpolation between data samples may not be indicative of the actual material encountered.

CONTRACT _____ **CONTRACTOR** Warren George

DRILL RIG OPERATOR A.MEDRANO
SOIL & ROCK DESCRIPTION D.LANDAU/J.RYBICKI
REG GEOTECHNICAL ENGINEER Prakash C. Roy
DATE APPROVED 30-JUL-2019 REVISION # 1
RESIDENT ENGINEER
STRUCTURE NAME **B.I.N.**

SM 282 E 12/02

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
GEOTECHNICAL ENGINEERING BUREAU
SUBSURFACE EXPLORATION LOG

PSN 12505 BORNUM 16
REGION 11
COUNTY QUEENS
PIN X735.82
PROJECT VAN WYCK EXPRESSWAY WIDENING

HOLE DM-W-16
LINE
STA
OFFSET ft
SURF. ELEV. 37.2

ACTUAL COORDINATES (N) 189,228.440 (E) 1,037,867.880 **DATUM** NAD83 **DEPTH TO WATER** SEE NOTE

DATE START 04-OCT-2017 **DATE FINISH** 04-OCT-2017

CASING	**O. D.**	4 1/2	**in**	**I. D.**	4	**in**	**WT OF HAMMER-CASING**	140	**lb**	**HAMMER FALL-CASING**	30 **in**
SAMPLER	**O. D.**	2	**in**	**I. D.**	1 3/8	**in**	**WT OF HAMMER-SAMPLER**	140	**lb**	**HAMMER FALL-SAMPLER**	30 **in**

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)	DESCRIPTION OF SOIL AND ROCK	
	50.0	J14	8	10	17	18	25%	(50.00) Brown Silty Fine SAND With Mica	(W-NPL)

BOTTOM OF HOLE AT 52.00 ft

Notes
1. *Jars 1 to 3 were grab samples. Hand cleared up to 6ft*
2. *Safety hammer used for all other sampling.*
3. *Rotary mud drilling, no groundwater reading taken*

The subsurface information shown here was obtained for design and estimate purposes. It is made available so that users may have access to the same information available to the State. It is presented in good faith. By the nature of the exploration process, the information represents only a small fraction of the total volume of the material at the site. Interpolation between data samples may not be indicative of the actual material encountered.

CONTRACT **CONTRACTOR** Warren George

DRILL RIG OPERATOR A.MEDRANO
SOIL & ROCK DESCRIPTION D.LANDAU/J.RYBICKI
REG GEOTECHNICAL ENGINEER Prakash C. Roy
DATE APPROVED 30-JUL-2019 REVISION # 1
RESIDENT ENGINEER
STRUCTURE NAME **B.I.N.**

SM 282 E 12/02

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
GEOTECHNICAL ENGINEERING BUREAU
SUBSURFACE EXPLORATION LOG

PSN 12505 BORNUM 17
REGION 11
COUNTY QUEENS
PIN X735.82
PROJECT VAN WYCK EXPRESSWAY WIDENING

HOLE DM-W-17
LINE
STA
OFFSET ft
SURF. ELEV. 39.7

ACTUAL COORDINATES (N) 188,787.340 (E) 1,037,720.500 **DATUM** NAD83 **DEPTH TO WATER** SEE NOTE

DATE START 21-SEP-2017 **DATE FINISH** 21-SEP-2017

CASING	**O. D.**	4 1/2	**in**	**I. D.**	4	**in**	**WT OF HAMMER-CASING**	140	**lb**	**HAMMER FALL-CASING**	30 **in**
SAMPLER	**O. D.**	2	**in**	**I. D.**	1 3/8	**in**	**WT OF HAMMER-SAMPLER**	140	**lb**	**HAMMER FALL-SAMPLER**	30 **in**

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)	DESCRIPTION OF SOIL AND ROCK	
	0.0	J1					7%	(0.00) Brown Gravelly SAND Silty With Pieces Of Concrete	(M-NPL)
		J2					10%	(2.00) Brown Clayey SILT Sandy With Gravel Pieces	(M-LPL)
	5.0	J3					4%	(4.00) Brown Gravelly Coarse SAND Silty With Mica	(M-NPL)
		J4	5	9	9	10	4%	(6.00) Brown Silty SAND Gravelly	(M-NPL)
	10.0	J5	11	11	15	22	4%	(8.00) Brown Silty SAND Gravelly	(M-NPL)
		J6	12	17	19	20	5%	(10.00) Brown Silty SAND With Gravel Pieces And Mica	(M-NPL)
	15.0	J7	7	8	10	10	20%	(15.00) Brown Silty Coarse SAND With Mica	(M-NPL)
	20.0	J8	11	11	14	14	17%	(20.00) Brown Silty SAND With Gravel Pieces And Mica	(M-NPL)
	25.0								

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CONTRACT _____ **CONTRACTOR** Warren George

DRILL RIG OPERATOR A.MEDRANO\
SOIL & ROCK DESCRIPTION D.LANDAU/J.RYBICKI
REG GEOTECHNICAL ENGINEER Prakash C. Roy
DATE APPROVED 30-JUL-2019 REVISION # 1
RESIDENT ENGINEER
STRUCTURE NAME **B.I.N.**

SM 282 E 12/02

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
GEOTECHNICAL ENGINEERING BUREAU
SUBSURFACE EXPLORATION LOG

PSN 12505 BORNUM 17
REGION 11
COUNTY QUEENS
PIN X735.82
PROJECT VAN WYCK EXPRESSWAY WIDENING
ACTUAL COORDINATES (N) 188,787.340 (E) 1,037,720.500 **DATUM** NAD83
DATE START 21-SEP-2017 **DATE FINISH** 21-SEP-2017

HOLE DM-W-17
LINE
STA
OFFSET ft
SURF. ELEV. 39.7
DEPTH TO WATER SEE NOTE

CASING	**O. D.**	4 1/2	**in**	**I. D.**	4	**in**	**WT OF HAMMER-CASING**	140	**lb**	**HAMMER FALL-CASING**	30 **in**
SAMPLER	**O. D.**	2	**in**	**I. D.**	1 3/8	**in**	**WT OF HAMMER-SAMPLER**	140	**lb**	**HAMMER FALL-SAMPLER**	30 **in**

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)	DESCRIPTION OF SOIL AND ROCK	
	25.0	J9	11	18	24	23	22%	(25.00) Brown Silty SAND With Mica	(M-NPL)
	30.0	J10	13	20	30	17	21%	(30.00) Brown Silty SAND With Gravel Pieces And Mica	(M-NPL)
	35.0	J11	15	20	20	24	20%	(35.00) Brown Silty SAND With Gravel Pieces And Mica	(M-NPL)
	40.0	J12	11	16	16	18	22%	(40.00) Brown Silty SAND With Gravel Pieces And Mica	(M-NPL)
	45.0	J13	10	11	15	16	26%	(45.00) Brown Silty SAND With Mica	(M-NPL)
	50.0								

The subsurface information shown here was obtained for design and estimate purposes. It is made available so that users may have access to the same information available to the State. It is presented in good faith. By the nature of the exploration process, the information represents only a small fraction of the total volume of the material at the site. Interpolation between data samples may not be indicative of the actual material encountered.

CONTRACT **CONTRACTOR** Warren George

DRILL RIG OPERATOR A.MEDRANO\
SOIL & ROCK DESCRIPTION D.LANDAU/J.RYBICKI
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DATE APPROVED 30-JUL-2019 REVISION # 1
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STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
GEOTECHNICAL ENGINEERING BUREAU
SUBSURFACE EXPLORATION LOG

PSN 12505 BORNUM 17
REGION 11
COUNTY QUEENS
PIN X735.82
PROJECT VAN WYCK EXPRESSWAY WIDENING

HOLE DM-W-17
LINE
STA
OFFSET ft
SURF. ELEV. 39.7
DEPTH TO WATER SEE NOTE

ACTUAL COORDINATES (N) 188,787.340 (E) 1,037,720.500 **DATUM** NAD83
DATE START 21-SEP-2017 **DATE FINISH** 21-SEP-2017

CASING	**O. D.**	4 1/2	**in**	**I. D.**	4	**in**	**WT OF HAMMER-CASING**	140	**lb**	**HAMMER FALL-CASING**	30 **in**
SAMPLER	**O. D.**	2	**in**	**I. D.**	1 3/8	**in**	**WT OF HAMMER-SAMPLER**	140	**lb**	**HAMMER FALL-SAMPLER**	30 **in**

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)	DESCRIPTION OF SOIL AND ROCK
	50.0	J14	14	11	7	10	29%	(50.00) Light Brown And Orange Silty Fine SAND With Mica (M-NPL)

BOTTOM OF HOLE AT 52.00 ft

Notes
1.- Jars 1 to 3 were grab samples. Hand cleared up to 6ft
2.- Safety hammer used for all other sampling
3.- Vertical Datum: NAVD 88
4.- An open well Piezometer was installed.

DATE	TIME	DEPTH ft			ARTESIAN HEAD HEIGHT ABOVE GROUND	FILLED WITH WATER AT END OF DAY
		HOLE	CASING	WATER		
25-Sep-17	15:10	45.00		26.70		
29-Sep-17	13:00	45.00		26.00		
06-Oct-17	13:00	45.00		26.90		
07-Nov-17	10:45	45.00		26.90		
08-Nov-17	14:55	45.00		26.90		
09-Nov-17	11:00	45.00		26.60		
24-Jan-18	10:00	45.00		27.10		
20-Apr-18	15:00	45.00		26.20		
24-May-18	11:10	45.00		26.20		

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DRILL RIG OPERATOR A.MEDRANO\
SOIL & ROCK DESCRIPTION D.LANDAU/J.RYBICKI
REG GEOTECHNICAL ENGINEER Prakash C. Roy
DATE APPROVED 30-JUL-2019 REVISION # 1
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SM 282 E 12/02

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
GEOTECHNICAL ENGINEERING BUREAU
SUBSURFACE EXPLORATION LOG

PSN 12505 BORNUM 18.2
REGION 11
COUNTY QUEENS
PIN X735.82
PROJECT VAN WYCK EXPRESSWAY WIDENING
ACTUAL COORDINATES (N) 186,085.250 (E) 1,038,734.280 **DATUM** NAD83
DATE START 14-SEP-2017 **DATE FINISH** 18-SEP-2017

HOLE DM-W-18B
LINE
STA
OFFSET ft
SURF. ELEV. 29.7
DEPTH TO WATER SEE NOTE

CASING	**O. D.**	4 1/2	**in**	**I. D.**	4	**in**	**WT OF HAMMER-CASING**	140	**lb**	**HAMMER FALL-CASING**	30 **in**
SAMPLER	**O. D.**	2	**in**	**I. D.**	1 3/8	**in**	**WT OF HAMMER-SAMPLER**	140	**lb**	**HAMMER FALL-SAMPLER**	30 **in**

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)	DESCRIPTION OF SOIL AND ROCK	
	0.0	J1					8%	(0.00) Brown Silty SAND Gravelly With Root Fibers	(M-NPL)
	5.0	J2	2	3	3	2	10%	(7.00) Brown Silty SAND Gravelly	(M-NPL)
	10.0	J3	WOH	6	5	4	10%	(9.00) Brown Silty SAND Gravelly With Asphalt	(M-NPL)
	15.0	J4	6	5	4	4		(15.00) See Note 2	
	20.0	J5	3	3	6	9	26%	(20.00) Brown Silty SAND With Gravel Pieces	(M-NPL)
	25.0								

The subsurface information shown here was obtained for design and estimate purposes. It is made available so that users may have access to the same information available to the State. It is presented in good faith. By the nature of the exploration process, the information represents only a small fraction of the total volume of the material at the site. Interpolation between data samples may not be indicative of the actual material encountered.

CONTRACT _____ **CONTRACTOR** Warren George

DRILL RIG OPERATOR J.MEYRES
SOIL & ROCK DESCRIPTION D.LANDAU/S.MASLANKA
REG GEOTECHNICAL ENGINEER Prakash C. Roy
DATE APPROVED 30-JUL-2019 REVISION # 1
RESIDENT ENGINEER
STRUCTURE NAME **B.I.N.**

SM 282 E 12/02

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
GEOTECHNICAL ENGINEERING BUREAU
SUBSURFACE EXPLORATION LOG

PSN 12505 BORNUM 18.2
REGION 11
COUNTY QUEENS
PIN X735.82
PROJECT VAN WYCK EXPRESSWAY WIDENING
ACTUAL COORDINATES (N) 186,085.250 (E) 1,038,734.280 **DATUM** NAD83
DATE START 14-SEP-2017 **DATE FINISH** 18-SEP-2017

HOLE DM-W-18B
LINE
STA
OFFSET ft
SURF. ELEV. 29.7
DEPTH TO WATER SEE NOTE

CASING	**O. D.**	4 1/2	**in**	**I. D.**	4	**in**	**WT OF HAMMER-CASING**	140	**lb**	**HAMMER FALL-CASING**	30 **in**
SAMPLER	**O. D.**	2	**in**	**I. D.**	1 3/8	**in**	**WT OF HAMMER-SAMPLER**	140	**lb**	**HAMMER FALL-SAMPLER**	30 **in**

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)	DESCRIPTION OF SOIL AND ROCK	
	25.0	J6	10	16	23	21	19%	(25.00) Brown Silty Coarse SAND With Gravel Pieces And Mica	(M-NPL)
	30.0	J7	13	17	20	17	21%	(30.00) Brown Silty SAND With Gravel Pieces And Mica	(M-NPL)
	35.0	J8	10	12	18	17	25%	(35.00) Brown Silty Fine SAND With Mica	(M-NPL)
	40.0	J9	11	11	12	23	26%	(40.00) Brown Silty Fine SAND With Mica	(M-NPL)
	45.0	J10	12	17	19	21	24%	(45.00) Brown Silty Fine SAND With Mica	(M-NPL)
	50.0								

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CONTRACT _____ **CONTRACTOR** Warren George

DRILL RIG OPERATOR J.MEYRES
SOIL & ROCK DESCRIPTION D.LANDAU/S.MASLANKA
REG GEOTECHNICAL ENGINEER Prakash C. Roy
DATE APPROVED 30-JUL-2019 REVISION # 1
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SM 282 E 12/02

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
GEOTECHNICAL ENGINEERING BUREAU
SUBSURFACE EXPLORATION LOG

PSN 12505 BORNUM 18.2
REGION 11
COUNTY QUEENS
PIN X735.82
PROJECT VAN WYCK EXPRESSWAY WIDENING

HOLE DM-W-18B
LINE
STA
OFFSET ft
SURF. ELEV. 29.7
DEPTH TO WATER SEE NOTE

ACTUAL COORDINATES (N) 186,085.250 (E) 1,038,734.280 **DATUM** NAD83
DATE START 14-SEP-2017 **DATE FINISH** 18-SEP-2017

CASING	**O. D.**	4 1/2	**in**	**I. D.**	4	**in**	**WT OF HAMMER-CASING**	140	**lb**	**HAMMER FALL-CASING**	30 **in**
SAMPLER	**O. D.**	2	**in**	**I. D.**	1 3/8	**in**	**WT OF HAMMER-SAMPLER**	140	**lb**	**HAMMER FALL-SAMPLER**	30 **in**

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)	DESCRIPTION OF SOIL AND ROCK	
	50.0	J11	15	15	18	14	22%	(50.00) Brown Silty SAND With Mica	(M-NPL)

BOTTOM OF HOLE AT 52.00 ft

Notes
1.- J1 was grab sample. Hand cleared up to 7ft
2.- No visual description provided due to no recovery
3.- Safety hammer used for all other sampling
4.- Vertical Datum: NAVD 88
5.- Rotary mud drilling, no groundwater reading taken

The subsurface information shown here was obtained for design and estimate purposes. It is made available so that users may have access to the same information available to the State. It is presented in good faith. By the nature of the exploration process, the information represents only a small fraction of the total volume of the material at the site. Interpolation between data samples may not be indicative of the actual material encountered.

CONTRACT **CONTRACTOR** Warren George

DRILL RIG OPERATOR J.MEYRES
SOIL & ROCK DESCRIPTION D.LANDAU/S.MASLANKA
REG GEOTECHNICAL ENGINEER Prakash C. Roy
DATE APPROVED 30-JUL-2019 REVISION # 1
RESIDENT ENGINEER
STRUCTURE NAME **B.I.N.**

SM 282 E 12/02

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
GEOTECHNICAL ENGINEERING BUREAU
SUBSURFACE EXPLORATION LOG

PSN 12505 BORNUM 19
REGION 11
COUNTY QUEENS
PIN X735.82
PROJECT VAN WYCK EXPRESSWAY WIDENING

HOLE DM-W-19
LINE
STA
OFFSET ft
SURF. ELEV. 28.6

ACTUAL COORDINATES (N) 185,785.220 (E) 1,038,843.800 **DATUM** NAD83 **DEPTH TO WATER** SEE NOTE

DATE START 18-SEP-2017 **DATE FINISH** 18-SEP-2017

CASING	**O. D.**	4 1/2	**in**	**I. D.**	4	**in**	**WT OF HAMMER-CASING**	140	**lb**	**HAMMER FALL-CASING**	30	**in**
SAMPLER	**O. D.**	2	**in**	**I. D.**	1 3/8	**in**	**WT OF HAMMER-SAMPLER**	140	**lb**	**HAMMER FALL-SAMPLER**	30	**in**

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)	DESCRIPTION OF SOIL AND ROCK	
	0.0	J1					10%	(0.00) Brown Silty SAND Clayey With Gravel Pieces	(M-LPL)
	5.0	J2					14%	(4.00) Brown Clayey SILT Gravelly	(M-LPL)
		J3	3	3	3	3	12%	(6.00) Brown Sandy SILT Clayey With Gravel Pieces And Mica	(M-LPL)
	10.0	J4	5	13	10	7	7%	(8.00) Brown Silty SAND With Gravel Pieces And Mica	(M-NPL)
	15.0	J5	5	6	10	15	12%	(10.00) Brown Sandy SILT With Gravel Pieces And Mica	(M-NPL)
	20.0	J6	9	12	16	12	13%	(15.00) Brown Silty SAND Gravelly With Mica	(M-NPL)
	25.0	J7	9	11	15	16	25%	(20.00) Brown Silty Fine SAND With Gravel Pieces And Mica	(M-NPL)

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CONTRACT **CONTRACTOR** Warren George

DRILL RIG OPERATOR A.MEDRANO
SOIL & ROCK DESCRIPTION D.LANDAU/S.MASLANKA
REG GEOTECHNICAL ENGINEER Prakash C. Roy
DATE APPROVED 30-JUL-2019 REVISION # 1
RESIDENT ENGINEER
STRUCTURE NAME **B.I.N.**

SM 282 E 12/02

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
GEOTECHNICAL ENGINEERING BUREAU
SUBSURFACE EXPLORATION LOG

PSN 12505 BORNUM 19
REGION 11
COUNTY QUEENS
PIN X735.82
PROJECT VAN WYCK EXPRESSWAY WIDENING
ACTUAL COORDINATES (N) 185,785.220 (E) 1,038,843.800 **DATUM** NAD83
DATE START 18-SEP-2017 **DATE FINISH** 18-SEP-2017

HOLE DM-W-19
LINE
STA
OFFSET ft
SURF. ELEV. 28.6
DEPTH TO WATER SEE NOTE

CASING	**O. D.**	4 1/2	**in**	**I. D.**	4	**in**	**WT OF HAMMER-CASING**	140	**lb**	**HAMMER FALL-CASING**	30 **in**
SAMPLER	**O. D.**	2	**in**	**I. D.**	1 3/8	**in**	**WT OF HAMMER-SAMPLER**	140	**lb**	**HAMMER FALL-SAMPLER**	30 **in**

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)	DESCRIPTION OF SOIL AND ROCK
	25.0	J8	10	13	17	20		(25.00) See Note 2
	30.0	J9	10	12	13	15	27%	(30.00) Brown Silty Fine SAND With Mica (M-NPL)
	35.0	J10	13	10	8	9	29%	(35.00) Brown Silty Fine SAND With Mica (M-NPL)
	40.0	J11	11	8	17	13	25%	(40.00) Light Brown Silty Fine SAND With Mica (M-NPL)
	45.0	J12	16	17	19	21	23%	(45.00) Light Brown Silty Fine SAND With Mica (M-NPL)
	50.0							

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CONTRACT _____ **CONTRACTOR** Warren George

DRILL RIG OPERATOR A.MEDRANO
SOIL & ROCK DESCRIPTION D.LANDAU/S.MASLANKA
REG GEOTECHNICAL ENGINEER Prakash C. Roy
DATE APPROVED 30-JUL-2019 REVISION # 1
RESIDENT ENGINEER
STRUCTURE NAME **B.I.N.**

SM 282 E 12/02

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
GEOTECHNICAL ENGINEERING BUREAU
SUBSURFACE EXPLORATION LOG

PSN 12505 BORNUM 19
REGION 11
COUNTY QUEENS
PIN X735.82
PROJECT VAN WYCK EXPRESSWAY WIDENING

HOLE DM-W-19
LINE
STA
OFFSET ft
SURF. ELEV. 28.6

ACTUAL COORDINATES (N) 185,785.220 (E) 1,038,843.800 **DATUM** NAD83 **DEPTH TO WATER** SEE NOTE

DATE START 18-SEP-2017 **DATE FINISH** 18-SEP-2017

CASING	**O. D.**	4 1/2	**in**	**I. D.**	4	**in**	**WT OF HAMMER-CASING**	140	**lb**	**HAMMER FALL-CASING**	30 **in**
SAMPLER	**O. D.**	2	**in**	**I. D.**	1 3/8	**in**	**WT OF HAMMER-SAMPLER**	140	**lb**	**HAMMER FALL-SAMPLER**	30 **in**

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)	DESCRIPTION OF SOIL AND ROCK	
	50.0	J13	8	9	16	13	26%	(50.00) Light Brown Silty Fine SAND With Gravel Pieces And Mica	(M-NPL)

BOTTOM OF HOLE AT 52.00 ft

Notes
1.- J1 & J 2 were grab samples. Hand cleared up to 6ft
2.- No visual description provided due to no recovery
3.- Safety hammer used for all other sampling
4.- Vertical Datum: NAVD 88
5.- Rotary mud drilling, no groundwater reading taken

CONTRACT **CONTRACTOR** Warren George

DRILL RIG OPERATOR A.MEDRANO
SOIL & ROCK DESCRIPTION D.LANDAU/S.MASLANKA
REG GEOTECHNICAL ENGINEER Prakash C. Roy
DATE APPROVED 30-JUL-2019 REVISION # 1
RESIDENT ENGINEER
STRUCTURE NAME **B.I.N.**

SM 282 E 12/02

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
GEOTECHNICAL ENGINEERING BUREAU
SUBSURFACE EXPLORATION LOG

PSN 12505 BORNUM 20
REGION 11
COUNTY QUEENS
PIN X735.82
PROJECT VAN WYCK EXPRESSWAY WIDENING

HOLE DM-W-20
LINE
STA
OFFSET ft
SURF. ELEV. 29.3
DEPTH TO WATER SEE NOTE

ACTUAL COORDINATES (N) 185,260.130 (E) 1,039,044.090 **DATUM** NAD83
DATE START 20-SEP-2017 **DATE FINISH** 20-SEP-2017

CASING	**O. D.**	4 1/2	**in**	**I. D.**	4	**in**	**WT OF HAMMER-CASING**	140	**lb**	**HAMMER FALL-CASING**	30 **in**
SAMPLER	**O. D.**	2	**in**	**I. D.**	1 3/8	**in**	**WT OF HAMMER-SAMPLER**	140	**lb**	**HAMMER FALL-SAMPLER**	30 **in**

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)	DESCRIPTION OF SOIL AND ROCK	
	0.0	J1					7%	(0.00) Brown Gravelly SAND Silty With Mica And Pieces Of Concrete	(M-NPL)
		J2					5%	(3.00) Brown Silty SAND With Gravel Pieces And Mica	(M-NPL)
	5.0	J3	6	6	8	9	5%	(6.00) Brown Silty SAND With Gravel Pieces And Mica	(M-NPL)
		J4	9	7	10	11	5%	(8.00) Brown Silty SAND With Gravel Pieces And Mica	(M-NPL)
	10.0	J5	14	19	22	21	5%	(10.00) Brown Silty SAND With Gravel Pieces And Mica	(M-NPL)
	15.0	J6	8	11	17	17	15%	(15.00) Brown Silty SAND With Mica	(M-NPL)
	20.0	J7	5	6	11	11	22%	(20.00) Brown Silty Fine SAND With Mica	(M-NPL)
	25.0								

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CONTRACT **CONTRACTOR** Warren George

DRILL RIG OPERATOR A.MEDRANO
SOIL & ROCK DESCRIPTION D.LANDAU/J.RYBICKI
REG GEOTECHNICAL ENGINEER Prakash C. Roy
DATE APPROVED 30-JUL-2019 REVISION # 1
RESIDENT ENGINEER
STRUCTURE NAME **B.I.N.**

SM 282 E 12/02

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
GEOTECHNICAL ENGINEERING BUREAU
SUBSURFACE EXPLORATION LOG

PSN 12505 BORNUM 20
REGION 11
COUNTY QUEENS
PIN X735.82
PROJECT VAN WYCK EXPRESSWAY WIDENING
ACTUAL COORDINATES (N) 185,260.130 (E) 1,039,044.090 **DATUM** NAD83
DATE START 20-SEP-2017 **DATE FINISH** 20-SEP-2017

HOLE DM-W-20
LINE
STA
OFFSET ft
SURF. ELEV. 29.3
DEPTH TO WATER SEE NOTE

CASING	**O. D.**	4 1/2	**in**	**I. D.**	4	**in**	**WT OF HAMMER-CASING**	140	**lb**	**HAMMER FALL-CASING**	30	**in**
SAMPLER	**O. D.**	2	**in**	**I. D.**	1 3/8	**in**	**WT OF HAMMER-SAMPLER**	140	**lb**	**HAMMER FALL-SAMPLER**	30	**in**

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)	DESCRIPTION OF SOIL AND ROCK	
	25.0	J8	12	14	14	15	20%	(25.00) Brown Silty SAND Gravelly With Mica	(M-NPL)
	30.0	J9	9	10	10	8	22%	(30.00) Brown Silty SAND With Gravel Pieces And Mica	(M-NPL)
	35.0	J10	8	8	9	9	26%	(35.00) Brown Silty Fine SAND With Mica	(M-NPL)
	40.0	J11	7	10	17	22	26%	(40.00) Light Brown Silty Fine SAND With Mica	(M-NPL)
	45.0	J12	11	13	13	19	26%	(45.00) Light Brown Silty Fine SAND With Mica	(M-NPL)
	50.0								

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CONTRACT **CONTRACTOR** Warren George

DRILL RIG OPERATOR A.MEDRANO
SOIL & ROCK DESCRIPTION D.LANDAU/J.RYBICKI
REG GEOTECHNICAL ENGINEER Prakash C. Roy
DATE APPROVED 30-JUL-2019 REVISION # 1
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STRUCTURE NAME **B.I.N.**

SM 282 E 12/02

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
GEOTECHNICAL ENGINEERING BUREAU
SUBSURFACE EXPLORATION LOG

PSN 12505 BORNUM 20
REGION 11
COUNTY QUEENS
PIN X735.82
PROJECT VAN WYCK EXPRESSWAY WIDENING

HOLE DM-W-20
LINE
STA
OFFSET ft
SURF. ELEV. 29.3

ACTUAL COORDINATES (N) 185,260.130 (E) 1,039,044.090 **DATUM** NAD83 **DEPTH TO WATER** SEE NOTE

DATE START 20-SEP-2017 **DATE FINISH** 20-SEP-2017

CASING	**O. D.**	4 1/2	**in**	**I. D.**	4	**in**	**WT OF HAMMER-CASING**	140	**lb**	**HAMMER FALL-CASING**	30	**in**
SAMPLER	**O. D.**	2	**in**	**I. D.**	1 3/8	**in**	**WT OF HAMMER-SAMPLER**	140	**lb**	**HAMMER FALL-SAMPLER**	30	**in**

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)	DESCRIPTION OF SOIL AND ROCK
	50.0	J13	13	17	15	21	23%	(50.00) Light Brown Silty Fine SAND With Mica (M-NPL)

BOTTOM OF HOLE AT 52.00 ft

Notes
1.- J1 & J2 were grab samples. Hand cleared up to 6ft
2.- Safety hammer used for all other sampling
3.- Vertical Datum: NAVD 88
4.- Rotary Mud Drilling. An Open well piezometer was installed after completion of the hole.

DATE	TIME	DEPTH ft			ARTESIAN HEAD HEIGHT ABOVE GROUND	FILLED WITH WATER AT END OF DAY
		HOLE	CASING	WATER		
21-Sep-17	14:40	30.00		21.00		
29-Sep-17	13:00	30.00		21.30		
06-Oct-17	13:00	30.00		21.40		
07-Nov-17	10:00	30.00		19.30		
08-Nov-17	14:45	30.00		21.30		
09-Nov-17	10:50	30.00		21.30		
24-Jan-18	10:15	30.00		21.50		
19-Apr-18	13:00	30.00		20.40		
24-May-18	11:25	30.00		20.60		

CONTRACT **CONTRACTOR** Warren George

DRILL RIG OPERATOR A.MEDRANO
SOIL & ROCK DESCRIPTION D.LANDAU/J.RYBICKI
REG GEOTECHNICAL ENGINEER Prakash C. Roy
DATE APPROVED 30-JUL-2019 REVISION # 1
RESIDENT ENGINEER
STRUCTURE NAME **B.I.N.**

SM 282 E 12/02

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
GEOTECHNICAL ENGINEERING BUREAU
SUBSURFACE EXPLORATION LOG

PSN 12505 BORNUM 21
REGION 11
COUNTY QUEENS
PIN X735.82
PROJECT VAN WYCK EXPRESSWAY WIDENING

HOLE DM-W-21
LINE
STA
OFFSET ft
SURF. ELEV. 28.2
DEPTH TO WATER NONE

ACTUAL COORDINATES (N) 185,485.690 (E) 1,039,251.670 **DATUM** NAD83
DATE START 28-SEP-2017 **DATE FINISH** 28-SEP-2017

CASING O. D. in **I. D.** in **WT OF HAMMER-CASING** lb **HAMMER FALL-CASING** in
SAMPLER O. D. in **I. D.** in **WT OF HAMMER-SAMPLER** lb **HAMMER FALL-SAMPLER** in

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)	DESCRIPTION OF SOIL AND ROCK	
	0.0	J1					3%	(0.00) Brown Gravelly SAND Silty With Root Fibers	(M-NPL)
		J2					3%	(2.00) Brown Silty SAND With Gravel Pieces And Root Fibers	(M-NPL)
	5.0							(4.00) See Note 2	

BOTTOM OF HOLE AT 5.00 ft

Notes
1.- J1 & J2 were grab samples. Hand Augering up to 5ft
2.- Hand augering ended at 5ft due to coarse gravel and cobbles. Borehole re-attempted at another location.
3.- Vertical Datum: NAVD 88
4.- Groundwater not encountered

The subsurface information shown here was obtained for design and estimate purposes. It is made available so that users may have access to the same information available to the State. It is presented in good faith. By the nature of the exploration process, the information represents only a small fraction of the total volume of the material at the site. Interpolation between data samples may not be indicative of the actual material encountered.

CONTRACT **CONTRACTOR** Warren George

DRILL RIG OPERATOR J.MEYRES
SOIL & ROCK DESCRIPTION S.MASLANKA/D.LANDAU
REG GEOTECHNICAL ENGINEER Prakash C. Roy
DATE APPROVED 30-JUL-2019 REVISION # 1
RESIDENT ENGINEER
STRUCTURE NAME **B.I.N.**

SM 282 E 12/02

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
GEOTECHNICAL ENGINEERING BUREAU
SUBSURFACE EXPLORATION LOG

PSN 12505 BORNUM 21.1
REGION 11
COUNTY QUEENS
PIN X735.82
PROJECT VAN WYCK EXPRESSWAY WIDENING
ACTUAL COORDINATES (N) 185,484.680 (E) 1,039,248.440 **DATUM** NAD83
DATE START 28-SEP-2017 **DATE FINISH** 28-SEP-2017

HOLE DM-W-21A
LINE
STA
OFFSET ft
SURF. ELEV. 28.2
DEPTH TO WATER NONE

CASING O. D. in **I. D.** in **WT OF HAMMER-CASING** lb **HAMMER FALL-CASING** in
SAMPLER O. D. in **I. D.** in **WT OF HAMMER-SAMPLER** lb **HAMMER FALL-SAMPLER** in

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)	DESCRIPTION OF SOIL AND ROCK	
	0.0	J1					2%	(0.00) Brown Sandy GRAVEL Silty With Root Fibers	(M-NPL)
		J2					4%	(2.00) Brown Silty SAND With Gravel Pieces	(M-NPL)
	5.0							(4.00) See Note 2	

BOTTOM OF HOLE AT 5.00 ft

Notes
1.- J1 & J2 were grab samples. Hand augering up to 5ft
2.- Hand augering ended at 5ft due to coarse gravel and cobbles. Borehole re-attempted at another location
3.- Vertical Datum: NAVD 88
4.- Groundwater not encountered

The subsurface information shown here was obtained for design and estimate purposes. It is made available so that users may have access to the same information available to the State. It is presented in good faith. By the nature of the exploration process, the information represents only a small fraction of the total volume of the material at the site. Interpolation between data samples may not be indicative of the actual material encountered.

CONTRACT **CONTRACTOR** Warren George

DRILL RIG OPERATOR J.MEYRES
SOIL & ROCK DESCRIPTION S.MASLANKA/D.LANDAU
REG GEOTECHNICAL ENGINEER Prakash C. Roy
DATE APPROVED 30-JUL-2019 REVISION # 1
RESIDENT ENGINEER
STRUCTURE NAME **B.I.N.**

SM 282 E 12/02

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
GEOTECHNICAL ENGINEERING BUREAU
SUBSURFACE EXPLORATION LOG

PSN 12505 BORNUM 21.2
REGION 11
COUNTY QUEENS
PIN X735.82
PROJECT VAN WYCK EXPRESSWAY WIDENING
ACTUAL COORDINATES (N) 185,483.130 (E) 1,039,254.370 **DATUM** NAD83
DATE START 28-SEP-2017 **DATE FINISH** 29-SEP-2017

HOLE DM-W-21B
LINE
STA
OFFSET ft
SURF. ELEV. 28.4
DEPTH TO WATER SEE NOTE

CASING	**O. D.**	4 1/2	**in**	**I. D.**	4	**in**	**WT OF HAMMER-CASING**	140	**lb**	**HAMMER FALL-CASING**	30 **in**
SAMPLER	**O. D.**	2	**in**	**I. D.**	1 3/8	**in**	**WT OF HAMMER-SAMPLER**	140	**lb**	**HAMMER FALL-SAMPLER**	30 **in**

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)	DESCRIPTION OF SOIL AND ROCK	
	0.0	J1					2%	(0.00) Brown Gravelly SAND Silty With Root Fibers	(M-NPL)
		J2					3%	(2.00) Brown Gravelly SAND Silty With Root Fibers	(M-NPL)
	5.0	J3					5%	(4.00) Brown Gravelly SAND Silty	(M-NPL)
		J4	11	8	5	3	3%	(6.00) Brown Gravelly SAND Silty With Mica And Glass Pieces	(M-NPL)
	10.0	J5	7	6	7	5	3%	(8.00) Brown Gravelly SAND Silty With Mica	(M-NPL)
	15.0	J6	4	4	7	5	3%	(10.00) Brown Gravelly SAND Silty With Mica	(M-NPL)
	20.0	J7	4	4	5	5	20%	(15.00) Brown Sandy SILT With Mica	(M-NPL)
	25.0	J8	8	8	18	15	16%	(20.00) Brown Sandy SILT With Gravel Pieces And Mica	(M-NPL)

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CONTRACT _____ **CONTRACTOR** Warren George

DRILL RIG OPERATOR J.MEYRES
SOIL & ROCK DESCRIPTION D.LANDAU/S.MASLANKA
REG GEOTECHNICAL ENGINEER Prakash C. Roy
DATE APPROVED 30-JUL-2019 REVISION # 1
RESIDENT ENGINEER
STRUCTURE NAME **B.I.N.**

SM 282 E 12/02

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
GEOTECHNICAL ENGINEERING BUREAU
SUBSURFACE EXPLORATION LOG

PSN 12505 BORNUM 21.2
REGION 11
COUNTY QUEENS
PIN X735.82
PROJECT VAN WYCK EXPRESSWAY WIDENING
ACTUAL COORDINATES (N) 185,483.130 (E) 1,039,254.370 **DATUM** NAD83
DATE START 28-SEP-2017 **DATE FINISH** 29-SEP-2017

HOLE DM-W-21B
LINE
STA
OFFSET ft
SURF. ELEV. 28.4
DEPTH TO WATER SEE NOTE

CASING	**O. D.**	4 1/2	**in**	**I. D.**	4	**in**	**WT OF HAMMER-CASING**	140	**lb**	**HAMMER FALL-CASING**	30 **in**
SAMPLER	**O. D.**	2	**in**	**I. D.**	1 3/8	**in**	**WT OF HAMMER-SAMPLER**	140	**lb**	**HAMMER FALL-SAMPLER**	30 **in**

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)	DESCRIPTION OF SOIL AND ROCK	
	25.0	J9	15	15	16	18	23%	(25.00) Brown Silty SAND With Gravel Pieces And Mica	(M-NPL)
	30.0	J10	14	14	15	20	19%	(30.00) Brown Silty SAND Fine Gravelly With Mica	(M-NPL)
	35.0	J11	12	11	17	15	25%	(35.00) Dark Brown Silty Fine SAND With Gravel Pieces And Mica	(M-NPL)
	40.0	J12	9	11	15	13	27%	(40.00) Brown And Orange Silty Fine SAND With Mica	(M-NPL)
	45.0	J13	18	23	20	26	23%	(45.00) Brown And Orange Silty Fine SAND With Gravel Pieces And Mica	(M-NPL)
	50.0								

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CONTRACT _____ **CONTRACTOR** Warren George

DRILL RIG OPERATOR J.MEYRES
SOIL & ROCK DESCRIPTION D.LANDAU/S.MASLANKA
REG GEOTECHNICAL ENGINEER Prakash C. Roy
DATE APPROVED 30-JUL-2019 REVISION # 1
RESIDENT ENGINEER
STRUCTURE NAME **B.I.N.**

SM 282 E 12/02

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
GEOTECHNICAL ENGINEERING BUREAU
SUBSURFACE EXPLORATION LOG

PSN 12505 BORNUM 21.2
REGION 11
COUNTY QUEENS
PIN X735.82
PROJECT VAN WYCK EXPRESSWAY WIDENING
ACTUAL COORDINATES (N) 185,483.130 (E) 1,039,254.370 **DATUM** NAD83
DATE START 28-SEP-2017 **DATE FINISH** 29-SEP-2017

HOLE DM-W-21B
LINE
STA
OFFSET ft
SURF. ELEV. 28.4
DEPTH TO WATER SEE NOTE

CASING	**O. D.**	4 1/2	**in**	**I. D.**	4	**in**	**WT OF HAMMER-CASING**	140	**lb**	**HAMMER FALL-CASING**	30	**in**
SAMPLER	**O. D.**	2	**in**	**I. D.**	1 3/8	**in**	**WT OF HAMMER-SAMPLER**	140	**lb**	**HAMMER FALL-SAMPLER**	30	**in**

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)	DESCRIPTION OF SOIL AND ROCK	
	50.0	J14	13	11	10	12	25%	(50.00) Brown And Orange Silty SAND With Gravel Pieces And Mica	(M-NPL)

BOTTOM OF HOLE AT 52.00 ft

Notes
1.- J1 to J3 were grab samples. Hand cleared up to 6ft
2.- Safety hammer used for all other sampling
3.- Vertical Datum: NAVD 88
4.- Rotary mud drilling, no groundwater reading taken

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CONTRACT **CONTRACTOR** Warren George

DRILL RIG OPERATOR J.MEYRES
SOIL & ROCK DESCRIPTION D.LANDAU/S.MASLANKA
REG GEOTECHNICAL ENGINEER Prakash C. Roy
DATE APPROVED 30-JUL-2019 REVISION # 1
RESIDENT ENGINEER
STRUCTURE NAME **B.I.N.**

SM 282 E 12/02

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
GEOTECHNICAL ENGINEERING BUREAU
SUBSURFACE EXPLORATION LOG

PSN 12505 BORNUM 22
REGION 11
COUNTY QUEENS
PIN X735.82
PROJECT VAN WYCK EXPRESSWAY WIDENING

HOLE DM-W-22
LINE
STA
OFFSET ft
SURF. ELEV. 32.7
DEPTH TO WATER NONE

ACTUAL COORDINATES (N) 184,708.180 (E) 1,039,243.470 **DATUM** NAD83
DATE START 22-SEP-2017 **DATE FINISH** 22-SEP-2017

CASING O. D. in I. D. in WT OF HAMMER-CASING lb HAMMER FALL-CASING in
SAMPLER O. D. in I. D. in WT OF HAMMER-SAMPLER lb HAMMER FALL-SAMPLER in

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)	DESCRIPTION OF SOIL AND ROCK
	0.0	J1					4%	(0.00) Brown Sandy GRAVEL Silty With Asphalt Pieces (M-NPL)
	5.0							

BOTTOM OF HOLE AT 5.00 ft

Notes
1.- J1 was grab sample. Hand augering up to 5 ft.
2.- Borehole terminated at 5 ft due to coarse gravel and cobbles and re-attempted at another location.
3.- Vertical Datum: NAVD 88

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CONTRACT _____ **CONTRACTOR** Warren George

DRILL RIG OPERATOR J.MEYRES
SOIL & ROCK DESCRIPTION S.MASLANKA/D.LANDAU
REG GEOTECHNICAL ENGINEER Prakash C. Roy
DATE APPROVED 30-JUL-2019 REVISION # 1
RESIDENT ENGINEER
STRUCTURE NAME **B.I.N.**

SHEET 1 OF 1 HOLE DM-W-22

SM 282 E 12/02

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
GEOTECHNICAL ENGINEERING BUREAU
SUBSURFACE EXPLORATION LOG

PSN 12505 BORNUM 22.1
REGION 11
COUNTY QUEENS
PIN X735.82
PROJECT VAN WYCK EXPRESSWAY WIDENING
ACTUAL COORDINATES (N) 184,707.960 (E) 1,039,242.380 **DATUM** NAD83
DATE START 22-SEP-2017 **DATE FINISH** 22-SEP-2017

HOLE DM-W-22A
LINE
STA
OFFSET ft
SURF. ELEV. 32.7
DEPTH TO WATER NONE

CASING O. D. in **I. D.** in **WT OF HAMMER-CASING** lb **HAMMER FALL-CASING** in
SAMPLER O. D. in **I. D.** in **WT OF HAMMER-SAMPLER** lb **HAMMER FALL-SAMPLER** in

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)	DESCRIPTION OF SOIL AND ROCK
	0.0	J1					5%	(0.00) Brown Sandy GRAVEL Silty With Concrete Pieces (M-NPL)

BOTTOM OF HOLE AT 3.00 ft

Notes
1.- J1 was grab sample. Hand augering up to 3ft.
2.- Borehole terminated at 3ft and relocated due to gravel and cobbles
3.- Vertical Datum: NAVD 88

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CONTRACT **CONTRACTOR** Warren George

DRILL RIG OPERATOR J.MEYRES
SOIL & ROCK DESCRIPTION S.MASLANKA/D.LANDAU
REG GEOTECHNICAL ENGINEER Prakash C. Roy
DATE APPROVED 30-JUL-2019 REVISION # 1
RESIDENT ENGINEER
STRUCTURE NAME **B.I.N.**

SM 282 E 12/02

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
GEOTECHNICAL ENGINEERING BUREAU
SUBSURFACE EXPLORATION LOG

PSN 12505 BORNUM 22.2
REGION 11
COUNTY QUEENS
PIN X735.82
PROJECT VAN WYCK EXPRESSWAY WIDENING
ACTUAL COORDINATES (N) 184,710.170 (E) 1,039,241.570 **DATUM** NAD83
DATE START 22-SEP-2017 **DATE FINISH** 22-SEP-2017

HOLE DM-W-22B
LINE
STA
OFFSET ft
SURF. ELEV. 32.7
DEPTH TO WATER NONE

CASING O. D. in **I. D.** in **WT OF HAMMER-CASING** lb **HAMMER FALL-CASING** in
SAMPLER O. D. in **I. D.** in **WT OF HAMMER-SAMPLER** lb **HAMMER FALL-SAMPLER** in

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)	DESCRIPTION OF SOIL AND ROCK	
	0.0	J1					3%	(0.00) Brown Sandy GRAVEL Silty With Concrete Pieces And Root Fibers	(M-NPL)

BOTTOM OF HOLE AT 3.00 ft

Notes
1.- J1 was grab sample. Hand augering up to 3ft
2.- Borehole terminated at 3ft and relocated due to gravel and cobbles
3.- Vertical Datum: NAVD 88

The subsurface information shown here was obtained for design and estimate purposes. It is made available so that users may have access to the same information available to the State. It is presented in good faith. By the nature of the exploration process, the information represents only a small fraction of the total volume of the material at the site. Interpolation between data samples may not be indicative of the actual material encountered.

CONTRACT **CONTRACTOR** Warren George

DRILL RIG OPERATOR J.MEYRES
SOIL & ROCK DESCRIPTION S.MASLANKA/D.LANDAU
REG GEOTECHNICAL ENGINEER Prakash C. Roy
DATE APPROVED 30-JUL-2019 REVISION # 1
RESIDENT ENGINEER
STRUCTURE NAME **B.I.N.**

SHEET 1 OF 1 HOLE DM-W-22B

SM 282 E 12/02

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
GEOTECHNICAL ENGINEERING BUREAU
SUBSURFACE EXPLORATION LOG

PSN 12505 BORNUM 22.3
REGION 11
COUNTY QUEENS
PIN X735.82
PROJECT VAN WYCK EXPRESSWAY WIDENING
ACTUAL COORDINATES (N) 184,712.240 (E) 1,039,243.680 **DATUM** NAD83
DATE START 22-SEP-2017 **DATE FINISH** 22-SEP-2017

HOLE DM-W-22C
LINE
STA
OFFSET ft
SURF. ELEV. 32.8
DEPTH TO WATER SEE NOTE

CASING	**O. D.**	4 1/2	**in**	**I. D.**	4	**in**	**WT OF HAMMER-CASING**	140	**lb**	**HAMMER FALL-CASING**	30	**in**
SAMPLER	**O. D.**	2	**in**	**I. D.**	1 3/8	**in**	**WT OF HAMMER-SAMPLER**	140	**lb**	**HAMMER FALL-SAMPLER**	30	**in**

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)	DESCRIPTION OF SOIL AND ROCK	
	0.0	J1					4%	(0.00) Brown Sandy GRAVEL Silty With Mica	(M-NPL)
	5.0	J2					7%	(3.00) Brown Gravelly SAND Silty	(M-NPL)
		J3	15	13	19	17	5%	(6.00) Orange Silty SAND With Gravel Pieces And Mica	(M-NPL)
	10.0	J4	18	17	30	20	5%	(8.00) Orange SAND With Gravel Pieces And Mica	(M-NPL)
	15.0	J5	12	9	7	22	4%	(10.00) Orange Silty SAND With Mica	(M-NPL)
	20.0	J6	10	8	11	13	16%	(15.00) Brown Silty SAND With Gravel Pieces	(M-NPL)
	25.0	J7	7	7	8	15	16%	(20.00) Brown Silty SAND With Gravel Pieces	(M-NPL)

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CONTRACT _____ **CONTRACTOR** Warren George

DRILL RIG OPERATOR J.MEYRES
SOIL & ROCK DESCRIPTION S/MASLANKA/D.LANDAU
REG GEOTECHNICAL ENGINEER Prakash C. Roy
DATE APPROVED 30-JUL-2019 REVISION # 1
RESIDENT ENGINEER
STRUCTURE NAME **B.I.N.**

SM 282 E 12/02

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
GEOTECHNICAL ENGINEERING BUREAU
SUBSURFACE EXPLORATION LOG

PSN 12505 BORNUM 22.3
REGION 11
COUNTY QUEENS
PIN X735.82
PROJECT VAN WYCK EXPRESSWAY WIDENING
ACTUAL COORDINATES (N) 184,712.240 (E) 1,039,243.680 **DATUM** NAD83
DATE START 22-SEP-2017 **DATE FINISH** 22-SEP-2017

HOLE DM-W-22C
LINE
STA
OFFSET ft
SURF. ELEV. 32.8
DEPTH TO WATER SEE NOTE

CASING	**O. D.**	4 1/2	**in**	**I. D.**	4	**in**	**WT OF HAMMER-CASING**	140	**lb**	**HAMMER FALL-CASING**	30 **in**
SAMPLER	**O. D.**	2	**in**	**I. D.**	1 3/8	**in**	**WT OF HAMMER-SAMPLER**	140	**lb**	**HAMMER FALL-SAMPLER**	30 **in**

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)	DESCRIPTION OF SOIL AND ROCK	
	25.0	J8	8	8	13	16	20%	(25.00) Brown Silty SAND With Gravel Pieces	(M-NPL)
	30.0	J9	10	7	7	8	20%	(30.00) Brown Silty SAND Gravelly With Mica	(M-NPL)
	35.0	J10	14	17	17	20	18%	(35.00) Brown Silty SAND Gravelly With Mica	(M-NPL)
	40.0	J11	12	11	15	16	22%	(40.00) Orange Silty SAND Gravelly With Mica	(M-NPL)
	45.0	J12	11	10	11	16	25%	(45.00) Orange And Brown Silty Fine SAND With Mica	(M-NPL)
	50.0								

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CONTRACT _____ **CONTRACTOR** Warren George

DRILL RIG OPERATOR J.MEYRES
SOIL & ROCK DESCRIPTION S/MASLANKA/D.LANDAU
REG GEOTECHNICAL ENGINEER Prakash C. Roy
DATE APPROVED 30-JUL-2019 REVISION # 1
RESIDENT ENGINEER
STRUCTURE NAME **B.I.N.**

SM 282 E 12/02

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
GEOTECHNICAL ENGINEERING BUREAU
SUBSURFACE EXPLORATION LOG

PSN 12505 BORNUM 22.3
REGION 11
COUNTY QUEENS
PIN X735.82
PROJECT VAN WYCK EXPRESSWAY WIDENING

HOLE DM-W-22C
LINE
STA
OFFSET ft
SURF. ELEV. 32.8
DEPTH TO WATER SEE NOTE

ACTUAL COORDINATES (N) 184,712.240 (E) 1,039,243.680 **DATUM** NAD83
DATE START 22-SEP-2017 **DATE FINISH** 22-SEP-2017

CASING	**O. D.**	4 1/2	**in**	**I. D.**	4	**in**	**WT OF HAMMER-CASING**	140	**lb**	**HAMMER FALL-CASING**	30 **in**
SAMPLER	**O. D.**	2	**in**	**I. D.**	1 3/8	**in**	**WT OF HAMMER-SAMPLER**	140	**lb**	**HAMMER FALL-SAMPLER**	30 **in**

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)	DESCRIPTION OF SOIL AND ROCK	
	50.0	J13	7	10	15	21	24%	(50.00) Orange And Brown Silty Fine SAND With Mica	(M-NPL)

BOTTOM OF HOLE AT 52.00 ft

Jars 1&2 were hand cleared
1.- J1 & J2 were grab samples. Hand augering up to 6ft
2.- Safety hammer used for all other sampling
3.- Vertical Datum: NAVD 88
4.- Rotary mud drilling, no groundwater rreading taken

The subsurface information shown here was obtained for design and estimate purposes. It is made available so that users may have access to the same information available to the State. It is presented in good faith. By the nature of the exploration process, the information represents only a small fraction of the total volume of the material at the site. Interpolation between data samples may not be indicative of the actual material encountered.

CONTRACT **CONTRACTOR** Warren George

DRILL RIG OPERATOR J.MEYRES
SOIL & ROCK DESCRIPTION S/MASLANKA/D.LANDAU
REG GEOTECHNICAL ENGINEER Prakash C. Roy
DATE APPROVED 30-JUL-2019 REVISION # 1
RESIDENT ENGINEER
STRUCTURE NAME **B.I.N.**

SM 282 E 12/02

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
GEOTECHNICAL ENGINEERING BUREAU
SUBSURFACE EXPLORATION LOG

PSN 12505 BORNUM 23
REGION 11
COUNTY QUEENS
PIN X735.82
PROJECT VAN WYCK EXPRESSWAY WIDENING

HOLE DM-W-23
LINE
STA
OFFSET ft
SURF. ELEV. 34.5

ACTUAL COORDINATES (N) 184,381.190 (E) 1,039,244.040 **DATUM** NAD83 **DEPTH TO WATER** SEE NOTE

DATE START 09-OCT-2017 **DATE FINISH** 09-OCT-2017

CASING	**O. D.**	4 1/2	**in**	**I. D.**	4	**in**	**WT OF HAMMER-CASING**	140	**lb**	**HAMMER FALL-CASING**	30	**in**
SAMPLER	**O. D.**	2	**in**	**I. D.**	1 3/8	**in**	**WT OF HAMMER-SAMPLER**	140	**lb**	**HAMMER FALL-SAMPLER**	30	**in**

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)	DESCRIPTION OF SOIL AND ROCK	
	0.0	J1					6%	(0.00) Brown Sandy GRAVEL Silty	(M-NPL)
		J2					12%	(2.00) Orange Sandy SILT Gravelly With Mica	(M-NPL)
	5.0	J3					13%	(4.00) Orange Sandy SILT With Mica	(M-NPL)
		J4	9	15	14	14	4%	(6.00) Brown Silty SAND Gravelly With Mica	(M-NPL)
		J5	12	21	25	24	6%	(8.00) Brown Silty SAND Gravelly With Mica	(M-NPL)
	10.0	J6	9	10	10	9	18%	(10.00) Brown Silty SAND Gravelly With Mica	(M-NPL)
	15.0	J7	6	7	8	9	22%	(15.00) Brown Silty SAND With Mica	(M-NPL)
	20.0	J8	9	13	12	15	19%	(20.00) Brown Silty SAND With Gravel Pieces And Mica	(M-NPL)
	25.0								

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CONTRACT **CONTRACTOR** Warren George

DRILL RIG OPERATOR S.LAURENZA
SOIL & ROCK DESCRIPTION D.LANDAU/S.MASLANKA
REG GEOTECHNICAL ENGINEER Prakash C. Roy
DATE APPROVED 30-JUL-2019 REVISION # 1
RESIDENT ENGINEER
STRUCTURE NAME **B.I.N.**

SM 282 E 12/02

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
GEOTECHNICAL ENGINEERING BUREAU
SUBSURFACE EXPLORATION LOG

PSN 12505 BORNUM 23
REGION 11
COUNTY QUEENS
PIN X735.82
PROJECT VAN WYCK EXPRESSWAY WIDENING

HOLE DM-W-23
LINE
STA
OFFSET ft
SURF. ELEV. 34.5

ACTUAL COORDINATES (N) 184,381.190 (E) 1,039,244.040 **DATUM** NAD83 **DEPTH TO WATER** SEE NOTE

DATE START 09-OCT-2017 **DATE FINISH** 09-OCT-2017

CASING	**O. D.**	4 1/2	**in**	**I. D.**	4	**in**	**WT OF HAMMER-CASING**	140	**lb**	**HAMMER FALL-CASING**	30 **in**
SAMPLER	**O. D.**	2	**in**	**I. D.**	1 3/8	**in**	**WT OF HAMMER-SAMPLER**	140	**lb**	**HAMMER FALL-SAMPLER**	30 **in**

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)	DESCRIPTION OF SOIL AND ROCK	
	25.0	J9	9	12	20	21	14%	(25.00) Brown Silty SAND With Gravel Pieces And Mica	(M-NPL)
	30.0	J10	13	13	17	17	20%	(30.00) Brown Silty SAND With Gravel Pieces And Mica	(M-NPL)
	35.0	J11	13	25	29	39	24%	(35.00) Brown Silty Fine SAND With Gravel Pieces And Mica	(M-NPL)
	40.0	J12	11	11	10	17	22%	(40.00) Brown Silty Fine SAND With Mica	(M-NPL)
	45.0	J13	6	5	4	3	31%	(45.00) Brown Silty Fine SAND With Mica	(M-NPL)
	50.0								

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CONTRACT **CONTRACTOR** Warren George

DRILL RIG OPERATOR S.LAURENZA
SOIL & ROCK DESCRIPTION D.LANDAU/S.MASLANKA
REG GEOTECHNICAL ENGINEER Prakash C. Roy
DATE APPROVED 30-JUL-2019 REVISION # 1
RESIDENT ENGINEER
STRUCTURE NAME **B.I.N.**

SM 282 E 12/02

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
GEOTECHNICAL ENGINEERING BUREAU
SUBSURFACE EXPLORATION LOG

PSN 12505 BORNUM 23
REGION 11
COUNTY QUEENS
PIN X735.82
PROJECT VAN WYCK EXPRESSWAY WIDENING

HOLE DM-W-23
LINE
STA
OFFSET ft
SURF. ELEV. 34.5

ACTUAL COORDINATES (N) 184,381.190 (E) 1,039,244.040 **DATUM** NAD83 **DEPTH TO WATER** SEE NOTE

DATE START 09-OCT-2017 **DATE FINISH** 09-OCT-2017

CASING	**O. D.**	4 1/2	**in**	**I. D.**	4	**in**	**WT OF HAMMER-CASING**	140	**lb**	**HAMMER FALL-CASING**	30 **in**
SAMPLER	**O. D.**	2	**in**	**I. D.**	1 3/8	**in**	**WT OF HAMMER-SAMPLER**	140	**lb**	**HAMMER FALL-SAMPLER**	30 **in**

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)	DESCRIPTION OF SOIL AND ROCK	
	50.0	J14	11	10	15	17	31%	(50.00) Brown Silty Fine SAND With Mica	(M-NPL)

BOTTOM OF HOLE AT 52.00 ft

Notes
1.- J1 to J3 were grab samples. Hand augering up to 6ft
2.- Automatic hammer used for all other sampling
3.- Vertical Datum: NAVD 88
4.- Rotary mud drilling, no groundwater reading taken
5.- Borehole backfilled and plugged upon completion

The subsurface information shown here was obtained for design and estimate purposes. It is made available so that users may have access to the same information available to the State. It is presented in good faith. By the nature of the exploration process, the information represents only a small fraction of the total volume of the material at the site. Interpolation between data samples may not be indicative of the actual material encountered.

CONTRACT **CONTRACTOR** Warren George

DRILL RIG OPERATOR S.LAURENZA
SOIL & ROCK DESCRIPTION D.LANDAU/S.MASLANKA
REG GEOTECHNICAL ENGINEER Prakash C. Roy
DATE APPROVED 30-JUL-2019 REVISION # 1
RESIDENT ENGINEER
STRUCTURE NAME **B.I.N.**

SM 282 E 12/02

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
GEOTECHNICAL ENGINEERING BUREAU
SUBSURFACE EXPLORATION LOG

PSN 12505 BORNUM 23.1
REGION 11
COUNTY QUEENS
PIN X735.82
PROJECT VAN WYCK EXPRESSWAY WIDENING
ACTUAL COORDINATES (N) 184,382.920 (E) 1,039,240.210 **DATUM** NAD83
DATE START 22-SEP-2017 **DATE FINISH** 22-SEP-2017

HOLE DM-W-23A
LINE
STA
OFFSET ft
SURF. ELEV. 34.4
DEPTH TO WATER NONE

CASING O. D. in **I. D.** in **WT OF HAMMER-CASING** lb **HAMMER FALL-CASING** in
SAMPLER O. D. in **I. D.** in **WT OF HAMMER-SAMPLER** lb **HAMMER FALL-SAMPLER** in

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)	DESCRIPTION OF SOIL AND ROCK	
	0.0	J1					8%	(0.00) Brown Silty SAND With Gravel Pieces And Slag	(M-NPL)

BOTTOM OF HOLE AT 3.00 ft

Sample was hand cleared
1.- J1 was a grab sample. Hand augered up to 3ft.
2.- The borehole was abandoned, due to occasional cobbles and roots auger could not advance. Borehole re-attempted at other location.
3.- Vertical Datum: NAVD 88

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CONTRACT **CONTRACTOR** Warren George

DRILL RIG OPERATOR J.MEYRES
SOIL & ROCK DESCRIPTION R.DIETZ/S.MASLANKA
REG GEOTECHNICAL ENGINEER Prakash C. Roy
DATE APPROVED 30-JUL-2019 REVISION # 1
RESIDENT ENGINEER
STRUCTURE NAME **B.I.N.**

SM 282 E 12/02

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
GEOTECHNICAL ENGINEERING BUREAU
SUBSURFACE EXPLORATION LOG

PSN 12505 BORNUM 23.2
REGION 11
COUNTY QUEENS
PIN X735.82
PROJECT VAN WYCK EXPRESSWAY WIDENING
ACTUAL COORDINATES (N) 184,381.590 (E) 1,039,240.070 **DATUM** NAD83
DATE START 22-SEP-2017 **DATE FINISH** 22-SEP-2017

HOLE DM-W-23B
LINE
STA
OFFSET ft
SURF. ELEV. 34.3
DEPTH TO WATER NONE

CASING O. D. in I. D. in WT OF HAMMER-CASING lb HAMMER FALL-CASING in
SAMPLER O. D. in I. D. in WT OF HAMMER-SAMPLER lb HAMMER FALL-SAMPLER in

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)	DESCRIPTION OF SOIL AND ROCK
	0.0	J1					7%	(0.00) Brown Silty SAND With Gravel Pieces And Asphalt (M-NPL)

BOTTOM OF HOLE AT 3.00 ft

Notes
1.- J1 was grab sample. Hand augered up to 3 ft. Auger hit refusal due to cobbles and borehole terminated.
2.- Vertical Datum: NAVD 88

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CONTRACT **CONTRACTOR** Warren George

DRILL RIG OPERATOR J.Meyres
SOIL & ROCK DESCRIPTION S.Maslanka
REG GEOTECHNICAL ENGINEER Prakash C. Roy
DATE APPROVED 30-JUL-2019 REVISION # 1
RESIDENT ENGINEER
STRUCTURE NAME **B.I.N.**

SM 282 E 12/02

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
GEOTECHNICAL ENGINEERING BUREAU
SUBSURFACE EXPLORATION LOG

PSN 12505 BORNUM 24
REGION 11
COUNTY QUEENS
PIN X735.82
PROJECT VAN WYCK EXPRESSWAY WIDENING

HOLE DM-W-24
LINE
STA
OFFSET ft
SURF. ELEV. 33.6
DEPTH TO WATER SEE NOTE

ACTUAL COORDINATES (N) 184,106.880 (E) 1,039,248.660 **DATUM** NAD83
DATE START 10-OCT-2017 **DATE FINISH** 10-OCT-2017

CASING	**O. D.**	4 1/2	**in**	**I. D.**	4	**in**	**WT OF HAMMER-CASING**	140	**lb**	**HAMMER FALL-CASING**	30	**in**
SAMPLER	**O. D.**	2	**in**	**I. D.**	1 3/8	**in**	**WT OF HAMMER-SAMPLER**	140	**lb**	**HAMMER FALL-SAMPLER**	30	**in**

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)	DESCRIPTION OF SOIL AND ROCK	
	0.0	J1					6%	(0.00) Brown Gravelly SAND Silty With Asphalt Pieces	(M-NPL)
		J2					4%	(2.00) Brown Gravelly SAND Silty With Asphalt Pieces	(M-NPL)
	5.0	J3					4%	(4.00) Brown Silty SAND	(M-NPL)
		J4	2	3	3	2	4%	(6.00) Brown Silty SAND	(M-NPL)
		J5	3	5	5	4	4%	(8.00) Brown Silty SAND With Gravel Pieces	(M-NPL)
	10.0	J6	3	3	2	3	19%	(10.00) Brown Silty SAND With Gravel Pieces	(M-NPL)
	15.0	J7	3	3	2	2	20%	(15.00) Brown Silty Coarse SAND With Gravel Pieces	(M-NPL)
	20.0	J8	2	2	3	3	21%	(20.00) Brown Silty SAND With Gravel Pieces	(M-NPL)
	25.0								

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CONTRACT **CONTRACTOR** Warren George

DRILL RIG OPERATOR S.Laurenza
SOIL & ROCK DESCRIPTION S.Maslanka/D.Landau
REG GEOTECHNICAL ENGINEER Prakash C. Roy
DATE APPROVED 30-JUL-2019 REVISION # 1
RESIDENT ENGINEER
STRUCTURE NAME **B.I.N.**

SM 282 E 12/02

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
GEOTECHNICAL ENGINEERING BUREAU
SUBSURFACE EXPLORATION LOG

PSN 12505 BORNUM 24
REGION 11
COUNTY QUEENS
PIN X735.82
PROJECT VAN WYCK EXPRESSWAY WIDENING
ACTUAL COORDINATES (N) 184,106.880 (E) 1,039,248.660 **DATUM** NAD83
DATE START 10-OCT-2017 **DATE FINISH** 10-OCT-2017

HOLE DM-W-24
LINE
STA
OFFSET ft
SURF. ELEV. 33.6
DEPTH TO WATER SEE NOTE

CASING	**O. D.**	4 1/2	**in**	**I. D.**	4	**in**	**WT OF HAMMER-CASING**	140	**lb**	**HAMMER FALL-CASING**	30	**in**
SAMPLER	**O. D.**	2	**in**	**I. D.**	1 3/8	**in**	**WT OF HAMMER-SAMPLER**	140	**lb**	**HAMMER FALL-SAMPLER**	30	**in**

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)	DESCRIPTION OF SOIL AND ROCK	
	25.0	J9	7	8	12	15	19%	(25.00) Brown Silty SAND With Gravel Pieces	(M-NPL)
	30.0	J10	12	10	11	12	17%	(30.00) Brown Fine Gravelly SAND Silty	(M-NPL)
	35.0	J11	12	11	15	20	24%	(35.00) Brown Silty SAND	(M-NPL)
	40.0	J12	13	17	22	21	20%	(40.00) Brown Silty Fine SAND	(M-NPL)
	45.0	J13	16	23	22	25	23%	(45.00) Brown Silty Fine SAND With Fine Gravel Pieces	(M-NPL)
	50.0								

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CONTRACT **CONTRACTOR** Warren George

DRILL RIG OPERATOR S.Laurenza
SOIL & ROCK DESCRIPTION S.Maslanka/D.Landau
REG GEOTECHNICAL ENGINEER Prakash C. Roy
DATE APPROVED 30-JUL-2019 REVISION # 1
RESIDENT ENGINEER
STRUCTURE NAME **B.I.N.**

SM 282 E 12/02

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
GEOTECHNICAL ENGINEERING BUREAU
SUBSURFACE EXPLORATION LOG

PSN 12505 BORNUM 24
REGION 11
COUNTY QUEENS
PIN X735.82
PROJECT VAN WYCK EXPRESSWAY WIDENING

HOLE DM-W-24
LINE
STA
OFFSET ft
SURF. ELEV. 33.6
DEPTH TO WATER SEE NOTE

ACTUAL COORDINATES (N) 184,106.880 (E) 1,039,248.660 **DATUM** NAD83
DATE START 10-OCT-2017 **DATE FINISH** 10-OCT-2017

CASING	**O. D.**	4 1/2	**in**	**I. D.**	4	**in**	**WT OF HAMMER-CASING**	140	**lb**	**HAMMER FALL-CASING**	30 **in**
SAMPLER	**O. D.**	2	**in**	**I. D.**	1 3/8	**in**	**WT OF HAMMER-SAMPLER**	140	**lb**	**HAMMER FALL-SAMPLER**	30 **in**

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)	DESCRIPTION OF SOIL AND ROCK	
	50.0	J14	7	9	12	13	29%	(50.00) Brown Silty Fine SAND With Mica	(M-NPL)

BOTTOM OF HOLE AT 52.00 ft

Notes
1.- J1 to J3 were grab samples. Hand augered up to 6ft
2.- Safety hammer used for all other sampling
3.- Vertical Datum: NAVD 88
4.- Rotary mud drilling, no groundwater reading taken
5.- Borehole backfilled and plugged upon completion

CONTRACT **CONTRACTOR** Warren George

DRILL RIG OPERATOR S.Laurenza
SOIL & ROCK DESCRIPTION S.Maslanka/D.Landau
REG GEOTECHNICAL ENGINEER Prakash C. Roy
DATE APPROVED 30-JUL-2019 REVISION # 1
RESIDENT ENGINEER
STRUCTURE NAME **B.I.N.**

SM 282 E 12/02

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
GEOTECHNICAL ENGINEERING BUREAU
SUBSURFACE EXPLORATION LOG

PSN 12505 BORNUM 24.1
REGION 11
COUNTY QUEENS
PIN X735.82
PROJECT VAN WYCK EXPRESSWAY WIDENING
ACTUAL COORDINATES (N) 184,134.270 (E) 1,039,235.000 **DATUM** NAD83
DATE START 22-SEP-2017 **DATE FINISH** 22-SEP-2017

HOLE DM-W-24A
LINE
STA
OFFSET ft
SURF. ELEV. 33.7
DEPTH TO WATER NONE

CASING O. D. in **I. D.** in **WT OF HAMMER-CASING** lb **HAMMER FALL-CASING** in
SAMPLER O. D. in **I. D.** in **WT OF HAMMER-SAMPLER** lb **HAMMER FALL-SAMPLER** in

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)	DESCRIPTION OF SOIL AND ROCK
	0.0	J1					4%	(0.00) Brown Sandy GRAVEL Silty With Asphalt And Concrete Pieces (M-NPL)

BOTTOM OF HOLE AT 4.00 ft

Notes
1.- J1 was grab sample. Hand augered hit refusal at 4ft due to coarse gravel and cobbles. Borehole terminated at 4ft.
2.- Vertical Datum: NAVD 88

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CONTRACT _____ **CONTRACTOR** Warren George

DRILL RIG OPERATOR J.Meyres
SOIL & ROCK DESCRIPTION S.Maslanka
REG GEOTECHNICAL ENGINEER Prakash C. Roy
DATE APPROVED 30-JUL-2019 REVISION # 1
RESIDENT ENGINEER
STRUCTURE NAME **B.I.N.**

SM 282 E 12/02

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
GEOTECHNICAL ENGINEERING BUREAU
SUBSURFACE EXPLORATION LOG

PSN 12505 BORNUM 24.2
REGION 11
COUNTY QUEENS
PIN X735.82
PROJECT VAN WYCK EXPRESSWAY WIDENING

HOLE DM-W-24B
LINE
STA
OFFSET ft
SURF. ELEV. 33.8
DEPTH TO WATER NONE

ACTUAL COORDINATES (N) 184,130.250 (E) 1,039,236.160 **DATUM** NAD83
DATE START 22-SEP-2017 **DATE FINISH** 22-SEP-2017

CASING	**O. D.**	**in**	**I. D.**	**in**	**WT OF HAMMER-CASING**	**lb**	**HAMMER FALL-CASING**	**in**
SAMPLER	**O. D.**	**in**	**I. D.**	**in**	**WT OF HAMMER-SAMPLER**	**lb**	**HAMMER FALL-SAMPLER**	**in**

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)	DESCRIPTION OF SOIL AND ROCK	
	0.0	J1					8%	(0.00) Brown Silty SAND With Gravel Pieces,Root Fibers, Shells And Asphalt	(M-NPL)

BOTTOM OF HOLE AT 3.00 ft

Notes
1.- Sample was grab sample. Hand augered up to 3ft. Refusal hit due to coarse gravel and occasional cobbles. Borehole terminated at 3ft.
2.- Vertical Datum: NAVD 88

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CONTRACT **CONTRACTOR** Warren George

DRILL RIG OPERATOR J.Meyres
SOIL & ROCK DESCRIPTION S.Maslanka
REG GEOTECHNICAL ENGINEER Prakash C. Roy
DATE APPROVED 30-JUL-2019 REVISION # 1
RESIDENT ENGINEER
STRUCTURE NAME **B.I.N.**

SM 282 E 12/02

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
GEOTECHNICAL ENGINEERING BUREAU
SUBSURFACE EXPLORATION LOG

PSN 12505 BORNUM 24.3
REGION 11
COUNTY QUEENS
PIN X735.82
PROJECT VAN WYCK EXPRESSWAY WIDENING
ACTUAL COORDINATES (N) 184,132.020 (E) 1,039,235.070 **DATUM** NAD83
DATE START 22-SEP-2017 **DATE FINISH** 22-SEP-2017

HOLE DM-W-24C
LINE
STA
OFFSET ft
SURF. ELEV. 33.7
DEPTH TO WATER NONE

CASING O. D. in **I. D.** in **WT OF HAMMER-CASING** lb **HAMMER FALL-CASING** in
SAMPLER O. D. in **I. D.** in **WT OF HAMMER-SAMPLER** lb **HAMMER FALL-SAMPLER** in

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)	DESCRIPTION OF SOIL AND ROCK
	0.0	J1					6%	(0.00) Brown Sandy GRAVEL Silty With Asphalt Pieces (M-NPL)

BOTTOM OF HOLE AT 3.00 ft

Notes
1.- Grab sample. Hand augered up to 3ft. Refusal hit due gravel and occasional cobbles. Borehole terminated at 3ft.
2.- Vertical Datum: NAVD 88

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CONTRACT **CONTRACTOR** Warren George

DRILL RIG OPERATOR J.Meyres
SOIL & ROCK DESCRIPTION S.Maslanka
REG GEOTECHNICAL ENGINEER Prakash C. Roy
DATE APPROVED 30-JUL-2019 REVISION # 1
RESIDENT ENGINEER
STRUCTURE NAME **B.I.N.**

SM 282 E 12/02

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
GEOTECHNICAL ENGINEERING BUREAU
SUBSURFACE EXPLORATION LOG

PSN 12505 BORNUM 25
REGION 11
COUNTY QUEENS
PIN X735.82
PROJECT VAN WYCK EXPRESSWAY WIDENING

HOLE DM-W-25
LINE
STA
OFFSET ft
SURF. ELEV. 31.5

ACTUAL COORDINATES (N) 184,130.990 (E) 1,039,566.820 **DATUM** NAD83 **DEPTH TO WATER** SEE NOTE

DATE START 27-SEP-2017 **DATE FINISH** 27-SEP-2017

CASING	**O. D.**	4 1/2	**in**	**I. D.**	4	**in**	**WT OF HAMMER-CASING**	140	**lb**	**HAMMER FALL-CASING**	30	**in**
SAMPLER	**O. D.**	2	**in**	**I. D.**	1 3/8	**in**	**WT OF HAMMER-SAMPLER**	140	**lb**	**HAMMER FALL-SAMPLER**	30	**in**

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)	DESCRIPTION OF SOIL AND ROCK	
	0.0	J1					5%	(0.00) Brown Silty SAND With Gravel Pieces And Mica	(M-NPL)
		J2					8%	(2.00) Dark Brown Silty SAND With Gravel Pieces	(M-NPL)
	5.0	J3					5%	(4.00) Brown Silty SAND With Gravel Pieces And Mica	(M-NPL)
		J4	15	31	15	10	9%	(6.00) Dark Brown Silty SAND With Gravel Pieces	(M-NPL)
	10.0	J5	7	9	10	11	18%	(8.00) Brown Silty Coarse SAND With Fine Gravel Pieces And Mica	(M-NPL)
	15.0	J6	10	13	16	16	18%	(10.00) Brown Silty Coarse SAND With Fine Gravel Pieces And Mica	(M-NPL)
	20.0	J7	4	6	9	10	17%	(15.00) Brown Silty Fine SAND With Mica	(M-NPL)
	25.0	J8	5	10	15	12	20%	(20.00) Brown Silty Fine SAND With Gravel Pieces And Mica	(M-NPL)

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CONTRACT _____ **CONTRACTOR** Warren George

DRILL RIG OPERATOR A.MEDRANO
SOIL & ROCK DESCRIPTION S.MASLANKA/D.LANDAU
REG GEOTECHNICAL ENGINEER Prakash C. Roy
DATE APPROVED 30-JUL-2019 REVISION # 1
RESIDENT ENGINEER
STRUCTURE NAME **B.I.N.**

SM 282 E 12/02

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
GEOTECHNICAL ENGINEERING BUREAU
SUBSURFACE EXPLORATION LOG

PSN 12505 BORNUM 25
REGION 11
COUNTY QUEENS
PIN X735.82
PROJECT VAN WYCK EXPRESSWAY WIDENING

HOLE DM-W-25
LINE
STA
OFFSET ft
SURF. ELEV. 31.5
DEPTH TO WATER SEE NOTE

ACTUAL COORDINATES (N) 184,130.990 (E) 1,039,566.820 **DATUM** NAD83
DATE START 27-SEP-2017 **DATE FINISH** 27-SEP-2017

CASING	**O. D.**	4 1/2	**in**	**I. D.**	4	**in**	**WT OF HAMMER-CASING**	140	**lb**	**HAMMER FALL-CASING**	30 **in**
SAMPLER	**O. D.**	2	**in**	**I. D.**	1 3/8	**in**	**WT OF HAMMER-SAMPLER**	140	**lb**	**HAMMER FALL-SAMPLER**	30 **in**

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)	DESCRIPTION OF SOIL AND ROCK	
	25.0	J9	6	8	14	11	23%	(25.00) Brown Silty Fine SAND With Mica	(M-NPL)
	30.0	J10	14	25	29	24	20%	(30.00) Brown Silty SAND With Gravel Pieces And Mica	(M-NPL)
	35.0	J11	11	8	16	16	28%	(35.00) Brown Silty Fine SAND With Mica	(M-NPL)
	40.0	J12	11	21	24	18	26%	(40.00) Orange Silty Fine SAND With Mica	(M-NPL)
	45.0	J13	10	10	20	20	27%	(45.00) Orange Silty Fine SAND With Gravel Pieces And Mica	(M-NPL)
	50.0								

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CONTRACT **CONTRACTOR** Warren George

DRILL RIG OPERATOR A.MEDRANO
SOIL & ROCK DESCRIPTION S.MASLANKA/D.LANDAU
REG GEOTECHNICAL ENGINEER Prakash C. Roy
DATE APPROVED 30-JUL-2019 REVISION # 1
RESIDENT ENGINEER
STRUCTURE NAME **B.I.N.**

SM 282 E 12/02

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
GEOTECHNICAL ENGINEERING BUREAU
SUBSURFACE EXPLORATION LOG

PSN 12505 BORNUM 25
REGION 11
COUNTY QUEENS
PIN X735.82
PROJECT VAN WYCK EXPRESSWAY WIDENING

HOLE DM-W-25
LINE
STA
OFFSET ft
SURF. ELEV. 31.5
DEPTH TO WATER SEE NOTE

ACTUAL COORDINATES (N) 184,130.990 (E) 1,039,566.820 **DATUM** NAD83
DATE START 27-SEP-2017 **DATE FINISH** 27-SEP-2017

CASING	**O. D.**	4 1/2	**in**	**I. D.**	4	**in**	**WT OF HAMMER-CASING**	140	**lb**	**HAMMER FALL-CASING**	30 **in**
SAMPLER	**O. D.**	2	**in**	**I. D.**	1 3/8	**in**	**WT OF HAMMER-SAMPLER**	140	**lb**	**HAMMER FALL-SAMPLER**	30 **in**

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)	DESCRIPTION OF SOIL AND ROCK	
	50.0	J14	11	11	16	15	26%	(50.00) Orange Silty Fine SAND With Mica	(M-NPL)

BOTTOM OF HOLE AT 52.00 ft

Notes
1.- J1 to J3 were grab samples. Hand augered up to 6ft
2.- Safety hammer used for all other sampling
3.- Vertical Datum: NAVD 88
4.- Rotary mud drilling, no groundwater reading taken

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CONTRACT **CONTRACTOR** Warren George

DRILL RIG OPERATOR A.MEDRANO
SOIL & ROCK DESCRIPTION S.MASLANKA/D.LANDAU
REG GEOTECHNICAL ENGINEER Prakash C. Roy
DATE APPROVED 30-JUL-2019 REVISION # 1
RESIDENT ENGINEER
STRUCTURE NAME **B.I.N.**

SM 282 E 12/02

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
GEOTECHNICAL ENGINEERING BUREAU
SUBSURFACE EXPLORATION LOG

PSN 12505 BORNUM 26
REGION 11
COUNTY QUEENS
PIN X735.82
PROJECT VAN WYCK EXPRESSWAY WIDENING

HOLE DM-W-26
LINE
STA
OFFSET ft
SURF. ELEV. 30.5

ACTUAL COORDINATES (N) 183,847.480 (E) 1,039,235.800 **DATUM** NAD83 **DEPTH TO WATER** SEE NOTE

DATE START 21-SEP-2017 **DATE FINISH** 21-SEP-2017

CASING	**O. D.**	4 1/2	**in**	**I. D.**	4	**in**	**WT OF HAMMER-CASING**	140	**lb**	**HAMMER FALL-CASING**	30 **in**
SAMPLER	**O. D.**	2	**in**	**I. D.**	1 3/8	**in**	**WT OF HAMMER-SAMPLER**	140	**lb**	**HAMMER FALL-SAMPLER**	30 **in**

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)	DESCRIPTION OF SOIL AND ROCK	
	0.0	J1					6%	(0.00) Brown Silty Fine SAND With Gravel Pieces	(M-NPL)
		J2					5%	(3.00) Brown Silty SAND With Gravel Pieces	(M-NPL)
	5.0	J3	6	6	8	11	5%	(7.00) Brown Silty SAND	(M-NPL)
	10.0	J4	10	17	11	13	5%	(9.00) Brown Silty SAND With Gravel Pieces	(M-NPL)
	15.0	J5	7	7	9	23	4%	(11.00) Brown Silty SAND	(M-NPL)
	20.0	J6	6	7	8	10	16%	(15.00) Brown Silty SAND	(M-NPL)
	25.0	J7	8	12	15	18	15%	(20.00) Brown Silty SAND	(M-NPL)

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CONTRACT _____ **CONTRACTOR** Warren George

DRILL RIG OPERATOR J.MEYRES
SOIL & ROCK DESCRIPTION D.LANDAU/S.MASLANKA
REG GEOTECHNICAL ENGINEER Prakash C. Roy
DATE APPROVED 30-JUL-2019 REVISION # 1
RESIDENT ENGINEER
STRUCTURE NAME **B.I.N.**

SM 282 E 12/02

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
GEOTECHNICAL ENGINEERING BUREAU
SUBSURFACE EXPLORATION LOG

PSN 12505 BORNUM 26
REGION 11
COUNTY QUEENS
PIN X735.82
PROJECT VAN WYCK EXPRESSWAY WIDENING

HOLE DM-W-26
LINE
STA
OFFSET ft
SURF. ELEV. 30.5
DEPTH TO WATER SEE NOTE

ACTUAL COORDINATES (N) 183,847.480 (E) 1,039,235.800 **DATUM** NAD83
DATE START 21-SEP-2017 **DATE FINISH** 21-SEP-2017

CASING	**O. D.**	4 1/2	**in**	**I. D.**	4	**in**	**WT OF HAMMER-CASING**	140	**lb**	**HAMMER FALL-CASING**	30 **in**
SAMPLER	**O. D.**	2	**in**	**I. D.**	1 3/8	**in**	**WT OF HAMMER-SAMPLER**	140	**lb**	**HAMMER FALL-SAMPLER**	30 **in**

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)	DESCRIPTION OF SOIL AND ROCK	
	25.0	J8	10	18	17	27	19%	(25.00) Brown Silty Fine SAND	(M-NPL)
	30.0	J9	13	13	18	18	11%	(30.00) Brown Silty SAND With Gravel Pieces	(M-NPL)
	35.0	J10	11	13	14	16	21%	(35.00) Brown Silty Fine SAND With Gravel Pieces And Mica	(M-NPL)
	40.0	J11	10	9	5	7	19%	(40.00) Brown Silty Fine SAND With Gravel Pieces And Mica	(M-NPL)
	45.0	J12	12	13	14	17	21%	(45.00) Brown Silty Fine SAND With Mica	(M-NPL)
	50.0								

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CONTRACT **CONTRACTOR** Warren George

DRILL RIG OPERATOR J.MEYRES
SOIL & ROCK DESCRIPTION D.LANDAU/S.MASLANKA
REG GEOTECHNICAL ENGINEER Prakash C. Roy
DATE APPROVED 30-JUL-2019 REVISION # 1
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SM 282 E 12/02

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
GEOTECHNICAL ENGINEERING BUREAU
SUBSURFACE EXPLORATION LOG

PSN 12505 BORNUM 26
REGION 11
COUNTY QUEENS
PIN X735.82
PROJECT VAN WYCK EXPRESSWAY WIDENING

HOLE DM-W-26
LINE
STA
OFFSET ft
SURF. ELEV. 30.5

ACTUAL COORDINATES (N) 183,847.480 (E) 1,039,235.800 **DATUM** NAD83 **DEPTH TO WATER** SEE NOTE

DATE START 21-SEP-2017 **DATE FINISH** 21-SEP-2017

CASING	**O. D.**	4 1/2	**in**	**I. D.**	4	**in**	**WT OF HAMMER-CASING**	140	**lb**	**HAMMER FALL-CASING**	30 **in**
SAMPLER	**O. D.**	2	**in**	**I. D.**	1 3/8	**in**	**WT OF HAMMER-SAMPLER**	140	**lb**	**HAMMER FALL-SAMPLER**	30 **in**

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)	DESCRIPTION OF SOIL AND ROCK	
	50.0	J13	5	18	20	12	22%	(50.00) Brown Silty Fine SAND With Mica	(M-NPL)

BOTTOM OF HOLE AT 52.00 ft

Notes
1.- J1 & J2 were grab samples. Hand augered up to 7ft
2.- Safety hammer used for all other sampling
3.- Vertical Datum: NAVD 88
4.- Rotary mud drilling, no groundwater reading taken

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CONTRACT **CONTRACTOR** Warren George

DRILL RIG OPERATOR J.MEYRES
SOIL & ROCK DESCRIPTION D.LANDAU/S.MASLANKA
REG GEOTECHNICAL ENGINEER Prakash C. Roy
DATE APPROVED 30-JUL-2019 REVISION # 1
RESIDENT ENGINEER
STRUCTURE NAME **B.I.N.**

SM 282 E 12/02

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
GEOTECHNICAL ENGINEERING BUREAU
SUBSURFACE EXPLORATION LOG

PSN 12505 BORNUM 27
REGION 11
COUNTY QUEENS
PIN X735.82
PROJECT VAN WYCK EXPRESSWAY WIDENING

HOLE DM-W-27
LINE
STA
OFFSET ft
SURF. ELEV. 28.3
DEPTH TO WATER NONE

ACTUAL COORDINATES (N) 183,856.260 (E) 1,039,567.920 **DATUM** NAD83
DATE START 27-SEP-2017 **DATE FINISH** 27-SEP-2017

CASING O. D. in **I. D.** in **WT OF HAMMER-CASING** lb **HAMMER FALL-CASING** in
SAMPLER O. D. in **I. D.** in **WT OF HAMMER-SAMPLER** lb **HAMMER FALL-SAMPLER** in

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)	DESCRIPTION OF SOIL AND ROCK
	0.0	J1					6%	(0.00) Brown Silty SAND With Gravel Pieces (M-NPL)

BOTTOM OF HOLE AT 3.00 ft

Notes
1.- Grab sample. Hand augered up to 3ft. Refusal hit due to gravel & occasional cobbles. Borehole terminated at 3ft & re-attempted.
2.- Vertical Datum : NAVD 88

The subsurface information shown here was obtained for design and estimate purposes. It is made available so that users may have access to the same information available to the State. It is presented in good faith. By the nature of the exploration process, the information represents only a small fraction of the total volume of the material at the site. Interpolation between data samples may not be indicative of the actual material encountered.

CONTRACT **CONTRACTOR** Warren George

DRILL RIG OPERATOR J.MEYRES
SOIL & ROCK DESCRIPTION D.LANDAU/S.MASLANKA
REG GEOTECHNICAL ENGINEER Prakash C. Roy
DATE APPROVED 30-JUL-2019 REVISION # 1
RESIDENT ENGINEER
STRUCTURE NAME **B.I.N.**

SM 282 E 12/02

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
GEOTECHNICAL ENGINEERING BUREAU
SUBSURFACE EXPLORATION LOG

PSN 12505 BORNUM 27.1
REGION 11
COUNTY QUEENS
PIN X735.82
PROJECT VAN WYCK EXPRESSWAY WIDENING
ACTUAL COORDINATES (N) 183,855.600 (E) 1,039,569.120 **DATUM** NAD83
DATE START 27-SEP-2017 **DATE FINISH** 27-SEP-2017

HOLE DM-W-27A
LINE
STA
OFFSET ft
SURF. ELEV. 28.4
DEPTH TO WATER SEE NOTE

CASING	**O. D.**	4 1/2	**in**	**I. D.**	4	**in**	**WT OF HAMMER-CASING**	140	**lb**	**HAMMER FALL-CASING**	30 **in**
SAMPLER	**O. D.**	2	**in**	**I. D.**	1 3/8	**in**	**WT OF HAMMER-SAMPLER**	140	**lb**	**HAMMER FALL-SAMPLER**	30 **in**

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)	DESCRIPTION OF SOIL AND ROCK	
	0.0	J1					4%	(0.00) Brown Silty SAND With Gravel Pieces, Slag And Root Fibers	(M-NPL)
		J2					3%	(2.00) Orange Silty SAND With Gravel Pieces	(M-NPL)
	5.0	J3					3%	(4.00) Orange Silty SAND With Gravel Pieces	(M-NPL)
		J4	4	7	8	10	3%	(7.00) Orange Silty SAND With Mica	(M-NPL)
	10.0	J5	9	6	6	9	3%	(9.00) Orange Silty SAND With Gravel Pieces And Mica	(M-NPL)
		J6	9	8	9	9	4%	(11.00) Brown Silty SAND With Gravel Pieces And Mica	(M-NPL)
	15.0	J7	10	9	11	10	15%	(15.00) Brown Silty SAND With Mica	(M-NPL)
	20.0	J8	7	9	13	10	16%	(20.00) Brown Silty SAND With Mica	(M-NPL)
	25.0								

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CONTRACT _____ **CONTRACTOR** Warren George

DRILL RIG OPERATOR J.MEYRES
SOIL & ROCK DESCRIPTION S.MASLANKA/D.LANDAU
REG GEOTECHNICAL ENGINEER Prakash C. Roy
DATE APPROVED 30-JUL-2019 REVISION # 1
RESIDENT ENGINEER
STRUCTURE NAME **B.I.N.**

SM 282 E 12/02

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
GEOTECHNICAL ENGINEERING BUREAU
SUBSURFACE EXPLORATION LOG

PSN 12505 BORNUM 27.1
REGION 11
COUNTY QUEENS
PIN X735.82
PROJECT VAN WYCK EXPRESSWAY WIDENING
ACTUAL COORDINATES (N) 183,855.600 (E) 1,039,569.120 **DATUM** NAD83
DATE START 27-SEP-2017 **DATE FINISH** 27-SEP-2017

HOLE DM-W-27A
LINE
STA
OFFSET ft
SURF. ELEV. 28.4
DEPTH TO WATER SEE NOTE

CASING	**O. D.**	4 1/2	**in**	**I. D.**	4	**in**	**WT OF HAMMER-CASING**	140	**lb**	**HAMMER FALL-CASING**	30 **in**
SAMPLER	**O. D.**	2	**in**	**I. D.**	1 3/8	**in**	**WT OF HAMMER-SAMPLER**	140	**lb**	**HAMMER FALL-SAMPLER**	30 **in**

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)	DESCRIPTION OF SOIL AND ROCK	
	25.0	J9	13	12	14	15	17%	(25.00) Brown Fine Gravelly SAND With Mica	(M-NPL)
	30.0	J10	12	12	11	14	20%	(30.00) Brown Fine Gravelly SAND With Mica	(M-NPL)
	35.0	J11	5	6	7	8	24%	(35.00) Brown And Orange Silty SAND With Gravel Pieces And Mica	(M-NPL)
	40.0	J12	4	7	9	10	27%	(40.00) Brown And Orange Silty Fine SAND With Mica	(M-NPL)
	45.0	J13	13	18	17	13	24%	(45.00) Brown And Orange Silty Fine SAND With Mica	(M-NPL)
	50.0								

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CONTRACT _____ **CONTRACTOR** Warren George

DRILL RIG OPERATOR J.MEYRES
SOIL & ROCK DESCRIPTION S.MASLANKA/D.LANDAU
REG GEOTECHNICAL ENGINEER Prakash C. Roy
DATE APPROVED 30-JUL-2019 REVISION # 1
RESIDENT ENGINEER
STRUCTURE NAME **B.I.N.**

SM 282 E 12/02

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
GEOTECHNICAL ENGINEERING BUREAU
SUBSURFACE EXPLORATION LOG

PSN 12505 BORNUM 27.1
REGION 11
COUNTY QUEENS
PIN X735.82
PROJECT VAN WYCK EXPRESSWAY WIDENING

HOLE DM-W-27A
LINE
STA
OFFSET ft
SURF. ELEV. 28.4

ACTUAL COORDINATES (N) 183,855.600 (E) 1,039,569.120 **DATUM** NAD83 **DEPTH TO WATER** SEE NOTE

DATE START 27-SEP-2017 **DATE FINISH** 27-SEP-2017

CASING	**O. D.**	4 1/2	**in**	**I. D.**	4	**in**	**WT OF HAMMER-CASING**	140	**lb**	**HAMMER FALL-CASING**	30 **in**
SAMPLER	**O. D.**	2	**in**	**I. D.**	1 3/8	**in**	**WT OF HAMMER-SAMPLER**	140	**lb**	**HAMMER FALL-SAMPLER**	30 **in**

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)	DESCRIPTION OF SOIL AND ROCK	
	50.0	J14	6	7	8	10	26%	(50.00) Brown Silty Fine SAND With Mica	(M-NPL)

BOTTOM OF HOLE AT 52.00 ft

Notes
1.- J1 to J3 were grab samples. Hand augered up to 7ft
2.- Safety hammer used for all other sampling
3.- Vertical Datum: NAVD 88
4.- Rotary mud drilling, no groundwater reading taken

The subsurface information shown here was obtained for design and estimate purposes. It is made available so that users may have access to the same information available to the State. It is presented in good faith. By the nature of the exploration process, the information represents only a small fraction of the total volume of the material at the site. Interpolation between data samples may not be indicative of the actual material encountered.

CONTRACT **CONTRACTOR** Warren George

DRILL RIG OPERATOR J.MEYRES
SOIL & ROCK DESCRIPTION S.MASLANKA/D.LANDAU
REG GEOTECHNICAL ENGINEER Prakash C. Roy
DATE APPROVED 30-JUL-2019 REVISION # 1
RESIDENT ENGINEER
STRUCTURE NAME **B.I.N.**

SM 282 E 12/02

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
GEOTECHNICAL ENGINEERING BUREAU
SUBSURFACE EXPLORATION LOG

PSN 12505 BORNUM 28
REGION 11
COUNTY QUEENS
PIN X735.82
PROJECT VAN WYCK EXPRESSWAY WIDENING

HOLE DM-W-28
LINE
STA
OFFSET ft
SURF. ELEV. 23.9
DEPTH TO WATER SEE NOTE

ACTUAL COORDINATES (N) 183,712.390 (E) 1,039,568.570 **DATUM** NAD83
DATE START 26-SEP-2017 **DATE FINISH** 26-SEP-2017

CASING	**O. D.**	4 1/2	**in**	**I. D.**	4	**in**	**WT OF HAMMER-CASING**	140	**lb**	**HAMMER FALL-CASING**	30	**in**
SAMPLER	**O. D.**	2	**in**	**I. D.**	1 3/8	**in**	**WT OF HAMMER-SAMPLER**	140	**lb**	**HAMMER FALL-SAMPLER**	30	**in**

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)	DESCRIPTION OF SOIL AND ROCK	
	0.0	J1					5%	(0.00) Brown Silty SAND With Mica	(M-NPL)
	5.0	J2					5%	(3.00) Brown Silty SAND With Gravel Pieces And Mica	(M-NPL)
		J3	2	4	4	8	6%	(7.00) Brown Silty Fine SAND With Gravel Pieces And Mica	(M-NPL)
	10.0	J4	4	8	6	6	14%	(9.00) Brown Silty Fine SAND With Gravel Pieces And Mica	(M-NPL)
	15.0	J5	6	4	3	4	10%	(11.00) Brown Silty Fine SAND With Mica	(M-NPL)
	20.0	J6	6	7	7	7	18%	(15.00) Brown Silty Fine SAND With Mica	(M-NPL)
	25.0	J7	9	10	14	18	18%	(20.00) Brown Silty SAND With Gravel Pieces And Mica	(M-NPL)

The subsurface information shown here was obtained for design and estimate purposes. It is made available so that users may have access to the same information available to the State. It is presented in good faith. By the nature of the exploration process, the information represents only a small fraction of the total volume of the material at the site. Interpolation between data samples may not be indicative of the actual material encountered.

CONTRACT _____ **CONTRACTOR** Warren George

DRILL RIG OPERATOR J.MEYRES
SOIL & ROCK DESCRIPTION D.LANDAU/S.MASLANKA
REG GEOTECHNICAL ENGINEER Prakash C. Roy
DATE APPROVED 30-JUL-2019 REVISION # 1
RESIDENT ENGINEER
STRUCTURE NAME **B.I.N.**

SM 282 E 12/02

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
GEOTECHNICAL ENGINEERING BUREAU
SUBSURFACE EXPLORATION LOG

PSN 12505 BORNUM 28
REGION 11
COUNTY QUEENS
PIN X735.82
PROJECT VAN WYCK EXPRESSWAY WIDENING
ACTUAL COORDINATES (N) 183,712.390 (E) 1,039,568.570 **DATUM** NAD83
DATE START 26-SEP-2017 **DATE FINISH** 26-SEP-2017

HOLE DM-W-28
LINE
STA
OFFSET ft
SURF. ELEV. 23.9
DEPTH TO WATER SEE NOTE

CASING	**O. D.**	4 1/2	**in**	**I. D.**	4	**in**	**WT OF HAMMER-CASING**	140	**lb**	**HAMMER FALL-CASING**	30 **in**
SAMPLER	**O. D.**	2	**in**	**I. D.**	1 3/8	**in**	**WT OF HAMMER-SAMPLER**	140	**lb**	**HAMMER FALL-SAMPLER**	30 **in**

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)	DESCRIPTION OF SOIL AND ROCK	
	25.0	J8	11	8	5	3	29%	(25.00) Brown Silty Fine SAND With Gravel Pieces And Mica	(M-NPL)
	30.0	J9	6	8	8	15	26%	(30.00) Brown Silty Fine SAND With Gravel Pieces And Mica	(M-NPL)
	35.0	J10	16	17	19	21	25%	(35.00) Brown Silty Fine SAND With Mica	(M-NPL)
	40.0	J11	5	8	6	6	26%	(40.00) Orange Silty SAND With Mica	(M-NPL)
	45.0	J12	13	15	15	10	25%	(45.00) Brown Silty Fine SAND With Mica	(M-NPL)
	50.0								

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DRILL RIG OPERATOR J.MEYRES
SOIL & ROCK DESCRIPTION D.LANDAU/S.MASLANKA
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SUBSURFACE EXPLORATION LOG

PSN 12505 BORNUM 28
REGION 11
COUNTY QUEENS
PIN X735.82
PROJECT VAN WYCK EXPRESSWAY WIDENING

HOLE DM-W-28
LINE
STA
OFFSET ft
SURF. ELEV. 23.9

ACTUAL COORDINATES (N) 183,712.390 (E) 1,039,568.570 **DATUM** NAD83 **DEPTH TO WATER** SEE NOTE

DATE START 26-SEP-2017 **DATE FINISH** 26-SEP-2017

CASING	**O. D.**	4 1/2	**in**	**I. D.**	4	**in**	**WT OF HAMMER-CASING**	140	**lb**	**HAMMER FALL-CASING**	30 **in**
SAMPLER	**O. D.**	2	**in**	**I. D.**	1 3/8	**in**	**WT OF HAMMER-SAMPLER**	140	**lb**	**HAMMER FALL-SAMPLER**	30 **in**

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)	DESCRIPTION OF SOIL AND ROCK	
	50.0	J13	9	8	10	13	26%	(50.00) Brown Silty Fine SAND With Mica	(M-NPL)

BOTTOM OF HOLE AT 52.00 ft

Notes
1.- J1 & J2 were grab samples. Hand augered up to 7ft
2.- Safety hammer used for all other sampling
3.- Rotary mud drilling, no groundwater reading taken
4.- Vertical Datum: NAVD 88

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CONTRACT **CONTRACTOR** Warren George

DRILL RIG OPERATOR J.MEYRES
SOIL & ROCK DESCRIPTION D.LANDAU/S.MASLANKA
REG GEOTECHNICAL ENGINEER Prakash C. Roy
DATE APPROVED 30-JUL-2019 REVISION # 1
RESIDENT ENGINEER
STRUCTURE NAME **B.I.N.**

SM 282 E 12/02

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
GEOTECHNICAL ENGINEERING BUREAU
SUBSURFACE EXPLORATION LOG

PSN 12505 BORNUM 29
REGION 11
COUNTY QUEENS
PIN X735.82
PROJECT VAN WYCK EXPRESSWAY WIDENING

HOLE DM-W-29
LINE
STA
OFFSET ft
SURF. ELEV. 26.3
DEPTH TO WATER SEE NOTE

ACTUAL COORDINATES (N) 183,372.040 (E) 1,039,238.820 **DATUM** NAD83
DATE START 20-SEP-2017 **DATE FINISH** 20-SEP-2017

CASING	**O. D.**	4 1/2	**in**	**I. D.**	4	**in**	**WT OF HAMMER-CASING**	140	**lb**	**HAMMER FALL-CASING**	30 **in**
SAMPLER	**O. D.**	2	**in**	**I. D.**	1 3/8	**in**	**WT OF HAMMER-SAMPLER**	140	**lb**	**HAMMER FALL-SAMPLER**	30 **in**

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)	DESCRIPTION OF SOIL AND ROCK	
	0.0	J1					6%	(0.00) Brown Silty SAND With Gravel Pieces And Mica	(M-NPL)
	5.0	J2					6%	(3.00) Brown Silty SAND With Gravel Pieces And Mica	(M-NPL)
		J3	7	9	12	16	6%	(7.00) Brown Silty SAND With Gravel Pieces And Mica	(M-NPL)
	10.0	J4	10	7	8	9	7%	(9.00) Brown Silty SAND With Gravel Pieces And Mica	(M-NPL)
	15.0	J5	8	8	7	8	8%	(11.00) Brown Silty Fine SAND	(M-NPL)
	20.0	J6	10	7	9	7	16%	(15.00) Brown Silty Fine SAND	(M-NPL)
	25.0	J7	5	4	4	6	25%	(20.00) Brown Silty Fine SAND With Mica	(M-NPL)

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CONTRACT _____ **CONTRACTOR** Warren George

DRILL RIG OPERATOR J.MEYRES
SOIL & ROCK DESCRIPTION D.LANDAU/S.MASLANKA
REG GEOTECHNICAL ENGINEER Prakash C. Roy
DATE APPROVED 30-JUL-2019 REVISION # 1
RESIDENT ENGINEER
STRUCTURE NAME **B.I.N.**

SM 282 E 12/02

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
GEOTECHNICAL ENGINEERING BUREAU
SUBSURFACE EXPLORATION LOG

PSN 12505 BORNUM 29
REGION 11
COUNTY QUEENS
PIN X735.82
PROJECT VAN WYCK EXPRESSWAY WIDENING

HOLE DM-W-29
LINE
STA
OFFSET ft
SURF. ELEV. 26.3
DEPTH TO WATER SEE NOTE

ACTUAL COORDINATES (N) 183,372.040 (E) 1,039,238.820 **DATUM** NAD83
DATE START 20-SEP-2017 **DATE FINISH** 20-SEP-2017

CASING	**O. D.**	4 1/2	**in**	**I. D.**	4	**in**	**WT OF HAMMER-CASING**	140	**lb**	**HAMMER FALL-CASING**	30 **in**
SAMPLER	**O. D.**	2	**in**	**I. D.**	1 3/8	**in**	**WT OF HAMMER-SAMPLER**	140	**lb**	**HAMMER FALL-SAMPLER**	30 **in**

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)	DESCRIPTION OF SOIL AND ROCK	
	25.0	J8	7	11	12	14	20%	(25.00) Brown Silty Fine SAND With Mica	(M-NPL)
	30.0	J9	6	6	9	12	23%	(30.00) Brown Silty Fine SAND With Mica	(M-NPL)
	35.0	J10	12	10	13	13	25%	(35.00) Brown And Orange Silty Fine SAND With Mica	(M-NPL)
	40.0	J11	14	10	8	9	27%	(40.00) Brown And Orange Silty Fine SAND With Mica	(M-NPL)
	45.0	J12	5	4	4	9	30%	(45.00) Brown And Orange Silty Fine SAND With Mica	(M-NPL)
	50.0								

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DRILL RIG OPERATOR J.MEYRES
SOIL & ROCK DESCRIPTION D.LANDAU/S.MASLANKA
REG GEOTECHNICAL ENGINEER Prakash C. Roy
DATE APPROVED 30-JUL-2019 REVISION # 1
RESIDENT ENGINEER
STRUCTURE NAME **B.I.N.**

SM 282 E 12/02

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
GEOTECHNICAL ENGINEERING BUREAU
SUBSURFACE EXPLORATION LOG

PSN 12505 BORNUM 29
REGION 11
COUNTY QUEENS
PIN X735.82
PROJECT VAN WYCK EXPRESSWAY WIDENING

HOLE DM-W-29
LINE
STA
OFFSET ft
SURF. ELEV. 26.3

ACTUAL COORDINATES (N) 183,372.040 (E) 1,039,238.820 **DATUM** NAD83 **DEPTH TO WATER** SEE NOTE

DATE START 20-SEP-2017 **DATE FINISH** 20-SEP-2017

CASING	**O. D.**	4 1/2	**in**	**I. D.**	4	**in**	**WT OF HAMMER-CASING**	140	**lb**	**HAMMER FALL-CASING**	30 **in**
SAMPLER	**O. D.**	2	**in**	**I. D.**	1 3/8	**in**	**WT OF HAMMER-SAMPLER**	140	**lb**	**HAMMER FALL-SAMPLER**	30 **in**

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)	DESCRIPTION OF SOIL AND ROCK	
	50.0	J13	7	12	14	11	24%	(50.00) Brown Silty Fine SAND With Gravel Pieces And Mica	(M-NPL)

BOTTOM OF HOLE AT 52.00 ft

Notes
1.- J1 & J2 were grab samples. Hand augered up to 7ft
2.- Safety hammer used for all other sampling
3.- Vertical Datum: NAVD 88
4.- Rotary mud drilling, no groundwater reading taken

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CONTRACT **CONTRACTOR** Warren George

DRILL RIG OPERATOR J.MEYRES
SOIL & ROCK DESCRIPTION D.LANDAU/S.MASLANKA
REG GEOTECHNICAL ENGINEER Prakash C. Roy
DATE APPROVED 30-JUL-2019 REVISION # 1
RESIDENT ENGINEER
STRUCTURE NAME **B.I.N.**

SM 282 E 12/02

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
GEOTECHNICAL ENGINEERING BUREAU
SUBSURFACE EXPLORATION LOG

PSN 12505 BORNUM 30
REGION 11
COUNTY QUEENS
PIN X735.82
PROJECT VAN WYCK EXPRESSWAY WIDENING
ACTUAL COORDINATES (N) 183,445.750 (E) 1,039,571.380 **DATUM** NAD83

HOLE DM-W-30
LINE
STA
OFFSET ft
SURF. ELEV. 23.7
DEPTH TO WATER SEE NOTE

DATE START 26-SEP-2017 **DATE FINISH** 26-SEP-2017

CASING	**O. D.**	4 1/2	**in**	**I. D.**	4	**in**	**WT OF HAMMER-CASING**	140	**lb**	**HAMMER FALL-CASING**	30 **in**
SAMPLER	**O. D.**	2	**in**	**I. D.**	1 3/8	**in**	**WT OF HAMMER-SAMPLER**	140	**lb**	**HAMMER FALL-SAMPLER**	30 **in**

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)	DESCRIPTION OF SOIL AND ROCK	
	0.0	J1					3%	(0.00) Brown Gravelly SAND Silty With Root Fibers	(M-NPL)
		J2					4%	(2.00) Brown Silty SAND With Mica	(M-NPL)
	5.0	J3					4%	(4.00) Brown Silty SAND With Mica	(M-NPL)
		J4	6	7	4	4	5%	(6.00) Brown Silty SAND With Gravel Pieces And Mica	(M-NPL)
		J5	7	10	11	15	4%	(8.00) Brown Silty SAND With Gravel Pieces And Mica	(M-NPL)
	10.0	J6	11	12	15	15	5%	(10.00) Brown Silty SAND With Gravel Pieces And Mica	(M-NPL)
	15.0	J7	6	8	10	7	15%	(15.00) Brown Silty SAND With Mica	(M-NPL)
	20.0	J8	9	13	17	15	19%	(20.00) Brown Silty SAND Fine Gravelly With Mica	(M-NPL)
	25.0								

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CONTRACT _____ **CONTRACTOR** Warren George

DRILL RIG OPERATOR Angel Medrano
SOIL & ROCK DESCRIPTION D.LANDAU/S.MASLANKA
REG GEOTECHNICAL ENGINEER Prakash C. Roy
DATE APPROVED 30-JUL-2019 REVISION # 1
RESIDENT ENGINEER
STRUCTURE NAME **B.I.N.**

SM 282 E 12/02

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
GEOTECHNICAL ENGINEERING BUREAU
SUBSURFACE EXPLORATION LOG

PSN 12505 BORNUM 30
REGION 11
COUNTY QUEENS
PIN X735.82
PROJECT VAN WYCK EXPRESSWAY WIDENING

HOLE DM-W-30
LINE
STA
OFFSET ft
SURF. ELEV. 23.7
DEPTH TO WATER SEE NOTE

ACTUAL COORDINATES (N) 183,445.750 (E) 1,039,571.380 **DATUM** NAD83
DATE START 26-SEP-2017 **DATE FINISH** 26-SEP-2017

CASING	**O. D.**	4 1/2	**in**	**I. D.**	4	**in**	**WT OF HAMMER-CASING**	140	**lb**	**HAMMER FALL-CASING**	30 **in**
SAMPLER	**O. D.**	2	**in**	**I. D.**	1 3/8	**in**	**WT OF HAMMER-SAMPLER**	140	**lb**	**HAMMER FALL-SAMPLER**	30 **in**

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)	DESCRIPTION OF SOIL AND ROCK	
	25.0	J9	12	16	16	14	20%	(25.00) Brown Gravelly SAND Silty With Mica	(M-NPL)
	30.0	J10	8	10	17	15	23%	(30.00) Brown Silty SAND With Gravel Pieces And Mica	(M-NPL)
	35.0	J11	9	10	11	14	24%	(35.00) Brown Silty SAND With Mica	(M-NPL)
	40.0	J12	6	10	12	11	26%	(40.00) Brown Silty Fine SAND With Mica	(M-NPL)
	45.0	J13	5	6	11	10	28%	(45.00) Brown Silty Fine SAND With Mica	(M-NPL)
	50.0								

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CONTRACT **CONTRACTOR** Warren George

DRILL RIG OPERATOR Angel Medrano
SOIL & ROCK DESCRIPTION D.LANDAU/S.MASLANKA
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STATE OF NEW YORK
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PSN 12505 BORNUM 30
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COUNTY QUEENS
PIN X735.82
PROJECT VAN WYCK EXPRESSWAY WIDENING

HOLE DM-W-30
LINE
STA
OFFSET ft
SURF. ELEV. 23.7
DEPTH TO WATER SEE NOTE

ACTUAL COORDINATES (N) 183,445.750 (E) 1,039,571.380 **DATUM** NAD83
DATE START 26-SEP-2017 **DATE FINISH** 26-SEP-2017

CASING	**O. D.**	4 1/2	**in**	**I. D.**	4	**in**	**WT OF HAMMER-CASING**	140	**lb**	**HAMMER FALL-CASING**	30	**in**
SAMPLER	**O. D.**	2	**in**	**I. D.**	1 3/8	**in**	**WT OF HAMMER-SAMPLER**	140	**lb**	**HAMMER FALL-SAMPLER**	30	**in**

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)	DESCRIPTION OF SOIL AND ROCK
	50.0	J14	5	11	8	8	26%	(50.00) Brown Silty SAND With Mica (M-NPL)

BOTTOM OF HOLE AT 52.00 ft

Notes
1.- Jars 1 - 3 were hand cleared
2.- Safety hammer used for all other sampling
3.- An open well Piezometer was installed.
4.- Vertical Datum: NAVD 88

DATE	TIME	DEPTH ft			ARTESIAN HEAD HEIGHT ABOVE GROUND	FILLED WITH WATER AT END OF DAY
		HOLE	CASING	WATER		
29-Sep-17	13:00	46.00		16.70		
06-Oct-17	13:00	46.00		18.00		
07-Nov-17	11:05	46.00		18.30		
08-Nov-17	14:35	46.00		18.30		
09-Nov-17	10:40	46.00		18.30		
24-Jan-18	10:45	46.00		18.50		
19-Apr-18	13:30	46.00		17.30		
24-May-18	11:33	46.00		17.50		

CONTRACT **CONTRACTOR** Warren George

DRILL RIG OPERATOR Angel Medrano
SOIL & ROCK DESCRIPTION D.LANDAU/S.MASLANKA
REG GEOTECHNICAL ENGINEER Prakash C. Roy
DATE APPROVED 30-JUL-2019 REVISION # 1
RESIDENT ENGINEER
STRUCTURE NAME **B.I.N.**

SM 282 E 12/02

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
GEOTECHNICAL ENGINEERING BUREAU
SUBSURFACE EXPLORATION LOG

PSN 12505 BORNUM 31
REGION 11
COUNTY QUEENS
PIN X735.82
PROJECT VAN WYCK EXPRESSWAY WIDENING

HOLE DM-W-31
LINE
STA
OFFSET ft
SURF. ELEV. 22

ACTUAL COORDINATES (N) 182,727.620 (E) 1,039,175.580 **DATUM** NAD83 **DEPTH TO WATER** SEE NOTE

DATE START 19-SEP-2017 **DATE FINISH** 19-SEP-2017

CASING	**O. D.**	4 1/2	**in**	**I. D.**	4	**in**	**WT OF HAMMER-CASING**	140	**lb**	**HAMMER FALL-CASING**	30 **in**
SAMPLER	**O. D.**	2	**in**	**I. D.**	1 3/8	**in**	**WT OF HAMMER-SAMPLER**	140	**lb**	**HAMMER FALL-SAMPLER**	30 **in**

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)	DESCRIPTION OF SOIL AND ROCK	
	0.0	J1					7%	(0.00) Brown Silty SAND	(M-NPL)
	5.0	J2	11	14	14	15	11%	(7.00) Brown Silty SAND With Mica	(M-NPL)
	10.0	J3	14	13	19	21	13%	(9.00) Orange Silty Fine SAND With Mica	(M-NPL)
	15.0	J4	9	10	16	28	9%	(11.00) Orange Silty Fine SAND With Mica	(M-NPL)
	20.0	J5	8	9	8	8	18%	(15.00) Orange Silty Fine SAND With Mica	(M-NPL)
	25.0	J6	12	14	20	26	24%	(20.00) Brown Silty Fine SAND With Gravel Pieces And Mica	(M-NPL)

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CONTRACT _____ **CONTRACTOR** Warren George

DRILL RIG OPERATOR Jeremy Meyres
SOIL & ROCK DESCRIPTION S.MASLANKA/D.LANDAU
REG GEOTECHNICAL ENGINEER Prakash C. Roy
DATE APPROVED 30-JUL-2019 REVISION # 1
RESIDENT ENGINEER
STRUCTURE NAME **B.I.N.**

SM 282 E 12/02

STATE OF NEW YORK
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GEOTECHNICAL ENGINEERING BUREAU
SUBSURFACE EXPLORATION LOG

PSN 12505 BORNUM 31
REGION 11
COUNTY QUEENS
PIN X735.82
PROJECT VAN WYCK EXPRESSWAY WIDENING
ACTUAL COORDINATES (N) 182,727.620 (E) 1,039,175.580 **DATUM** NAD83
DATE START 19-SEP-2017 **DATE FINISH** 19-SEP-2017

HOLE DM-W-31
LINE
STA
OFFSET ft
SURF. ELEV. 22
DEPTH TO WATER SEE NOTE

CASING	**O. D.**	4 1/2	in	**I. D.**	4	in	**WT OF HAMMER-CASING**	140	lb	**HAMMER FALL-CASING**	30 in
SAMPLER	**O. D.**	2	in	**I. D.**	1 3/8	in	**WT OF HAMMER-SAMPLER**	140	lb	**HAMMER FALL-SAMPLER**	30 in

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)	DESCRIPTION OF SOIL AND ROCK	
	25.0	J7	5	6	6	7	19%	(25.00) Brown Fine Gravelly SAND With Mica	(M-NPL)
	30.0	J8	5	5	4	9	25%	(30.00) Brown Gravelly SAND With Mica	(M-NPL)
	35.0	J9	7	10	12	17	25%	(35.00) Brown And Orange Sandy SILT With Gravel Pieces And Mica	(M-NPL)
	40.0	J10	13	13	14	18	26%	(40.00) Brown And Orange Sandy SILT With Gravel Pieces And Mica	(M-NPL)
	45.0	J11	12	10	5	7	30%	(45.00) Brown And Orange Silty Fine SAND With Mica	(M-NPL)
	50.0								

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DRILL RIG OPERATOR Jeremy Meyres
SOIL & ROCK DESCRIPTION S.MASLANKA/D.LANDAU
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PSN 12505 BORNUM 31
REGION 11
COUNTY QUEENS
PIN X735.82
PROJECT VAN WYCK EXPRESSWAY WIDENING

HOLE DM-W-31
LINE
STA
OFFSET ft
SURF. ELEV. 22

ACTUAL COORDINATES (N) 182,727.620 (E) 1,039,175.580 **DATUM** NAD83 **DEPTH TO WATER** SEE NOTE

DATE START 19-SEP-2017 **DATE FINISH** 19-SEP-2017

CASING	**O. D.**	4 1/2	**in**	**I. D.**	4	**in**	**WT OF HAMMER-CASING**	140	**lb**	**HAMMER FALL-CASING**	30 **in**
SAMPLER	**O. D.**	2	**in**	**I. D.**	1 3/8	**in**	**WT OF HAMMER-SAMPLER**	140	**lb**	**HAMMER FALL-SAMPLER**	30 **in**

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)	DESCRIPTION OF SOIL AND ROCK	
	50.0	J12	13	17	16	15	27%	(50.00) Brown And Orange Silty Fine SAND With Mica	(M-NPL)

BOTTOM OF HOLE AT 52.00 ft

Notes
1. J1 was hand cleared
2. Safety hammer used for all other sampling
3. Vertical Datum: NAVD 88
4. Rotary Mud Drilling, no groundwater reading taken

The subsurface information shown here was obtained for design and estimate purposes. It is made available so that users may have access to the same information available to the State. It is presented in good faith. By the nature of the exploration process, the information represents only a small fraction of the total volume of the material at the site. Interpolation between data samples may not be indicative of the actual material encountered.

CONTRACT **CONTRACTOR** Warren George

DRILL RIG OPERATOR Jeremy Meyres
SOIL & ROCK DESCRIPTION S.MASLANKA/D.LANDAU
REG GEOTECHNICAL ENGINEER Prakash C. Roy
DATE APPROVED 30-JUL-2019 REVISION # 1
RESIDENT ENGINEER
STRUCTURE NAME **B.I.N.**

SM 282 E 12/02

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
GEOTECHNICAL ENGINEERING BUREAU
SUBSURFACE EXPLORATION LOG

PSN 12505 BORNUM 32
REGION 11
COUNTY QUEENS
PIN X735.82
PROJECT VAN WYCK EXPRESSWAY WIDENING
ACTUAL COORDINATES (N) 182,946.760 (E) 1,039,578.360 **DATUM** NAD83
DATE START 03-OCT-2017 **DATE FINISH** 03-OCT-2017

HOLE DM-W-32
LINE
STA
OFFSET ft
SURF. ELEV. 26.1
DEPTH TO WATER SEE NOTE

CASING O. D. in **I. D.** in **WT OF HAMMER-CASING** lb **HAMMER FALL-CASING** in
SAMPLER O. D. in **I. D.** in **WT OF HAMMER-SAMPLER** lb **HAMMER FALL-SAMPLER** in

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)	DESCRIPTION OF SOIL AND ROCK
	0.0	J1					3%	(0.00) Brown Sandy SILT With Gravel Pieces,Root Fibers And Pieces Of Coal (M-NPL)
								(2.00) See Note 2

BOTTOM OF HOLE AT 3.00 ft

Notes
1.- J1 was grab sample. Hand augered up to 3ft
2.- No description, both visual & field, used due to no sample. Hit refusal at 3ft and borehole termonated & offset.
3.- Horizontal Datum: NAD 83
4.- Vertical Datum: NAVD 88
5.- Ground water level not encountered at depth end

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CONTRACT **CONTRACTOR** Warren George

DRILL RIG OPERATOR Jeremy Meyres
SOIL & ROCK DESCRIPTION D.LANDAY/J.RYBICKI
REG GEOTECHNICAL ENGINEER Prakash C. Roy
DATE APPROVED 30-JUL-2019 REVISION # 1
RESIDENT ENGINEER
STRUCTURE NAME **B.I.N.**

SM 282 E 12/02

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
GEOTECHNICAL ENGINEERING BUREAU
SUBSURFACE EXPLORATION LOG

PSN 12505 BORNUM 32.1
REGION 11
COUNTY QUEENS
PIN X735.82
PROJECT VAN WYCK EXPRESSWAY WIDENING
ACTUAL COORDINATES (N) 182,948.320 (E) 1,039,578.490 **DATUM** NAD83
DATE START 03-OCT-2017 **DATE FINISH** 03-OCT-2017

HOLE DM-W-32A
LINE
STA
OFFSET ft
SURF. ELEV. 26.1
DEPTH TO WATER SEE NOTE

CASING	**O. D.**	4 1/2	**in**	**I. D.**	4	**in**	**WT OF HAMMER-CASING**	140	**lb**	**HAMMER FALL-CASING**	30	**in**
SAMPLER	**O. D.**	2	**in**	**I. D.**	1 3/8	**in**	**WT OF HAMMER-SAMPLER**	140	**lb**	**HAMMER FALL-SAMPLER**	30	**in**

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)	DESCRIPTION OF SOIL AND ROCK	
	0.0	J1					3%	(0.00) Brown Sandy SILT With Gravel Pcs,Concrete Pcs, Cinders& Root Fibers	(M-NPL)
		J2					6%	(2.00) Brown Silty SAND With Gravel Pieces	(M-NPL)
	5.0	J3					5%	(4.00) Brown Silty SAND With Mica	(M-NPL)
		J4	6	6	6	7	4%	(7.00) Brown Silty SAND With Mica	(M-NPL)
	10.0	J5	6	9	8	10	3%	(9.00) Brown Silty Fine SAND	(M-NPL)
		J6	8	9	8	9	10%	(11.00) Brown Silty SAND With Mica	(M-NPL)
	15.0	J7	4	3	3	5	12%	(15.00) Brown Silty SAND With Mica	(M-NPL)
	20.0	J8	6	7	10	11	20%	(20.00) Brown Silty SAND With Mica	(M-NPL)
	25.0								

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CONTRACT _____ **CONTRACTOR** Warren George

DRILL RIG OPERATOR Jeremy Meyres
SOIL & ROCK DESCRIPTION D.LANDAU/J.RYBICKI
REG GEOTECHNICAL ENGINEER Prakash C. Roy
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PSN 12505 BORNUM 32.1
REGION 11
COUNTY QUEENS
PIN X735.82
PROJECT VAN WYCK EXPRESSWAY WIDENING
ACTUAL COORDINATES (N) 182,948.320 (E) 1,039,578.490 **DATUM** NAD83

HOLE DM-W-32A
LINE
STA
OFFSET ft
SURF. ELEV. 26.1
DEPTH TO WATER SEE NOTE

DATE START 03-OCT-2017 **DATE FINISH** 03-OCT-2017

CASING	**O. D.**	4 1/2	**in**	**I. D.**	4	**in**	**WT OF HAMMER-CASING**	140	**lb**	**HAMMER FALL-CASING**	30 **in**
SAMPLER	**O. D.**	2	**in**	**I. D.**	1 3/8	**in**	**WT OF HAMMER-SAMPLER**	140	**lb**	**HAMMER FALL-SAMPLER**	30 **in**

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)	DESCRIPTION OF SOIL AND ROCK	
	25.0	J9	12	9	12	12	25%	(25.00) Brown Silty Fine SAND With Mica	(M-NPL)
	30.0	J10	9	11	9	10	22%	(30.00) Brown Silty SAND With Gravel Pieces And Mica	(M-NPL)
	35.0	J11	9	15	15	18	23%	(35.00) Brown Silty SAND With Gravel Pieces And Mica	(M-NPL)
	40.0	J12	13	13	12	15	26%	(40.00) Brown Silty Fine SAND With Mica	(M-NPL)
	45.0	J13	8	9	10	10	26%	(45.00) Brown Silty Fine SAND With Mica	(M-NPL)
	50.0								

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DRILL RIG OPERATOR Jeremy Meyres
SOIL & ROCK DESCRIPTION D.LANDAU/J.RYBICKI
REG GEOTECHNICAL ENGINEER Prakash C. Roy
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PSN 12505 BORNUM 32.1
REGION 11
COUNTY QUEENS
PIN X735.82
PROJECT VAN WYCK EXPRESSWAY WIDENING

HOLE DM-W-32A
LINE
STA
OFFSET ft
SURF. ELEV. 26.1

ACTUAL COORDINATES (N) 182,948.320 (E) 1,039,578.490 **DATUM** NAD83 **DEPTH TO WATER** SEE NOTE

DATE START 03-OCT-2017 **DATE FINISH** 03-OCT-2017

CASING	**O. D.**	4 1/2	**in**	**I. D.**	4	**in**	**WT OF HAMMER-CASING**	140	**lb**	**HAMMER FALL-CASING**	30 **in**
SAMPLER	**O. D.**	2	**in**	**I. D.**	1 3/8	**in**	**WT OF HAMMER-SAMPLER**	140	**lb**	**HAMMER FALL-SAMPLER**	30 **in**

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)	DESCRIPTION OF SOIL AND ROCK	
	50.0	J14	8	6	7	5	26%	(50.00) Brown Silty SAND With Mica	(M-NPL)

BOTTOM OF HOLE AT 52.00 ft

Notes
1.- Jars J1, J2 and J3 were hand cleared
2.- Safety hammer used for all other sampling
3.- Vertical Datum: NAVD 88
4.- Rotary Mud Drilling, no groundwater reading taken

The subsurface information shown here was obtained for design and estimate purposes. It is made available so that users may have access to the same information available to the State. It is presented in good faith. By the nature of the exploration process, the information represents only a small fraction of the total volume of the material at the site. Interpolation between data samples may not be indicative of the actual material encountered.

CONTRACT **CONTRACTOR** Warren George

DRILL RIG OPERATOR Jeremy Meyres
SOIL & ROCK DESCRIPTION D.LANDAU/J.RYBICKI
REG GEOTECHNICAL ENGINEER Prakash C. Roy
DATE APPROVED 30-JUL-2019 REVISION # 1
RESIDENT ENGINEER
STRUCTURE NAME **B.I.N.**

SM 282 E 12/02

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
GEOTECHNICAL ENGINEERING BUREAU
SUBSURFACE EXPLORATION LOG

PSN 12505 BORNUM 33
REGION 11
COUNTY QUEENS
PIN X735.82
PROJECT VAN WYCK EXPRESSWAY WIDENING
ACTUAL COORDINATES (N) 181,403.390 (E) 1,038,984.430 **DATUM** NAD83
DATE START 03-NOV-2017 **DATE FINISH** 03-NOV-2017

HOLE DM-W-33
LINE
STA
OFFSET ft
SURF. ELEV. 20.2
DEPTH TO WATER SEE NOTE

CASING	**O. D.**	4 1/2	**in**	**I. D.**	4	**in**	**WT OF HAMMER-CASING**	140	**lb**	**HAMMER FALL-CASING**	30 **in**
SAMPLER	**O. D.**	2	**in**	**I. D.**	1 3/8	**in**	**WT OF HAMMER-SAMPLER**	140	**lb**	**HAMMER FALL-SAMPLER**	30 **in**

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)		DESCRIPTION OF SOIL AND ROCK	
	0.0	J1					18%	(0.00)	Dark Brown Silty SAND With Gravel Pieces And Root Fibers	(M-NPL)
		J2					7%	(2.00)	Brown Silty Fine SAND With Gravel Pieces	(M-NPL)
	5.0	J3					10%	(4.00)	Brown Silty Fine SAND With Gravel Pieces,Wood Pieces And Plastic Pieces	(M-NPL)
		J4	15	11	9	7	23%	(6.00)	Dark Brown And White CINDERS With Glass Pieces,Metal Pieces And Mica	(M-NPL)
	10.0	J5	15	30	19	16	18%	(8.00)	Dark Brown And White CINDERS With Slag,Wood Pieces And Metal Pieces	(M-NPL)
	15.0	J6	6	2	4	4		(10.00)	NO RECOVERY	
	20.0	J7	3	1	2	1		(15.00)	NO RECOVERY	
	25.0	J8	6	3	5	9	227%	(20.00)	Black CINDERS And Burnt Wood With Mica (See Note 3)	(M-NPL)

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CONTRACT _____ **CONTRACTOR** Warren George

DRILL RIG OPERATOR S.LAURENZA
SOIL & ROCK DESCRIPTION S.MASLANKA/D.LANDAU
REG GEOTECHNICAL ENGINEER Prakash C. Roy
DATE APPROVED 30-JUL-2019 REVISION # 1
RESIDENT ENGINEER
STRUCTURE NAME **B.I.N.**

SM 282 E 12/02

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
GEOTECHNICAL ENGINEERING BUREAU
SUBSURFACE EXPLORATION LOG

PSN 12505 BORNUM 33
REGION 11
COUNTY QUEENS
PIN X735.82
PROJECT VAN WYCK EXPRESSWAY WIDENING

HOLE DM-W-33
LINE
STA
OFFSET ft
SURF. ELEV. 20.2

ACTUAL COORDINATES (N) 181,403.390 (E) 1,038,984.430 **DATUM** NAD83 **DEPTH TO WATER** SEE NOTE

DATE START 03-NOV-2017 **DATE FINISH** 03-NOV-2017

CASING	**O. D.**	4 1/2	**in**	**I. D.**	4	**in**	**WT OF HAMMER-CASING**	140	**lb**	**HAMMER FALL-CASING**	30	**in**
SAMPLER	**O. D.**	2	**in**	**I. D.**	1 3/8	**in**	**WT OF HAMMER-SAMPLER**	140	**lb**	**HAMMER FALL-SAMPLER**	30	**in**

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)	DESCRIPTION OF SOIL AND ROCK	
	25.0	J9	5	5	7	10	22%	(25.00) Brown Silty SAND With Mica	(M-NPL)
	30.0	J10	9	9	10	11	23%	(30.00) Gray Silty SAND With Mica	(M-NPL)
	35.0	J11	7	8	7	9	24%	(35.00) Gray Silty SAND With Mica	(M-NPL)
	40.0	J12	12	8	5	7	28%	(40.00) Gray Silty SAND With Mica	(M-NPL)
	45.0	J13	7	7	8	10	27%	(45.00) Gray And Brown Silty SAND With Mica	(M-NPL)
	50.0								

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CONTRACT **CONTRACTOR** Warren George

DRILL RIG OPERATOR S.LAURENZA
SOIL & ROCK DESCRIPTION S.MASLANKA/D.LANDAU
REG GEOTECHNICAL ENGINEER Prakash C. Roy
DATE APPROVED 30-JUL-2019 REVISION # 1
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REGION 11
COUNTY QUEENS
PIN X735.82
PROJECT VAN WYCK EXPRESSWAY WIDENING

HOLE DM-W-33
LINE
STA
OFFSET ft
SURF. ELEV. 20.2

ACTUAL COORDINATES (N) 181,403.390 (E) 1,038,984.430 **DATUM** NAD83 **DEPTH TO WATER** SEE NOTE

DATE START 03-NOV-2017 **DATE FINISH** 03-NOV-2017

CASING	**O. D.**	4 1/2	**in**	**I. D.**	4	**in**	**WT OF HAMMER-CASING**	140	**lb**	**HAMMER FALL-CASING**	30 **in**
SAMPLER	**O. D.**	2	**in**	**I. D.**	1 3/8	**in**	**WT OF HAMMER-SAMPLER**	140	**lb**	**HAMMER FALL-SAMPLER**	30 **in**

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)	DESCRIPTION OF SOIL AND ROCK	
	50.0	J14	14	24	16	12	24%	(50.00) Brown Silty Fine SAND With Mica	(M-NPL)
	55.0	J15	24	28	19	12	23%	(55.00) Brown Silty Fine SAND With Mica	(M-NPL)
	60.0	J16	10	12	7	14	26%	(60.00) Brown Silty Fine SAND With Mica	(M-NPL)

BOTTOM OF HOLE AT 62.00 ft

Notes
1.- Jars 1 - 3 were hand cleared
2.- Safety hammer used for all other sampling
3.- No recovery from 20' - 22'. Split Spoon pushed 20" from 22'
4.- Rotary Mud Drilling, no groundwater reading taken
5.- Vertical Datum: NAVD 88

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CONTRACT **CONTRACTOR** Warren George

DRILL RIG OPERATOR S.LAURENZA
SOIL & ROCK DESCRIPTION S.MASLANKA/D.LANDAU
REG GEOTECHNICAL ENGINEER Prakash C. Roy
DATE APPROVED 30-JUL-2019 REVISION # 1
RESIDENT ENGINEER
STRUCTURE NAME **B.I.N.**

SM 282 E 12/02

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
GEOTECHNICAL ENGINEERING BUREAU
SUBSURFACE EXPLORATION LOG

PSN 12505 BORNUM 33.2
REGION 11
COUNTY QUEENS
PIN X735.82
PROJECT VAN WYCK EXPRESSWAY WIDENING
ACTUAL COORDINATES (N) 181,406.520 (E) 1,038,990.510 **DATUM** NAD83
DATE START 06-NOV-2017 **DATE FINISH** 06-NOV-2017

HOLE DM-W-33B
LINE
STA
OFFSET ft
SURF. ELEV. 20.1
DEPTH TO WATER SEE NOTE

CASING	**O. D.**	4 1/2	**in**	**I. D.**	4	**in**	**WT OF HAMMER-CASING**	140	**lb**	**HAMMER FALL-CASING**	30 **in**
SAMPLER	**O. D.**	2	**in**	**I. D.**	1 3/8	**in**	**WT OF HAMMER-SAMPLER**	140	**lb**	**HAMMER FALL-SAMPLER**	30 **in**

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)	DESCRIPTION OF SOIL AND ROCK	
	0.0	J1					14%	(0.00) Brown Gravelly SAND Silty With Root Fibers And Cinders	(M-NPL)
		J2					16%	(2.00) Brown Gravelly SAND Silty With Mica And Cinders	(M-NPL)
	5.0	J3					7%	(4.00) Brown Fine SAND With Gravel Pieces, Mica And Glass Pieces	(M-NPL)
		J4	17	10	6	22	30%	(6.00) Brown And White CINDERS With Metal Pieces And Glass Pieces	(M-NPL)
	10.0	J5	18	23	18	13	25%	(8.00) Brown And White CINDERS With Metal Pieces And Glass Pieces	(M-NPL)
		J6	3	2	1	1		(10.00) NO RECOVERY	
		J7	2	3	5	5	35%	(12.00) Brown And Gray CINDERS With Glass Pieces And Petroleum Odor	(M-NPL)
	15.0	J8	P	P	P		43%	(14.00) Brown And Black CINDERS With Wood Pieces	(M-NPL)
		J9	12	19	49	37	50%	(16.00) Brown And Gray CINDERS With Paper	(M-NPL)
	20.0	J10	63	17	9	19	46%	(18.00) Dark Gray And Brown CINDERS With Metal Pieces	(M-NPL)
		J0	P	P	P			(20.00) NO RECOVERY	
		J11	16	8	10	8	30%	(22.00) Dark Brown Fine Sandy CINDERS With Metal Pieces	(M-NPL)
	25.0	J12	8	14			29%	(24.00) Dark Brown Fine Sandy CINDERS With Glass Pieces	(M-NPL)

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CONTRACT _____ **CONTRACTOR** Warren George

DRILL RIG OPERATOR S.LAURENZA
SOIL & ROCK DESCRIPTION D.LANDAU/S.MASLANKA
REG GEOTECHNICAL ENGINEER Prakash C. Roy
DATE APPROVED 30-JUL-2019 REVISION # 1
RESIDENT ENGINEER
STRUCTURE NAME **B.I.N.**

SM 282 E 12/02

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
GEOTECHNICAL ENGINEERING BUREAU
SUBSURFACE EXPLORATION LOG

PSN 12505 BORNUM 33.2
REGION 11
COUNTY QUEENS
PIN X735.82
PROJECT VAN WYCK EXPRESSWAY WIDENING

HOLE DM-W-33B
LINE
STA
OFFSET ft
SURF. ELEV. 20.1
DEPTH TO WATER SEE NOTE

ACTUAL COORDINATES (N) 181,406.520 (E) 1,038,990.510 **DATUM** NAD83
DATE START 06-NOV-2017 **DATE FINISH** 06-NOV-2017

CASING	**O. D.**	4 1/2	**in**	**I. D.**	4	**in**	**WT OF HAMMER-CASING**	140	**lb**	**HAMMER FALL-CASING**	30	**in**
SAMPLER	**O. D.**	2	**in**	**I. D.**	1 3/8	**in**	**WT OF HAMMER-SAMPLER**	140	**lb**	**HAMMER FALL-SAMPLER**	30	**in**

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)	DESCRIPTION OF SOIL AND ROCK
	25.0				17	20		

BOTTOM OF HOLE AT 26.00 ft

Notes
1. *Jars 1 - 3 were hand cleared.*
2. *Jars 7 and 9 used a 3" split spoon.*
3. *Jar 8 a Shelby tube was pushed, sample was received in a jar.*
4. *Jar 0 a Shelby tube was pushed, no sample was recovered.*
5. *Safety hammer used for all other sampling.*
6. *Rotary Mud Drilling, no groundwater reading taken.*
7. *Vertical Datum: NAVD 88.*

The subsurface information shown here was obtained for design and estimate purposes. It is made available so that users may have access to the same information available to the State. It is presented in good faith. By the nature of the exploration process, the information represents only a small fraction of the total volume of the material at the site. Interpolation between data samples may not be indicative of the actual material encountered.

CONTRACT **CONTRACTOR** Warren George

DRILL RIG OPERATOR S.LAURENZA
SOIL & ROCK DESCRIPTION D.LANDAU/S.MASLANKA
REG GEOTECHNICAL ENGINEER Prakash C. Roy
DATE APPROVED 30-JUL-2019 REVISION # 1
RESIDENT ENGINEER
STRUCTURE NAME **B.I.N.**

SM 282 E 12/02

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
GEOTECHNICAL ENGINEERING BUREAU
SUBSURFACE EXPLORATION LOG

PSN 12505 BORNUM 34
REGION 11
COUNTY QUEENS
PIN X735.82
PROJECT VAN WYCK EXPRESSWAY WIDENING

HOLE DM-B-34
LINE
STA
OFFSET ft
SURF. ELEV. 70.6
DEPTH TO WATER NONE

ACTUAL COORDINATES (N) 196,608.060 (E) 1,034,780.670 **DATUM** NAD83
DATE START 06-OCT-2017 **DATE FINISH** 06-OCT-2017

CASING O. D. in **I. D.** in **WT OF HAMMER-CASING** lb **HAMMER FALL-CASING** in
SAMPLER O. D. in **I. D.** in **WT OF HAMMER-SAMPLER** lb **HAMMER FALL-SAMPLER** in

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)	DESCRIPTION OF SOIL AND ROCK	
	0.0	J1					23%	(0.00) Orange Sandy SILT Clayey With Asphalt Pieces (P.F)	(M-LPL)
		J2					12%	(2.00) Orange Gravelly SAND Silty With Root Fibers	(M-NPL)

BOTTOM OF HOLE AT 4.00 ft

Notes
1.- All Jars were hand cleared
2.- Vertical Datum: NAVD 88

The subsurface information shown here was obtained for design and estimate purposes. It is made available so that users may have access to the same information available to the State. It is presented in good faith. By the nature of the exploration process, the information represents only a small fraction of the total volume of the material at the site. Interpolation between data samples may not be indicative of the actual material encountered.

CONTRACT **CONTRACTOR** Warren George

DRILL RIG OPERATOR S.LAURENZA
SOIL & ROCK DESCRIPTION D.LANDAU/S.MASLANKA
REG GEOTECHNICAL ENGINEER Prakash C. Roy
DATE APPROVED 30-JUL-2019 REVISION # 1
RESIDENT ENGINEER
STRUCTURE NAME **B.I.N.**

SM 282 E 12/02

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
GEOTECHNICAL ENGINEERING BUREAU
SUBSURFACE EXPLORATION LOG

PSN 12505 BORNUM 34.1
REGION 11
COUNTY QUEENS
PIN X735.82
PROJECT VAN WYCK EXPRESSWAY WIDENING

HOLE DM-B-34A
LINE
STA
OFFSET ft
SURF. ELEV. 70.5
DEPTH TO WATER NONE

ACTUAL COORDINATES (N) 196,608.110 (E) 1,034,778.930 **DATUM** NAD83
DATE START 06-OCT-2017 **DATE FINISH** 06-OCT-2017

CASING	**O. D.**	**in**	**I. D.**	**in**	**WT OF HAMMER-CASING**	**lb**	**HAMMER FALL-CASING**	**in**
SAMPLER	**O. D.**	**in**	**I. D.**	**in**	**WT OF HAMMER-SAMPLER**	**lb**	**HAMMER FALL-SAMPLER**	**in**

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)	DESCRIPTION OF SOIL AND ROCK
	0.0							(0.00) See Note 2

BOTTOM OF HOLE AT 4.00 ft

Notes
1.- No grab samples taken. Second hand augered attempt up to 4ft. large cobbles and root material encountered. Borehole abandoned
2.- Neither visual nor field description used due to no sample
3.- Vertical Datum: NAVD 88

The subsurface information shown here was obtained for design and estimate purposes. It is made available so that users may have access to the same information available to the State. It is presented in good faith. By the nature of the exploration process, the information represents only a small fraction of the total volume of the material at the site. Interpolation between data samples may not be indicative of the actual material encountered.

CONTRACT **CONTRACTOR** Warren George

DRILL RIG OPERATOR S.LAURENZA
SOIL & ROCK DESCRIPTION S.MASLANKA
REG GEOTECHNICAL ENGINEER Prakash C. Roy
DATE APPROVED 30-JUL-2019 REVISION # 1
RESIDENT ENGINEER
STRUCTURE NAME **B.I.N.**

SHEET 1 OF 1 HOLE DM-B-34A

SM 282 E 12/02

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
GEOTECHNICAL ENGINEERING BUREAU
SUBSURFACE EXPLORATION LOG

PSN 12505 BORNUM 34.2
REGION 11
COUNTY QUEENS
PIN X735.82
PROJECT VAN WYCK EXPRESSWAY WIDENING

HOLE DM-B-34B
LINE
STA
OFFSET ft
SURF. ELEV. 70.5
DEPTH TO WATER SEE NOTE

ACTUAL COORDINATES (N) 196,609.000 (E) 1,034,777.450 **DATUM** NAD83
DATE START 06-OCT-2017 **DATE FINISH** 06-OCT-2017

CASING	**O. D.**	4 1/2	**in**	**I. D.**	4	**in**	**WT OF HAMMER-CASING**	140	**lb**	**HAMMER FALL-CASING**	30 **in**
SAMPLER	**O. D.**	2	**in**	**I. D.**	1 3/8	**in**	**WT OF HAMMER-SAMPLER**	140	**lb**	**HAMMER FALL-SAMPLER**	30 **in**

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)	DESCRIPTION OF SOIL AND ROCK	
	0.0	J1					22%	(0.00) Orange Sandy SILT Clayey With Gravel Pieces And Mica	(M-LPL)
		J2					23%	(2.00) Orange Sandy SILT Clayey With Gravel Pieces And Mica	(M-LPL)
	5.0	J3					22%	(4.00) Orange Sandy SILT Clayey With Gravel Pieces And Mica	(M-LPL)
		J4	21	18	50		7%	(6.00) Orange Gravelly SAND Silty With Mica	(M-NPL)

BOTTOM OF HOLE AT 8.00 ft

Notes
1.- J1 to J3 were grab samples. Hand cleared up to 6ft
2.- Safety hammer used for all other sampling.
3.- J4 (6 to 8ft): Split spoon bouncing and driller believed concrete structure was encountered and the borehole was was terminated
4.- Refusal for J4 @ 50 blows on sampler for 3.5" of penetration.
5.- Rotary mud drilling, no groundwater reading taken
6.- Vertical Datum: NAVD 88

CONTRACT **CONTRACTOR** Warren George

DRILL RIG OPERATOR S.LAURENZA
SOIL & ROCK DESCRIPTION S.MASLANKA/D.LANDAU
REG GEOTECHNICAL ENGINEER Prakash C. Roy
DATE APPROVED 30-JUL-2019 REVISION # 1
RESIDENT ENGINEER
STRUCTURE NAME **B.I.N.**

SM 282 E 12/02

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
GEOTECHNICAL ENGINEERING BUREAU
SUBSURFACE EXPLORATION LOG

PSN 12505 BORNUM 34.3
REGION 11
COUNTY QUEENS
PIN X735.82
PROJECT VAN WYCK EXPRESSWAY WIDENING

HOLE DM-B-34C
LINE
STA
OFFSET ft
SURF. ELEV. 71.9

ACTUAL COORDINATES (N) 196,673.570 (E) 1,034,744.250 **DATUM** NAD83 **DEPTH TO WATER** SEE NOTE

DATE START 11-OCT-2017 **DATE FINISH** 11-OCT-2017

CASING	**O. D.**	4 1/2	**in**	**I. D.**	4	**in**	**WT OF HAMMER-CASING**	140	**lb**	**HAMMER FALL-CASING**	30 **in**
SAMPLER	**O. D.**	2	**in**	**I. D.**	1 3/8	**in**	**WT OF HAMMER-SAMPLER**	140	**lb**	**HAMMER FALL-SAMPLER**	30 **in**

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)		DESCRIPTION OF SOIL AND ROCK	
	0.0	J1					14%	(0.00)	Dark Brown Gravelly SAND Silty With Mica	(M-NPL)
		J2					17%	(2.00)	Brown Clayey SILT Sandy With Gravel Pieces And Root Fibers	(M-LPL)
	5.0	J3					11%	(4.00)	Brown Gravelly SAND Silty With Mica	(M-NPL)
		J4	25	40	50		7%	(6.00)	Brown Sandy GRAVEL Silty	(M-NPL)

BOTTOM OF HOLE AT 8.00 ft

Notes
1.- J1 to J3 were Grab samples. Hand cleared up to 6ft
2.- Safety hammer used for all other sampling
3.- Rotary mud drilling, no groundwater reading taken
4. J4 refusal at 7 ft, 50 blows for 3.5" of penetration
5.- Obstruction encountered at 7 ft,borehole terminated and offset 5ft
6.- Vertical Datum: NAVD 88

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CONTRACT **CONTRACTOR** Warren George

DRILL RIG OPERATOR S.Laurenza
SOIL & ROCK DESCRIPTION S.Maslanka,D.Landau
REG GEOTECHNICAL ENGINEER Prakash C. Roy
DATE APPROVED 30-JUL-2019 REVISION # 1
RESIDENT ENGINEER
STRUCTURE NAME **B.I.N.**

SM 282 E 12/02

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
GEOTECHNICAL ENGINEERING BUREAU
SUBSURFACE EXPLORATION LOG

PSN 12505 BORNUM 34.4
REGION 11
COUNTY QUEENS
PIN X735.82
PROJECT VAN WYCK EXPRESSWAY WIDENING
ACTUAL COORDINATES (N) 196,689.440 (E) 1,034,745.580 **DATUM** NAD83
DATE START 11-OCT-2017 **DATE FINISH** 11-OCT-2017

HOLE DM-B-34D
LINE
STA
OFFSET ft
SURF. ELEV. 72.3
DEPTH TO WATER NONE

CASING	**O. D.**	**in**	**I. D.**	**in**	**WT OF HAMMER-CASING**	**lb**	**HAMMER FALL-CASING**	**in**
SAMPLER	**O. D.**	**in**	**I. D.**	**in**	**WT OF HAMMER-SAMPLER**	**lb**	**HAMMER FALL-SAMPLER**	**in**

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)	DESCRIPTION OF SOIL AND ROCK
	0.0							(0.00) See Note 1
	5.0							

BOTTOM OF HOLE AT 5.00 ft

Notes
1.- Neither visual nor field description used due to no samples
2.- Hand cleared up to 5ft
3.- From 0 to 4ft, no grab samples taken. Materials in this borehole & DM-B-34C observed to be similar.
4.- From 4 to 5ft, very large cobbles obstructed hand auger Borehole terminated and re-attempted at 5ft offset.
5.- Vertical Datum: NAVD 88

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CONTRACT _____ **CONTRACTOR** Warren George

DRILL RIG OPERATOR S.LAURENZA
SOIL & ROCK DESCRIPTION N/A
REG GEOTECHNICAL ENGINEER Prakash C. Roy
DATE APPROVED 30-JUL-2019 REVISION # 1
RESIDENT ENGINEER
STRUCTURE NAME **B.I.N.**

SM 282 E 12/02

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
GEOTECHNICAL ENGINEERING BUREAU
SUBSURFACE EXPLORATION LOG

PSN 12505 BORNUM 34.5
REGION 11
COUNTY QUEENS
PIN X735.82
PROJECT VAN WYCK EXPRESSWAY WIDENING
ACTUAL COORDINATES (N) 196,687.310 (E) 1,034,738.810 **DATUM** NAD83
DATE START 11-OCT-2017 **DATE FINISH** 11-OCT-2017

HOLE DM-B-34E
LINE
STA
OFFSET ft
SURF. ELEV. 71.9
DEPTH TO WATER SEE NOTE

CASING	**O. D.**	4 1/2	**in**	**I. D.**	4	**in**	**WT OF HAMMER-CASING**	140	**lb**	**HAMMER FALL-CASING**	30	**in**
SAMPLER	**O. D.**	2	**in**	**I. D.**	1 3/8	**in**	**WT OF HAMMER-SAMPLER**	140	**lb**	**HAMMER FALL-SAMPLER**	30	**in**

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)	DESCRIPTION OF SOIL AND ROCK
	0.0	J1						(0.00) See Notes 1& 2
		J2						(2.00) See Notes 1& 2
	5.0	J3						(4.00) See Notes 1& 2
		J4	43	50				(6.00) See Notes 1& 3

BOTTOM OF HOLE AT 8.00 ft

Notes
1.- Hand augering from 0 -6 ft. Safety hammer used for all other sampling
2.- Neither visual nor field description used due to no samples.
3.- No grap samples taken, borehole offset 5 ft from DM-B-34D and material similar for both holes
4.- J4 (6 to 7ft), 50 blows for 3" of penetration and no recovery
5.- Borehole terminated at 7 ft.
6.- Rotary mud drilling, no groundwater reading taken
7.- Vertical Datum: NAVD 88

CONTRACT **CONTRACTOR** Warren George

DRILL RIG OPERATOR S.LAURENZA
SOIL & ROCK DESCRIPTION N/A
REG GEOTECHNICAL ENGINEER Prakash C. Roy
DATE APPROVED 30-JUL-2019 REVISION # 1
RESIDENT ENGINEER
STRUCTURE NAME **B.I.N.**

SM 282 E 12/02

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
GEOTECHNICAL ENGINEERING BUREAU
SUBSURFACE EXPLORATION LOG

PSN 12505 BORNUM 34.6
REGION 11
COUNTY QUEENS
PIN X735.82
PROJECT VAN WYCK EXPRESSWAY WIDENING
ACTUAL COORDINATES (N) 196,683.140 (E) 1,034,742.090 **DATUM** NAD83
DATE START 11-OCT-2017 **DATE FINISH** 11-OCT-2017

HOLE DM-B-34F
LINE
STA
OFFSET ft
SURF. ELEV. 72.2
DEPTH TO WATER NONE

CASING	**O. D.**	**in**	**I. D.**	**in**	**WT OF HAMMER-CASING**	**lb**	**HAMMER FALL-CASING**	**in**
SAMPLER	**O. D.**	**in**	**I. D.**	**in**	**WT OF HAMMER-SAMPLER**	**lb**	**HAMMER FALL-SAMPLER**	**in**

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)	DESCRIPTION OF SOIL AND ROCK
	0.0							(0.00) See Note 1

BOTTOM OF HOLE AT 4.00 ft

Notes
1.- Neither visual nor field description used due to no samples
2.- Hand cleared to 4 ft.
3.- Obstruction encountered at 4ft approximately & borehole terminated
4.- Vertical Datum: NAVD 88

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CONTRACT _____ **CONTRACTOR** Warren George

DRILL RIG OPERATOR S.LAURENZA
SOIL & ROCK DESCRIPTION N/A
REG GEOTECHNICAL ENGINEER Prakash C. Roy
DATE APPROVED 30-JUL-2019 REVISION # 1
RESIDENT ENGINEER
STRUCTURE NAME **B.I.N.**

SHEET 1 OF 1 HOLE DM-B-34F

SM 282 E 12/02

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
GEOTECHNICAL ENGINEERING BUREAU
SUBSURFACE EXPLORATION LOG

PSN 12505 BORNUM 34.7
REGION 11
COUNTY QUEENS
PIN X735.82
PROJECT VAN WYCK EXPRESSWAY WIDENING
ACTUAL COORDINATES (N) 196,679.780 (E) 1,034,738.870 **DATUM** NAD83
DATE START 11-OCT-2017 **DATE FINISH** 11-OCT-2017

HOLE DM-B-34G
LINE
STA
OFFSET ft
SURF. ELEV. 71.5
DEPTH TO WATER NONE

CASING	**O. D.**	**in**	**I. D.**	**in**	**WT OF HAMMER-CASING**	**lb**	**HAMMER FALL-CASING**	**in**
SAMPLER	**O. D.**	**in**	**I. D.**	**in**	**WT OF HAMMER-SAMPLER**	**lb**	**HAMMER FALL-SAMPLER**	**in**

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)	DESCRIPTION OF SOIL AND ROCK
	0.0							(0.00) See Note 1

BOTTOM OF HOLE AT 4.00 ft

Notes
1.- Neither visual nor field description used due to no samples
2.- Hand cleared to 4 ft.
3.-Obstruction same as at DM-B-34F encountered at 4ft and borehole terminated
4.- Vertical Datum: NAVD 88

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CONTRACT **CONTRACTOR** Warren George

DRILL RIG OPERATOR S.LAURENZA
SOIL & ROCK DESCRIPTION S.MASLANKA
REG GEOTECHNICAL ENGINEER Prakash C. Roy
DATE APPROVED 30-JUL-2019 REVISION # 1
RESIDENT ENGINEER
STRUCTURE NAME **B.I.N.**

SM 282 E 12/02

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
GEOTECHNICAL ENGINEERING BUREAU
SUBSURFACE EXPLORATION LOG

PSN 12505 BORNUM 34.8
REGION 11
COUNTY QUEENS
PIN X735.82
PROJECT VAN WYCK EXPRESSWAY WIDENING
ACTUAL COORDINATES (N) 196,719.490 (E) 1,034,721.170 **DATUM** NAD83
DATE START 12-OCT-2017 **DATE FINISH** 12-OCT-2017

HOLE DM-B-34H
LINE
STA
OFFSET ft
SURF. ELEV. 72.7
DEPTH TO WATER NONE

CASING	**O. D.**	**in**	**I. D.**	**in**	**WT OF HAMMER-CASING**	**lb**	**HAMMER FALL-CASING**	**in**
SAMPLER	**O. D.**	**in**	**I. D.**	**in**	**WT OF HAMMER-SAMPLER**	**lb**	**HAMMER FALL-SAMPLER**	**in**

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)	DESCRIPTION OF SOIL AND ROCK
	0.0							(0.00) See Note 1

BOTTOM OF HOLE AT 4.50 ft

Notes
1.- Neither visual nor field description used due to no samples
2.- Hand cleared to 4.5 ft
3.- Could not pass tree root & borehole terminated at 4.5'
4.- Rig shaking due to excessive gravel & rock at 17 ft.
5.- Vertical Datum: NAVD 88

CONTRACT **CONTRACTOR** Warren George

DRILL RIG OPERATOR S.LAURENZA
SOIL & ROCK DESCRIPTION S.MASLANKA
REG GEOTECHNICAL ENGINEER Prakash C. Roy
DATE APPROVED 30-JUL-2019 REVISION # 1
RESIDENT ENGINEER
STRUCTURE NAME **B.I.N.**

SM 282 E 12/02

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
GEOTECHNICAL ENGINEERING BUREAU
SUBSURFACE EXPLORATION LOG

PSN 12505 BORNUM 34.9
REGION 11
COUNTY QUEENS
PIN X735.82
PROJECT VAN WYCK EXPRESSWAY WIDENING
ACTUAL COORDINATES (N) 196,682.810 (E) 1,034,749.100 **DATUM** NAD83
DATE START 12-OCT-2017 **DATE FINISH** 12-OCT-2017

HOLE DM-B-34J
LINE
STA
OFFSET ft
SURF. ELEV. 72.3
DEPTH TO WATER SEE NOTE

CASING	**O. D.**	4 1/2	**in**	**I. D.**	4	**in**	**WT OF HAMMER-CASING**	140	**lb**	**HAMMER FALL-CASING**	30	**in**
SAMPLER	**O. D.**	2	**in**	**I. D.**	1 3/8	**in**	**WT OF HAMMER-SAMPLER**	140	**lb**	**HAMMER FALL-SAMPLER**	30	**in**

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)	DESCRIPTION OF SOIL AND ROCK	
	0.0							(0.00) See Note 1	
	5.0	J1	20	15	38	29	8%	(6.00) Brown Gravelly SAND Silty With Mica	(M-NPL)
		J2	27	88	65	100	5%	(8.00) Brown Gravelly SAND Silty With Mica	(M-NPL)
	10.0	J3	50					(11.00) See Notes 2 & 3 & 4	
	15.0	J4	100					(15.00) See Notes 2 & 4 & 5	
	20.0	J5	100				6%	(20.00) Dark Brown Sandy GRAVEL	(M-NPL)

BOTTOM OF HOLE AT 24.00 ft

The subsurface information shown here was obtained for design and estimate purposes. It is made available so that users may have access to the same information available to the State. It is presented in good faith. By the nature of the exploration process, the information represents only a small fraction of the total volume of the material at the site. Interpolation between data samples may not be indicative of the actual material encountered.

CONTRACT _____ **CONTRACTOR** Warren George

DRILL RIG OPERATOR S.Laurenza
SOIL & ROCK DESCRIPTION D.Landau,S.Maslanka
REG GEOTECHNICAL ENGINEER Prakash C. Roy
DATE APPROVED 30-JUL-2019 REVISION # 1
RESIDENT ENGINEER
STRUCTURE NAME **B.I.N.**

SM 282 E 12/02

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
GEOTECHNICAL ENGINEERING BUREAU
SUBSURFACE EXPLORATION LOG

PSN 12505 BORNUM 34.9
REGION 11
COUNTY QUEENS
PIN X735.82
PROJECT VAN WYCK EXPRESSWAY WIDENING
ACTUAL COORDINATES (N) 196,682.810 (E) 1,034,749.100 **DATUM** NAD83
DATE START 12-OCT-2017 **DATE FINISH** 12-OCT-2017

HOLE DM-B-34J
LINE
STA
OFFSET ft
SURF. ELEV. 72.3
DEPTH TO WATER SEE NOTE

CASING	**O. D.**	4 1/2	**in**	**I. D.**	4	**in**	**WT OF HAMMER-CASING**	140	**lb**	**HAMMER FALL-CASING**	30	**in**
SAMPLER	**O. D.**	2	**in**	**I. D.**	1 3/8	**in**	**WT OF HAMMER-SAMPLER**	140	**lb**	**HAMMER FALL-SAMPLER**	30	**in**

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)	DESCRIPTION OF SOIL AND ROCK

Notes
1.- Hand cleared up to 6ft. No samples obtained. Safety Hammer used for all other sampling
2.- Neither visual nor field description used due to no recovery
3.- J3 at 11ft, 50 blows count on sampler for o" of penetration
4.- Rig shaking due to excessive gravel & rock
5.- J4 at 15ft, 100 blows count on sampler for 1" of penetration
6.- J5 at 20ft, 100 blows count on sampler for 3" of penetration
7.- Borehole terminated at 24 ft by WSP phone instruction
8.- Borehole backfilled and grouted upon completion
9.- Rotary mud drilling, no groundwater reading taken
10.- Vertical Datum: NAVD 88

CONTRACT **CONTRACTOR** Warren George

DRILL RIG OPERATOR S.Laurenza
SOIL & ROCK DESCRIPTION D.Landau,S.Maslanka
REG GEOTECHNICAL ENGINEER Prakash C. Roy
DATE APPROVED 30-JUL-2019 REVISION # 1
RESIDENT ENGINEER
STRUCTURE NAME **B.I.N.**

SM 282 E 12/02

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
GEOTECHNICAL ENGINEERING BUREAU
SUBSURFACE EXPLORATION LOG

PSN 12505 BORNUM 35
REGION 11
COUNTY QUEENS
PIN X735.82
PROJECT VAN WYCK EXPRESSWAY WIDENING

HOLE DM-B-35
LINE
STA
OFFSET ft
SURF. ELEV. 43.3

ACTUAL COORDINATES (N) 193,807.930 (E) 1,035,612.690 **DATUM** NAD83 **DEPTH TO WATER** SEE NOTE

DATE START 02-OCT-2017 **DATE FINISH** 02-OCT-2017

CASING	**O. D.**	4 1/2	**in**	**I. D.**	4	**in**	**WT OF HAMMER-CASING**	140	**lb**	**HAMMER FALL-CASING**	30	**in**
SAMPLER	**O. D.**	2	**in**	**I. D.**	1 3/8	**in**	**WT OF HAMMER-SAMPLER**	140	**lb**	**HAMMER FALL-SAMPLER**	30	**in**

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)	DESCRIPTION OF SOIL AND ROCK	
	0.0	J1					5%	(0.00) Brown Gravelly SAND Silty With Mica	(M-NPL)
		J2					6%	(2.00) Brown Silty SAND With Gravel Pieces And Mica	(M-NPL)
	5.0	J3					4%	(4.00) Brown Gravelly SAND Silty With Mica	(M-NPL)
		J4	5	8	15	14	6%	(6.00) Brown Silty SAND With Gravel Pieces And Mica	(M-NPL)
		J5	10	10	7	9	3%	(8.00) Brown Gravelly SAND With Mica	(M-NPL)
	10.0	J6	6	8	16	15	14%	(10.00) Brown Gravelly SAND With Mica	(M-NPL)
	15.0	J7	7	10	8	8	20%	(15.00) Brown Silty SAND With Gravel Piece And Mica	(M-NPL)
	20.0	J8	9	11	12	11	15%	(20.00) Brown Gravelly SAND With Mica	(M-NPL)
	25.0								

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CONTRACT **CONTRACTOR** Warren George

DRILL RIG OPERATOR S.LAURENZA
SOIL & ROCK DESCRIPTION S.MASLANKA/D.LANDAU
REG GEOTECHNICAL ENGINEER Prakash C. Roy
DATE APPROVED 30-JUL-2019 REVISION # 1
RESIDENT ENGINEER
STRUCTURE NAME **B.I.N.**

SM 282 E 12/02

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
GEOTECHNICAL ENGINEERING BUREAU
SUBSURFACE EXPLORATION LOG

PSN 12505 BORNUM 35
REGION 11
COUNTY QUEENS
PIN X735.82
PROJECT VAN WYCK EXPRESSWAY WIDENING

HOLE DM-B-35
LINE
STA
OFFSET ft
SURF. ELEV. 43.3

ACTUAL COORDINATES (N) 193,807.930 (E) 1,035,612.690 **DATUM** NAD83 **DEPTH TO WATER** SEE NOTE

DATE START 02-OCT-2017 **DATE FINISH** 02-OCT-2017

CASING	**O. D.**	4 1/2	**in**	**I. D.**	4	**in**	**WT OF HAMMER-CASING**	140	**lb**	**HAMMER FALL-CASING**	30	**in**
SAMPLER	**O. D.**	2	**in**	**I. D.**	1 3/8	**in**	**WT OF HAMMER-SAMPLER**	140	**lb**	**HAMMER FALL-SAMPLER**	30	**in**

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)	DESCRIPTION OF SOIL AND ROCK	
	25.0	J9	46	10			27%	(25.00) Gray Silty GRAVEL (PULVERIZED Rock)	(M-NPL)
		J10	4	3			23%	(26.00) Brown Silty SAND With Mica	(M-NPL)
	30.0								

BOTTOM OF HOLE AT 30.00 ft

Notes
1.- J1 to J3 were grab samples. Hand augered up to 6ft
2.- Automatic hammer used for all other sampling.
3.- Rotary mud drilling, no groundwater reading taken
4.- Metal shavings were found from 27ft through 30ft, Borehole terminated at 30ft, offset 15ft and re-attempted.
5.- Borehole backfilled upon completion
6.- Vertical Datum: NAVD 88

The subsurface information shown here was obtained for design and estimate purposes. It is made available so that users may have access to the same information available to the State. It is presented in good faith. By the nature of the exploration process, the information represents only a small fraction of the total volume of the material at the site. Interpolation between data samples may not be indicative of the actual material encountered.

CONTRACT _____ **CONTRACTOR** Warren George

DRILL RIG OPERATOR S.LAURENZA
SOIL & ROCK DESCRIPTION S.MASLANKA/D.LANDAU
REG GEOTECHNICAL ENGINEER Prakash C. Roy
DATE APPROVED 30-JUL-2019 REVISION # 1
RESIDENT ENGINEER
STRUCTURE NAME **B.I.N.**

SM 282 E 12/02

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
GEOTECHNICAL ENGINEERING BUREAU
SUBSURFACE EXPLORATION LOG

PSN 12505 BORNUM 35.1
REGION 11
COUNTY QUEENS
PIN X735.82
PROJECT VAN WYCK EXPRESSWAY WIDENING

HOLE DM-B-35A
LINE
STA
OFFSET ft
SURF. ELEV. 43.8

ACTUAL COORDINATES (N) 193,822.070 (E) 1,035,607.030 **DATUM** NAD83 **DEPTH TO WATER** SEE NOTE

DATE START 02-OCT-2017 **DATE FINISH** 02-OCT-2017

CASING O. D. 4 1/2 in **I. D.** 4 in **WT OF HAMMER-CASING** 140 lb **HAMMER FALL-CASING** 30 in
SAMPLER O. D. in **I. D.** in **WT OF HAMMER-SAMPLER** lb **HAMMER FALL-SAMPLER** in

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)	DESCRIPTION OF SOIL AND ROCK
	0.0	J1					3%	(0.00) Brown Gravelly SAND Silty With Mica (M-NPL)
		J2					5%	(2.00) Brown Silty SAND With Gravel Pieces And Mica (M-NPL)
		J3					6%	(4.00) Brown Gravelly SAND Silty With Mica (M-NPL)
	5.0							(6.00) See Note 2
	10.0							
	15.0							

BOTTOM OF HOLE AT 17.00 ft

Notes
1.- J1 to J3 were grab samples. Hand cleared up to 6ft
2.- Neither visual nor field description used due to no samples.
3.- Roller bit until terminated at 17ft due to Subway proximity no samples were taken from 6 to 17ft.
4.- Borehole backfilled and plugged upon completion
5.- Vertical Datum: NAVD 88
6.- Rotary mud drilling, no groundwater reading taken

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CONTRACT **CONTRACTOR** Warren George

DRILL RIG OPERATOR S.LAURENZA
SOIL & ROCK DESCRIPTION S.MASLANKA/D.LANDAU
REG GEOTECHNICAL ENGINEER Prakash C. Roy
DATE APPROVED 30-JUL-2019 REVISION # 1
RESIDENT ENGINEER
STRUCTURE NAME **B.I.N.**

SM 282 E 12/02

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
GEOTECHNICAL ENGINEERING BUREAU
SUBSURFACE EXPLORATION LOG

PSN 12505 BORNUM 35.2
REGION 11
COUNTY QUEENS
PIN X735.82
PROJECT VAN WYCK EXPRESSWAY WIDENING
ACTUAL COORDINATES (N) 193,873.040 (E) 1,035,779.500 **DATUM** NAD83
DATE START 20-SEP-2017 **DATE FINISH** 20-SEP-2017

HOLE DM-B-35B
LINE
STA
OFFSET ft
SURF. ELEV. 42.3
DEPTH TO WATER NONE

CASING	**O. D.**	**in**	**I. D.**	**in**	**WT OF HAMMER-CASING**	**lb**	**HAMMER FALL-CASING**	**in**
SAMPLER	**O. D.**	**in**	**I. D.**	**in**	**WT OF HAMMER-SAMPLER**	**lb**	**HAMMER FALL-SAMPLER**	**in**

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)	DESCRIPTION OF SOIL AND ROCK
	0.0							(0.00) See Note 1

BOTTOM OF HOLE AT 4.00 ft

Notes
1.- Neither visual nor field description used due to no samples
2.- Hand cleared 4 ft.
3.- Borehole terminated at 4 ft due to obstruction and relocated
4.- Vertical Datum: NAVD 88

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CONTRACT _____ **CONTRACTOR** Warren George

DRILL RIG OPERATOR S.LAURENZA
SOIL & ROCK DESCRIPTION S.MASLANKA
REG GEOTECHNICAL ENGINEER Prakash C. Roy
DATE APPROVED 30-JUL-2019 REVISION # 1
RESIDENT ENGINEER
STRUCTURE NAME **B.I.N.**

SHEET 1 OF 1 HOLE DM-B-35B

SM 282 E 12/02

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
GEOTECHNICAL ENGINEERING BUREAU
SUBSURFACE EXPLORATION LOG

PSN 12505 BORNUM 35.3
REGION 11
COUNTY QUEENS
PIN X735.82
PROJECT VAN WYCK EXPRESSWAY WIDENING
ACTUAL COORDINATES (N) 193,873.280 (E) 1,035,786.130 **DATUM** NAD83
DATE START 21-SEP-2017 **DATE FINISH** 21-SEP-2017

HOLE DM-B-35C
LINE
STA
OFFSET ft
SURF. ELEV. 42.1
DEPTH TO WATER NONE

CASING	**O. D.**	**in**	**I. D.**	**in**	**WT OF HAMMER-CASING**	**lb**	**HAMMER FALL-CASING**	**in**
SAMPLER	**O. D.**	**in**	**I. D.**	**in**	**WT OF HAMMER-SAMPLER**	**lb**	**HAMMER FALL-SAMPLER**	**in**

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)	DESCRIPTION OF SOIL AND ROCK
	0.0							(0.00) See Note 1

BOTTOM OF HOLE AT 4.00 ft

Notes
1.- Neither visual nor field description used due to no samples taken
2.- Hand cleared to 4ft. Obstruction hit at 4 ft and borehole terminated
3.- Vertical Datum: NAVD 88

The subsurface information shown here was obtained for design and estimate purposes. It is made available so that users may have access to the same information available to the State. It is presented in good faith. By the nature of the exploration process, the information represents only a small fraction of the total volume of the material at the site. Interpolation between data samples may not be indicative of the actual material encountered.

CONTRACT **CONTRACTOR** Warren George

DRILL RIG OPERATOR S.LAURENZA
SOIL & ROCK DESCRIPTION S.MASLANKA
REG GEOTECHNICAL ENGINEER Prakash C. Roy
DATE APPROVED 30-JUL-2019 REVISION # 1
RESIDENT ENGINEER
STRUCTURE NAME **B.I.N.**

SM 282 E 12/02

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
GEOTECHNICAL ENGINEERING BUREAU
SUBSURFACE EXPLORATION LOG

PSN 12505 BORNUM 36
REGION 11
COUNTY QUEENS
PIN X735.82
PROJECT VAN WYCK EXPRESSWAY WIDENING

HOLE DM-B-36
LINE
STA
OFFSET ft
SURF. ELEV. 42.5

ACTUAL COORDINATES (N) 193,548.100 (E) 1,035,723.460 **DATUM** NAD83 **DEPTH TO WATER** SEE NOTE

DATE START 25-SEP-2017 **DATE FINISH** 25-SEP-2017

CASING	**O. D.**	4 1/2	**in**	**I. D.**	4	**in**	**WT OF HAMMER-CASING**	140	**lb**	**HAMMER FALL-CASING**	30 **in**
SAMPLER	**O. D.**	2	**in**	**I. D.**	1 3/8	**in**	**WT OF HAMMER-SAMPLER**	140	**lb**	**HAMMER FALL-SAMPLER**	30 **in**

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)	DESCRIPTION OF SOIL AND ROCK	
	0.0	J1					8%	(0.00) Brown Gravelly SAND	(M-NPL)
		J2					6%	(2.00) Brown Gravelly SAND	(M-NPL)
	5.0	J3					7%	(4.00) Brown Gravelly SAND	(M-NPL)
		J4	7	17	23	40	6%	(6.00) Brown Silty SAND With Gravel Pieces	(M-NPL)
		J5	24	42	21	19	4%	(8.00) Brown Silty SAND Gravelly	(M-NPL)
	10.0	J6	14	14	21	19	11%	(10.00) Brown Gravelly SAND Silty	(M-NPL)
	15.0	J7	14	11	15	10	19%	(15.00) Brown Gravelly SAND Silty	(M-NPL)
	20.0	J8	19	11	18	15	15%	(20.00) Brown Gravelly SAND Silty	(M-NPL)
	25.0								

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CONTRACT **CONTRACTOR** Warren George

DRILL RIG OPERATOR S.LAURENZA
SOIL & ROCK DESCRIPTION R.DIETZ,S.MASLANKA
REG GEOTECHNICAL ENGINEER Prakash C. Roy
DATE APPROVED 30-JUL-2019 REVISION # 1
RESIDENT ENGINEER
STRUCTURE NAME **B.I.N.**

SM 282 E 12/02

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
GEOTECHNICAL ENGINEERING BUREAU
SUBSURFACE EXPLORATION LOG

PSN 12505 BORNUM 36
REGION 11
COUNTY QUEENS
PIN X735.82
PROJECT VAN WYCK EXPRESSWAY WIDENING

HOLE DM-B-36
LINE
STA
OFFSET ft
SURF. ELEV. 42.5

ACTUAL COORDINATES (N) 193,548.100 (E) 1,035,723.460 **DATUM** NAD83 **DEPTH TO WATER** SEE NOTE

DATE START 25-SEP-2017 **DATE FINISH** 25-SEP-2017

CASING	**O. D.**	4 1/2	**in**	**I. D.**	4	**in**	**WT OF HAMMER-CASING**	140	**lb**	**HAMMER FALL-CASING**	30 **in**
SAMPLER	**O. D.**	2	**in**	**I. D.**	1 3/8	**in**	**WT OF HAMMER-SAMPLER**	140	**lb**	**HAMMER FALL-SAMPLER**	30 **in**

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)	DESCRIPTION OF SOIL AND ROCK	
	25.0	J9	10	9	13	12	19%	(25.00) Brown Silty SAND Gravelly With Mica	(M-NPL)
	30.0	J10	9	8	8	11	19%	(30.00) Brown SAND With Gravel Pieces	(M-NPL)
	35.0	J11	8	7	8	6	21%	(35.00) Brown SAND With Gravel Pieces	
	40.0	J12	7	6	9	15	16%	(40.00) Brown Gravelly SAND	(M-NPL)
	45.0	J13	12	18	22	17	25%	(45.00) Brown Silty Fine SAND	(M-NPL)
	50.0								

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CONTRACT **CONTRACTOR** Warren George

DRILL RIG OPERATOR S.LAURENZA
SOIL & ROCK DESCRIPTION R.DIETZ,S.MASLANKA
REG GEOTECHNICAL ENGINEER Prakash C. Roy
DATE APPROVED 30-JUL-2019 REVISION # 1
RESIDENT ENGINEER
STRUCTURE NAME **B.I.N.**

SM 282 E 12/02

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
GEOTECHNICAL ENGINEERING BUREAU
SUBSURFACE EXPLORATION LOG

PSN 12505 BORNUM 36
REGION 11
COUNTY QUEENS
PIN X735.82
PROJECT VAN WYCK EXPRESSWAY WIDENING
ACTUAL COORDINATES (N) 193,548.100 (E) 1,035,723.460 **DATUM** NAD83
DATE START 25-SEP-2017 **DATE FINISH** 25-SEP-2017

HOLE DM-B-36
LINE
STA
OFFSET ft
SURF. ELEV. 42.5
DEPTH TO WATER SEE NOTE

CASING	**O. D.**	4 1/2	**in**	**I. D.**	4	**in**	**WT OF HAMMER-CASING**	140	**lb**	**HAMMER FALL-CASING**	30 **in**
SAMPLER	**O. D.**	2	**in**	**I. D.**	1 3/8	**in**	**WT OF HAMMER-SAMPLER**	140	**lb**	**HAMMER FALL-SAMPLER**	30 **in**

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)	DESCRIPTION OF SOIL AND ROCK	
	50.0	J14	15	22	28	32	20%	(50.00) Brown Silty Fine SAND With Mica	(M-NPL)
	55.0	J15	21	33	26	19	22%	(55.00) Brown And Gray SAND With Gravel Pieces	(M-NPL)
	60.0	J16	17	20	14	17	22%	(60.00) Brown And Gray Gravelly SAND	(M-NPL)
	65.0	J17	10	15	15	15	23%	(65.00) Brown And Gray SAND With Gravel Pieces	(M-NPL)
	70.0	J18	8	8	13	15	24%	(70.00) Brown And Black SAND With Gravel Pieces And Mica	(M-NPL)
	75.0								

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CONTRACT _____ **CONTRACTOR** Warren George

DRILL RIG OPERATOR S.LAURENZA
SOIL & ROCK DESCRIPTION R.DIETZ,S.MASLANKA
REG GEOTECHNICAL ENGINEER Prakash C. Roy
DATE APPROVED 30-JUL-2019 REVISION # 1
RESIDENT ENGINEER
STRUCTURE NAME **B.I.N.**

SM 282 E 12/02

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
GEOTECHNICAL ENGINEERING BUREAU
SUBSURFACE EXPLORATION LOG

PSN 12505 BORNUM 36
REGION 11
COUNTY QUEENS
PIN X735.82
PROJECT VAN WYCK EXPRESSWAY WIDENING

HOLE DM-B-36
LINE
STA
OFFSET ft
SURF. ELEV. 42.5

ACTUAL COORDINATES (N) 193,548.100 (E) 1,035,723.460 **DATUM** NAD83 **DEPTH TO WATER** SEE NOTE

DATE START 25-SEP-2017 **DATE FINISH** 25-SEP-2017

CASING	**O. D.**	4 1/2	**in**	**I. D.**	4	**in**	**WT OF HAMMER-CASING**	140	**lb**	**HAMMER FALL-CASING**	30 **in**
SAMPLER	**O. D.**	2	**in**	**I. D.**	1 3/8	**in**	**WT OF HAMMER-SAMPLER**	140	**lb**	**HAMMER FALL-SAMPLER**	30 **in**

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)	DESCRIPTION OF SOIL AND ROCK	
	75.0	J19	18	31	33	25	23%	(75.00) Brown And Red SAND With Gravel Pieces	(M-NPL)

BOTTOM OF HOLE AT 77.00 ft

Notes
1.- J1 to J3 were grab samples. Hand augered up to 6ft
2.- Automatic hammer used for all other sampling
3.- Vertical Datum: NAVD 88
4.- Rotary mud drilling, no groundwater reading taken

The subsurface information shown here was obtained for design and estimate purposes. It is made available so that users may have access to the same information available to the State. It is presented in good faith. By the nature of the exploration process, the information represents only a small fraction of the total volume of the material at the site. Interpolation between data samples may not be indicative of the actual material encountered.

CONTRACT **CONTRACTOR** Warren George

DRILL RIG OPERATOR S.LAURENZA
SOIL & ROCK DESCRIPTION R.DIETZ,S.MASLANKA
REG GEOTECHNICAL ENGINEER Prakash C. Roy
DATE APPROVED 30-JUL-2019 REVISION # 1
RESIDENT ENGINEER
STRUCTURE NAME **B.I.N.**

SM 282 E 12/02

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
GEOTECHNICAL ENGINEERING BUREAU
SUBSURFACE EXPLORATION LOG

PSN 12505 BORNUM 37
REGION 11
COUNTY QUEENS
PIN X735.82
PROJECT VAN WYCK EXPRESSWAY WIDENING

HOLE DM-B-37
LINE
STA
OFFSET ft
SURF. ELEV. 43.9
DEPTH TO WATER SEE NOTE

ACTUAL COORDINATES (N) 193,258.620 (E) 1,035,852.770 **DATUM** NAD83
DATE START 02-OCT-2017 **DATE FINISH** 04-OCT-2017

CASING	**O. D.**	4 1/2	**in**	**I. D.**	4	**in**	**WT OF HAMMER-CASING**	140	**lb**	**HAMMER FALL-CASING**	30 **in**
SAMPLER	**O. D.**	2	**in**	**I. D.**	1 3/8	**in**	**WT OF HAMMER-SAMPLER**	140	**lb**	**HAMMER FALL-SAMPLER**	30 **in**

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)	DESCRIPTION OF SOIL AND ROCK	
	0.0	J1					13%	(0.00) Brown Silty SAND Gravelly With Pieces Of Glass (Possible Fill)	(M-NPL)
		J2					18%	(2.00) Brown Clayey SILT Sandy With Gravel Piecs	(M-LPL)
	5.0	J3					17%	(4.00) Brown Clayey SILT Sandy With Gravel Pieces	(M-LPL)
		J4	3	3	5	5	22%	(6.00) Brown Silty CLAY With Gravel Pieces	(M-PL)
	10.0	J5	13	19	27	18	12%	(8.00) Brown Sandy SILT With Gravel Pieces	(M-NPL)
	15.0	J6	23	26	38	23	10%	(10.00) Brown Sandy GRAVEL	(M-NPL)
	20.0	J7	19	16	18	18	11%	(15.00) Brown Gravelly SAND With Mica	(M-NPL)
	25.0	J8	15	28	36	21	17%	(20.00) Orange Gravelly SAND With Mica	(M-NPL)

The subsurface information shown here was obtained for design and estimate purposes. It is made available so that users may have access to the same information available to the State. It is presented in good faith. By the nature of the exploration process, the information represents only a small fraction of the total volume of the material at the site. Interpolation between data samples may not be indicative of the actual material encountered.

CONTRACT **CONTRACTOR** Warren George

DRILL RIG OPERATOR S.LAURENZA
SOIL & ROCK DESCRIPTION D.LANDAU/S.MASLANKA
REG GEOTECHNICAL ENGINEER Prakash C. Roy
DATE APPROVED 30-JUL-2019 REVISION # 1
RESIDENT ENGINEER
STRUCTURE NAME **B.I.N.**

SM 282 E 12/02

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
GEOTECHNICAL ENGINEERING BUREAU
SUBSURFACE EXPLORATION LOG

PSN 12505 BORNUM 37
REGION 11
COUNTY QUEENS
PIN X735.82
PROJECT VAN WYCK EXPRESSWAY WIDENING

HOLE DM-B-37
LINE
STA
OFFSET ft
SURF. ELEV. 43.9

ACTUAL COORDINATES (N) 193,258.620 (E) 1,035,852.770 **DATUM** NAD83 **DEPTH TO WATER** SEE NOTE

DATE START 02-OCT-2017 **DATE FINISH** 04-OCT-2017

CASING	**O. D.**	4 1/2	**in**	**I. D.**	4	**in**	**WT OF HAMMER-CASING**	140	**lb**	**HAMMER FALL-CASING**	30 **in**
SAMPLER	**O. D.**	2	**in**	**I. D.**	1 3/8	**in**	**WT OF HAMMER-SAMPLER**	140	**lb**	**HAMMER FALL-SAMPLER**	30 **in**

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)	DESCRIPTION OF SOIL AND ROCK	
	25.0	J9	10	11	12	15	20%	(25.00) Brown SAND With Gravel Pieces And Mica	(M-NPL)
	30.0	J10	7	7	9	11	22%	(30.00) Brown SAND With Gravel Pieces And Mica	(M-NPL)
	35.0	J11	10	11	10	8	18%	(35.00) Brown Gravelly SAND Silty With Mica	(M-NPL)
	40.0	J12	10	8	10	8	23%	(40.00) Brown Gravelly SAND With Mica	(M-NPL)
	45.0	J13	7	8	9	9	20%	(45.00) Brown SAND With Gravel Pieces And Mica	(M-NPL)
	50.0								

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DRILL RIG OPERATOR S.LAURENZA
SOIL & ROCK DESCRIPTION D.LANDAU/S.MASLANKA
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SURF. ELEV. 43.9
DEPTH TO WATER SEE NOTE

ACTUAL COORDINATES (N) 193,258.620 (E) 1,035,852.770 **DATUM** NAD83
DATE START 02-OCT-2017 **DATE FINISH** 04-OCT-2017

CASING	**O. D.**	4 1/2	**in**	**I. D.**	4	**in**	**WT OF HAMMER-CASING**	140	**lb**	**HAMMER FALL-CASING**	30 **in**
SAMPLER	**O. D.**	2	**in**	**I. D.**	1 3/8	**in**	**WT OF HAMMER-SAMPLER**	140	**lb**	**HAMMER FALL-SAMPLER**	30 **in**

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)	DESCRIPTION OF SOIL AND ROCK	
	50.0	J14	8	10	13	10	18%	(50.00) Brown Gravelly SAND With Mica	(M-NPL)
	55.0	J15	12	13	15	13	23%	(55.00) Brown Silty Fine SAND With Mica	(M-NPL)
	60.0	J16	24	24	28	23	18%	(60.00) Brown SAND With Gravel Pieces And Mica	(M-NPL)
	65.0	J17	21	18	24	18	18%	(65.00) Brown SAND With Gravel Pieces And Mica	(M-NPL)
	70.0	J18	17	16	16	14	18%	(70.00) Brown SAND With Gravel Pieces And Mica	(M-NPL)
	75.0								

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CONTRACT **CONTRACTOR** Warren George

DRILL RIG OPERATOR S.LAURENZA
SOIL & ROCK DESCRIPTION D.LANDAU/S.MASLANKA
REG GEOTECHNICAL ENGINEER Prakash C. Roy
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SUBSURFACE EXPLORATION LOG

PSN 12505 BORNUM 37
REGION 11
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PIN X735.82
PROJECT VAN WYCK EXPRESSWAY WIDENING
ACTUAL COORDINATES (N) 193,258.620 (E) 1,035,852.770 **DATUM** NAD83
DATE START 02-OCT-2017 **DATE FINISH** 04-OCT-2017

HOLE DM-B-37
LINE
STA
OFFSET ft
SURF. ELEV. 43.9
DEPTH TO WATER SEE NOTE

CASING	**O. D.**	4 1/2	**in**	**I. D.**	4	**in**	**WT OF HAMMER-CASING**	140	**lb**	**HAMMER FALL-CASING**	30 **in**
SAMPLER	**O. D.**	2	**in**	**I. D.**	1 3/8	**in**	**WT OF HAMMER-SAMPLER**	140	**lb**	**HAMMER FALL-SAMPLER**	30 **in**

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)	DESCRIPTION OF SOIL AND ROCK	
	75.0	J19	10	10	11	11	20%	(75.00) Brown SAND With Gravel Piecs And Mica	(M-NPL)
	80.0	J20	22	22	20	18	23%	(80.00) Brown Fine SAND With Mica	(M-NPL)
	85.0	J21	20	18	21	22	22%	(85.00) Brown Fine SAND With Mica	(M-NPL)
	90.0	J22	18	33	42	27	20%	(90.00) Brown Fine SAND With Gravel Pieces And Mica	(M-NPL)
	95.0	J23	18	16	22	28	22%	(95.00) Brown Fine SAND With Gravel Pieces And Mica	(M-NPL)
	100.0								

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ACTUAL COORDINATES (N) 193,258.620 (E) 1,035,852.770 **DATUM** NAD83 **DEPTH TO WATER** SEE NOTE

DATE START 02-OCT-2017 **DATE FINISH** 04-OCT-2017

CASING	**O. D.**	4 1/2	**in**	**I. D.**	4	**in**	**WT OF HAMMER-CASING**	140	**lb**	**HAMMER FALL-CASING**	30	**in**
SAMPLER	**O. D.**	2	**in**	**I. D.**	1 3/8	**in**	**WT OF HAMMER-SAMPLER**	140	**lb**	**HAMMER FALL-SAMPLER**	30	**in**

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)	DESCRIPTION OF SOIL AND ROCK	
	100.0	J24	22	26	25	24	24%	(100.00) Brown Fine SAND With Gravel Pieces And Mica	(M-NPL)

BOTTOM OF HOLE AT 102.00 ft

Notes
1.- J1 to J3 were grab samples. Hand augered up to 6ft
2.- Automatic hammer used for all other sampling
3.- Vertical Datum: NAVD 88
4.- Rotary mud drilling, no groundwater reading taken

The subsurface information shown here was obtained for design and estimate purposes. It is made available so that users may have access to the same information available to the State. It is presented in good faith. By the nature of the exploration process, the information represents only a small fraction of the total volume of the material at the site. Interpolation between data samples may not be indicative of the actual material encountered.

CONTRACT **CONTRACTOR** Warren George

DRILL RIG OPERATOR S.LAURENZA
SOIL & ROCK DESCRIPTION D.LANDAU/S.MASLANKA
REG GEOTECHNICAL ENGINEER Prakash C. Roy
DATE APPROVED 30-JUL-2019 REVISION # 1
RESIDENT ENGINEER
STRUCTURE NAME **B.I.N.**

SM 282 E 12/02

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
GEOTECHNICAL ENGINEERING BUREAU
SUBSURFACE EXPLORATION LOG

PSN 12505 BORNUM 38
REGION 11
COUNTY QUEENS
PIN X735.82
PROJECT VAN WYCK EXPRESSWAY WIDENING

HOLE DM-B-38
LINE
STA
OFFSET ft
SURF. ELEV. 43.8
DEPTH TO WATER SEE NOTE

ACTUAL COORDINATES (N) 192,120.890 (E) 1,036,602.950 **DATUM** NAD83
DATE START 05-OCT-2017 **DATE FINISH** 05-OCT-2017

CASING	**O. D.**	4 1/2	**in**	**I. D.**	4	**in**	**WT OF HAMMER-CASING**	140	**lb**	**HAMMER FALL-CASING**	30 **in**
SAMPLER	**O. D.**	2	**in**	**I. D.**	1 3/8	**in**	**WT OF HAMMER-SAMPLER**	140	**lb**	**HAMMER FALL-SAMPLER**	30 **in**

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)	DESCRIPTION OF SOIL AND ROCK	
	0.0	J1					10%	(0.00) Brown Silty SAND With Gravel Pieces	(M-NPL)
		J2					3%	(2.00) Brown Silty SAND Gravelly With Mica	(M-NPL)
	5.0	J3					3%	(4.00) Brown Silty SAND Gravelly With Mica	(M-NPL)
		J4	7	11	19	21	11%	(6.00) Brown Silty SAND Gravelly With Mica	(M-NPL)
	10.0	J5	19	19	18	17	8%	(8.00) Brown Silty SAND Gravelly With Mica	(M-NPL)
	15.0	J6	19	23	27	22	11%	(10.00) Brown Silty SAND With Gravel Pieces And Mica	(M-NPL)
	20.0	J7	7	7	9	10	12%	(15.00) Brown Silty SAND Gravelly With Mica	(M-NPL)
	25.0	J8	22	17	15	15	17%	(20.00) Brown Sandy GRAVEL With Mica	(M-NPL)

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CONTRACT _____ **CONTRACTOR** Warren George

DRILL RIG OPERATOR A.MEDRANO
SOIL & ROCK DESCRIPTION S.MASLANKA/J.RYBICKI
REG GEOTECHNICAL ENGINEER Prakash C. Roy
DATE APPROVED 30-JUL-2019 REVISION # 1
RESIDENT ENGINEER
STRUCTURE NAME **B.I.N.**

SM 282 E 12/02

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
GEOTECHNICAL ENGINEERING BUREAU
SUBSURFACE EXPLORATION LOG

PSN 12505 BORNUM 38
REGION 11
COUNTY QUEENS
PIN X735.82
PROJECT VAN WYCK EXPRESSWAY WIDENING

HOLE DM-B-38
LINE
STA
OFFSET ft
SURF. ELEV. 43.8
DEPTH TO WATER SEE NOTE

ACTUAL COORDINATES (N) 192,120.890 (E) 1,036,602.950 **DATUM** NAD83
DATE START 05-OCT-2017 **DATE FINISH** 05-OCT-2017

CASING	**O. D.**	4 1/2	**in**	**I. D.**	4	**in**	**WT OF HAMMER-CASING**	140	**lb**	**HAMMER FALL-CASING**	30 **in**
SAMPLER	**O. D.**	2	**in**	**I. D.**	1 3/8	**in**	**WT OF HAMMER-SAMPLER**	140	**lb**	**HAMMER FALL-SAMPLER**	30 **in**

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)	DESCRIPTION OF SOIL AND ROCK	
	25.0	J9	8	10	13	11	14%	(25.00) Brown Sandy GRAVEL With Mica	(M-NPL)
	30.0	J10	7	10	9	8	19%	(30.00) Brown Silty SAND Gravelly With Mica	(M-NPL)
	35.0	J11	6	7	8	9	22%	(35.00) Brown Silty SAND With Gravel Pieces And Mica	(M-NPL)
	40.0	J12	7	10	11	12	26%	(40.00) Brown Fine Sandy SILT With Mica	(M-NPL)
	45.0	J13	5	6	10	10	30%	(45.00) Brown Sandy SILT Clayey With Mica	(M-LPL)
	50.0								

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CONTRACT **CONTRACTOR** Warren George

DRILL RIG OPERATOR A.MEDRANO
SOIL & ROCK DESCRIPTION S.MASLANKA/J.RYBICKI
REG GEOTECHNICAL ENGINEER Prakash C. Roy
DATE APPROVED 30-JUL-2019 REVISION # 1
RESIDENT ENGINEER
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SM 282 E 12/02

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
GEOTECHNICAL ENGINEERING BUREAU
SUBSURFACE EXPLORATION LOG

PSN 12505 BORNUM 38
REGION 11
COUNTY QUEENS
PIN X735.82
PROJECT VAN WYCK EXPRESSWAY WIDENING
ACTUAL COORDINATES (N) 192,120.890 (E) 1,036,602.950 **DATUM** NAD83
DATE START 05-OCT-2017 **DATE FINISH** 05-OCT-2017

HOLE DM-B-38
LINE
STA
OFFSET ft
SURF. ELEV. 43.8
DEPTH TO WATER SEE NOTE

CASING	**O. D.**	4 1/2	**in**	**I. D.**	4	**in**	**WT OF HAMMER-CASING**	140	**lb**	**HAMMER FALL-CASING**	30	**in**
SAMPLER	**O. D.**	2	**in**	**I. D.**	1 3/8	**in**	**WT OF HAMMER-SAMPLER**	140	**lb**	**HAMMER FALL-SAMPLER**	30	**in**

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)	DESCRIPTION OF SOIL AND ROCK	
	50.0	J14	12	17	18	16	18%	(50.00) Brown Silty SAND Gravelly With Mica	(M-NPL)
	55.0	J15	11	11	13	13	22%	(55.00) Brown Silty SAND Gravelly With Mica	(M-NPL)
	60.0	J16	9	13	13	14	25%	(60.00) Brown Silty SAND With Mica	(M-NPL)
	65.0	J17	7	9	10	11	20%	(65.00) Brown Silty SAND With Mica	(M-NPL)
	70.0	J18	6	8	7	7	24%	(70.00) Brown And Orange Silty SAND With Mica	(M-NPL)
	75.0								

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DRILL RIG OPERATOR A.MEDRANO
SOIL & ROCK DESCRIPTION S.MASLANKA/J.RYBICKI
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COUNTY QUEENS
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PROJECT VAN WYCK EXPRESSWAY WIDENING

HOLE DM-B-38
LINE
STA
OFFSET ft
SURF. ELEV. 43.8
DEPTH TO WATER SEE NOTE

ACTUAL COORDINATES (N) 192,120.890 (E) 1,036,602.950 **DATUM** NAD83
DATE START 05-OCT-2017 **DATE FINISH** 05-OCT-2017

CASING	**O. D.**	4 1/2	**in**	**I. D.**	4	**in**	**WT OF HAMMER-CASING**	140	**lb**	**HAMMER FALL-CASING**	30 **in**
SAMPLER	**O. D.**	2	**in**	**I. D.**	1 3/8	**in**	**WT OF HAMMER-SAMPLER**	140	**lb**	**HAMMER FALL-SAMPLER**	30 **in**

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)	DESCRIPTION OF SOIL AND ROCK	
	75.0	J19	9	17	23	20	21%	(75.00) Brown Silty SAND With Mica	(M-NPL)

BOTTOM OF HOLE AT 77.00 ft

Notes
1.- J1 to J3 were grab samples. Hand augered up to 6ft
2.- Safety hammer used for all other sampling
3.- Rotary mud drilling, no groundwater reading taken
4.- Vertical Datum: NAVD 88

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CONTRACT **CONTRACTOR** Warren George

DRILL RIG OPERATOR A.MEDRANO
SOIL & ROCK DESCRIPTION S.MASLANKA/J.RYBICKI
REG GEOTECHNICAL ENGINEER Prakash C. Roy
DATE APPROVED 30-JUL-2019 REVISION # 1
RESIDENT ENGINEER
STRUCTURE NAME **B.I.N.**

SM 282 E 12/02

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
GEOTECHNICAL ENGINEERING BUREAU
SUBSURFACE EXPLORATION LOG

PSN 12505 BORNUM 39
REGION 11
COUNTY QUEENS
PIN X735.82
PROJECT VAN WYCK EXPRESSWAY WIDENING

HOLE DM-B-39
LINE
STA
OFFSET ft
SURF. ELEV. 44.5

ACTUAL COORDINATES (N) 191,582.730 (E) 1,036,843.040 **DATUM** NAD83 **DEPTH TO WATER** SEE NOTE

DATE START 06-OCT-2017 **DATE FINISH** 06-OCT-2017

CASING	**O. D.**	4 1/2	**in**	**I. D.**	4	**in**	**WT OF HAMMER-CASING**	140	**lb**	**HAMMER FALL-CASING**	30	**in**
SAMPLER	**O. D.**	2	**in**	**I. D.**	1 3/8	**in**	**WT OF HAMMER-SAMPLER**	140	**lb**	**HAMMER FALL-SAMPLER**	30	**in**

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)	DESCRIPTION OF SOIL AND ROCK	
	0.0	J1					20%	(0.00) Brown And Orange Silty CLAY With Pockets Of Gray SILT	(M-LPL)
		J2					3%	(2.00) Light Brown SAND With Gravel Pieces	(M-NPL)
	5.0	J3					3%	(4.00) Light Brown Gravelly SAND	(M-NPL)
		J4	7	8	14	15	3%	(6.00) Light Brown Gravelly SAND	(M-NPL)
		J5	14	25	35	39	4%	(8.00) Light Brown Gravelly SAND	(M-NPL)
	10.0	J6	20	18	17	22	8%	(10.00) Light Brown Gravelly SAND Silty	(M-NPL)
	15.0	J7	9	9	14	13	16%	(15.00) Light Brown Silty SAND With Gravel Pieces	(M-NPL)
	20.0	J8	10	10	12	14	14%	(20.00) Light Brown Silty SAND With Gravel Pieces	(M-NPL)
	25.0								

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CONTRACT **CONTRACTOR** Warren George

DRILL RIG OPERATOR A.MEDRANO
SOIL & ROCK DESCRIPTION S.MURPHY/D.LANDAU
REG GEOTECHNICAL ENGINEER Prakash C. Roy
DATE APPROVED 30-JUL-2019 REVISION # 1
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HOLE DM-B-39
LINE
STA
OFFSET ft
SURF. ELEV. 44.5

ACTUAL COORDINATES (N) 191,582.730 (E) 1,036,843.040 **DATUM** NAD83 **DEPTH TO WATER** SEE NOTE

DATE START 06-OCT-2017 **DATE FINISH** 06-OCT-2017

CASING	**O. D.**	4 1/2	**in**	**I. D.**	4	**in**	**WT OF HAMMER-CASING**	140	**lb**	**HAMMER FALL-CASING**	30 **in**
SAMPLER	**O. D.**	2	**in**	**I. D.**	1 3/8	**in**	**WT OF HAMMER-SAMPLER**	140	**lb**	**HAMMER FALL-SAMPLER**	30 **in**

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)	DESCRIPTION OF SOIL AND ROCK	
	25.0	J9	11	9	14	16	17%	(25.00) Brown Gravelly SAND Silty	(M-NPL)
	30.0	J10	6	9	11	10	18%	(30.00) Brown SAND With Organics And Pieces Of Fine Gravel	(M-NPL)
	35.0	J11	7	8	12	14	20%	(35.00) Brown SAND With Pieces Of Fine Gravel	(M-NPL)
	40.0	J12	7	8	11	10	19%	(40.00) Brown SAND With Pieces Of Fine Gravel	(M-NPL)
	45.0	J13	9	10	10	17	23%	(45.00) Brown Silty Fine SAND With Mica	(M-NPL)
	50.0								

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CONTRACT _____ **CONTRACTOR** Warren George

DRILL RIG OPERATOR A.MEDRANO
SOIL & ROCK DESCRIPTION S.MURPHY/D.LANDAU
REG GEOTECHNICAL ENGINEER Prakash C. Roy
DATE APPROVED 30-JUL-2019 REVISION # 1
RESIDENT ENGINEER
STRUCTURE NAME **B.I.N.**

SM 282 E 12/02

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
GEOTECHNICAL ENGINEERING BUREAU
SUBSURFACE EXPLORATION LOG

PSN 12505 BORNUM 39
REGION 11
COUNTY QUEENS
PIN X735.82
PROJECT VAN WYCK EXPRESSWAY WIDENING
ACTUAL COORDINATES (N) 191,582.730 (E) 1,036,843.040 **DATUM** NAD83

HOLE DM-B-39
LINE
STA
OFFSET ft
SURF. ELEV. 44.5
DEPTH TO WATER SEE NOTE

DATE START 06-OCT-2017 **DATE FINISH** 06-OCT-2017

CASING	**O. D.**	4 1/2 **in**	**I. D.**	4 **in**	**WT OF HAMMER-CASING**	140 **lb**	**HAMMER FALL-CASING**	30 **in**
SAMPLER	**O. D.**	2 **in**	**I. D.**	1 3/8 **in**	**WT OF HAMMER-SAMPLER**	140 **lb**	**HAMMER FALL-SAMPLER**	30 **in**

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)	DESCRIPTION OF SOIL AND ROCK	
	50.0	J14	11	19	30	32	25%	(50.00) Brown Silty Fine SAND With Mica	(M-NPL)
	55.0	J15	8	14	18	27	22%	(55.00) Brown Silty Fine SAND With Mica	(M-NPL)
	60.0	J16	16	26	31	29	26%	(60.00) Brown Silty Fine SAND With Mica	(M-NPL)
	65.0	J17	6	8	14	20	29%	(65.00) Gray SILT	(M-NPL)
	70.0	J18	9	9	10	9	32%	(70.00) Gray SILT	(M-NPL)
	75.0								

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CONTRACT **CONTRACTOR** Warren George

DRILL RIG OPERATOR A.MEDRANO
SOIL & ROCK DESCRIPTION S.MURPHY/D.LANDAU
REG GEOTECHNICAL ENGINEER Prakash C. Roy
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GEOTECHNICAL ENGINEERING BUREAU
SUBSURFACE EXPLORATION LOG

PSN 12505 BORNUM 39
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COUNTY QUEENS
PIN X735.82
PROJECT VAN WYCK EXPRESSWAY WIDENING
ACTUAL COORDINATES (N) 191,582.730 (E) 1,036,843.040 **DATUM** NAD83
DATE START 06-OCT-2017 **DATE FINISH** 06-OCT-2017

HOLE DM-B-39
LINE
STA
OFFSET ft
SURF. ELEV. 44.5
DEPTH TO WATER SEE NOTE

CASING	**O. D.**	4 1/2	**in**	**I. D.**	4	**in**	**WT OF HAMMER-CASING**	140	**lb**	**HAMMER FALL-CASING**	30	**in**
SAMPLER	**O. D.**	2	**in**	**I. D.**	1 3/8	**in**	**WT OF HAMMER-SAMPLER**	140	**lb**	**HAMMER FALL-SAMPLER**	30	**in**

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)	DESCRIPTION OF SOIL AND ROCK	
	75.0	J19	4	6	8	9	37%	(75.00) Gray SILT	(M-NPL)
	80.0	J20	4	7	7	7	37%	(80.00) Gray SILT	(M-NPL)
	85.0	J21	26	27	32	36	18%	(85.00) Brown SAND With Gravel Pieces	(M-NPL)
	90.0	J22	22	25	27	35	19%	(90.00) Brown SAND With Pockets Of Gray Silt	(M-NPL)
	95.0	J23	25	36	56	68	14%	(95.00) Brown Fine Gravelly SAND Silty	(M-NPL)
	100.0								

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CONTRACT **CONTRACTOR** Warren George

DRILL RIG OPERATOR A.MEDRANO
SOIL & ROCK DESCRIPTION S.MURPHY/D.LANDAU
REG GEOTECHNICAL ENGINEER Prakash C. Roy
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STATE OF NEW YORK
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GEOTECHNICAL ENGINEERING BUREAU
SUBSURFACE EXPLORATION LOG

PSN 12505 BORNUM 39
REGION 11
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PIN X735.82
PROJECT VAN WYCK EXPRESSWAY WIDENING
ACTUAL COORDINATES (N) 191,582.730 (E) 1,036,843.040 **DATUM** NAD83
DATE START 06-OCT-2017 **DATE FINISH** 06-OCT-2017

HOLE DM-B-39
LINE
STA
OFFSET ft
SURF. ELEV. 44.5
DEPTH TO WATER SEE NOTE

CASING	**O. D.**	4 1/2	**in**	**I. D.**	4	**in**	**WT OF HAMMER-CASING**	140	**lb**	**HAMMER FALL-CASING**	30	**in**
SAMPLER	**O. D.**	2	**in**	**I. D.**	1 3/8	**in**	**WT OF HAMMER-SAMPLER**	140	**lb**	**HAMMER FALL-SAMPLER**	30	**in**

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)	DESCRIPTION OF SOIL AND ROCK	
	100.0	J24	22	39	40	41	19%	(100.00) Brown Fine Gravelly SAND With Pockets Of Sandy SILT	(M-NPL)
	105.0	J25	20	25	50	59	19%	(105.00) Brown Silty SAND Fine Gravelly	(M-NPL)
	110.0	J26	25	45	50	55	13%	(110.00) Brown Fine Gravelly SAND Silty	(M-NPL)
	115.0	J27	21	34	41	45	15%	(115.00) Brown Fine Gravelly SAND With Pockets Of Brown Fine Sandy SILT	(M-NPL)
	120.0	J28	17	30	35	38	18%	(120.00) Brown Fine Gravelly SAND Silty	(M-NPL)

BOTTOM OF HOLE AT 122.00 ft

Notes
1.- J1 to J3 were grab sample. Hand augered up to 6ft
2.- Safety Hammer used for all other sampling
3.- Vertical Datum NAVD 88

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PROJECT VAN WYCK EXPRESSWAY WIDENING

HOLE DM-B-39
LINE
STA
OFFSET ft
SURF. ELEV. 44.5

ACTUAL COORDINATES (N) 191,582.730 (E) 1,036,843.040 **DATUM** NAD83 **DEPTH TO WATER** SEE NOTE

DATE START 06-OCT-2017 **DATE FINISH** 06-OCT-2017

CASING	**O. D.**	4 1/2	**in**	**I. D.**	4	**in**	**WT OF HAMMER-CASING**	140	**lb**	**HAMMER FALL-CASING**	30	**in**
SAMPLER	**O. D.**	2	**in**	**I. D.**	1 3/8	**in**	**WT OF HAMMER-SAMPLER**	140	**lb**	**HAMMER FALL-SAMPLER**	30	**in**

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)	DESCRIPTION OF SOIL AND ROCK
								4.- Rotary mud drilling, no groundwater reading taken

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CONTRACT _____ **CONTRACTOR** Warren George

DRILL RIG OPERATOR A.MEDRANO
SOIL & ROCK DESCRIPTION S.MURPHY/D.LANDAU
REG GEOTECHNICAL ENGINEER Prakash C. Roy
DATE APPROVED 30-JUL-2019 REVISION # 1
RESIDENT ENGINEER
STRUCTURE NAME **B.I.N.**

SM 282 E 12/02

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
GEOTECHNICAL ENGINEERING BUREAU
SUBSURFACE EXPLORATION LOG

PSN 12505 BORNUM 40
REGION 11
COUNTY QUEENS
PIN X735.82
PROJECT VAN WYCK EXPRESSWAY WIDENING

HOLE DM-B-40
LINE
STA
OFFSET ft
SURF. ELEV. 44.7

ACTUAL COORDINATES (N) 191,444.320 (E) 1,036,625.010 **DATUM** NAD83 **DEPTH TO WATER** SEE NOTE

DATE START 14-SEP-2017 **DATE FINISH** 14-SEP-2017

CASING	**O. D.**	4 1/2	**in**	**I. D.**	4	**in**	**WT OF HAMMER-CASING**	140	**lb**	**HAMMER FALL-CASING**	30	**in**
SAMPLER	**O. D.**	2	**in**	**I. D.**	1 3/8	**in**	**WT OF HAMMER-SAMPLER**	140	**lb**	**HAMMER FALL-SAMPLER**	30	**in**

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)	DESCRIPTION OF SOIL AND ROCK	
	0.0	J1					11%	(0.00) Brown Silty SAND Gravelly	(M-NPL)
		J2					5%	(2.00) Brown Gravelly SAND Silty	(M-NPL)
	5.0	J3					8%	(4.00) Brown Silty SAND Gravelly	(M-NPL)
		J4	2	2	2	1	9%	(6.00) Brown Gravelly SAND Silty	(M-NPL)
		J5	12	16	16	20	6%	(8.00) Brown Silty SAND Gravelly (Chemical Odor)	(M-NPL)
	10.0	J6	7	8	8	8	10%	(10.00) Brown Gravelly SAND Silty (Strong Chemical Odor)	(M-NPL)
	15.0	J7	6	8	9	8	14%	(15.00) Brown Silty SAND Gravelly (Chemical Odor)	(M-NPL)
	20.0	J8	6	12	14	12	16%	(20.00) Brown Silty SAND Gravelly (Chemical Odor)	(M-NPL)
	25.0								

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CONTRACT **CONTRACTOR** Warren George

DRILL RIG OPERATOR S.LAURENZA
SOIL & ROCK DESCRIPTION S.MURPHY/D.LANDAU
REG GEOTECHNICAL ENGINEER Prakash C. Roy
DATE APPROVED 30-JUL-2019 REVISION # 1
RESIDENT ENGINEER
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SM 282 E 12/02

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
GEOTECHNICAL ENGINEERING BUREAU
SUBSURFACE EXPLORATION LOG

PSN 12505 BORNUM 40
REGION 11
COUNTY QUEENS
PIN X735.82
PROJECT VAN WYCK EXPRESSWAY WIDENING

HOLE DM-B-40
LINE
STA
OFFSET ft
SURF. ELEV. 44.7
DEPTH TO WATER SEE NOTE

ACTUAL COORDINATES (N) 191,444.320 (E) 1,036,625.010 **DATUM** NAD83
DATE START 14-SEP-2017 **DATE FINISH** 14-SEP-2017

CASING	**O. D.**	4 1/2	**in**	**I. D.**	4	**in**	**WT OF HAMMER-CASING**	140	**lb**	**HAMMER FALL-CASING**	30	**in**
SAMPLER	**O. D.**	2	**in**	**I. D.**	1 3/8	**in**	**WT OF HAMMER-SAMPLER**	140	**lb**	**HAMMER FALL-SAMPLER**	30	**in**

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)	DESCRIPTION OF SOIL AND ROCK	
	25.0	J9	8	8	10	12	21%	(25.00) Brown Silty SAND With Gravel Pieces (CHEMICAL Odor)	(M-NPL)
	30.0	J10	6	6	8	9	24%	(30.00) Brown Silty SAND With Gravel Pieces (Chemical Odor)	(M-NPL)
	35.0	J11	6	5	6	6	22%	(35.00) Brown Silty SAND With Gravel Pieces (Chemical Odor)	(M-NPL)
	40.0	J12	13	15	19	23	24%	(40.00) Brown Silty Fine SAND	(M-NPL)
	45.0	J13	13	14	14	12	28%	(45.00) Gray Silty Fine SAND With Mica	(M-NPL)
	50.0								

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DRILL RIG OPERATOR S.LAURENZA
SOIL & ROCK DESCRIPTION S.MURPHY/D.LANDAU
REG GEOTECHNICAL ENGINEER Prakash C. Roy
DATE APPROVED 30-JUL-2019 REVISION # 1
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STATE OF NEW YORK
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GEOTECHNICAL ENGINEERING BUREAU
SUBSURFACE EXPLORATION LOG

PSN 12505 BORNUM 40
REGION 11
COUNTY QUEENS
PIN X735.82
PROJECT VAN WYCK EXPRESSWAY WIDENING

HOLE DM-B-40
LINE
STA
OFFSET ft
SURF. ELEV. 44.7

ACTUAL COORDINATES (N) 191,444.320 (E) 1,036,625.010 **DATUM** NAD83 **DEPTH TO WATER** SEE NOTE

DATE START 14-SEP-2017 **DATE FINISH** 14-SEP-2017

CASING	**O. D.**	4 1/2	**in**	**I. D.**	4	**in**	**WT OF HAMMER-CASING**	140	**lb**	**HAMMER FALL-CASING**	30	**in**
SAMPLER	**O. D.**	2	**in**	**I. D.**	1 3/8	**in**	**WT OF HAMMER-SAMPLER**	140	**lb**	**HAMMER FALL-SAMPLER**	30	**in**

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)	DESCRIPTION OF SOIL AND ROCK	
	50.0	J14	4	6	8	5	36%	(50.00) Gray Fine Sandy SILT	(M-NPL)
	55.0	J15	6	7	8	8	38%		
	60.0	J16	5	6	8	9	42%	(60.00) Dark Gray Fine Sandy SILT	(M-NPL)
	65.0	J17	4	8	11	17	37%	(65.00) Dark Gray Fine Sandy SILT	(M-NPL)
	70.0	J18	WOR	WOR	WOR	WOR	40%	(70.00) Gray Clayey SILT With Layers Of Dark Gray Silty Fine SAND	(W-LPL)
	75.0								

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DRILL RIG OPERATOR S.LAURENZA
SOIL & ROCK DESCRIPTION S.MURPHY/D.LANDAU
REG GEOTECHNICAL ENGINEER Prakash C. Roy
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REGION 11
COUNTY QUEENS
PIN X735.82
PROJECT VAN WYCK EXPRESSWAY WIDENING

HOLE DM-B-40
LINE
STA
OFFSET ft
SURF. ELEV. 44.7

ACTUAL COORDINATES (N) 191,444.320 (E) 1,036,625.010 **DATUM** NAD83 **DEPTH TO WATER** SEE NOTE

DATE START 14-SEP-2017 **DATE FINISH** 14-SEP-2017

CASING	**O. D.**	4 1/2	**in**	**I. D.**	4	**in**	**WT OF HAMMER-CASING**	140	**lb**	**HAMMER FALL-CASING**	30 **in**
SAMPLER	**O. D.**	2	**in**	**I. D.**	1 3/8	**in**	**WT OF HAMMER-SAMPLER**	140	**lb**	**HAMMER FALL-SAMPLER**	30 **in**

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)	DESCRIPTION OF SOIL AND ROCK	
	75.0	J19	4	7	10	15	40%	(75.00) Gray Clayey SILT With Layers Of Dark Gray Silty Fine Sand	(W-LPL)

BOTTOM OF HOLE AT 77.00 ft

Notes
1.- J1 to J3 were grab samples. Hand cleared up to 6ft
2.- J1 & J3, presence of frequent cobbles, diameters greater than 4"
3.- J5 (8 to 10ft): cobbles included in tip of the spoon. Low recovery
4.- Automatic hammer used for all other sampling
5.- Vertical Datum: NAVD 88
6.- Rotary mud drilling, no groundwater reading taken
7.- Borehole grouted and patched upon completion

CONTRACT **CONTRACTOR** Warren George

DRILL RIG OPERATOR S.LAURENZA
SOIL & ROCK DESCRIPTION S.MURPHY/D.LANDAU
REG GEOTECHNICAL ENGINEER Prakash C. Roy
DATE APPROVED 30-JUL-2019 REVISION # 1
RESIDENT ENGINEER
STRUCTURE NAME **B.I.N.**

SM 282 E 12/02

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
GEOTECHNICAL ENGINEERING BUREAU
SUBSURFACE EXPLORATION LOG

PSN 12505 BORNUM 41
REGION 11
COUNTY QUEENS
PIN X735.82
PROJECT VAN WYCK EXPRESSWAY WIDENING

HOLE DM-B-41
LINE
STA
OFFSET ft
SURF. ELEV. 33.5

ACTUAL COORDINATES (N) 189,798.630 (E) 1,037,625.740 **DATUM** NAD83 **DEPTH TO WATER** SEE NOTE

DATE START 10-OCT-2017 **DATE FINISH** 12-OCT-2017

CASING	**O. D.**	4 1/2	**in**	**I. D.**	4	**in**	**WT OF HAMMER-CASING**	140	**lb**	**HAMMER FALL-CASING**	30 **in**
SAMPLER	**O. D.**	2	**in**	**I. D.**	1 3/8	**in**	**WT OF HAMMER-SAMPLER**	140	**lb**	**HAMMER FALL-SAMPLER**	30 **in**

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)	DESCRIPTION OF SOIL AND ROCK	
	0.0	J1					9%	(0.00) Brown Silty SAND Gravelly With Pieces Of Glass (Possible Fill)	(M-NPL)
		J2					10%	(2.00) Brown Silty SAND With Gravel Pieces	(M-NPL)
	5.0	J3					32%	(4.00) Brown Gravelly SAND Silty With Pieces Of Concrete (POSSIBLE Fill)	(M-NPL)
		J4	2	1	1	2	37%	(6.00) Brown Gravelly SAND Silty With Pieces Of Concrete	(M-NPL)
	10.0	J5	2	5	11	9	14%	(8.00) Brown Clayey SILT Sandy With Gravel Pieces	(M-NPL)
	15.0	J6	9	8	12	15	8%	(10.00) Brown Silty SAND With Gravel Pieces	(M-NPL)
	20.0	J7	5	7	6	6	20%	(15.00) Brown Silty SAND With Mica	(M-NPL)
	25.0	J8	7	8	10	11	21%	(20.00) Orange Silty SAND With Mica	(M-NPL)

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CONTRACT **CONTRACTOR** Warren George

DRILL RIG OPERATOR ANGEL MEDRANO
SOIL & ROCK DESCRIPTION S.MASLANKA/J.RYBICKI
REG GEOTECHNICAL ENGINEER Prakash C. Roy
DATE APPROVED 30-JUL-2019 REVISION # 1
RESIDENT ENGINEER
STRUCTURE NAME **B.I.N.**

SM 282 E 12/02

STATE OF NEW YORK
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GEOTECHNICAL ENGINEERING BUREAU
SUBSURFACE EXPLORATION LOG

PSN 12505 BORNUM 41
REGION 11
COUNTY QUEENS
PIN X735.82
PROJECT VAN WYCK EXPRESSWAY WIDENING
ACTUAL COORDINATES (N) 189,798.630 (E) 1,037,625.740 **DATUM** NAD83
DATE START 10-OCT-2017 **DATE FINISH** 12-OCT-2017

HOLE DM-B-41
LINE
STA
OFFSET ft
SURF. ELEV. 33.5
DEPTH TO WATER SEE NOTE

CASING	**O. D.**	4 1/2	**in**	**I. D.**	4	**in**	**WT OF HAMMER-CASING**	140	**lb**	**HAMMER FALL-CASING**	30	**in**
SAMPLER	**O. D.**	2	**in**	**I. D.**	1 3/8	**in**	**WT OF HAMMER-SAMPLER**	140	**lb**	**HAMMER FALL-SAMPLER**	30	**in**

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)	DESCRIPTION OF SOIL AND ROCK	
	25.0	J9	6	5	6	10	25%	(25.00) Brown Silty SAND With Mica	(M-NPL)
	30.0	J10	5	5	8	8	25%	(30.00) Brow Silty SAND With Mica	(M-NPL)
	35.0	J11	7	8	15	20	23%	(35.00) Brown Silty SAND With Mica	(M-NPL)
	40.0	J12	3	4	15	19	20%	(40.00) Brown Sandy SILT With Gravel Pieces And Mica	(M-NPL)
	45.0	J13	16	22	31	32	19%	(45.00) Brown Silty SAND With Mica	(M-NPL)
	50.0								

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SOIL & ROCK DESCRIPTION S.MASLANKA/J.RYBICKI
REG GEOTECHNICAL ENGINEER Prakash C. Roy
DATE APPROVED 30-JUL-2019 REVISION # 1
RESIDENT ENGINEER
STRUCTURE NAME **B.I.N.**

SM 282 E 12/02

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
GEOTECHNICAL ENGINEERING BUREAU
SUBSURFACE EXPLORATION LOG

PSN 12505 BORNUM 41
REGION 11
COUNTY QUEENS
PIN X735.82
PROJECT VAN WYCK EXPRESSWAY WIDENING
ACTUAL COORDINATES (N) 189,798.630 (E) 1,037,625.740 **DATUM** NAD83
DATE START 10-OCT-2017 **DATE FINISH** 12-OCT-2017

HOLE DM-B-41
LINE
STA
OFFSET ft
SURF. ELEV. 33.5
DEPTH TO WATER SEE NOTE

CASING	**O. D.**	4 1/2	**in**	**I. D.**	4	**in**	**WT OF HAMMER-CASING**	140	**lb**	**HAMMER FALL-CASING**	30	**in**
SAMPLER	**O. D.**	2	**in**	**I. D.**	1 3/8	**in**	**WT OF HAMMER-SAMPLER**	140	**lb**	**HAMMER FALL-SAMPLER**	30	**in**

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)	DESCRIPTION OF SOIL AND ROCK	
	50.0	J14	11	9	13	13	23%	(50.00) Brown Silty SAND With Mica	(M-NPL)
	55.0	J15	9	9	10	13	20%	(55.00) Brown Silty SAND With Mica	(M-NPL)
	60.0	J16	6	12	16	28	20%	(60.00) Brown Silty SAND With Mica	(M-NPL)
	65.0	J17	22	27	34	36	25%	(65.00) Brown Silty Fine SAND	(M-NPL)
	70.0	J18	12	13	19	20	23%	(70.00) Brown Silty Fine SAND	(M-NPL)
	75.0								

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CONTRACT _____ **CONTRACTOR** Warren George

DRILL RIG OPERATOR ANGEL MEDRANO
SOIL & ROCK DESCRIPTION S.MASLANKA/J.RYBICKI
REG GEOTECHNICAL ENGINEER Prakash C. Roy
DATE APPROVED 30-JUL-2019 REVISION # 1
RESIDENT ENGINEER
STRUCTURE NAME **B.I.N.**

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STATE OF NEW YORK
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GEOTECHNICAL ENGINEERING BUREAU
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PSN 12505 BORNUM 41
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PIN X735.82
PROJECT VAN WYCK EXPRESSWAY WIDENING
ACTUAL COORDINATES (N) 189,798.630 (E) 1,037,625.740 **DATUM** NAD83
DATE START 10-OCT-2017 **DATE FINISH** 12-OCT-2017

HOLE DM-B-41
LINE
STA
OFFSET ft
SURF. ELEV. 33.5
DEPTH TO WATER SEE NOTE

CASING	**O. D.**	4 1/2	**in**	**I. D.**	4	**in**	**WT OF HAMMER-CASING**	140	**lb**	**HAMMER FALL-CASING**	30	**in**
SAMPLER	**O. D.**	2	**in**	**I. D.**	1 3/8	**in**	**WT OF HAMMER-SAMPLER**	140	**lb**	**HAMMER FALL-SAMPLER**	30	**in**

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)	DESCRIPTION OF SOIL AND ROCK	
	75.0	J19	11	9	11	17	21%	(75.00) Brown Silty Fine SAND	(M-NPL)
	80.0	J20	15	18	20	19	24%	(80.00) Brown Silty Fine SAND With Mica	(M-NPL)
	85.0	J21	16	16	20	18	24%	(85.00) Brown Silty Fine SAND With Mica	(M-NPL)
	90.0	J22	16	22	23	25	23%	(90.00) Gray Silty Fine SAND With Mica	(M-NPL)
	95.0	J23	12	19	22	20	22%	(95.00) Brown Silty SAND With Mica	(M-NPL)
	100.0								

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CONTRACT _____ **CONTRACTOR** Warren George

DRILL RIG OPERATOR ANGEL MEDRANO
SOIL & ROCK DESCRIPTION S.MASLANKA/J.RYBICKI
REG GEOTECHNICAL ENGINEER Prakash C. Roy
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PROJECT VAN WYCK EXPRESSWAY WIDENING

HOLE DM-B-41
LINE
STA
OFFSET ft
SURF. ELEV. 33.5

ACTUAL COORDINATES (N) 189,798.630 (E) 1,037,625.740 **DATUM** NAD83 **DEPTH TO WATER** SEE NOTE

DATE START 10-OCT-2017 **DATE FINISH** 12-OCT-2017

CASING	**O. D.**	4 1/2	**in**	**I. D.**	4	**in**	**WT OF HAMMER-CASING**	140	**lb**	**HAMMER FALL-CASING**	30 **in**
SAMPLER	**O. D.**	2	**in**	**I. D.**	1 3/8	**in**	**WT OF HAMMER-SAMPLER**	140	**lb**	**HAMMER FALL-SAMPLER**	30 **in**

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)	DESCRIPTION OF SOIL AND ROCK	
	100.0	J24	13	15	13	17	24%	(100.00) Brown Silty SAND With Mica	(M-NPL)

BOTTOM OF HOLE AT 102.00 ft

Notes
1.- J1 through J3 were hand cleared
2.- Safety Hammer used for all other sampling
3.- Rotary Mud Drilling used, no groundwater reading taken
4.- Vertical Datum: NAVD 88
5.- Drill bit and rods were clogged during drilling after 97 ft.

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CONTRACT **CONTRACTOR** Warren George

DRILL RIG OPERATOR ANGEL MEDRANO
SOIL & ROCK DESCRIPTION S.MASLANKA/J.RYBICKI
REG GEOTECHNICAL ENGINEER Prakash C. Roy
DATE APPROVED 30-JUL-2019 REVISION # 1
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SM 282 E 12/02

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
GEOTECHNICAL ENGINEERING BUREAU
SUBSURFACE EXPLORATION LOG

PSN 12505 BORNUM 42
REGION 11
COUNTY QUEENS
PIN X735.82
PROJECT VAN WYCK EXPRESSWAY WIDENING

HOLE DM-B-42
LINE
STA
OFFSET ft
SURF. ELEV. 32.6
DEPTH TO WATER SEE NOTE

ACTUAL COORDINATES (N) 188,144.210 (E) 1,038,323.250 **DATUM** NAD83
DATE START 06-OCT-2017 **DATE FINISH** 11-OCT-2017

CASING	**O. D.**	4 1/2	**in**	**I. D.**	4	**in**	**WT OF HAMMER-CASING**	140	**lb**	**HAMMER FALL-CASING**	30	**in**
SAMPLER	**O. D.**	2	**in**	**I. D.**	1 3/8	**in**	**WT OF HAMMER-SAMPLER**	140	**lb**	**HAMMER FALL-SAMPLER**	30	**in**

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)	DESCRIPTION OF SOIL AND ROCK	
	0.0	J1					14%	(0.00) Dark Brown Sandy SILT With Gravel Pieces	(M-NPL)
		J2					14%	(2.00) Orange Sandy SILT Clayey With Gravel Pieces	(M-LPL)
	5.0	J3					8%	(4.00) Orange Silty SAND With Gravel Pieces And Mica	(M-NPL)
		J4	13	12	13	14	9%	(7.00) Orange And Brown Silty SAND With Gravel Pieces And Mica	(M-NPL)
	10.0	J5	13	10	12	12	7%	(9.00) Brown Silty SAND With Gravel Pieces And Mica	(M-NPL)
		J6	11	10	7	8	5%	(11.00) Brown Silty SAND With Gravel Pieces And Mica	(M-NPL)
	15.0	J7	9	10	14	16	13%	(15.00) Brown Silty SAND Gravelly With Mica	(M-NPL)
	20.0	J8	9	10	11	13	21%	(20.00) Brown Silty SAND Gravelly With Mica	(M-NPL)
	25.0								

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CONTRACT **CONTRACTOR** Warren George

DRILL RIG OPERATOR JEREMY MEYRES
SOIL & ROCK DESCRIPTION S.MASLANKA/J.RYBICKI
REG GEOTECHNICAL ENGINEER Prakash C. Roy
DATE APPROVED 30-JUL-2019 REVISION # 1
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SM 282 E 12/02

PSN 12505 BORNUM 42
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COUNTY QUEENS
PIN X735.82
PROJECT VAN WYCK EXPRESSWAY WIDENING

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
GEOTECHNICAL ENGINEERING BUREAU
SUBSURFACE EXPLORATION LOG

HOLE DM-B-42
LINE
STA
OFFSET ft
SURF. ELEV. 32.6
DEPTH TO WATER SEE NOTE

ACTUAL COORDINATES (N) 188,144.210 (E) 1,038,323.250 **DATUM** NAD83
DATE START 06-OCT-2017 **DATE FINISH** 11-OCT-2017

CASING	**O. D.**	4 1/2	**in**	**I. D.**	4	**in**	**WT OF HAMMER-CASING**	140	**lb**	**HAMMER FALL-CASING**	30 **in**
SAMPLER	**O. D.**	2	**in**	**I. D.**	1 3/8	**in**	**WT OF HAMMER-SAMPLER**	140	**lb**	**HAMMER FALL-SAMPLER**	30 **in**

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)	DESCRIPTION OF SOIL AND ROCK	
	25.0	J9	13	11	12	11	26%	(25.00) Brown Silty Fine SAND With Mica	(M-NPL)
	30.0	J10	11	12	13	14	21%	(30.00) Light Brown Silty Fine SAND With Gravel Pieces And Mica	(M-NPL)
	35.0	J11	16	14	16	15	21%	(35.00) Light Brown Silty SAND With Gravel Pieces And Mica	(M-NPL)
	40.0	J12	14	20	27	24	20%	(40.00) Light Brown Silty SAND With Gravel Pieces And Mica	(M-NPL)
	45.0	J13	18	17	14	13	20%	(45.00) Orange Silty SAND With Gravel Pieces And Mica	(M-NPL)
	50.0								

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HOLE DM-B-42
LINE
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OFFSET ft
SURF. ELEV. 32.6
DEPTH TO WATER SEE NOTE

ACTUAL COORDINATES (N) 188,144.210 (E) 1,038,323.250 **DATUM** NAD83
DATE START 06-OCT-2017 **DATE FINISH** 11-OCT-2017

CASING	**O. D.**	4 1/2	**in**	**I. D.**	4	**in**	**WT OF HAMMER-CASING**	140	**lb**	**HAMMER FALL-CASING**	30 **in**
SAMPLER	**O. D.**	2	**in**	**I. D.**	1 3/8	**in**	**WT OF HAMMER-SAMPLER**	140	**lb**	**HAMMER FALL-SAMPLER**	30 **in**

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)	DESCRIPTION OF SOIL AND ROCK	
	50.0	J14	11	12	30	23	23%	(50.00) Orange Silty Fine SAND With Mica	(M-NPL)
	55.0	J15	10	15	18	14	24%	(55.00) Light Brown And Orange Silty Fine SAND With Gravel Pieces And Mica	(M-NPL)
	60.0	J16	18	23	26	24	24%	(60.00) Light Brown And Orange Silty Fine SAND With Gravel Pieces	(M-NPL)
	65.0	J17	11	15	26	23	23%	(65.00) Orange Silty SAND Gravelly With Mica	(M-NPL)
	70.0	J18	11	19	23	20	24%	(70.00) Light Brown Silty Fine SAND Gravelly With Mica	(M-NPL)
	75.0								

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ACTUAL COORDINATES (N) 188,144.210 (E) 1,038,323.250 **DATUM** NAD83
DATE START 06-OCT-2017 **DATE FINISH** 11-OCT-2017

HOLE DM-B-42
LINE
STA
OFFSET ft
SURF. ELEV. 32.6
DEPTH TO WATER SEE NOTE

CASING	**O. D.**	4 1/2	**in**	**I. D.**	4	**in**	**WT OF HAMMER-CASING**	140	**lb**	**HAMMER FALL-CASING**	30 **in**
SAMPLER	**O. D.**	2	**in**	**I. D.**	1 3/8	**in**	**WT OF HAMMER-SAMPLER**	140	**lb**	**HAMMER FALL-SAMPLER**	30 **in**

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)	DESCRIPTION OF SOIL AND ROCK	
	75.0	J19	32	35	33	31	25%	(75.00) Light Brown Silty Fine SAND With Gravel Pieces And Mica	(M-NPL)
	80.0	J20	10	13	16	18	24%	(80.00) Gray Silty Fine SAND With Mica	(M-NPL)
	85.0	J21	13	12	15	18	22%	(85.00) Gray Silty Fine SAND With Gravel Pieces And Mica	(M-NPL)
	90.0	J22	12	15	18	15	24%	(90.00) Gray Silty SAND With Gravel Pieces And Mica	(M-NPL)
	95.0	J23	13	10	18	19	24%	(95.00) Gray Silty Fine SAND With Mica	(M-NPL)
	100.0								

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ACTUAL COORDINATES (N) 188,144.210 (E) 1,038,323.250 **DATUM** NAD83
DATE START 06-OCT-2017 **DATE FINISH** 11-OCT-2017

HOLE DM-B-42
LINE
STA
OFFSET ft
SURF. ELEV. 32.6
DEPTH TO WATER SEE NOTE

CASING	**O. D.**	4 1/2	**in**	**I. D.**	4	**in**	**WT OF HAMMER-CASING**	140	**lb**	**HAMMER FALL-CASING**	30	**in**
SAMPLER	**O. D.**	2	**in**	**I. D.**	1 3/8	**in**	**WT OF HAMMER-SAMPLER**	140	**lb**	**HAMMER FALL-SAMPLER**	30	**in**

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)	DESCRIPTION OF SOIL AND ROCK	
	100.0	J24	40	27	32	38	18%	(100.00) Light Brown Gravelly SAND Silty	(M-NPL)
	105.0	J25	29	23	28	31	24%	(105.00) Gray Silty Fine SAND With Mica	(M-NPL)
	110.0	J26	26	25	29	22	18%	(110.00) Gray Silty Fine SAND With Gravel Pieces And Mica	(M-NPL)
	115.0	J27	18	26	24	32	21%	(115.00) Gray Silty Fine SAND With Mica	(M-NPL)
	120.0	J28	15	17	22	27	16%	(120.00) Light Brown Silty SAND With Pockets Of Silty CLAY	(M-LPL)

BOTTOM OF HOLE AT 122.00 ft

Notes
1.- J1 through J3 were hand cleared
2.- Safety hammer used for all other sampling
3.- Rotary mud drilling used, no groundwater reading taken

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SUBSURFACE EXPLORATION LOG

PSN 12505 BORNUM 42
REGION 11
COUNTY QUEENS
PIN X735.82
PROJECT VAN WYCK EXPRESSWAY WIDENING
ACTUAL COORDINATES (N) 188,144.210 (E) 1,038,323.250 **DATUM** NAD83
DATE START 06-OCT-2017 **DATE FINISH** 11-OCT-2017

HOLE DM-B-42
LINE
STA
OFFSET ft
SURF. ELEV. 32.6
DEPTH TO WATER SEE NOTE

CASING	**O. D.**	4 1/2	**in**	**I. D.**	4	**in**	**WT OF HAMMER-CASING**	140	**lb**	**HAMMER FALL-CASING**	30	**in**
SAMPLER	**O. D.**	2	**in**	**I. D.**	1 3/8	**in**	**WT OF HAMMER-SAMPLER**	140	**lb**	**HAMMER FALL-SAMPLER**	30	**in**

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6 6/12 12/18 18/24	MOIST. CONT. (%)	DESCRIPTION OF SOIL AND ROCK

4.- Vertical Datum: NAVD 88

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DRILL RIG OPERATOR JEREMY MEYRES
SOIL & ROCK DESCRIPTION S.MASLANKA/J.RYBICKI
REG GEOTECHNICAL ENGINEER Prakash C. Roy
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STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
GEOTECHNICAL ENGINEERING BUREAU
SUBSURFACE EXPLORATION LOG

PSN 12505 BORNUM 43
REGION 11
COUNTY QUEENS
PIN X735.82
PROJECT VAN WYCK EXPRESSWAY WIDENING

HOLE DM-B-43
LINE
STA
OFFSET ft
SURF. ELEV. 29.5

ACTUAL COORDINATES (N) 186,361.940 (E) 1,038,987.530 **DATUM** NAD83 **DEPTH TO WATER** SEE NOTE

DATE START 29-SEP-2017 **DATE FINISH** 02-OCT-2017

CASING	**O. D.**	4 1/2	**in**	**I. D.**	4	**in**	**WT OF HAMMER-CASING**	140	**lb**	**HAMMER FALL-CASING**	30	**in**
SAMPLER	**O. D.**	2	**in**	**I. D.**	1 3/8	**in**	**WT OF HAMMER-SAMPLER**	140	**lb**	**HAMMER FALL-SAMPLER**	30	**in**

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)	DESCRIPTION OF SOIL AND ROCK	
	0.0								
		J1					6%	(1.00) Brown Silty SAND With Gravel Pieces And Mica	(M-NPL)
		J2					7%	(3.00) Brown Silty SAND With Mica	(M-NPL)
	5.0								
		J3	5	4	6	8	5%	(6.00) Brown Silty SAND With Gravel Pieces And Mica	(M-NPL)
		J4	7	6	5	7	5%	(8.00) Brown Silty SAND With Mica	(M-NPL)
	10.0								
		J5	3	2	2	11	5%	(10.00) Brown Silty SAND With Gravel Pieces And Mica	(M-NPL)
	15.0								
		J6	7	9	8	8	17%	(15.00) Brown Silty SAND With Mica	(M-NPL)
	20.0								
		J7	4	5	7	8	21%	(20.00) Brown Silty SAND With Mica	(M-NPL)
	25.0								

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CONTRACT **CONTRACTOR** Warren George

DRILL RIG OPERATOR JEREMY MEYRES
SOIL & ROCK DESCRIPTION S.MASLANKA/J.RYBICKI
REG GEOTECHNICAL ENGINEER Prakash C. Roy
DATE APPROVED 30-JUL-2019 REVISION # 1
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SM 282 E 12/02

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
GEOTECHNICAL ENGINEERING BUREAU
SUBSURFACE EXPLORATION LOG

PSN 12505 BORNUM 43
REGION 11
COUNTY QUEENS
PIN X735.82
PROJECT VAN WYCK EXPRESSWAY WIDENING
ACTUAL COORDINATES (N) 186,361.940 (E) 1,038,987.530 **DATUM** NAD83
DATE START 29-SEP-2017 **DATE FINISH** 02-OCT-2017

HOLE DM-B-43
LINE
STA
OFFSET ft
SURF. ELEV. 29.5
DEPTH TO WATER SEE NOTE

CASING	**O. D.**	4 1/2	**in**	**I. D.**	4	**in**	**WT OF HAMMER-CASING**	140	**lb**	**HAMMER FALL-CASING**	30 **in**
SAMPLER	**O. D.**	2	**in**	**I. D.**	1 3/8	**in**	**WT OF HAMMER-SAMPLER**	140	**lb**	**HAMMER FALL-SAMPLER**	30 **in**

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)	DESCRIPTION OF SOIL AND ROCK	
	25.0	J8	9	10	12	14	20%	(25.00) Brown Silty SAND With Gravel Pieces And Mica	(M-NPL)
	30.0	J9	7	12	12	15	21%	(30.00) Brown Silty SAND With Gravel Pieces And Mica	(M-NPL)
	35.0	J10	14	12	9	12	25%	(35.00) Brown Silty Fine SAND With Mica	(M-NPL)
	40.0	J11	5	4	6	9	26%	(40.00) Brown Silty Fine SAND With Mica	(M-NPL)
	45.0	J12	8	7	10	14	24%	(45.00) Brown And Orange Silty Fine SAND With Mica	(M-NPL)
	50.0								

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CONTRACT _____ **CONTRACTOR** Warren George

DRILL RIG OPERATOR JEREMY MEYRES
SOIL & ROCK DESCRIPTION S.MASLANKA/J.RYBICKI
REG GEOTECHNICAL ENGINEER Prakash C. Roy
DATE APPROVED 30-JUL-2019 REVISION # 1
RESIDENT ENGINEER
STRUCTURE NAME **B.I.N.**

SM 282 E 12/02

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
GEOTECHNICAL ENGINEERING BUREAU
SUBSURFACE EXPLORATION LOG

PSN 12505 BORNUM 43
REGION 11
COUNTY QUEENS
PIN X735.82
PROJECT VAN WYCK EXPRESSWAY WIDENING

HOLE DM-B-43
LINE
STA
OFFSET ft
SURF. ELEV. 29.5
DEPTH TO WATER SEE NOTE

ACTUAL COORDINATES (N) 186,361.940 (E) 1,038,987.530 **DATUM** NAD83
DATE START 29-SEP-2017 **DATE FINISH** 02-OCT-2017

CASING	**O. D.**	4 1/2	**in**	**I. D.**	4	**in**	**WT OF HAMMER-CASING**	140	**lb**	**HAMMER FALL-CASING**	30 **in**
SAMPLER	**O. D.**	2	**in**	**I. D.**	1 3/8	**in**	**WT OF HAMMER-SAMPLER**	140	**lb**	**HAMMER FALL-SAMPLER**	30 **in**

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)	DESCRIPTION OF SOIL AND ROCK	
	50.0	J13	13	15	19	16	23%	(50.00) Brown Silty Fine SAND With Mica	(M-NPL)
	55.0	J14	12	8	10	14	27%	(55.00) Brown Silty Fine SAND With Mica	(M-NPL)
	60.0	J15	13	11	12	12	27%	(60.00) Brown Silty Fine SAND With Mica	(M-NPL)
	65.0	J16	14	16	23	21	25%	(65.00) Brown Silty Fine SAND With Mica	(M-NPL)
	70.0	J17	8	8	13	18	25%	(70.00) Brown Silty Fine SAND With Mica	(M-NPL)
	75.0								

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CONTRACT **CONTRACTOR** Warren George

DRILL RIG OPERATOR JEREMY MEYRES
SOIL & ROCK DESCRIPTION S.MASLANKA/J.RYBICKI
REG GEOTECHNICAL ENGINEER Prakash C. Roy
DATE APPROVED 30-JUL-2019 REVISION # 1
RESIDENT ENGINEER
STRUCTURE NAME **B.I.N.**

SM 282 E 12/02

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DEPARTMENT OF TRANSPORTATION
GEOTECHNICAL ENGINEERING BUREAU
SUBSURFACE EXPLORATION LOG

PSN 12505 BORNUM 43
REGION 11
COUNTY QUEENS
PIN X735.82
PROJECT VAN WYCK EXPRESSWAY WIDENING

HOLE DM-B-43
LINE
STA
OFFSET ft
SURF. ELEV. 29.5
DEPTH TO WATER SEE NOTE

ACTUAL COORDINATES (N) 186,361.940 (E) 1,038,987.530 **DATUM** NAD83
DATE START 29-SEP-2017 **DATE FINISH** 02-OCT-2017

CASING	**O. D.**	4 1/2	**in**	**I. D.**	4	**in**	**WT OF HAMMER-CASING**	140	**lb**	**HAMMER FALL-CASING**	30 **in**
SAMPLER	**O. D.**	2	**in**	**I. D.**	1 3/8	**in**	**WT OF HAMMER-SAMPLER**	140	**lb**	**HAMMER FALL-SAMPLER**	30 **in**

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)	DESCRIPTION OF SOIL AND ROCK	
	75.0	J18	12	14	13	13	24%	(75.00) Brown Silty Fine SAND With Mica	(M-NPL)
	80.0	J19	14	17	17	25	23%	(80.00) Light Brown Silty Fine SAND With Mica	(M-NPL)
	85.0	J20	16	19	15	19	24%	(85.00) Light Brown Silty Fine SAND With Mica	(M-NPL)
	90.0	J21	14	14	17	19	25%	(90.00) Brown Silty Fine SAND With Mica	(M-NPL)
	95.0	J22	20	21	19	25	22%	(95.00) Brown Silty Fine SAND With Mica	(M-NPL)
	100.0								

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DRILL RIG OPERATOR JEREMY MEYRES
SOIL & ROCK DESCRIPTION S.MASLANKA/J.RYBICKI
REG GEOTECHNICAL ENGINEER Prakash C. Roy
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GEOTECHNICAL ENGINEERING BUREAU
SUBSURFACE EXPLORATION LOG

PSN 12505 BORNUM 43
REGION 11
COUNTY QUEENS
PIN X735.82
PROJECT VAN WYCK EXPRESSWAY WIDENING

HOLE DM-B-43
LINE
STA
OFFSET ft
SURF. ELEV. 29.5
DEPTH TO WATER SEE NOTE

ACTUAL COORDINATES (N) 186,361.940 (E) 1,038,987.530 **DATUM** NAD83
DATE START 29-SEP-2017 **DATE FINISH** 02-OCT-2017

CASING	**O. D.**	4 1/2	**in**	**I. D.**	4	**in**	**WT OF HAMMER-CASING**	140	**lb**	**HAMMER FALL-CASING**	30 **in**
SAMPLER	**O. D.**	2	**in**	**I. D.**	1 3/8	**in**	**WT OF HAMMER-SAMPLER**	140	**lb**	**HAMMER FALL-SAMPLER**	30 **in**

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)	DESCRIPTION OF SOIL AND ROCK	
	100.0	J23	17	15	14	17	23%	(100.00) Brown Silty SAND With Mica	(M-NPL)

BOTTOM OF HOLE AT 102.00 ft

Notes
1.- J1 and J2 were hand cleared
2.- Safety hammer used for all other sampling.
3.- Rotary mud drilling used, no groundwater reading taken
4.- Asphalt encountered from 0 - 1 ft
5.- Vertical Datum: NAVD 88

The subsurface information shown here was obtained for design and estimate purposes. It is made available so that users may have access to the same information available to the State. It is presented in good faith. By the nature of the exploration process, the information represents only a small fraction of the total volume of the material at the site. Interpolation between data samples may not be indicative of the actual material encountered.

CONTRACT **CONTRACTOR** Warren George

DRILL RIG OPERATOR JEREMY MEYRES
SOIL & ROCK DESCRIPTION S.MASLANKA/J.RYBICKI
REG GEOTECHNICAL ENGINEER Prakash C. Roy
DATE APPROVED 30-JUL-2019 REVISION # 1
RESIDENT ENGINEER
STRUCTURE NAME **B.I.N.**

SM 282 E 12/02

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
GEOTECHNICAL ENGINEERING BUREAU
SUBSURFACE EXPLORATION LOG

PSN 12505 BORNUM 44.1
REGION 11
COUNTY QUEENS
PIN X735.82
PROJECT VAN WYCK EXPRESSWAY WIDENING
ACTUAL COORDINATES (N) 185,099.870 (E) 1,039,389.560 **DATUM** NAD83
DATE START 28-SEP-2017 **DATE FINISH** 28-SEP-2017

HOLE DM-B-44A
LINE
STA
OFFSET ft
SURF. ELEV. 29.1
DEPTH TO WATER NONE

CASING O. D. in **I. D.** in **WT OF HAMMER-CASING** lb **HAMMER FALL-CASING** in
SAMPLER O. D. in **I. D.** in **WT OF HAMMER-SAMPLER** lb **HAMMER FALL-SAMPLER** in

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)	DESCRIPTION OF SOIL AND ROCK	
	0.0	J1					7%	(0.00) Brown Silty SAND With Gravel Pieces And Pieces Of Glass	(M-NPL)
		J2					8%	(2.00) Brown Silty SAND With Gravel Pieces And Pieces Of Glass	(M-NPL)
	5.0	J3					6%	(4.00) Brown Silty SAND With Gravel Pieces	(M-NPL)

BOTTOM OF HOLE AT 5.50 ft

Notes
1.- All Jars were hand cleared
2.- Boring ended at 5.5' due to slow progression / obstruction
3.- Vertical Datum: NAVD 88

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CONTRACT **CONTRACTOR** Warren George

DRILL RIG OPERATOR Angel Medrano
SOIL & ROCK DESCRIPTION J.RYBICKI/D.LANDAU
REG GEOTECHNICAL ENGINEER Prakash C. Roy
DATE APPROVED 30-JUL-2019 REVISION # 1
RESIDENT ENGINEER
STRUCTURE NAME **B.I.N.**

SHEET 1 OF 1 HOLE DM-B-44A

SM 282 E 12/02

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
GEOTECHNICAL ENGINEERING BUREAU
SUBSURFACE EXPLORATION LOG

PSN 12505 BORNUM 44.2
REGION 11
COUNTY QUEENS
PIN X735.82
PROJECT VAN WYCK EXPRESSWAY WIDENING
ACTUAL COORDINATES (N) 185,100.360 (E) 1,039,390.480 **DATUM** NAD83
DATE START 28-SEP-2017 **DATE FINISH** 29-SEP-2017

HOLE DM-B-44B
LINE
STA
OFFSET ft
SURF. ELEV. 29.1
DEPTH TO WATER SEE NOTE

CASING	**O. D.**	4 1/2	**in**	**I. D.**	4	**in**	**WT OF HAMMER-CASING**	140	**lb**	**HAMMER FALL-CASING**	30 **in**
SAMPLER	**O. D.**	2	**in**	**I. D.**	1 3/8	**in**	**WT OF HAMMER-SAMPLER**	140	**lb**	**HAMMER FALL-SAMPLER**	30 **in**

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)	DESCRIPTION OF SOIL AND ROCK	
	0.0	J1					7%	(0.00) Brown Silty SAND With Gravel Pieces And Mica	(M-NPL)
		J2					8%	(2.00) Brown Silty SAND With Gravel Pieces And Mica	(M-NPL)
	5.0	J3					9%	(4.00) Brown Silty SAND With Gravel Pieces,Asphalt,And Ceramic Pieces	(M-NPL)
		J4	11	11	10	8	10%	(6.00) Brown Silty SAND With Gravel Pieces And Mica	(M-NPL)
	10.0	J5	12	18	31	59	11%	(8.00) Brown Silty SAND With Gravel Pieces And Mica	(M-NPL)
		J6	34	27	20	16	10%	(10.00) Brown Silty SAND With Gravel Pieces And Mica	(M-NPL)
	15.0	J7	3	2	3	3	19%	(15.00) Brown Silty SAND With Gravel Pieces	(M-NPL)
	20.0	J8	8	8	8	7	21%	(20.00) Orange Silty SAND With Mica	(M-NPL)
	25.0								

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CONTRACT _____ **CONTRACTOR** Warren George

DRILL RIG OPERATOR Angel Medrano
SOIL & ROCK DESCRIPTION D.LANDAU/J.RYBICKI
REG GEOTECHNICAL ENGINEER Prakash C. Roy
DATE APPROVED 30-JUL-2019 REVISION # 1
RESIDENT ENGINEER
STRUCTURE NAME **B.I.N.**

SM 282 E 12/02

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REGION 11
COUNTY QUEENS
PIN X735.82
PROJECT VAN WYCK EXPRESSWAY WIDENING
ACTUAL COORDINATES (N) 185,100.360 (E) 1,039,390.480 **DATUM** NAD83
DATE START 28-SEP-2017 **DATE FINISH** 29-SEP-2017

HOLE DM-B-44B
LINE
STA
OFFSET ft
SURF. ELEV. 29.1
DEPTH TO WATER SEE NOTE

CASING	**O. D.**	4 1/2	**in**	**I. D.**	4	**in**	**WT OF HAMMER-CASING**	140	**lb**	**HAMMER FALL-CASING**	30 **in**
SAMPLER	**O. D.**	2	**in**	**I. D.**	1 3/8	**in**	**WT OF HAMMER-SAMPLER**	140	**lb**	**HAMMER FALL-SAMPLER**	30 **in**

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)	DESCRIPTION OF SOIL AND ROCK	
	25.0	J9	7	14	14	14	17%	(25.00) Brown Coarse SAND With Gravel Pieces And Mica	(M-NPL)
	30.0	J10	11	11	16	13	22%	(30.00) Brown Silty SAND With Mica	(M-NPL)
	35.0	J11	9	10	9	11	24%	(35.00) Brown Silty SAND With Mica	(M-NPL)
	40.0	J12	6	7	9	14	27%	(40.00) Brown Silty Fine SAND With Mica	(M-NPL)
	45.0	J13	8	11	12	12	28%	(45.00) Brown Silty Fine SAND With Mica	(M-NPL)
	50.0								

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DRILL RIG OPERATOR Angel Medrano
SOIL & ROCK DESCRIPTION D.LANDAU/J.RYBICKI
REG GEOTECHNICAL ENGINEER Prakash C. Roy
DATE APPROVED 30-JUL-2019 REVISION # 1
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PROJECT VAN WYCK EXPRESSWAY WIDENING
ACTUAL COORDINATES (N) 185,100.360 (E) 1,039,390.480 **DATUM** NAD83
DATE START 28-SEP-2017 **DATE FINISH** 29-SEP-2017

HOLE DM-B-44B
LINE
STA
OFFSET ft
SURF. ELEV. 29.1
DEPTH TO WATER SEE NOTE

CASING	**O. D.**	4 1/2	**in**	**I. D.**	4	**in**	**WT OF HAMMER-CASING**	140	**lb**	**HAMMER FALL-CASING**	30 **in**
SAMPLER	**O. D.**	2	**in**	**I. D.**	1 3/8	**in**	**WT OF HAMMER-SAMPLER**	140	**lb**	**HAMMER FALL-SAMPLER**	30 **in**

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)	DESCRIPTION OF SOIL AND ROCK	
	50.0	J14	10	19	19	21	25%	(50.00) Brown Silty Fine SAND With Mica	(M-NPL)
	55.0	J15	6	12	15	14	28%	(55.00) Brown Silty Fine SAND With Mica	(M-NPL)
	60.0	J16	6	10	10	10	26%	(60.00) Brown Silty Fine SAND With Mica	(M-NPL)
	65.0	J17	8	8	10	13	28%	(65.00) Brown Silty Fine SAND With Mica	(M-NPL)
	70.0	J18	7	13	21	22	26%	(70.00) Brown Silty Fine SAND With Mica	(M-NPL)
	75.0								

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ACTUAL COORDINATES (N) 185,100.360 (E) 1,039,390.480 **DATUM** NAD83
DATE START 28-SEP-2017 **DATE FINISH** 29-SEP-2017

HOLE DM-B-44B
LINE
STA
OFFSET ft
SURF. ELEV. 29.1
DEPTH TO WATER SEE NOTE

CASING	**O. D.**	4 1/2	**in**	**I. D.**	4	**in**	**WT OF HAMMER-CASING**	140	**lb**	**HAMMER FALL-CASING**	30 **in**
SAMPLER	**O. D.**	2	**in**	**I. D.**	1 3/8	**in**	**WT OF HAMMER-SAMPLER**	140	**lb**	**HAMMER FALL-SAMPLER**	30 **in**

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)	DESCRIPTION OF SOIL AND ROCK	
	75.0	J19	6	5	13	19	34%	(75.00) Brown Silty Fine SAND With Mica	(M-NPL)
	80.0	J20	11	21	26	24	24%	(80.00) Brown Silty Fine SAND With Gravel Pieces And Mica	(M-NPL)
	85.0	J21	19	28	24	23	24%	(85.00) Brown Silty SAND With Gravel Pieces	(M-NPL)
	90.0	J22	11	17	24	28	26%	(90.00) Brown Silty Fine SAND With Mica	(M-NPL)
	95.0	J23	17	27	31	26	23%	(95.00) Brown Silty SAND With Mica	(M-NPL)
	100.0								

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DATE START 28-SEP-2017 **DATE FINISH** 29-SEP-2017

HOLE DM-B-44B
LINE
STA
OFFSET ft
SURF. ELEV. 29.1
DEPTH TO WATER SEE NOTE

CASING	**O. D.**	4 1/2	**in**	**I. D.**	4	**in**	**WT OF HAMMER-CASING**	140	**lb**	**HAMMER FALL-CASING**	30	**in**
SAMPLER	**O. D.**	2	**in**	**I. D.**	1 3/8	**in**	**WT OF HAMMER-SAMPLER**	140	**lb**	**HAMMER FALL-SAMPLER**	30	**in**

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)	DESCRIPTION OF SOIL AND ROCK	
	100.0	J24	9	33	65	58	18%	(100.00) Gray Sandy SILT Clayey	(M-LPL)
	105.0	J25	19	16	29	33	22%	(105.00) Gray Clayey SILT Sandy	(M-LPL)
	110.0	J26	15	23	30	27	20%	(110.00) Gray Silty Fine SAND	(M-NPL)
	115.0	J27	14	29	28	35		(115.00) NO RECOVERY	
	120.0	J28	20	25	35	29	21%	(120.00) Gray Silty Fine SAND With Mica	(M-NPL)

BOTTOM OF HOLE AT 122.00 ft

Notes
1.- J1 through J3 were hand cleared
2.- Safety hammer used for all other sampling
3.- Rotary mud drilling, no groundwater reading taken

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CONTRACT **CONTRACTOR** Warren George

DRILL RIG OPERATOR Angel Medrano
SOIL & ROCK DESCRIPTION D.LANDAU/J.RYBICKI
REG GEOTECHNICAL ENGINEER Prakash C. Roy
DATE APPROVED 30-JUL-2019 REVISION # 1
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PROJECT VAN WYCK EXPRESSWAY WIDENING

HOLE DM-B-44B
LINE
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SURF. ELEV. 29.1
DEPTH TO WATER SEE NOTE

ACTUAL COORDINATES (N) 185,100.360 (E) 1,039,390.480 **DATUM** NAD83
DATE START 28-SEP-2017 **DATE FINISH** 29-SEP-2017

CASING	**O. D.**	4 1/2	**in**	**I. D.**	4	**in**	**WT OF HAMMER-CASING**	140	**lb**	**HAMMER FALL-CASING**	30	**in**
SAMPLER	**O. D.**	2	**in**	**I. D.**	1 3/8	**in**	**WT OF HAMMER-SAMPLER**	140	**lb**	**HAMMER FALL-SAMPLER**	30	**in**

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6 6/12 12/18 18/24	MOIST. CONT. (%)	DESCRIPTION OF SOIL AND ROCK

4.- Vertical Datum: NAVD 88

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DRILL RIG OPERATOR Angel Medrano
SOIL & ROCK DESCRIPTION D.LANDAU/J.RYBICKI
REG GEOTECHNICAL ENGINEER Prakash C. Roy
DATE APPROVED 30-JUL-2019 REVISION # 1
RESIDENT ENGINEER
STRUCTURE NAME **B.I.N.**

SM 282 E 12/02

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
GEOTECHNICAL ENGINEERING BUREAU
SUBSURFACE EXPLORATION LOG

PSN 12505 BORNUM 45
REGION 11
COUNTY QUEENS
PIN X735.82
PROJECT VAN WYCK EXPRESSWAY WIDENING
ACTUAL COORDINATES (N) 183,175.790 (E) 1,039,573.450 **DATUM** NAD83
DATE START 02-OCT-2017 **DATE FINISH** 03-OCT-2017

HOLE DM-B-45
LINE
STA
OFFSET ft
SURF. ELEV. 26.6
DEPTH TO WATER SEE NOTE

CASING	**O. D.**	4 1/2	**in**	**I. D.**	4	**in**	**WT OF HAMMER-CASING**	140	**lb**	**HAMMER FALL-CASING**	30	**in**
SAMPLER	**O. D.**	2	**in**	**I. D.**	1 3/8	**in**	**WT OF HAMMER-SAMPLER**	140	**lb**	**HAMMER FALL-SAMPLER**	30	**in**

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)	DESCRIPTION OF SOIL AND ROCK	
	0.0	J1					7%	(0.00) Brown Silty SAND With Mica	(M-NPL)
		J2					6%	(2.00) Brown Silty SAND With Mica	(M-NPL)
	5.0	J3					6%	(4.00) Brown SAND With Mica	(M-NPL)
		J4	4	3	4	4	6%	(6.00) Brown SAND With Mica	(M-NPL)
	10.0	J5	4	3	7	11	6%	(8.00) Brown SAND With Mica	(M-NPL)
		J6	7	8	9	8	7%	(10.00) Brown SAND With Mica	(M-NPL)
	15.0	J7	5	6	11	8	20%	(15.00) Brown Silty SAND With Mica	(M-NPL)
	20.0	J8	11	12	15	16	22%	(20.00) Brown Silty Fine SAND With Gravel Pieces And Mica	(M-NPL)
	25.0								

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CONTRACT _____ **CONTRACTOR** Warren George

DRILL RIG OPERATOR Angel Medrano
SOIL & ROCK DESCRIPTION S.MASLANKA/J.RYBICKI
REG GEOTECHNICAL ENGINEER Prakash C. Roy
DATE APPROVED 30-JUL-2019 REVISION # 1
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PSN 12505 BORNUM 45
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PROJECT VAN WYCK EXPRESSWAY WIDENING

HOLE DM-B-45
LINE
STA
OFFSET ft
SURF. ELEV. 26.6
DEPTH TO WATER SEE NOTE

ACTUAL COORDINATES (N) 183,175.790 (E) 1,039,573.450 **DATUM** NAD83
DATE START 02-OCT-2017 **DATE FINISH** 03-OCT-2017

CASING	**O. D.**	4 1/2	**in**	**I. D.**	4	**in**	**WT OF HAMMER-CASING**	140	**lb**	**HAMMER FALL-CASING**	30	**in**
SAMPLER	**O. D.**	2	**in**	**I. D.**	1 3/8	**in**	**WT OF HAMMER-SAMPLER**	140	**lb**	**HAMMER FALL-SAMPLER**	30	**in**

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)	DESCRIPTION OF SOIL AND ROCK	
	25.0	J9	9	9	11	8	25%	(25.00) Brown Silty Fine SAND With Gravel Pieces And Mica	(M-NPL)
	30.0	J10	10	14	16	16	23%	(30.00) Brown Silty SAND With Mica	(M-NPL)
	35.0	J11	6	9	12	12	25%	(35.00) Brown Silty SAND With Mica	(M-NPL)
	40.0	J12	7	6	5	6	28%	(40.00) Brown Silty Fine SAND With Mica	(M-NPL)
	45.0	J13	11	27	36	32	23%	(45.00) Brown And Orange Silty Fine SAND With Mica	(M-NPL)
	50.0								

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CONTRACT **CONTRACTOR** Warren George

DRILL RIG OPERATOR Angel Medrano
SOIL & ROCK DESCRIPTION S.MASLANKA/J.RYBICKI
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HOLE DM-B-45
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OFFSET ft
SURF. ELEV. 26.6
DEPTH TO WATER SEE NOTE

ACTUAL COORDINATES (N) 183,175.790 (E) 1,039,573.450 **DATUM** NAD83
DATE START 02-OCT-2017 **DATE FINISH** 03-OCT-2017

CASING	**O. D.**	4 1/2	**in**	**I. D.**	4	**in**	**WT OF HAMMER-CASING**	140	**lb**	**HAMMER FALL-CASING**	30	**in**
SAMPLER	**O. D.**	2	**in**	**I. D.**	1 3/8	**in**	**WT OF HAMMER-SAMPLER**	140	**lb**	**HAMMER FALL-SAMPLER**	30	**in**

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)	DESCRIPTION OF SOIL AND ROCK	
	50.0	J14	11	12	14	17	27%	(50.00) Brown And Orange Silty Fine SAND With Mica	(M-NPL)
	55.0	J15	11	10	9	8	26%	(55.00) Brown Silty Fine SAND With Mica	(M-NPL)
	60.0	J16	7	12	18	24	27%	(60.00) Brown And Orange Silty Fine SAND With Mica	(M-NPL)
	65.0	J17	7	10	14	14	25%	(65.00) Brown Silty Fine SAND With Mica	(M-NPL)
	70.0	J18	6	11	17	17	24%	(70.00) Brown Silty Fine SAND With Mica	(M-NPL)
	75.0								

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CONTRACT **CONTRACTOR** Warren George

DRILL RIG OPERATOR Angel Medrano
SOIL & ROCK DESCRIPTION S.MASLANKA/J.RYBICKI
REG GEOTECHNICAL ENGINEER Prakash C. Roy
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GEOTECHNICAL ENGINEERING BUREAU
SUBSURFACE EXPLORATION LOG

PSN 12505 BORNUM 45
REGION 11
COUNTY QUEENS
PIN X735.82
PROJECT VAN WYCK EXPRESSWAY WIDENING
ACTUAL COORDINATES (N) 183,175.790 (E) 1,039,573.450 **DATUM** NAD83
DATE START 02-OCT-2017 **DATE FINISH** 03-OCT-2017

HOLE DM-B-45
LINE
STA
OFFSET ft
SURF. ELEV. 26.6
DEPTH TO WATER SEE NOTE

CASING	**O. D.**	4 1/2	**in**	**I. D.**	4	**in**	**WT OF HAMMER-CASING**	140	**lb**	**HAMMER FALL-CASING**	30	**in**
SAMPLER	**O. D.**	2	**in**	**I. D.**	1 3/8	**in**	**WT OF HAMMER-SAMPLER**	140	**lb**	**HAMMER FALL-SAMPLER**	30	**in**

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)	DESCRIPTION OF SOIL AND ROCK	
	75.0	J19	9	14	30	33	24%	(75.00) Brown Silty Fine SAND With Mica	(M-NPL)
	80.0	J20	12	16	21	24	25%	(80.00) Brown Silty Fine SAND With Mica	(M-NPL)
	85.0	J21	10	12	15	13	25%	(85.00) Brown Silty SAND With Mica	(M-NPL)
	90.0	J22	12	15	23	21	23%	(90.00) Brown Silty SAND With Mica	(M-NPL)
	95.0	J23	8	16	22	23	21%	(95.00) Brown Silty SAND With Mica	(M-NPL)
	100.0								

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DRILL RIG OPERATOR Angel Medrano
SOIL & ROCK DESCRIPTION S.MASLANKA/J.RYBICKI
REG GEOTECHNICAL ENGINEER Prakash C. Roy
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PROJECT VAN WYCK EXPRESSWAY WIDENING

HOLE DM-B-45
LINE
STA
OFFSET ft
SURF. ELEV. 26.6

ACTUAL COORDINATES (N) 183,175.790 (E) 1,039,573.450 **DATUM** NAD83 **DEPTH TO WATER** SEE NOTE

DATE START 02-OCT-2017 **DATE FINISH** 03-OCT-2017

CASING	**O. D.**	4 1/2	**in**	**I. D.**	4	**in**	**WT OF HAMMER-CASING**	140	**lb**	**HAMMER FALL-CASING**	30	**in**
SAMPLER	**O. D.**	2	**in**	**I. D.**	1 3/8	**in**	**WT OF HAMMER-SAMPLER**	140	**lb**	**HAMMER FALL-SAMPLER**	30	**in**

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)	DESCRIPTION OF SOIL AND ROCK	
	100.0	J24	11	19	35	26	21%	(100.00) Brown Silty SAND With Gravel Pieces And Mica	(M-NPL)

BOTTOM OF HOLE AT 102.00 ft

Notes
1.- J1 through J2 were hand cleared
2.- Safety hammer used for all other sampling
3.- Rotary mud drilling used, no groundwater reading taken
4.- Vertical Datum: NAVD 88

The subsurface information shown here was obtained for design and estimate purposes. It is made available so that users may have access to the same information available to the State. It is presented in good faith. By the nature of the exploration process, the information represents only a small fraction of the total volume of the material at the site. Interpolation between data samples may not be indicative of the actual material encountered.

CONTRACT **CONTRACTOR** Warren George

DRILL RIG OPERATOR Angel Medrano
SOIL & ROCK DESCRIPTION S.MASLANKA/J.RYBICKI
REG GEOTECHNICAL ENGINEER Prakash C. Roy
DATE APPROVED 30-JUL-2019 REVISION # 1
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SM 282 E 12/02

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
GEOTECHNICAL ENGINEERING BUREAU
SUBSURFACE EXPLORATION LOG

PSN 12505 BORNUM 46
REGION 11
COUNTY QUEENS
PIN X735.82
PROJECT VAN WYCK EXPRESSWAY WIDENING

HOLE DM-B-46
LINE
STA
OFFSET ft
SURF. ELEV. 24.3
DEPTH TO WATER SEE NOTE

ACTUAL COORDINATES (N) 182,346.900 (E) 1,039,421.750 **DATUM** NAD83
DATE START 07-NOV-2017 **DATE FINISH** 09-NOV-2017

CASING	**O. D.**	4 1/2	**in**	**I. D.**	4	**in**	**WT OF HAMMER-CASING**	140	**lb**	**HAMMER FALL-CASING**	30 **in**
SAMPLER	**O. D.**	2	**in**	**I. D.**	1 3/8	**in**	**WT OF HAMMER-SAMPLER**	140	**lb**	**HAMMER FALL-SAMPLER**	30 **in**

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)	DESCRIPTION OF SOIL AND ROCK	
	0.0	J1					8%	(0.00) Brown Silty SAND Gravelly With Root Fibersand Pieces Of Asphalt	(M-NPL)
		J2					8%	(2.00) Brown Silty SAND Gravelly With Root Fibers And Glass Pieces	(M-NPL)
	5.0	J3					3%	(4.00) Brown Silty SAND Gravelly	(M-NPL)
		J4	6	13	20	23	4%	(7.00) Brown Silty SAND With Mica	(M-NPL)
	10.0	J5	14	21	25	50	3%	(9.00) Brown Silty SAND With Mica	(M-NPL)
		J6	11	13	15	17	20%	(11.00) Brown Silty SAND With Mica	(M-NPL)
	15.0	J7	9	8	9	10	24%	(15.00) Brown Silty Fine SAND With Mica	(M-NPL)
	20.0	J8	15	13	12	16	26%	(20.00) Brown Silty Fine SAND With Mica	(M-NPL)
	25.0								

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CONTRACT _____ **CONTRACTOR** Warren George

DRILL RIG OPERATOR Eddie Cardonia
SOIL & ROCK DESCRIPTION D.LANDAU/S.MASLANKA
REG GEOTECHNICAL ENGINEER Prakash C. Roy
DATE APPROVED 30-JUL-2019 REVISION # 1
RESIDENT ENGINEER
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STATE OF NEW YORK
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PSN 12505 BORNUM 46
REGION 11
COUNTY QUEENS
PIN X735.82
PROJECT VAN WYCK EXPRESSWAY WIDENING
ACTUAL COORDINATES (N) 182,346.900 (E) 1,039,421.750 **DATUM** NAD83
DATE START 07-NOV-2017 **DATE FINISH** 09-NOV-2017

HOLE DM-B-46
LINE
STA
OFFSET ft
SURF. ELEV. 24.3
DEPTH TO WATER SEE NOTE

CASING	**O. D.**	4 1/2	**in**	**I. D.**	4	**in**	**WT OF HAMMER-CASING**	140	**lb**	**HAMMER FALL-CASING**	30	**in**
SAMPLER	**O. D.**	2	**in**	**I. D.**	1 3/8	**in**	**WT OF HAMMER-SAMPLER**	140	**lb**	**HAMMER FALL-SAMPLER**	30	**in**

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)	DESCRIPTION OF SOIL AND ROCK	
	25.0	J9	14	11	16	20	23%	(25.00) Brown Silty Fine SAND With Mica	(M-NPL)
	30.0	J10	14	13	13	13	24%	(30.00) Brown Silty SAND With Mica	(M-NPL)
	35.0	J11	15	18	28	25	24%	(35.00) Brown Silty SAND With Mica	(M-NPL)
	40.0	J12	15	18	22	24	22%	(40.00) Brown Silty SAND With Mica	(M-NPL)
	45.0	J13	20	15	20	20	24%	(45.00) Brown And Orange Silty Fine SAND With Mica	(M-NPL)
	50.0								

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CONTRACT **CONTRACTOR** Warren George

DRILL RIG OPERATOR Eddie Cardonia
SOIL & ROCK DESCRIPTION D.LANDAU/S.MASLANKA
REG GEOTECHNICAL ENGINEER Prakash C. Roy
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COUNTY QUEENS
PIN X735.82
PROJECT VAN WYCK EXPRESSWAY WIDENING
ACTUAL COORDINATES (N) 182,346.900 (E) 1,039,421.750 **DATUM** NAD83
DATE START 07-NOV-2017 **DATE FINISH** 09-NOV-2017

HOLE DM-B-46
LINE
STA
OFFSET ft
SURF. ELEV. 24.3
DEPTH TO WATER SEE NOTE

CASING	**O. D.**	4 1/2	**in**	**I. D.**	4	**in**	**WT OF HAMMER-CASING**	140	**lb**	**HAMMER FALL-CASING**	30 **in**
SAMPLER	**O. D.**	2	**in**	**I. D.**	1 3/8	**in**	**WT OF HAMMER-SAMPLER**	140	**lb**	**HAMMER FALL-SAMPLER**	30 **in**

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)	DESCRIPTION OF SOIL AND ROCK	
	50.0	J14	10	12	10	11	28%	(50.00) Brown And Orange Silty Fine SAND With Mica	(M-NPL)
	55.0	J15	12	11	9	13	27%	(55.00) Brown Silty Fine SAND With Mica	(M-NPL)
	60.0	J16	12	15	17	19	24%	(60.00) Brown Silty Fine SAND With Mica	(M-NPL)
	65.0	J17	3	4	4	9	33%	(65.00) Brown Silty Fine SAND With Mica	(M-NPL)
	70.0	J18	8	9	11	15	29%	(70.00) Brown Silty Fine SAND With Mica	(M-NPL)
	75.0								

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CONTRACT **CONTRACTOR** Warren George

DRILL RIG OPERATOR Eddie Cardonia
SOIL & ROCK DESCRIPTION D.LANDAU/S.MASLANKA
REG GEOTECHNICAL ENGINEER Prakash C. Roy
DATE APPROVED 30-JUL-2019 REVISION # 1
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STATE OF NEW YORK
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SUBSURFACE EXPLORATION LOG

PSN 12505 BORNUM 46
REGION 11
COUNTY QUEENS
PIN X735.82
PROJECT VAN WYCK EXPRESSWAY WIDENING

HOLE DM-B-46
LINE
STA
OFFSET ft
SURF. ELEV. 24.3

ACTUAL COORDINATES (N) 182,346.900 (E) 1,039,421.750 **DATUM** NAD83 **DEPTH TO WATER** SEE NOTE

DATE START 07-NOV-2017 **DATE FINISH** 09-NOV-2017

CASING	**O. D.**	4 1/2	**in**	**I. D.**	4	**in**	**WT OF HAMMER-CASING**	140	**lb**	**HAMMER FALL-CASING**	30 **in**
SAMPLER	**O. D.**	2	**in**	**I. D.**	1 3/8	**in**	**WT OF HAMMER-SAMPLER**	140	**lb**	**HAMMER FALL-SAMPLER**	30 **in**

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)	DESCRIPTION OF SOIL AND ROCK	
	75.0	J19	15	15	16	15	26%	(75.00) Brown Silty Fine SAND With Mica	(M-NPL)

BOTTOM OF HOLE AT 77.00 ft

Notes
1.- J1 through J3 were hand cleared
2.- Safety hammer used for all other sampling
3.- Rotary mud drilling used, no groundwater reading taken
4.- Vertical Datum: NAVD 88

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CONTRACT **CONTRACTOR** Warren George

DRILL RIG OPERATOR Eddie Cardonia
SOIL & ROCK DESCRIPTION D.LANDAU/S.MASLANKA
REG GEOTECHNICAL ENGINEER Prakash C. Roy
DATE APPROVED 30-JUL-2019 REVISION # 1
RESIDENT ENGINEER
STRUCTURE NAME **B.I.N.**

SM 282 E 12/02

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
GEOTECHNICAL ENGINEERING BUREAU
SUBSURFACE EXPLORATION LOG

PSN 12505 BORNUM 47
REGION 11
COUNTY QUEENS
PIN X735.82
PROJECT VAN WYCK EXPRESSWAY WIDENING

HOLE DM-B-47
LINE
STA
OFFSET ft
SURF. ELEV. 10.9
DEPTH TO WATER SEE NOTE

ACTUAL COORDINATES (N) 182,155.290 (E) 1,039,149.620 **DATUM** NAD83
DATE START 08-NOV-2017 **DATE FINISH** 10-NOV-2017

CASING	**O. D.**	4 1/2	**in**	**I. D.**	4	**in**	**WT OF HAMMER-CASING**	140	**lb**	**HAMMER FALL-CASING**	30	**in**
SAMPLER	**O. D.**	2	**in**	**I. D.**	1 3/8	**in**	**WT OF HAMMER-SAMPLER**	140	**lb**	**HAMMER FALL-SAMPLER**	30	**in**

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)	DESCRIPTION OF SOIL AND ROCK	
	0.0	J1					6%	(0.00) Brown Silty SAND With Asphalt And Mica (Possible Fill)	(M-NPL)
		J2					6%	(2.00) Brown Silty SAND With Asphalt And Mica	(M-NPL)
	5.0	J3					6%	(4.00) Light Brown Silty Fine SAND With Asphalt And Mica	(M-NPL)
		J4	9	14	13	8	15%	(6.00) Brown Silty SAND With Mica (Petroleum Odor)	(M-NPL)
	10.0	J5	6	6	11	14	22%	(8.00) Brown Silty SAND With Mica (Petroleum Odor)	(M-NPL)
		J6	7	7	7	9	25%	(10.00) Brown Silty Fine SAND With Mica	(M-NPL)
	15.0	J7	8	12	10	10	26%	(15.00) Brown And Orange Sitly Fine SAND With Gravel Pieces And Mica	(M-NPL)
	20.0	J8	9	11	11	8	23%	(20.00) Brown And Gray Silty SAND With Mica	(M-NPL)
	25.0								

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CONTRACT _____ **CONTRACTOR** Warren George

DRILL RIG OPERATOR JULIAN S.
SOIL & ROCK DESCRIPTION S.MASLANKA/D.LANDAU
REG GEOTECHNICAL ENGINEER Prakash C. Roy
DATE APPROVED 30-JUL-2019 REVISION # 1
RESIDENT ENGINEER
STRUCTURE NAME **B.I.N.**

SM 282 E 12/02

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
GEOTECHNICAL ENGINEERING BUREAU
SUBSURFACE EXPLORATION LOG

PSN 12505 BORNUM 47
REGION 11
COUNTY QUEENS
PIN X735.82
PROJECT VAN WYCK EXPRESSWAY WIDENING

HOLE DM-B-47
LINE
STA
OFFSET ft
SURF. ELEV. 10.9

ACTUAL COORDINATES (N) 182,155.290 (E) 1,039,149.620 **DATUM** NAD83 **DEPTH TO WATER** SEE NOTE

DATE START 08-NOV-2017 **DATE FINISH** 10-NOV-2017

CASING	**O. D.**	4 1/2	**in**	**I. D.**	4	**in**	**WT OF HAMMER-CASING**	140	**lb**	**HAMMER FALL-CASING**	30 **in**
SAMPLER	**O. D.**	2	**in**	**I. D.**	1 3/8	**in**	**WT OF HAMMER-SAMPLER**	140	**lb**	**HAMMER FALL-SAMPLER**	30 **in**

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)	DESCRIPTION OF SOIL AND ROCK	
	25.0	J9	7	8	12	8	26%	(25.00) Brown And Gray Silty Fine SAND With Mica	(M-NPL)
	30.0	J10	7	7	7	6	28%	(30.00) Brown And Gray Silty Fine SAND With Mica	(M-NPL)
	35.0	J11	6	9	14	14	26%	(35.00) Brown And Gray Silty Fine SAND With Mica	(M-NPL)
	40.0	J12	13	14	16	15	27%	(40.00) Brown And Gray Silty SAND With Mica	(M-NPL)
	45.0	J13	9	9	10	7	27%	(45.00) Brown And Gray Silty Fine SAND With Mica	(M-NPL)
	50.0								

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CONTRACT _____ **CONTRACTOR** Warren George

DRILL RIG OPERATOR JULIAN S.
SOIL & ROCK DESCRIPTION S.MASLANKA/D.LANDAU
REG GEOTECHNICAL ENGINEER Prakash C. Roy
DATE APPROVED 30-JUL-2019 REVISION # 1
RESIDENT ENGINEER
STRUCTURE NAME **B.I.N.**

SM 282 E 12/02

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
GEOTECHNICAL ENGINEERING BUREAU
SUBSURFACE EXPLORATION LOG

PSN 12505 BORNUM 47
REGION 11
COUNTY QUEENS
PIN X735.82
PROJECT VAN WYCK EXPRESSWAY WIDENING

HOLE DM-B-47
LINE
STA
OFFSET ft
SURF. ELEV. 10.9
DEPTH TO WATER SEE NOTE

ACTUAL COORDINATES (N) 182,155.290 (E) 1,039,149.620 **DATUM** NAD83
DATE START 08-NOV-2017 **DATE FINISH** 10-NOV-2017

CASING	**O. D.**	4 1/2	**in**	**I. D.**	4	**in**	**WT OF HAMMER-CASING**	140	**lb**	**HAMMER FALL-CASING**	30 **in**
SAMPLER	**O. D.**	2	**in**	**I. D.**	1 3/8	**in**	**WT OF HAMMER-SAMPLER**	140	**lb**	**HAMMER FALL-SAMPLER**	30 **in**

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)	DESCRIPTION OF SOIL AND ROCK	
	50.0	J14	8	10	15	14	26%	(50.00) Gray Silty Fine SAND With Mica	(M-NPL)
	55.0	J15	8	9	15	25	31%	(55.00) Gray Silty Fine SAND With Mica	(M-NPL)
	60.0	J16	5	7	17	16	26%	(60.00) Brown And Dark Gray Silty Fine SAND With Mica	(M-NPL)
	65.0	J17	8	8	8	10	27%	(65.00) Dark Gray Silty Fine SAND With Mica	(M-NPL)
	70.0	J18	24	22	20	28	23%	(70.00) Brown Silty Fine SAND With Mica	(M-NPL)
	75.0								

The subsurface information shown here was obtained for design and estimate purposes. It is made available so that users may have access to the same information available to the State. It is presented in good faith. By the nature of the exploration process, the information represents only a small fraction of the total volume of the material at the site. Interpolation between data samples may not be indicative of the actual material encountered.

CONTRACT **CONTRACTOR** Warren George

DRILL RIG OPERATOR JULIAN S.
SOIL & ROCK DESCRIPTION S.MASLANKA/D.LANDAU
REG GEOTECHNICAL ENGINEER Prakash C. Roy
DATE APPROVED 30-JUL-2019 REVISION # 1
RESIDENT ENGINEER
STRUCTURE NAME **B.I.N.**

SM 282 E 12/02

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
GEOTECHNICAL ENGINEERING BUREAU
SUBSURFACE EXPLORATION LOG

PSN 12505 BORNUM 47
REGION 11
COUNTY QUEENS
PIN X735.82
PROJECT VAN WYCK EXPRESSWAY WIDENING

HOLE DM-B-47
LINE
STA
OFFSET ft
SURF. ELEV. 10.9
DEPTH TO WATER SEE NOTE

ACTUAL COORDINATES (N) 182,155.290 (E) 1,039,149.620 **DATUM** NAD83
DATE START 08-NOV-2017 **DATE FINISH** 10-NOV-2017

CASING	**O. D.**	4 1/2	**in**	**I. D.**	4	**in**	**WT OF HAMMER-CASING**	140	**lb**	**HAMMER FALL-CASING**	30 **in**
SAMPLER	**O. D.**	2	**in**	**I. D.**	1 3/8	**in**	**WT OF HAMMER-SAMPLER**	140	**lb**	**HAMMER FALL-SAMPLER**	30 **in**

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)	DESCRIPTION OF SOIL AND ROCK	
	75.0	J19	10	9	10	13	24%	(75.00) Brown Silty Fine SAND With Mica	(M-NPL)
	80.0	J20	12	9	12	15	23%	(80.00) Brown Silty Fine SAND With Mica	(M-NPL)
	85.0	J21	56	55	64	57	20%	(85.00) Light Brown And Gray Silty SAND	(M-NPL)
	90.0	J22	30	32	39	35	16%	(90.00) Brown Silty SAND With Gravel Pieces And Mica	(M-NPL)
	95.0	J23	21	25	30	29	22%	(95.00) Brown And Orange Silty SAND With Gravel Pieces And Mica	(M-NPL)
	100.0								

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CONTRACT **CONTRACTOR** Warren George

DRILL RIG OPERATOR JULIAN S.
SOIL & ROCK DESCRIPTION S.MASLANKA/D.LANDAU
REG GEOTECHNICAL ENGINEER Prakash C. Roy
DATE APPROVED 30-JUL-2019 REVISION # 1
RESIDENT ENGINEER
STRUCTURE NAME **B.I.N.**

SM 282 E 12/02

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
GEOTECHNICAL ENGINEERING BUREAU
SUBSURFACE EXPLORATION LOG

PSN 12505 BORNUM 47
REGION 11
COUNTY QUEENS
PIN X735.82
PROJECT VAN WYCK EXPRESSWAY WIDENING
ACTUAL COORDINATES (N) 182,155.290 (E) 1,039,149.620 **DATUM** NAD83
DATE START 08-NOV-2017 **DATE FINISH** 10-NOV-2017

HOLE DM-B-47
LINE
STA
OFFSET ft
SURF. ELEV. 10.9
DEPTH TO WATER SEE NOTE

CASING	**O. D.**	4 1/2	**in**	**I. D.**	4	**in**	**WT OF HAMMER-CASING**	140	**lb**	**HAMMER FALL-CASING**	30	**in**
SAMPLER	**O. D.**	2	**in**	**I. D.**	1 3/8	**in**	**WT OF HAMMER-SAMPLER**	140	**lb**	**HAMMER FALL-SAMPLER**	30	**in**

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)	DESCRIPTION OF SOIL AND ROCK	
	100.0	J24	21	27	38	37	17%	(100.00) Brown And Orange Silty SAND With Mica	(M-NPL)
	105.0	J25	34	29	26	28	17%	(105.00) Brown And Gray Silty SAND Fine Gravelly	(M-NPL)
	110.0	J26	8	10	20	24	37%	(110.00) Gray Silty CLAY With Mica	(M-PL)
		J27	23	29	38	35	35%	(112.00) Gray Silty CLAY With Mica	(M-PL)
	115.0	J28	50	100			25%	(114.00) Gray Silty CLAY Sandy	(M-PL)

BOTTOM OF HOLE AT 116.00 ft

Notes
1.- J1 through J3 were hand cleared.
2.- Safety hammer used for all other sampling
3.- Refusal for jar 28 at 100/3" of penetration, refusal due to full spoon from other materials within collapsing hole
4.- Shelby tube was attempted at Jar 26
5.- Vertical Datum: NAVD 88
6.- Rotary Mud Drilling used, no groundwater reading taken

The subsurface information shown here was obtained for design and estimate purposes. It is made available so that users may have access to the same information available to the State. It is presented in good faith. By the nature of the exploration process, the information represents only a small fraction of the total volume of the material at the site. Interpolation between data samples may not be indicative of the actual material encountered.

CONTRACT **CONTRACTOR** Warren George

DRILL RIG OPERATOR JULIAN S.
SOIL & ROCK DESCRIPTION S.MASLANKA/D.LANDAU
REG GEOTECHNICAL ENGINEER Prakash C. Roy
DATE APPROVED 30-JUL-2019 REVISION # 1
RESIDENT ENGINEER
STRUCTURE NAME **B.I.N.**

SM 282 E 12/02

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
GEOTECHNICAL ENGINEERING BUREAU
SUBSURFACE EXPLORATION LOG

PSN 12505 BORNUM 48
REGION 11
COUNTY QUEENS
PIN X735.82
PROJECT VAN WYCK EXPRESSWAY WIDENING
ACTUAL COORDINATES (N) 181,582.840 (E) 1,039,248.860 **DATUM** NAD83
DATE START 06-NOV-2017 **DATE FINISH** 07-NOV-2017

HOLE DM-B-48
LINE
STA
OFFSET ft
SURF. ELEV. 23.2
DEPTH TO WATER SEE NOTE

CASING	**O. D.**	4 1/2	**in**	**I. D.**	4	**in**	**WT OF HAMMER-CASING**	140	**lb**	**HAMMER FALL-CASING**	30	**in**
SAMPLER	**O. D.**	2	**in**	**I. D.**	1 3/8	**in**	**WT OF HAMMER-SAMPLER**	140	**lb**	**HAMMER FALL-SAMPLER**	30	**in**

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)	DESCRIPTION OF SOIL AND ROCK	
	0.0	J1					9%	(0.00) Brown Silty SAND With Gravel Pieces And Root Fibers	(M-NPL)
		J2					10%	(2.00) Brown Silty SAND With Gravel Pieces And Root Fibers	(M-NPL)
	5.0	J3					7%	(4.00) Brown Silty SAND With Gravel Pieces,Metal Piecesand Broken Glass	(M-NPL)
		J4	15	5	5	7	18%	(6.00) Dark Brown Gravelly SAND With Cinders,Metal Pieces And Glass Pieces	(M-NPL)
		J5	7	12	20	20	13%	(8.00) Brown Silty SAND With Gravel Pieces,Cinders And Glass Pieces	(M-NPL)
	10.0	J6	19	10	4	3	39%	(10.00) Black And White CINDERS With Metal Pieces And Broken Glass Pieces	(M-NPL)
	15.0	J7	2	2	2	2	47%	(15.00) Black And White CINDERS With Metal Pieces And Broken Glass Pieces	(M-NPL)
		J8	2	2	2	3	55%	(17.00) Black And White CINDERS With Metal Pieces And Broken Glass Pieces	(M-NPL)
	20.0	J9	3	2	3	3	65%	(20.00) Black And White CINDERS With Metal Pieces And Broken Glass Pieces	(M-NPL)
	25.0								

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CONTRACT _____ **CONTRACTOR** Warren George

DRILL RIG OPERATOR Eddie Cardonia
SOIL & ROCK DESCRIPTION S.MASLANKA/D.LANDAU
REG GEOTECHNICAL ENGINEER Prakash C. Roy
DATE APPROVED 30-JUL-2019 REVISION # 1
RESIDENT ENGINEER
STRUCTURE NAME **B.I.N.**

SM 282 E 12/02

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
GEOTECHNICAL ENGINEERING BUREAU
SUBSURFACE EXPLORATION LOG

PSN 12505 BORNUM 48
REGION 11
COUNTY QUEENS
PIN X735.82
PROJECT VAN WYCK EXPRESSWAY WIDENING
ACTUAL COORDINATES (N) 181,582.840 (E) 1,039,248.860 **DATUM** NAD83
DATE START 06-NOV-2017 **DATE FINISH** 07-NOV-2017

HOLE DM-B-48
LINE
STA
OFFSET ft
SURF. ELEV. 23.2
DEPTH TO WATER SEE NOTE

CASING	**O. D.**	4 1/2	**in**	**I. D.**	4	**in**	**WT OF HAMMER-CASING**	140	**lb**	**HAMMER FALL-CASING**	30	**in**
SAMPLER	**O. D.**	2	**in**	**I. D.**	1 3/8	**in**	**WT OF HAMMER-SAMPLER**	140	**lb**	**HAMMER FALL-SAMPLER**	30	**in**

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)	DESCRIPTION OF SOIL AND ROCK	
	25.0	J10	6	6	6	8	30%	(25.00) Brown And Gray Silty Fine SAND With Mica	(M-NPL)
	30.0	J11	5	5	6	10	24%	(30.00) Brown And Gray Silty SAND With Mica	(M-NPL)
	35.0	J12	8	7	6	9	25%	(35.00) Brown And Gray Silty SAND With Mica	(M-NPL)
	40.0	J13	7	7	11	13	28%	(40.00) Brown And Gray Silty Fine SAND With Mica	(M-NPL)
	45.0	J14	21	28	24	24	26%	(45.00) Brown And Orange Silty Fine SAND With Mica	(M-NPL)
	50.0								

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CONTRACT _____ **CONTRACTOR** Warren George

DRILL RIG OPERATOR Eddie Cardonia
SOIL & ROCK DESCRIPTION S.MASLANKA/D.LANDAU
REG GEOTECHNICAL ENGINEER Prakash C. Roy
DATE APPROVED 30-JUL-2019 REVISION # 1
RESIDENT ENGINEER
STRUCTURE NAME **B.I.N.**

SM 282 E 12/02

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
GEOTECHNICAL ENGINEERING BUREAU
SUBSURFACE EXPLORATION LOG

PSN 12505 BORNUM 48
REGION 11
COUNTY QUEENS
PIN X735.82
PROJECT VAN WYCK EXPRESSWAY WIDENING

HOLE DM-B-48
LINE
STA
OFFSET ft
SURF. ELEV. 23.2
DEPTH TO WATER SEE NOTE

ACTUAL COORDINATES (N) 181,582.840 (E) 1,039,248.860 **DATUM** NAD83
DATE START 06-NOV-2017 **DATE FINISH** 07-NOV-2017

CASING	**O. D.**	4 1/2	**in**	**I. D.**	4	**in**	**WT OF HAMMER-CASING**	140	**lb**	**HAMMER FALL-CASING**	30 **in**
SAMPLER	**O. D.**	2	**in**	**I. D.**	1 3/8	**in**	**WT OF HAMMER-SAMPLER**	140	**lb**	**HAMMER FALL-SAMPLER**	30 **in**

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)	DESCRIPTION OF SOIL AND ROCK	
	50.0	J15	10	8	9	10	29%	(50.00) Brown And Orange Silty Fine SAND With Mica	(M-NPL)
	55.0	J16	7	5	6	7	28%	(55.00) Brown Silty SAND With Mica	(M-NPL)
	60.0	J17	10	10	9	12	26%	(60.00) Brown And Orange Silty Fine SAND With Mica	(M-NPL)
	65.0	J18	18	13	14	15	28%	(65.00) Brown And Orange Silty Fine SAND With Mica	(M-NPL)
	70.0	J19	10	11	11	14	27%	(70.00) Brown And Orange Silty Fine SAND With Mica	(M-NPL)
	75.0								

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CONTRACT _____ **CONTRACTOR** Warren George

DRILL RIG OPERATOR Eddie Cardonia
SOIL & ROCK DESCRIPTION S.MASLANKA/D.LANDAU
REG GEOTECHNICAL ENGINEER Prakash C. Roy
DATE APPROVED 30-JUL-2019 REVISION # 1
RESIDENT ENGINEER
STRUCTURE NAME **B.I.N.**

SM 282 E 12/02

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
GEOTECHNICAL ENGINEERING BUREAU
SUBSURFACE EXPLORATION LOG

PSN 12505 BORNUM 48
REGION 11
COUNTY QUEENS
PIN X735.82
PROJECT VAN WYCK EXPRESSWAY WIDENING

HOLE DM-B-48
LINE
STA
OFFSET ft
SURF. ELEV. 23.2

ACTUAL COORDINATES (N) 181,582.840 (E) 1,039,248.860 **DATUM** NAD83 **DEPTH TO WATER** SEE NOTE

DATE START 06-NOV-2017 **DATE FINISH** 07-NOV-2017

CASING	**O. D.**	4 1/2	**in**	**I. D.**	4	**in**	**WT OF HAMMER-CASING**	140	**lb**	**HAMMER FALL-CASING**	30 **in**
SAMPLER	**O. D.**	2	**in**	**I. D.**	1 3/8	**in**	**WT OF HAMMER-SAMPLER**	140	**lb**	**HAMMER FALL-SAMPLER**	30 **in**

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)	DESCRIPTION OF SOIL AND ROCK	
	75.0	J20	20	16	12	10	24%	(75.00) Brown And Orange Silty Fine SAND With Mica	(M-NPL)

BOTTOM OF HOLE AT 77.00 ft

Notes
1.- J1 through J3 were hand cleared
2.- Safety hammer used for all other sampling.
3.- Vertical Datum: NAVD 88
4.- Rotary Mud Drilling, no groundwater reading taken

The subsurface information shown here was obtained for design and estimate purposes. It is made available so that users may have access to the same information available to the State. It is presented in good faith. By the nature of the exploration process, the information represents only a small fraction of the total volume of the material at the site. Interpolation between data samples may not be indicative of the actual material encountered.

CONTRACT **CONTRACTOR** Warren George

DRILL RIG OPERATOR Eddie Cardonia
SOIL & ROCK DESCRIPTION S.MASLANKA/D.LANDAU
REG GEOTECHNICAL ENGINEER Prakash C. Roy
DATE APPROVED 30-JUL-2019 REVISION # 1
RESIDENT ENGINEER
STRUCTURE NAME **B.I.N.**

SM 282 E 12/02

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
GEOTECHNICAL ENGINEERING BUREAU
SUBSURFACE EXPLORATION LOG

PSN 12505 BORNUM 48.1
REGION 11
COUNTY QUEENS
PIN X735.82
PROJECT VAN WYCK EXPRESSWAY WIDENING

HOLE DM-B-48A
LINE
STA
OFFSET ft
SURF. ELEV. 23.2

ACTUAL COORDINATES (N) 181,581.850 (E) 1,039,251.040 **DATUM** NAD83 **DEPTH TO WATER** NONE

DATE START 06-NOV-2017 **DATE FINISH** 06-NOV-2017

CASING O. D. in **I. D.** in **WT OF HAMMER-CASING** lb **HAMMER FALL-CASING** in
SAMPLER O. D. in **I. D.** in **WT OF HAMMER-SAMPLER** lb **HAMMER FALL-SAMPLER** in

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)		DESCRIPTION OF SOIL AND ROCK	
	0.0	J1					7%	(0.00)	Brown Silty SAND With Gravel Pieces, Root Fibers,Slag&Broken Glass	(M-NPL)
									BOTTOM OF HOLE AT 1.00 ft	

All jars were hand cleared

The subsurface information shown here was obtained for design and estimate purposes. It is made available so that users may have access to the same information available to the State. It is presented in good faith. By the nature of the exploration process, the information represents only a small fraction of the total volume of the material at the site. Interpolation between data samples may not be indicative of the actual material encountered.

CONTRACT _____ **CONTRACTOR** Warren George

DRILL RIG OPERATOR N/A
SOIL & ROCK DESCRIPTION S.MASLANKA/D.LANDAU
REG GEOTECHNICAL ENGINEER Prakash C. Roy
DATE APPROVED 30-JUL-2019 REVISION # 1
RESIDENT ENGINEER
STRUCTURE NAME **B.I.N.**

SM 282 E 12/02

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
GEOTECHNICAL ENGINEERING BUREAU
SUBSURFACE EXPLORATION LOG

PSN 12505 BORNUM 49
REGION 11
COUNTY QUEENS
PIN X735.82
PROJECT VAN WYCK EXPRESSWAY WIDENING

HOLE DM-B-49
LINE
STA
OFFSET ft
SURF. ELEV. 32.4

ACTUAL COORDINATES (N) 181,122.440 (E) 1,039,185.110 **DATUM** NAD83 **DEPTH TO WATER** SEE NOTE

DATE START 06-NOV-2017 **DATE FINISH** 07-NOV-2017

CASING	**O. D.**	4 1/2	**in**	**I. D.**	4	**in**	**WT OF HAMMER-CASING**	140	**lb**	**HAMMER FALL-CASING**	30	**in**
SAMPLER	**O. D.**	2	**in**	**I. D.**	1 3/8	**in**	**WT OF HAMMER-SAMPLER**	140	**lb**	**HAMMER FALL-SAMPLER**	30	**in**

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)	DESCRIPTION OF SOIL AND ROCK	
	0.0	J1					10%	(0.00) Brown Gravelly SILT Sandy With Root Fibers	(M-NPL)
		J2					5%	(2.00) Brown Gravelly SILT Sandy	(M-NPL)
	5.0	J3					8%	(4.00) Brown Sandy SILT Gravelly	(M-NPL)
		J4	22	30	23	19	7%	(6.00) Brown Gravelly SILT Sandy	(M-NPL)
	10.0	J5	23	66	61	40	8%	(8.00) Brown Silty SAND Gravelly	(M-NPL)
		J6	19	16	23	29	13%	(10.00) Brown Sandy SILT Gravelly	(M-NPL)
	15.0	J7	28	22	23	25	15%	(15.00) Dark Brown Gravelly SILT Sandy	(M-NPL)
	20.0	J8	12	14	17	11	16%	(20.00) Brown Gravelly SAND Silty	(M-NPL)
	25.0								

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CONTRACT **CONTRACTOR** Warren George

DRILL RIG OPERATOR Sal Laurenza
SOIL & ROCK DESCRIPTION D.LANDAU/J.RYBICKI
REG GEOTECHNICAL ENGINEER Prakash C. Roy
DATE APPROVED 30-JUL-2019 REVISION # 1
RESIDENT ENGINEER
STRUCTURE NAME **B.I.N.**

SM 282 E 12/02

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
GEOTECHNICAL ENGINEERING BUREAU
SUBSURFACE EXPLORATION LOG

PSN 12505 BORNUM 49
REGION 11
COUNTY QUEENS
PIN X735.82
PROJECT VAN WYCK EXPRESSWAY WIDENING
ACTUAL COORDINATES (N) 181,122.440 (E) 1,039,185.110 **DATUM** NAD83
DATE START 06-NOV-2017 **DATE FINISH** 07-NOV-2017

HOLE DM-B-49
LINE
STA
OFFSET ft
SURF. ELEV. 32.4
DEPTH TO WATER SEE NOTE

CASING	**O. D.**	4 1/2	**in**	**I. D.**	4	**in**	**WT OF HAMMER-CASING**	140	**lb**	**HAMMER FALL-CASING**	30 **in**
SAMPLER	**O. D.**	2	**in**	**I. D.**	1 3/8	**in**	**WT OF HAMMER-SAMPLER**	140	**lb**	**HAMMER FALL-SAMPLER**	30 **in**

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)	DESCRIPTION OF SOIL AND ROCK	
	25.0	J9	5	7	3	4	40%	(25.00) Brown Silty SAND With Broken Glass And Ashes	(M-NPL)
	30.0	J10	7	11	5	4		(30.00) NO RECOVERY	
		J10B	11	16			43%	(32.00) Black Silty ASHES With Glass Pieces,Brick,Wire And Gravel	(M-NPL)
		J10C	26	22			24%	(33.00) Brown Fine Sandy SILT Clayey With Mica	(M-LPL)
	35.0	J11	13	11	15	12	21%	(35.00) Brown Silty SAND With Gravel Pieces	(W-NPL)
	40.0	J12	15	15	15	15	22%	(40.00) Gray Silty SAND With Gravel Pieces	(M-NPL)
	45.0	J13	13	10	15	11	27%	(45.00) Gray Silty Fine SAND With Mica	(M-NPL)
	50.0								

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CONTRACT _____ **CONTRACTOR** Warren George

DRILL RIG OPERATOR Sal Laurenza
SOIL & ROCK DESCRIPTION D.LANDAU/J.RYBICKI
REG GEOTECHNICAL ENGINEER Prakash C. Roy
DATE APPROVED 30-JUL-2019 REVISION # 1
RESIDENT ENGINEER
STRUCTURE NAME **B.I.N.**

SM 282 E 12/02

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
GEOTECHNICAL ENGINEERING BUREAU
SUBSURFACE EXPLORATION LOG

PSN 12505 BORNUM 49
REGION 11
COUNTY QUEENS
PIN X735.82
PROJECT VAN WYCK EXPRESSWAY WIDENING
ACTUAL COORDINATES (N) 181,122.440 (E) 1,039,185.110 **DATUM** NAD83
DATE START 06-NOV-2017 **DATE FINISH** 07-NOV-2017

HOLE DM-B-49
LINE
STA
OFFSET ft
SURF. ELEV. 32.4
DEPTH TO WATER SEE NOTE

CASING	**O. D.**	4 1/2	**in**	**I. D.**	4	**in**	**WT OF HAMMER-CASING**	140	**lb**	**HAMMER FALL-CASING**	30	**in**
SAMPLER	**O. D.**	2	**in**	**I. D.**	1 3/8	**in**	**WT OF HAMMER-SAMPLER**	140	**lb**	**HAMMER FALL-SAMPLER**	30	**in**

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)	DESCRIPTION OF SOIL AND ROCK	
	50.0	J14	9	9	6	8	28%	(50.00) Gray Silty Fine SAND With Mica	(M-NPL)
	55.0	J15	15	11	13	14	27%	(55.00) Brown Silty Fine SAND With Mica	(M-NPL)
	60.0	J16	9	7	14	17	24%	(60.00) Brown Silty Fine SAND With Mica	(M-NPL)
	65.0	J17	9	14	15	11	26%	(65.00) Brown And Orange Silty Fine SAND With Mica	(M-NPL)
	70.0	J18	10	7	8	8	27%	(70.00) Brown And Orange Silty Fine SAND With Mica	(M-NPL)
	75.0								

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CONTRACT _____ **CONTRACTOR** Warren George

DRILL RIG OPERATOR Sal Laurenza
SOIL & ROCK DESCRIPTION D.LANDAU/J.RYBICKI
REG GEOTECHNICAL ENGINEER Prakash C. Roy
DATE APPROVED 30-JUL-2019 REVISION # 1
RESIDENT ENGINEER
STRUCTURE NAME **B.I.N.**

SM 282 E 12/02

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
GEOTECHNICAL ENGINEERING BUREAU
SUBSURFACE EXPLORATION LOG

PSN 12505 BORNUM 49
REGION 11
COUNTY QUEENS
PIN X735.82
PROJECT VAN WYCK EXPRESSWAY WIDENING

HOLE DM-B-49
LINE
STA
OFFSET ft
SURF. ELEV. 32.4

ACTUAL COORDINATES (N) 181,122.440 (E) 1,039,185.110 **DATUM** NAD83 **DEPTH TO WATER** SEE NOTE

DATE START 06-NOV-2017 **DATE FINISH** 07-NOV-2017

CASING	**O. D.**	4 1/2	**in**	**I. D.**	4	**in**	**WT OF HAMMER-CASING**	140	**lb**	**HAMMER FALL-CASING**	30	**in**
SAMPLER	**O. D.**	2	**in**	**I. D.**	1 3/8	**in**	**WT OF HAMMER-SAMPLER**	140	**lb**	**HAMMER FALL-SAMPLER**	30	**in**

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)	DESCRIPTION OF SOIL AND ROCK	
	75.0	J19	6	7	7	13	26%	(75.00) Brown And Orange Silty Fine SAND With Mica	(M-NPL)

BOTTOM OF HOLE AT 77.00 ft

Notes
1.- J1 through J3 were hand cleared. Safety hammer used for all other sampling
3.- Cobbles encountered 0 - 2 ft
4.- 3" Split spoon was used for samples J10B & J10C
5.- Rotary Mud Drilling used, no groundwater reading taken
6.- Vertical Datum: NAVD 88

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CONTRACT **CONTRACTOR** Warren George

DRILL RIG OPERATOR Sal Laurenza
SOIL & ROCK DESCRIPTION D.LANDAU/J.RYBICKI
REG GEOTECHNICAL ENGINEER Prakash C. Roy
DATE APPROVED 30-JUL-2019 REVISION # 1
RESIDENT ENGINEER
STRUCTURE NAME **B.I.N.**

SM 282 E 12/02

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
GEOTECHNICAL ENGINEERING BUREAU
SUBSURFACE EXPLORATION LOG

PSN 12505 BORNUM 50
REGION 11
COUNTY QUEENS
PIN X735.82
PROJECT VAN WYCK EXPRESSWAY WIDENING

HOLE DM-B-50
LINE
STA
OFFSET ft
SURF. ELEV. 20.3

ACTUAL COORDINATES (N) 180,458.420 (E) 1,038,685.020 **DATUM** NAD83 **DEPTH TO WATER** SEE NOTE

DATE START 01-NOV-2017 **DATE FINISH** 01-NOV-2017

CASING	**O. D.**	**in**	**I. D.**	**in**	**WT OF HAMMER-CASING**	**lb**	**HAMMER FALL-CASING**	**in**
SAMPLER	**O. D.**	**in**	**I. D.**	**in**	**WT OF HAMMER-SAMPLER**	**lb**	**HAMMER FALL-SAMPLER**	**in**

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)	DESCRIPTION OF SOIL AND ROCK
	0.0							(0.00) Orange Brown SAND With Gravel And Silt (See Note 1)

BOTTOM OF HOLE AT 4.00 ft

Notes
1.- Field description used due to no samples taken
2.- Hit refussal at 4ft and Rig relocated and offset 5ft
3.- Hand augered up to 4ft
4.- Horizontal Datum: NAD 83
5.- Vertical Datum: NAVD 88
6.- Ground water level not encountered at depth end

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CONTRACT **CONTRACTOR** Warren George

DRILL RIG OPERATOR Sal Laurenza
SOIL & ROCK DESCRIPTION S.MASLANKA
REG GEOTECHNICAL ENGINEER Prakash C. Roy
DATE APPROVED 30-JUL-2019 REVISION # 1
RESIDENT ENGINEER
STRUCTURE NAME **B.I.N.**

SHEET 1 OF 1 HOLE DM-B-50

SM 282 E 12/02

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
GEOTECHNICAL ENGINEERING BUREAU
SUBSURFACE EXPLORATION LOG

PSN 12505 BORNUM 50.1
REGION 11
COUNTY QUEENS
PIN X735.82
PROJECT VAN WYCK EXPRESSWAY WIDENING
ACTUAL COORDINATES (N) 180,464.330 (E) 1,038,682.300 **DATUM** NAD83
DATE START 01-NOV-2017 **DATE FINISH** 01-NOV-2017

HOLE DM-B-50A
LINE
STA
OFFSET ft
SURF. ELEV. 20.2
DEPTH TO WATER NONE

CASING O. D. in **I. D.** in **WT OF HAMMER-CASING** lb **HAMMER FALL-CASING** in
SAMPLER O. D. in **I. D.** in **WT OF HAMMER-SAMPLER** lb **HAMMER FALL-SAMPLER** in

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)	DESCRIPTION OF SOIL AND ROCK	
	0.0	J1					8%	(0.00) Brown Silty SAND With Gravel Pieces,Asphalt Pieces And Mica	(M-NPL)
		J2					9%	(2.00) Brown Gravelly SAND Silty With Glass Pieces And Mica	(M-NPL)
		J3					8%	(4.00) Brown Gravelly SAND Silty With Broken Tile Pieces And Mica	(M-NPL)
	5.0								

BOTTOM OF HOLE AT 5.50 ft

Notes
1.- All jars were hand cleared
2.- Hit refusal at 5.5ft; hole terminated & offset at other location
3.- Vertical Datum: NAVD 88

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CONTRACT **CONTRACTOR** Warren George

DRILL RIG OPERATOR Sal Laurenza
SOIL & ROCK DESCRIPTION S.MASLANKA/D.LANDAU
REG GEOTECHNICAL ENGINEER Prakash C. Roy
DATE APPROVED 30-JUL-2019 REVISION # 1
RESIDENT ENGINEER
STRUCTURE NAME **B.I.N.**

SM 282 E 12/02

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
GEOTECHNICAL ENGINEERING BUREAU
SUBSURFACE EXPLORATION LOG

PSN 12505 BORNUM 50.2
REGION 11
COUNTY QUEENS
PIN X735.82
PROJECT VAN WYCK EXPRESSWAY WIDENING
ACTUAL COORDINATES (N) 180,467.190 (E) 1,038,684.860 **DATUM** NAD83
DATE START 02-NOV-2017 **DATE FINISH** 02-NOV-2017

HOLE DM-B-50B
LINE
STA
OFFSET ft
SURF. ELEV. 20.2
DEPTH TO WATER SEE NOTE

CASING	**O. D.**	4 1/2	in	**I. D.**	4	in	**WT OF HAMMER-CASING**	140	lb	**HAMMER FALL-CASING**	30	in
SAMPLER	**O. D.**	2	in	**I. D.**	1 3/8	in	**WT OF HAMMER-SAMPLER**	140	lb	**HAMMER FALL-SAMPLER**	30	in

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)	DESCRIPTION OF SOIL AND ROCK	
	0.0	J1					12%	(0.00) Brown Silty SAND With Gravel Pieces,Root Fibers And Mica	(M-NPL)
		J2					11%	(2.00) Brown Silty SAND Gravelly With Asphlat Pieces,Root Fibers And Mica	(M-NPL)
	5.0	J3					8%	(4.00) Brown Sandy GRAVEL Silty With Mica	(M-NPL)
		J4	19	21	36	45	9%	(6.00) Brown Silty SAND Gravelly With Mica	(M-NPL)
		J5	50	47	50	33	12%	(8.00) Brown Silty SAND With Gravel Pieces	(M-NPL)
	10.0	J6	18	15	13	13	24%	(10.00) Brown Silty SAND With Mica	(M-NPL)
	15.0	J7	5	3	3	3	28%	(15.00) Brown Silty SAND With Mica	(M-NPL)
	20.0	J8	6	6	12	15	21%	(20.00) Brown Silty SAND With Mica	(M-NPL)
	25.0								

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CONTRACT _____ **CONTRACTOR** Warren George

DRILL RIG OPERATOR Sal Laurenza
SOIL & ROCK DESCRIPTION S.MASLANKA/D.LANDAU
REG GEOTECHNICAL ENGINEER Prakash C. Roy
DATE APPROVED 30-JUL-2019 REVISION # 1
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STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
GEOTECHNICAL ENGINEERING BUREAU
SUBSURFACE EXPLORATION LOG

PSN 12505 BORNUM 50.2
REGION 11
COUNTY QUEENS
PIN X735.82
PROJECT VAN WYCK EXPRESSWAY WIDENING
ACTUAL COORDINATES (N) 180,467.190 (E) 1,038,684.860 **DATUM** NAD83
DATE START 02-NOV-2017 **DATE FINISH** 02-NOV-2017

HOLE DM-B-50B
LINE
STA
OFFSET ft
SURF. ELEV. 20.2
DEPTH TO WATER SEE NOTE

CASING	**O. D.**	4 1/2	**in**	**I. D.**	4	**in**	**WT OF HAMMER-CASING**	140	**lb**	**HAMMER FALL-CASING**	30	**in**
SAMPLER	**O. D.**	2	**in**	**I. D.**	1 3/8	**in**	**WT OF HAMMER-SAMPLER**	140	**lb**	**HAMMER FALL-SAMPLER**	30	**in**

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)	DESCRIPTION OF SOIL AND ROCK	
	25.0	J9	10	7	9	12	24%	(25.00) Brown And Gray Silty Fine SAND With Mica	(M-NPL)
	30.0	J10	6	5	7	11	24%	(30.00) Brown And Gray Silty SAND With Mica	(M-NPL)
	35.0	J11	9	7	9	11	31%	(35.00) Gray Silty Fine SAND With Mica	(M-NPL)
	40.0	J12	16	19	15	15	25%	(40.00) Gray Silty Fine SAND With Mica	(M-NPL)
	45.0	J13	13	14	14	15	26%	(45.00) Gray Silty Fine SAND With Mica	(M-NPL)
	50.0								

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CONTRACT _____ **CONTRACTOR** Warren George

DRILL RIG OPERATOR Sal Laurenza
SOIL & ROCK DESCRIPTION S.MASLANKA/D.LANDAU
REG GEOTECHNICAL ENGINEER Prakash C. Roy
DATE APPROVED 30-JUL-2019 REVISION # 1
RESIDENT ENGINEER
STRUCTURE NAME **B.I.N.**

SM 282 E 12/02

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
GEOTECHNICAL ENGINEERING BUREAU
SUBSURFACE EXPLORATION LOG

PSN 12505 BORNUM 50.2
REGION 11
COUNTY QUEENS
PIN X735.82
PROJECT VAN WYCK EXPRESSWAY WIDENING

HOLE DM-B-50B
LINE
STA
OFFSET ft
SURF. ELEV. 20.2

ACTUAL COORDINATES (N) 180,467.190 (E) 1,038,684.860 **DATUM** NAD83 **DEPTH TO WATER** SEE NOTE

DATE START 02-NOV-2017 **DATE FINISH** 02-NOV-2017

CASING	**O. D.**	4 1/2	**in**	**I. D.**	4	**in**	**WT OF HAMMER-CASING**	140	**lb**	**HAMMER FALL-CASING**	30	**in**
SAMPLER	**O. D.**	2	**in**	**I. D.**	1 3/8	**in**	**WT OF HAMMER-SAMPLER**	140	**lb**	**HAMMER FALL-SAMPLER**	30	**in**

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)	DESCRIPTION OF SOIL AND ROCK	
	50.0	J14	7	15	22	29	23%	(50.00) Gray Silty Fine SAND With Mica	(M-NPL)

BOTTOM OF HOLE AT 52.00 ft

Notes
1.- J1 to J3 were grab samples. Hand augered up to 6ft
2.- At 4 to 6ft, presence of very large cobble not included in J3
3.- Safety hammer used for all other sampling
4.- Rotary mud drilling, no groundwater reading taken
5.- Vertical Datum: NAVD 88

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CONTRACT **CONTRACTOR** Warren George

DRILL RIG OPERATOR Sal Laurenza
SOIL & ROCK DESCRIPTION S.MASLANKA/D.LANDAU
REG GEOTECHNICAL ENGINEER Prakash C. Roy
DATE APPROVED 30-JUL-2019 REVISION # 1
RESIDENT ENGINEER
STRUCTURE NAME **B.I.N.**

APPENDIX

A-2 AS-DRILLED BORING LOCATION SURVEY DATA

Contract No. D0377603
Widening of the Van Wyck Expressway (I-678) from Kew Gardens Interchange to JFK Airport, Queens County
Supp Agr 01 PIN X735.82.101

Boring Locations

Borings position and elevation determined by GPS and Total Station observations
Between 13 February 2018 and 04 March 2018

Horizontal Datum: NYSPC System of 1983, Long Island Zone (NAD 83)
Vertical Datum: North American Vertical Datum of 1988 (NAVD 88)
Units – U.S. Survey Feet

NYSDOT BORING NO.	LATITUDE	LONGITUDE	NORTHING	EASTING	ELEVATION
DM-B-34	40°42'22.23410"	73°49'03.88763"	196608.1	1034780.7	70.6
DM-B-34A	40°42'22.23461"	73°49'03.91019"	196608.1	1034778.9	70.5
DM-B-34B	40°42'22.24349"	73°49'03.92938"	196609.0	1034777.4	70.5
DM-B-34C	40°42'22.88221"	73°49'04.35875"	196673.6	1034744.2	71.9
DM-B-34D	40°42'23.03892"	73°49'04.34094"	196689.4	1034745.6	72.3
DM-B-34E	40°42'23.01802"	73°49'04.42900"	196687.3	1034738.8	71.9
DM-B-34F	40°42'22.97676"	73°49'04.38646"	196683.1	1034742.1	72.2
DM-B-34G	40°42'22.94369"	73°49'04.42833"	196679.8	1034738.9	71.5
DM-B-34J	40°42'22.97337"	73°49'04.29544"	196682.8	1034749.1	72.3
DM-B-34H	40°42'23.33643"	73°49'04.65720"	196719.5	1034721.2	72.7
DM-B-35	40°41'54.54845"	73°48'53.16121"	193807.9	1035612.7	43.3
DM-B-35A	40°41'54.68829"	73°48'53.23423"	193822.1	1035607.0	43.8
DM-B-35B	40°41'55.18828"	73°48'50.99367"	193873.0	1035779.5	42.3
DM-B-35C	40°41'55.19051"	73°48'50.90762"	193873.3	1035786.1	42.1
DM-B-36	40°41'51.97866"	73°48'51.73022"	193548.1	1035723.5	42.5
DM-B-37	40°41'49.11559"	73°48'50.05940"	193258.6	1035852.8	43.9
DM-B-38	40°41'37.85767"	73°48'40.35198"	192120.9	1036602.9	43.8
DM-B-39	40°41'32.53491"	73°48'37.25023"	191582.7	1036843.0	44.5
DM-B-40	40°41'31.17191"	73°48'40.08446"	191444.3	1036625.0	44.7
DM-B-41	40°41'14.88905"	73°48'27.14029"	189798.6	1037625.7	33.5
DM-B-42	40°40'58.52621"	73°48'18.13384"	188144.2	1038323.3	32.6
DM-B-43	40°40'40.90064"	73°48'09.56371"	186361.9	1038987.5	29.5
DM-B-44A	40°40'28.42092"	73°48'04.38298"	185099.9	1039389.6	29.1
DM-B-44B	40°40'28.42574"	73°48'04.37108"	185100.4	1039390.5	29.1
DM-B-45	40°40'09.40470"	73°48'02.05332"	183175.8	1039573.4	26.6
DM-B-46	40°40'01.21770"	73°48'04.04635"	182346.9	1039421.8	24.3
DM-B-47	40°39'59.33046"	73°48'07.58336"	182155.3	1039149.6	10.9
DM-B-48	40°39'53.67170"	73°48'06.31235"	181582.8	1039248.9	23.2
DM-B-48A	40°39'53.66194"	73°48'06.28408"	181581.9	1039251.0	23.2
DM-B-49	40°39'49.12386"	73°48'07.15304"	181122.4	1039185.1	32.4
DM-B-50	40°39'42.57364"	73°48'13.66161"	180458.4	1038685.0	20.3
DM-B-50A	40°39'42.63211"	73°48'13.69675"	180464.3	1038682.3	20.2
DM-B-50B	40°39'42.66035"	73°48'13.66343"	180467.2	1038684.9	20.2
DM-W-01	40°41'50.68325"	73°48'50.97375"	193417.1	1035782.0	44.3
DM-W-02	40°41'47.01538"	73°48'48.83395"	193046.3	1035947.6	41.3
DM-W-03	40°41'43.98768"	73°48'47.14415"	192740.1	1036078.4	42.1
DM-W-04A	40°41'43.97095"	73°48'43.75474"	192739.0	1036339.5	43.1
DM-W-05	40°41'42.12574"	73°48'46.12356"	192551.9	1036157.4	42.9

Contract No. D0377603
Widening of the Van Wyck Expressway (I-678) from Kew Gardens Interchange to JFK Airport, Queens County
Supp Agr 01 PIN X735.82.101

Boring Locations

Borings position and elevation determined by GPS and Total Station observations
Between 13 February 2018 and 04 March 2018

Horizontal Datum: NYSPC System of 1983, Long Island Zone (NAD 83)
Vertical Datum: North American Vertical Datum of 1988 (NAVD 88)
Units – U.S. Survey Feet

NYSDOT BORING NO.	LATITUDE	LONGITUDE	NORTHING	EASTING	ELEVATION
DM-W-06	40°41'40.82976"	73°48'45.49096"	192420.8	1036206.5	43.6
DM-W-06A	40°41'40.83675"	73°48'45.46555"	192421.5	1036208.4	43.5
DM-W-07	40°41'40.12754"	73°48'45.06055"	192349.8	1036239.8	44.0
DM-W-08	40°41'35.33075"	73°48'42.35511"	191864.8	1036449.2	45.8
DM-W-09	40°41'35.63521"	73°48'39.12684"	191896.2	1036697.8	45.1
DM-W-10	40°41'32.96587"	73°48'40.97483"	191625.7	1036556.0	45.8
DM-W-11	40°41'28.11324"	73°48'38.28961"	191135.1	1036763.9	43.2
DM-W-12	40°41'26.16090"	73°48'37.28493"	190937.7	1036841.8	42.3
DM-W-13	40°41'10.50271"	73°48'28.62398"	189354.5	1037512.4	36.6
DM-W-14	40°41'10.97718"	73°48'24.93095"	189403.1	1037796.8	37.3
DM-W-15	40°41'09.43001"	73°48'28.06401"	189246.0	1037555.8	37.3
DM-W-16	40°41'09.24967"	73°48'24.01350"	189228.4	1037867.9	37.2
DM-W-17	40°41'04.89425"	73°48'25.93909"	188787.3	1037720.5	39.7
DM-W-18B	40°40'38.17223"	73°48'12.85873"	186085.2	1038734.3	29.7
DM-W-19	40°40'35.20517"	73°48'11.44609"	185785.2	1038843.8	28.6
DM-W-20	40°40'30.01223"	73°48'08.86195"	185260.1	1039044.1	29.3
DM-W-21	40°40'32.23641"	73°48'06.16122"	185485.7	1039251.7	28.2
DM-W-21A	40°40'32.22650"	73°48'06.20313"	185484.7	1039248.4	28.2
DM-W-21B	40°40'32.21102"	73°48'06.12623"	185483.1	1039254.4	28.4
DM-W-22A	40°40'24.55173"	73°48'06.30470"	184708.0	1039242.4	32.7
DM-W-22B	40°40'24.57359"	73°48'06.31514"	184710.2	1039241.6	32.7
DM-W-22	40°40'24.55384"	73°48'06.29048"	184708.2	1039243.5	32.7
DM-W-22C	40°40'24.59396"	73°48'06.28763"	184712.2	1039243.7	32.8
DM-W-23	40°40'21.32285"	73°48'06.29266"	184381.2	1039244.0	34.5
DM-W-23A	40°40'21.33999"	73°48'06.34240"	184382.9	1039240.2	34.4
DM-W-23B	40°40'21.32688"	73°48'06.34422"	184381.6	1039240.1	34.3
DM-W-24	40°40'18.61225"	73°48'06.24087"	184106.9	1039248.7	33.6
DM-W-24A	40°40'18.88320"	73°48'06.41731"	184134.3	1039235.0	33.7
DM-W-24B	40°40'18.84343"	73°48'06.40236"	184130.3	1039236.2	33.8
DM-W-24C	40°40'18.86088"	73°48'06.41643"	184132.0	1039235.1	33.7
DM-W-25	40°40'18.84327"	73°48'02.11115"	184131.0	1039566.8	31.5
DM-W-26	40°40'16.04933"	73°48'06.41529"	183847.5	1039235.8	30.5
DM-W-27	40°40'16.12864"	73°48'02.10498"	183856.3	1039567.9	28.3
DM-W-27A	40°40'16.12207"	73°48'02.08940"	183855.6	1039569.1	28.4
DM-W-28	40°40'14.70705"	73°48'02.10075"	183712.4	1039568.6	23.9
DM-W-29	40°40'11.35137"	73°48'06.39009"	183372.0	1039238.8	26.3
DM-W-30	40°40'12.07224"	73°48'02.07220"	183445.8	1039571.4	23.7
DM-W-31	40°40'04.98510"	73°48'07.22967"	182727.6	1039175.6	22.0

Contract No. D0377603
Widening of the Van Wyck Expressway (I-678) from Kew Gardens Interchange to JFK Airport, Queens County
Supp Agr 01 PIN X735.82.101

Boring Locations

Borings position and elevation determined by GPS and Total Station observations
Between 13 February 2018 and 04 March 2018

Horizontal Datum: NYSPC System of 1983, Long Island Zone (NAD 83)
Vertical Datum: North American Vertical Datum of 1988 (NAVD 88)
Units – U.S. Survey Feet

NYSDOT BORING NO.	LATITUDE	LONGITUDE	NORTHING	EASTING	ELEVATION
DM-W-32	40°40'07.14145"	73°48'01.99634"	182946.8	1039578.4	26.1
DM-W-32A	40°40'07.15685"	73°48'01.99460"	182948.3	1039578.5	26.1
DM-W-33	40°39'51.90450"	73°48'09.74897"	181403.4	1038984.4	20.2
DM-W-33B	40°39'51.93523"	73°48'09.66997"	181406.5	1038990.5	20.1
PT-X-01	40°40'47.32312"	73°48'13.80243"	187011.2	1038659.5	32.0
PT-X-02	40°40'48.12543"	73°48'16.94551"	187091.8	1038417.2	32.0
PT-X-03	40°39'53.60969"	73°47'57.49713"	181578.1	1039928.2	19.0
PT-X-04	40°39'52.83231"	73°48'04.73710"	181498.2	1039370.4	20.1

APPENDIX

A-3 NYSDOT GEOTECHNICAL ENGINEERING BUREAU LABORATORY TESTING DATA

PIN	Hole	Sample	Depth	LL	PL	PI	LOI	S.G.	2 inch	1 inch	3/4 inch	1/2 inch	1/4 inch	#10	#20	#40	#60	#100	#200	0.02mm	0.005mm	0.002mm
X735.82	DM-W-1	J-2	2-4'					2.66	100	92.3	85.2	82.5	80.1	75.6	67.7	55	45.2	39.9	37	27.9	16.2	12
X735.82	DM-W-1	J-4	6-8'						100	96.1	85.1	73.9	65.4	53.6	42	23.7	12.9	8.4	5.6			
X735.82	DM-W-1	J-6	10-12'						100	100	100	100	95.8	87.8	71	37.1	16.5	8.4	5.2			
X735.82	DM-W-1	J-8	20-22'						100	100	100	100	97.7	84.1	63.5	37.3	15.4	7.9	4.7			
X735.82	DM-W-1	J-10	30-32'						100	100	100	98.6	95.5	85.9	68.2	42.6	19.3	7.6	3.8			
X735.82	DM-W-1	J-12	40-42'						100	100	100	100	99.5	96.9	82.8	52.5	20.2	5.6	2.4			
X735.82	DM-W-1	J-14	50-52'					2.71	100	100	100	100	99.8	99.7	98.7	94.5	91.1	72.6	29.2	9.1	5.3	4.2
X735.82	DM-W-2	J-2	2-4'	24	18	6		2.68	100	57.3	47.3	44.5	41.2	36.2	32.3	27.2	24	22.5	21	15	8.8	6.4
X735.82	DM-W-2	J-4	6-8'						100	100	97.1	88.9	80.2	69.1	53.8	29.6	14.2	7.9	5.4			
X735.82	DM-W-2	J-6	10-12'						100	100	100	98.7	92.4	79.1	57	25	8.6	4.5	2.7			
X735.82	DM-W-2	J-8	20-22'						100	100	100	98.8	97.6	93.6	79.9	43.2	15.4	6	3.3			
X735.82	DM-W-2	J-10	30-32'						100	100	100	100	99.9	98.3	89.8	56.5	18.3	5	1.9			
X735.82	DM-W-2	J-12	40-42'						100	100	100	100	97.7	87.7	65.2	29.1	11.7	6.4	3.9			
X735.82	DM-W-2	J-14	50-52'						100	100	100	100	98.5	93.4	84.2	51.8	19	7.6	3.5			
X735.82	DM-W-3	J-2	2-4'						100	88.1	84.9	83.3	79.3	70.6	57.5	40.5	20.5	7.3	3.7			
X735.82	DM-W-3	J-4	6-8'						100	100	100	98.1	95.9	95.5	84.7	48.1	13.8	6	3.4			
X735.82	DM-W-3	J-6	10-12'						100	92.9	79.4	75.3	68.4	60.3	48.6	30.6	14.5	9	6			
X735.82	DM-W-3	J-8	20-22'						100	100	100	100	96.8	93.7	84.6	42.4	13.6	5.2	2.9			
X735.82	DM-W-3	J-10	30-32'						100	100	100	100	99.9	98.4	90	61.5	25.8	9.2	3			
X735.82	DM-W-3	J-12	40-42'						100	100	100	100	99.9	99.4	98	93.9	80	37.6	5			
X735.82	DM-W-3	J-14	50-52'						100	100	100	100	98.7	84	65	40.6	20.4	9.9	5.2			
X735.82	DM-W-4A	J-2	2-4'						100	91.6	89.3	85.5	80.6	67.7	50.1	27.7	10.5	3.4	1.2			
X735.82	DM-W-5	J-2	2-4'					2.66	100	82.7	77.8	70.4	63.2	56.2	48.8	37.8	28.9	24.2	21.1	14.2	8.4	6.7
X735.82	DM-W-5	J-4	6-8'					2.68	100	80	75.5	72.7	66.8	58.3	48.7	35.4	26.2	21.6	19	13	7.7	6.1
X735.82	DM-W-5	J-6	9-10'					2.66	100	100	100	100	100	99.7	90.4	60.7	35.2	25.2	19.8	12.4	7.9	6.2
X735.82	DM-W-5	J-8	15-17'					2.76	100	91.8	86.8	81.6	71.5	56.8	42.5	26.1	18.6	14.4	11.1	8	4.7	3.4
X735.82	DM-W-5	J-10	25-27'						100	100	100	100	98.8	94.3	81	50.8	17.9	6	3.2			
X735.82	DM-W-5	J-12	35-37'						100	100	100	100	98	93.6	79.6	42.3	14.1	5.6	2.8			
X735.82	DM-W-5	J-14	45-47'						100	100	100	100	99.8	98.4	90	57.6	23.1	7	2.5			
X735.82	DM-W-6A	J-2	3-6'					2.59	100	94	91	88.3	79.7	61.6	51.2	38	28.8	25	22.9	15.9	9.2	6.8
X735.82	DM-W-7	J-2	2-4'	20	16	4		2.68	100	100	98	95.5	93.3	89.7	82.4	67.7	55.2	47.8	42.8	24.1	12	9
X735.82	DM-W-7	J-4	6-8'						100	100	100	98	95.2	89.6	74.5	31.5	12.8	7.6	4.9			
X735.82	DM-W-7	J-6	10-12'						100	100	94	90.8	84.2	74.6	59.2	32.2	12.5	6.5	3.9			
X735.82	DM-W-7	J-8	20-22'						100	100	100	99	95.4	85.8	65.8	34.2	14.5	6.9	4			
X735.82	DM-W-7	J-10	30-32'						100	100	100	100	99.1	92.8	75.4	43.8	19.1	6.4	2.8			
X735.82	DM-W-7	J-12	40-42'						100	80.6	80.6	80.6	80	78	62	29.9	11.1	3.9	1.8			
X735.82	DM-W-7	J-14	50-52'					2.7	100	100	100	100	99.9	99.5	97.9	91.5	82.7	71.5	48.1	17.7	7.9	5.6
X735.82	DM-W-8	J-2	2-4'	26	17	9		2.65	100	93.5	86.8	84.1	77.3	69.3	61.6	50.2	42.3	38	34.9	26.9	16.3	11.6
X735.82	DM-W-8	J-4	6-8'						100	100	91.2	90.1	83.1	74.7	64.9	37.9	16	10.1	8.1			

PIN	Hole	Sample	Depth	LL	PL	PI	LOI	S.G.	2 inch	1 inch	3/4 inch	1/2 inch	1/4 inch	#10	#20	#40	#60	#100	#200	0.02mm	0.005mm	0.002mm
X735.82	DM-W-8	J-6	10-12'						No Sample													
X735.82	DM-W-8	J-8	20-22'						100	100	100	100	98.7	92.2	74.5	39.6	15.4	6.7	3.5			
X735.82	DM-W-8	J-10	30-32'						100	100	100	100	99.6	97.1	89.1	58.5	25.2	9	3.7			
X735.82	DM-W-8	J-12	40-42'					2.68	100	100	100	100	99.8	99.4	96.7	87.3	71.5	54.3	36.5	12.1	6.5	4.4
X735.82	DM-W-8	J-14	50-52'					2.7	100	100	100	100	99.1	96.9	89.9	73.8	61.3	56.1	46.5	27.4	10.8	6.6
X735.82	DM-W-9	J-2	2-4'					2.68	100	100	100	99.1	99.1	98.6	96.6	92.9	89.3	87.9	86.1	55.6	27.9	20.9
X735.82	DM-W-9	J-4	7-9'						100	91.3	86	77.6	67.9	58.8	45.4	27.5	16.3	10.5	6.7			
X735.82	DM-W-9	J-6	11-13'						100	100	98.5	95.1	89.7	78	60.7	33.2	15.8	10.1	6.9			
X735.82	DM-W-9	J-8	20-22'						100	91.4	91.4	85.3	77.5	65.2	47.6	28	14.1	7.6	4.6			
X735.82	DM-W-9	J-10	30-32'						100	100	100	97.6	96.1	91.6	78.6	48.1	18.7	8.1	3.8			
X735.82	DM-W-9	J-12	40-42'						100	100	100	100	100	99.5	97.8	89.5	55.8	14.1	3.3			
X735.82	DM-W-9	J-14	50-52'						100	100	96.7	96.7	96.7	95.9	95.4	93.4	84.9	31.4	6.9			
X735.82	DM-W-10	J-2	2-4'						100	96.1	91.1	87.2	80.5	69.7	51.2	24.5	6.8	2.4	1.5			
X735.82	DM-W-10	J-4	6-8'						100	100	92.5	74.1	62.1	49.8	37.3	21.8	12.7	8.5	6			
X735.82	DM-W-10	J-6	10-12'						100	72.9	67.4	64.4	58.6	47.3	32.6	17.7	9.4	6	3.7			
X735.82	DM-W-10	J-8	20-22'						100	100	100	99.2	96.6	90.5	75.6	42.4	16	6.6	3.5			
X735.82	DM-W-10	J-10	30-32'						100	100	100	100	98.4	95.6	84.1	57.8	24.9	7.5	2.6			
X735.82	DM-W-10	J-12	40-42'						100	100	100	100	99.8	98.7	96.6	84	57.6	18.9	2.7			
X735.82	DM-W-10	J-14	45-47'					2.73	100	100	100	100	100	100	100	99.9	99.6	98.5	90.6	53.6	16.4	9
X735.82	DM-W-11	J-2	2-4'	Non-Plastic					100	100	100	93.6	88.5	76.6	61	36	18.5	12	10			
X735.82	DM-W-11	J-4	6-8'						100	100	96.8	94.8	89.3	78.8	59.9	31.5	13.3	5.4	3			
X735.82	DM-W-11	J-6	10-12'						100	100	100	97.6	95.1	87.1	70.5	33.4	13.4	5.6	2.4			
X735.82	DM-W-11	J-8	20-22'						100	100	100	96.9	95.1	88.4	70.3	35.2	11.9	4.5	2.3			
X735.82	DM-W-11	J-10	30-32'						100	100	100	100	99.1	98.8	96	72.1	24.2	8	3.4			
X735.82	DM-W-11	J-12	40-42'					2.68	100	100	100	100	99.8	99.8	99.8	99	95.6	67.4	27	8.2	4.7	3.8
X735.82	DM-W-11	J-12	50-52'					2.74	100	100	100	100	100	100	99.9	99.4	96.6	65.6	22.3	8.1	5.1	4.4
X735.82	DM-W-11	J-14	40-42'					2.68	100	100	100	100	99.8	99.8	99.8	99	95.6	67.4	27	8.2	4.7	3.8
X735.82	DM-W-11	J-14	50-52'					2.74	100	100	100	100	100	100	99.9	99.4	96.6	65.6	22.3	8.1	5.1	4.4
X735.82	DM-W-12	J-2	Broken Jar																			
X735.82	DM-W-12	J-4	10-12'						100	100	100	86.8	72	42.8	19.5	9.1	3.6	1.5	0.7			
X735.82	DM-W-12	J-6	20-22'						100	100	100	100	97.5	93.4	80.2	47.4	19.4	8.4	4.2			
X735.82	DM-W-12	J-8	30-32'						100	100	100	100	99.4	98.1	89.1	59.7	24	6.6	2.6			
X735.82	DM-W-12	J-10	40-42'					2.7	100	100	100	100	100	100	99.8	99.3	97.5	70.4	26.9	7.6	5	3.9
X735.82	DM-W-12	J-12	50-52'						100	100	100	100	99.3	94.3	75.8	39.7	17.9	9.5	5			

PIN	Hole	Sample	Depth	LL	PL	PI	LOI	S.G.	2 inch	1 inch	3/4 inch	1/2 inch	1/4 inch	#10	#20	#40	#60	#100	#200	0.02mm	0.005mm	0.002mm
X735.82	DM-W-14	J-2	2-4'						100	100	91.2	91.2	89.1	85.6	78.4	46.7	14	4.7	3			
X735.82	DM-W-14	J-4	7-9'						100	100	100	100	96.8	85.8	60.1	29.7	12.8	7	4.7			
X735.82	DM-W-14	J-6	11-13'						100	100	100	99	98.7	95.2	84.1	48.6	19.7	7.3	4			
X735.82	DM-W-14	J-8	20-22'						100	100	100	100	99.7	94.8	84.1	48.5	17.4	6.4	3.1			
X735.82	DM-W-14	J-10	30-32'						100	100	100	100	99.6	98.1	95	78.6	48.5	23.1	5.8			
X735.82	DM-W-14	J-12	40-42'						100	100	100	100	98.6	92.9	78.5	44.5	19.6	8.5	4			
X735.82	DM-W-14	J-14	50-52'						100	100	100	100	99.6	98	94.6	69.9	28.9	10	4.7			
X735.82	DM-W-15	J-2	8-10'						100	100	97.6	96.5	94.4	86.3	68	39.3	19.1	11	7.5			
X735.82	DM-W-15	J-4	15-17'						100	100	100	100	97.7	93.9	78.9	37.3	13.3	5.2	2.5			
X735.82	DM-W-15	J-6	25-27'						100	100	100	100	100	99.3	92.2	59.9	17.3	6.4	2.8			
X735.82	DM-W-15	J-8	35-37'						100	100	100	100	99.4	96.6	88	49	15	5.6	2.8			
X735.82	DM-W-15	J-10	45-47'						100	100	100	100	99.8	98.7	92	58.9	18.5	4.9	1.8			
X735.82	DM-W-16	J-2	2-4'						100	100	100	98.5	92	72.8	41.1	14.3	5.8	2.2	1			
X735.82	DM-W-16	J-4	6-8'						100	100	100	99.5	97.6	92.3	79.6	49.4	17.3	6.1	2.4			
X735.82	DM-W-16	J-6	10-12'						100	100	100	100	98.1	93.6	78.7	39.9	12.4	3.9	1.8			
X735.82	DM-W-16	J-8	20-22'						100	100	100	100	99.8	98.1	87.8	53.7	21.1	7.6	3.7			
X735.82	DM-W-16	J-10	30-32'						100	100	100	100	99.1	91.4	69.8	33.7	13	6.4	3.5			
X735.82	DM-W-16	J-12	40-42'						100	100	100	100	97.5	90.2	72.7	35.4	11.5	4	1.8			
X735.82	DM-W-16	J-14	50-52'						100	100	100	100	99.9	99.4	97	76.5	33.5	10.6	4.3			
X735.82	DM-W-17	J-2	2-4'	16	14	2		2.66	100	100	100	98.1	92.6	78	60	40.2	27.8	23.5	21.3	16.8	10.8	8.1
X735.82	DM-W-17	J-4	6-8'						100	100	100	98.2	93.1	83.9	66.7	39.1	17.9	10.4	7.8			
X735.82	DM-W-17	J-6	10-12'						100	100	100	98.7	95.1	85.5	67	36.9	14.9	7.5	4.8			
X735.82	DM-W-17	J-8	20-22'						100	100	100	100	99.8	96.1	80	41.9	16.8	7.8	3.9			
X735.82	DM-W-17	J-10	30-32'						100	100	100	100	98.5	94.1	86.6	60.2	25.2	11.2	4.7			
X735.82	DM-W-17	J-12	40-42'						100	100	100	100	99.7	96.6	87.7	50.4	14.9	5.2	2.8			
X735.82	DM-W-17	J-14	50-52'						100	100	100	100	100	99.9	98.8	86.1	47.8	16.5	6.2			
X735.82	DM-W-18B	J-2	7-9'					2.68	100	100	100	98.9	95	85.7	72.1	47.6	23.9	14.8	11.4	10.2	7.4	5.8
X735.82	DM-W-18B	J-4	15-17'						No Sample													
X735.82	DM-W-18B	J-6	25-27'						100	100	100	100	98.7	92.9	72.9	33.7	14	5.4	2.8			
X735.82	DM-W-18B	J-8	35-37'						100	100	100	100	99.9	99	96	77.3	36.2	10	3.8			
X735.82	DM-W-18B	J-10	45-47'						100	100	100	100	99.9	99.1	96.9	86.7	48.9	17.6	4.8			
X735.82	DM-W-19	J-2	3-6'					2.65	100	95.1	95.1	93.5	90.2	86.7	79.3	64.9	52.4	47.7	45.2	31.7	18.5	14.7
X735.82	DM-W-19	J-4	8-10'					2.69	100	100	100	100	98.5	93.8	82	52.9	26.2	16	12.9	11.2	8.2	6.8
X735.82	DM-W-19	J-6	15-17'						100	100	100	98.9	87.7	74.4	62.6	42.9	24.3	12.8	7.9			
X735.82	DM-W-19	J-8	25-27'						No Sample													
X735.82	DM-W-19	J-10	35-37'						100	100	100	100	99.8	99.5	98.5	84.5	39.7	11.7	3.3			
X735.82	DM-W-19	J-12	45-47'						100	100	100	100	100	99.8	99.1	90.7	49.1	15.8	5.2			
X735.82	DM-W-20	J-2	3-6'						100	97.7	97.7	97.7	96.9	93.7	78.9	42.1	12	3.2	1.4			
X735.82	DM-W-20	J-4	8-10'						100	100	100	100	99.8	98.3	90.4	60.3	20.6	6.6	3			

PIN	Hole	Sample	Depth	LL	PL	PI	LOI	S.G.	2 inch	1 inch	3/4 inch	1/2 inch	1/4 inch	#10	#20	#40	#60	#100	#200	0.02mm	0.005mm	0.002mm
X735.82	DM-W-20	J-6	15-17'						100	100	100	100	100	99.5	95.2	72.4	29.1	9.1	3.9			
X735.82	DM-W-20	J-8	25-27'						100	100	100	100	97.4	90.5	78.8	54.6	33.1	17.9	4.4			
X735.82	DM-W-20	J-10	35-37'						100	100	100	100	99.7	98.5	94.9	72.7	29.3	10.7	3.9			
X735.82	DM-W-20	J-12	45-47'						100	100	100	100	100	100	99.7	96.3	56.8	13	4.1			
X735.82	DM-W-21	J-2	2-4'						100	97.8	96.1	94.3	93.3	90.4	82.2	57.1	27.5	11.1	6.9			
X735.82	DM-W-21A	J-2	2-4'						100	100	95	92.7	91.9	89.4	81.9	58.3	25.6	11.2	7.4			
X735.82	DM-W-21B	J-2	2-4'					2.67	100	85.4	79.9	74	70.6	65.4	57.6	42	25.6	17.9	14.1	11.3	7.2	6.3
X735.82	DM-W-21B	J-4	6-8'						100	100	85.8	85.8	83.1	79.3	72.4	51.9	26.6	12.9	8.2			
X735.82	DM-W-21B	J-6	10-12'						100	100	98.6	97.5	96.1	92.6	82.3	53.6	22.4	7.2	3.7			
X735.82	DM-W-21B	J-8	20-22'					2.63	100	100	100	98.9	98.3	96.6	86.7	60.8	35.2	24.7	20.9	17.3	9.8	7.8
X735.82	DM-W-21B	J-10	30-32'						100	100	100	98.7	97.8	90.2	81.8	54.2	21	7.2	3.7			
X735.82	DM-W-21B	J-12	40-42'						100	100	100	100	99.8	97	96	88.9	66.9	32.7	8.1			
X735.82	DM-W-21B	J-14	50-52'						100	100	100	100	99.4	98.8	97	77.2	27.8	8.2	3			
X735.82	DM-B-34	J-1	0-2'	30	22	8																
X735.82	DM-B-34	J-2	2-4'					2.75	100	94.6	85.5	81.8	67.1	52.9	46.6	38.8	30.8	25.4	21.3	14.3	8.2	6.4
X735.82	DM-B-34B	J-2	2-4'	32	21	11		2.68	100	85.7	79.2	68.5	58.2	51.3	50.1	48.3	46.7	45.2	43.6	30.9	17.1	13.2
X735.82	DM-B-34B	J-4	6-8'					2.73	100	85.5	85.5	84.1	73.7	62.4	51.2	38.3	29.8	24.8	20.4	14.4	7.7	5.7
X735.82	DM-B-34C	J-2	2-4'	26	21	5		2.66	100	79.5	79.5	76.8	73.4	69	62	53.3	46.2	41.6	37.2	24.2	13.9	9.9
X735.82	DM-B-34C	J-4	6-8'					2.76	100	91.9	72.8	64	52.5	42.3	33.3	26.4	21.3	17.4	13.9	8.8	4.7	3.3
X735.82	DM-B-34J	J-2	8-10'					2.72	100	100	96.9	77.4	64.3	44.8	35.8	28.3	21.7	16.8	11.9	7.9	4.2	3.2
X735.82	DM-B-35	J-2	2-4'						100	100	100	97.2	93.4	88	75	46.6	21.7	9.4	5.2			
X735.82	DM-B-35	J-4	6-8'						100	100	100	100	95.7	91	75.4	46.9	21.8	8	3.3			
X735.82	DM-B-35	J-6	10-12'						100	100	83.7	77.8	73.1	60.8	44.3	22.3	9.6	5.8	3.6			
X735.82	DM-B-35	J-8	20-22'						100	100	100	95	91.7	78.2	56.1	33.5	16	7.8	4.5			
X735.82	DM-B-35	J-10	25-27'						100	100	100	100	100	96	80.1	43.9	13.4	4.9	2.5			
X735.82	DM-B-35A	J-2	2-4'						100	100	100	99.2	96.8	91.1	77.3	47.6	18.9	6	2.2			
X735.82	DM-B-36	J-2	2-4'						100	82.6	73	65	58.7	47.4	33	16.9	7.4	4.1	2.7			
X735.82	DM-B-36	J-4	6-8'						100	100	100	93.7	88	81.3	67.6	34.9	13.7	6.2	2.6			
X735.82	DM-B-36	J-6	10-12'						100	94.4	90.9	84.7	79	64.7	49.1	29.6	15.4	9.1	5.6			
X735.82	DM-B-36	J-8	20-22'						100	90.6	90.6	85.2	78	65.8	50.9	29.9	15.2	9.1	5			
X735.82	DM-B-36	J-10	30-32'						100	100	100	99.7	96.5	90.3	77.1	40.1	13.5	5.2	2.9			
X735.82	DM-B-36	J-12	40-42'						100	100	100	97.9	92.9	76.8	55.4	32.2	19.4	9.9	4.2			
X735.82	DM-B-36	J-14	50-52'					2.72	100	100	100	98.4	95.6	90.3	85.6	76.9	68.6	59.8	38.1	13.4	5.6	4.1
X735.82	DM-B-36	J-16	60-62'						100	100	100	100	97.4	84.3	61	35	15	6.9	3.5			
X735.82	DM-B-36	J-18	70-72'						100	100	100	100	99.5	97.8	90.3	56.2	25.8	7	2.7			
X735.82	DM-B-37	J-2	2-4'	24	19	5		2.66	100	81.2	79	78.2	74.1	66.8	59.1	47.7	39.3	35.2	32.6	23	11.9	8.5
X735.82	DM-B-37	J-4	6-8'	32	20	12		2.66	100	100	93.9	91.2	89.7	86.5	80.4	73.4	67.8	64.9	62.4	46.8	25.8	19.5
X735.82	DM-B-37	J-6	10-12'						100	93	86.7	71.4	57.9	43.6	32.7	21.6	15	11.2	7.7			
X735.82	DM-B-37	J-8	20-22'						100	88.1	88.1	87	79.2	71.4	58.6	34.8	13.6	6.2	3.6			

PIN	Hole	Sample	Depth	LL	PL	PI	LOI	S.G.	2 inch	1 inch	3/4 inch	1/2 inch	1/4 inch	#10	#20	#40	#60	#100	#200	0.02mm	0.005mm	0.002mm
X735.82	DM-B-37	J-10	30-32'						100	100	95.9	95.9	91.2	82.9	68.1	42.7	19.2	7.5	4.1			
X735.82	DM-B-37	J-12	40-42'						100	100	100	97.9	95.4	87.6	68.7	37.9	13.8	6.6	3.4			
X735.82	DM-B-37	J-14	50-52'						100	100	100	97.2	95	85.9	71	42.4	16.2	7	3.4			
X735.82	DM-B-37	J-16	60-62'						100	100	100	100	97.8	92.2	80.2	50.7	22.5	10.9	6			
X735.82	DM-B-37	J-18	70-72'						100	100	100	100	98.7	92.8	79.6	43.6	15.8	8.1	4.5			
X735.82	DM-B-37	J-20	80-82'						100	100	100	100	100	99.4	98.2	90.3	49.1	14	5			
X735.82	DM-B-37	J-22	90-92'						100	100	100	100	98.9	96.4	90.8	74.4	31.2	11.3	5			
X735.82	DM-B-37	J-24	100-102'						100	100	100	100	100	98.9	94.4	74.1	45.6	20.4	7.8			
X735.82	DM-B-38	J-2	2-4'						100	94	91.6	85.2	74.9	58.1	38.8	17.6	7.6	5	4.2			
X735.82	DM-B-38	J-4	6-8'						100	100	97.4	91	82.7	73.9	61.6	36.1	14.6	7.8	4.8			
X735.82	DM-B-38	J-6	10-12'						100	100	85.2	83.5	78	69.5	53.2	26.9	11.3	6.3	4.7			
X735.82	DM-B-38	J-8	20-22'						100	100	96.5	95	90	68.5	51	32.3	16.7	8.8	5.4			
X735.82	DM-B-38	J-10	30-32'						100	100	100	94.7	90.6	81.6	67.2	46.2	20.5	9.3	4.2			
X735.82	DM-B-38	J-12	40-42'					2.69	100	100	100	100	99.5	99.5	99.3	98.8	97.4	87.4	55.4	19.5	9	5.7
X735.82	DM-B-38	J-14	50-52'						100	100	100	100	98.5	89.7	73.1	44.6	22.5	11.2	5.8			
X735.82	DM-B-38	J-16	60-62'						100	100	100	100	99.8	97.7	89.6	62	27.6	11.1	5			
X735.82	DM-B-38	J-18	70-72'						100	100	100	100	99.8	97.6	92	69.8	30.2	8.5	3.2			
X735.82	DM-B-39	J-1	0-2'	26	20	6																
X735.82	DM-B-39	J-2	2-4'						100	100	100	99.3	97.6	92.1	79.5	47.7	14.4	4.1	1.8			
X735.82	DM-B-39	J-4	6-8'						100	100	94	92.3	87.9	73.3	54.8	29.8	10.6	4.9	2.8			
X735.82	DM-B-39	J-6	10-12'						100	92.7	84.4	77.2	67	47.7	33.2	21.4	14.1	9.4	6			
X735.82	DM-B-39	J-8	20-22'						100	100	100	98	96.7	93.1	80.9	47.7	22.1	9.9	5.4			
X735.82	DM-B-39	J-10	30-32'						100	100	100	100	99.8	96	81.5	44.4	14.5	6.8	3.7			
X735.82	DM-B-39	J-12	40-42'						100	100	100	100	99.3	94.2	79.6	42.2	19.4	7.3	3.4			
X735.82	DM-B-39	J-14	50-52'					2.69	100	100	100	100	100	100	99.5	97.4	94.9	66	22.7	8.3	5	3.7
X735.82	DM-B-39	J-16	60-62'					2.71	100	100	100	100	100	99.9	99.6	98.5	96.6	92.3	54.1	9	5.8	4.3
X735.82	DM-B-39	J-18	70-72'					2.74	100	100	100	100	100	100	100	99.8	99.4	98.3	91.9	65.3	20.5	10.7
X735.82	DM-B-39	J-20	80-82'					2.74	100	100	100	100	100	99.9	99.6	99.1	98.8	98.5	96.5	86	39.8	19.1
X735.82	DM-B-39	J-22	90-92'					2.66	100	100	100	100	100	99.5	95.2	79.6	52.3	33.1	21.7	12.8	7.6	5.9
X735.82	DM-B-39	J-24	100-102'					2.67	100	100	100	100	98.8	92.7	72.4	42.5	35	25.2	20.5	7.4	5.4	3.9
X735.82	DM-B-39	J-26	110-112'					2.65	100	100	100	100	99.4	69.2	52.6	35.8	23.7	16.3	10.2	6.8	4.4	2.9
X735.82	DM-B-39	J-28	120-122'						100	100	100	100	99.1	94	77.6	47.6	23.8	11.8	7			

PIN	Hole	Sample	Depth	LL	PL	PI	LOI	S.G.	2 inch	1 inch	3/4 inch	1/2 inch	1/4 inch	#10	#20	#40	#60	#100	#200	0.02mm	0.005mm	0.002mm
X735.82	DM-B-40	J-2	2-4'						100	95.4	92.3	86.5	79	67	50	28.8	15.6	8.2	4.6			
X735.82	DM-B-40	J-4	6-8'						100	100	92.4	83.7	76.8	63.1	44.7	26.4	15.4	9.3	4.4			
X735.82	DM-B-40	J-6	10-12'						100	100	96.1	90.9	68.2	53.7	43.6	27.6	10.1	4.3	2.4			
X735.82	DM-B-40	J-8	20-22'						100	100	100	100	92.6	81.6	65.2	38.6	14.9	7	3.9			
X735.82	DM-B-40	J-10	30-32'						100	100	100	100	99.9	99.3	94.7	70.6	32.8	8.4	1.9			
X735.82	DM-B-40	J-12	40-42'					2.72	100	100	100	100	100	99.8	99.2	97.6	92	49.4	12.1	6.5	4.3	3.6
X735.82	DM-B-40	J-14	50-52'					2.74	100	100	100	100	100	100	99.9	99.7	99.4	98.2	92	47.6	13.8	7.9
X735.82	DM-B-40	J-16	60-62'					2.75	100	100	100	100	100	100	100	99.9	99.7	98.9	93.4	66.1	22.3	11.9
X735.82	DM-B-40	J-18	70-72'	33	30	3		2.74	100	100	100	100	100	100	100	99.9	99.7	99	95.8	68.9	20.9	11.3
X735.82	DM-B-41	J-2	2-4'					2.66	100	100	100	97.6	93	83.8	69.6	50.5	34.4	25	20.7	17.6	11.2	9
X735.82	DM-B-41	J-4	6-8'					2.43	100	100	100	91.2	74.3	57.8	47.5	38.1	31.8	27.6	23.2	19.4	9.5	6.3
X735.82	DM-B-41	J-5	8-10'	24	19	5																
X735.82	DM-B-41	J-6	10-12'					2.66	100	100	100	100	98.7	88.1	67.7	41.3	21.5	15	13.1	11.2	7.1	6.1
X735.82	DM-B-41	J-8	20-22'						100	100	100	100	99.3	96	85	55	22.3	9	4.1			
X735.82	DM-B-41	J-10	30-32'						100	100	100	100	99.5	98.2	93.7	69.2	22	6.9	2.7			
X735.82	DM-B-41	J-12	40-42'					2.69	100	100	100	96.2	94.4	91.1	85.6	72.1	56.9	47.7	36.3	19.7	8	6.3
X735.82	DM-B-41	J-14	50-52'						100	100	100	100	99.5	94.7	76	42.6	16.2	5.8	2.7			
X735.82	DM-B-41	J-16	60-62'						100	100	100	100	99.8	97.8	88.7	49.7	20	7	3.3			
X735.82	DM-B-41	J-18	70-72'						100	100	100	99.1	99.1	98.4	94.7	66.3	25.2	8.6	3.4			
X735.82	DM-B-41	J-20	80-82'						100	100	100	100	100	99.6	97	86.7	50.1	19.1	6			
X735.82	DM-B-41	J-22	90-92'						100	100	100	100	100	100	99.7	93.8	66.9	20.7	7.1			
X735.82	DM-B-41	J-24	100-102'						100	100	100	100	99.7	98.6	94.3	70.4	32.9	12.9	5.2			
X735.82	DM-B-42	J-2	2-4'	27	18	9		2.71	100	100	100	94.9	92.8	88.1	75.6	53.2	38.1	32.8	30.4	24.6	16.4	13.6
X735.82	DM-B-42	J-4	7-9'						100	100	100	98.1	94.1	83.9	65.6	39.1	18.5	8.5	4.7			
X735.82	DM-B-42	J-6	11-13'						100	100	100	100	98.9	94	75.2	42.8	19.7	9.8	5.2			
X735.82	DM-B-42	J-8	20-22'						100	100	100	100	99.6	96.4	84.5	47.5	18.6	7.2	3			
X735.82	DM-B-42	J-10	30-32'						100	100	100	100	97.9	91.9	83.2	62.7	38.7	11.6	2.9			
X735.82	DM-B-42	J-12	40-42'						100	100	100	100	99.1	95.1	84.4	54	20	7.7	3.7			
X735.82	DM-B-42	J-14	50-52'						100	100	100	100	100	99.9	98.7	84	37.4	11.6	4.1			
X735.82	DM-B-42	J-16	60-62'						100	100	100	100	99.6	99.3	98.3	82.6	36.4	11.4	4.8			
X735.82	DM-B-42	J-18	70-72'						100	100	100	100	98.4	96.6	95.4	85.8	50.2	29.1	8.6			
X735.82	DM-B-42	J-20	80-82'						100	100	100	100	99.9	99.3	98.2	85.8	32.1	9.6	2.9			
X735.82	DM-B-42	J-22	90-92'						100	100	100	100	100	99.2	98.4	89.2	28.3	8.2	4.4			
X735.82	DM-B-42	J-24	100-102'						100	100	100	100	95.4	83.2	70.1	46.8	17.9	7.7	4.2			

PIN	Hole	Sample	Depth	LL	PL	PI	LOI	S.G.	2 inch	1 inch	3/4 inch	1/2 inch	1/4 inch	#10	#20	#40	#60	#100	#200	0.02mm	0.005mm	0.002mm
X735.82	DM-B-43	J-2	3-6'						100	100	100	100	99.3	96.4	78	45.8	25.2	11.9	2.9			
X735.82	DM-B-43	J-4	8-10'						100	100	100	100	99.4	96.3	82.4	47.5	19.4	7	3			
X735.82	DM-B-43	J-6	15-17'						100	100	100	100	99.8	97.5	91.4	74.2	33.5	9.1	3			
X735.82	DM-B-43	J-8	25-27'						100	100	100	100	99.1	94	83.9	63.1	35.6	15.6	5			
X735.82	DM-B-43	J-10	35-37'						100	100	100	100	100	98.9	89.6	69.9	23.7	6.7	3.2			
X735.82	DM-B-43	J-12	45-47'						100	100	100	100	100	98.5	97	87	41.3	10.7	3.6			
X735.82	DM-B-43	J-14	55-57'						100	100	100	99	99	98.6	96.2	81.2	30.4	7.1	2.7			
X735.82	DM-B-43	J-16	65-67'						100	100	100	100	99.7	99.4	98.9	92.4	51.8	19.2	6.2			
X735.82	DM-B-43	J-18	75-77'						100	100	100	100	100	99.9	99.7	92.7	40.3	9.6	3.9			
X735.82	DM-B-43	J-20	85-87'						100	100	100	100	99.4	98.8	92.9	70.3	29	13.5	8.2			
X735.82	DM-B-43	J-22	95-97'						100	100	100	100	100	99.2	94.3	71.9	25	10.7	6.1			
X735.82	DM-B-44A	J-2	2-4'					2.64	100	100	97.6	96.5	93.6	86.8	72.5	46	23.4	15.8	12.8	11.2	7.8	6.7
X735.82	DM-B-44B	J-2	2-4'					2.64	100	82.4	82.4	81.1	78.2	73	62.7	41.6	22.6	14.7	12.1	10	7.1	5.9
X735.82	DM-B-44B	J-4	6-8'					2.65	100	100	100	99.5	97.3	93.9	84	58.2	28.8	15.2	11.3	9.9	7	6.3
X735.82	DM-B-44B	J-6	10-12'						100	100	95	95	93.9	90.5	78.9	51.4	23.8	12.9	8.6			
X735.82	DM-B-44B	J-8	20-22'						100	100	100	100	100	99.4	96.1	73.4	37.1	14.5	8.3			
X735.82	DM-B-44B	J-10	30-32'						100	100	100	100	99.8	97.9	90	66.8	34.7	11.4	4.4			
X735.82	DM-B-44B	J-12	40-42'						100	100	100	100	99.7	99.2	96.2	83.1	45	12.2	3.8			
X735.82	DM-B-44B	J-14	50-52'						100	100	100	100	99.6	99.4	98.3	87.7	47.9	20.1	5.2			
X735.82	DM-B-44B	J-16	60-62'						100	100	100	100	100	100	99.6	92.4	45.4	13.5	3.9			
X735.82	DM-B-44B	J-18	70-72'						100	100	100	100	99.7	99.6	99.2	85.6	44.4	16.8	5			
X735.82	DM-B-44B	J-20	80-82'						100	100	100	100	99.9	99.2	98.3	89.2	62.2	30	7			
X735.82	DM-B-44B	J-22	90-92'						100	100	100	100	100	100	99.5	96.8	72.3	22.6	9.3			
X735.82	DM-B-44B	J-24	100-102'	Non-Plastic				2.64	100	100	100	100	99.7	99	97.4	91.4	72.4	50.3	33.1	16.2	10.4	8.1
X735.82	DM-B-44B	J-26	110-112'					2.67	100	100	100	100	100	99.9	99.2	95.4	75.6	36.2	15.4	12.5	7.4	6.1
X735.82	DM-B-44B	J-28	120-122'						100	100	100	100	99.9	98	95	85.6	40.5	16.9	9.7			
X735.82	DM-B-45	J-2	2-4'						100	100	100	100	100	99	91.1	62	18.8	5.6	2			
X735.82	DM-B-45	J-4	6-8'						100	100	100	100	99.7	98	88.4	62.4	22.5	5.6	2.2			
X735.82	DM-B-45	J-6	10-12'						100	100	100	100	99.9	99.3	96.3	73.1	29.5	7.8	2.2			
X735.82	DM-B-45	J-8	20-22'						100	100	100	98.4	98.2	97.3	94.1	77.7	48.9	18.9	5.4			
X735.82	DM-B-45	J-10	30-32'						100	100	100	100	99.9	97.8	88.3	58.4	27	10	4.3			
X735.82	DM-B-45	J-12	40-42'						100	100	100	100	100	99.9	99.7	94.4	56.4	20.4	5.2			
X735.82	DM-B-45	J-14	50-52'						100	100	100	100	100	100	99.7	97.9	68.4	22	6			
X735.82	DM-B-45	J-16	60-62'						100	100	100	100	100	99.8	99.4	94.9	67.2	28.3	6.8			
X735.82	DM-B-45	J-18	70-72'						100	100	100	100	100	99.9	98.9	81.2	35.6	10.7	4.7			
X735.82	DM-B-45	J-20	80-82'						100	100	100	100	100	99.9	99.4	91.7	51.3	17.7	6			
X735.82	DM-B-45	J-22	90-92'						100	100	100	100	100	99.2	87.8	60.3	27.4	11.4	6.2			
X735.82	DM-B-45	J-24	100-102'						100	100	100	100	99.5	97.6	91.1	50.2	18.5	11.3	7.3			

PIN	Hole	Sample	Depth	LL	PL	PI	LOI	S.G.	2 inch	1 inch	3/4 inch	1/2 inch	1/4 inch	#10	#20	#40	#60	#100	#200	0.02mm	0.005mm	0.002mm
X735.82	DM-B-46	J-2	2-4'					2.62	100	100	98.8	93.2	88	82.9	76.2	60.9	46	39.4	36.6	25.8	14.1	10.2
X735.82	DM-B-46	J-4	7-9'						100	100	100	100	100	99.5	93.7	65.6	30.9	7.4	2.3			
X735.82	DM-B-46	J-6	11-13'						100	100	100	100	100	99.8	96.1	64.5	20.8	6.8	2.3			
X735.82	DM-B-46	J-8	20-22'						100	100	100	100	99.6	99.5	99	89.6	60.6	20.5	2.7			
X735.82	DM-B-46	J-10	30-32'						100	100	100	100	99.6	98.9	94.9	65.4	28.2	10.4	2.3			
X735.82	DM-B-46	J-12	40-42'						100	100	100	100	99.9	99.4	96.7	75.2	25.8	6.5	2.2			
X735.82	DM-B-46	J-14	50-52'						100	100	100	100	100	99.6	97.8	90.4	66.2	23.2	4.6			
X735.82	DM-B-46	J-16	60-62'						100	100	100	100	100	100	99.8	97.9	72.6	24.2	5			
X735.82	DM-B-46	J-18	70-72'					2.68	100	100	100	100	100	100	99.8	98.4	94.7	69.4	13.6	7.4	4.5	3.6
X735.82	DM-B-47	J-2	2-4'						100	100	100	100	99.6	96.7	92	68.9	30.3	12	8.2			
X735.82	DM-B-47	J-4	6-8'						100	100	100	100	99.9	99	95.8	65.8	19.1	5.8	1.3			
X735.82	DM-B-47	J-6	10-12'						100	100	100	100	100	99.2	97.9	86	56.4	22.9	4.3			
X735.82	DM-B-47	J-8	20-22'						100	100	100	100	99.8	99	95.8	73.2	26.3	6.3	2			
X735.82	DM-B-47	J-10	30-32'						100	100	100	100	99.9	99.6	99.3	90.6	43.9	11.3	3.4			
X735.82	DM-B-47	J-12	40-42'						100	100	100	100	100	100	99.9	96.5	55.4	10.5	3.3			
X735.82	DM-B-47	J-14	50-52'						100	100	100	100	99.5	98.8	98.6	95.2	58.5	13.1	2.9			
X735.82	DM-B-47	J-16	60-62'						100	100	100	100	100	99.9	99.5	83.5	44.2	16.7	4.1			
X735.82	DM-B-47	J-18	70-72'						100	100	100	100	100	99.9	99.5	95	51.1	14	4.7			
X735.82	DM-B-47	J-20	80-82'						100	100	100	100	100	99.7	97.5	76.9	33.6	18.3	4.4			
X735.82	DM-B-47	J-22	90-92'						100	100	100	100	99.9	99.3	96	69.3	29.6	13.6	7.6			
X735.82	DM-B-47	J-24	100-102'						100	100	100	100	100	99.2	95.4	53.6	22.8	13.9	7.6			
X735.82	DM-B-47	J-26	110-112'	36	23	13		2.67	100	100	100	100	100	100	100	99.4	98.8	98.5	97.8	74	40.6	29.2
X735.82	DM-B-47	J-28	114-116'	24	20	4		2.68	100	100	100	97.7	97.6	96.8	93.1	77.6	69.9	63.5	61.7	38.9	20.2	15.2
X735.82	DM-B-48	J-2	2-4'					2.62	100	94.2	94.2	90.6	87.5	79.7	72.1	57.9	40.7	29.3	24.3	18.7	11	8.5
X735.82	DM-B-48	J-4	6-8'					2.74	100	100	100	96.7	85	66.9	54.1	41.5	31	24.6	20	12.9	6.5	4.9
X735.82	DM-B-48	J-6	10-12'					2.36	100	100	100	98.1	89.4	75.2	62.1	52.2	44.5	39.1	32.8	26.9	12.9	7
X735.82	DM-B-48	J-8	17-19'					2.38	100	100	97.6	95.9	87.4	65.5	53.4	43.9	37.2	32.4	27	21.4	9.4	5.4
X735.82	DM-B-48	J-10	25-27'						100	100	100	100	99.9	99	97.5	90.7	61.5	17.6	4			
X735.82	DM-B-48	J-12	35-37'						100	100	100	100	99.6	96.9	89.5	59.4	17.9	5.2	2.1			
X735.82	DM-B-48	J-14	45-47'						100	100	100	100	100	100	99.6	92.2	42	9.2	3			
X735.82	DM-B-48	J-16	55-57'						100	100	100	100	100	99.9	99.5	92.4	52.3	12.3	3.5			
X735.82	DM-B-48	J-18	65-67'						100	100	100	100	100	100	99.5	91	37.7	9.3	3.2			
X735.82	DM-B-48	J-20	75-77'						100	100	100	100	100	99.9	99.7	96.2	45.8	10.3	3.5			

PIN	Hole	Sample	Depth	LL	PL	PI	LOI	S.G.	2 inch	1 inch	3/4 inch	1/2 inch	1/4 inch	#10	#20	#40	#60	#100	#200	0.02mm	0.005mm	0.002mm
X735.82	DM-B-49	J-2	2-4'					2.67	100	100	93.5	88.3	85.4	79.5	72.6	57.6	38.6	24.9	18.4	15.6	9.3	7.5
X735.82	DM-B-49	J-4	6-8'					2.68	100	100	98	95.4	93.4	89.1	83.7	69.8	49	33.8	21.9	16.3	10.1	7.6
X735.82	DM-B-49	J-6	10-12'					2.65	100	100	97.1	96	90.2	80.9	71.6	57.6	42.1	30.5	21.9	16.2	9.7	7.4
X735.82	DM-B-49	J-8	20-22'						100	100	95.1	92.6	88.8	78.7	70	51.2	25.2	12.1	8			
X735.82	DM-B-49	J-10	No Rec																			
X735.82	DM-B-49	J-12	32-34'	Non-Plastic				2.64	100	100	100	100	100	99.3	95.6	82.4	53.4	26.1	13.5	14	9.2	7.4
X735.82	DM-B-49	J-14	40-42'						100	100	100	100	99	97.6	93.8	71.7	30.2	12.5	6.5			
X735.82	DM-B-49	J-16	50-52'						100	100	100	100	100	100	99.5	94.9	66.5	16.2	3.6			
X735.82	DM-B-49	J-18	60-62'						100	100	100	100	100	100	99.6	90.4	36.1	8.8	3.2			
X735.82	DM-B-49	J-20	70-72'						100	100	100	100	100	100	99.9	92.1	40	10.6	3.2			
X735.82	DM-B-50A	J-2	2-4'					2.66	100	91.4	83.2	77.9	72.6	66.9	59.9	48.4	34.8	21.9	13.7	10.3	6.8	6.2
X735.82	DM-B-50B	J-2	2-4'						100	96.8	87.3	81.6	70.4	60.2	52.3	41.9	29.3	16.4	9.8			
X735.82	DM-B-50B	J-4	6-8'					2.66	100	96.6	92.4	88.3	79.2	70.9	63.5	51.9	38.9	28.2	20.1	14.9	9.4	7.9
X735.82	DM-B-50B	J-6	10-12'						100	100	100	98.2	98	97.5	92.8	78.3	48.5	16.6	4.7			
X735.82	DM-B-50B	J-8	20-22'						100	100	100	100	99.7	98.7	93	80	56.6	22.2	7.6			
X735.82	DM-B-50B	J-10	30-32'						100	100	100	100	100	98.9	90.1	63.2	32.4	7.8	2			
X735.82	DM-B-50B	J-12	40-42'						100	100	100	100	100	100	99.8	96.1	58.7	18.2	4.2			
X735.82	DM-B-50B	J-14	50-52'						100	100	100	100	99.8	99.7	99.5	97.3	69.7	17.1	4.7			
X735.82	DM-W-22C	J-2	3-6'						100	100	100	97.5	94.3	88.6	75.2	45.8	18.9	7.7	4.8			
X735.82	DM-W-22C	J-4	8-10'						100	100	100	100	99.4	96.4	81.9	47.6	16.7	6.4	3.7			
X735.82	DM-W-22C	J-6	15-17'						100	100	100	100	100	99.3	97	70.7	27.5	8.9	3.2			
X735.82	DM-W-22C	J-8	25-27'						100	100	100	100	99.8	98.9	96.9	76.4	31	8	2.7			
X735.82	DM-W-22C	J-10	35-37'						100	100	100	100	99.9	95.3	86.6	56	19.2	6.9	3.3			
X735.82	DM-W-22C	J-12	45-47'						100	100	100	100	99.9	99.2	97.1	85	38.9	9.5	3.5			
X735.82	DM-W-23	J-2	2-4'					2.66	100	100	100	99.1	98	95.9	87.7	65	45.4	38.4	36.1	27.6	16.9	13.1
X735.82	DM-W-23	J-4	6-8'						100	100	100	98.8	96.1	89.8	72.9	40.1	15.4	6.4	3.5			
X735.82	DM-W-23	J-6	10-12'						100	100	100	100	98.6	93.8	76.6	40	14.1	4.3	2			
X735.82	DM-W-23	J-8	20-22'						100	100	100	100	99.7	97.9	87.5	55.2	19.2	6.7	2.9			
X735.82	DM-W-23	J-10	30-32'						100	100	100	99.3	98.2	95.4	85.2	46.7	16.1	5.8	2.7			
X735.82	DM-W-23	J-12	40-42'						100	100	100	100	99.7	98.2	91.9	61.6	20.7	6.2	2.4			
X735.82	DM-W-23	J-14	50-52'						100	100	100	100	100	99.8	99.7	97.8	87.4	40.8	7.9			
X735.82	DM-W-24	J-2	2-4'						100	85.6	85.6	84.6	81.3	73.8	64.1	41	19	10.1	7.5			
X735.82	DM-W-24	J-4	6-8'						100	100	100	100	99.3	96.3	85.8	55	20.2	6.9	3.3			
X735.82	DM-W-24	J-6	10-12'						100	100	100	98.8	97.7	92.5	80.3	48.7	19.3	8.5	6			
X735.82	DM-W-24	J-8	20-22'						100	100	100	100	99.9	97.8	93.8	67	21.2	4.9	1.7			
X735.82	DM-W-24	J-10	30-32'						100	100	100	100	97	87	70.2	45	18.8	7.8	3.6			
X735.82	DM-W-24	J-12	40-42'						100	100	100	100	100	99.3	97.2	82.3	43.1	13.5	5			
X735.82	DM-W-24	J-14	50-52'						100	100	100	100	100	100	99.8	96.1	63.5	18.6	4.3			

PIN	Hole	Sample	Depth	LL	PL	PI	LOI	S.G.	2 inch	1 inch	3/4 inch	1/2 inch	1/4 inch	#10	#20	#40	#60	#100	#200	0.02mm	0.005mm	0.002mm
X735.82	DM-W-25	J-2	2-4'					2.66	100	100	100	100	99.3	97.7	85.4	52.3	24.8	16.2	13.9	14.2	9.6	7.5
X735.82	DM-W-25	J-4	6-8'					2.66	100	100	100	100	99	96.1	84	53.4	27.3	17.3	14.2	14.2	9.1	7.4
X735.82	DM-W-25	J-6	10-12'						100	100	100	100	98.7	86.3	63	35.2	15.2	6.6	3.6			
X735.82	DM-W-25	J-8	20-22'						100	100	100	100	99.6	98.8	95.6	70.9	32.7	9.1	2.5			
X735.82	DM-W-25	J-10	30-32'						100	100	100	100	99.8	97	83.8	50.5	17.6	8	4.6			
X735.82	DM-W-25	J-12	40-42'						100	100	100	100	100	99.7	98	89.5	48.1	13.1	4.9			
X735.82	DM-W-25	J-14	50-52'						100	100	100	100	100	100	99.1	89.4	49.8	14.5	4.2			
X735.82	DM-W-26	J-2	3-7'						100	100	100	100	99.8	95.9	81.1	48.2	18.3	4.7	1.6			
X735.82	DM-W-26	J-4	9-11'						100	100	100	100	99.5	96.6	80.1	44	16	4.5	1.7			
X735.82	DM-W-26	J-6	15-17'						100	100	100	100	99.9	98.9	90.8	64.1	24	7.4	3.7			
X735.82	DM-W-26	J-8	25-27'						100	100	100	100	99.8	99.3	96	77.7	37.8	13.7	4.9			
X735.82	DM-W-26	J-10	35-37'						100	100	100	100	99.8	98.3	95.6	74.5	26.7	10.3	5			
X735.82	DM-W-26	J-12	45-47'						100	100	100	100	100	99.4	98.3	92.9	65.6	26	8.2			
X735.82	DM-W-27A	J-2	2-4'						100	100	100	98.3	97	94.4	81.9	46.1	15.6	6	4.2			
X735.82	DM-W-27A	J-4	7-9'						100	100	100	100	100	98.6	88.5	55.8	16.8	4.4	2.3			
X735.82	DM-W-27A	J-6	11-13'						100	100	100	100	99.7	98.4	90.6	54.2	21.3	9.8	5.2			
X735.82	DM-W-27A	J-8	20-22'						100	100	100	100	99.7	98.2	95	64	22.5	6.4	2.7			
X735.82	DM-W-27A	J-10	30-32'						100	100	100	99.3	98.1	86.8	73.9	43.4	14.3	5.4	2.8			
X735.82	DM-W-27A	J-12	40-42'						100	100	100	100	99.9	98	96.5	81.3	44.4	16.6	5.4			
X735.82	DM-W-27A	J-14	50-52'						100	100	100	100	99.7	99.4	98.1	83	33.3	8.8	3.3			
X735.82	DM-W-28	J-2	3-7'						100	100	100	100	99.8	97.5	87.3	51	11.6	2.7	1.5			
X735.82	DM-W-28	J-4	9-11'					2.68	100	100	100	100	99.8	99.2	96	80.1	56	34.9	16.8	9.3	5.6	4.5
X735.82	DM-W-28	J-6	15-17'						100	100	100	100	100	99.7	97.7	80.9	32	7.2	2.6			
X735.82	DM-W-28	J-8	25-27'						100	100	100	100	99	96.8	96.3	87.3	45.4	13.1	3.4			
X735.82	DM-W-28	J-10	35-37'						100	100	100	100	100	99.9	99.9	96.1	52.4	15.6	6.9			
X735.82	DM-W-28	J-12	45-47'						100	100	100	100	100	99.9	99.8	93.7	46.8	13.6	4.2			
X735.82	DM-W-29	J-2	3-7						100	100	96.1	96.1	96	93.1	76.7	33.6	6.5	1.5	0.7			
X735.82	DM-W-29	J-4	9-11'						100	100	100	100	99.9	98.3	92.8	61.7	17.3	4	1.4			
X735.82	DM-W-29	J-6	15-17'						100	100	100	100	100	99.6	98.5	86	30.9	7.3	2.2			
X735.82	DM-W-29	J-8	25-27'						100	100	100	100	99.8	99	94.4	76.2	44.7	17.9	4.5			
X735.82	DM-W-29	J-10	35-37'						100	100	100	100	100	99.6	98.3	82.9	36.2	11	4.1			
X735.82	DM-W-29	J-12	45-47'					2.68	100	100	100	100	100	100	99.2	91.6	67.2	51.6	27.6	8.6	4.8	3.9
X735.82	DM-W-30	J-2	2-4'						100	100	100	100	99.8	99.1	91.1	43.2	12.6	3.1	1.3			
X735.82	DM-W-30	J-4	6-8'						100	100	100	100	99.8	98.3	91.5	63	21.4	6.3	2.5			
X735.82	DM-W-30	J-6	10-12'						100	100	100	99.3	98.5	97.7	92.6	68.5	28.3	10.1	4.3			
X735.82	DM-W-30	J-8	20-22'						100	100	100	100	99.5	95.2	87.8	62	30.4	10.3	3.8			
X735.82	DM-W-30	J-10	30-32'						100	100	100	100	99.3	97.4	92.4	66.8	36.6	10.4	3.7			
X735.82	DM-W-30	J-12	40-42'						100	100	100	100	99.9	99.9	99.1	89.6	50.5	16.7	4.8			
X735.82	DM-W-30	J-14	50-52'						100	100	100	100	99.9	99.4	98.4	80.4	28.6	5.2	2			

PIN	Hole	Sample	Depth	LL	PL	PI	LOI	S.G.	2 inch	1 inch	3/4 inch	1/2 inch	1/4 inch	#10	#20	#40	#60	#100	#200	0.02mm	0.005mm	0.002mm
X735.82	DM-W-31	J-2	7-9'						100	100	100	100	99.9	99.4	97	73.2	27.9	8.2	4.2			
X735.82	DM-W-31	J-4	11-13'						100	100	100	100	99.8	99.2	96.1	78.5	33	10.8	4.9			
X735.82	DM-W-31	J-6	20-22'						100	100	100	100	99.4	97.6	91.9	73.6	38.6	10.2	3.4			
X735.82	DM-W-31	J-8	30-32'						100	100	100	100	98.4	95.8	88.6	58	21	7.1	2.7			
X735.82	DM-W-31	J-10	40-42'						100	100	100	100	100	99.5	98.7	88.9	39.8	11.1	4.5			
X735.82	DM-W-31	J-12	50-52'						100	100	100	100	99.7	99.5	98.3	83.2	39	12.4	3.5			
X735.82	DM-W-32A	J-2	2-4'						100	100	100	100	99.5	95.9	78.7	45.8	20.9	11.1	8.6			
X735.82	DM-W-32A	J-4	7-9'						100	100	100	100	99.8	98.3	86.3	56.8	21.3	5.8	2.5			
X735.82	DM-W-32A	J-6	11-13'						100	100	100	100	99.9	98.4	88.4	56	22	8.8	4.8			
X735.82	DM-W-32A	J-8	20-22'						100	100	100	100	99.9	99.5	96.7	73.8	30.5	8.8	2.9			
X735.82	DM-W-32A	J-10	30-32'						100	100	100	100	98.6	97.2	91.3	66.1	28.6	12.2	4.6			
X735.82	DM-W-32A	J-12	40-42'						100	100	100	100	100	99.9	99.4	95.4	69.5	27.1	5.4			
X735.82	DM-W-32A	J-14	50-52'						100	100	100	100	100	99.8	98.6	82.9	37.9	13.1	3.9			
X735.82	DM-W-33	J-2	2-4'						100	100	100	99.6	98.7	95.9	89.5	74.2	46.7	16.9	5.4			
X735.82	DM-W-33	J-4	6-8'					2.48	100	100	96.6	92.6	80.2	60.5	47.4	38.4	32.2	27.6	23.4	18.5	9.9	6
X735.82	DM-W-33	J-6	10-12'						No Sample													
X735.82	DM-W-33	J-8	20-22'				46.88	1.71	100	88.5	88.5	87.2	86	76.2	60.2	47.5	39.6	34.6	30.5	20.2	11.4	
X735.82	DM-W-33	J-10	30-32'						100	100	100	100	100	99.7	98.2	74.9	33.8	10.9	3.9			
X735.82	DM-W-33	J-12	40-42'						100	100	100	100	100	100	99.5	89.7	44.8	9.4	2.5			
X735.82	DM-W-33	J-14	50-52'						100	100	100	100	100	100	99.9	97.4	56.5	12.9	3.9			
X735.82	DM-W-33	J-16	60-62'						100	100	100	100	100	100	99.9	98.3	69.5	12.2	2.7			
X735.82	DM-W-33B	J-2	2-4'						100	100	100	98.2	95.4	91.8	85.2	71.6	47.1	20.2	9.1			
X735.82	DM-W-33B	J-4	6-8'					2.42	100	100	100	97	89	71.3	56.6	46.6	39.6	34.3	29.4	25.2	12.2	7
X735.82	DM-W-33B	J-6	10-12'						No Sample													
X735.82	DM-W-33B	J-8	14-16'					2.47	100	86.8	83.3	77	65.6	50	38.7	31.7	27.2	23.6	20.2	17.9	8.3	4.8
X735.82	DM-W-33B	J-10	18-20'					2.53	100	100	100	95.1	77	54.1	42.7	34.3	27.6	21.7	16.7	12.2	6.1	4
X735.82	DM-W-33B	J-12	24-26'				7.46	2.64	100	100	100	99.3	92.4	79.2	71.8	65.2	55.2	30.4	12.8	8.6	5.5	5

Van Wyck Expressway Widening - X735.82

Hole	Sample	Depth	pH	Sulfate ppm	Chloride ppm
DM-W-33	J-1	0-2	7.9		
DM-W-33	J-3	4-6	7.7	390.7	47.5
DM-W-33	J-5	8-10	7.3		
DM-B-48	J-1	0-2	7.9		
DM-B-48	J-3	4-5	7.1	73.3	14.5
DM-B-48	J-5	8-10	7.6		
DM-B-48	J-7	15-17	7.3		
DM-B-49	J-1	0-2	7.2		
DM-B-49	J-3	4-6	7.8		
DM-B-49	J-5	8-10	7	96.5	116
DM-B-49	J-7	15-17	7.7	677.5	83.5
DM-B-49	J-9	25-27	7.9	807.3	479
DM-B-49	J-10B	32-34	8.2	552.9	292.5

NYSDOT GTM-24: Test Method for the Determination of pH Value of Water or Soil by pH Meter
ASHTO T 290 - Standard Method of Test for Determining Water-Soluble Sulfate Ion Content in Soil - Method B
AASHTO T 291 - Standard Method of Test for Determining Water-Soluble Chloride Ion Content in Soil - Method A

Summarized on September 06, 2019

APPENDIX

A-4 PERCOLATION TEST BORING LOGS

BORING LOG

BORING NUMBER: **PT-X-01**
SHEET NUMBER: **1** of **1**
PROJECT NUMBER: **187802A**

PROJECT: **Widening of the Van Wyck Expressway (I-678)**
LOCATION: **Van Wyck Expressway, Queens, New York**
CLIENT: **New York State Department of Transportation**
CONTRACTOR: **Warren George, Inc.**
DRILLER: **Jim Wilson, Eddie Fontanez**
INSPECTOR: **Michelle Chen**
DRILLING METHOD: **Rotary Wash**
RIG TYPE: **Track Mounted Rig CME D-50; Safety Hammer**

LOCATION: **Van Wyck Expressway, Queens, New York**
COORD. **N: 187,011.2** **E: 1,038,659.5**
STN. NO.: OFFSET:
SURFACE ELEV.: **32.0 feet**
DATUM: **Horiz. NAD83; Vert. NAVD88**
START DATE: **4/12/18** TIME: **7:00 am**
FINISH DATE: **4/13/18** TIME: **3:00 pm**

	Casing	Split Spoon	Shelby Tube	Pitcher	Grab	Core Barrel
Type/Symbol	HW	S ■	U ▯	P ▨	G ☒	C ▤
I.D.	4.0"	1.375"				
O.D.	4.5"	2.0"				
Length	8'	24"				
Hammer Wt.	140 lbs	140 lbs	Drill Rod Size		NW	
Hammer Fall	N/A	30"	I.D. (O.D.)		2.25" (2.625")	

GROUNDWATER DATA				
Date	Time	Water Depth (ft)	Casing Depth (ft)	Hole Depth (ft)

DEPTH (feet)	GRAPHIC LOG	CASING (Blows/ft)	SAMPLE TYPE	SAMPLE NUMBER	SAMPLE SYMBOL	SAMPLE DEPTH (feet)	SOIL (Blows/6 in.) 0/6	6/12	12/18	18/24	REC. (in.)	CORING RUN (in.)	CORING REC. (in.)	CORING REC. %	CORING L>4" (in.)	CORING RQD %	Depth Elev.	FIELD CLASSIFICATION AND REMARKS
			G	1		0.0 - 2.0												3" topsoil. G-1: Brown coarse to fine SAND, little medium to fine Gravel, trace Silt, dry. (SP-SM) Water Content = 7.2%
			G	2		2.0 - 4.0												G-2: Brown coarse to fine SAND, little medium to fine Gravel, trace Silt, dry. (SP-SM) Water Content = 11.5%
			G	3		4.0 - 6.0												G-3: Brown coarse to fine SAND, some medium to fine Gravel, trace Silt, dry. (SP-SM) Water Content = 4.7%
5			S	1		6.0 - 8.0	18	16	17	16	15							S-1: Brown coarse to fine SAND, trace fine Gravel, trace Silt, dense, dry. (SP-SM) Water Content = 5.1%
			S	2		8.0 - 10.0	31	33	25	23	19							S-2: Brown coarse to fine SAND, trace fine Gravel, trace Silt, very dense, moist. (SP-SM) Water Content = 7.1%
10			S	3		10.0 - 12.0	25	26	22	18	18							S-3: Brown coarse to fine SAND, little medium to fine Gravel, trace Silt, dense, moist. (SP-SM)
15																		End of boring at 12 ft. Drilled to 45 ft. Installed groundwater observation well.
20																		

PB BORINGS 2 VWE PERCOLATION TEST BORINGS.GPJ VWE PERCOLATION TEST BORINGS-LIB.GLB.GLB 11/14/18

BORING LOG

BORING NUMBER: **PT-X-02**
SHEET NUMBER: **1** of **1**
PROJECT NUMBER: **187802A**

PROJECT: **Widening of the Van Wyck Expressway (I-678)**
LOCATION: **Van Wyck Expressway, Queens, New York**
CLIENT: **New York State Department of Transportation**
CONTRACTOR: **Warren George, Inc.**
DRILLER: **Jim Wilson, Eddie Fontanez**
INSPECTOR: **Michelle Chen, Bartlomiej Dziuban, Gabriela de Aragao**
DRILLING METHOD: **Rotary Wash**
RIG TYPE: **Track Mounted Rig CME D-50; Safety Hammer**

LOCATION: **Van Wyck Expressway, Queens, New York**
COORD. **N: 187,091.8** **E: 1,038,417.2**
STN. NO.: OFFSET:
SURFACE ELEV.: **32.0 feet**
DATUM: **Horiz. NAD83; Vert. NAVD88**
START DATE: **4/9/18** TIME: **11:30 am**
FINISH DATE: **4/9/18** TIME: **12:45 pm**

	Casing	Split Spoon	Shelby Tube	Pitcher	Grab	Core Barrel
Type/Symbol	HW	S ■	U ▯	P ▯	G ☒	C ▯
I.D.	4.0"	1.375"				
O.D.	4.5"	2.0"				
Length	8'	24"				
Hammer Wt.	140 lbs	140 lbs	Drill Rod Size		NW	
Hammer Fall	N/A	30"	I.D. (O.D.)		2.25" (2.625")	

GROUNDWATER DATA				
Date	Time	Water Depth (ft)	Casing Depth (ft)	Hole Depth (ft)

DEPTH (feet)	GRAPHIC LOG	CASING (Blows/ft)	SAMPLE TYPE	SAMPLE NUMBER	SAMPLE SYMBOL	SAMPLE DEPTH (feet)	SOIL (Blows/6 in.) 0/6	6/12	12/18	18/24	REC. (in.)	CORING RUN (in.)	CORING REC. (in.)	CORING REC. %	CORING L>4" (in.)	CORING RQD %	Depth Elev.	FIELD CLASSIFICATION AND REMARKS
			S	1	■	0.0 - 2.0	8	20	28	24	17							3" topsoil. S-1: Dark brown coarse to fine SAND, little medium to fine Gravel, trace Silt, dense, dry. (SP-SM) Water Content = 9.1%
			S	2	■	2.0 - 4.0	20	18	28	45	16							S-2: Brown coarse to fine SAND, trace fine Gravel, trace Silt, dense, moist. (SP-SM) Water Content = 8.4%
5			S	3	■	4.0 - 6.0	33	45	47	62	7							S-3: Brown coarse to fine SAND, trace fine Gravel, trace Silt, very dense, moist. (SP) Water Content = 4.4%
			S	4	■	6.0 - 8.0	46	54	44	44	14							S-4: Brown coarse to fine SAND, trace fine Gravel, trace Silt, very dense, moist. (SP) Water Content = 4.9%
			S	5	■	8.0 - 10.0	10	10	12	9	20							S-5: Brown coarse to medium SAND, trace medium to fine Gravel, trace Silt, medium dense, moist. (SP) Water Content = 3.8%
10			S	6	■	10.0 - 12.0	9	7	6	5	12							S-6: Brown coarse to medium SAND, some medium to fine Gravel, trace Silt, medium dense, moist. (SP)
																		End of boring at 12 ft.
15																		
20																		

PB BORINGS 2 VWE PERCOLATION TEST BORINGS.GPJ VWE PERCOLATION TEST BORINGS-LIB.GLB.GLB 11/14/18

BORING LOG

BORING NUMBER: **PT-X-03**
SHEET NUMBER: **1** of **1**
PROJECT NUMBER: **187802A**

PROJECT: **Widening of the Van Wyck Expressway (I-678)**
LOCATION: **Van Wyck Expressway, Queens, New York**
CLIENT: **New York State Department of Transportation**
CONTRACTOR: **Warren George, Inc.**
DRILLER: **Jim Wilson, Eddie Fontanez**
INSPECTOR: **Michelle Chen, Gabriela de Aragao**
DRILLING METHOD: **Rotary Wash**
RIG TYPE: **Track Mounted Rig CME D-50; Safety Hammer**

LOCATION: **Van Wyck Expressway, Queens, New York**
COORD. **N: 181,578.1** **E: 1,039,928.2**
STN. NO.: OFFSET:
SURFACE ELEV.: **19.0 feet**
DATUM: **Horiz. NAD83; Vert. NAVD88**
START DATE: **4/17/18** TIME: **7:00 am**
FINISH DATE: **4/20/18** TIME: **2:15 pm**

	Casing	Split Spoon	Shelby Tube	Pitcher	Grab	Core Barrel
Type/Symbol	HW	S ■	U ▯	P ▨	G ☒	C ▤
I.D.	4.0"	1.375"				
O.D.	4.5"	2.0"				
Length	10'	24"				
Hammer Wt.	140 lbs	140 lbs	Drill Rod Size		NW	
Hammer Fall	N/A	30"	I.D. (O.D.)		2.25" (2.625")	

GROUNDWATER DATA				
Date	Time	Water Depth (ft)	Casing Depth (ft)	Hole Depth (ft)

DEPTH (feet)	GRAPHIC LOG	CASING (Blows/ft)	SAMPLE TYPE	SAMPLE NUMBER	SAMPLE SYMBOL	SAMPLE DEPTH (feet)	SOIL (Blows/6 in.) 0/6	6/12	12/18	18/24	REC. (in.)	CORING RUN (in.)	CORING REC. (in.)	CORING REC. %	CORING L>4" (in.)	CORING RQD %	Depth Elev.	FIELD CLASSIFICATION AND REMARKS
			G	1		0.0 - 2.0												3" topsoil. G-1: Brown coarse to fine SAND, trace medium to fine Gravel, trace Silt, dry. (SM)
			G	2		2.0 - 4.0												G-2: Brown coarse to fine SAND, trace medium to fine Gravel, trace Silt, dry. (SM) Water Content = 2.0%
			G	3		4.0 - 6.0												G-3: Brown to black coarse to fine SAND, some Silt, trace fine Gravel, dry. (SM) Water Content = 11.2%
5			S	1		6.0 - 8.0	11	10	12	19	7							S-1: Brown to black coarse to fine SAND, little Silt, trace fine Gravel, medium dense, dry. (SM) Water Content = 10.1%
			S	2		8.0 - 10.0	15	21	19	18	6							S-2: Brown to gray medium to fine Gravel, and coarse to fine Sand, little Silt, dense, dry. (GM) Water Content = 8.2%
10			S	3		10.0 - 12.0	6	14	10	11	15							S-3: Brown to gray coarse to fine SAND, some medium to fine Gravel, trace Silt, medium dense, moist. (SP-SM)
			S	4		12.0 - 14.0	5	5	5	3	17							S-4: Gray coarse to fine SAND, some medium to fine Gravel, trace Silt, loose to medium dense, moist; occasional glass fragments. (SP-SM)
15																		End of boring at 14 ft.
20																		

PB BORINGS 2 VWE PERCOLATION TEST BORINGS.GPJ VWE PERCOLATION TEST BORINGS-LIB.GLB.GLB 11/14/18

BORING LOG

BORING NUMBER: **PT-X-04**
SHEET NUMBER: **1** of **1**
PROJECT NUMBER: **187802A**

PROJECT: **Widening of the Van Wyck Expressway (I-678)**
LOCATION: **Van Wyck Expressway, Queens, New York**
CLIENT: **New York State Department of Transportation**
CONTRACTOR: **Warren George, Inc.**
DRILLER: **Jim Wilson, Eddie Fontanez**
INSPECTOR: **Michelle Chen**
DRILLING METHOD: **Rotary Wash**
RIG TYPE: **Track Mounted Rig CME D-50; Safety Hammer**

LOCATION: **Van Wyck Expressway, Queens, New York**
COORD. **N: 181,498.2** **E: 1,039,370.4**
STN. NO.: OFFSET:
SURFACE ELEV.: **20.1 feet**
DATUM: **Horiz. NAD83; Vert. NAVD88**
START DATE: **4/17/18** TIME: **7:00 am**
FINISH DATE: **4/18/18** TIME: **3:00 pm**

	Casing	Split Spoon	Shelby Tube	Pitcher	Grab	Core Barrel
Type/Symbol	HW	S ■	U ▯	P ▯	G ☒	C ▯
I.D.	4.0"	1.375"				
O.D.	4.5"	2.0"				
Length	10'	24"				
Hammer Wt.	140 lbs	140 lbs	Drill Rod Size		NW	
Hammer Fall	N/A	30"	I.D. (O.D.)		2.25" (2.625")	

GROUNDWATER DATA				
Date	Time	Water Depth (ft)	Casing Depth (ft)	Hole Depth (ft)

DEPTH (feet)	GRAPHIC LOG	CASING (Blows/ft)	SAMPLE TYPE	SAMPLE NUMBER	SAMPLE SYMBOL	SAMPLE DEPTH (feet)	SOIL (Blows/6 in.) 0/6	6/12	12/18	18/24	REC. (in.)	CORING RUN (in.)	CORING REC. (in.)	CORING REC. %	CORING L>4" (in.)	CORING RQD %	Depth Elev.	FIELD CLASSIFICATION AND REMARKS
			G	1		0.0 - 2.0												3" topsoil. G-1: Brown coarse to fine SAND, little medium to fine Gravel, trace Silt, dry. (SP-SM)
			G	2		2.0 - 4.0												G-2: Brown to black coarse to fine SAND, and coarse to fine Gravel, trace Silt, dry. (SP-SM) Water Content = 3.6%
			G	3		4.0 - 6.0												G-3: Brown coarse to fine SAND, trace fine Gravel, trace Silt, dry. (SP-SM) Water Content = 4.2%
5			S	1		6.0 - 8.0	20	20	15	16	14							S-1: Brown coarse to fine SAND, trace Silt, dense, dry. (SP-SM) Water Content = 3.4%
			S	2		8.0 - 10.0	40	2	10	13	7							S-2: Brown coarse to fine SAND, trace Silt, medium dense, dry. (SP-SM) Water Content = 5.3%
10			S	3		10.0 - 12.0	14	9	6	3	9							S-3: Brown to black to white coarse to fine SAND, some medium to fine Gravel, little Silt, medium dense, dry; occasional metal fragments and miscellaneous debris. (SM) Water Content = 31.2%
			S	4		12.0 - 14.0	5	3	2	2	3							S-4: Brown coarse to fine Sand, some medium to fine Gravel, some Silt, loose, dry; occasional metal fragments and miscellaneous debris. (SM) Water Content = 12.1%
15																		End of boring at 14 ft.
																		Drilled to 25 ft. Installed groundwater observation well.
20																		

PB BORINGS 2 VWE PERCOLATION TEST BORINGS.GPJ VWE PERCOLATION TEST BORINGS-LIB.GLB.GLB 11/14/18

APPENDIX

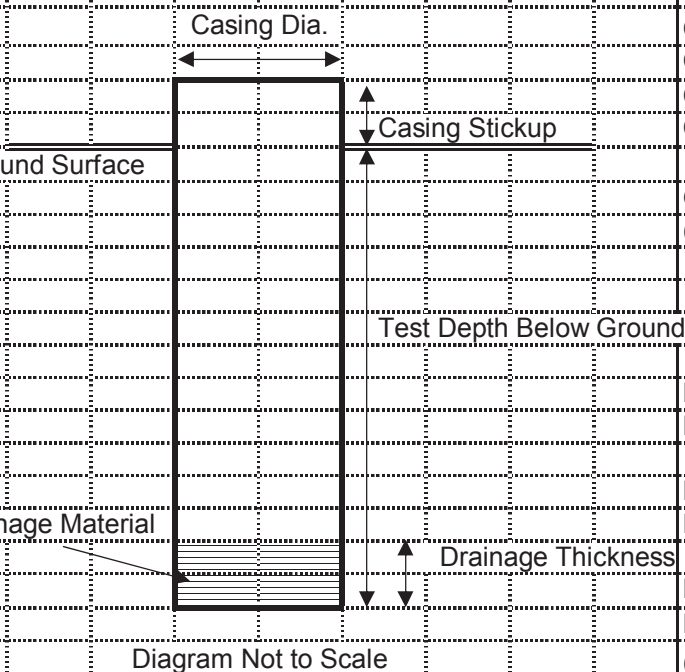
A-5 PERCOLATION TEST REPORTS

PERCOLATION TEST REPORT

Boring No.: PT-X-01-OW
Page No.: 01 of 01

Project:	Van Wyck Expressway Widening	Project No.:	187802	
Client:	NYSDOT	Location:	Van Wyck Expressway	
Install Date:	4/13/2018	Boring No.:	PT-X-01-OW	
Inspector:	Michelle Chen	Hours:	7:40 AM	11:40 AM
Contractor:	Warren George, Inc.	Weather:	Fair	
Driller/Helper:	Jim Wilson, Eddie Fontanez	Temperature:	AM 56 deg F.	PM 79 deg F.

Installation and Stratigraphy Sketch:



Casing Size:		HW
Casing I.D.:		4.0 in.
Casing O.D.:		4.5 in.
Casing Stickup above ground:		2.7 ft.
Ground Elev.:		32.0 ft.
(See additional remarks below)		
Drainage Material:	clean coarse sand	
Drainage Thickness:	approx. 6 to 7	in.
Depth to Drainage Layer:		7.2 ft.
Elevation at Top Drainage Layer:		24.8 ft.
Depth to Casing Bottom:		7.8 ft.
Elevation at Casing Bottom:		24.2 ft.
(See additional remarks below)		

Percolation Test Readings:

Test No.	Date Start	Date Finish	Time Start	Time Finish	Test Depth (ft.)	Length of Time Internal (min.)	Water Depth at Start Time Interval (in.)	Water Depth at End Time Interval (in.)	Drop in Water Level (in.)	Percolation Rate (in./hr.)
1	4/13/18	4/13/18	7:40	7:50	7.8	10	93.0	93.6	0.6	1.8
	4/13/18	4/13/18	7:50	8:10	7.8	20	93.6	94.1	0.5	
	4/13/18	4/13/18	8:10	8:40	7.8	30	94.1	94.8	0.7	
2	4/13/18	4/13/18	8:40	8:50	7.8	10	94.8	95.0	0.2	1.8
	4/13/18	4/13/18	8:50	9:10	7.8	20	95.0	95.6	0.6	
	4/13/18	4/13/18	9:10	9:40	7.8	30	95.6	96.6	1.0	
3	4/13/18	4/13/18	9:40	10:40	7.8	60	96.6	97.8	1.2	1.2
4	4/13/18	4/13/18	10:40	11:40	7.8	60	97.8	99.4	1.6	1.6
								Minimum (in./hr.):		1.2
								Maximum (in./hr.):		1.8
								Average (in./hr.):		1.6

Additional Remarks:

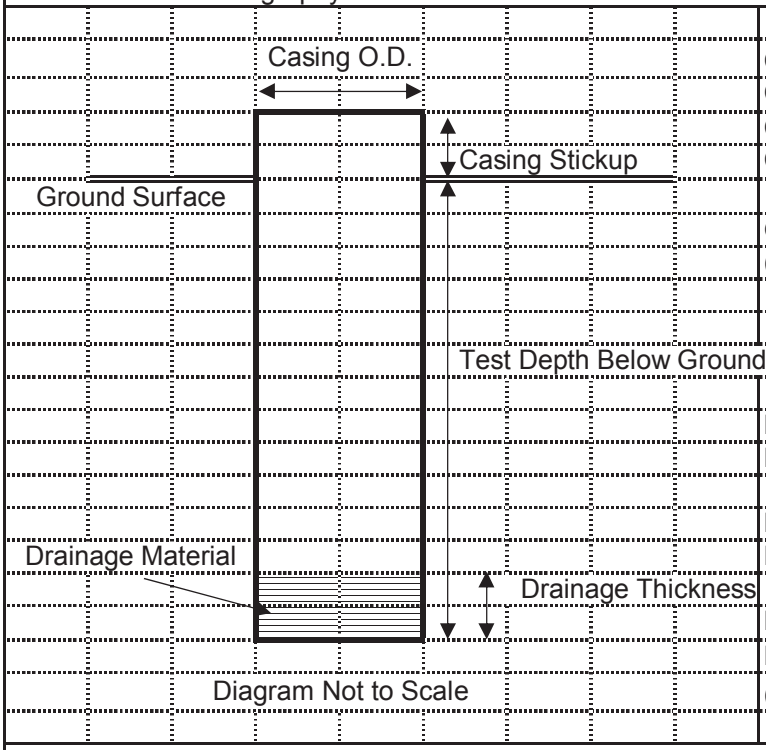
1. Test depth recorded below existing ground surface.
2. Depth to water level measured below the top of the casing.
3. Elevation is reported on the North American Vertical Datum of 1988 (NAVD 88) in U.S. Survey feet.

PERCOLATION TEST REPORT

Boring No.: PT-X-02

Project:	Van Wyck Expressway Widening	Project No.:	187802	
Client:	NYSDOT	Location:	Van Wyck Expressway	
Install Date:	4/20/2018	Boring No.:	PT-X-02	
Inspector:	Gabriela de Aragao	Hours:	8:30 AM	12:35 PM
Contractor:	Warren George, Inc.	Weather:	Partly Cloudy	
Driller/Helper:	Jim Wilson, Eddie Fontanez	Temperature:	AM 37 deg F.	PM 51 deg F.

Installation and Stratigraphy Sketch:



Casing Size:		HW
Casing I.D.:		4.0 in.
Casing O.D.:		4.5 in.
Casing Stickup above ground:		2.5 ft.
Ground Elev.:		32.0 ft.
(See additional remarks below)		
Drainage Material:	clean coarse sand	
Drainage Thickness:		4 in.
Depth to Drainage Layer:		7.7 ft.
Elevation at Top Drainage Layer:		24.4 ft.
Depth to Casing Bottom:		8.0 ft.
Elevation at Casing Bottom:		24.0 ft.
(See additional remarks below)		

Percolation Test Readings:

Test No.	Date Start	Date Finish	Time Start	Time Finish	Test Depth (ft.)	Length of Time Internal (min.)	Water Depth at Start Time Interval (in.)	Water Depth at End Time Interval (in.)	Drop in Water Level (in.)	Percolation Rate (in./hr.)
1	4/20/18	4/20/18	8:30	8:45	8.0	15	99.2	99.5	0.2	1.4
	4/20/18	4/20/18	8:45	9:00	8.0	15	99.5	99.8	0.4	
	4/20/18	4/20/18	9:00	9:15	8.0	15	99.8	100.3	0.5	
	4/20/18	4/20/18	9:15	9:30	8.0	15	100.3	100.7	0.4	
2	4/20/18	4/20/18	9:35	9:50	8.0	15	99.0	99.4	0.4	1.3
	4/20/18	4/20/18	9:50	10:05	8.0	15	99.4	99.8	0.5	
	4/20/18	4/20/18	10:05	10:35	8.0	30	99.8	100.3	0.5	
3	4/20/18	4/20/18	10:35	10:55	8.0	20	99.7	100.0	0.2	1.0
	4/20/18	4/20/18	10:55	11:15	8.0	20	100.0	100.2	0.2	
	4/20/18	4/20/18	11:15	11:35	8.0	20	100.2	100.7	0.5	
4	4/20/18	4/20/18	11:35	11:55	8.0	20	99.6	100.0	0.4	1.1
	4/20/18	4/20/18	11:55	12:15	8.0	20	100.0	100.3	0.4	
	4/20/18	4/20/18	12:15	12:35	8.0	20	100.3	100.7	0.4	

Additional Remarks:

1 Test depth recorded below existing ground surface.
2 Depth to water level measured below the top of the casing.
3 Elevation is reported on the North American Vertical Datum of 1988 (NAVD 88) in U.S. Survey feet.

PERCOLATION TEST REPORT

Project:	Van Wyck Expressway Widening	Project No.:	187802	
Client:	NYSDOT	Location:	Van Wyck Expressway	
Install Date:	4/20/2018	Boring No.:	PT-X-02	
Inspector:	Gabriela de Aragao	Hours:	8:30 AM	12:35 PM
Contractor:	Warren George, Inc.	Weather:	Partly Cloudy	
Driller/Helper:	Jim Wilson, Eddie Fontanez	Temperature:	AM 37 deg F.	PM 51 deg F.

Percolation Test Readings:

Test No.	Date Start	Date Finish	Time Start	Time Start	Test Depth (ft.)	Length of Time Internal (min.)	Water Depth at Start Time Interval (in.)	Water Depth at End Time Interval (in.)	Drop in Water Level (in.)	Percolation Rate (in./hr.)
									Minimum (in./hr.):	1.0
									Maximum (in./hr.):	1.4
									Average (in./hr.):	1.2

Additional Remarks:

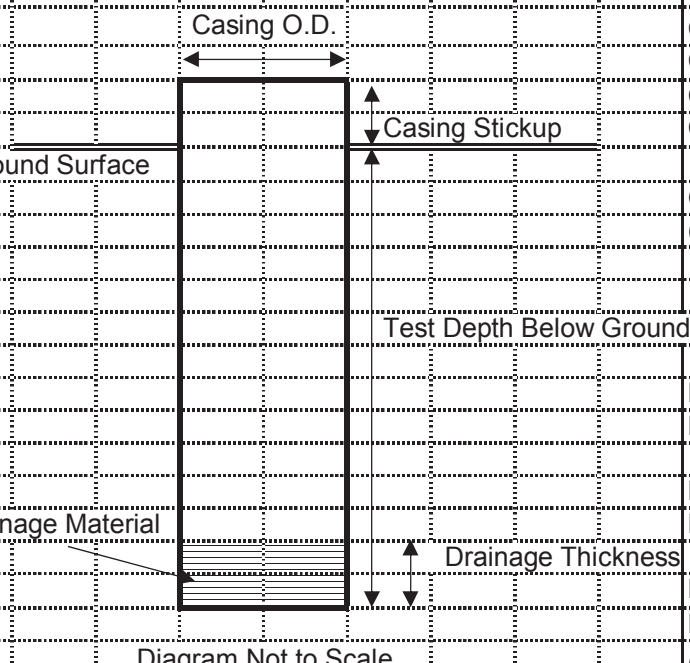
1 Test depth recorded below existing ground surface.
2 Depth to water level measured below the top of the casing.
3 Elevation is reported on the North American Vertical Datum of 1988 (NAVD 88) in U.S. Survey feet.
4
5

PERCOLATION TEST REPORT

Boring No.: PT-X-03
Page No.: 01 of 01

Project:	Van Wyck Expressway Widening	Project No.:	187802	
Client:	NYSDOT	Location:	Van Wyck Expressway	
Install Date:	4/18/2018	Boring No.:	PT-X-03	
Inspector:	Carlos Romero, Michelle Chen	Hours:	1:22 PM	5:22 PM
Contractor:	Warren George, Inc.	Weather:	Fair	
Driller/Helper:	Jim Wilson, Eddie Fontanez	Temperature:	AM 38 deg F.	PM 53 deg F.

Installation and Stratigraphy Sketch:



Casing Size:		HW
Casing I.D.:		4.0 in.
Casing O.D.:		4.5 in.
Casing Stickup above ground:		0.4 ft.
Ground Elev.:		19.0 ft.
(See additional remarks below)		
Drainage Material:	clean coarse sand	
Drainage Thickness:		5.0 in.
Depth to Drainage Layer:		9.7 ft.
Elevation at Top Drainage Layer:		9.4 ft.
Depth to Casing Bottom:		10.1 ft.
Elevation at Casing Bottom:		8.9 ft.
(See additional remarks below)		

Percolation Test Readings:

Test No.	Date Start	Date Finish	Time Start	Time Finish	Test Depth (ft.)	Length of Time Internal (min.)	Water Depth at Start Time Interval (in.)	Water Depth at End Time Interval (in.)	Drop in Water Level (in.)	Percolation Rate (in./hr.)
1	4/18/18	4/18/18	13:22	13:32	8.0	10	87.1	87.8	0.7	4.1
	4/18/18	4/18/18	13:32	13:52	8.0	20	87.8	89.3	1.4	
	4/18/18	4/18/18	13:52	14:22	8.0	30	89.3	91.2	1.9	
2	4/18/18	4/18/18	14:22	14:32	8.0	10	91.2	91.8	0.6	3.5
	4/18/18	4/18/18	14:32	14:52	8.0	20	91.8	92.6	0.8	
	4/18/18	4/18/18	14:52	15:22	8.0	30	92.6	94.7	2.0	
3	4/18/18	4/18/18	15:22	16:22	8.0	60	94.7	97.7	3.0	3.0
4	4/18/18	4/18/18	16:22	17:22	8.0	60	97.7	100.7	3.0	3.0
									Minimum (in./hr.):	3.0
									Maximum (in./hr.):	4.1
									Average (in./hr.):	3.4

Additional Remarks:

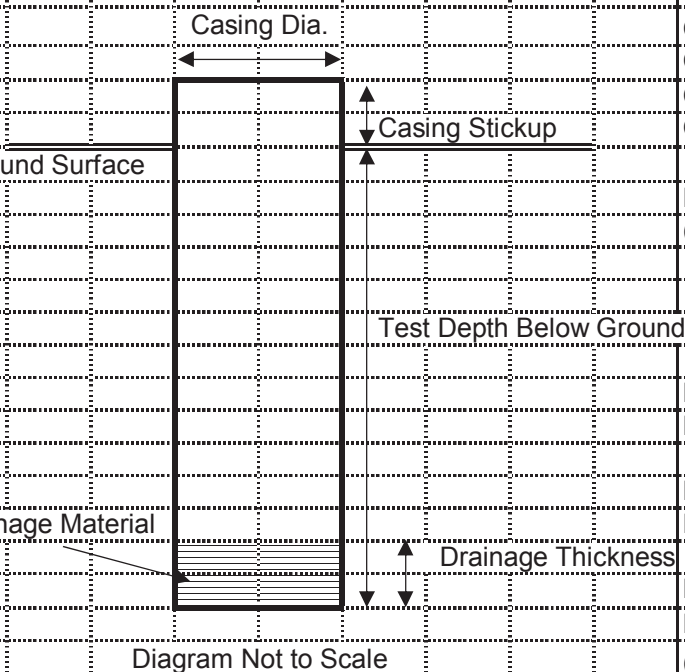
1 Test depth recorded below existing ground surface.
2 Depth to water level measured below the top of the casing.
3 Elevation is reported on the North American Vertical Datum of 1988 (NAVD 88) in U.S. Survey feet.

PERCOLATION TEST REPORT

Boring No.: PT-X-04-OW
Page No.: 01 of 01

Project:	Van Wyck Expressway Widening	Project No.:	187802	
Client:	NYSDOT	Location:	Van Wyck Expressway	
Install Date:	4/18/2018	Boring No.:	PT-X-04-OW	
Inspector:	Michelle Chen	Hours:	7:40 AM	11:40 AM
Contractor:	Warren George, Inc.	Weather:	Fair	
Driller/Helper:	Jim Wilson, Eddie Fontanez	Temperature:	AM 38 deg F.	PM 53 deg F.

Installation and Stratigraphy Sketch:



Casing Size:		HW
Casing I.D.:		4.0 in.
Casing O.D.:		4.5 in.
Casing Stickup above ground:		0.4 ft.
Existing Ground Elev.:		20.1 ft.
(See additional remarks below)		
Drainage Material:	clean coarse sand	
Drainage Thickness:		3.6 in.
Depth to Drainage Layer:		9.3 ft.
Elevation at Top Drainage Layer:		10.8 ft.
Depth to Casing Bottom:		9.6 ft.
Elevation at Casing Bottom:		10.5 ft.
(See additional remarks below)		

Percolation Test Readings:

Test No.	Date Start	Date Finish	Time Start	Time Finish	Test Depth (ft.)	Length of Time Internal (min.)	Water Depth at Start Time Interval (in.)	Water Depth at End Time Interval (in.)	Drop in Water Level (in.)	Percolation Rate (in./hr.)
1	4/18/18	4/18/18	7:40	7:50	9.6	10	90.0	91.2	1.2	4.7
	4/18/18	4/18/18	7:50	8:10	9.6	20	91.2	93.2	2.0	
	4/18/18	4/18/18	8:10	8:40	9.6	30	93.2	94.7	1.4	
2	4/18/18	4/18/18	8:40	8:50	9.6	10	94.7	96.4	1.7	3.7
	4/18/18	4/18/18	8:50	9:10	9.6	20	96.4	97.2	0.8	
	4/18/18	4/18/18	9:10	9:40	9.6	30	97.2	98.4	1.2	
3	4/18/18	4/18/18	9:40	10:40	9.6	60	98.4	102.2	3.8	3.8
4	4/18/18	4/18/18	10:40	11:40	9.6	60	102.2	106.0	3.7	3.7
									Minimum (in./hr.):	3.7
									Maximum (in./hr.):	4.7
									Average (in./hr.):	4.0

Additional Remarks:

1. Test depth recorded below existing ground surface.
2. Depth to water level measured below the top of the casing.
3. Elevation is reported on the North American Vertical Datum of 1988 (NAVD 88) in U.S. Survey feet.

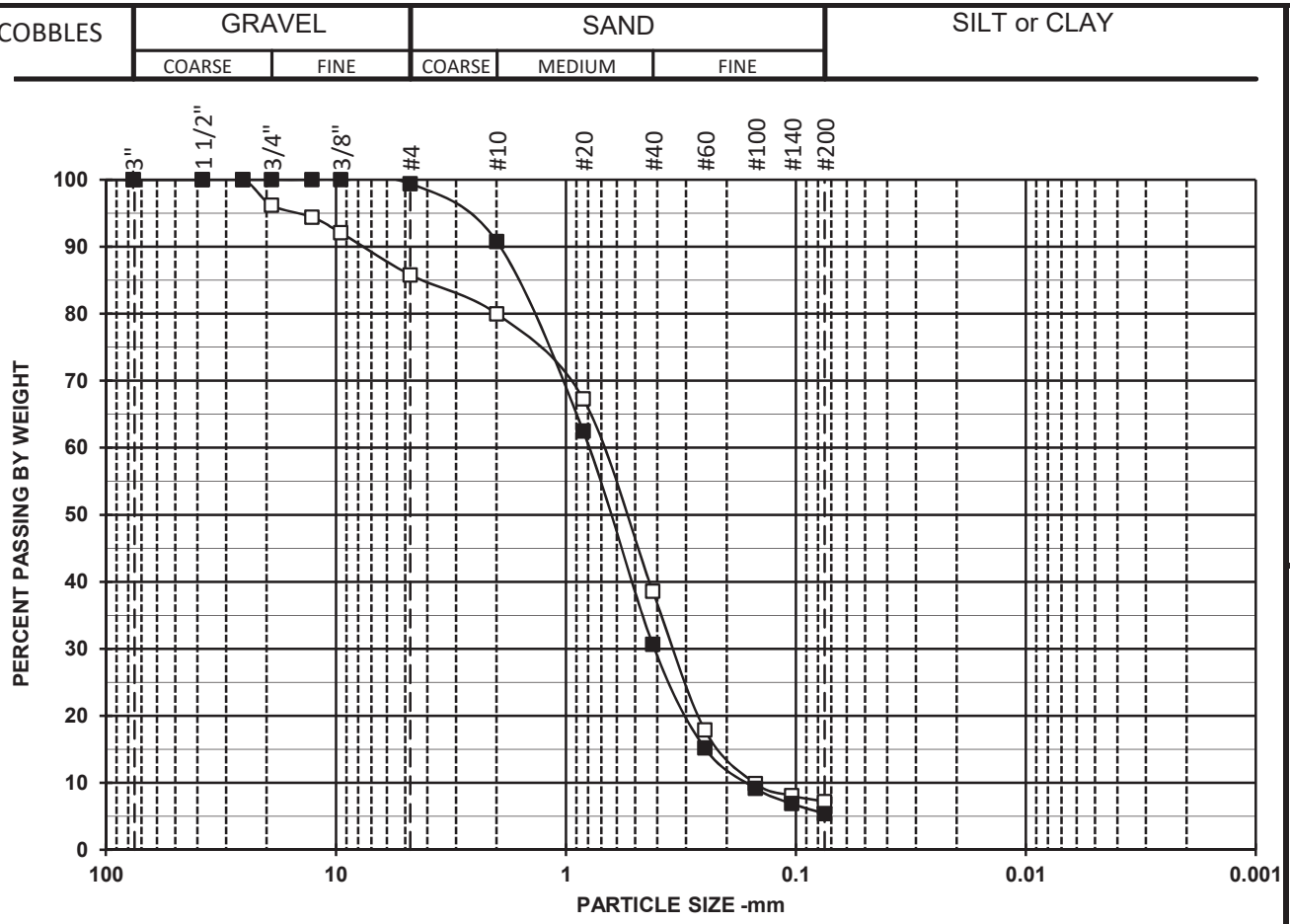
APPENDIX

A-6 PERCOLATION TEST BORINGS LABORATORY TESTING DATA

WSP #187802
Widening of the Van Wyck Expressway
LABORATORY TESTING DATA SUMMARY

BORING NO.	SAMPLE NO.	DEPTH (ft)	IDENTIFICATION TESTS			REMARKS
			WATER CONTENT (%)	USCS SYMB. (1)	SIEVE MINUS NO. 200 (%)	
PT-X-01-OW	G-1	0-2	7.2			
PT-X-01-OW	G-2	2-4	11.5			
PT-X-01-OW	G-3	4-6	4.7	SP-SM	7.2	
PT-X-01-OW	S-1	6-8	5.1			
PT-X-01-OW	S-2	8-10	7.1	SP-SM	5.4	
PT-X-01-OW	S-3	10-12				missing
PT-X-02	S-1	0-2	9.1			
PT-X-02	S-2	2-4	8.4			
PT-X-02	S-3	4-6	4.4			
PT-X-02	S-4	6-8	4.9	SP	2.8	
PT-X-02	S-5	8-10	3.8	SP	2.9	
PT-X-02	S-5A	8-9				missing
PT-X-02	S-5B	9-10				missing
PT-X-02	S-6	10-12				missing
PT-X-03	G-1	0-2				missing
PT-X-03	G-2	2-4	2.0			
PT-X-03	G-3	4-6	11.2	SM	20.6	
PT-X-03	S-1	6-8	10.1			
PT-X-03	S-2	8-10	8.2	SM	14.6	
PT-X-03	S-3A	10-10.5				missing
PT-X-03	S-3B	10.5-12				missing
PT-X-03	S-4	12-14				missing
PT-X-04-OW	G-1	0-2				missing
PT-X-04-OW	G-2	2-4	3.6			
PT-X-04-OW	G-3	4-6	4.2			
PT-X-04-OW	S-1	6-8	3.4			
PT-X-04-OW	S-2	8-10	5.3			
PT-X-04-OW	S-3	10-12	31.2	SM	18.7	
PT-X-04-OW	S-4	12-14	12.1	SM	30.3	

Note: (1) USCS symbol based on visual observation and Sieve reported.



Symbol	□	■	○
Boring	PT-X-01-OW	PT-X-01-OW	
Sample	G-3	S-2	
Depth	4-6	8-10	
% +3"	0.0	0.0	
% Gravel	14.2	0.6	
% SAND	78.6	94.0	
%C SAND	5.8	8.6	
%M SAND	41.4	60.1	
%F SAND	31.4	25.3	
% FINES	7.2	5.4	
D_{100} (mm)	25.400	9.530	
D_{60} (mm)	0.704	0.796	
D_{30} (mm)	0.338	0.409	
D_{10} (mm)	0.151	0.160	
Cc	1.100	1.300	
Cu	4.7	5.0	

Sieve Size/ID #	Percent Finer Data		
6"	100.0	100.0	
4"	100.0	100.0	
3"	100.0	100.0	
1 1/2"	100.0	100.0	
1"	100.0	100.0	
3/4"	96.2	100.0	
1/2"	94.4	100.0	
3/8"	92.1	100.0	
#4	85.8	99.4	
#10	80.0	90.8	
#20	67.3	62.5	
#40	38.6	30.7	
#60	17.9	15.2	
#100	9.9	9.2	
#140	8.1	6.9	
#200	7.2	5.4	
5μ m			
2μ m			
1μ m			

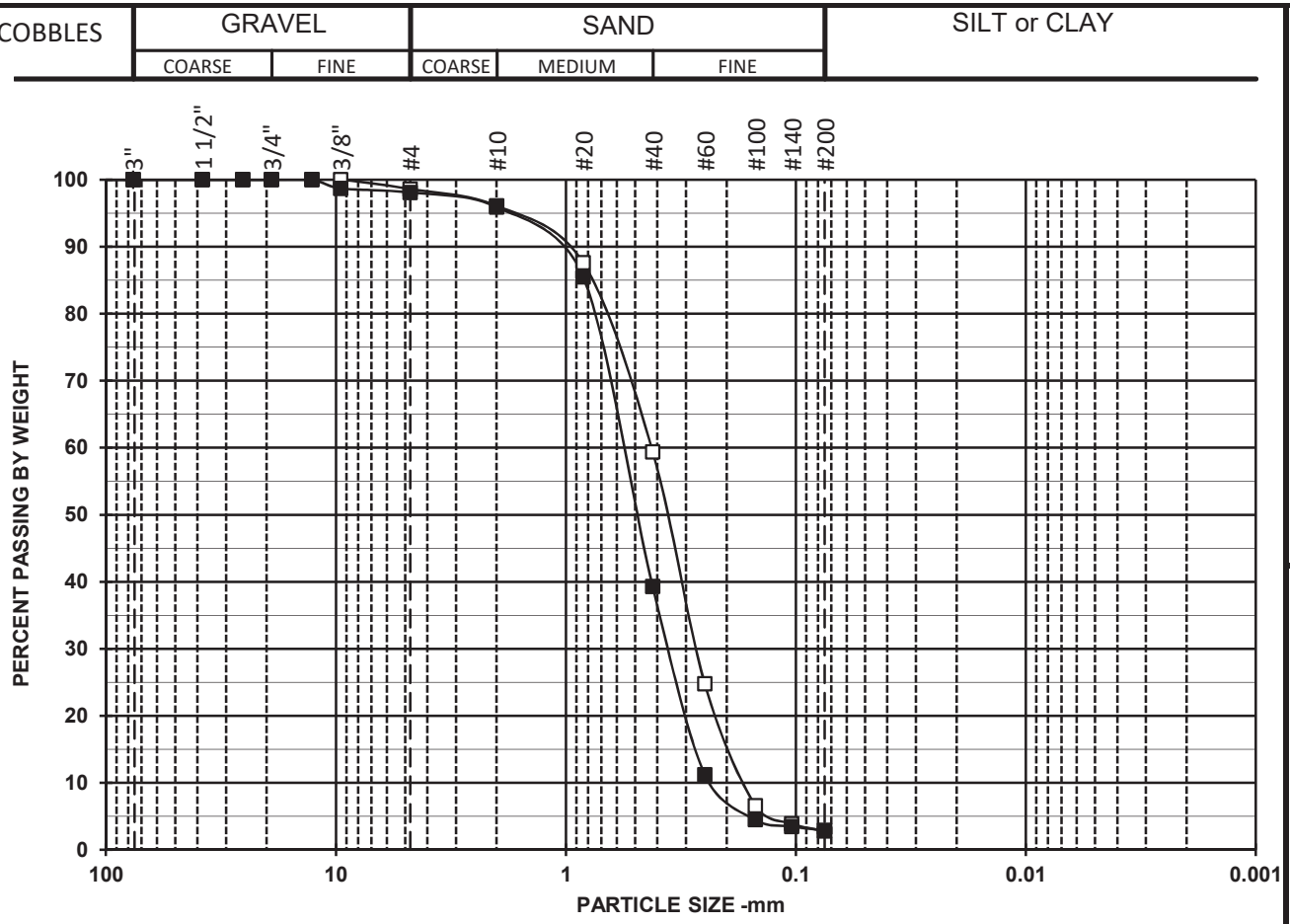
SYMBOL	w (%)	LL	PL	PI	USCS	AASHTO	USCS DESCRIPTION AND REMARKS	DATE
□	4.7				SP-SM		Brown, Poorly graded sand with silt	06/05/18
■	7.1				SP-SM		Brown, Poorly graded sand with silt	06/05/18
○								

WSP #187802

TerraSense, LLC #8085-18006

Widening of the Van Wyck Expressway

PARTICLE SIZE DISTRIBUTION



Symbol	□	■	○
Boring	PT-X-02	PT-X-02	
Sample	S-4	S-5	
Depth	6-8	8-10	
% +3"	0.0	0.0	
% Gravel	1.4	1.9	
% SAND	95.8	95.2	
%C SAND	2.5	2.2	
%M SAND	36.7	56.6	
%F SAND	56.6	36.4	
% FINES	2.8	2.9	
D_{100} (mm)	9.530	12.700	
D_{60} (mm)	0.425	0.573	
D_{30} (mm)	0.269	0.353	
D_{10} (mm)	0.165	0.227	
Cc	1.000	1.000	
Cu	2.6	2.5	

Sieve Size/ID #	Percent Finer Data		
6"	100.0	100.0	
4"	100.0	100.0	
3"	100.0	100.0	
1 1/2"	100.0	100.0	
1"	100.0	100.0	
3/4"	100.0	100.0	
1/2"	100.0	100.0	
3/8"	100.0	98.7	
#4	98.6	98.1	
#10	96.1	95.9	
#20	87.6	85.5	
#40	59.4	39.3	
#60	24.8	11.2	
#100	6.6	4.5	
#140	3.9	3.5	
#200	2.8	2.9	
5μ m			
2μ m			
1μ m			

SYMBOL	w (%)	LL	PL	PI	USCS	AASHTO	USCS DESCRIPTION AND REMARKS	DATE
□	4.9				SP		Brown, Poorly graded sand	06/05/18
■	3.8				SP		Brown, Poorly graded sand	06/05/18
○								

WSP #187802

TerraSense, LLC #8085-18006

Widening of the Van Wyck Expressway

PARTICLE SIZE DISTRIBUTION

TerraSense Analysis File: GrainSizeV4R4(11/17)

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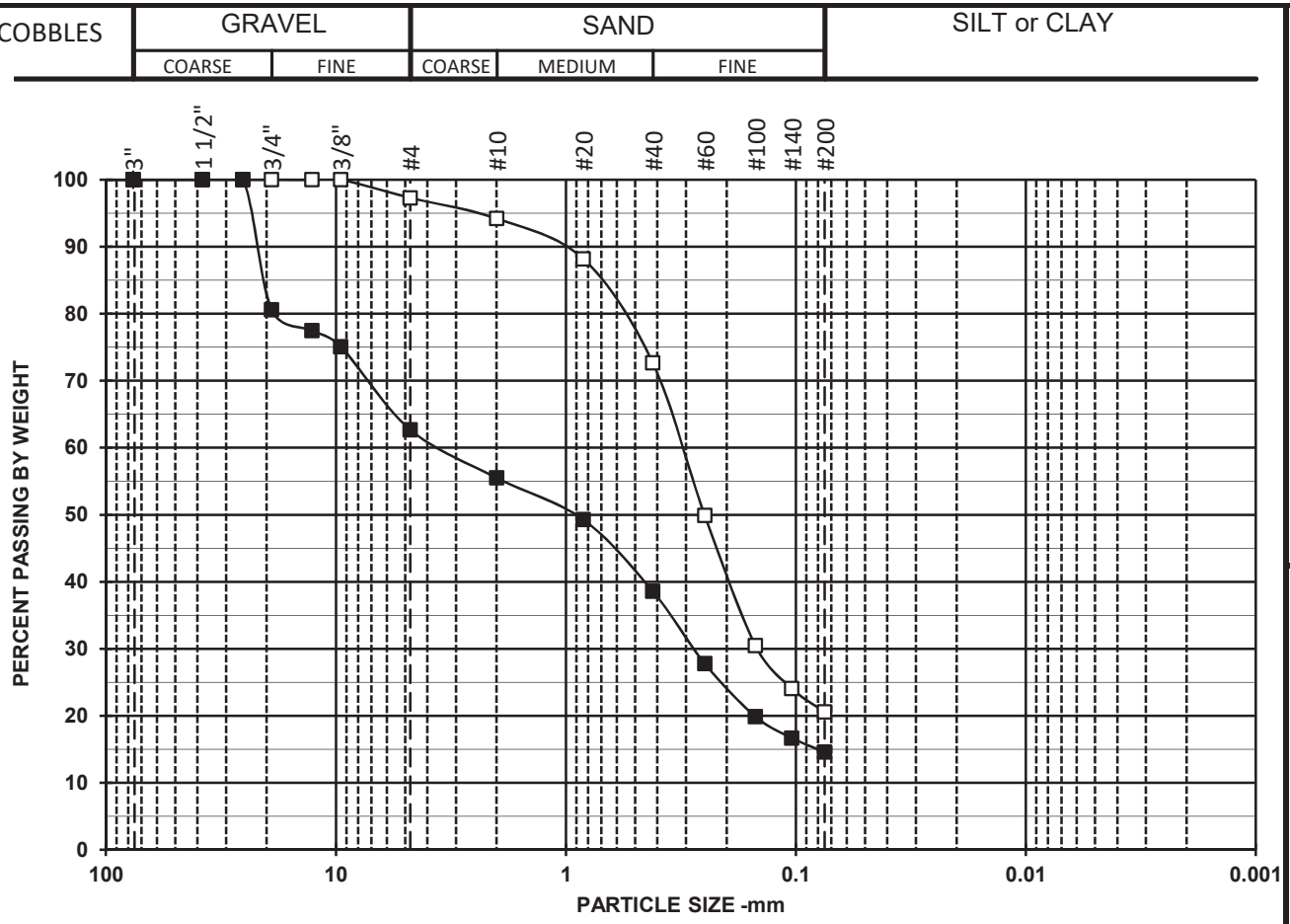


Symbol	□	■	○
Boring	PT-X-03	PT-X-03	
Sample	G-3	S-2	
Depth	4-6	8-10	
% +3"	0.0	0.0	
% Gravel	2.7	37.3	
% SAND	76.7	48.1	
%C SAND	3.1	7.2	
%M SAND	21.5	16.9	
%F SAND	52.1	24.0	
% FINES	20.6	14.6	
D_{100} (mm)	9.530	25.400	
D_{60} (mm)	0.314	3.433	
D_{30} (mm)	0.146	0.277	
D_{10} (mm)			
Cc			
Cu			

Sieve Size/ID #	Percent Finer Data		
6"	100.0	100.0	
4"	100.0	100.0	
3"	100.0	100.0	
1 1/2"	100.0	100.0	
1"	100.0	100.0	
3/4"	100.0	80.6	
1/2"	100.0	77.5	
3/8"	100.0	75.1	
#4	97.3	62.7	
#10	94.2	55.5	
#20	88.2	49.3	
#40	72.7	38.6	
#60	49.9	27.8	
#100	30.5	19.9	
#140	24.1	16.7	
#200	20.6	14.6	
5μ m			
2μ m			
1μ m			

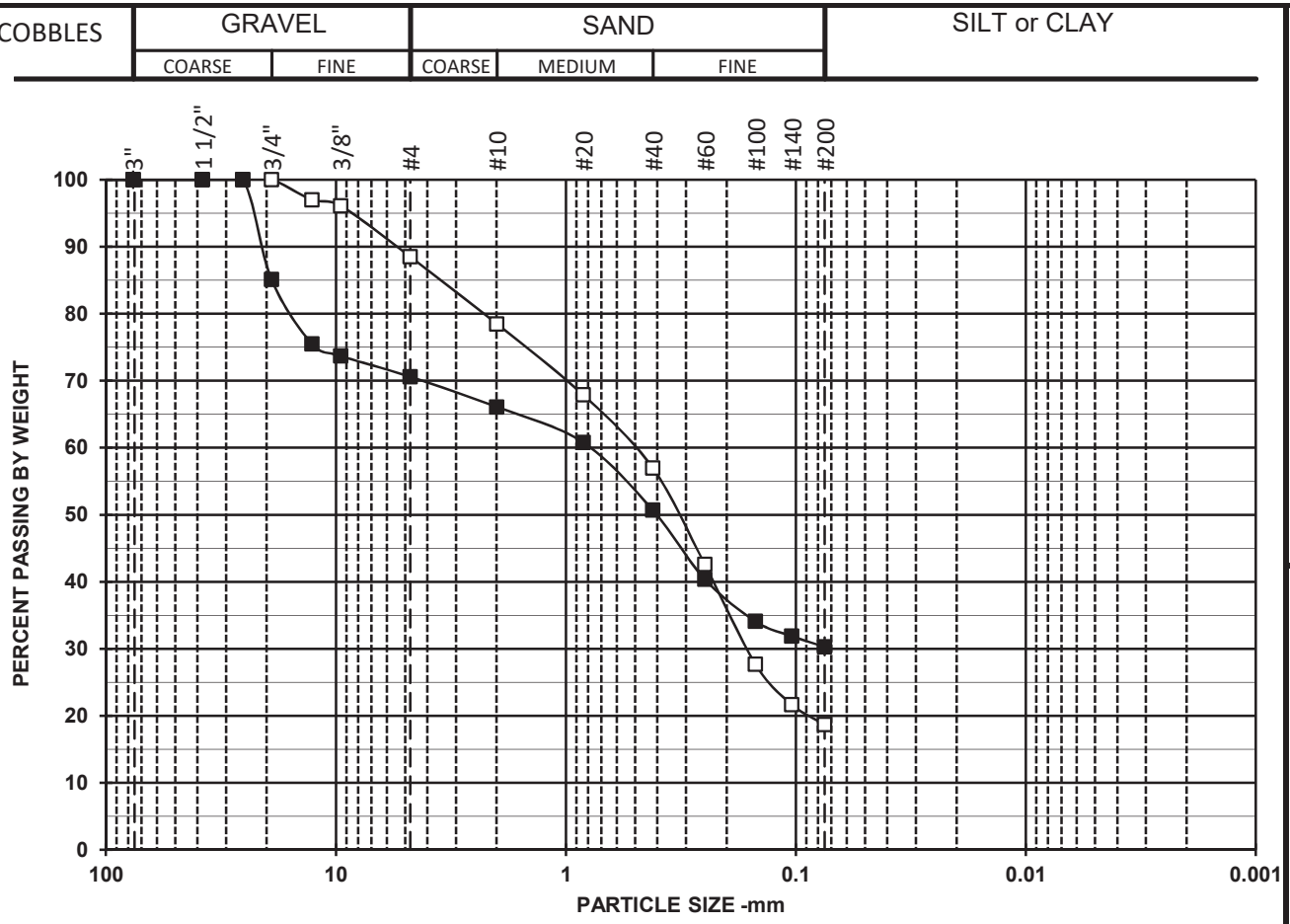
SYMBOL	w (%)	LL	PL	PI	USCS	AASHTO	USCS DESCRIPTION AND REMARKS	DATE
□	11.2				SM		Brown, Silty sand	06/05/18
■	8.2				SM		Brown, Silty sand with gravel	06/05/18
○								

WSP #187802

TerraSense, LLC #8085-18006

Widening of the Van Wyck Expressway

PARTICLE SIZE DISTRIBUTION



Symbol	□	■	○
Boring	PT-X-04OW	PT-X-04OW	
Sample	S-3	S-4	
Depth	10-12	12-14	
% +3"	0.0	0.0	
% Gravel	11.5	29.4	
% SAND	69.8	40.3	
%C SAND	10.0	4.5	
%M SAND	21.5	15.4	
%F SAND	38.3	20.4	
% FINES	18.7	30.3	
D_{100} (mm)	19.050	25.400	
D_{60} (mm)	0.508	0.796	
D_{30} (mm)	0.162		
D_{10} (mm)			
Cc			
Cu			

Sieve Size/ID #	Percent Finer Data		
6"	100.0	100.0	
4"	100.0	100.0	
3"	100.0	100.0	
1 1/2"	100.0	100.0	
1"	100.0	100.0	
3/4"	100.0	85.1	
1/2"	97.0	75.5	
3/8"	96.1	73.7	
#4	88.5	70.6	
#10	78.5	66.1	
#20	67.9	60.8	
#40	57.0	50.7	
#60	42.6	40.4	
#100	27.7	34.1	
#140	21.7	31.9	
#200	18.7	30.3	
5μ m			
2μ m			
1μ m			

SYMBOL	w (%)	LL	PL	PI	USCS	AASHTO	USCS DESCRIPTION AND REMARKS	DATE
□	31.2				SM		Grayish brown, Silty sand	06/05/18
■	12.1				SM		Brown, Silty sand with gravel	06/05/18
○								

WSP #187802

TerraSense, LLC #8085-18006

Widening of the Van Wyck Expressway

PARTICLE SIZE DISTRIBUTION

TerraSense Analysis File: GrainSizeV4R4(11/17)

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APPENDIX

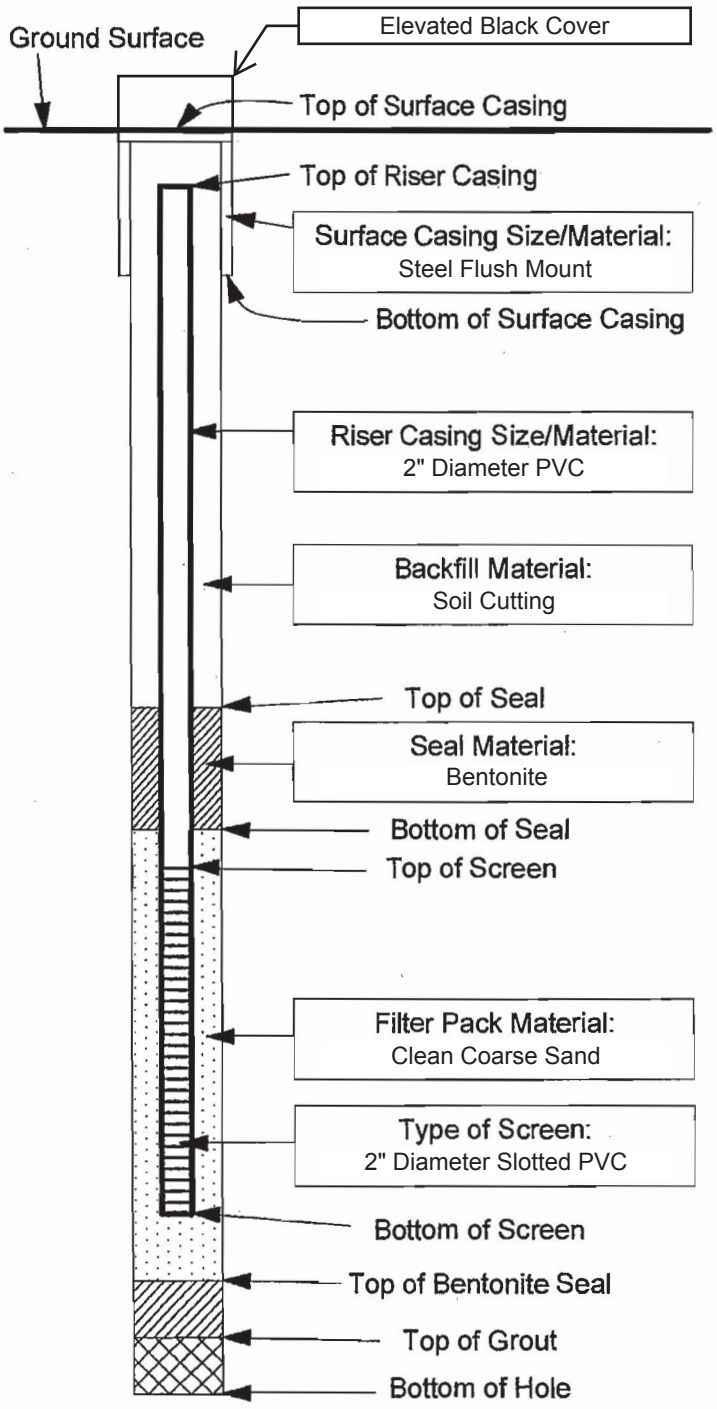
A-7 OBSERVATION WELL INSTALLATION LOGS FOR PERCOLATION TEST BORINGS

OBSERVATION WELL INSTALLATION LOG

WELL NUMBER: PT-X-01-OW

Contractor: Warren George Inc.
Driller: Jim Wilson
Inspector: Michelle Chen
Date: 4/13/2018

LOCATION: Van Wyck Expressway



	Depth (ft)	Elev. (ft)	Water Level Elevations (ft)
Top of Surface Casing	≈ - 0.3	+ 32.3	Refer to notes below for information.
	0.0	+ 32.0	
Top of Riser Casing	N/A	N/A	
Bottom of Surface Casing	N/A	N/A	
Top of Seal	32.0	0.0	
Bottom of Seal	N/A	N/A	
Top of Screen	33.8	- 1.8	
Bottom of Screen	43.8	- 11.8	
Top of Bentonite Seal	44.0	- 12.0	
Top of Grout	N/A	N/A	
Bottom of Hole	45.0	- 13.0	

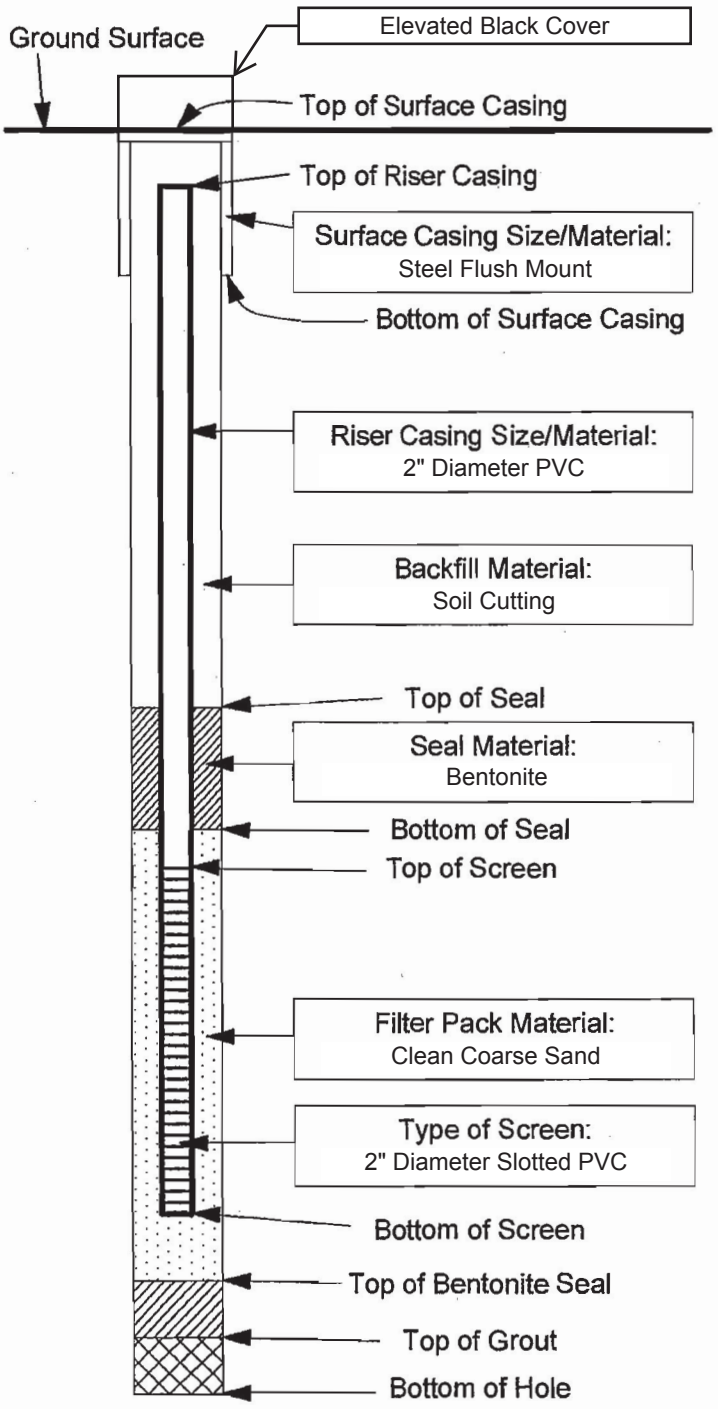
Note: Elevation is reported on the North American Vertical Datum of 1988 (NAVD 88) in U.S. Survey feet.
Refer to Geotechnical Data Report for groundwater depths taken at various dates and times.

OBSERVATION WELL INSTALLATION LOG

WELL NUMBER: PT-X-04-OW

Contractor: Warren George Inc.
Driller: Jim Wilson
Inspector: Michelle Chen
Date: 4/18/2018

LOCATION: Van Wyck Expressway



	Depth (ft)	Elev. (ft)	Water Level Elevations (ft)
Top of Surface Casing	≈ - 0.3	+ 20.4	Refer to notes below for information.
	0.0	+ 20.1	
Top of Riser Casing	N/A	N/A	
Bottom of Surface Casing	N/A	N/A	
Top of Seal	12.0	+ 8.1	
Bottom of Seal	N/A	N/A	
Top of Screen	13.8	+ 6.3	
Bottom of Screen	23.8	- 3.7	
Top of Bentonite Seal	24.0	- 3.9	
Top of Grout	N/A	N/A	
Bottom of Hole	25.0	- 4.9	

Note: Elevation is reported on the North American Vertical Datum of 1988 (NAVD 88) in U.S. Survey feet.
Refer to Geotechnical Data Report for groundwater depths taken at various dates and times.