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TECHNICAL REPORT COVERSHEET

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ENVIRONMENTAL
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GEOTECHNICAL REPORT

Florida Department of Transportation

District Four

Interstate 95 (I-95) / State Road 9 (SR 9) Project Development and Environment Study

Limits of Project: From South of Hallandale Beach Boulevard (SR 858) to North of Hollywood Boulevard (SR 820)

Broward County, Florida

Financial Management Number: 436903-1-22-02

ETDM Number: 14254

Date: May 2021

The environmental review, consultation, and other actions required by applicable federal environmental laws for this project are being, or have been, carried out by the Florida Department of Transportation (FDOT) pursuant to 23 U.S.C. § 327 and a Memorandum of Understanding dated May 26, 2022 and executed by the Federal Highway Administration and FDOT.

GEOTECHNICAL REPORT

Interstate 95 (I-95) / State Road 9 (SR 9) Project Development and Environment Study

Project Study Limits:

From South of Hallandale Beach Boulevard (SR 858) to
North of Hollywood Boulevard (SR 820), Broward County
Mileposts 0.0 – 3.1
ETDM Number 14254

Broward County
FPID Number 436903-1-22-02

Prepared for:

Florida Department of Transportation – District Four
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Fort Lauderdale, FL 33309



Prepared By:

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MAY 2021

FINAL

GCME, Inc. has completed the Final PD&E Geotechnical Report – Roadway Soil Survey and Bridge Structures in connection with the subject project. The purpose of this report is to provide geotechnical information to the roadway and structural engineers for preparation of the PD&E study documents for the proposed improvements. The following report includes the methods of study, evaluations and recommendations concerning geotechnical aspects of the proposed improvements. A preliminary geotechnical report was provided on December 21, 2018. Recently, we have performed permeability/infiltration tests as requested by your office and hence, updated the report accordingly.

The work was completed following our contract with your firm and followed the basic guidelines of the Florida Department of Transportation (FDOT) Soils and Foundations Handbook, 2020. This report is written using English units.

We are pleased to be of continued service to The Corradino Group and the Florida Department of Transportation (FDOT). If you have any questions or comments regarding the contents of the following report, please call.

Very truly yours,

GCME, INC.



Partha Ghosh, P.E.
Principal Engineer
FL Reg. No. 51377

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1.0 INTRODUCTION

This entire project corridor runs along I-95 from South of SR-858/Hallandale Beach Boulevard to North of SR-820/Hollywood Boulevard, in Broward County, Florida, a distance of above 1.9 miles. All improvements will be within the existing right of way.

The entire project site is located in Broward County on I-95 between Hallandale Beach Boulevard and Hollywood Boulevard. Land in the project vicinity is urban. Terrain in the area is relatively flat. The subject project corridor consists of generally six (6) lanes of through traffic in each direction, northbound and southbound.

The purpose of this study was to explore the subsurface conditions within the general vicinity of the proposed roadway and bridge structures in order to catalog the general subsurface stratigraphy and provide geotechnical recommendations to guide the design and construction of the proposed roadway and bridge structures. Based on available information and field exploration performed, we have prepared an engineering report summarizing our field and laboratory testing, the subsurface soil and groundwater conditions encountered and evaluation and design recommendations for bridge foundation design and construction.

2.0 FIELD INVESTIGATION

2.1 Bridge Structures

The field exploration conducted for the bridge structure consists of drilling nine (9) Standard Penetration Test (SPT) borings on land at approximate locations of the proposed bridge structures (new and/or widening). The bridge borings were extended to 100 feet below existing grade.

The numbering schedule and locations of the borings drilled for the proposed bridge structures are as follows:

- | | |
|--|--|
| • I-95 NB over Hallandale Beach Boulevard
NB Braided Ramp Bridge: | Two (2) Borings, numbered
B-101, B-102 |
| • I-95 SB over Pembroke Road
SB Braided Ramp Bridge: | Two (2) Borings, numbered
B-201, B-202 |
| • I-95 NB over Pembroke Road
NB Braided Ramp Bridge: | Two (2) Borings, numbered
B-301, B-302 |
| • I-95 SB over Hollywood Boulevard
SB Braided Ramp Bridge: | Three (3) Borings, numbered
B-401, B-402, B-403 |

The locations of the bridge borings are presented on the plates titled “Approximate Boring Location Plans”, Plates 1 through 6, which are prepared using Google Earth Maps.

We have also approximately plotted the nine (9) bridge borings on the proposed/preferred alignment and are presented on Plates 7 through 12. We believe, the station and offset information at the boring locations were not surveyed, and hence the information are not available at the time of writing this report.

The subsurface geologic profiles encountered at the boring location along with the SPT results, are presented in Figure 1 through 5 for bridge borings. The soil profiles are drawn with reference to depths.

The SPT boring was advanced using mud rotary procedures. The boring was drilled to depth of 100 feet below grade. Samples of the in-place materials were recovered with a standard split barrel advanced with a 140-pound hammer falling 30 inches (the SPT after ASTM D 1586). Soil samples were field classified, placed in sealed containers and transported to our laboratory for further analysis by a soils engineer. Classification of the subsoils found in the borings followed the Unified Soil Classification System (ASTM D 2487). The borehole was filled with cement grout at the completion of the drilling activities.

The above subsurface description is of a generalized nature provided to highlight the major soil strata encountered. The records of subsurface exploration included in the boring logs should be reviewed for specific information as to individual boring locations. The stratifications shown on the records of subsurface exploration represent the conditions only at the actual boring location. The stratifications represent the proximate boundary between subsurface materials and the transition may be gradual.

2.2 Roadway

To evaluate the subsurface condition along the proposed roadway alignment, roadway borings were performed along or proximate to the proposed roadway alignment. Subsoil along the proposed roadway alignments was explored by drilling roadway profile borings to nominal depths of 6 to 15 feet below the existing ground surface as per negotiated scope of work.

The numbering schedule and locations of the borings drilled for the proposed roadway widening are as follows:

- Hallandale Beach Boulevard: Four (4) borings, numbered R-101 through R-104.
Two (2) BHP tests, numbered BHP-101 and BHP-102
Two (2) DRIT Tests, numbered DRIT-101 and DRIT-102
- Pembroke Road: Six (6) borings, numbered R-202 through R-207.
Two (2) BHP tests, numbered BHP-201 and BHP-202
Two (2) DRIT Tests, numbered DRIT-201 and DRIT-202
- Hollywood Boulevard: Four (4) borings, numbered R-301 through R-304.
Two (2) BHP tests, numbered BHP-301 and BHP-302
Two (2) DRIT Tests, numbered DRIT-301 and DRIT-302

Boring location plans showing the approximate location of the borings drilled for the project roadway corridor are presented on the plates titled “Approximate Boring Location Plans”, Plates 1 through 6. The station, offset and elevation information at the boring locations were not available at the time of writing this report.

The above subsurface description is of a generalized nature provided to highlight the major soil strata encountered. The records of subsurface exploration included in the boring logs should be reviewed for specific information as to individual boring locations. The stratifications shown on the records of subsurface exploration represent the conditions only at the actual boring location. The stratifications represent the proximate boundary between subsurface materials and the transition may be gradual.

3.0 USDA, SCS SOIL SURVEY

Research of the U.S. Department of Agriculture (USDA), Soil Conservation Service (SCS) Soil Survey of the Broward County area indicates the presence of different soil map units along the roadway sections. The soil map units present along the project corridor are described in details in Appendix – A.

A segment of the USDA Soils Map showing the proposed roadway section and the surrounding areas is presented in Appendix – A.

4.0 SUBSURFACE CONDITIONS

4.1 Stratigraphy – Bridge Structures

The bridge borings drilled along the project alignment generally indicated the site to be underlain with interlayering of sands, silty sands and limestone.

The SPT results (N-value) for the borings drilled proximate to the I-95 Braided Ramp Bridges indicate that the subsoils are generally loose followed by medium dense to very dense soils.

Details regarding the interlayering of the subsoil layers are shown on the soil profile sheets titled “Report of Core Borings”, are presented in Figure – 1 through Figure – 5.

4.2 Stratigraphy – Roadway

Soils and soil profiles found in borings drilled for the roadway alignment study generally consisted of five (5) general types:

1. Dark brown sand with trace roots (Topsoil / A-8).
2. Light brown to brown sand with silt, sometimes with trace to few limerock fragments (A-3).
3. Brown silty sand with few to some limerock fragments (A-2-4).

4. Light Brown silty limestone.
5. Black organic Silt (A-8).

The majority of the project corridor is underlain with interlayering of Strata 1 and 2. However, Stratum 3 and 4 soils were found at numerous boring locations at various depths along the project corridor. Stratum 5 soils were found at only two boring locations between 4 and 6 feet depth interval.

Stratum 1 is topsoil and shall be removed during clearing and grubbing in accordance with section 120 (Excavation and Embankment) of the FDOT Standard Specifications.

Stratum 2 consists of select material and is adequate for subgrade and embankment support, and should be utilized according to Standard Plans, Index 120-001. However, portions may have slightly fine content and are likely to retain some excess moisture and could be difficult to handle, place and compact compared to ordinary A-3 materials.

Stratum 3 soils classified as A-2-4 and having fine content ranging between 11 to 21 percent (with average fines content at 14 percent). Stratum 3 consists mainly of soils with high fines content and are likely to retain some excess moisture and could be difficult to handle, place and compact compared to ordinary A-3 materials. Hence, these soils may be used in the subgrade with extra caution, and proper supervision and quality control. A-2-4 material placed below the existing water level must contain less than 15% passing the No. 200 U.S. Standard sieve.

Stratum 4 consists of limestone. Specialized tools and equipment are necessary to excavate and/or penetrate the limestone layer.

Stratum 5 soils are classified as A-8. However only two (2) sample are classified as A-8 with organic content 24 to 80 percent and are between 4 and 6 feet below existing grade. As per FDOT Standard Plans, Index 120-002, these soils need to be removed and replaced with select embankment fill.

The above recommendation and evaluation of the subsoils as encountered in the widely spaced roadway borings are for the PD&E Study phase. We understand that during final design a final geotechnical scope of work will be performed as per FDOT Standards and at that time final evaluation will be performed and final recommendation will be provided

Figure RSS-1, Cross Section Soil Survey for the Design of Roads, describes the various strata that were found during the PD&E study, presents test results for each stratum and provides preliminary design recommendations.

The details of the subsoil existing along the project alignment can be gleaned from the soil profile sheet. Figure R-1 and R-2 show the soil profiles of borings drilled along the project corridor, which are plotted to depth. Groundwater levels and the dates they were recorded are shown adjacent to the borings.

4.3 Groundwater

The depths of groundwater tables were measured at the locations of the borings drilled.

In the bridge structure and roadway borings, groundwater was encountered at the depth of 0 to 9.5 feet below existing ground surface. Fluctuations of the groundwater should be anticipated. The groundwater table levels measured are shown on the “Report of Core Borings” sheets, Figures 1 through 5 and roadway soil profiles, Figure R-1 and R-2, adjacent to the boring logs.

Groundwater condition will vary with environmental variation and seasonal condition, such as the frequency and magnitude of rainfall patterns, as well as man-made influences, such as existing swales, drainage ponds, and under drains. We recommend that the contractor determine the actual groundwater levels at the time of the construction to determine groundwater impact on his or her construction procedure.

4.4 Laboratory Test Results

Index property tests such as moisture content, organic content and grain size distribution are being performed on representative samples from the bridge and roadway borings. All the available laboratory test results will be provided in Table – 1A and 1B.

The corrosion parameters of pH, resistivity, sulfates and chlorides are measured for selected soil samples from the bridge borings. The test results were compared with FDOT criteria for corrosivity to enable the materials to be classified accordingly. A summary of these corrosion (environmental) test results are presented in Table – 2.

4.5 Borehole Permeability Test

Six (6) Borehole Permeability Tests (BHP) were performed along the project corridor at locations confirmed by the drainage engineer. The BHP tests were performed using the usual open-hole, constant head methodology advocated by South Florida Water Management District (SFWMD). The boreholes were 10 feet deep and completed as an open well with gravel pack (6-20 silica sand). The well screen slot width was 0.020 inches. Water from the drill rig tank was then pumped into the open well, and the amount of water required to maintain a constant head in the pipe was recorded. The approximate test locations are also presented on the plates titled “Approximate Boring Location Plan”, Plates 1 through 6. The BHP results are presented in Table – 3.

4.6 Double Ring Infiltration Test

Six (6) Double Ring Infiltration Tests (DRIT) were performed along the proposed roadway corridor at locations confirmed by the drainage engineer. The tests were performed at the ground surface in general accordance with the procedures outlined in ASTM Standard Method D-3385. The approximate test locations are also presented on the plates titled “Approximate Boring Location Plan”, Plates 1 through 6. The infiltration test values were determined from the test results and are graphically presented in Table – 4.

5.0 BRIDGE STRUCTURE FOUNDATION ALTERNATIVES

5.1 Foundation Alternatives for Bridge Structures

The borings generally indicated that the project site was underlain by thick deposits of loose to very dense granular soils. Foundation alternatives for the project considered the results of our preliminary field study and the location of the proposed bridge improvements. Based on our experience with similar projects, we initially considered the following foundation alternatives:

- i. Shallow Foundations
- ii. Precast Pre-stressed Concrete Piles
- iii. Steel Piles, Including Pipe and H Sections
- iv. Straight Sided Drilled Shafts

Each of these foundation alternatives are discussed individually.

i. Shallow Foundations

Where appropriate, the use of shallow foundations is typically the most cost effective. With this foundation system, the structure loads are transmitted to the subsoil at a pressure suited for the properties of the soil. These properties are typically governed by the allowable soil pressure and the total and differential settlement criteria. The surficial soils throughout the project site will most likely require densification to achieve an adequate bearing resistance. This densification may require excavation with sheet piling, dewatering, and densification techniques which will impact the economy of this foundation system tremendously.

Maintenance of traffic impacts, prolonged construction timing and staging requirements for construction adjacent to existing traffic usually interfere with the efficiencies of this densification process. These impacts also apply between future and existing construction in areas where proposed or future widening of the facility is anticipated. Differential settlements with the existing deep foundation system are also expected to occur. Based on these difficulties and resultant high costs, shallow foundations will not be considered for these bridge structures.

ii. Precast Pre-stressed Concrete Piles

Pre-stressed concrete (PSC) piles are a feasible foundation alternative. They are a widely used and proven foundation system in South Florida. Precast pre-stressed piles are readily available and generally have a lower cost per ton of capacity than other pile types. Because of the dense subsoil conditions found at some of the boring locations, it is our opinion that driving of the piles to the recommended depths may be difficult, and induce high driving stresses which could potentially damage the piles. However, these concerns of driving through dense soils can be minimized through the use of pre-drilled pile holes or jetting to achieve the recommended penetration.

The minimum size for pre-stressed concrete piles should be 18 inches as referenced in the Structures Design Guidelines. A disadvantage of the precast pre-stressed concrete piles is the potential impact the driving operation may have on nearby structures.

iii. Steel Piles

Steel pile types include pipe piles and H-sections. Previous experience has shown that steel piles are generally more expensive per linear foot than precast pre-stressed concrete piles. Steel piles are well suited to conditions with high variability in anticipated penetration depths where frequent splicing is expected. In some instances, steel piles may be easier to penetrate dense layers if necessary to achieve a desired penetration depth. In general, the cost of steel pile is relatively higher than concrete pile for the same required design capacity. Steel H-sections are inappropriate for this project because of inferior capacities compared to pipe piles at similar costs. Steel piles although structurally viable, are susceptible to corrosion in aggressive environments. A disadvantage of the steel pipe piles is the potential impact the driving operation may have on existing nearby structures. Based on these difficulties and resultant high costs, steel piles will not be considered for these bridge structures.

iv. Drilled Shafts

Drilled cast-in place straight sided concrete shafts are a feasible foundation alternative. Drilled shafts have the advantage of being able to develop high axial and lateral capacities in a single unit. However, the quality control of drilled shaft installation requires more engineering judgement and precaution compared with driven piles to ensure that the specifications are complied. This type of foundation system may become a favorite alternative for sites where limestone or very dense bearing strata are present at a relatively shallow depth. Significant concrete volume overruns may also occur during construction as evidenced by loss of drilling fluid. As a result, the temporary casing method of installation should be used. Shafts could be drilled and socketed into the limestone stratum (if applicable).

6.0 BRIDGE STRUCTURE FOUNDATION EVALUATIONS

6.1 Precast Concrete Driven Piles

6.1.1. Axial Capacity of Precast Concrete Piles

We have considered 18-inch and 24-inch square, precast concrete piles of various lengths in order to provide a range of design compressive capacities. The capacities were estimated from a computer-generated analysis based on a method to predict Davisson vertical pile capacity versus depth in sand. Computer program “FB-Deep Version 2.06” developed by Florida Bridge Software Institute, University of Florida was utilized to perform the axial capacity analysis of the driven concrete piles. The analysis was done for each individual boring drilled at the project site. The capacities (program outputs) for 18-inch and 24-inch square piles with reference to pile tip elevations at the boring locations for the bridge site are presented in Appendix B. The corresponding FB-Deep output graphs are presented in Appendix C.

The preliminary vertical capacity analysis at the bridge location was completed with ground lines set approximately at the elevation of the boring locations, i.e., ground elevations for borings B-101 through B-403 drilled on land.

We recommend using a resistance factor (Φ) equal to 0.65 for Load Resistance Factor Design (LRFD) for driven precast piles assuming PDA monitoring will be used in the test pile program. Please note that the pile tip elevations mentioned in Appendix- B are based on assumed ground elevations of 0.0 feet for the borings.

For portions of the piles within MSE wall volume (if applicable), we recommend that portion be wrapped with polyethylene sheeting, per FDOT Standard Specifications for Road and Bridge Construction, Section 459. We recommend that the piles in a group be driven such that the center-to-center spacing between adjacent piles is at least 3 times the butt width. We recommend that the ultimate capacity of a pile group be determined by summing the single pile capacities in that group.

6.1.2 Construction Considerations

We recommend the piles be installed according to the latest edition of Standard Specifications for Road and Bridge Construction. Precast, concrete pile foundations are common in South Florida and can be constructed by local contractors. However, we believe that the driven pile option should involve monitoring of test piles using the Pile Driving Analyzer, with associated wave equation studies. The test program would confirm design capacities, required penetration, and driving criteria.

Vibrations resulting from pile driving at the project location should be carefully monitored to limit the impact of ground motion on existing structures. A precondition survey is often prudent to evaluate existing conditions (if any) before pile driving operations. Also, during pile driving operation, vibration resulting from the operation and its impact on the existing structures (if any) should be monitored constantly in order to limit/avoid any impact of ground motion on the existing structures.

During driving operations, records should be kept for each pile that detail pertinent information such as the pile type, length, date driven and blows count per foot. The capacity of each pile should be reviewed based on its final tip elevation and driving record. We recommend that pile-driving operations be continuously monitored by experienced technical personnel working under the direct supervision of a professional geotechnical engineer.

Temporary and/or permanent sheet pile wall (if applicable) proposed during construction of bridge foundation should generally strictly adhere to the following guidelines.

Construction of 'Temporary' and/or 'Permanent' sheet pile walls less than five (5) times the size of the pile measured from the near face of the pile, and the ratio of sheet pile walls embedment depth to pile embedment depth greater than 0.5, should be notified to us prior to the test pile program and construction of the production pile. This is due to the fact that such sheet pile wall will interfere with the capacity of the proposed pile foundations and we need to evaluate the proposed impact during the test pile program and recommend driving criteria accordingly. [Reference: FDOT Research Documents & Publications, <Effect of Proximity of Sheet Pile Walls on the Approximate Capacity of Driven Displacement Piles: Final Report>, 08-2018]

6.2 Drilled Shafts

6.2.1. Axial Capacity of Drilled Shaft Foundations

Drilled cast-in-place straight-sided concrete shafts are also a technically feasible foundation alternative for the project. Installation procedures for drilled shafts in cohesionless soils normally involve helical auger drilling in combination with bentonite slurry and sometimes steel casing for stabilization of borehole walls. Drilled shaft diameter 4 and 5 feet were considered for our analysis. Vertical (axial) capacity of drilled shafts is normally obtained through a combination of side shear and end bearing.

The ultimate vertical capacities were calculated by utilizing the computer program “FB-Deep, Version 2.06” developed by Florida Bridge Software Institute, University of Florida. The analysis was done using SPT N-values and subsoil information developed from each individual boring drilled at the proposed bridge site and with varying shaft lengths in order to provide a range of design compressive capacities.

The vertical shaft capacities for 48-inch and 60-inch diameter shafts are computed allowing 0.5 inch settlement (i.e. 1.0% for 48-inch diameter shafts and 0.8% for 60-inch diameter shafts). The vertical capacities reported equals to side friction plus end bearing. The FB-Deep program computer outputs showing vertical capacities considering 0.5 inch settlement and ultimate capacities (i.e., ultimate capacity = ultimate skin friction + fully mobilized ultimate end bearing) are presented in Appendix- D. The ultimate capacities for 48-inch and 60-inch diameter drilled shafts are graphically presented in Appendix E. The drilled shaft length mentioned in our analysis results indicates shaft length embedded in the ground at the respective bridge boring location.

6.2.2 Construction Considerations- Drilled Shafts

Review of the soil profiles from the borings drilled for this project indicates that the subsoils at the location of the bridge piers are generally underlain by loose to dense sands, followed by layers of sand with cemented sand and/or limestone at greater depths. The subsoils would lend themselves to excavation utilizing conventional drilled shaft construction equipment. We anticipate sidewall caving during drilled shaft construction and, therefore, anticipate the use of a steel casing for stabilization purposes during construction. We anticipate that the casing may not be sealed into an impermeable stratum. The shaft hole should be drilled, the reinforcing steel cage set, and the foundation concrete poured by tremie and/or pump methods. The casing must then be pulled only after fresh concrete, free of soil cuttings, flows out the top of the casing. The shafts should be installed in accordance with the latest FDOT Specification 455.

7.0 LIMITATIONS OF STUDY

The geotechnical engineer warrants that the findings, recommendations, specifications, or professional advice contained herein are preliminary and have been presented after being prepared following generally accepted professional engineering practice in the fields of foundation engineering, soil mechanics and engineering geology. This company is not responsible for the conclusion, opinion, or recommendations made by others based on this data. No other warranties are expressed or implied.

The scope of the investigation was intended to evaluate soil conditions within the influence of foundations and does not include an evaluation of potential deep soil problems such as sinkholes. The analysis and recommendations submitted in this report are based upon the data obtained from the soil borings performed at the locations indicated. If any subsoil variations become evident during the course of this project, a re-evaluation of the recommendations contained in this report will be necessary after we have had an opportunity to observe the characteristics of the conditions encountered. This report is prepared for the PD&E Study of the project corridor, and hence final alignment of the proposed roadway, design details and additional design consideration are not available at this phase of the project. We understand that during the final design phase, based on final proposed alignment of the project corridor, additional roadway auger borings should be drilled at close intervals (spacing) and laboratory tests performed in order to evaluate the suitability of the existing subsoils and delineate the horizontal and vertical extents of the unsuitable soils. Also during the final design phase, additional bridge borings may be required based on final alignments of the bridge widenings/replacements and final analysis and design of the bridge foundations has to be performed. The applicability of the report should also be reviewed in the event significant changes occur in the design, nature, or location of the proposed roadway and structures.

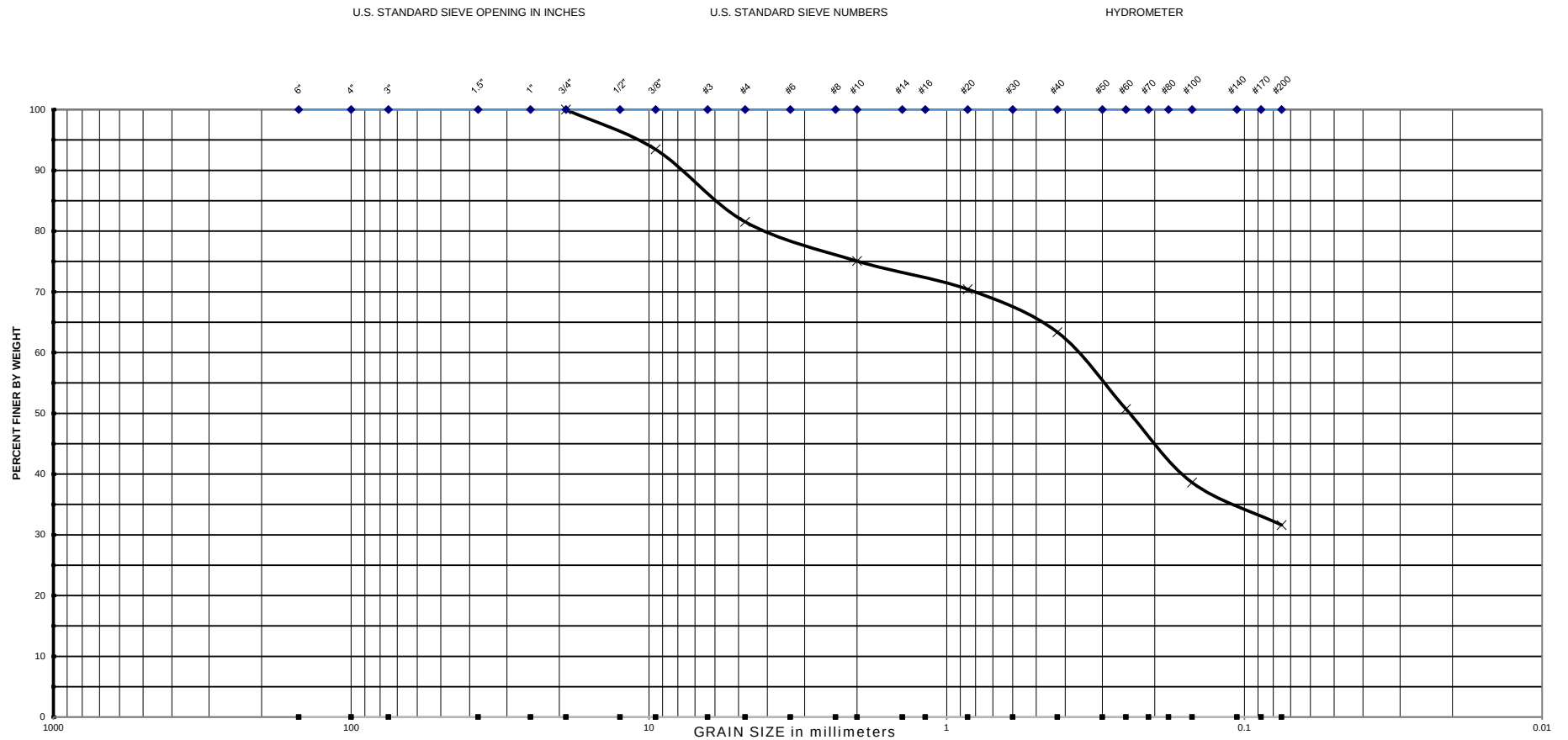
The scope of our services does not include any environmental assessment or investigation for the presence or absence of hazardous or toxic materials in the soil, groundwater, or surface water within or beyond the site studied. Any statements in the report regarding odors, staining of soils, or other unusual conditions observed are strictly for the information of our client.

TABLE - 1A**SUMMARY OF LABORATORY TESTING RESULTS [BRIDGE STRUCTURES]****Project: PD&E Study I-95, From South of Hallandale Beach Blvd to North of Hollywood Blvd [FM No.: 436903-1-22-02]**

Boring No.	Sample Depth (ft)			USCS Symbol	Natural Moisture Content (%)	Organic Content (%)	Atterberg Limits			Sieve Analysis								
							LL (%)	PL (%)	PI (%)	3/4"	3/8"	#4	#10	#20	#40	#60	#100	#200
B-101	13.5	-	15.0	SM	14.7					100.0	93.4	81.5	75.1	70.4	63.4	50.7	38.6	31.6
B-101	56.0	-	58.0	SP-SM	19.8					100.0	90.1	85.9	81.5	76.4	74.5	73.4	61.0	5.9
B-101	63.0	-	65.0	SP-SM	19.3					100.0	91.2	83.7	80.8	79.5	78.7	77.5	72.0	6.1
B-102	0.0	-	2.0	OL	111.5	37.3												
B-102	2.0	-	4.0	SP-SM	26.3	1.1												
B-102	41.0	-	43.0	SP-SM	16.6					88.2	86.9	78.8	74.0	71.1	69.7	68.6	48.9	8.6
B-102	51.0	-	53.0	SP-SM	11.9					92.6	84.5	78.2	69.2	62.3	46.5	29.9	12.4	7.6
B-102	68.0	-	70.0	SP-SM	13.4					83.2	77.2	75.2	71.0	65.3	51.4	20.1	11.2	7.8
B-201	12.0	-	13.5	SM	13.2					90.4	81.2	72.9	67.8	64.4	57.8	44.1	26.8	20.8
B-201	61.0	-	63.0	SP	21.4					100.0	91.1	84.3	79.4	78.2	77.3	76.3	70.6	5.1
B-201	88.0	-	90.0	SP-SM	15.6					78.8	74.5	66.5	60.2	54.5	37.3	14.0	8.2	5.7
B-202	0.0	-	2.0	SM	21.8					100.0	93.8	91.2	89.3	87.8	84.2	66.2	41.1	34.4
B-202	41.0	-	43.0	SP	22.3					100.0	98.6	92.5	87.9	86.4	85.1	83.3	69.8	4.9
B-301	4.0	-	6.0	SP	0.8					100.0	100.0	99.5	99.4	98.8	90.8	67.5	16.8	2.5
B-301	61.0	-	63.0	SP	11.8					90.5	83.1	72.8	64.4	58.8	45.2	26.9	14.0	4.7
B-302	12.0	-	13.5	SM	20.1					89.8	78.9	72.8	69.5	66.9	53.7	29.1	21.7	13.0
B-302	23.0	-	25.0	SP	23.8					100.0	100.0	100.0	100.0	99.9	98.7	81.8	23.2	2.4
B-302	31.0	-	33.0	SP-SM	23.8					100.0	100.0	100.0	100.0	97.9	80.6	55.1	26.0	10.8
B-401	33.0	-	35.0	SP-SM	24.4					100.0	100.0	100.0	99.9	99.5	94.5	86.7	51.3	9.3
B-401	36.0	-	38.0	SP-SM	29.0					100.0	100.0	100.0	99.9	99.8	98.9	97.5	83.4	6.9
B-402	12.0	-	13.5	SP-SM	16.5					95.5	82.9	75.2	70.9	68.4	66.7	57.4	19.3	9.7
B-403	33.0	-	35.0	SP	21.1					100.0	97.6	97.4	97.0	93.1	71.7	49.0	25.2	4.5
B-403	68.0	-	70.0	SP-SM	12.3					89.9	81.5	70.8	61.5	51.6	43.5	35.8	19.4	9.3

GCME

Geotechnical - Consulting - Engineering - Testing



Project Name : PD&E Study I-95, From South of Hallandale Beach Blvd to North of Hollywood Blvd [FM No.: 436903-1-22-02]

Project No. : 2000-01-16015

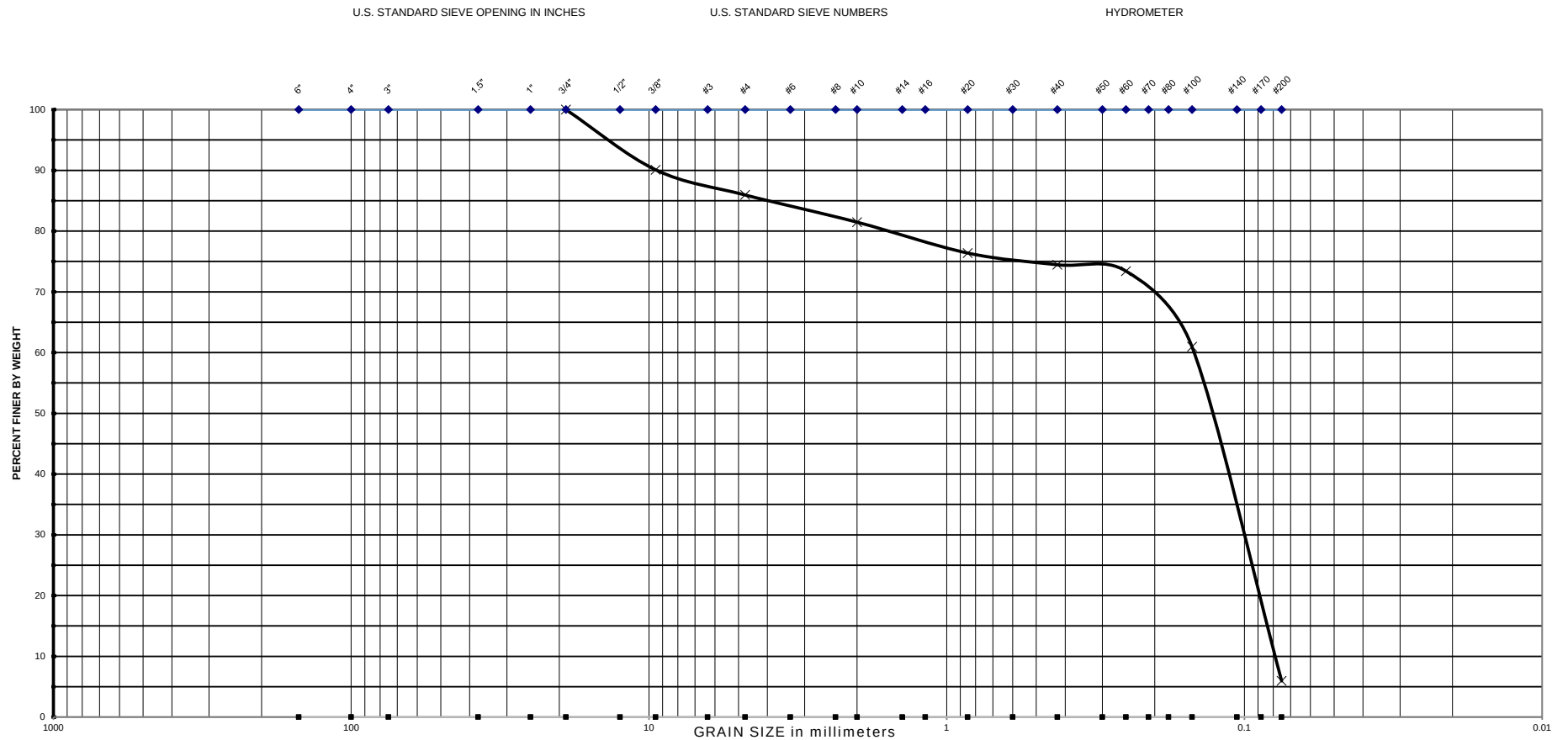
Date : 10/16/2018

U.S SIEVE NO.	CUMM. % PASSING
3/4"	100.0
3/8"	93.4
#4	81.5
#10	75.1
#20	70.4
#40	63.4
#60	50.7
#100	38.6
#200	31.6

BORING NO.	DEPTH INTERVAL [FT]	SOIL DESCRIPTION	MC	OC
B-101	13.5 - 15.0	SM	14.7	
Note : MC - Moisture Content (%) OC - Organic Content (%)				

GCME

Geotechnical - Consulting - Engineering - Testing



Project Name : PD&E Study I-95, From South of Hallandale Beach Blvd to North of Hollywood Blvd [FM No.: 436903-1-22-02]

Project No. : 2000-01-16015

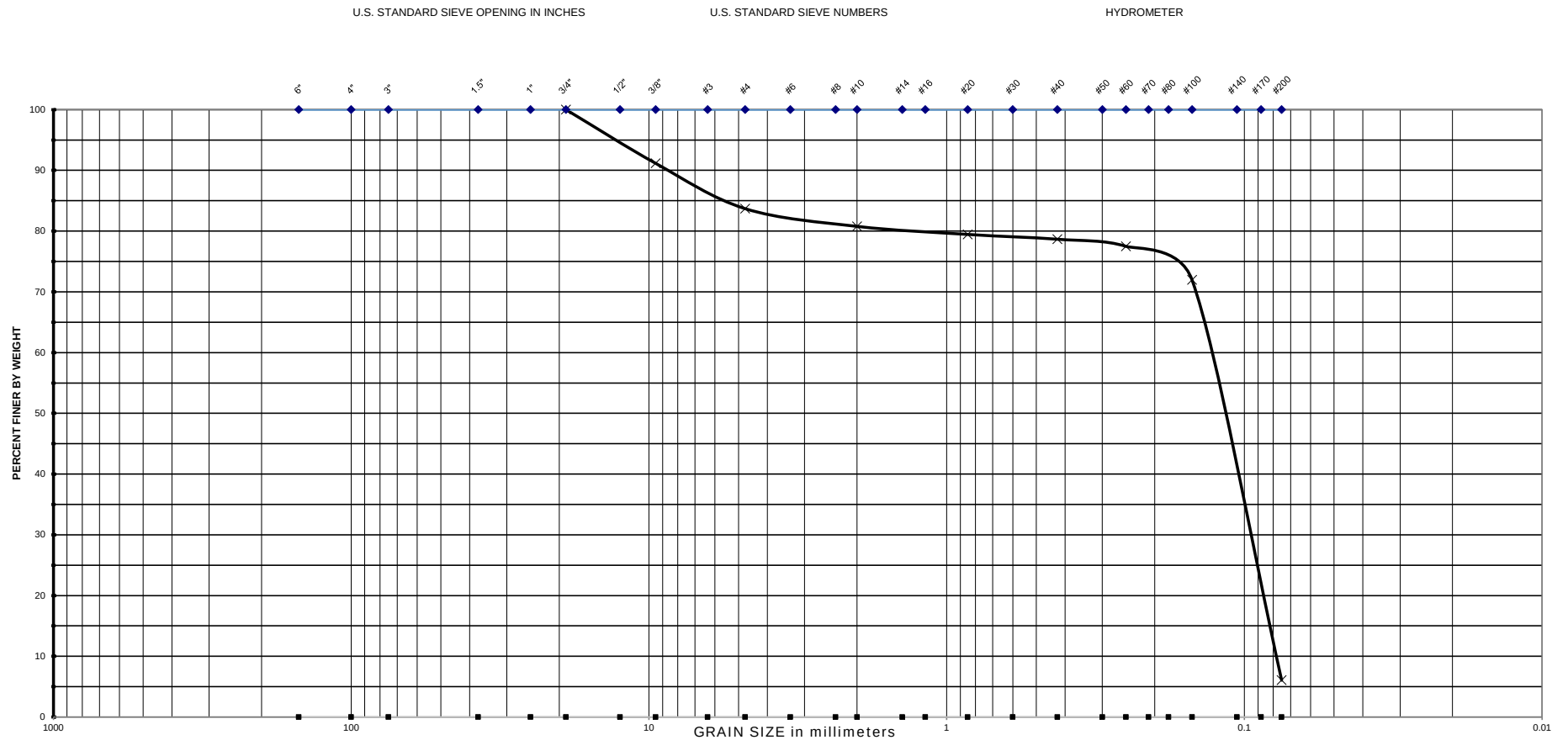
Date : 10/16/2018

U.S SIEVE NO.	CUMM. % PASSING
3/4"	100.0
3/8"	90.1
#4	85.9
#10	81.5
#20	76.4
#40	74.5
#60	73.4
#100	61.0
#200	5.9

BORING NO.	DEPTH INTERVAL [FT]	SOIL DESCRIPTION	MC	OC
B-101	56.0 - 58.0	SP-SM	19.8	
Note : MC - Moisture Content (%) OC - Organic Content (%)				

GCME

Geotechnical - Consulting - Engineering - Testing



Project Name : PD&E Study I-95, From South of Hallandale Beach Blvd to North of Hollywood Blvd [FM No.: 436903-1-22-02]

Project No. : 2000-01-16015

Date : 10/31/2018

U.S SIEVE NO.	CUMM. % PASSING
3/4"	100.0
3/8"	91.2
#4	83.7
#10	80.8
#20	79.5
#40	78.7
#60	77.5
#100	72.0
#200	6.1

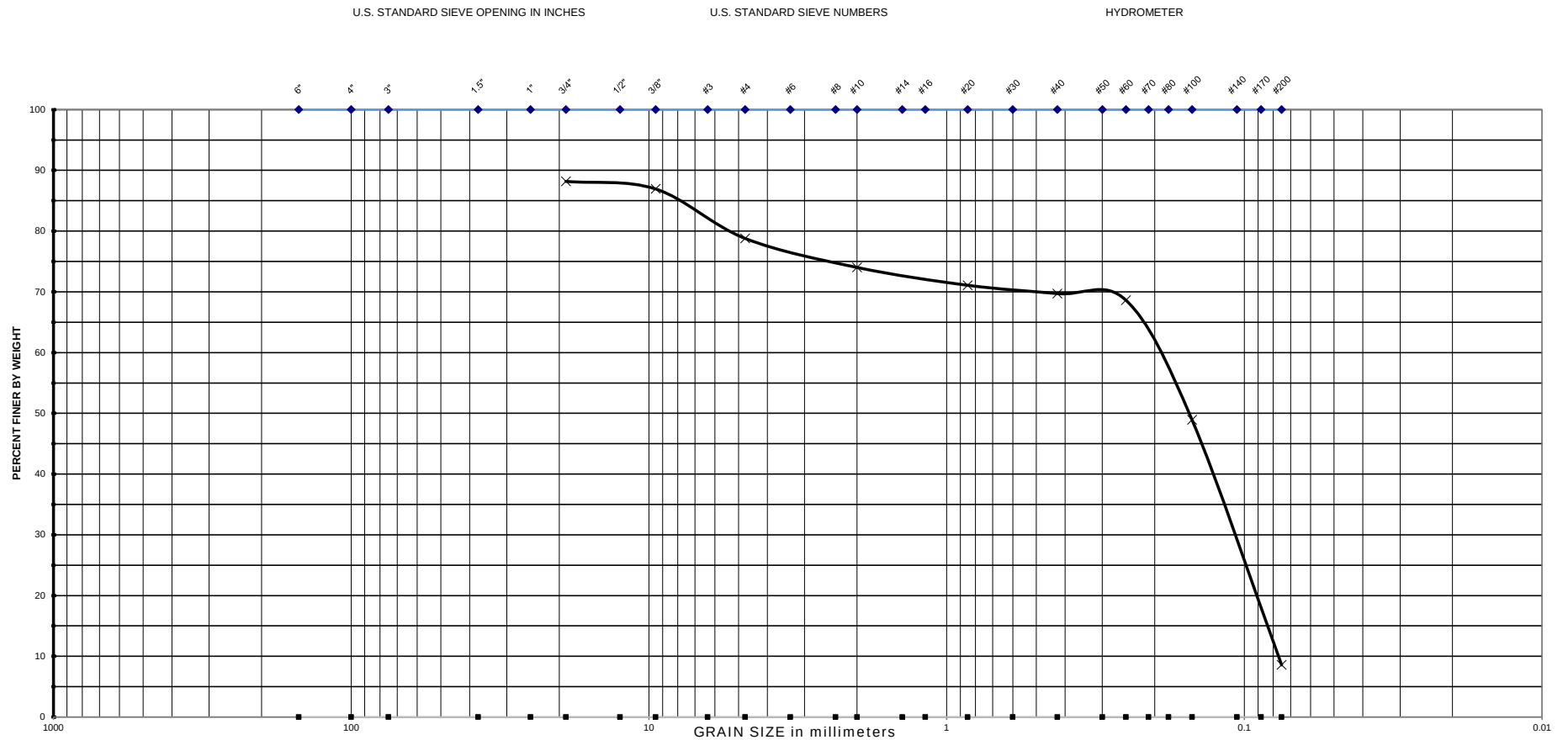
BORING NO.	DEPTH INTERVAL [FT]	SOIL DESCRIPTION	MC	OC
B-101	63.0 - 65.0	SP-SM	19.3	

Note : MC - Moisture Content (%)

OC - Organic Content (%)

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Geotechnical - Consulting - Engineering - Testing



Project Name : PD&E Study I-95, From South of Hallandale Beach Blvd to North of Hollywood Blvd [FM No.: 436903-1-22-02]

Project No. : 2000-01-16015

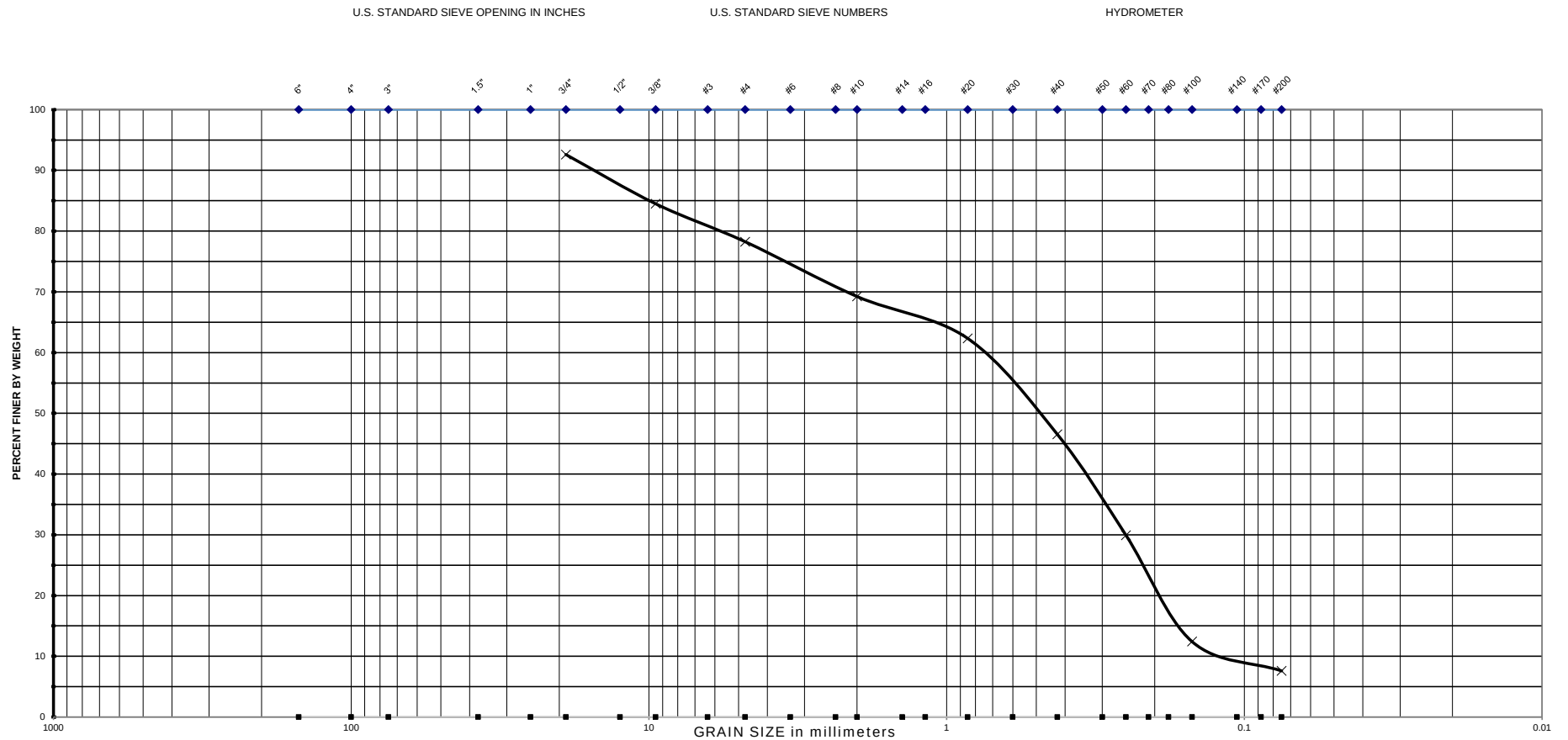
Date : 10/31/2018

U.S SIEVE NO.	CUMM. % PASSING
3/4"	88.2
3/8"	86.9
#4	78.8
#10	74.0
#20	71.1
#40	69.7
#60	68.6
#100	48.9
#200	8.6

BORING NO.	DEPTH INTERVAL [FT]	SOIL DESCRIPTION	MC	OC
B-102	41.0 - 43.0	SP-SM	16.6	
Note : MC - Moisture Content (%) OC - Organic Content (%)				

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Geotechnical - Consulting - Engineering - Testing



Project Name : PD&E Study I-95, From South of Hallandale Beach Blvd to North of Hollywood Blvd [FM No.: 436903-1-22-02]

Project No. : 2000-01-16015

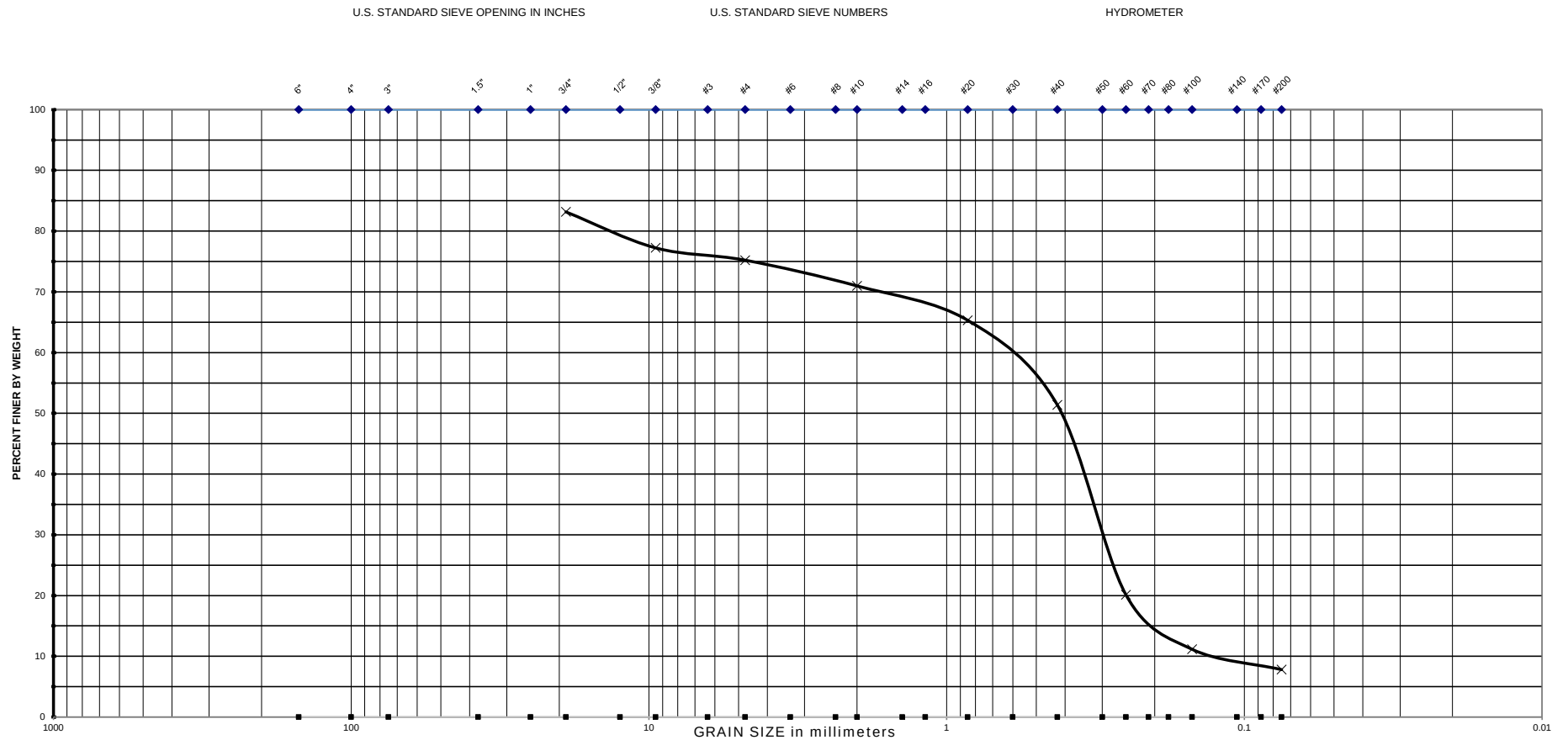
Date : 10/16/2018

U.S SIEVE NO.	CUMM. % PASSING
3/4"	92.6
3/8"	84.5
#4	78.2
#10	69.2
#20	62.3
#40	46.5
#60	29.9
#100	12.4
#200	7.6

BORING NO.	DEPTH INTERVAL [FT]	SOIL DESCRIPTION	MC	OC
B-102	51.0 - 53.0	SP-SM	11.9	
Note : MC - Moisture Content (%) OC - Organic Content (%)				

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Geotechnical - Consulting - Engineering - Testing



Project Name : PD&E Study I-95, From South of Hallandale Beach Blvd to North of Hollywood Blvd [FM No.: 436903-1-22-02]

Project No. : 2000-01-16015

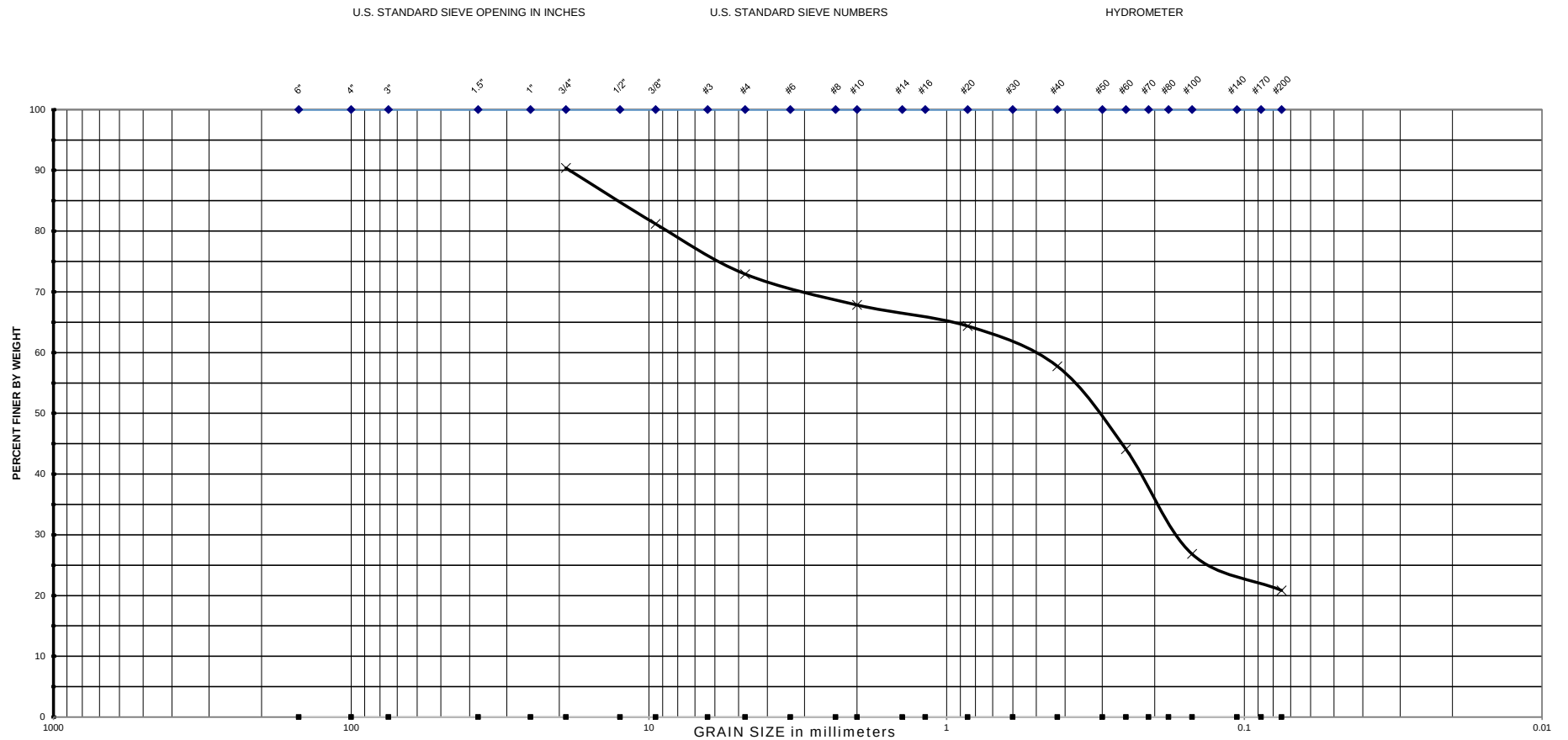
Date : 10/16/2018

U.S SIEVE NO.	CUMM. % PASSING
3/4"	83.2
3/8"	77.2
#4	75.2
#10	71.0
#20	65.3
#40	51.4
#60	20.1
#100	11.2
#200	7.8

BORING NO.	DEPTH INTERVAL [FT]	SOIL DESCRIPTION	MC	OC
B-102	68.0 - 70.0	SP-SM	13.4	
Note : MC - Moisture Content (%) OC - Organic Content (%)				

GCME

Geotechnical - Consulting - Engineering - Testing



Project Name : PD&E Study I-95, From South of Hallandale Beach Blvd to North of Hollywood Blvd [FM No.: 436903-1-22-02]

Project No. : 2000-01-16015

Date : 10/31/2018

U.S SIEVE NO.	CUMM. % PASSING
3/4"	90.4
3/8"	81.2
#4	72.9
#10	67.8
#20	64.4
#40	57.8
#60	44.1
#100	26.8
#200	20.8

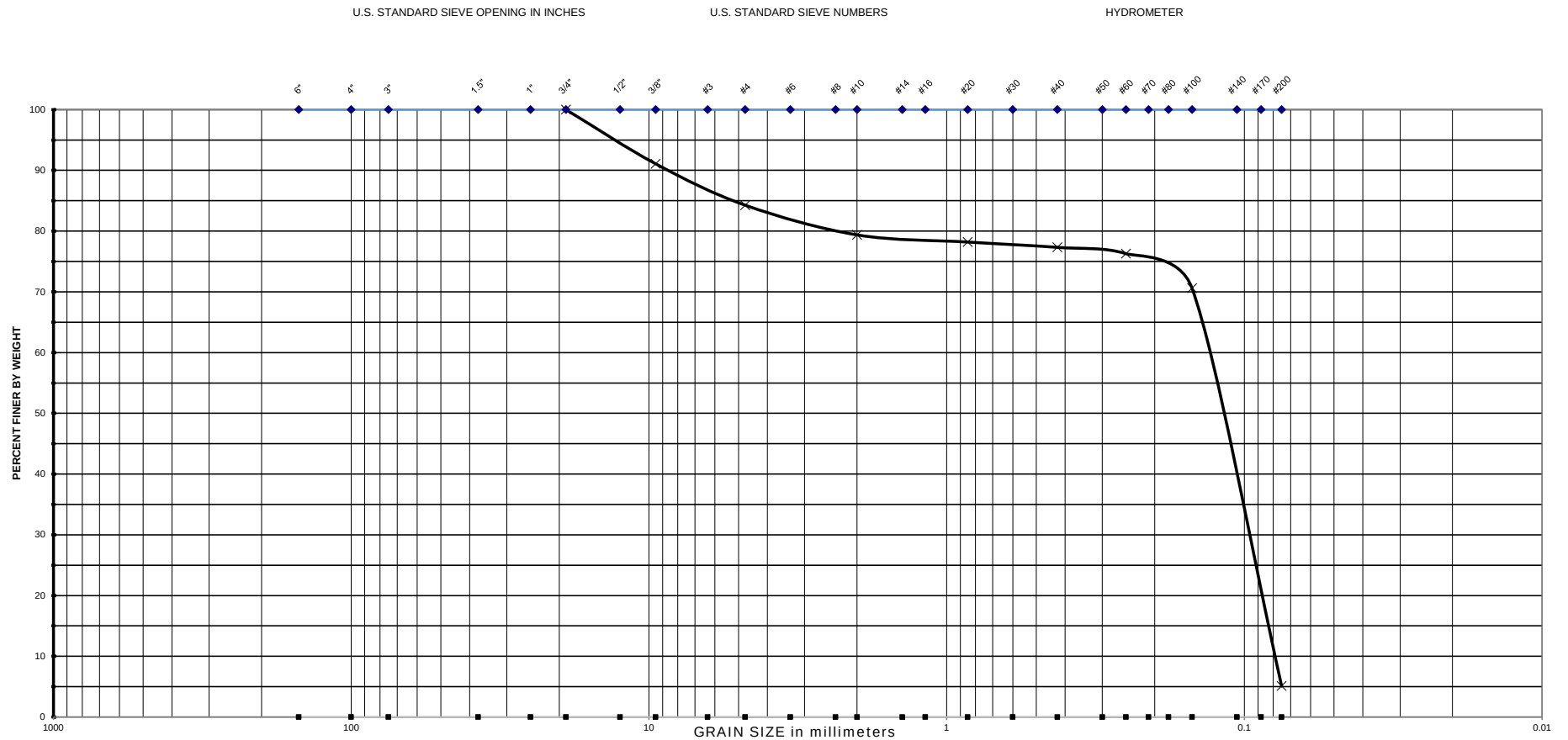
BORING NO.	DEPTH INTERVAL [FT]	SOIL DESCRIPTION	MC	OC
B-201	12.0 - 13.5	SM	13.2	

Note : MC - Moisture Content (%)

OC - Organic Content (%)

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Project Name : PD&E Study I-95, From South of Hallandale Beach Blvd to North of Hollywood Blvd [FM No.: 436903-1-22-02]

Project No. : 2000-01-16015

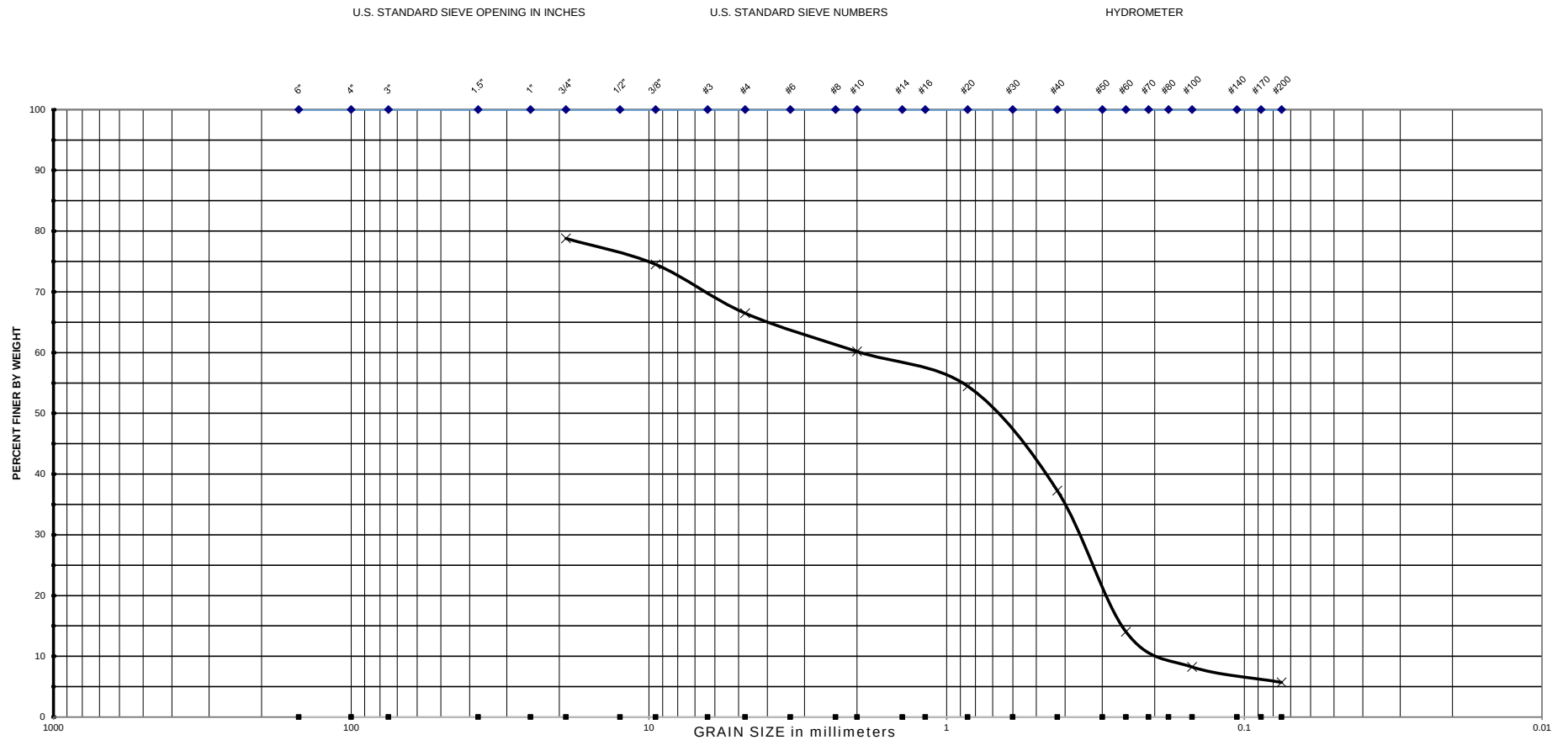
Date : 10/31/2018

U.S SIEVE NO.	CUMM. % PASSING
3/4"	100.0
3/8"	91.1
#4	84.3
#10	79.4
#20	78.2
#40	77.3
#60	76.3
#100	70.6
#200	5.1

BORING NO.	DEPTH INTERVAL [FT]	SOIL DESCRIPTION	MC	OC
B-201	61.0 - 63.0	SP	21.4	
Note : MC - Moisture Content (%) OC - Organic Content (%)				

GCME

Geotechnical - Consulting - Engineering - Testing



Project Name : PD&E Study I-95, From South of Hallandale Beach Blvd to North of Hollywood Blvd [FM No.: 436903-1-22-02]

Project No. : 2000-01-16015

Date : 10/31/2018

U.S SIEVE NO.	CUMM. % PASSING
3/4"	78.8
3/8"	74.5
#4	66.5
#10	60.2
#20	54.5
#40	37.3
#60	14.0
#100	8.2
#200	5.7

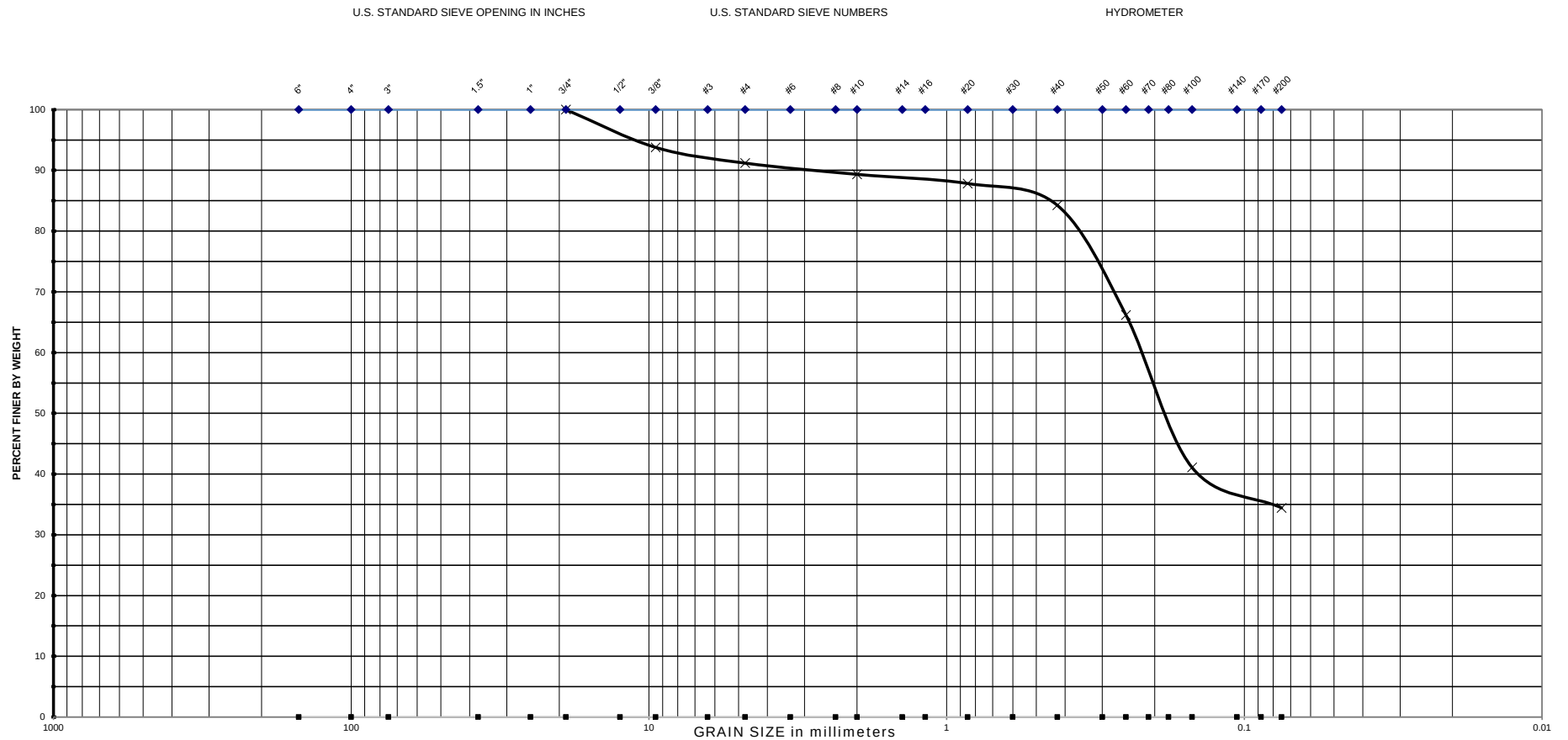
BORING NO.	DEPTH INTERVAL [FT]	SOIL DESCRIPTION	MC	OC
B-201	88.0 - 90.0	SP-SM	15.6	

Note : MC - Moisture Content (%)

OC - Organic Content (%)

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Geotechnical - Consulting - Engineering - Testing



Project Name : PD&E Study I-95, From South of Hallandale Beach Blvd to North of Hollywood Blvd [FM No.: 436903-1-22-02]

Project No. : 2000-01-16015

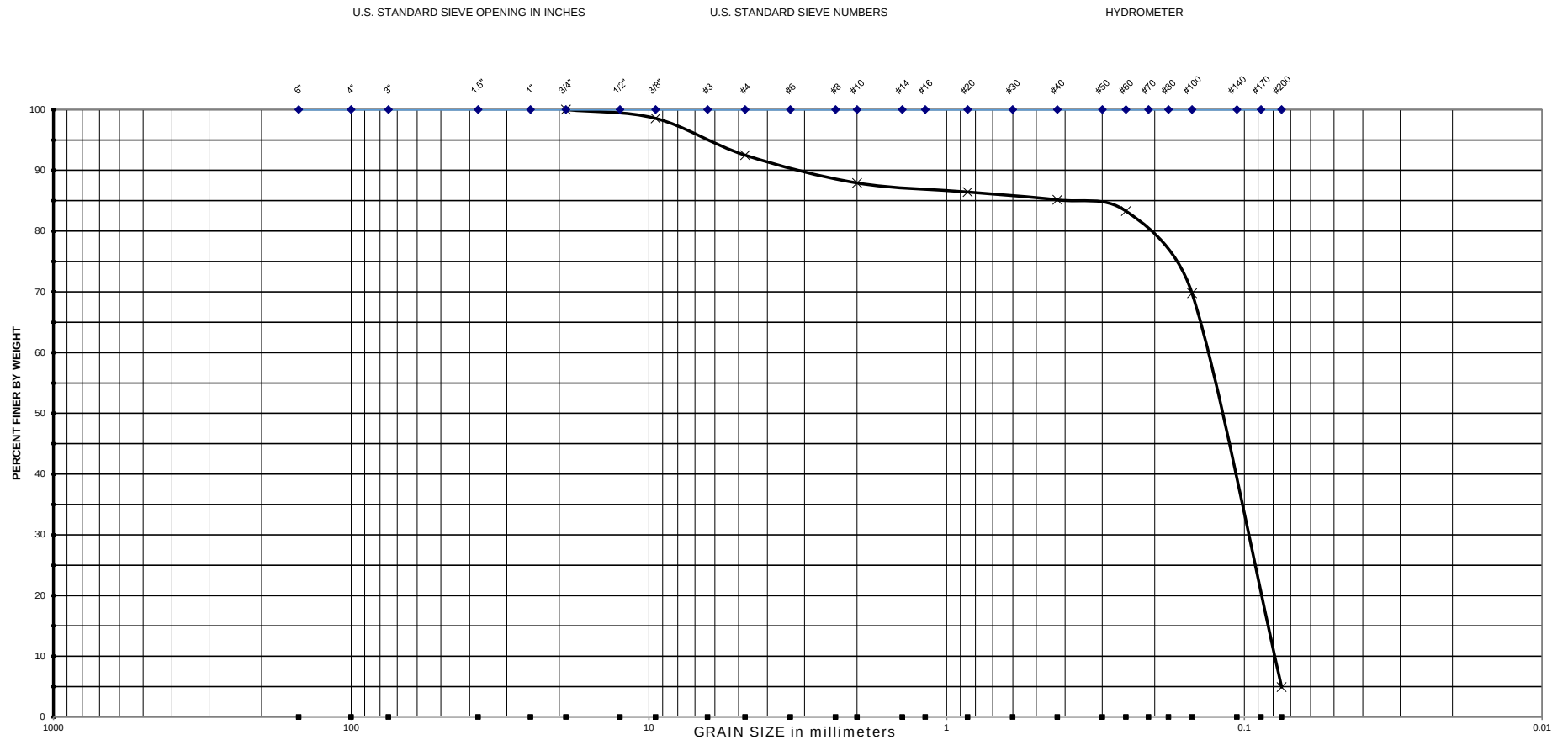
Date : 10/31/2018

U.S SIEVE NO.	CUMM. % PASSING
3/4"	100.0
3/8"	93.8
#4	91.2
#10	89.3
#20	87.8
#40	84.2
#60	66.2
#100	41.1
#200	34.4

BORING NO.	DEPTH INTERVAL [FT]	SOIL DESCRIPTION	MC	OC
B-202	0.0 - 2.0	SM	21.8	
Note : MC - Moisture Content (%) OC - Organic Content (%)				

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Geotechnical - Consulting - Engineering - Testing



Project Name : PD&E Study I-95, From South of Hallandale Beach Blvd to North of Hollywood Blvd [FM No.: 436903-1-22-02]

Project No. : 2000-01-16015

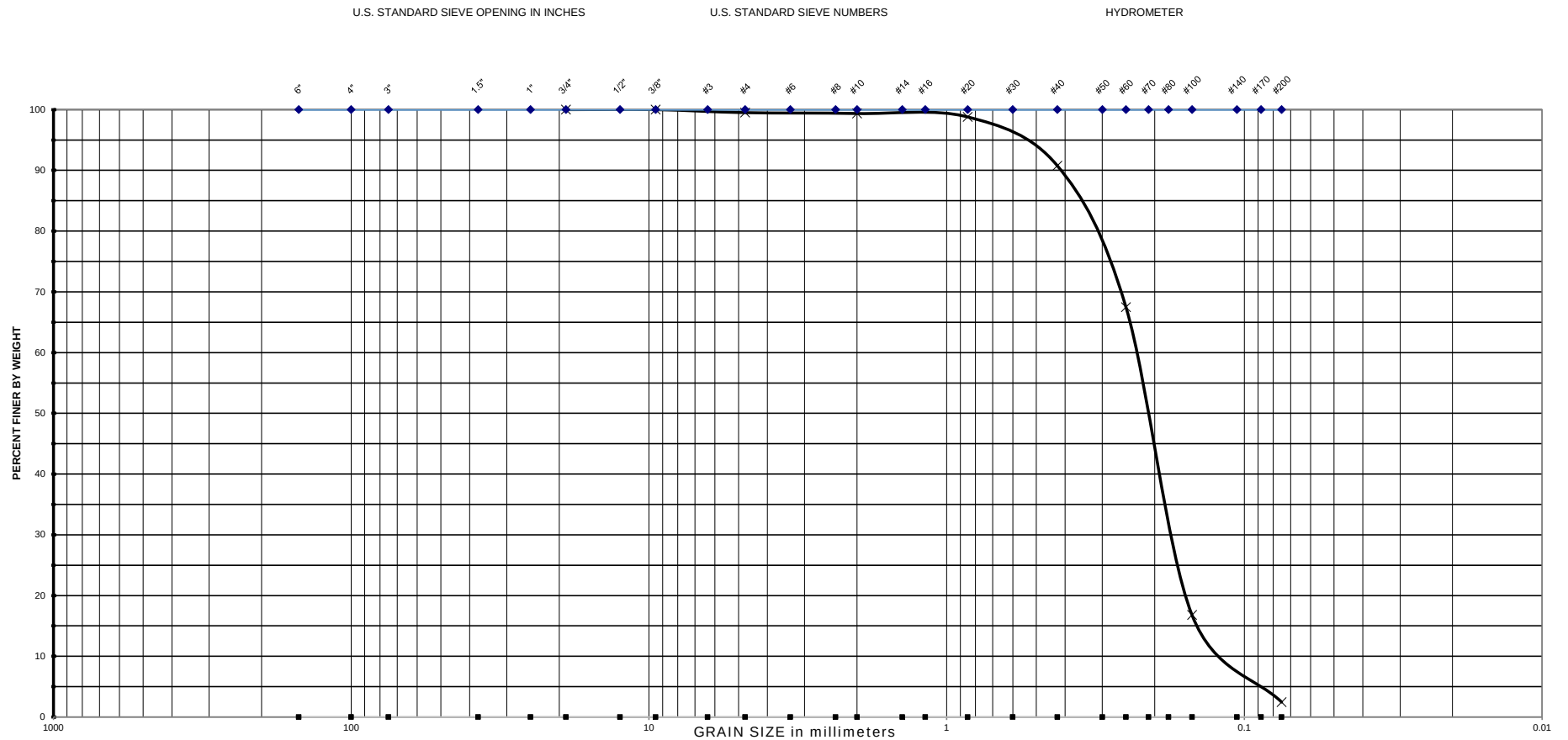
Date : 10/16/2018

U.S SIEVE NO.	CUMM. % PASSING
3/4"	100.0
3/8"	98.6
#4	92.5
#10	87.9
#20	86.4
#40	85.1
#60	83.3
#100	69.8
#200	4.9

BORING NO.	DEPTH INTERVAL [FT]	SOIL DESCRIPTION	MC	OC
B-202	41.0 - 43.0	SP	22.3	
Note : MC - Moisture Content (%) OC - Organic Content (%)				

GCME

Geotechnical - Consulting - Engineering - Testing



Project Name : PD&E Study I-95, From South of Hallandale Beach Blvd to North of Hollywood Blvd [FM No.: 436903-1-22-02]

Project No. : 2000-01-16015

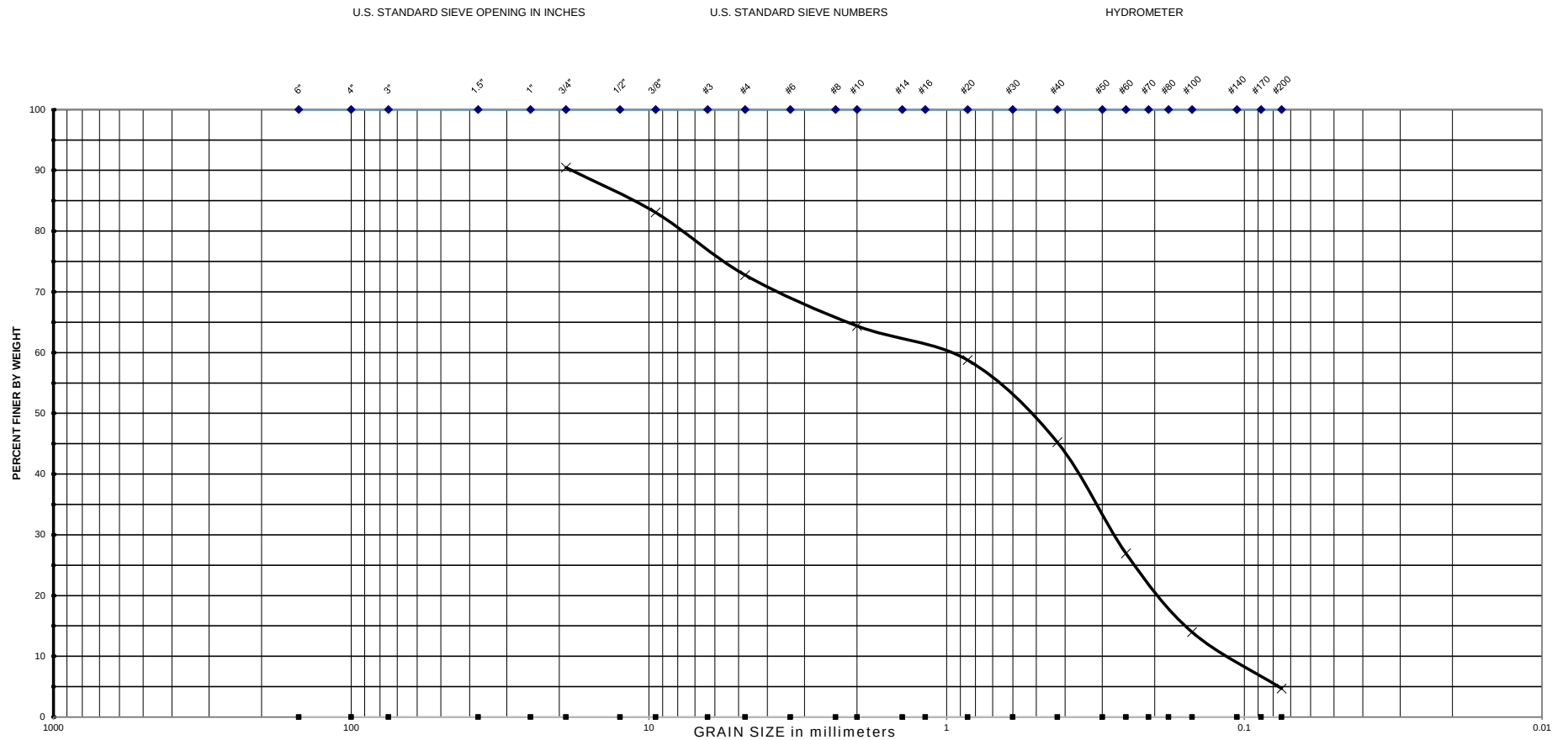
Date : 10/31/2018

U.S SIEVE NO.	CUMM. % PASSING
3/4"	100.0
3/8"	100.0
#4	99.5
#10	99.4
#20	98.8
#40	90.8
#60	67.5
#100	16.8
#200	2.5

BORING NO.	DEPTH INTERVAL [FT]	SOIL DESCRIPTION	MC	OC
B-301	4.0 - 6.0	SP	0.8	
Note : MC - Moisture Content (%) OC - Organic Content (%)				

GCME

Geotechnical - Consulting - Engineering - Testing



Project Name : PD&E Study I-95, From South of Hallandale Beach Blvd to North of Hollywood Blvd [FM No.: 436903-1-22-02]

Project No. : 2000-01-16015

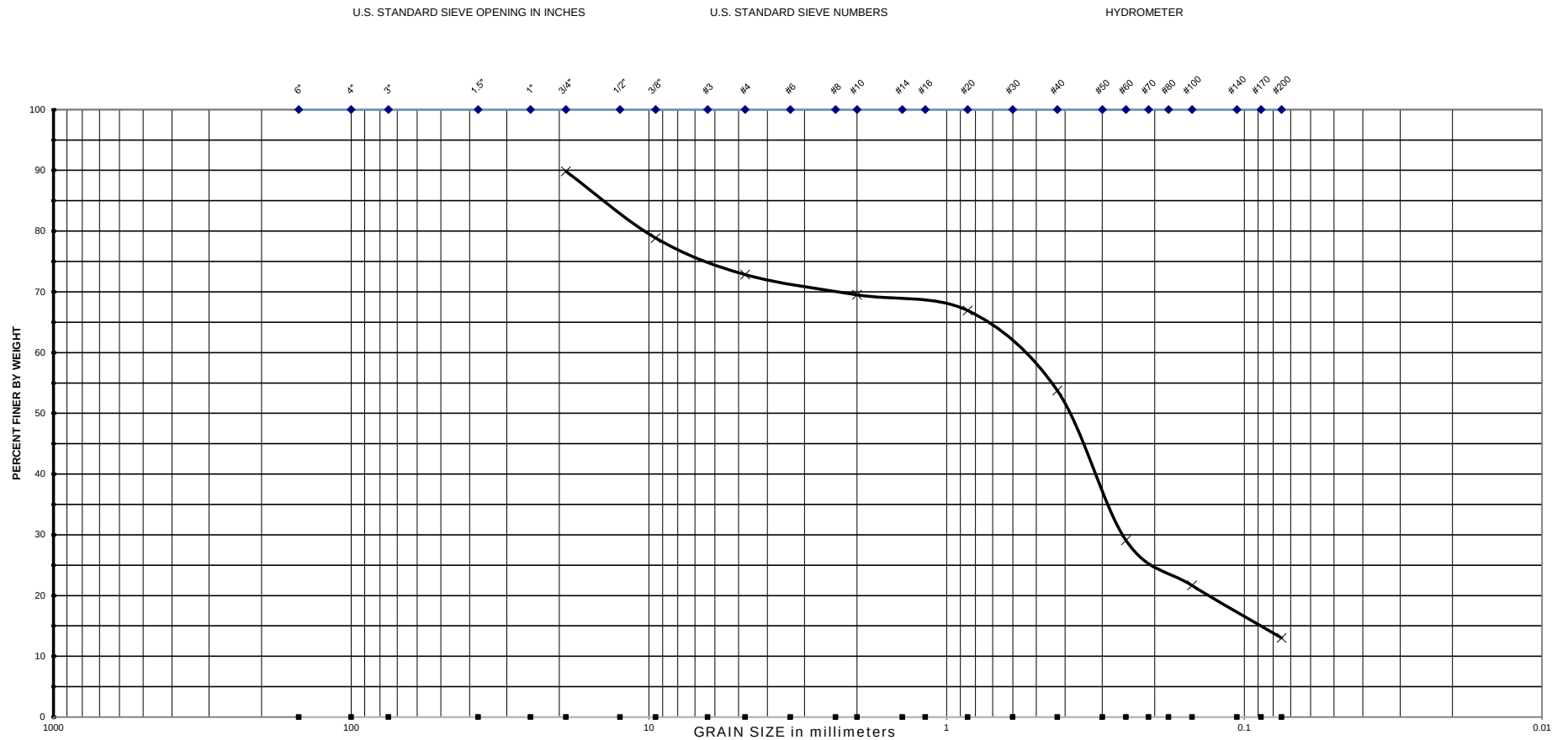
Date : 10/31/2018

U.S SIEVE NO.	CUMM. % PASSING
3/4"	90.5
3/8"	83.1
#4	72.8
#10	64.4
#20	58.8
#40	45.2
#60	26.9
#100	14.0
#200	4.7

BORING NO.	DEPTH INTERVAL [FT]	SOIL DESCRIPTION	MC	OC
B-301	61.0 - 63.0	SP	11.8	
Note : MC - Moisture Content (%) OC - Organic Content (%)				

GCME

Geotechnical - Consulting - Engineering - Testing



Project Name : PD&E Study I-95, From South of Hallandale Beach Blvd to North of Hollywood Blvd [FM No.: 436903-1-22-02]

Project No. : 2000-01-16015

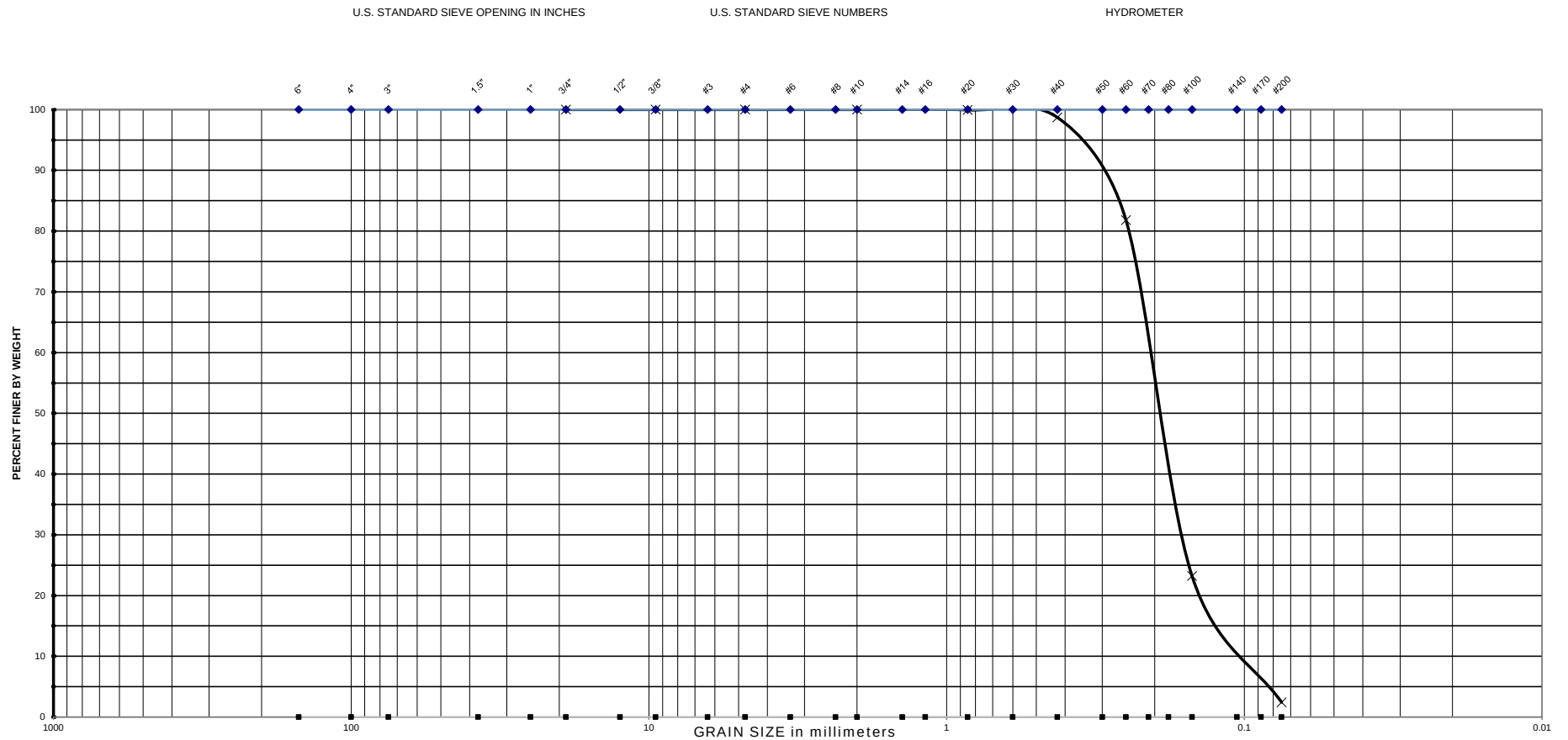
Date : 10/31/2018

U.S SIEVE NO.	CUMM. % PASSING
3/4"	89.8
3/8"	78.9
#4	72.8
#10	69.5
#20	66.9
#40	53.7
#60	29.1
#100	21.7
#200	13.0

BORING NO.	DEPTH INTERVAL [FT]	SOIL DESCRIPTION	MC	OC
B-302	12.0 - 13.5	SM	20.1	
Note : MC - Moisture Content (%) OC - Organic Content (%)				

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Geotechnical - Consulting - Engineering - Testing



Project Name : PD&E Study I-95, From South of Hallandale Beach Blvd to North of Hollywood Blvd [FM No.: 436903-1-22-02]

Project No. : 2000-01-16015

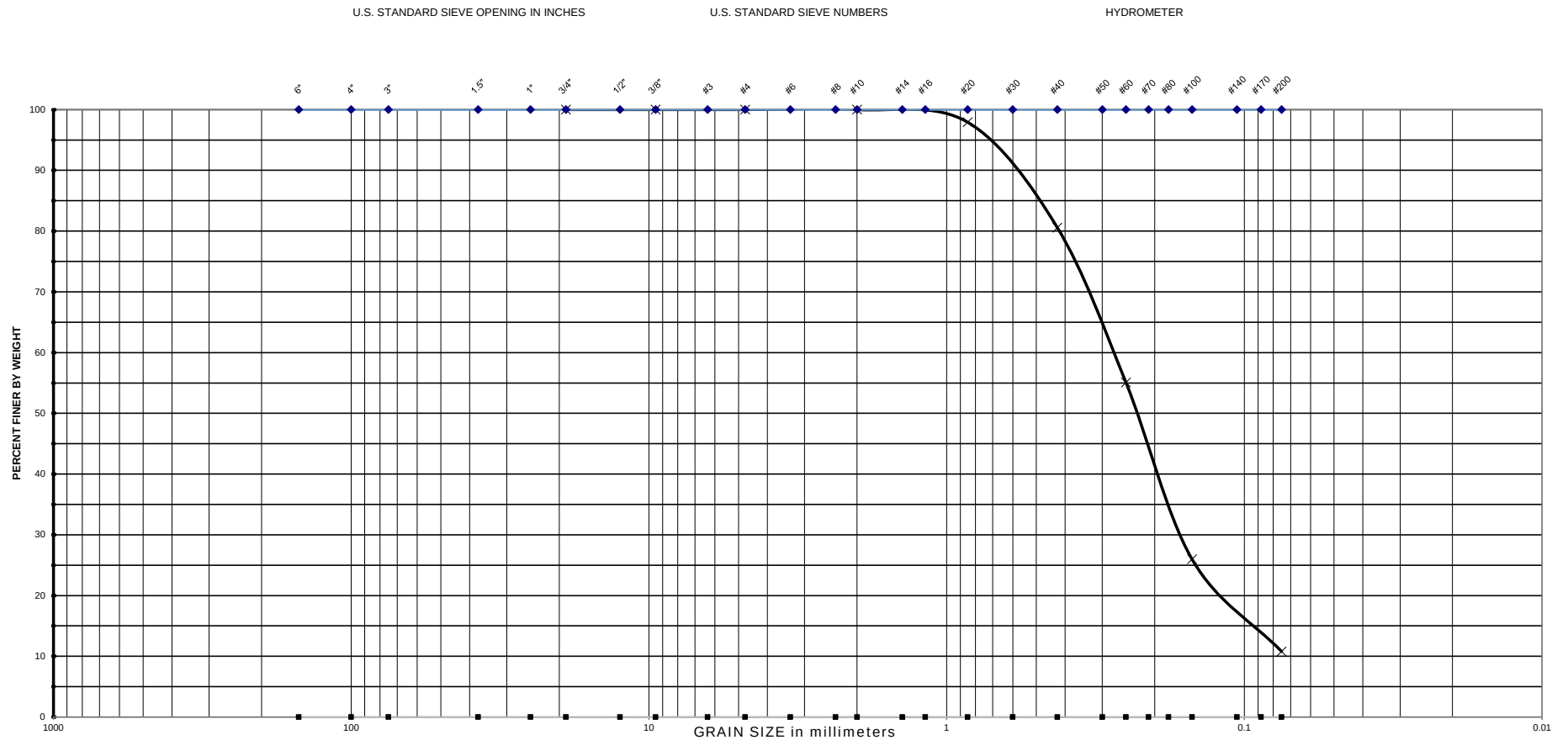
Date : 10/31/2018

U.S SIEVE NO.	CUMM. % PASSING
3/4"	100.0
3/8"	100.0
#4	100.0
#10	100.0
#20	99.9
#40	98.7
#60	81.8
#100	23.2
#200	2.4

BORING NO.	DEPTH INTERVAL [FT]	SOIL DESCRIPTION	MC	OC
B-302	23.0 - 25.0	SP	23.8	
Note : MC - Moisture Content (%) OC - Organic Content (%)				

GCME

Geotechnical - Consulting - Engineering - Testing



Project Name : PD&E Study I-95, From South of Hallandale Beach Blvd to North of Hollywood Blvd [FM No.: 436903-1-22-02]

Project No. : 2000-01-16015

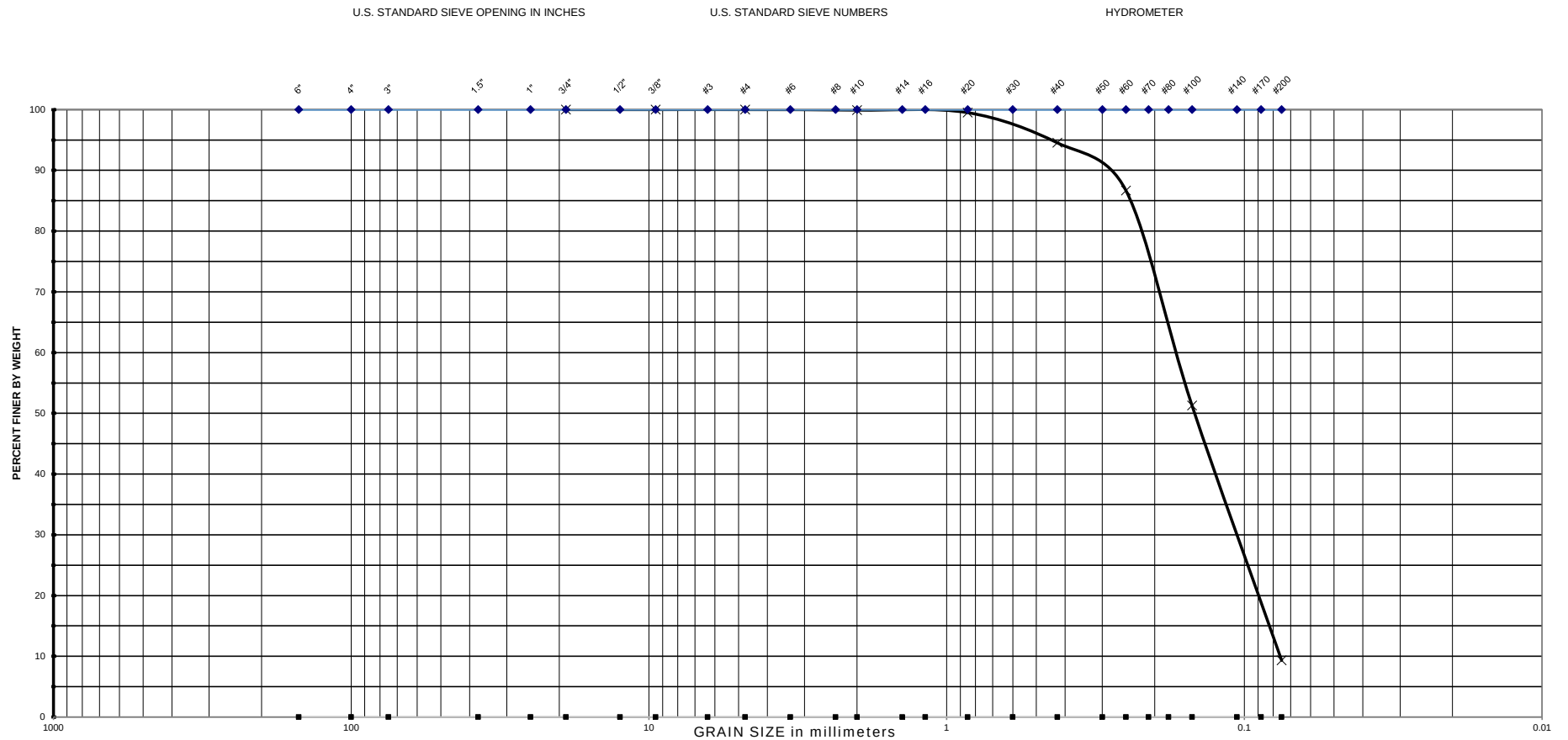
Date : 10/31/2018

U.S SIEVE NO.	CUMM. % PASSING
3/4"	100.0
3/8"	100.0
#4	100.0
#10	100.0
#20	97.9
#40	80.6
#60	55.1
#100	26.0
#200	10.8

BORING NO.	DEPTH INTERVAL [FT]	SOIL DESCRIPTION	MC	OC
B-302	31.0 - 33.0	SP-SM	23.8	
Note : MC - Moisture Content (%) OC - Organic Content (%)				

GCME

Geotechnical - Consulting - Engineering - Testing



Project Name : PD&E Study I-95, From South of Hallandale Beach Blvd to North of Hollywood Blvd [FM No.: 436903-1-22-02]

Project No. : 2000-01-16015

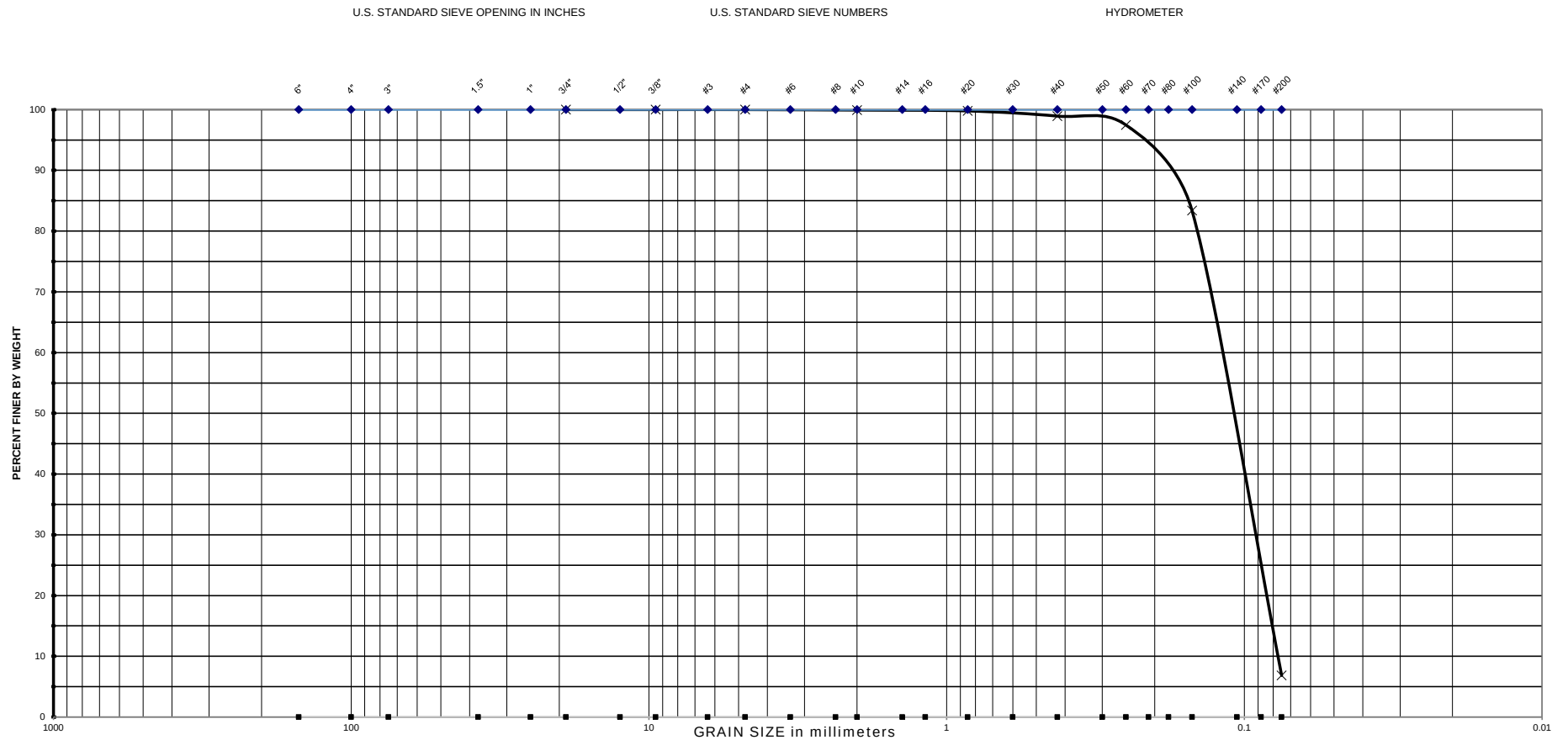
Date : 10/16/2018

U.S SIEVE NO.	CUMM. % PASSING
3/4"	100.0
3/8"	100.0
#4	100.0
#10	99.9
#20	99.5
#40	94.5
#60	86.7
#100	51.3
#200	9.3

BORING NO.	DEPTH INTERVAL [FT]	SOIL DESCRIPTION	MC	OC
B-401	33.0 - 35.0	SP-SM	24.4	
Note : MC - Moisture Content (%) OC - Organic Content (%)				

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Project Name : PD&E Study I-95, From South of Hallandale Beach Blvd to North of Hollywood Blvd [FM No.: 436903-1-22-02]

Project No. : 2000-01-16015

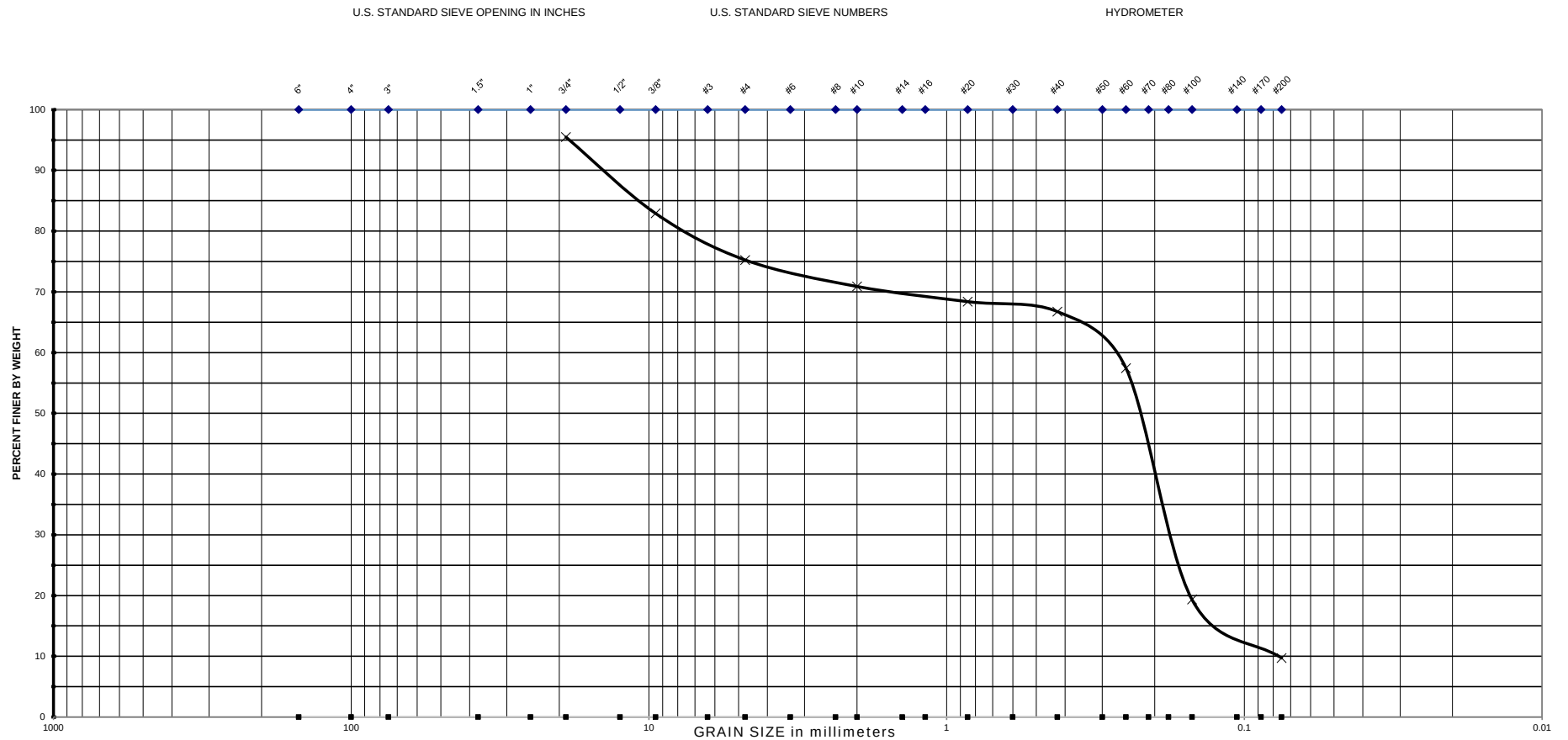
Date : 10/31/2018

U.S SIEVE NO.	CUMM. % PASSING
3/4"	100.0
3/8"	100.0
#4	100.0
#10	99.9
#20	99.8
#40	98.9
#60	97.5
#100	83.4
#200	6.9

BORING NO.	DEPTH INTERVAL [FT]	SOIL DESCRIPTION	MC	OC
B-401	36.0 - 38.0	SP-SM	29.0	
Note : MC - Moisture Content (%) OC - Organic Content (%)				

GCME

Geotechnical - Consulting - Engineering - Testing



Project Name : PD&E Study I-95, From South of Hallandale Beach Blvd to North of Hollywood Blvd [FM No.: 436903-1-22-02]

Project No. : 2000-01-16015

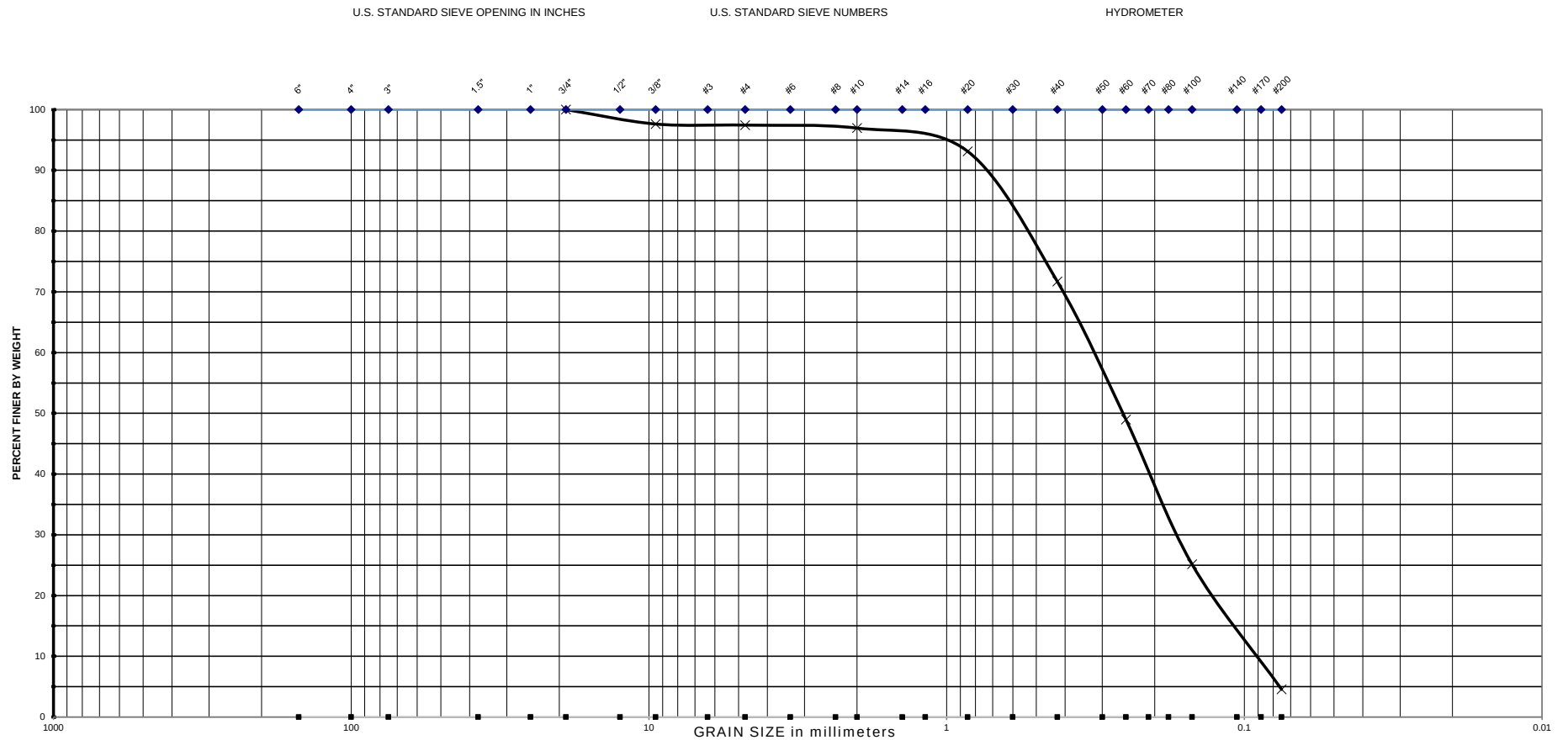
Date : 10/31/2018

U.S SIEVE NO.	CUMM. % PASSING
3/4"	95.5
3/8"	82.9
#4	75.2
#10	70.9
#20	68.4
#40	66.7
#60	57.4
#100	19.3
#200	9.7

BORING NO.	DEPTH INTERVAL [FT]	SOIL DESCRIPTION	MC	OC
B-402	12.0 - 13.5	SP-SM	16.5	
Note : MC - Moisture Content (%) OC - Organic Content (%)				

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Geotechnical - Consulting - Engineering - Testing



Project Name : PD&E Study I-95, From South of Hallandale Beach Blvd to North of Hollywood Blvd [FM No.: 436903-1-22-02]

Project No. : 2000-01-16015

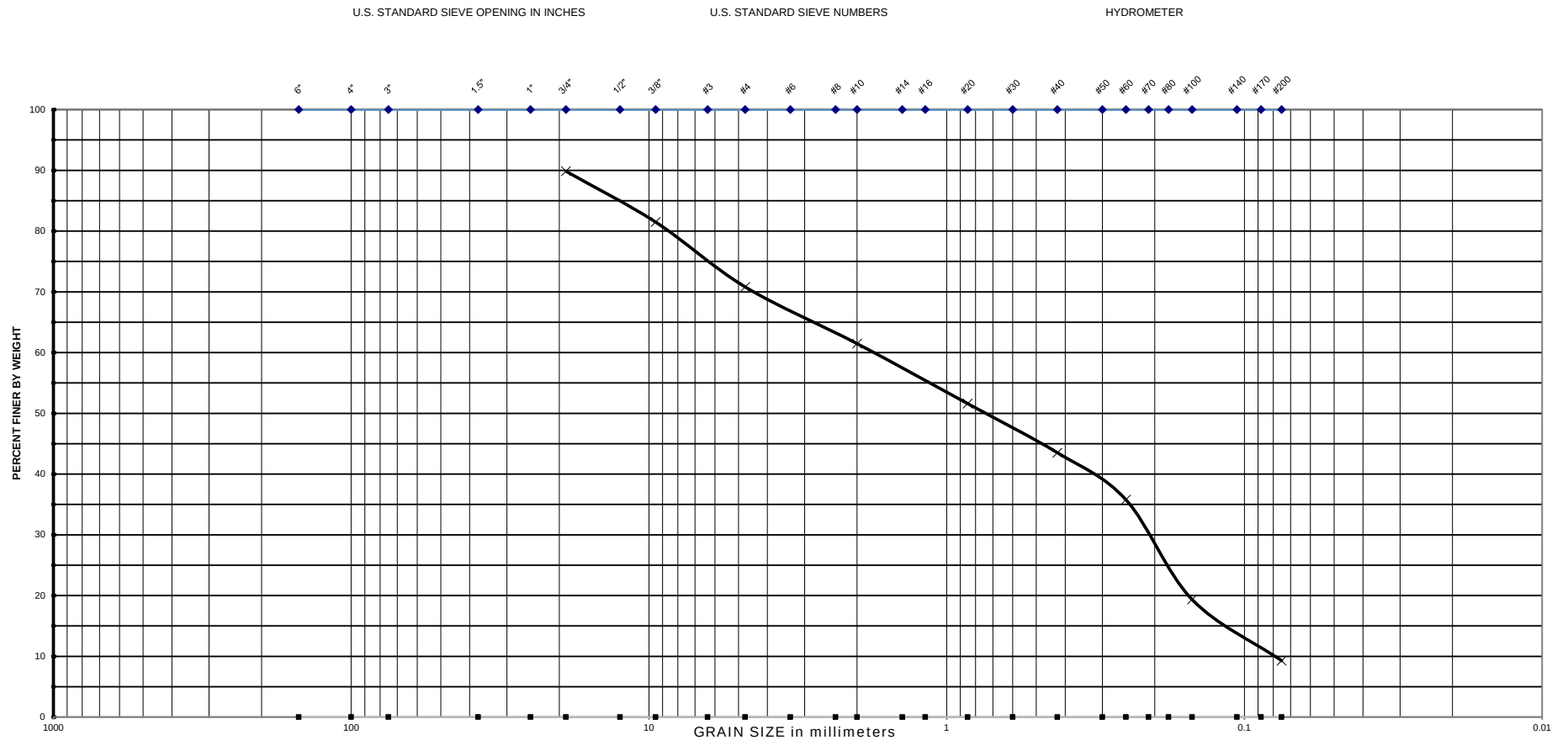
Date : 10/31/2018

U.S SIEVE NO.	CUMM. % PASSING
3/4"	100.0
3/8"	97.6
#4	97.4
#10	97.0
#20	93.1
#40	71.7
#60	49.0
#100	25.2
#200	4.5

BORING NO.	DEPTH INTERVAL [FT]	SOIL DESCRIPTION	MC	OC
B-403	33.0 - 35.0	SP	21.1	
Note : MC - Moisture Content (%) OC - Organic Content (%)				

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Geotechnical - Consulting - Engineering - Testing



Project Name : PD&E Study I-95, From South of Hallandale Beach Blvd to North of Hollywood Blvd [FM No.: 436903-1-22-02]

Project No. : 2000-01-16015

Date : 10/31/2018

U.S SIEVE NO.	CUMM. % PASSING
3/4"	89.9
3/8"	81.5
#4	70.8
#10	61.5
#20	51.6
#40	43.5
#60	35.8
#100	19.4
#200	9.3

BORING NO.	DEPTH INTERVAL [FT]	SOIL DESCRIPTION	MC	OC
B-403	68.0 - 70.0	SP-SM	12.3	
Note : MC - Moisture Content (%) OC - Organic Content (%)				

TABLE - 1B**SUMMARY OF LABORATORY TESTING RESULTS****Project: PD&E Study I-95, From South of Hallandale Beach Blvd to North of Hollywood Blvd [FM No.: 436903-1-22-02]**

Boring No.	Sample Depth (ft)		Stratum	AASHTO Symbol	Natural Moisture Content (%)	Organic Content (%)	Atterberg Limits			Sieve Analysis								
							LL (%)	PL (%)	PI (%)	3/4"	3/8"	#4	#10	#20	#40	#60	#100	#200
R-101	4.0	-	5.0	5	A-8	135.2	24.4											
R-101	10.0	-	12.0	2	A-3	20.3				94.7	93.6	93.4	93.1	92.5	83.8	55.2	12.5	6.3
R-102	2.0	-	4.0	3	A-2-4	13.1				95.3	83.3	76.4	69.6	66.0	60.8	47.3	21.7	14.8
R-103	0.0	-	1.0	3	A-2-4	9.7				91.2	87.2	82.1	78.8	76.6	69.2	51.1	28.8	21.4
R-103	1.0	-	2.0	3	A-2-4	5.9				73.2	72.3	68.7	66.0	63.8	56.0	41.2	20.6	11.8
R-104	0.0	-	2.0	3	A-2-4	7.1				92.9	92.9	91.6	91.0	90.3	82.0	54.9	18.0	10.8
R-104	8.0	-	10.0	2	A-3	21.1				100.0	100.0	100.0	100.0	99.6	88.2	53.1	8.6	1.4
R-202	2.0	-	4.0	2	A-3	8.1				100.0	96.2	89.7	86.0	83.8	75.1	49.2	16.2	9.8
R-203	2.0	-	4.0	3	A-2-4	10.5				93.3	84.2	76.5	73.2	70.5	62.8	44.9	20.3	14.4
R-203	4.0	-	6.0	3	A-2-4	7.6				100.0	88.4	79.8	75.3	72.3	64.5	46.2	21.1	14.9
R-205	6.0	-	8.0	2	A-3	18.1				92.5	86.1	80.8	78.4	76.2	70.1	52.8	18.1	10.1
R-205	12.0	-	13.5	2	A-3	25.9				100.0	100.0	100.0	99.7	97.8	91.1	67.5	19.0	7.3
R-206	0.0	-	2.0	2	A-3	13.9				100.0	95.8	90.6	87.9	86.6	80.1	55.8	16.2	5.5
R-207	8.0	-	10.0	2	A-3	23.3				100.0	92.9	85.5	84.0	82.7	77.1	57.9	21.1	8.2
R-301	2.0	-	4.0	3	A-2-4	25.2				92.9	84.9	80.0	77.2	75.5	68.4	47.8	18.3	11.7
R-301	13.5	-	15.0	2	A-3	14.5				78.2	70.9	66.2	63.7	61.8	55.5	39.1	11.3	7.6
R-302	2.0	-	4.0	2	A-3	11.6				92.3	90.3	88.8	86.6	83.5	71.6	46.4	13.9	6.4
R-302	4.0	-	6.0	5	A-8	376.3	80.2											
R-303	4.0	-	6.0	2	A-3	4.5				100.0	98.3	95.5	93.8	92.3	79.0	40.2	7.4	2.9
R-303	13.5	-	15.0	3	A-2-4	17.4				100.0	92.9	83.1	79.1	76.7	69.8	50.8	23.8	12.3
R-304	0.0	-	2.0	2	A-3	4.7				93.9	86.2	82.5	80.8	79.3	69.3	39.3	11.5	5.7
BHP-102	2.0	-	4.0	2	A-3	3.2				100.0	100.0	100.0	100.0	99.6	88.2	17.6	3.8	1.4
BHP-102	8.0	-	10.0	3	A-2-4	20.6				100.0	82.6	75.5	72.9	71.1	61.8	32.4	14.4	10.9
BHP-201	2.0	-	4.0	3	A-2-4	9.4				100.0	95.9	92.6	91.6	90.5	78.8	42.7	17.8	13.0
BHP-202	4.0	-	6.0	2	A-3	3.5				100.0	100.0	100.0	100.0	99.7	92.1	8.1	1.6	1.3

TABLE - 1B**SUMMARY OF LABORATORY TESTING RESULTS****Project: PD&E Study I-95, From South of Hallandale Beach Blvd to North of Hollywood Blvd [FM No.: 436903-1-22-02]**

Boring No.	Sample Depth (ft)			Stratum	AASHTO Symbol	Natural Moisture Content (%)	Organic Content (%)	Atterberg Limits			Sieve Analysis								
								LL (%)	PL (%)	PI (%)	3/4"	3/8"	#4	#10	#20	#40	#60	#100	#200
BHP-202	8.0	-	10.0	2	A-3	24.4					100.0	100.0	100.0	100.0	99.7	91.4	5.0	1.3	0.8
BHP-301	2.0	-	4.0	3	A-2-4	4.5					100.0	86.0	76.5	70.6	68.4	62.8	36.2	18.5	14.6
BHP-301	6.0	-	8.0	2	A-3	3.8					100.0	100.0	100.0	100.0	98.7	79.2	2.9	0.7	0.7
BHP-301	8.0	-	10.0	2	A-3	21.9					100.0	100.0	100.0	100.0	99.0	79.1	5.0	0.9	0.7
BHP-302	2.0	-	4.0	2	A-3	4.8					91.7	85.0	80.3	77.9	76.0	66.1	17.5	8.8	6.5
BHP-302	4.0	-	6.0	2	A-3	2.4					100.0	100.0	100.0	100.0	99.2	85.7	16.2	3.4	1.2

TABLE - 1B**SUMMARY OF LABORATORY TESTING RESULTS [STRATUM 2]****Project: PD&E Study I-95, From South of Hallandale Beach Blvd to North of Hollywood Blvd [FM No.: 436903-1-22-02]**

Boring No.	Sample Depth (ft)			Stratum	AASHTO Symbol	Natural Moisture Content (%)	Organic Content (%)	Atterberg Limits			Sieve Analysis							
								LL (%)	PL (%)	PI (%)	3/4"	3/8"	#4	#10	#20	#40	#60	#100
R-101	10.0	-	12.0	2	A-3	20.3				94.7	93.6	93.4	93.1	92.5	83.8	55.2	12.5	6.3
R-104	8.0	-	10.0	2	A-3	21.1				100.0	100.0	100.0	100.0	99.6	88.2	53.1	8.6	1.4
R-202	2.0	-	4.0	2	A-3	8.1				100.0	96.2	89.7	86.0	83.8	75.1	49.2	16.2	9.8
R-205	6.0	-	8.0	2	A-3	18.1				92.5	86.1	80.8	78.4	76.2	70.1	52.8	18.1	10.1
R-205	12.0	-	13.5	2	A-3	25.9				100.0	100.0	100.0	99.7	97.8	91.1	67.5	19.0	7.3
R-206	0.0	-	2.0	2	A-3	13.9				100.0	95.8	90.6	87.9	86.6	80.1	55.8	16.2	5.5
R-207	8.0	-	10.0	2	A-3	23.3				100.0	92.9	85.5	84.0	82.7	77.1	57.9	21.1	8.2
R-301	13.5	-	15.0	2	A-3	14.5				78.2	70.9	66.2	63.7	61.8	55.5	39.1	11.3	7.6
R-302	2.0	-	4.0	2	A-3	11.6				92.3	90.3	88.8	86.6	83.5	71.6	46.4	13.9	6.4
R-303	4.0	-	6.0	2	A-3	4.5				100.0	98.3	95.5	93.8	92.3	79.0	40.2	7.4	2.9
R-304	0.0	-	2.0	2	A-3	4.7				93.9	86.2	82.5	80.8	79.3	69.3	39.3	11.5	5.7
BHP-102	2.0	-	4.0	2	A-3	3.2				100.0	100.0	100.0	100.0	99.6	88.2	17.6	3.8	1.4
BHP-202	4.0	-	6.0	2	A-3	3.5				100.0	100.0	100.0	100.0	99.7	92.1	8.1	1.6	1.3
BHP-202	8.0	-	10.0	2	A-3	24.4				100.0	100.0	100.0	100.0	99.7	91.4	5.0	1.3	0.8
BHP-301	6.0	-	8.0	2	A-3	3.8				100.0	100.0	100.0	100.0	98.7	79.2	2.9	0.7	0.7
BHP-301	8.0	-	10.0	2	A-3	21.9				100.0	100.0	100.0	100.0	99.0	79.1	5.0	0.9	0.7
BHP-302	2.0	-	4.0	2	A-3	4.8				91.7	85.0	80.3	77.9	76.0	66.1	17.5	8.8	6.5
BHP-302	4.0	-	6.0	2	A-3	2.4				100.0	100.0	100.0	100.0	99.2	85.7	16.2	3.4	1.2

TABLE - 1B**SUMMARY OF LABORATORY TESTING RESULTS [STRATUM 3]****Project: PD&E Study I-95, From South of Hallandale Beach Blvd to North of Hollywood Blvd [FM No.: 436903-1-22-02]**

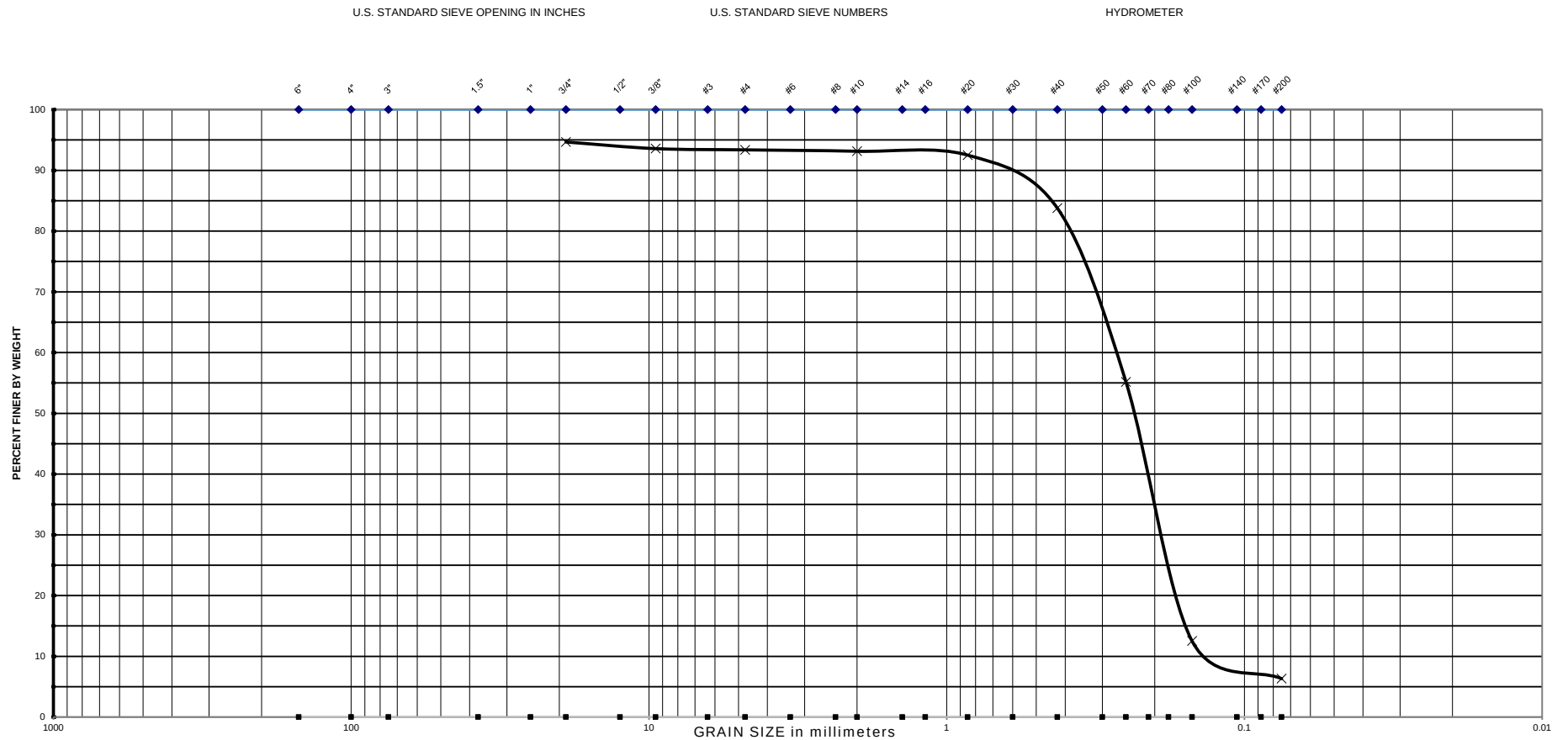
Boring No.	Sample Depth (ft)		Stratum	AASHTO Symbol	Natural Moisture Content (%)	Organic Content (%)	Atterberg Limits			Sieve Analysis								
							LL (%)	PL (%)	PI (%)	3/4"	3/8"	#4	#10	#20	#40	#60	#100	#200
R-102	2.0	-	4.0	3	A-2-4	13.1				95.3	83.3	76.4	69.6	66.0	60.8	47.3	21.7	14.8
R-103	0.0	-	1.0	3	A-2-4	9.7				91.2	87.2	82.1	78.8	76.6	69.2	51.1	28.8	21.4
R-103	1.0	-	2.0	3	A-2-4	5.9				73.2	72.3	68.7	66.0	63.8	56.0	41.2	20.6	11.8
R-104	0.0	-	2.0	3	A-2-4	7.1				92.9	92.9	91.6	91.0	90.3	82.0	54.9	18.0	10.8
R-203	2.0	-	4.0	3	A-2-4	10.5				93.3	84.2	76.5	73.2	70.5	62.8	44.9	20.3	14.4
R-203	4.0	-	6.0	3	A-2-4	7.6				100.0	88.4	79.8	75.3	72.3	64.5	46.2	21.1	14.9
R-301	2.0	-	4.0	3	A-2-4	25.2				92.9	84.9	80.0	77.2	75.5	68.4	47.8	18.3	11.7
R-303	13.5	-	15.0	3	A-2-4	17.4				100.0	92.9	83.1	79.1	76.7	69.8	50.8	23.8	12.3
BHP-102	8.0	-	10.0	3	A-2-4	20.6				100.0	82.6	75.5	72.9	71.1	61.8	32.4	14.4	10.9
BHP-201	2.0	-	4.0	3	A-2-4	9.4				100.0	95.9	92.6	91.6	90.5	78.8	42.7	17.8	13.0
BHP-301	2.0	-	4.0	3	A-2-4	4.5				100.0	86.0	76.5	70.6	68.4	62.8	36.2	18.5	14.6

TABLE - 1B**SUMMARY OF LABORATORY TESTING RESULTS [STRATUM 5]****Project: PD&E Study I-95, From South of Hallandale Beach Blvd to North of Hollywood Blvd [FM No.: 436903-1-22-02]**

Boring No.	Sample Depth (ft)			Stratum	AASHTO Symbol	Natural Moisture Content (%)	Organic Content (%)	Atterberg Limits			Sieve Analysis							
								LL (%)	PL (%)	PI (%)	3/4"	3/8"	#4	#10	#20	#40	#60	#100
R-101	4.0	-	5.0	5	A-8	135.2	24.4											
R-302	4.0	-	6.0	5	A-8	376.3	80.2											

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Geotechnical - Consulting - Engineering - Testing



Project Name : PD&E Study I-95, From South of Hallandale Beach Blvd to North of Hollywood Blvd [FM No.: 436903-1-22-02]

Project No. : 2000-01-16015

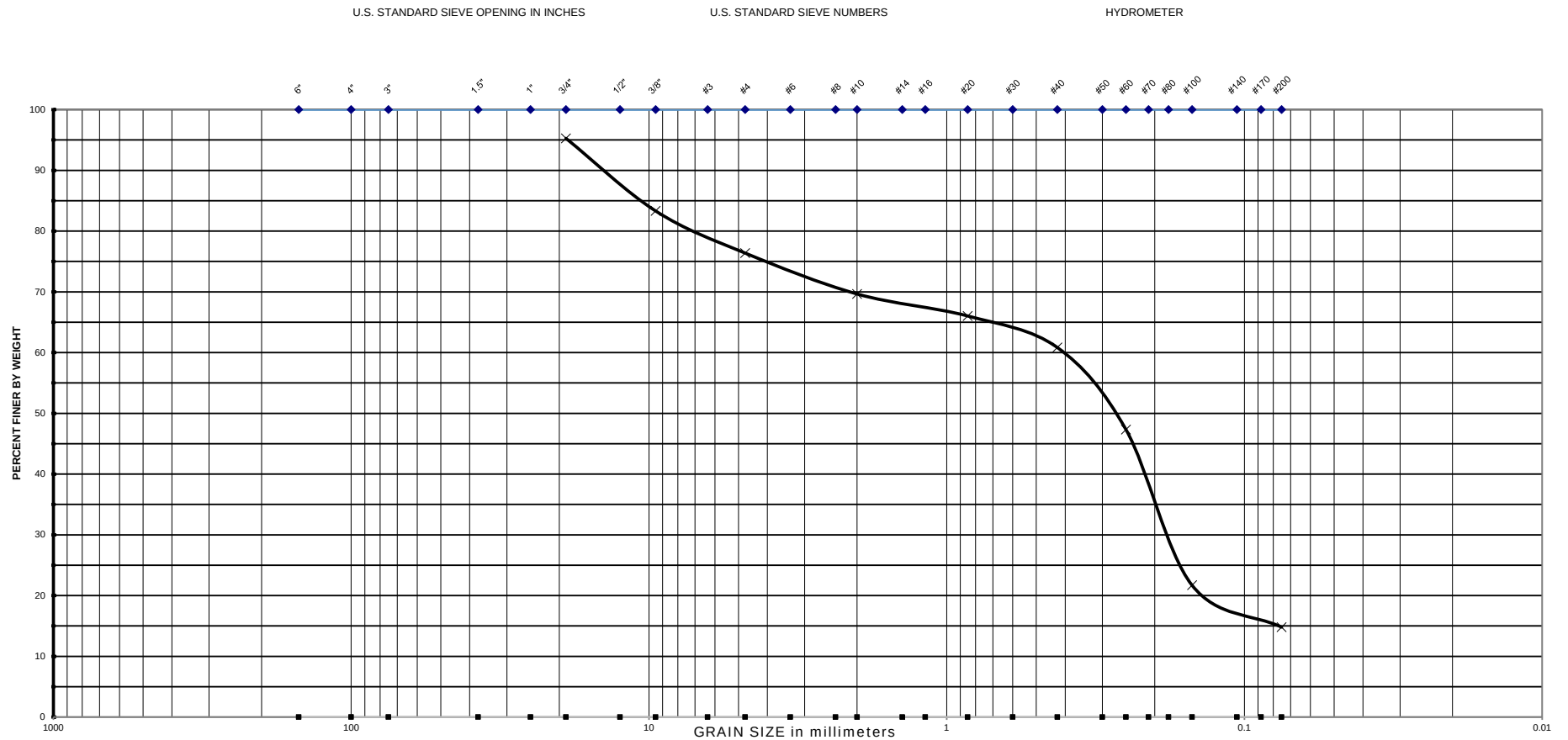
Date : 11/23/2018

U.S SIEVE NO.	CUMM. % PASSING
3/4"	94.7
3/8"	93.6
#4	93.4
#10	93.1
#20	92.5
#40	83.8
#60	55.2
#100	12.5
#200	6.3

BORING NO.	DEPTH INTERVAL [FT]	SOIL DESCRIPTION	MC	OC
R-101	10.0 - 12.0	A-3	20.3	
Note : MC - Moisture Content (%) OC - Organic Content (%)				

GCME

Geotechnical - Consulting - Engineering - Testing



Project Name : PD&E Study I-95, From South of Hallandale Beach Blvd to North of Hollywood Blvd [FM No.: 436903-1-22-02]

Project No. : 2000-01-16015

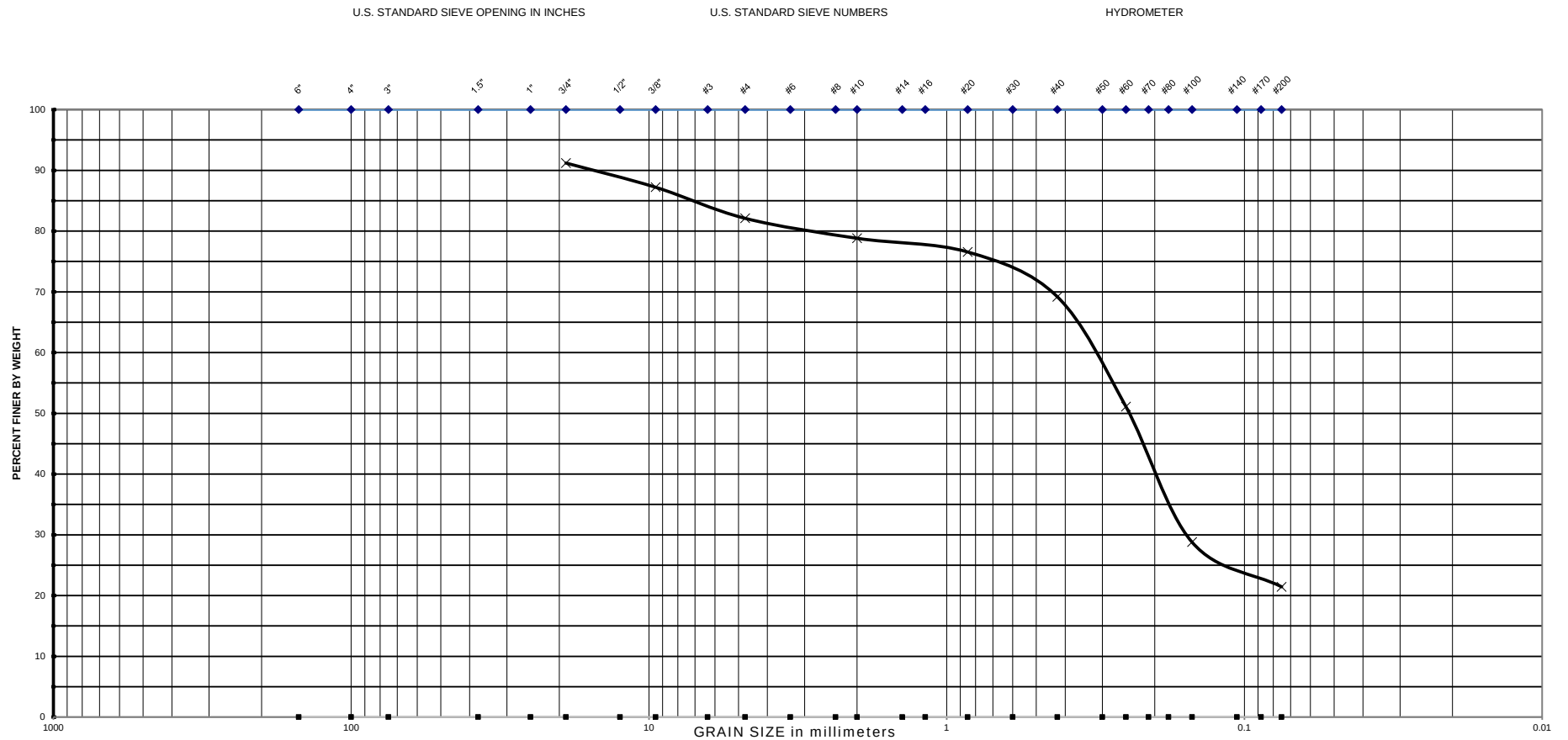
Date : 11/23/2018

U.S SIEVE NO.	CUMM. % PASSING
3/4"	95.3
3/8"	83.3
#4	76.4
#10	69.6
#20	66.0
#40	60.8
#60	47.3
#100	21.7
#200	14.8

BORING NO.	DEPTH INTERVAL [FT]	SOIL DESCRIPTION	MC	OC
R-102	2.0 - 4.0	A-2-4	13.1	
Note : MC - Moisture Content (%) OC - Organic Content (%)				

GCME

Geotechnical - Consulting - Engineering - Testing



Project Name : PD&E Study I-95, From South of Hallandale Beach Blvd to North of Hollywood Blvd [FM No.: 436903-1-22-02]

Project No. : 2000-01-16015

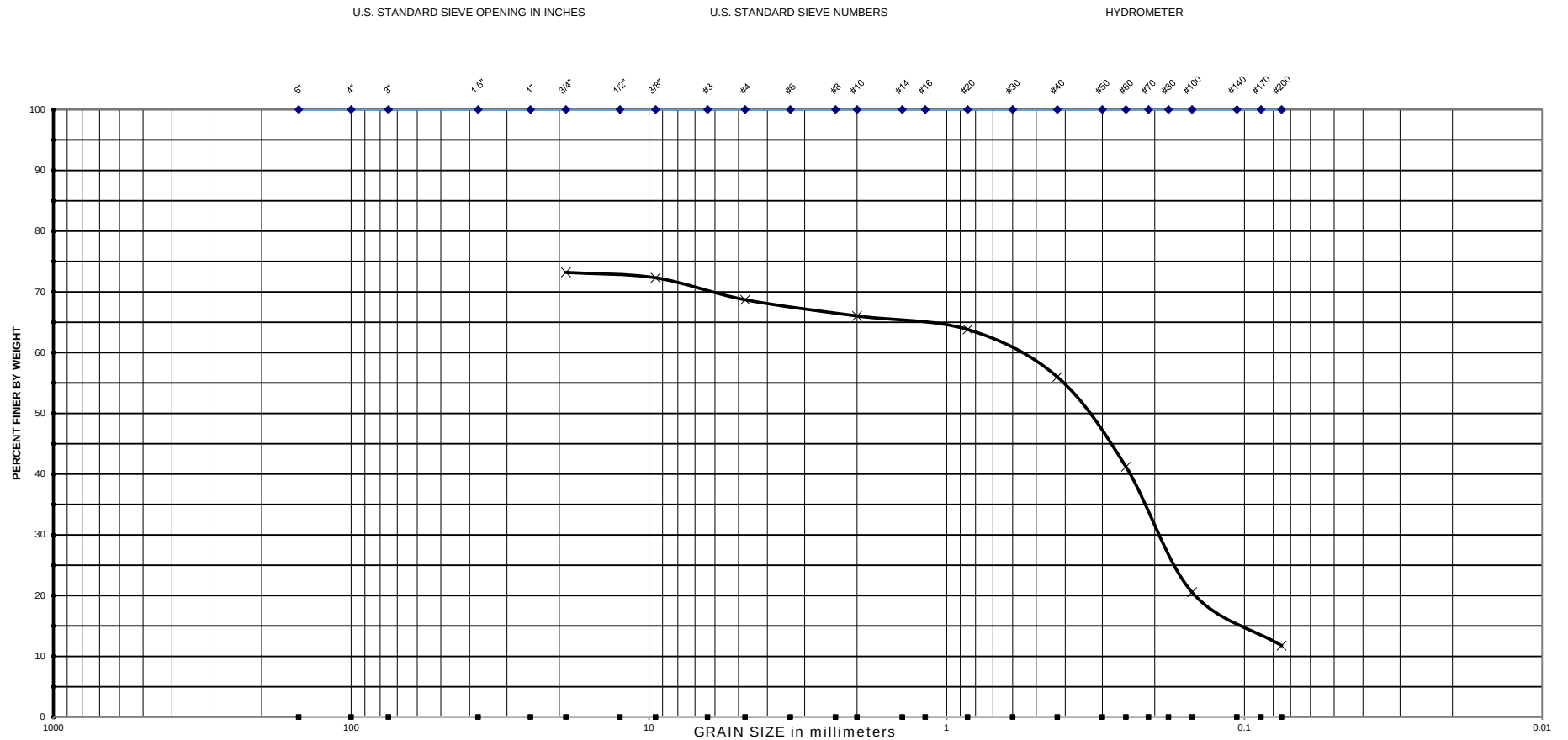
Date : 11/26/2018

U.S SIEVE NO.	CUMM. % PASSING
3/4"	91.2
3/8"	87.2
#4	82.1
#10	78.8
#20	76.6
#40	69.2
#60	51.1
#100	28.8
#200	21.4

BORING NO.	DEPTH INTERVAL [FT]	SOIL DESCRIPTION	MC	OC
R-103	0.0 - 1.0	A-2-4	9.7	
Note : MC - Moisture Content (%) OC - Organic Content (%)				

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Project Name : PD&E Study I-95, From South of Hallandale Beach Blvd to North of Hollywood Blvd [FM No.: 436903-1-22-02]

Project No. : 2000-01-16015

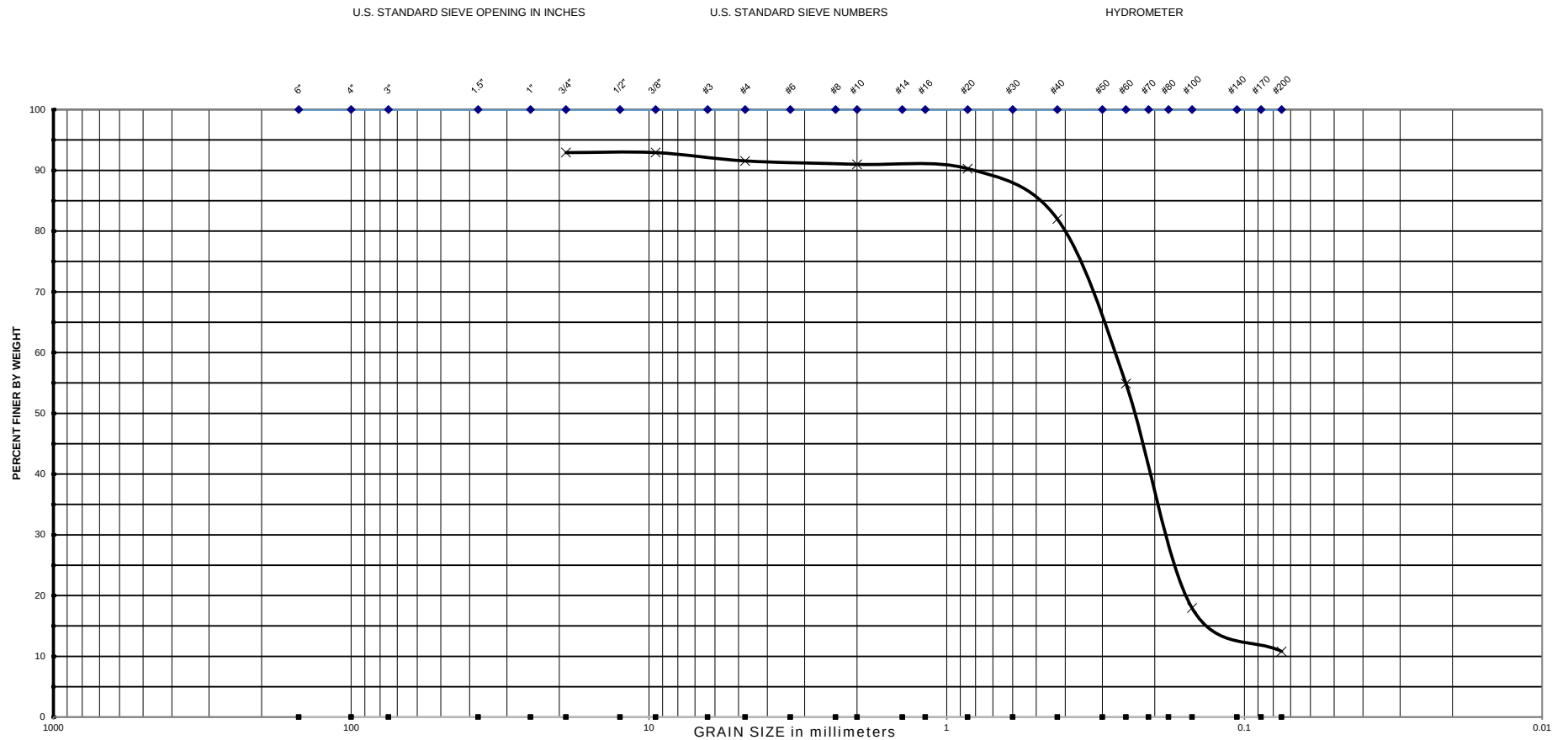
Date : 11/26/2018

U.S SIEVE NO.	CUMM. % PASSING
3/4"	73.2
3/8"	72.3
#4	68.7
#10	66.0
#20	63.8
#40	56.0
#60	41.2
#100	20.6
#200	11.8

BORING NO.	DEPTH INTERVAL [FT]	SOIL DESCRIPTION	MC	OC
R-103	1.0 - 2.0	A-2-4	5.9	
Note : MC - Moisture Content (%) OC - Organic Content (%)				

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Geotechnical - Consulting - Engineering - Testing



Project Name : PD&E Study I-95, From South of Hallandale Beach Blvd to North of Hollywood Blvd [FM No.: 436903-1-22-02]

Project No. : 2000-01-16015

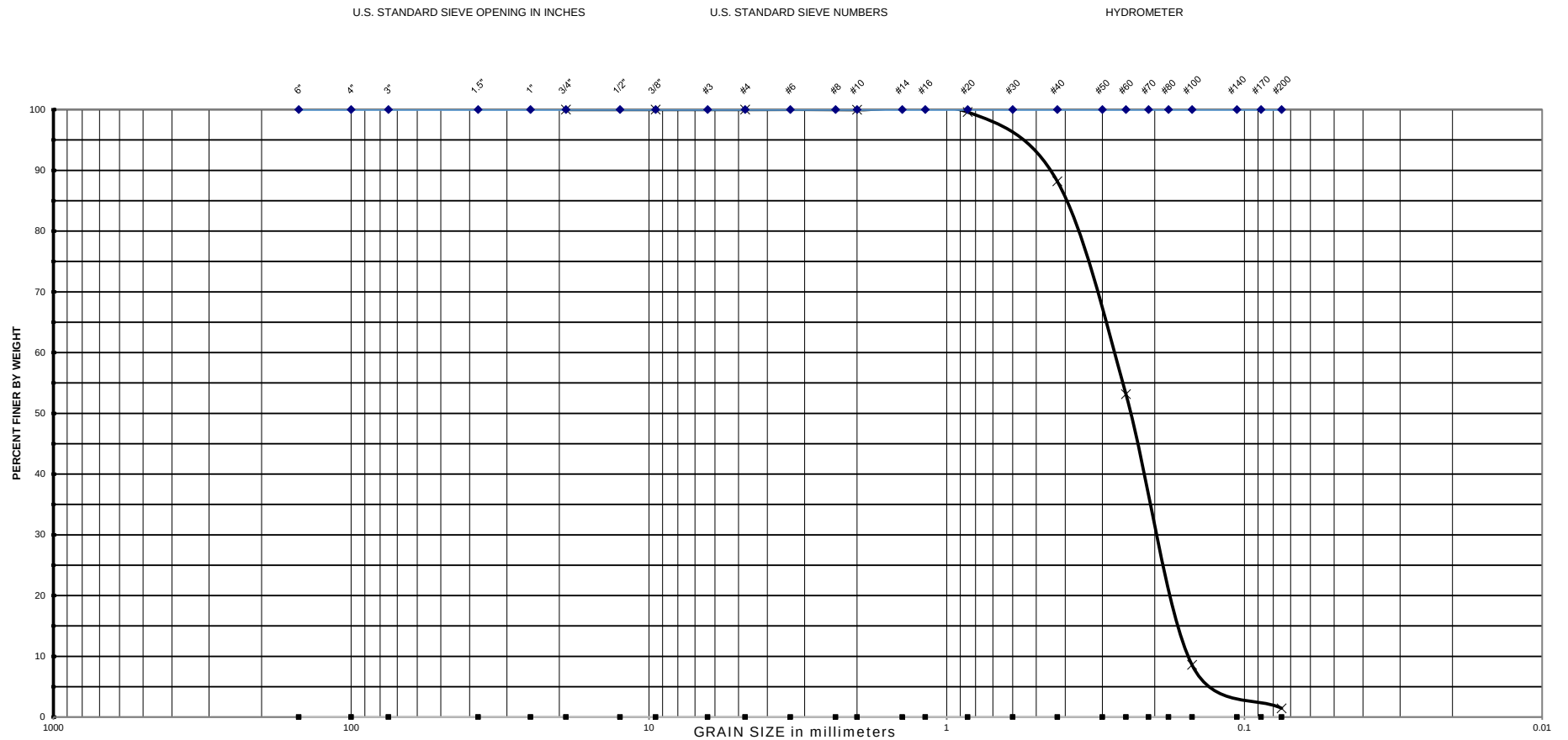
Date : 11/23/2018

U.S SIEVE NO.	CUMM. % PASSING
3/4"	92.9
3/8"	92.9
#4	91.6
#10	91.0
#20	90.3
#40	82.0
#60	54.9
#100	18.0
#200	10.8

BORING NO.	DEPTH INTERVAL [FT]	SOIL DESCRIPTION	MC	OC
R-104	0.0 - 2.0	A-2-4	7.1	
Note : MC - Moisture Content (%) OC - Organic Content (%)				

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Project Name : PD&E Study I-95, From South of Hallandale Beach Blvd to North of Hollywood Blvd [FM No.: 436903-1-22-02]

Project No. : 2000-01-16015

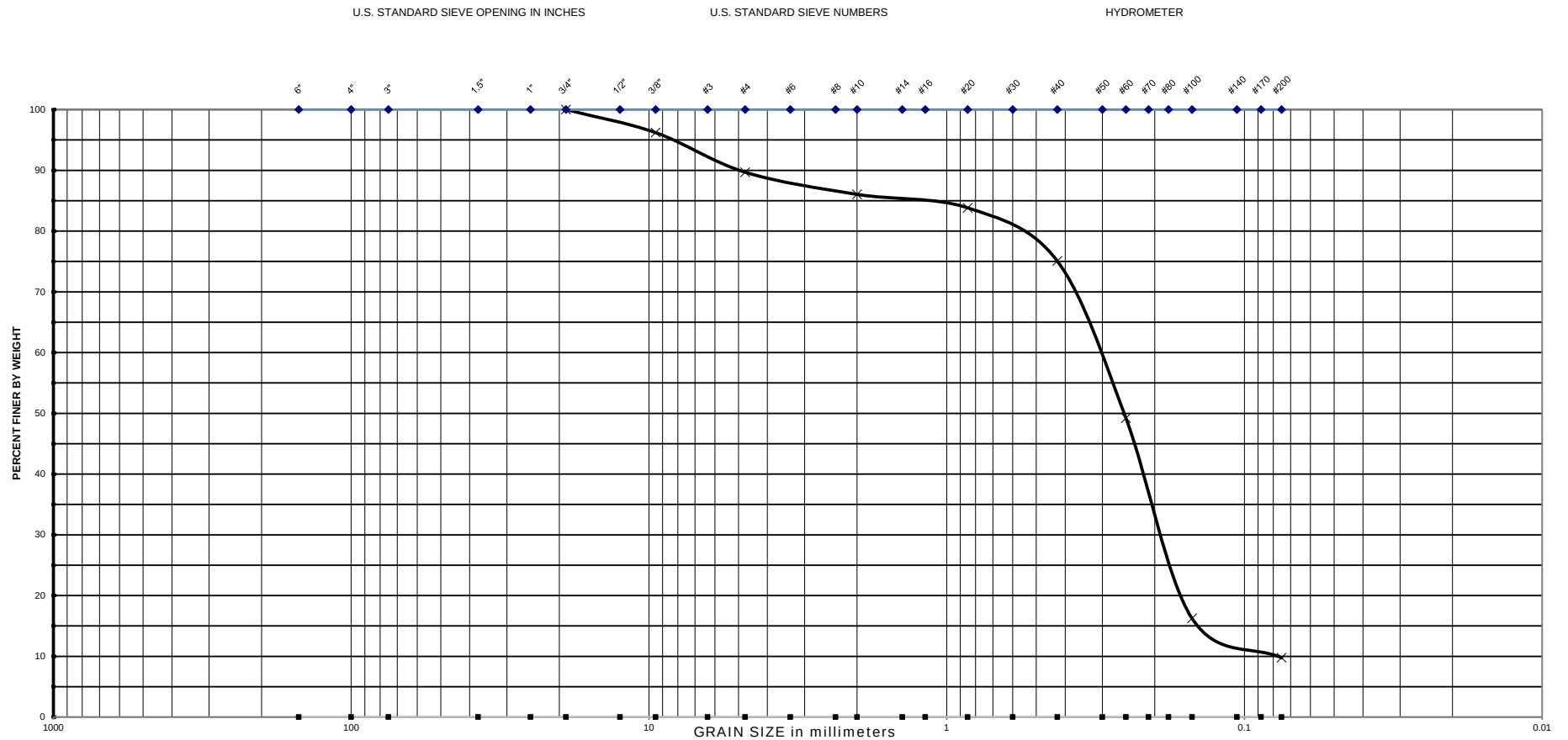
Date : 11/23/2018

U.S SIEVE NO.	CUMM. % PASSING
3/4"	100.0
3/8"	100.0
#4	100.0
#10	100.0
#20	99.6
#40	88.2
#60	53.1
#100	8.6
#200	1.4

BORING NO.	DEPTH INTERVAL [FT]	SOIL DESCRIPTION	MC	OC
R-104	8.0 - 10.0	A-3	21.1	
Note : MC - Moisture Content (%) OC - Organic Content (%)				

GCME

Geotechnical - Consulting - Engineering - Testing



Project Name : PD&E Study I-95, From South of Hallandale Beach Blvd to North of Hollywood Blvd [FM No.: 436903-1-22-02]

Project No. : 2000-01-16015

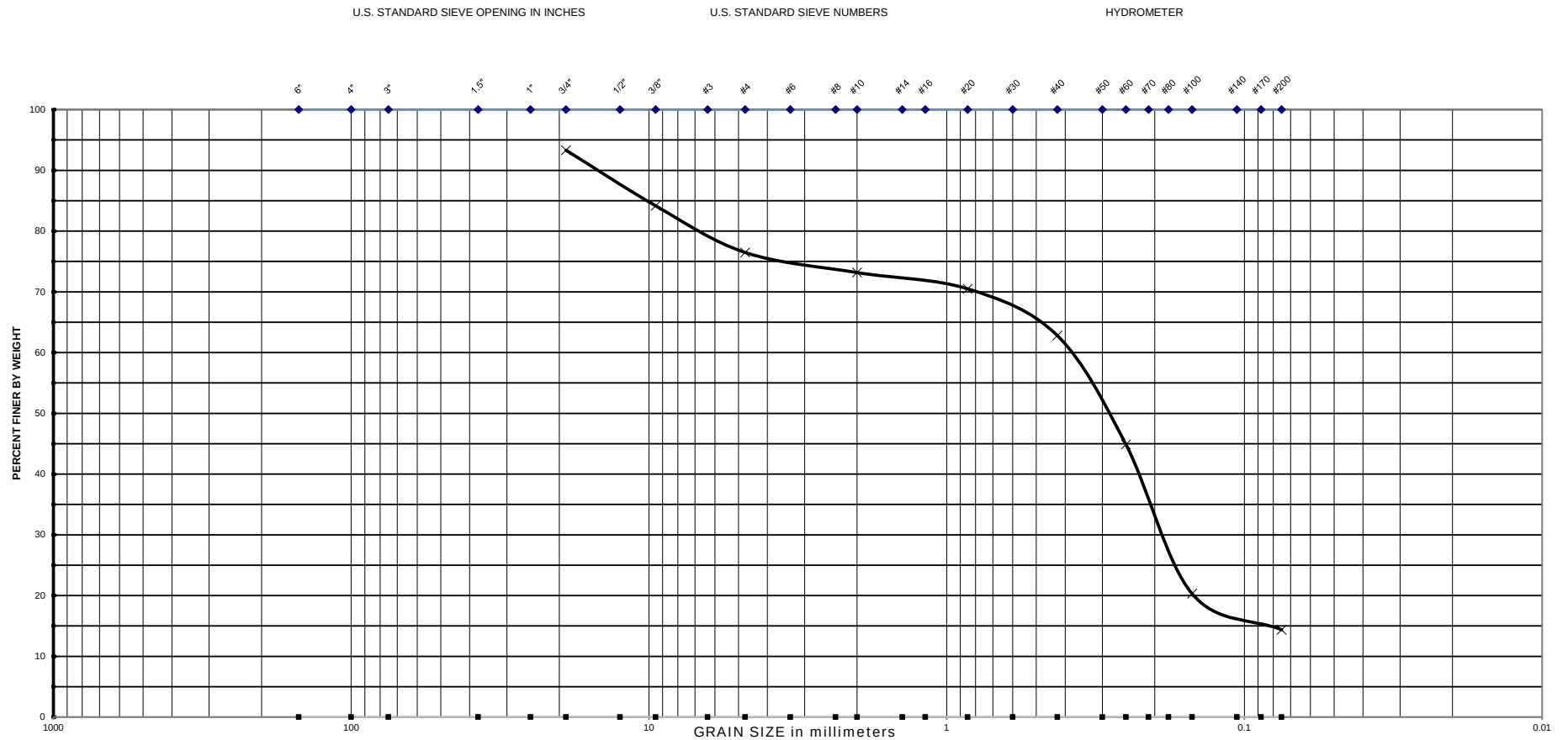
Date : 11/23/2018

U.S SIEVE NO.	CUMM. % PASSING
3/4"	100.0
3/8"	96.2
#4	89.7
#10	86.0
#20	83.8
#40	75.1
#60	49.2
#100	16.2
#200	9.8

BORING NO.	DEPTH INTERVAL [FT]	SOIL DESCRIPTION	MC	OC
R-202	2.0 - 4.0	A-3	8.1	
Note : MC - Moisture Content (%) OC - Organic Content (%)				

GCME

Geotechnical - Consulting - Engineering - Testing



Project Name : PD&E Study I-95, From South of Hallandale Beach Blvd to North of Hollywood Blvd [FM No.: 436903-1-22-02]

Project No. : 2000-01-16015

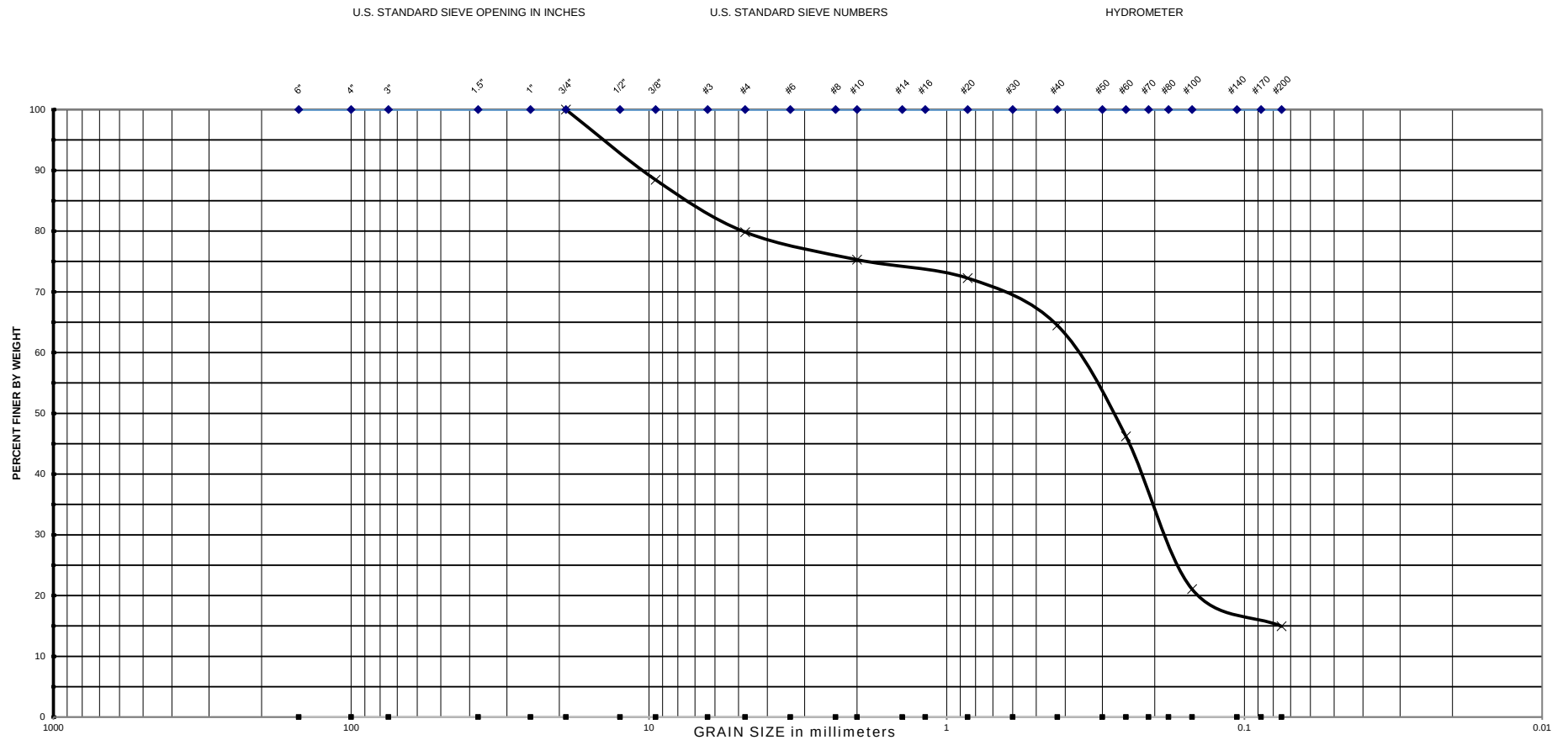
Date : 11/23/2018

U.S SIEVE NO.	CUMM. % PASSING
3/4"	93.3
3/8"	84.2
#4	76.5
#10	73.2
#20	70.5
#40	62.8
#60	44.9
#100	20.3
#200	14.4

BORING NO.	DEPTH INTERVAL [FT]	SOIL DESCRIPTION	MC	OC
R-203	2.0 - 4.0	A-2-4	10.5	
Note : MC - Moisture Content (%) OC - Organic Content (%)				

GCME

Geotechnical - Consulting - Engineering - Testing



Project Name : PD&E Study I-95, From South of Hallandale Beach Blvd to North of Hollywood Blvd [FM No.: 436903-1-22-02]

Project No. : 2000-01-16015

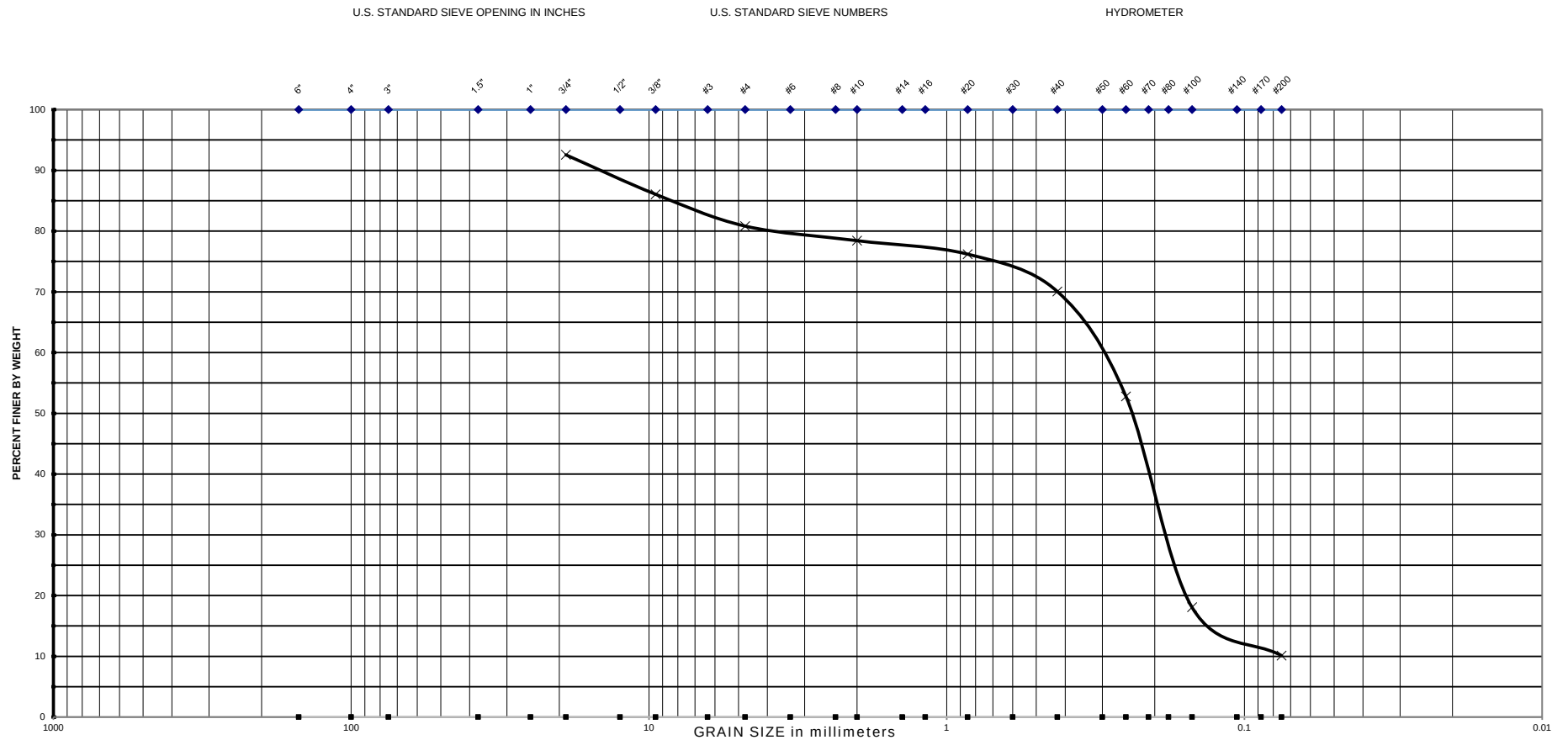
Date : 11/23/2018

U.S SIEVE NO.	CUMM. % PASSING
3/4"	100.0
3/8"	88.4
#4	79.8
#10	75.3
#20	72.3
#40	64.5
#60	46.2
#100	21.1
#200	14.9

BORING NO.	DEPTH INTERVAL [FT]	SOIL DESCRIPTION	MC	OC
R-203	4.0 - 6.0	A-2-4	7.6	
Note : MC - Moisture Content (%) OC - Organic Content (%)				

GCME

Geotechnical - Consulting - Engineering - Testing



Project Name : PD&E Study I-95, From South of Hallandale Beach Blvd to North of Hollywood Blvd [FM No.: 436903-1-22-02]

Project No. : 2000-01-16015

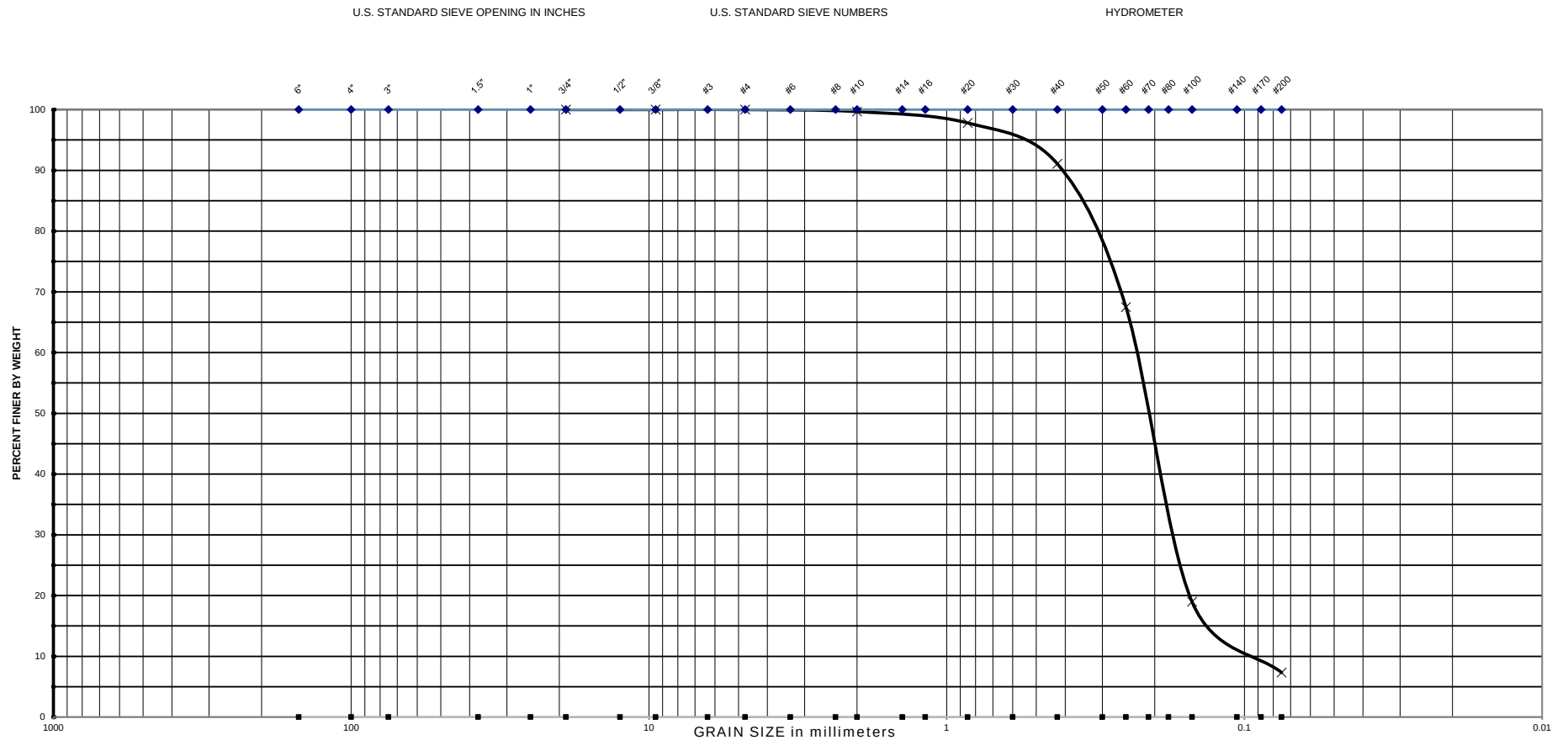
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U.S SIEVE NO.	CUMM. % PASSING
3/4"	92.5
3/8"	86.1
#4	80.8
#10	78.4
#20	76.2
#40	70.1
#60	52.8
#100	18.1
#200	10.1

BORING NO.	DEPTH INTERVAL [FT]	SOIL DESCRIPTION	MC	OC
R-205	6.0 - 8.0	A-3	18.1	
Note : MC - Moisture Content (%)				
OC - Organic Content (%)				

GCME

Geotechnical - Consulting - Engineering - Testing



Project Name : PD&E Study I-95, From South of Hallandale Beach Blvd to North of Hollywood Blvd [FM No.: 436903-1-22-02]

Project No. : 2000-01-16015

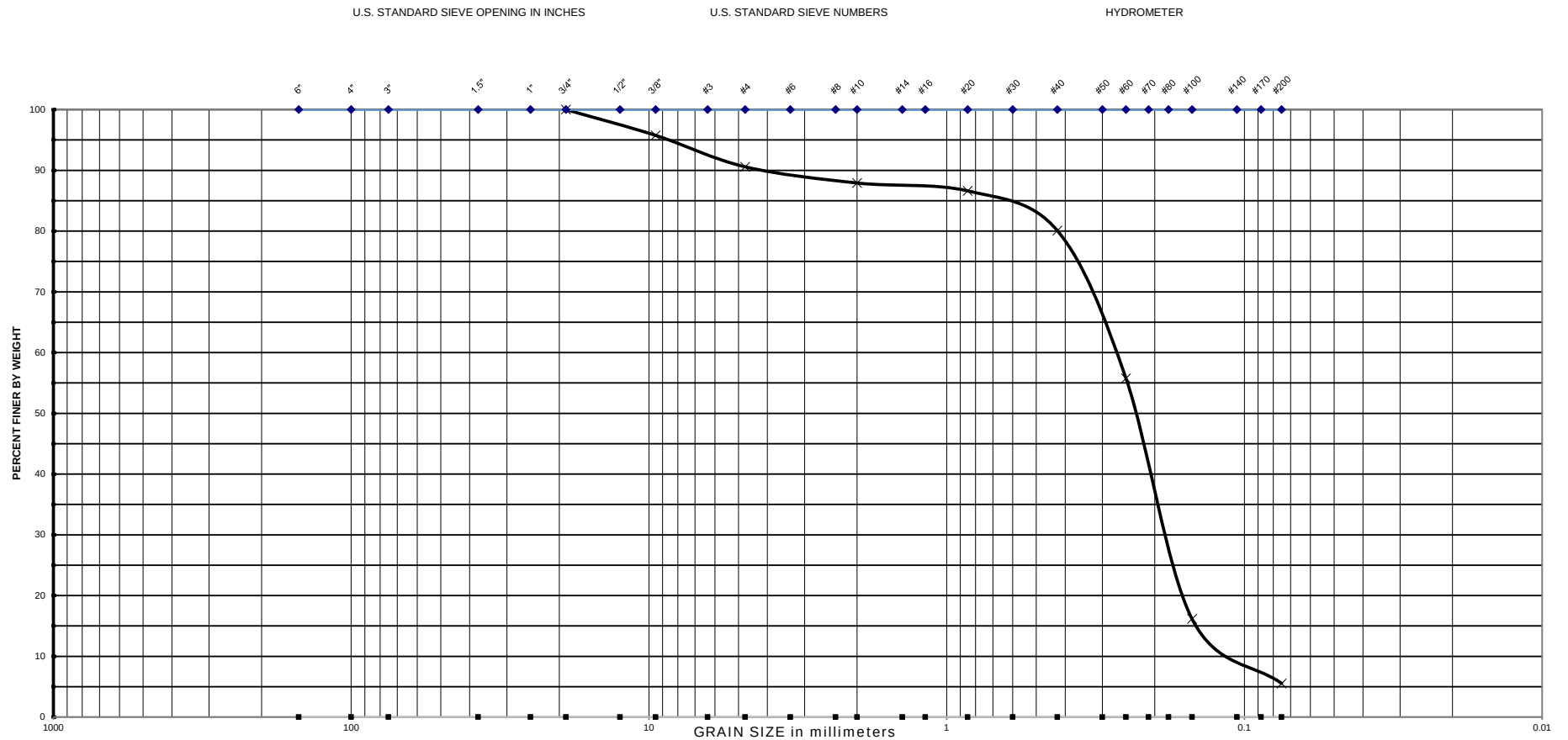
Date : 11/23/2018

U.S SIEVE NO.	CUMM. % PASSING
3/4"	100.0
3/8"	100.0
#4	100.0
#10	99.7
#20	97.8
#40	91.1
#60	67.5
#100	19.0
#200	7.3

BORING NO.	DEPTH INTERVAL [FT]	SOIL DESCRIPTION	MC	OC
R-205	12.0 - 13.5	A-3	25.9	
Note : MC - Moisture Content (%) OC - Organic Content (%)				

GCME

Geotechnical - Consulting - Engineering - Testing



Project Name : PD&E Study I-95, From South of Hallandale Beach Blvd to North of Hollywood Blvd [FM No.: 436903-1-22-02]

Project No. : 2000-01-16015

Date : 11/23/2018

U.S SIEVE NO.	CUMM. % PASSING
3/4"	100.0
3/8"	95.8
#4	90.6
#10	87.9
#20	86.6
#40	80.1
#60	55.8
#100	16.2
#200	5.5

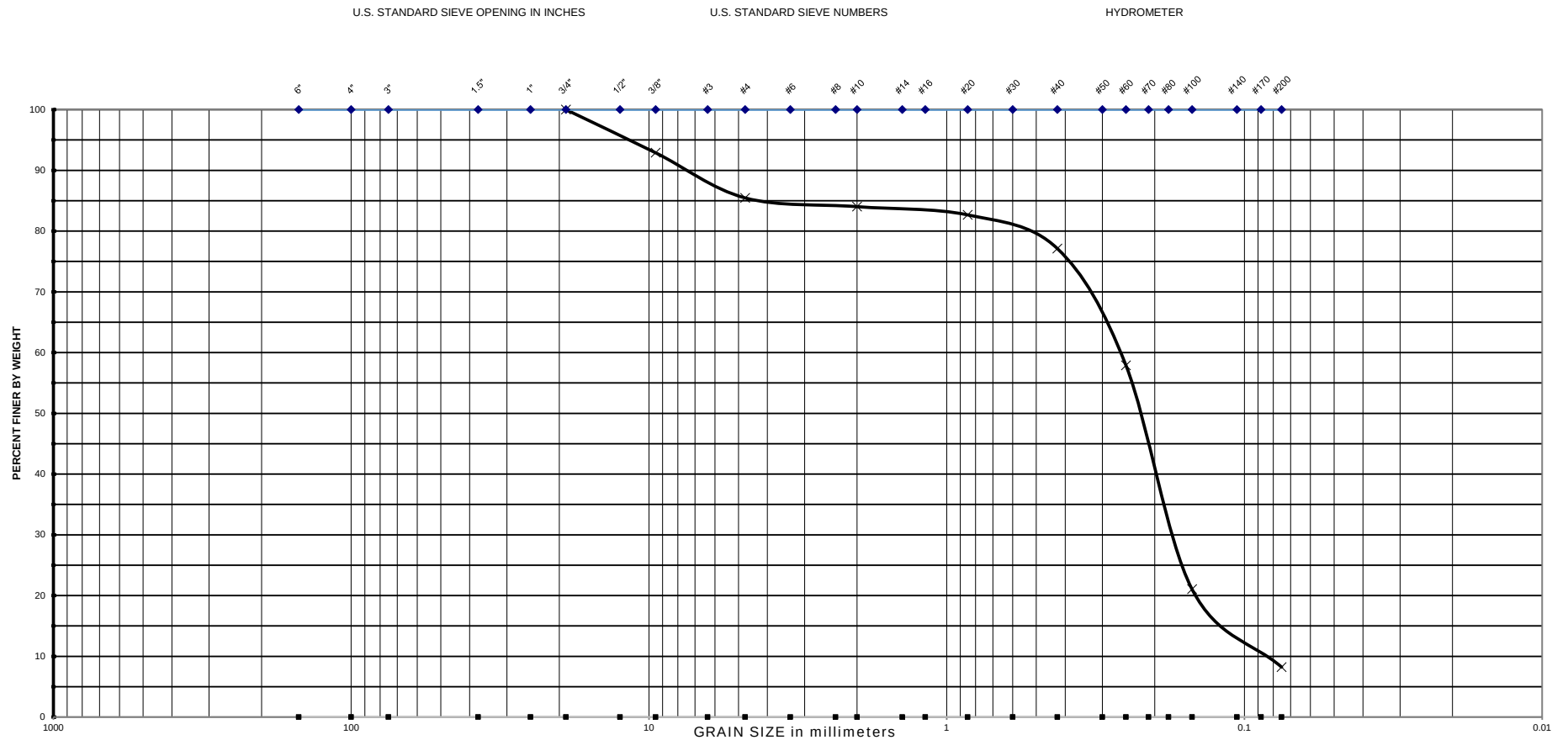
BORING NO.	DEPTH INTERVAL [FT]	SOIL DESCRIPTION	MC	OC
R-206	0.0 - 2.0	A-3	13.9	

Note : MC - Moisture Content (%)

OC - Organic Content (%)

GCME

Geotechnical - Consulting - Engineering - Testing



Project Name : PD&E Study I-95, From South of Hallandale Beach Blvd to North of Hollywood Blvd [FM No.: 436903-1-22-02]

Project No. : 2000-01-16015

Date : 11/23/2018

U.S SIEVE NO.	CUMM. % PASSING
3/4"	100.0
3/8"	92.9
#4	85.5
#10	84.0
#20	82.7
#40	77.1
#60	57.9
#100	21.1
#200	8.2

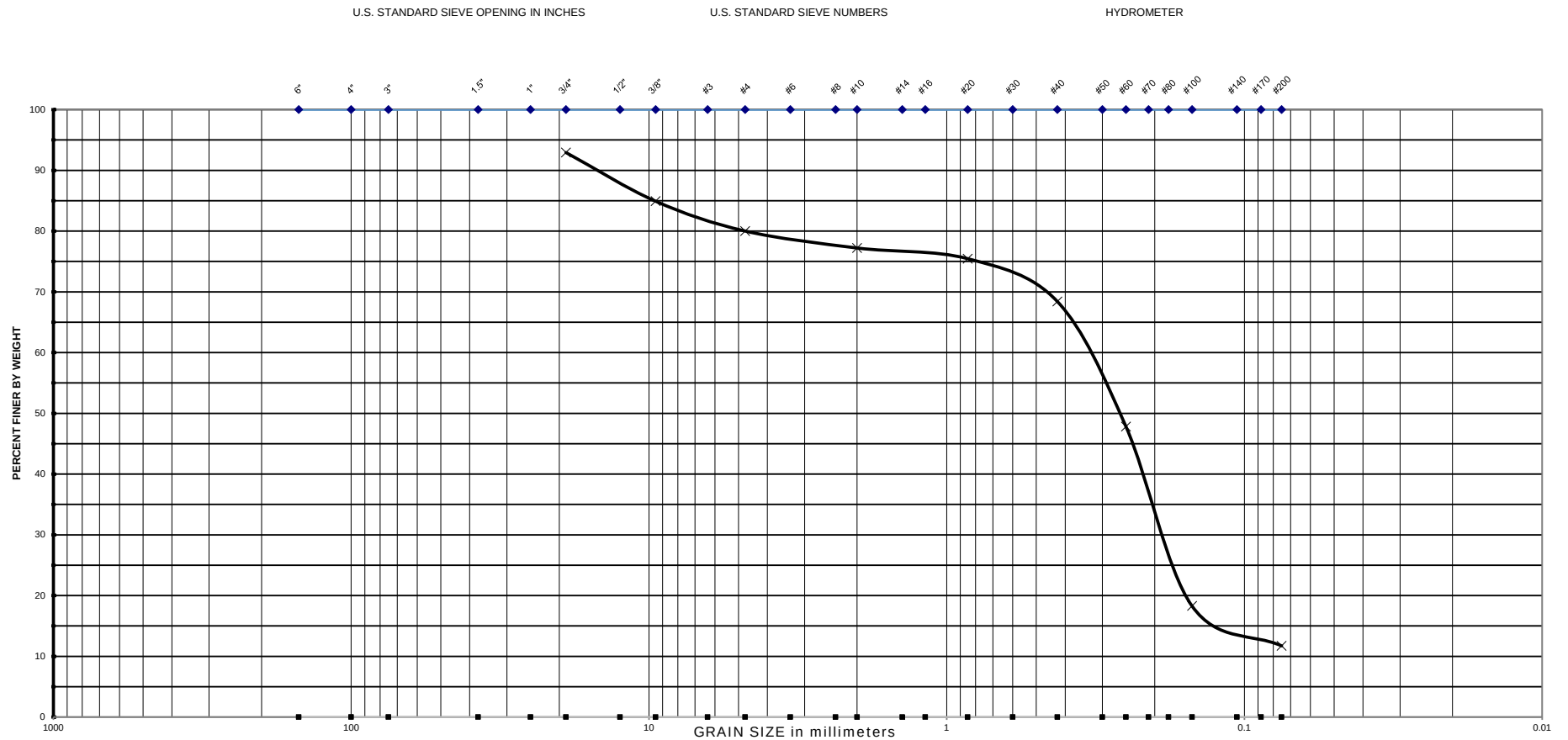
BORING NO.	DEPTH INTERVAL [FT]	SOIL DESCRIPTION	MC	OC
R-207	8.0 - 10.0	A-3	23.3	

Note : MC - Moisture Content (%)

OC - Organic Content (%)

GCME

Geotechnical - Consulting - Engineering - Testing



Project Name : PD&E Study I-95, From South of Hallandale Beach Blvd to North of Hollywood Blvd [FM No.: 436903-1-22-02]

Project No. : 2000-01-16015

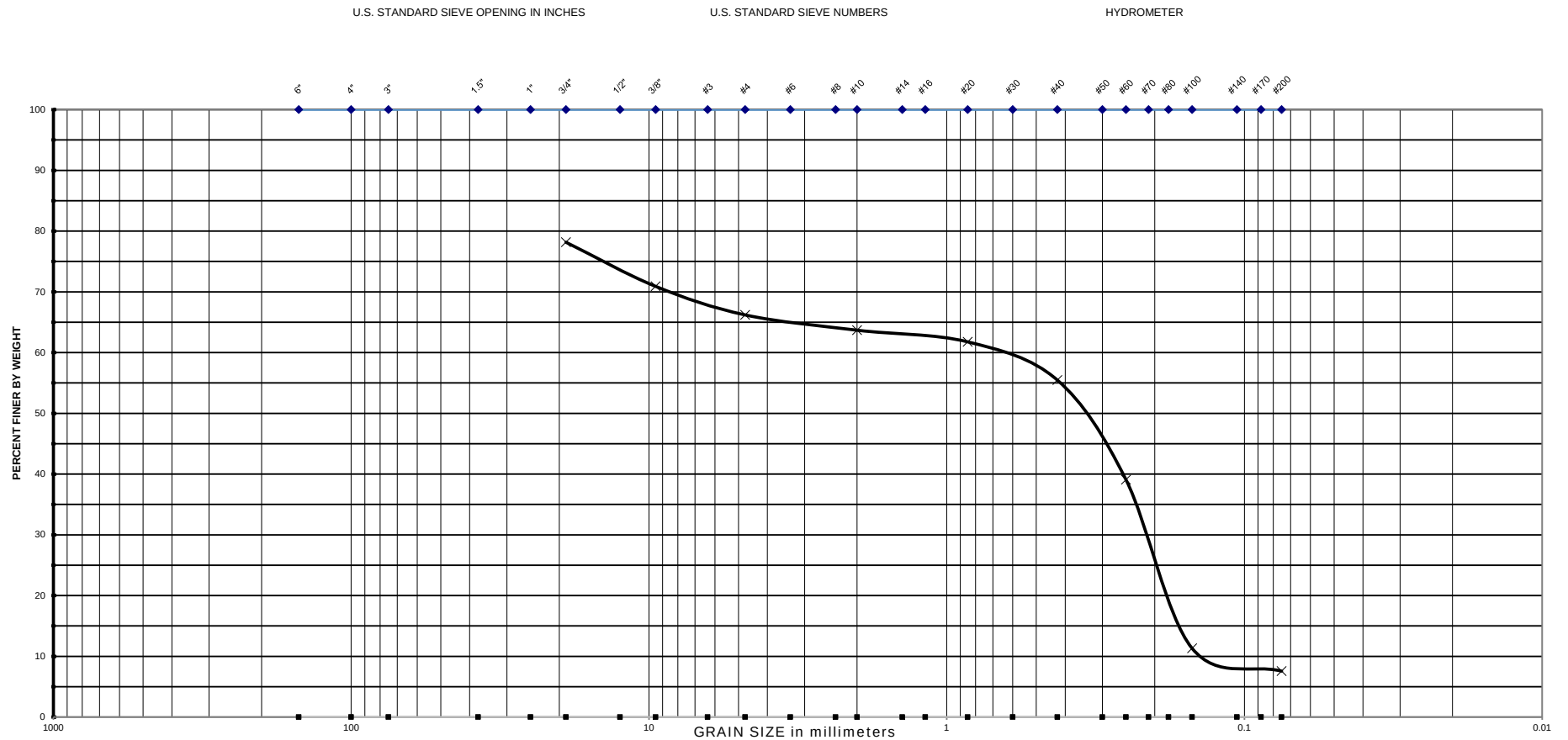
Date : 11/23/2018

U.S SIEVE NO.	CUMM. % PASSING
3/4"	92.9
3/8"	84.9
#4	80.0
#10	77.2
#20	75.5
#40	68.4
#60	47.8
#100	18.3
#200	11.7

BORING NO.	DEPTH INTERVAL [FT]	SOIL DESCRIPTION	MC	OC
R-301	2.0 - 4.0	A-2-4	25.2	
Note : MC - Moisture Content (%) OC - Organic Content (%)				

GCME

Geotechnical - Consulting - Engineering - Testing



Project Name : PD&E Study I-95, From South of Hallandale Beach Blvd to North of Hollywood Blvd [FM No.: 436903-1-22-02]

Project No. : 2000-01-16015

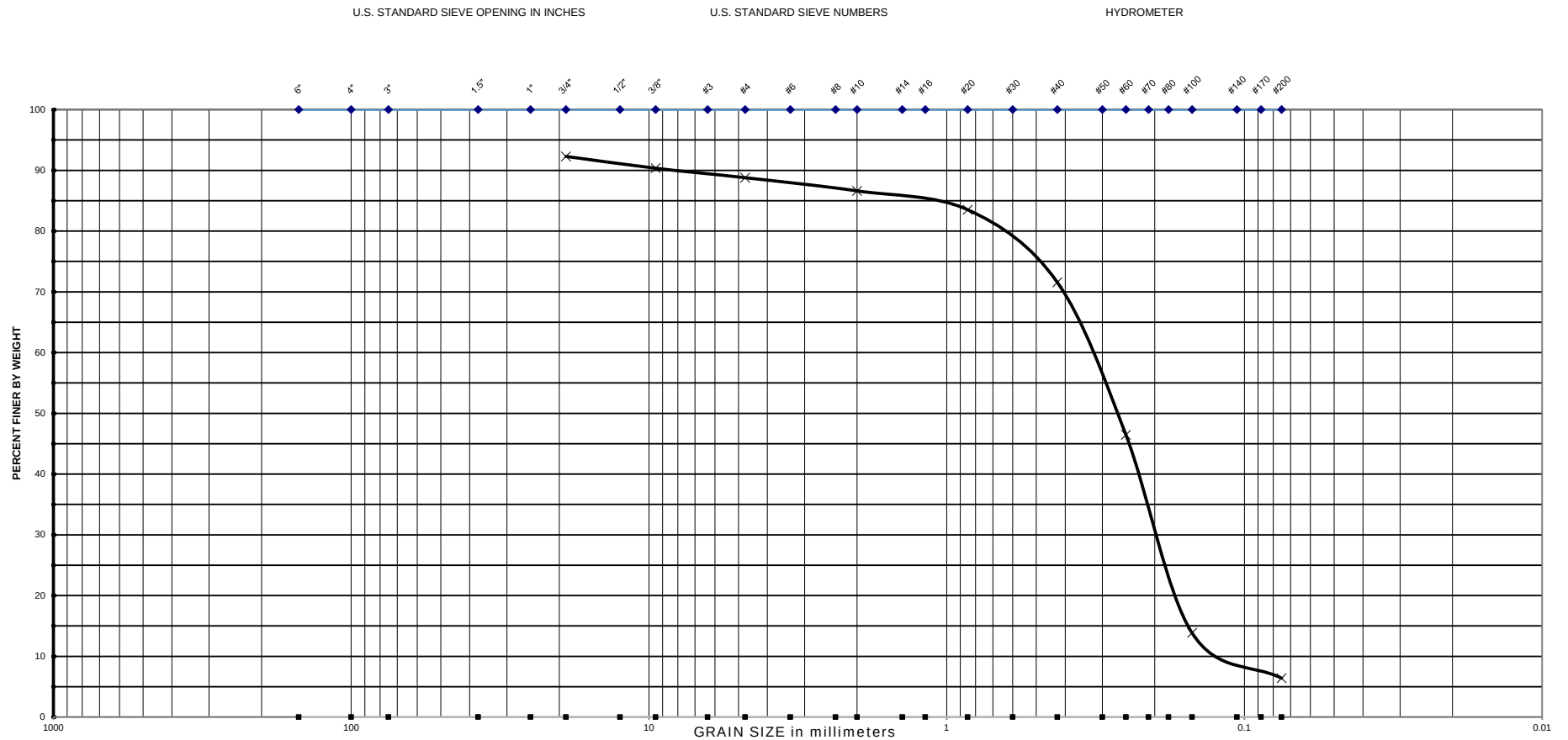
Date : 11/23/2018

U.S SIEVE NO.	CUMM. % PASSING
3/4"	78.2
3/8"	70.9
#4	66.2
#10	63.7
#20	61.8
#40	55.5
#60	39.1
#100	11.3
#200	7.6

BORING NO.	DEPTH INTERVAL [FT]	SOIL DESCRIPTION	MC	OC
R-301	13.5 - 15.0	A-3	14.5	
Note : MC - Moisture Content (%) OC - Organic Content (%)				

GCME

Geotechnical - Consulting - Engineering - Testing



Project Name : PD&E Study I-95, From South of Hallandale Beach Blvd to North of Hollywood Blvd [FM No.: 436903-1-22-02]

Project No. : 2000-01-16015

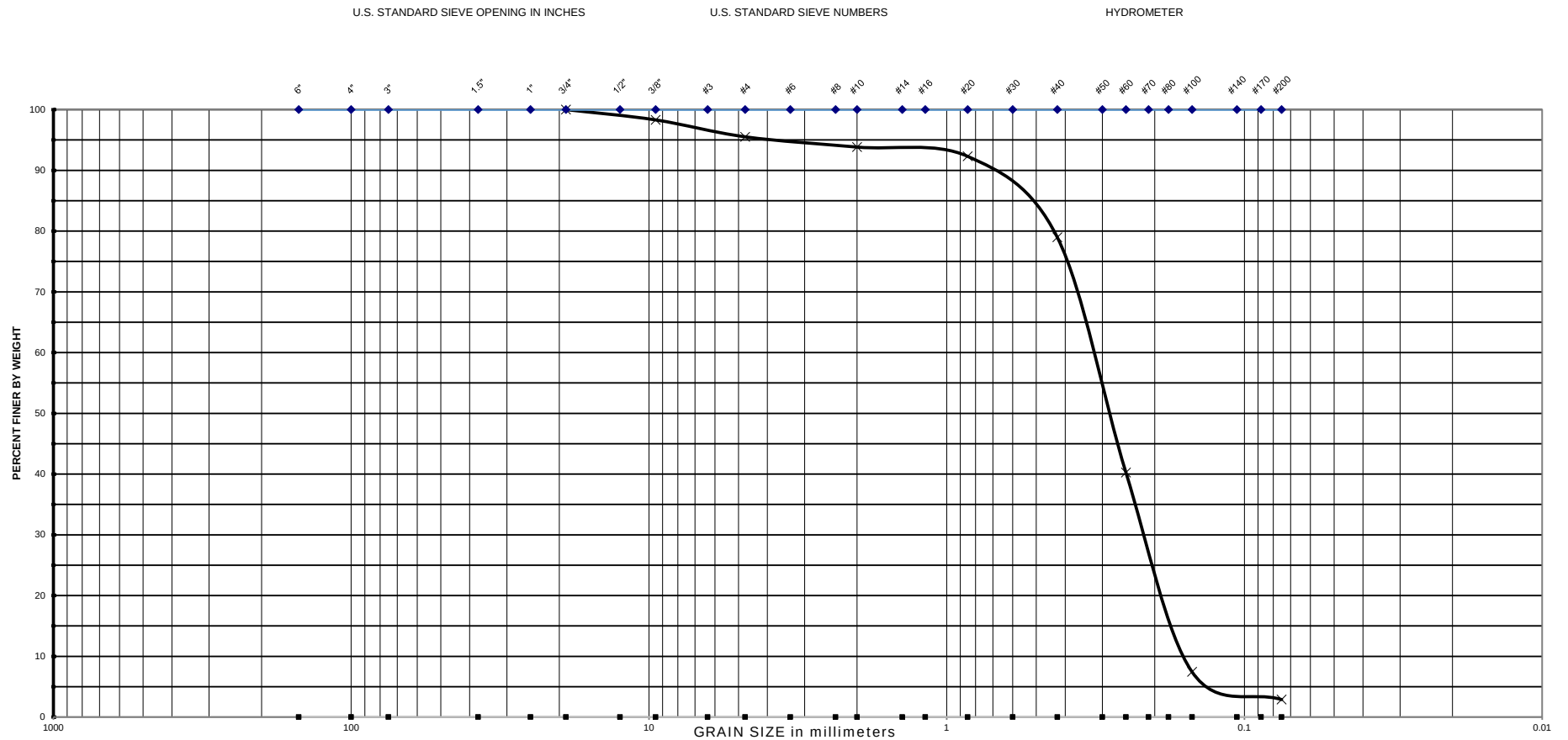
Date : 11/23/2018

U.S SIEVE NO.	CUMM. % PASSING
3/4"	92.3
3/8"	90.3
#4	88.8
#10	86.6
#20	83.5
#40	71.6
#60	46.4
#100	13.9
#200	6.4

BORING NO.	DEPTH INTERVAL [FT]	SOIL DESCRIPTION	MC	OC
R-302	2.0 - 4.0	A-3	11.6	
Note : MC - Moisture Content (%) OC - Organic Content (%)				

GCME

Geotechnical - Consulting - Engineering - Testing



Project Name : PD&E Study I-95, From South of Hallandale Beach Blvd to North of Hollywood Blvd [FM No.: 436903-1-22-02]

Project No. : 2000-01-16015

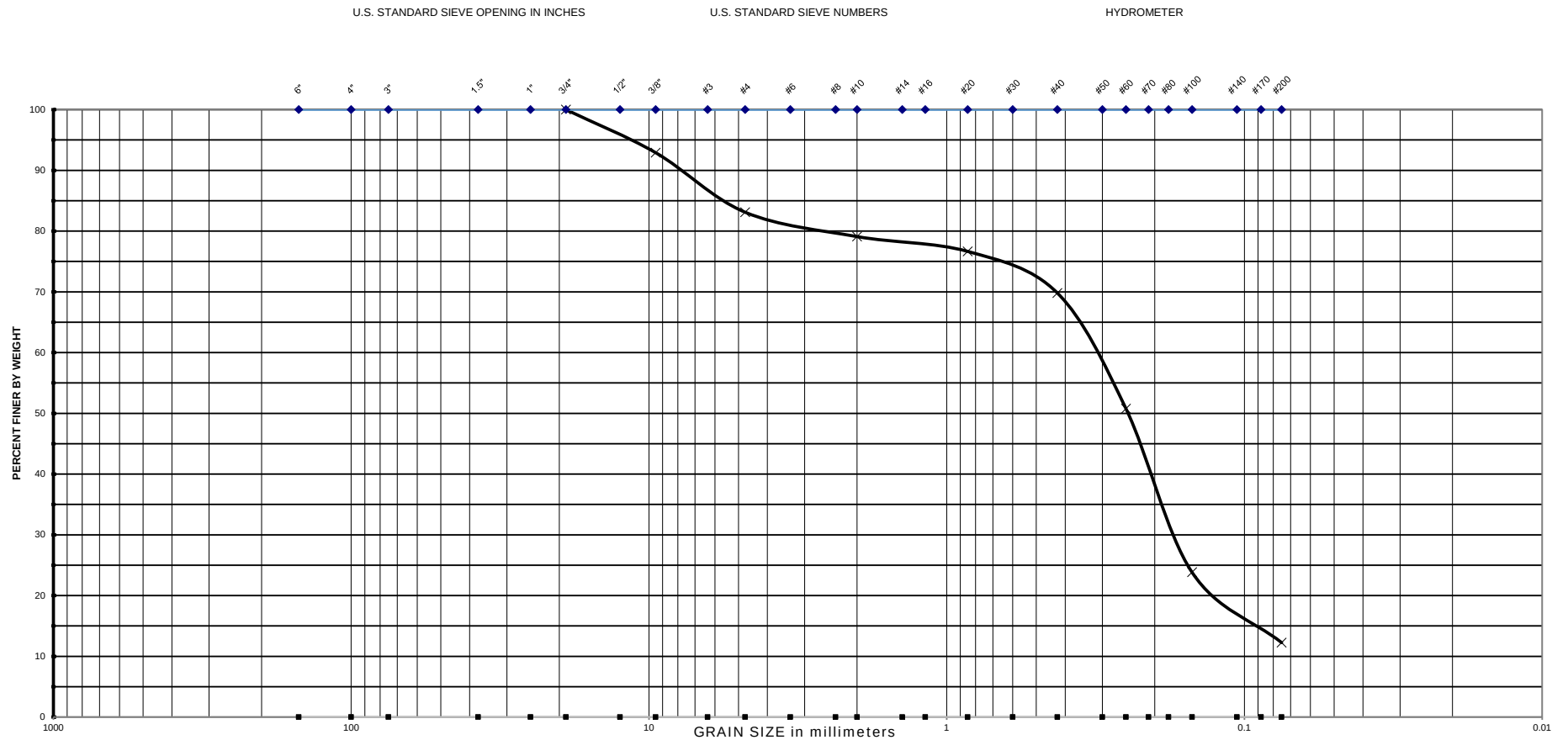
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U.S SIEVE NO.	CUMM. % PASSING
3/4"	100.0
3/8"	98.3
#4	95.5
#10	93.8
#20	92.3
#40	79.0
#60	40.2
#100	7.4
#200	2.9

BORING NO.	DEPTH INTERVAL [FT]	SOIL DESCRIPTION	MC	OC
R-303	4.0 - 6.0	A-3	4.5	
Note : MC - Moisture Content (%) OC - Organic Content (%)				

GCME

Geotechnical - Consulting - Engineering - Testing



Project Name : PD&E Study I-95, From South of Hallandale Beach Blvd to North of Hollywood Blvd [FM No.: 436903-1-22-02]

Project No. : 2000-01-16015

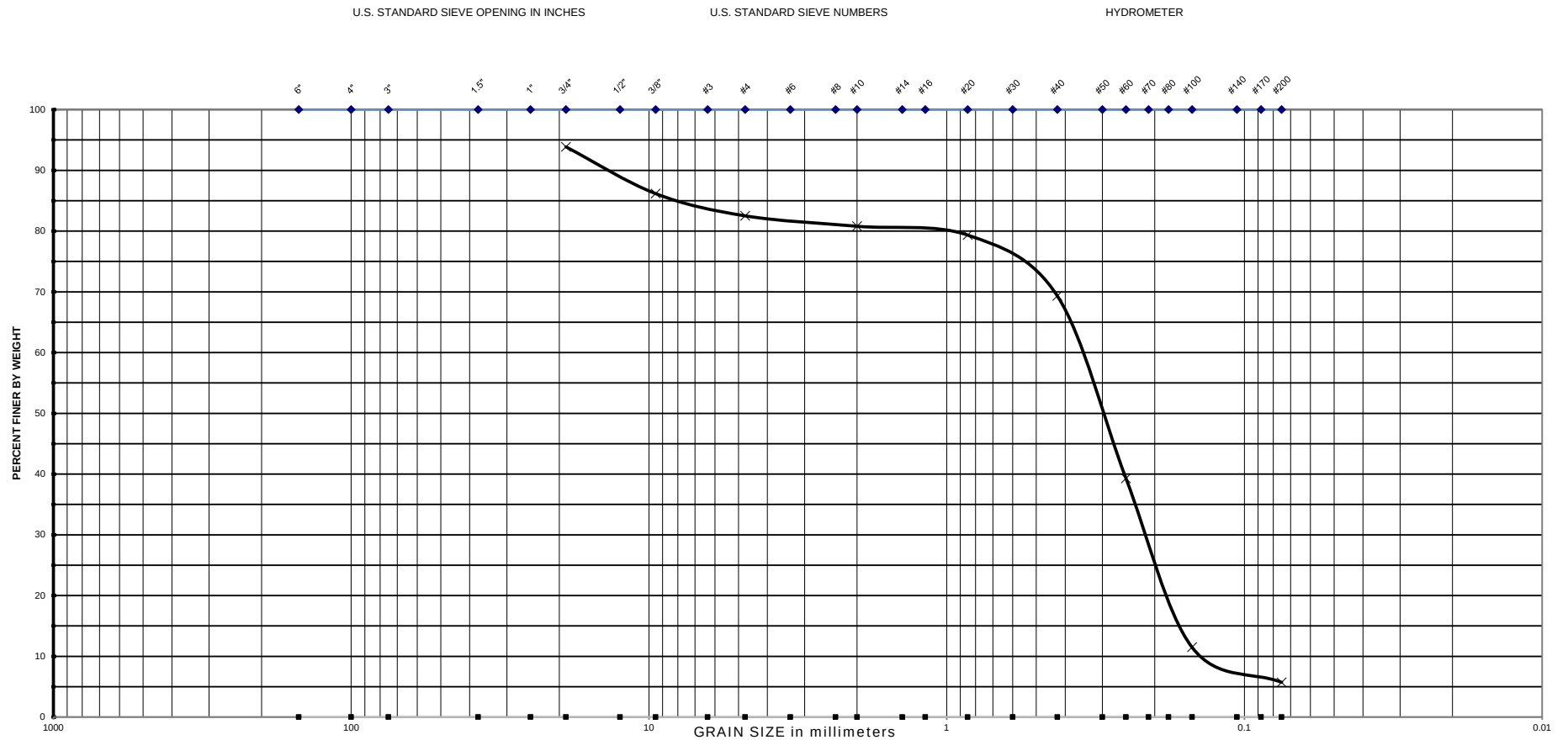
Date : 11/26/2018

U.S SIEVE NO.	CUMM. % PASSING
3/4"	100.0
3/8"	92.9
#4	83.1
#10	79.1
#20	76.7
#40	69.8
#60	50.8
#100	23.8
#200	12.3

BORING NO.	DEPTH INTERVAL [FT]	SOIL DESCRIPTION	MC	OC
R-303	13.5 - 15.0	A-2-4	17.4	
Note : MC - Moisture Content (%) OC - Organic Content (%)				

GCME

Geotechnical - Consulting - Engineering - Testing



Project Name : PD&E Study I-95, From South of Hallandale Beach Blvd to North of Hollywood Blvd [FM No.: 436903-1-22-02]

Project No. : 2000-01-16015

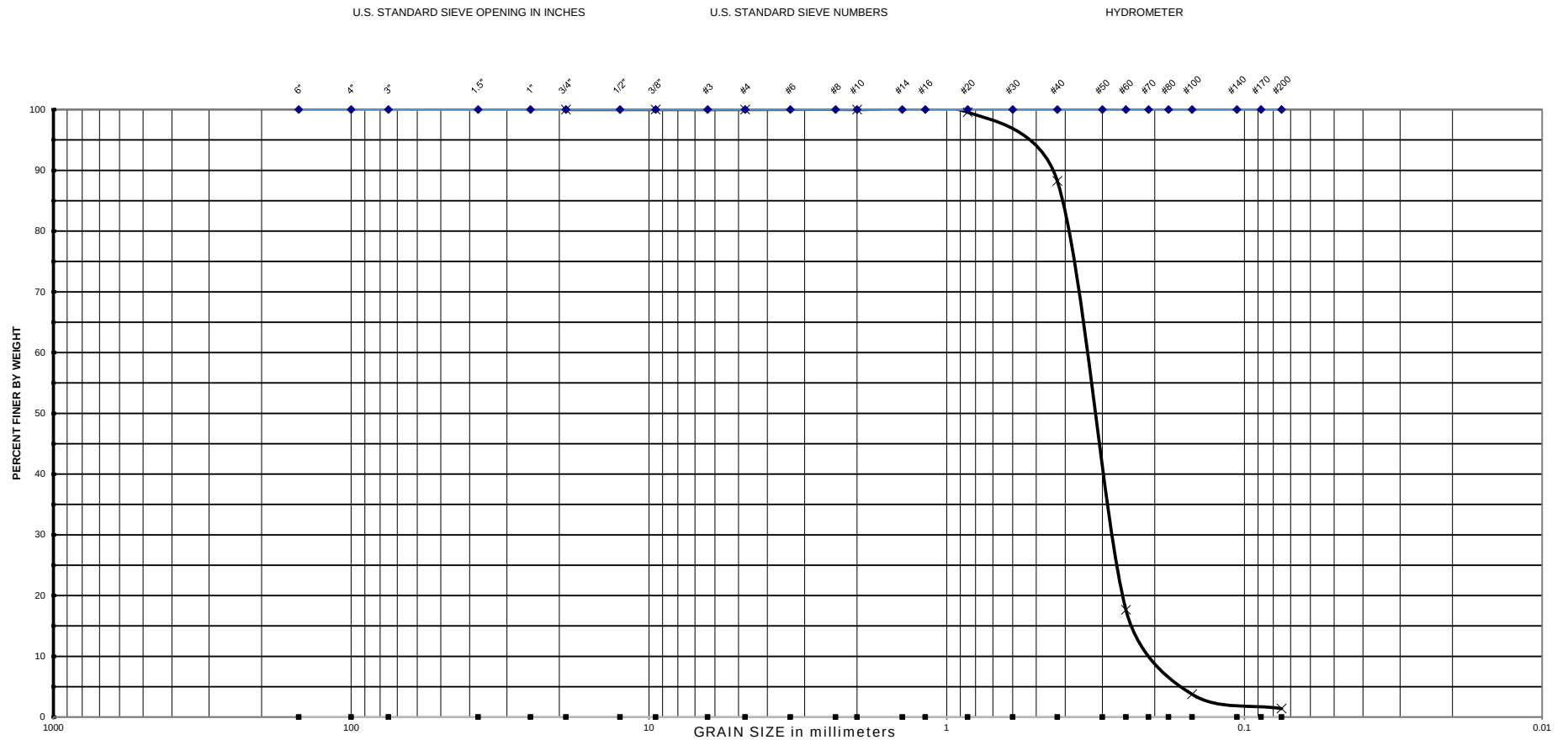
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U.S SIEVE NO.	CUMM. % PASSING
3/4"	93.9
3/8"	86.2
#4	82.5
#10	80.8
#20	79.3
#40	69.3
#60	39.3
#100	11.5
#200	5.7

BORING NO.	DEPTH INTERVAL [FT]	SOIL DESCRIPTION	MC	OC
R-304	0.0 - 2.0	A-3	4.7	
Note : MC - Moisture Content (%) OC - Organic Content (%)				

GCME

Geotechnical - Consulting - Engineering - Testing



Project Name : PD&E Study I-95, From South of Hallandale Beach Blvd to North of Hollywood Blvd [FM No.: 436903-1-22-02]

Project No. : 2000-01-16015

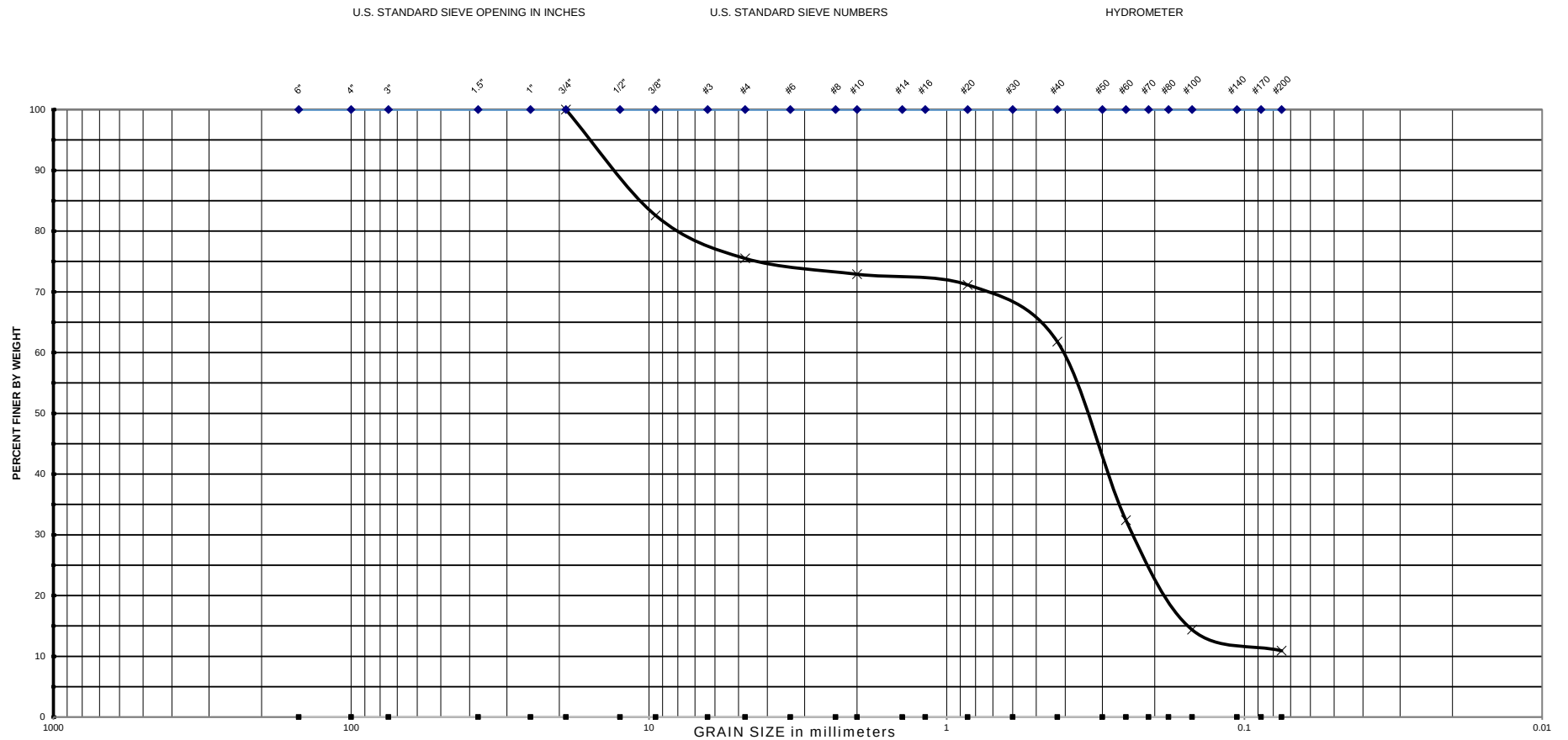
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U.S SIEVE NO.	CUMM. % PASSING
3/4"	100.0
3/8"	100.0
#4	100.0
#10	100.0
#20	99.6
#40	88.2
#60	17.6
#100	3.8
#200	1.4

BORING NO.	DEPTH INTERVAL [FT]	SOIL DESCRIPTION	MC	OC
BHP-102	2.0 - 4.0	A-3	3.2	
Note : MC - Moisture Content (%) OC - Organic Content (%)				

GCME

Geotechnical - Consulting - Engineering - Testing



Project Name : PD&E Study I-95, From South of Hallandale Beach Blvd to North of Hollywood Blvd [FM No.: 436903-1-22-02]

Project No. : 2000-01-16015

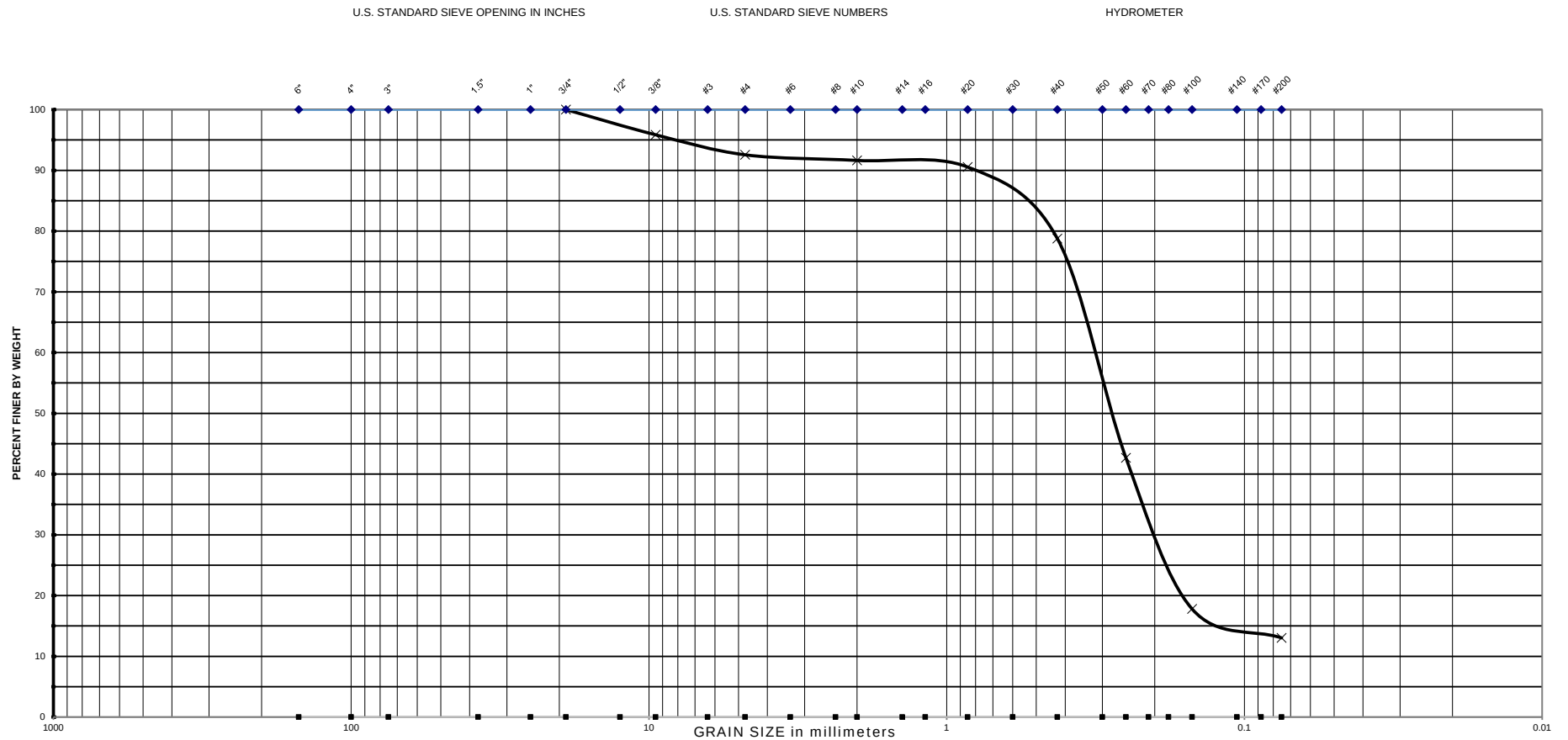
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U.S SIEVE NO.	CUMM. % PASSING
3/4"	100.0
3/8"	82.6
#4	75.5
#10	72.9
#20	71.1
#40	61.8
#60	32.4
#100	14.4
#200	10.9

BORING NO.	DEPTH INTERVAL [FT]	SOIL DESCRIPTION	MC	OC
BHP-102	8.0 - 10.0	A-2-4	20.6	
Note : MC - Moisture Content (%) OC - Organic Content (%)				

GCME

Geotechnical - Consulting - Engineering - Testing



Project Name : PD&E Study I-95, From South of Hallandale Beach Blvd to North of Hollywood Blvd [FM No.: 436903-1-22-02]

Project No. : 2000-01-16015

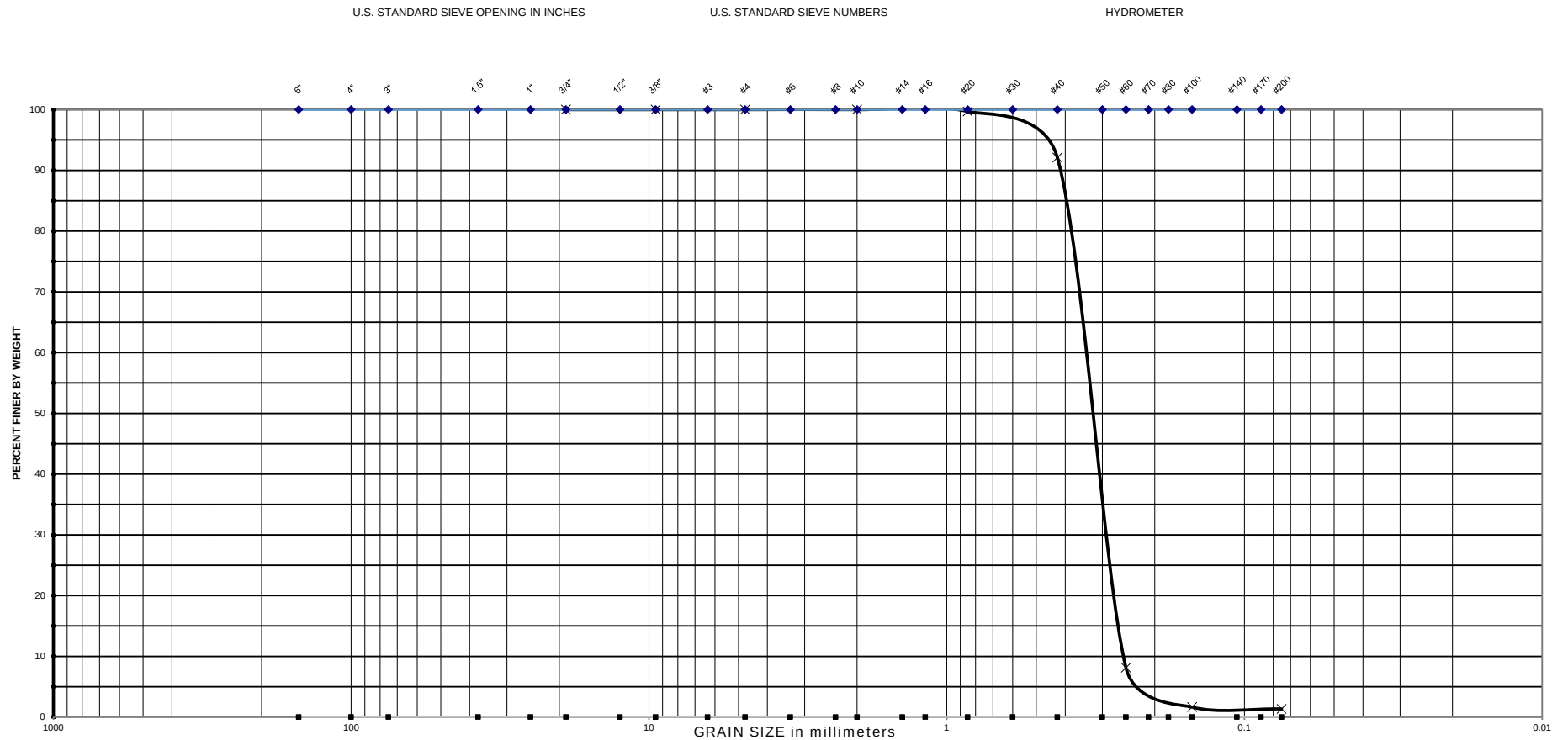
Date : 2/1/2021

U.S SIEVE NO.	CUMM. % PASSING
3/4"	100.0
3/8"	95.9
#4	92.6
#10	91.6
#20	90.5
#40	78.8
#60	42.7
#100	17.8
#200	13.0

BORING NO.	DEPTH INTERVAL [FT]	SOIL DESCRIPTION	MC	OC
BHP-201	2.0 - 4.0	A-2-4	9.4	
Note : MC - Moisture Content (%) OC - Organic Content (%)				

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Geotechnical - Consulting - Engineering - Testing



Project Name : PD&E Study I-95, From South of Hallandale Beach Blvd to North of Hollywood Blvd [FM No.: 436903-1-22-02]

Project No. : 2000-01-16015

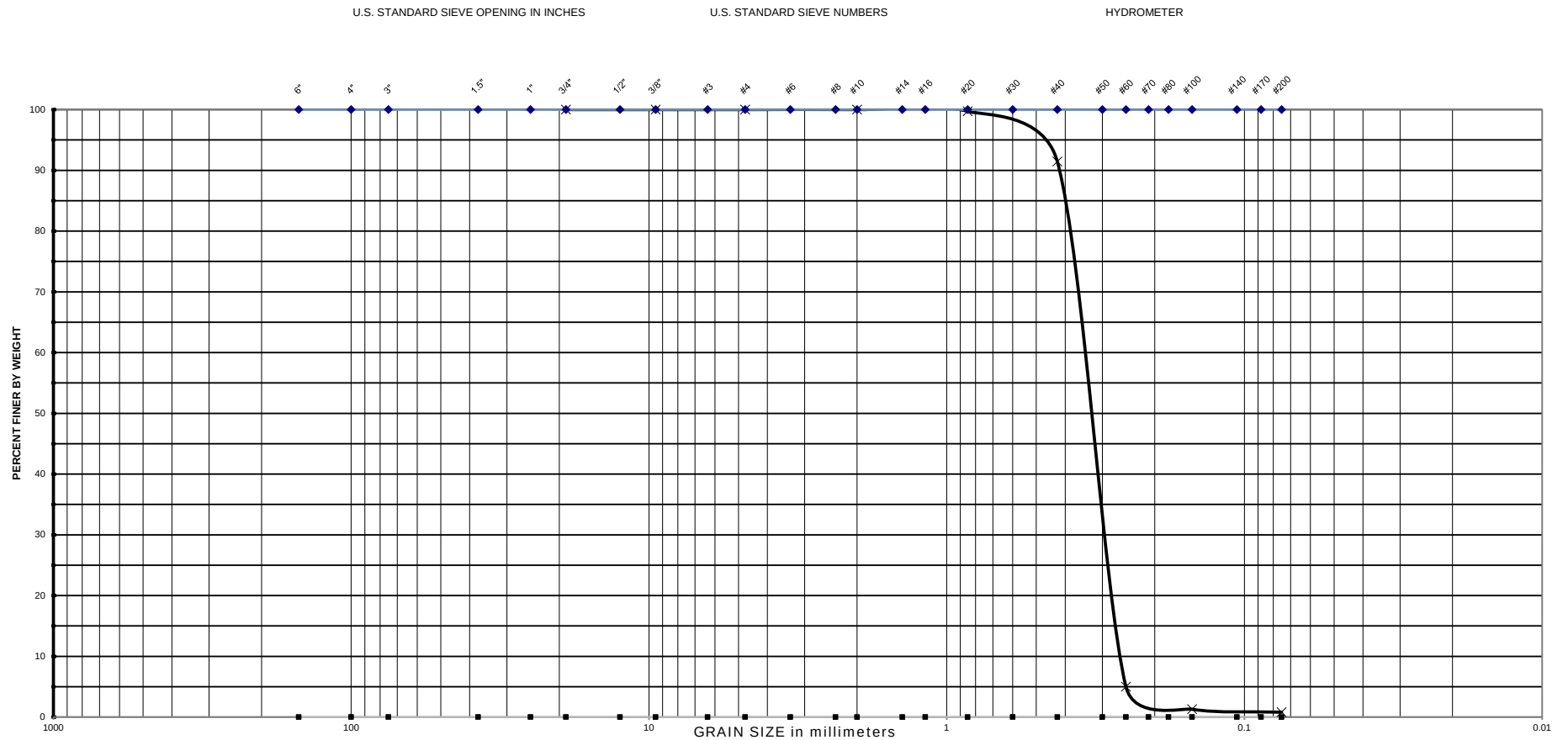
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U.S SIEVE NO.	CUMM. % PASSING
3/4"	100.0
3/8"	100.0
#4	100.0
#10	100.0
#20	99.7
#40	92.1
#60	8.1
#100	1.6
#200	1.3

BORING NO.	DEPTH INTERVAL [FT]	SOIL DESCRIPTION	MC	OC
BHP-202	4.0 - 6.0	A-3	3.5	
Note : MC - Moisture Content (%) OC - Organic Content (%)				

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Geotechnical - Consulting - Engineering - Testing



Project Name : PD&E Study I-95, From South of Hallandale Beach Blvd to North of Hollywood Blvd [FM No.: 436903-1-22-02]

Project No. : 2000-01-16015

Date : 2/1/2021

U.S SIEVE NO.	CUMM. % PASSING
3/4"	100.0
3/8"	100.0
#4	100.0
#10	100.0
#20	99.7
#40	91.4
#60	5.0
#100	1.3
#200	0.8

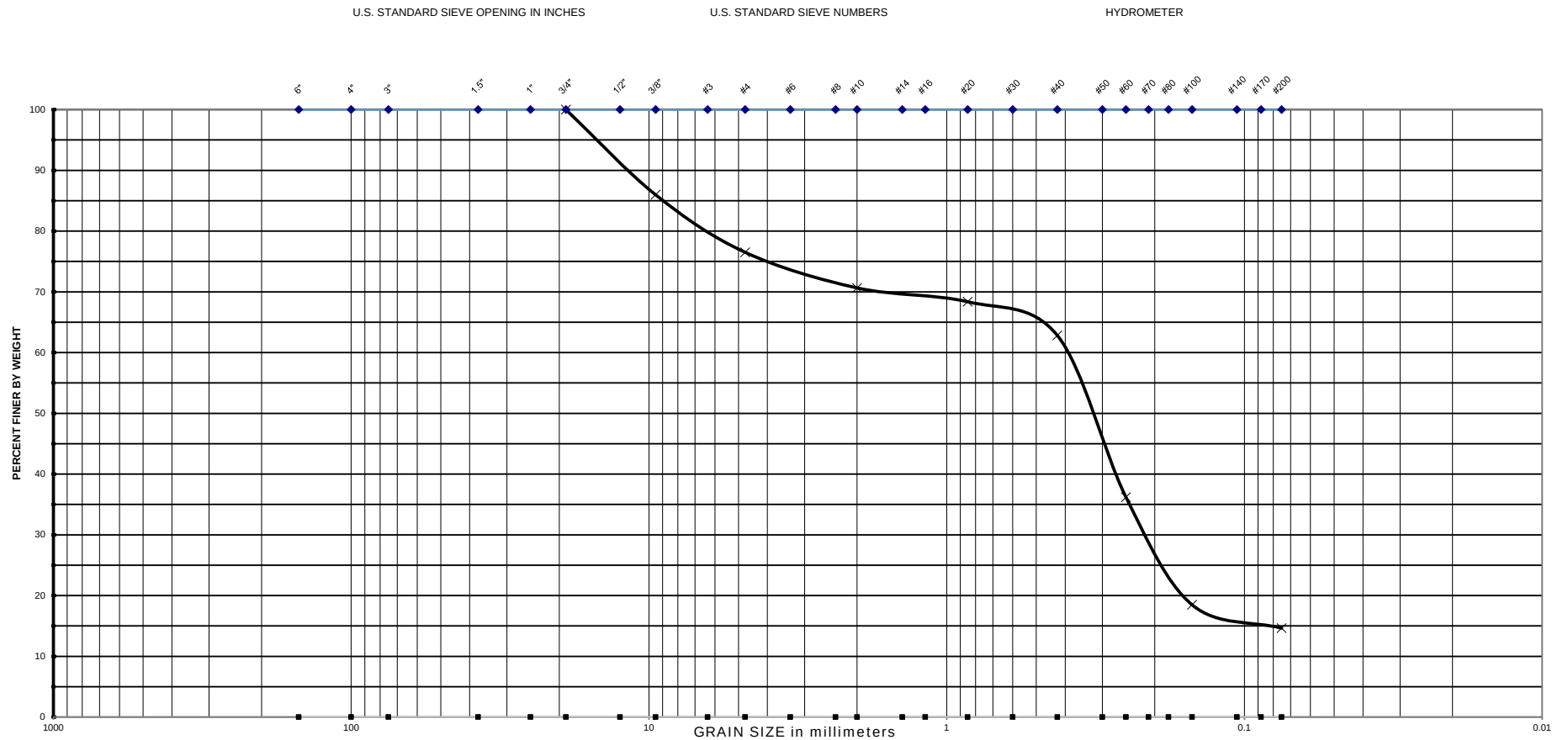
BORING NO.	DEPTH INTERVAL [FT]	SOIL DESCRIPTION	MC	OC
BHP-202	8.0 - 10.0	A-3	24.4	

Note : MC - Moisture Content (%)

OC - Organic Content (%)

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Geotechnical - Consulting - Engineering - Testing



Project Name : PD&E Study I-95, From South of Hallandale Beach Blvd to North of Hollywood Blvd [FM No.: 436903-1-22-02]

Project No. : 2000-01-16015

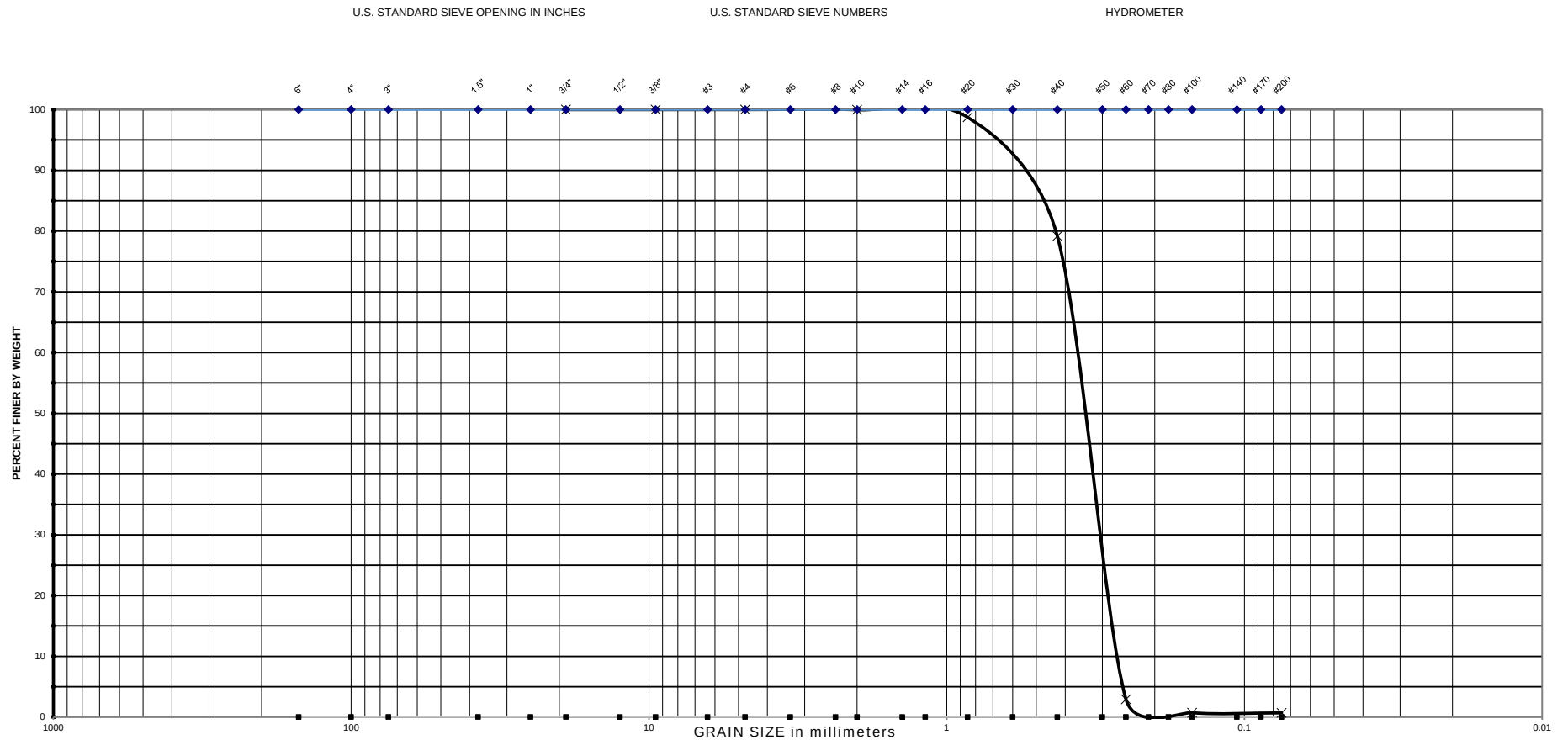
Date : 2/1/2021

U.S SIEVE NO.	CUMM. % PASSING
3/4"	100.0
3/8"	86.0
#4	76.5
#10	70.6
#20	68.4
#40	62.8
#60	36.2
#100	18.5
#200	14.6

BORING NO.	DEPTH INTERVAL [FT]	SOIL DESCRIPTION	MC	OC
BHP-301	2.0 - 4.0	A-2-4	4.5	
Note : MC - Moisture Content (%) OC - Organic Content (%)				

GCME

Geotechnical - Consulting - Engineering - Testing



Project Name : PD&E Study I-95, From South of Hallandale Beach Blvd to North of Hollywood Blvd [FM No.: 436903-1-22-02]

Project No. : 2000-01-16015

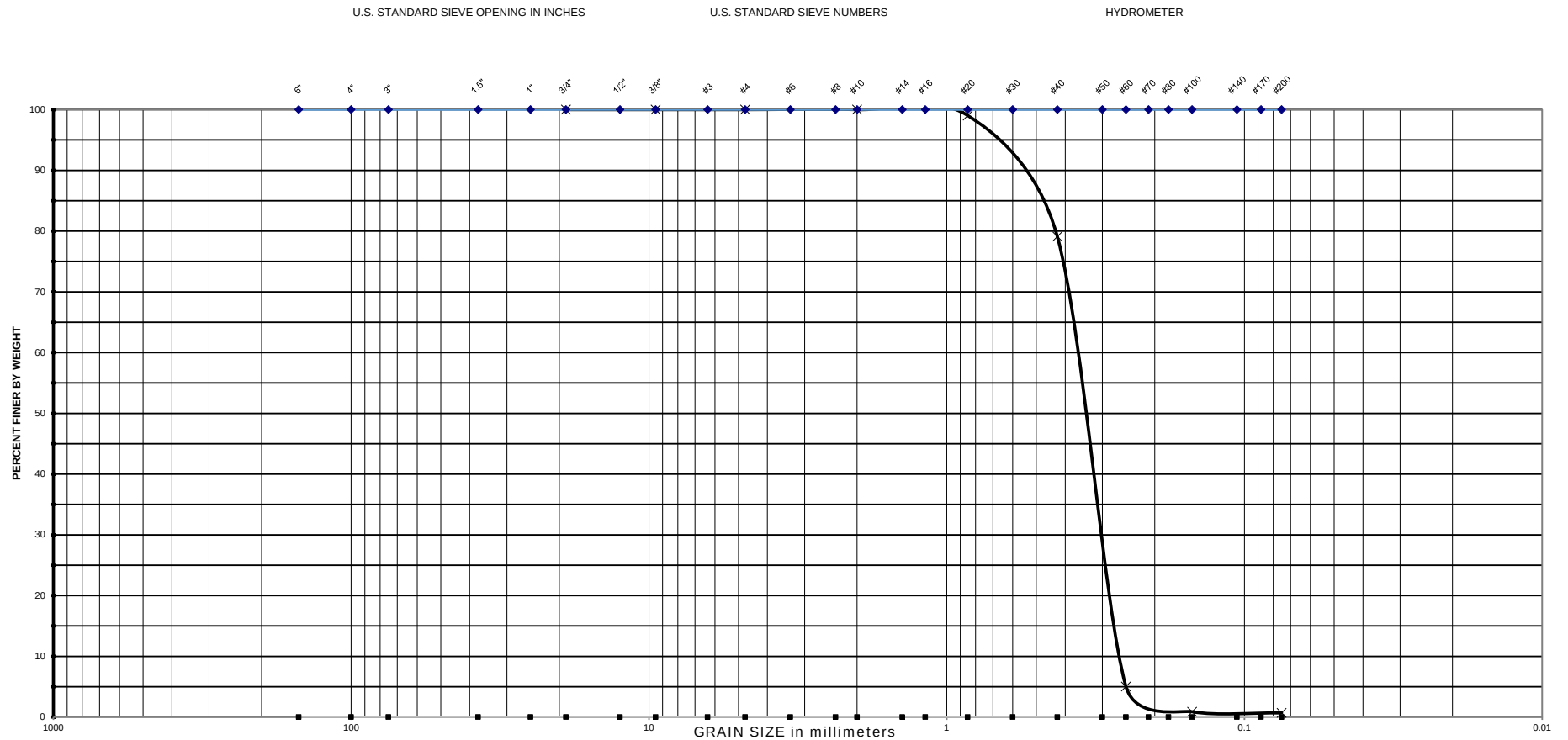
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U.S SIEVE NO.	CUMM. % PASSING
3/4"	100.0
3/8"	100.0
#4	100.0
#10	100.0
#20	98.7
#40	79.2
#60	2.9
#100	0.7
#200	0.7

BORING NO.	DEPTH INTERVAL [FT]	SOIL DESCRIPTION	MC	OC
BHP-301	6.0 - 8.0	A-3	3.8	
Note : MC - Moisture Content (%) OC - Organic Content (%)				

GCME

Geotechnical - Consulting - Engineering - Testing



Project Name : PD&E Study I-95, From South of Hallandale Beach Blvd to North of Hollywood Blvd [FM No.: 436903-1-22-02]

Project No. : 2000-01-16015

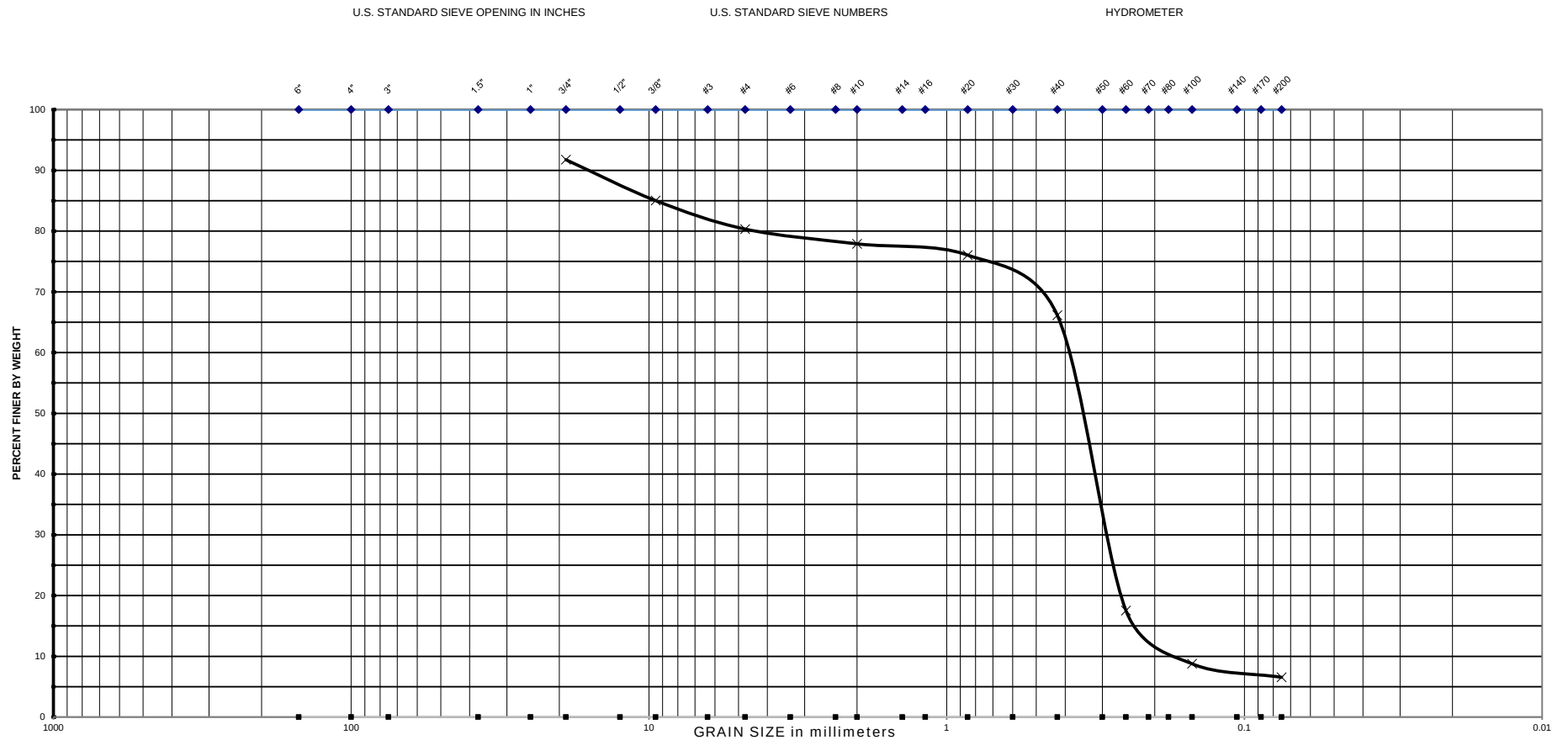
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U.S SIEVE NO.	CUMM. % PASSING
3/4"	100.0
3/8"	100.0
#4	100.0
#10	100.0
#20	99.0
#40	79.1
#60	5.0
#100	0.9
#200	0.7

BORING NO.	DEPTH INTERVAL [FT]	SOIL DESCRIPTION	MC	OC
BHP-301	8.0 - 10.0	A-3	21.9	
Note : MC - Moisture Content (%) OC - Organic Content (%)				

GCME

Geotechnical - Consulting - Engineering - Testing



Project Name : PD&E Study I-95, From South of Hallandale Beach Blvd to North of Hollywood Blvd [FM No.: 436903-1-22-02]

Project No. : 2000-01-16015

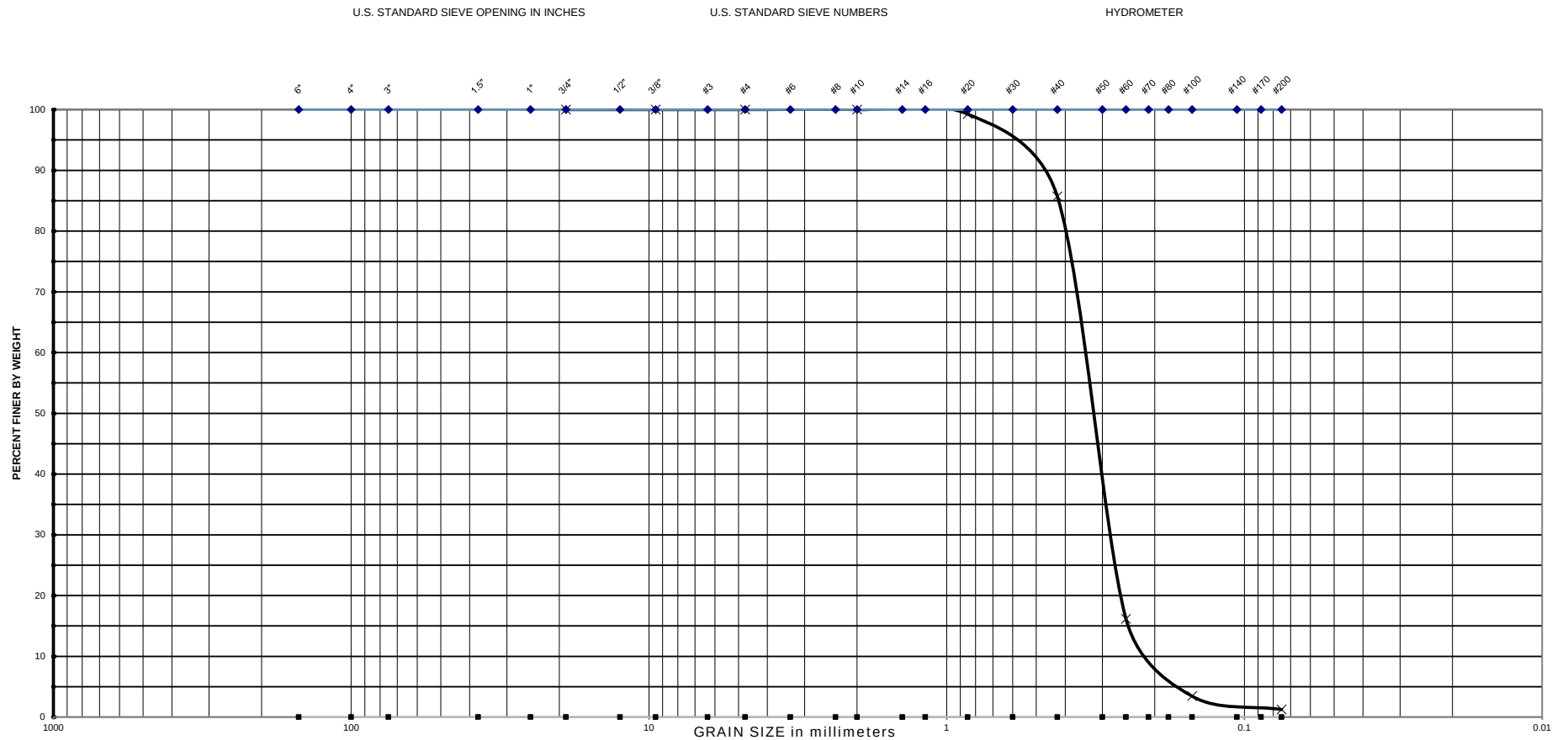
Date : 2/1/2021

U.S SIEVE NO.	CUMM. % PASSING
3/4"	91.7
3/8"	85.0
#4	80.3
#10	77.9
#20	76.0
#40	66.1
#60	17.5
#100	8.8
#200	6.5

BORING NO.	DEPTH INTERVAL [FT]	SOIL DESCRIPTION	MC	OC
BHP-302	2.0 - 4.0	A-3	4.8	
Note : MC - Moisture Content (%) OC - Organic Content (%)				

GCME

Geotechnical - Consulting - Engineering - Testing



Project Name : PD&E Study I-95, From South of Hallandale Beach Blvd to North of Hollywood Blvd [FM No.: 436903-1-22-02]

Project No. : 2000-01-16015

Date : 2/1/2021

U.S SIEVE NO.	CUMM. % PASSING
3/4"	100.0
3/8"	100.0
#4	100.0
#10	100.0
#20	99.2
#40	85.7
#60	16.2
#100	3.4
#200	1.2

BORING NO.	DEPTH INTERVAL [FT]	SOIL DESCRIPTION	MC	OC
BHP-302	4.0 - 6.0	A-3	2.4	

Note : MC - Moisture Content (%)

OC - Organic Content (%)

TABLE - 2**SUMMARY OF CORROSION TEST RESULTS****Project: PD&E Study I-95, From South of Hallandale Beach Blvd to North of Hollywood Blvd****[FM No.: 436903-1-22-02]**

Boring No.	Soil Type	Sample	Depth Interval	pH	Resistivity (ohm-cm)	Chloride (ppm)	Sulfate (ppm)	Environmental Classification (Substructure)	
								Steel	Concrete
B-101	SP-SM	Soil	12.0 - 13.5	8.9	5400	6.9	32.3	Slightly Aggressive	Slightly Aggressive
B-202	SP-SM	Soil	6.0 - 8.0	8.4	13000	2.8	6.6	Slightly Aggressive	Slightly Aggressive
B-301	SP-SM	Soil	6.0 - 8.0	8.2	12900	2.8	2.8	Slightly Aggressive	Slightly Aggressive
B-402	SP	Soil	10.0 - 12.0	8.4	13200	2.8	4.7	Slightly Aggressive	Slightly Aggressive

Table 1.3.2-1 Criteria for Substructure Environmental Classifications						
Classification	Environmental Condition	Units	Steel		Concrete	
			Water	Soil	Water	Soil
Extremely Aggressive (If any of these conditions exist)	pH		< 6.0		< 5.0	
	Cl	ppm	> 2000		> 2000	
	SO ₄	ppm	N.A.		> 1500	> 2000
	Resistivity	Ohm-cm	< 1000		< 500	
Slightly Aggressive (If all of these conditions exist)	pH		> 7.0		> 6.0	
	Cl	ppm	<500		< 500	
	SO ₄	ppm	N.A.		< 150	< 1000
	Resistivity	Ohm-cm	> 5000		> 3000	
Moderately Aggressive	This classification must be used at all sites not meeting requirements for either slightly aggressive or extremely aggressive environments.					
pH = acidity (-log ₁₀ H ⁺ ; potential of Hydrogen), Cl = chloride content, SO ₄ = Sulfate content.						

TABLE - 3

BOREHOLE PERMEABILITY TEST RESULTS

Project: PD&E Study I-95, From South of Hallandale Beach Blvd to North of Hollywood Blvd [FM No.: 436903-1-22-02]

SFWMD METHOD

BHP No.	Date	Station	Offset	Latitude	Longitude	Bore Hole Dia. (in)	Depth of Hole (ft)	GWT Depth (ft)	Flow Rate Q [gal/min]	K [cfs/ft² - ft.head]
BHP-101	01/19/21	N/A	N/A	25.984405°	-80.165966°	8.0	10.0	8.3	34.0	7.26E-04
BHP-102	01/19/21	N/A	N/A	25.985456°	-80.165232°	8.0	10.0	5.2	30.0	8.15E-04
BHP-201	01/19/21	N/A	N/A	25.995723°	-80.166355°	8.0	10.0	7.8	2.0	4.36E-05
BHP-202	01/19/21	N/A	N/A	25.996488°	-80.165615°	8.0	10.0	9.3	16.0	3.32E-04
BHP-301	01/20/21	N/A	N/A	26.010338°	-80.167201°	8.0	10.0	9.3	22.0	4.04E-04
BHP-302	01/20/21	N/A	N/A	26.011223°	-80.166363°	8.0	10.0	8.0	22.0	3.77E-04

TABLE - 4

DOUBLE RING INFILTRATION TEST RESULTS SUMMARY

Project: PD&E Study I-95, From South of Hallandale Beach Blvd to North of Hollywood Blvd

[FPID No.: 436903-1-22-02]

TEST NO.	DATE	STATION	OFFSET	LATITUDE	LONGITUDE	GWT (ft)	Infiltration Rate Summary [inch/hour]	Infiltration Rate Summary [ft/day]
DRIT-101	1/27/2021	N/A	N/A	25.984621°	-80.164954°	3.8	10.79	21.6
DRIT-102	1/27/2021	N/A	N/A	25.985276°	-80.1662°	GNE	21.58	43.2
DRIT-201	1/26/2021	N/A	N/A	25.99574°	-80.165396°	GNE	18.35	36.7
DRIT-202	1/26/2021	N/A	N/A	25.996486°	-80.166612°	GNE	15.11	30.2
DRIT-301	1/20/2021	N/A	N/A	26.010481°	-80.166093°	GNE	23.74	47.5
DRIT-302	2/1/2021	N/A	N/A	26.011361°	-80.167441°	GNE	15.1	30.2

TABLE - 4
DOUBLE RING INFILTRATION TEST RESULTS

TEST No.:	DRIT-101
DATE:	1/27/2021
FPID No.:	436903-1-22-02
LIQUID USED:	Water
pH:	7
GROUND TEMPERATURE (°F):	68

PROJECT NAME:	SR-9 / I-95
TEST LOCATION:	25.984621° -80.164954°
STATION:	
OFFSET:	
GROUND ELEVATION:	

GENERAL SUBSURFACE PROFILE		
DEPTH (FEET)	SOIL DESCRIPTION	STRATUM No.
0-0.2	A-8	1
0.2-5	A-3	2

DEPTH TO WATER TABLE (Feet):	3.8		
PENETRATION OF RINGS INTO GROUND (Inches):		INNER: 3	OUTER: 6
INTERNAL DIAMETER OF RINGS (Inches):		INNER: 12	OUTER: 24
THICKNESS OF RING WALL (Inches):		INNER: 0.125	OUTER: 0.125
AREA OF RINGS (Inches ^ 2):		INNER: 113.10	ANNULAR: 339.29

INCREMENT No.	ELAPSED TIME (MIN.)	TOTAL TIME (MIN.)	FLOW READINGS (ml)		LIQUID TEMPERATURE (°F)	INCREMENTAL INFILTRATION RATE (IN/HOUR)		REMARKS
			INNER RING	ANNULAR SPACE		INNER RING	ANNULAR SPACE	
0		0						
1	15	15	8000	18000		17.27	12.95	
2	15	30	8000	17000		17.27	12.23	
3	15	45	7000	17000		15.11	12.23	
4	15	60	6000	15000		12.95	10.79	
5	15	75	6000	15000		12.95	10.79	
6	15	90	6000	14000		12.95	10.07	
7	15	105	6000	14000		12.95	10.07	
8	15	120	6000	14000		12.95	10.07	
9	30	150	12000	29000		12.95	10.43	
10	30	180	12000	29000		12.95	10.43	
11	30	210	12000	28000		12.95	10.07	
12	30	240	10000	27000		10.79	9.71	
13	30	270	10000	26000		10.79	9.35	
14	30	300	10000	26000		10.79	9.35	
15	30	330	10000	26000		10.79	9.35	
16	30	360	10000	26000		10.79	9.35	

DOUBLE RING INFILTRATION TEST RESULTS

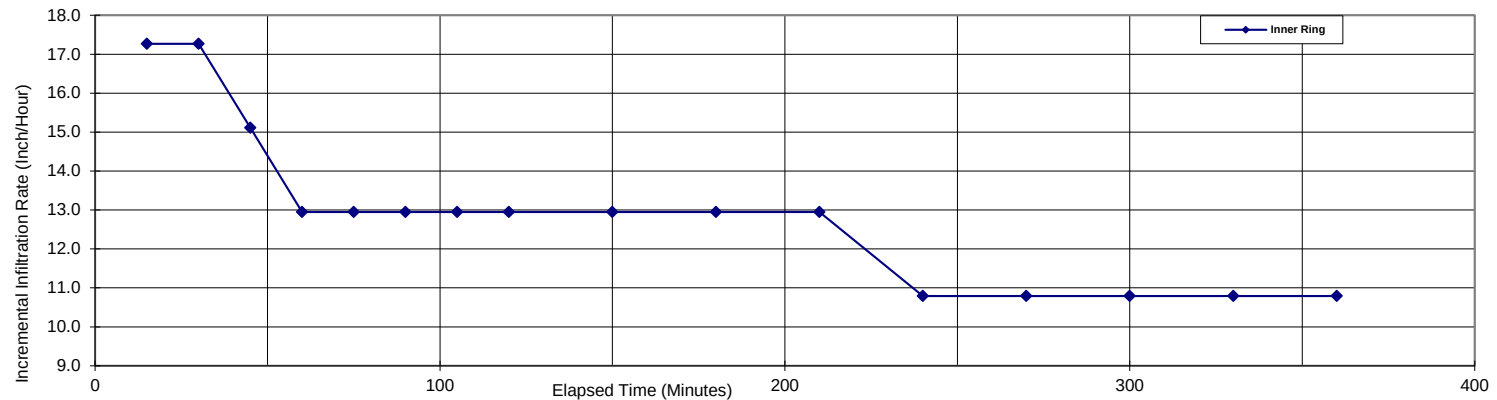


TABLE - 4
DOUBLE RING INFILTRATION TEST RESULTS

TEST No.:	DRIT-102
DATE:	1/27/2021
FPID No.:	436903-1-22-02
LIQUID USED:	Water
pH:	7
GROUND TEMPERATURE (°F):	70

PROJECT NAME:	SR-9 / I-95
TEST LOCATION:	25.985276° -80.166200°
STATION:	
OFFSET:	
GROUND ELEVATION:	

GENERAL SUBSURFACE PROFILE		
DEPTH (FEET)	SOIL DESCRIPTION	STRATUM No.
0-0.2	A-8	1
0.2-5	A-3	2

DEPTH TO WATER TABLE (Feet):	GNE				
PENETRATION OF RINGS INTO GROUND (Inches):		INNER:	3	OUTER:	6
INTERNAL DIAMETER OF RINGS (Inches):		INNER:	12	OUTER:	24
THICKNESS OF RING WALL (Inches):		INNER:	0.125	OUTER:	0.125
AREA OF RINGS (Inches ^ 2):		INNER:	113.10	ANNULAR:	339.29

INCREMENT No.	ELAPSED TIME (MIN.)	TOTAL TIME (MIN.)	FLOW READINGS (ml)		LIQUID TEMPERATURE (°F)	INCREMENTAL INFILTRATION RATE (IN/HOUR)		REMARKS
			INNER RING	ANNULAR SPACE		INNER RING	ANNULAR SPACE	
0		0						
1	15	15	14000	30000		30.22	21.58	
2	15	30	14000	30000	68	30.22	21.58	
3	15	45	14000	30000		30.22	21.58	
4	15	60	14000	28000		30.22	20.14	
5	15	75	12000	28000		25.90	20.14	
6	15	90	12000	26000		25.90	18.71	
7	15	105	12000	26000		25.90	18.71	
8	15	120	10000	26000		21.58	18.71	
9	30	150	20000	52000	71	21.58	18.71	
10	30	180	20000	48000		21.58	17.27	
11	30	210	20000	48000		21.58	17.27	
12	30	240	20000	45000		21.58	16.19	
13	30	270	20000	42000		21.58	15.11	
14	30	300	20000	42000		21.58	15.11	
15	30	330	20000	42000		21.58	15.11	
16	30	360	20000	42000		21.58	15.11	

DOUBLE RING INFILTRATION TEST RESULTS

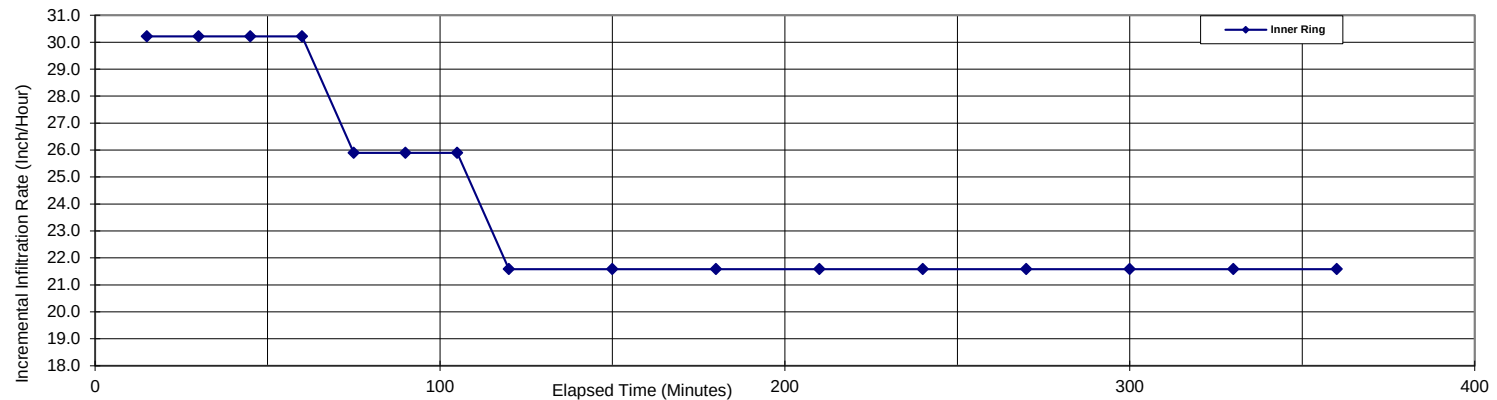


TABLE - 4
DOUBLE RING INFILTRATION TEST RESULTS

TEST No.:	DRIT-201
DATE:	1/26/2021
FPID No.:	436903-1-22-02
LIQUID USED:	Water
pH:	7
GROUND TEMPERATURE (°F):	71

PROJECT NAME:	SR-9 / I-95
TEST LOCATION:	25.995740° -80.165396°
STATION:	
OFFSET:	
GROUND ELEVATION:	

GENERAL SUBSURFACE PROFILE		
DEPTH (FEET)	SOIL DESCRIPTION	STRATUM No.
0-0.2	A-8	1
0.2-5	A-3	2

DEPTH TO WATER TABLE (Feet):	GNE				
PENETRATION OF RINGS INTO GROUND (Inches):		INNER:	3	OUTER:	6
INTERNAL DIAMETER OF RINGS (Inches):		INNER:	12	OUTER:	24
THICKNESS OF RING WALL (Inches):		INNER:	0.125	OUTER:	0.125
AREA OF RINGS (Inches ^ 2):		INNER:	113.10	ANNULAR:	339.29

INCREMENT No.	ELAPSED TIME (MIN.)	TOTAL TIME (MIN.)	FLOW READINGS (ml)		LIQUID TEMPERATURE (°F)	INCREMENTAL INFILTRATION RATE (IN/HOUR)		REMARKS
			INNER RING	ANNULAR SPACE		INNER RING	ANNULAR SPACE	
0		0						
1	15	15	12500	29000		26.98	20.86	
2	15	30	12000	29000		25.90	20.86	
3	15	45	12000	28000	74	25.90	20.14	
4	15	60	12000	28000		25.90	20.14	
5	15	75	11000	27000		23.74	19.42	
6	15	90	11000	25000		23.74	17.99	
7	15	105	11000	25000		23.74	17.99	
8	15	120	10000	24000		21.58	17.27	
9	30	150	19000	43000	79	20.50	15.47	
10	30	180	18000	41000		19.42	14.75	
11	30	210	18000	40000		19.42	14.39	
12	30	240	17000	40000		18.35	14.39	
13	30	270	17000	40000		18.35	14.39	
14	30	300	17000	40000	81	18.35	14.39	
15	30	330	17000	40000		18.35	14.39	
16	30	360	17000	40000		18.35	14.39	

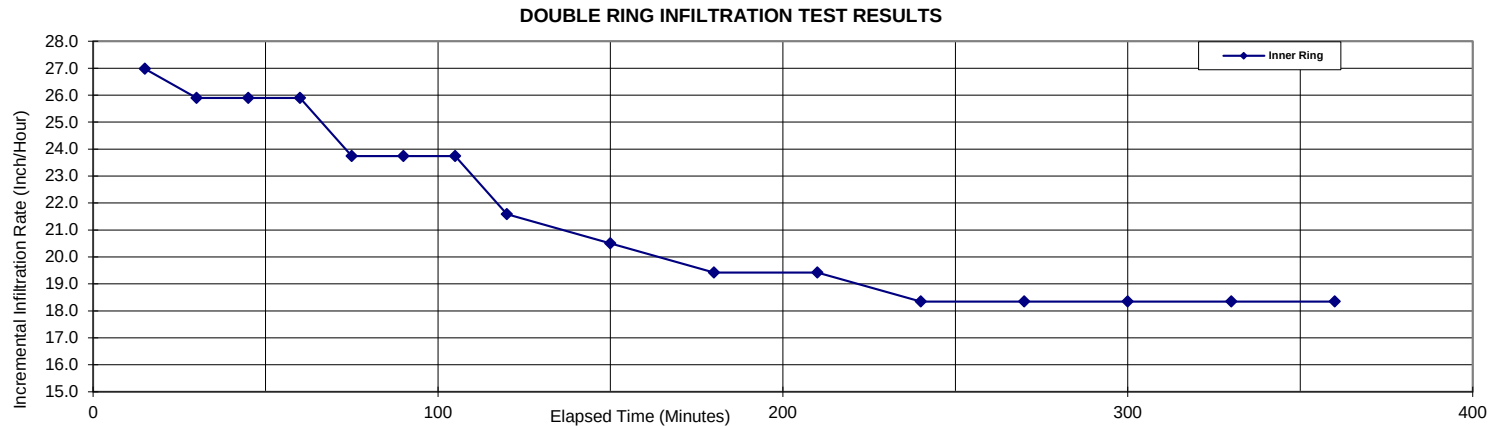


TABLE - 4
DOUBLE RING INFILTRATION TEST RESULTS

TEST No.:	DRIT-202
DATE:	1/26/2021
FPID No.:	436903-1-22-02
LIQUID USED:	Water
pH:	7
GROUND TEMPERATURE (°F):	69

PROJECT NAME:	SR-9 / I-95
TEST LOCATION:	25.996486° -80.166612°
STATION:	
OFFSET:	
GROUND ELEVATION:	

GENERAL SUBSURFACE PROFILE		
DEPTH (FEET)	SOIL DESCRIPTION	STRATUM No.
0-0.2	A-8	1
0.2-5	A-3	2

DEPTH TO WATER TABLE (Feet):	GNE				
PENETRATION OF RINGS INTO GROUND (Inches):		INNER:	3	OUTER:	6
INTERNAL DIAMETER OF RINGS (Inches):		INNER:	12	OUTER:	24
THICKNESS OF RING WALL (Inches):		INNER:	0.125	OUTER:	0.125
AREA OF RINGS (Inches ^ 2):		INNER:	113.10	ANNULAR:	339.29

INCREMENT No.	ELAPSED TIME (MIN.)	TOTAL TIME (MIN.)	FLOW READINGS (ml)		LIQUID TEMPERATURE (°F)	INCREMENTAL INFILTRATION RATE (IN/HOUR)		REMARKS
			INNER RING	ANNULAR SPACE		INNER RING	ANNULAR SPACE	
0		0						
1	15	15	10000	22000	69	21.58	15.83	
2	15	30	10000	22000		21.58	15.83	
3	15	45	10000	22000		21.58	15.83	
4	15	60	8000	22000		17.27	15.83	
5	15	75	8000	22000		17.27	15.83	
6	15	90	7000	19000		15.11	13.67	
7	15	105	7000	18000		15.11	12.95	
8	15	120	7000	18000	70	15.11	12.95	
9	30	150	14000	36000		15.11	12.95	
10	30	180	14000	36000		15.11	12.95	
11	30	210	14000	35000		15.11	12.59	
12	30	240	14000	35000		15.11	12.59	
13	30	270	14000	35000		15.11	12.59	
14	30	300	14000	35000		15.11	12.59	
15	30	330	14000	35000		15.11	12.59	
16	30	360	14000	35000		15.11	12.59	

DOUBLE RING INFILTRATION TEST RESULTS

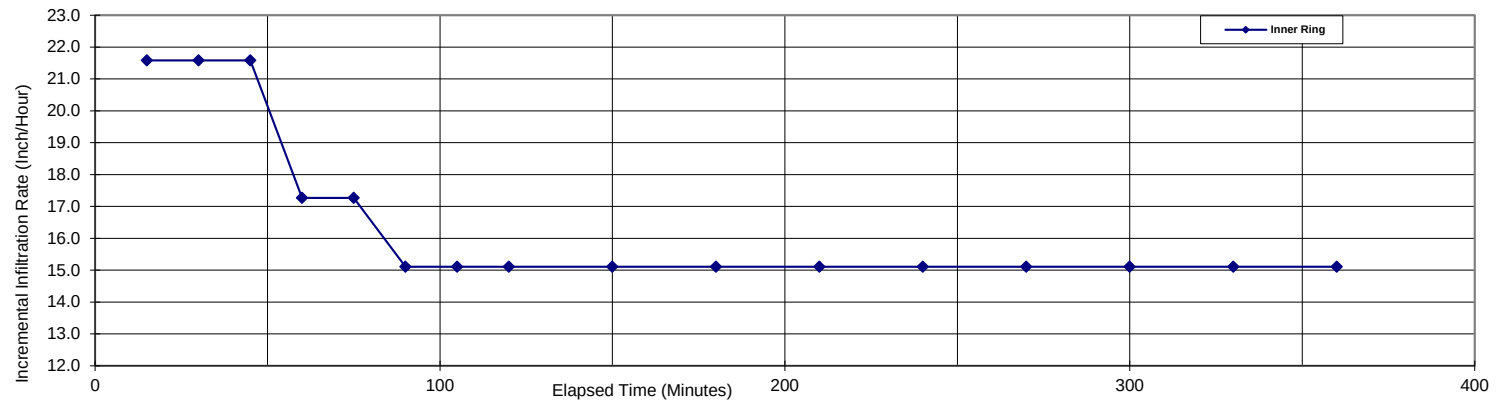


TABLE - 4
DOUBLE RING INFILTRATION TEST RESULTS

TEST No.:	DRIT-301
DATE:	1/20/2020
FPID No.:	436903-1-22-02
LIQUID USED:	Water
pH:	7
GROUND TEMPERATURE (°F):	69

PROJECT NAME:	SR-9 / I-95
TEST LOCATION:	26.010481° -80.166093°
STATION:	
OFFSET:	
GROUND ELEVATION:	

GENERAL SUBSURFACE PROFILE		
DEPTH (FEET)	SOIL DESCRIPTION	STRATUM No.
0-0.2	A-8	1
0.2-5	A-3	2

DEPTH TO WATER TABLE (Feet):	GNE				
PENETRATION OF RINGS INTO GROUND (Inches):		INNER:	3	OUTER:	6
INTERNAL DIAMETER OF RINGS (Inches):		INNER:	12	OUTER:	24
THICKNESS OF RING WALL (Inches):		INNER:	0.125	OUTER:	0.125
AREA OF RINGS (Inches ^ 2):		INNER:	113.10	ANNULAR:	339.29

INCREMENT No.	ELAPSED TIME (MIN.)	TOTAL TIME (MIN.)	FLOW READINGS (ml)		LIQUID TEMPERATURE (°F)	INCREMENTAL INFILTRATION RATE (IN/HOUR)		REMARKS
			INNER RING	ANNULAR SPACE		INNER RING	ANNULAR SPACE	
0		0						
1	15	15	17000	48000		36.69	34.53	
2	15	30	17000	48000		36.69	34.53	
3	15	45	17000	47000	69	36.69	33.81	
4	15	60	16000	46000		34.53	33.09	
5	15	75	15000	44000		32.37	31.65	
6	15	90	15000	44000		32.37	31.65	
7	15	105	15000	42000		32.37	30.22	
8	15	120	14000	39000		30.22	28.06	
9	30	150	28000	78000		30.22	28.06	
10	30	180	28000	78000		30.22	28.06	
11	30	210	24000	70000		25.90	25.18	
12	30	240	22000	67000		23.74	24.10	
13	30	270	22000	67000	73	23.74	24.10	
14	30	300	22000	67000		23.74	24.10	
15	30	330	22000	67000		23.74	24.10	
16	30	360	22000	67000		23.74	24.10	

DOUBLE RING INFILTRATION TEST RESULTS

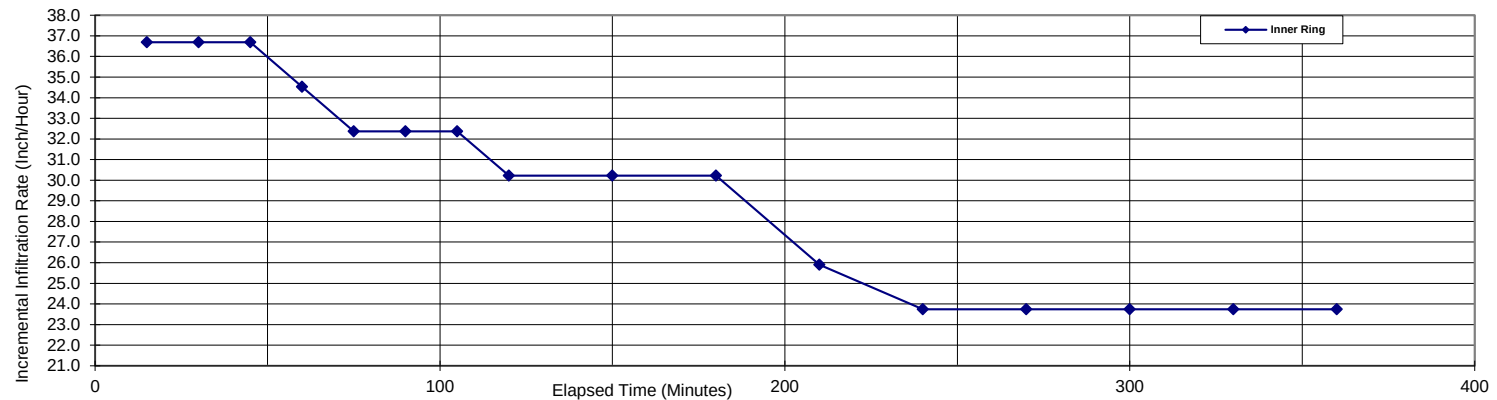


TABLE - 4
DOUBLE RING INFILTRATION TEST RESULTS

TEST No.:	DRIT-302
DATE:	2/1/2020
FPID No.:	436903-1-22-02
LIQUID USED:	Water
pH:	7
GROUND TEMPERATURE (°F):	66

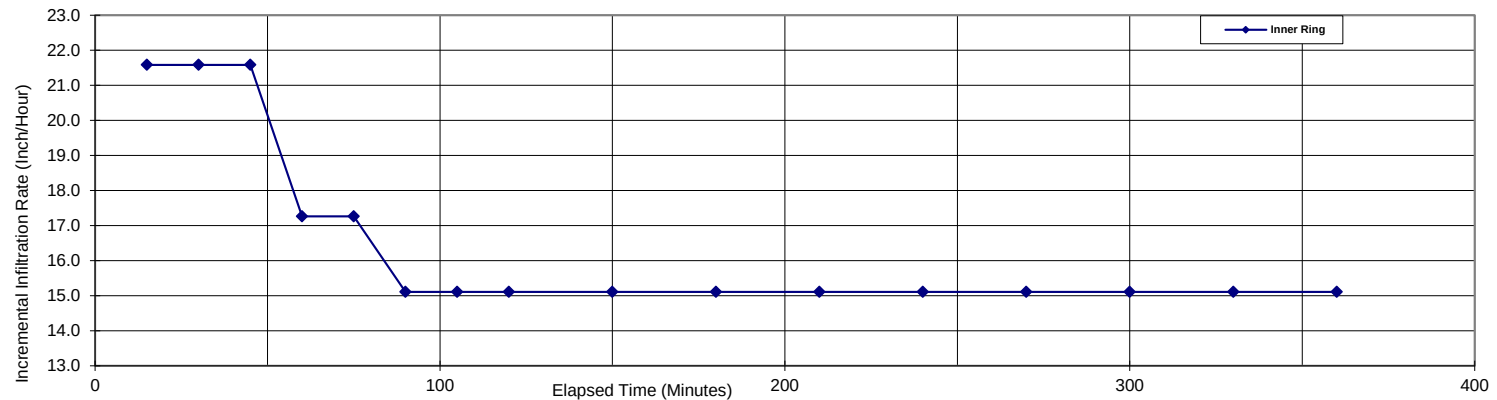
PROJECT NAME:	SR-9 / I-95
TEST LOCATION:	26.011361° -80.167441°
STATION:	
OFFSET:	
GROUND ELEVATION:	

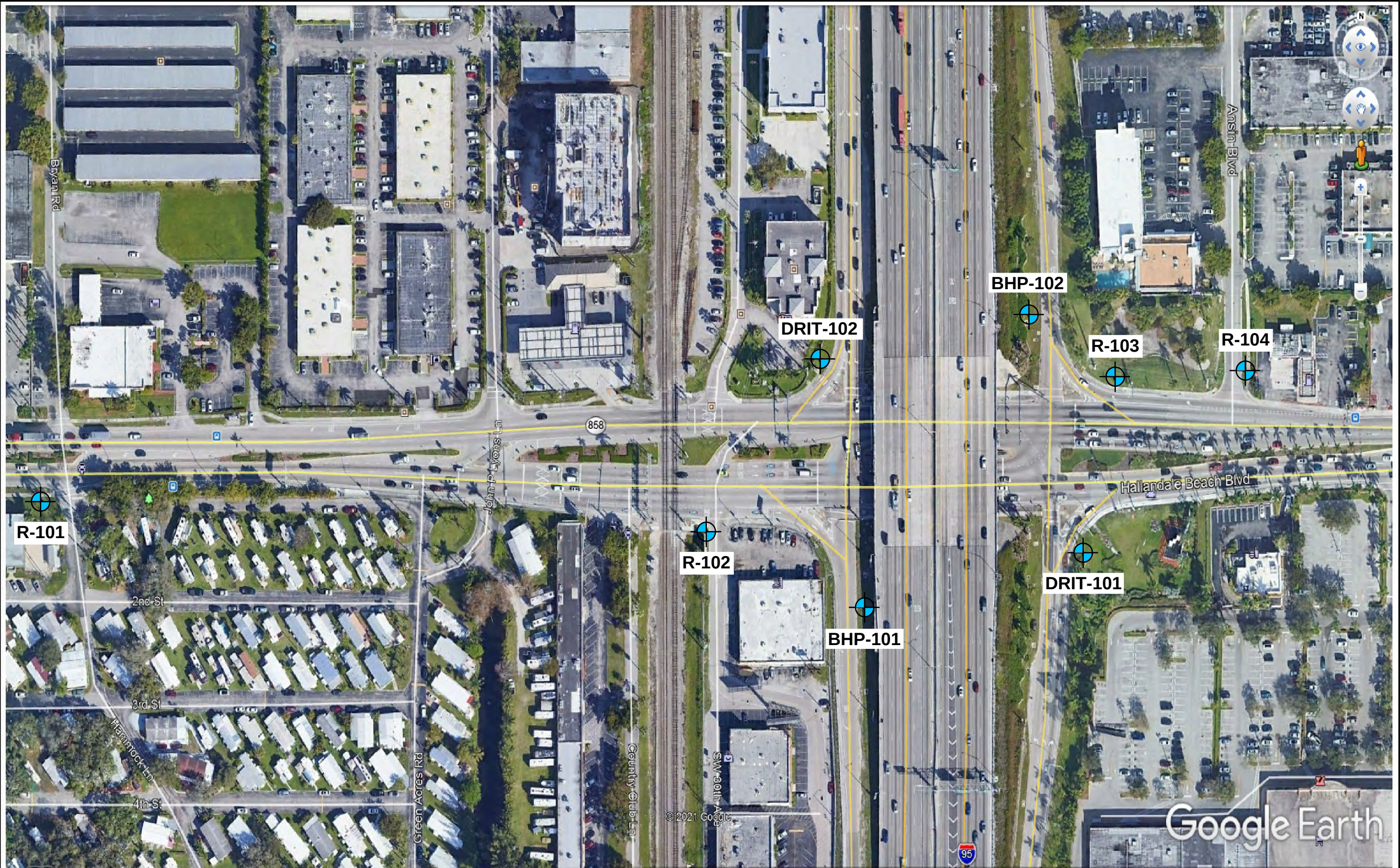
GENERAL SUBSURFACE PROFILE		
DEPTH (FEET)	SOIL DESCRIPTION	STRATUM No.
0-0.2	A-8	1
0.2-5	A-3	2

DEPTH TO WATER TABLE (Feet):	GNE				
PENETRATION OF RINGS INTO GROUND (Inches):		INNER:	3	OUTER:	6
INTERNAL DIAMETER OF RINGS (Inches):		INNER:	12	OUTER:	24
THICKNESS OF RING WALL (Inches):		INNER:	0.125	OUTER:	0.125
AREA OF RINGS (Inches ^ 2):		INNER:	113.10	ANNULAR:	339.29

INCREMENT No.	ELAPSED TIME (MIN.)	TOTAL TIME (MIN.)	FLOW READINGS (ml)		LIQUID TEMPERATURE (°F)	INCREMENTAL INFILTRATION RATE (IN/HOUR)		REMARKS
			INNER RING	ANNULAR SPACE		INNER RING	ANNULAR SPACE	
0		0						
1	15	15	10000	22000	60	21.58	15.83	
2	15	30	10000	22000		21.58	15.83	
3	15	45	10000	22000		21.58	15.83	
4	15	60	8000	22000		17.27	15.83	
5	15	75	8000	22000		17.27	15.83	
6	15	90	7000	20000		15.11	14.39	
7	15	105	7000	20000	69	15.11	14.39	
8	15	120	7000	18000		15.11	12.95	
9	30	150	14000	36000		15.11	12.95	
10	30	180	14000	36000		15.11	12.95	
11	30	210	14000	36000		15.11	12.95	
12	30	240	14000	34000		15.11	12.23	
13	30	270	14000	34000		15.11	12.23	
14	30	300	14000	32000		15.11	11.51	
15	30	330	14000	32000		15.11	11.51	
16	30	360	14000	32000		15.11	11.51	

DOUBLE RING INFILTRATION TEST RESULTS





REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION



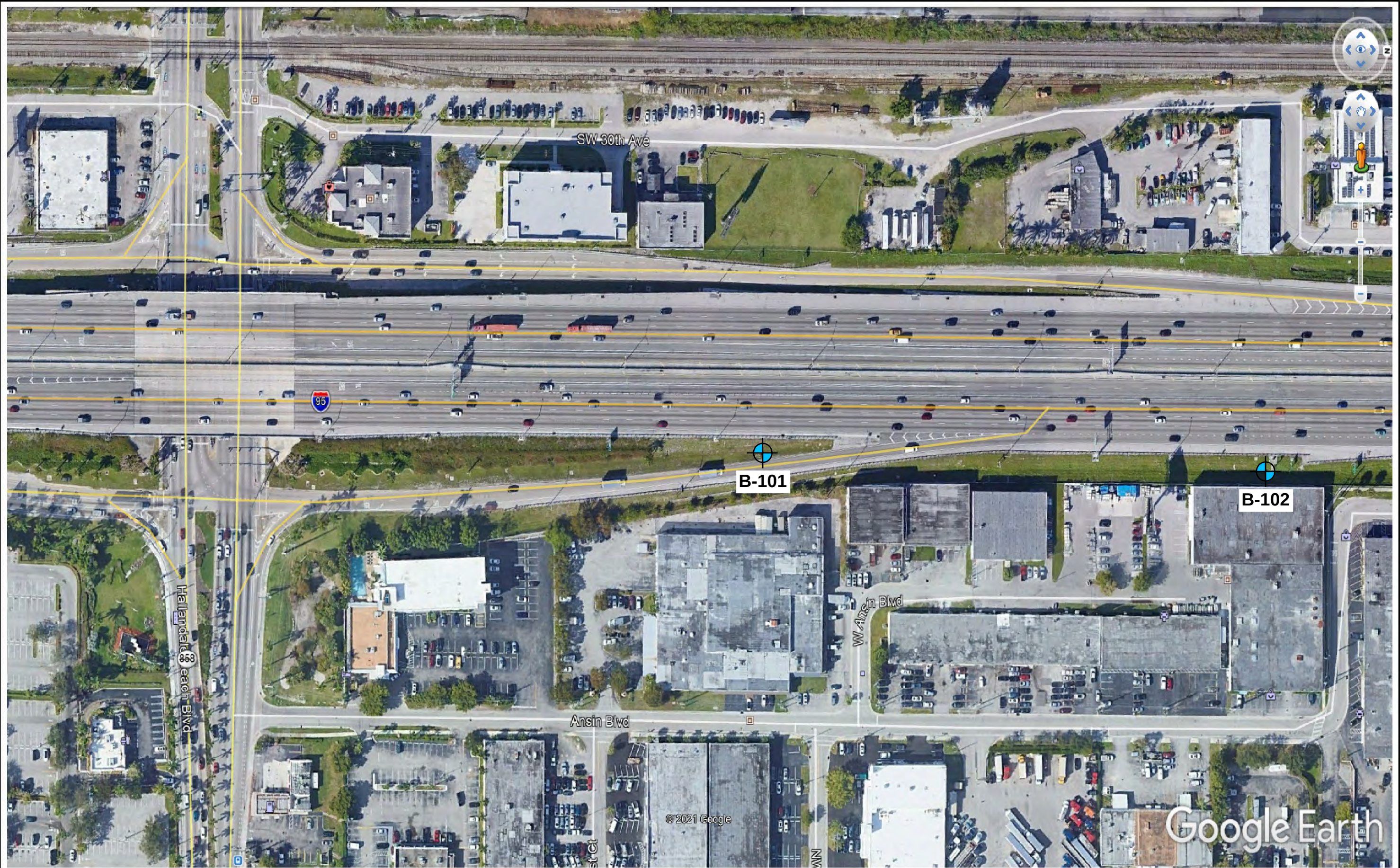
LEGEND:
B-# - Bridge Boring Location
R-# - Roadway Boring Location
BHP-# - Borehole Permeability Test
DRIT-# - Double Ring Infiltration Test

ENGINEER OF RECORD:
PARTHA GHOSH, P.E. LICENSE NO. 51377
GCME, INC.
1730 W. 10TH STREET
RIVIERA BEACH, FLORIDA 33404
CERTIFICATE OF AUTHORIZATION NO. 9076

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION		
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR-9	BROWARD	436903-1-22-02

APPROXIMATE BORING LOCATION PLAN
PLATE-1

SHEET
NO.



REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

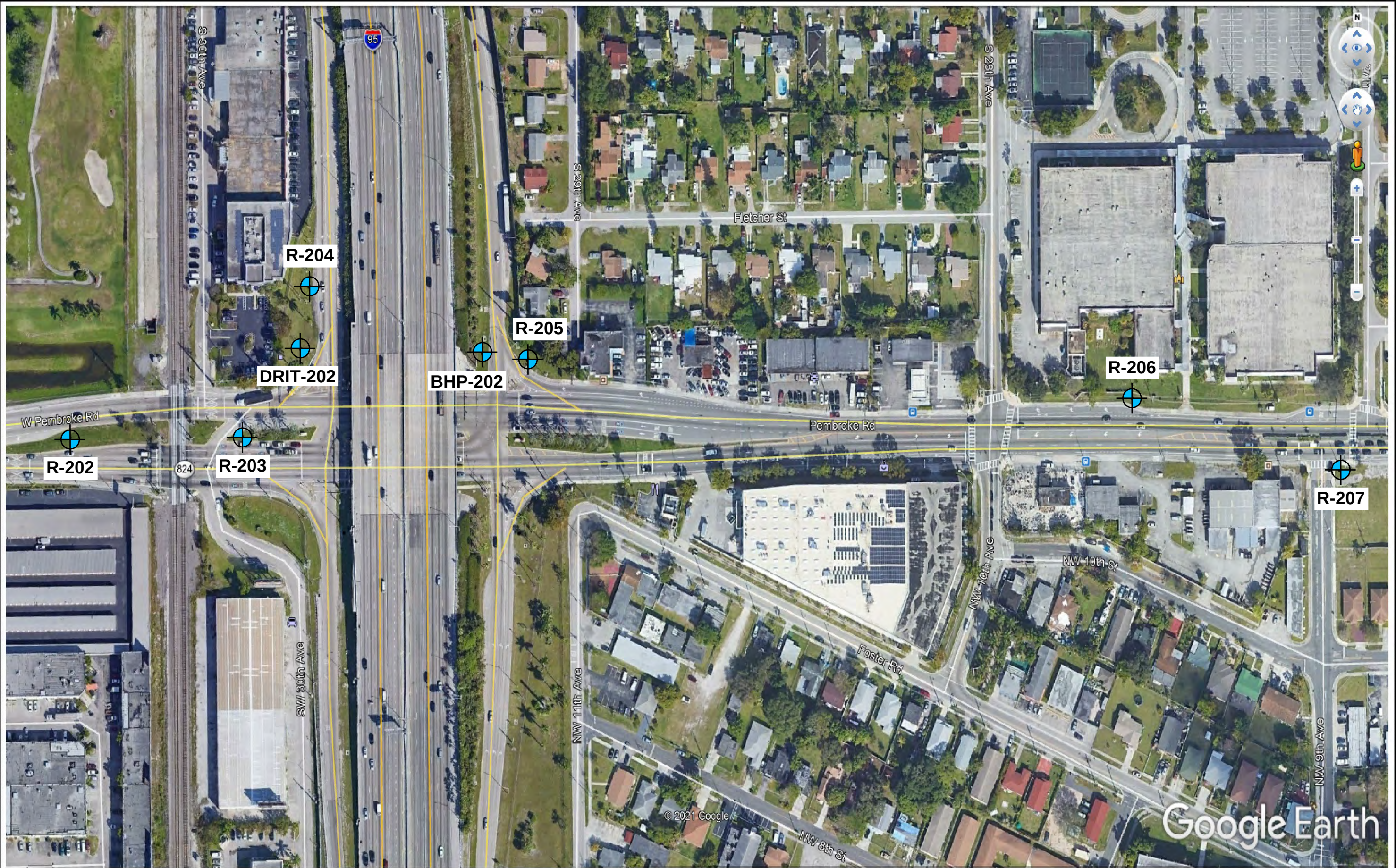
LEGEND:
B-# - Bridge Boring Location
R-# - Roadway Boring Location
BHP-# - Borehole Permeability Test
DRIT-# - Double Ring Infiltration Test

ENGINEER OF RECORD:
PARTHA GHOSH, P.E. LICENSE NO. 51377
GCME, INC.
1730 W. 10TH STREET
RIVIERA BEACH, FLORIDA 33404
CERTIFICATE OF AUTHORIZATION NO. 9076

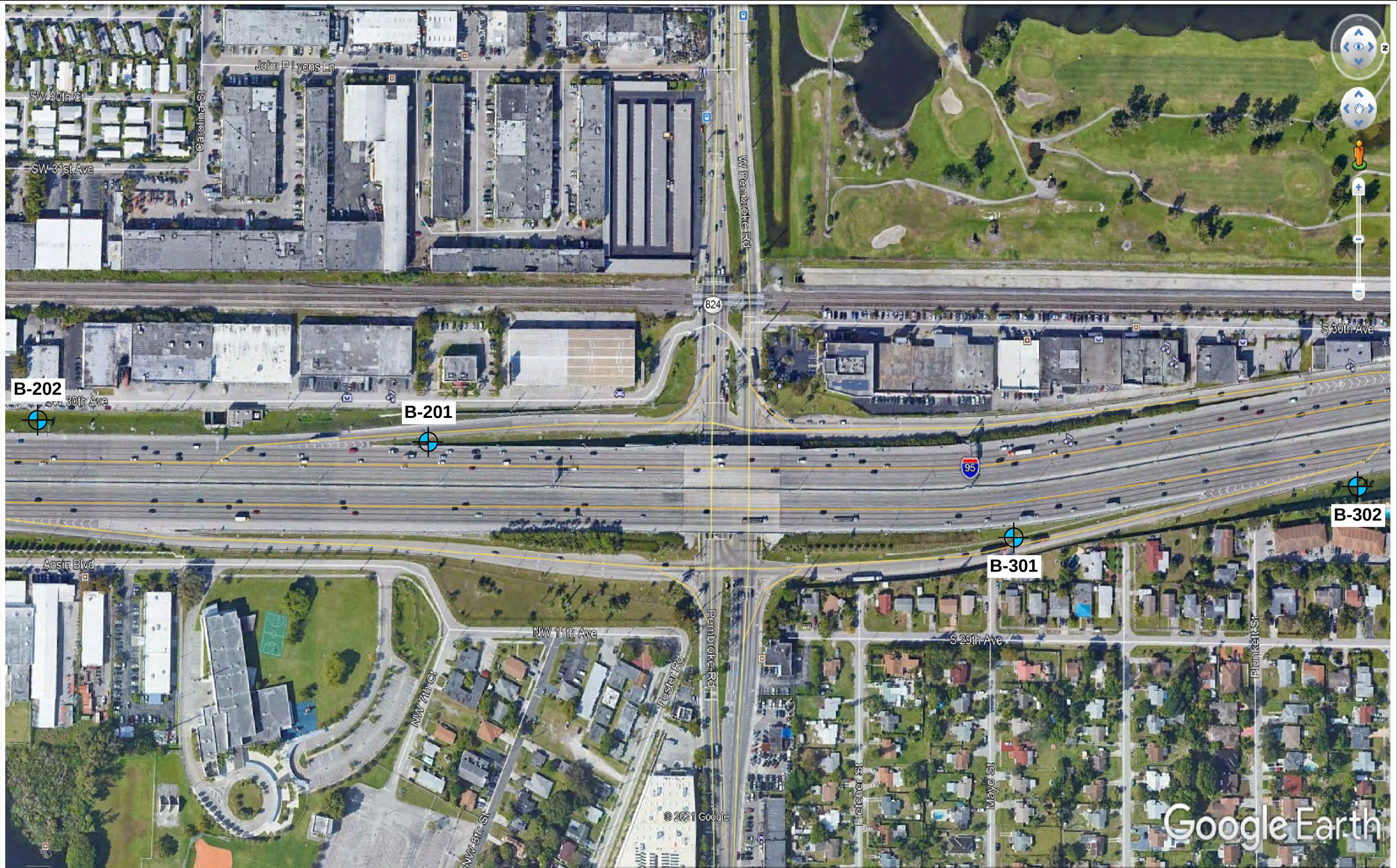
STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION		
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR-9	BROWARD	436903-1-22-02

APPROXIMATE BORING LOCATION PLAN
PLATE-2

SHEET
NO.



REVISIONS						ENGINEER OF RECORD: PARTHA GHOSH, P.E. LICENSE NO. 51377 GCME, INC. 1730 W. 10TH STREET RIVIERA BEACH, FLORIDA 33404 CERTIFICATE OF AUTHORIZATION NO. 9076	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			APPROXIMATE BORING LOCATION PLAN PLATE-3	SHEET NO.
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
					LEGEND: B-# - Bridge Boring Location R-# - Roadway Boring Location BHP-# - Borehole Permeability Test DRIT-# - Double Ring Infiltration Test						



REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION



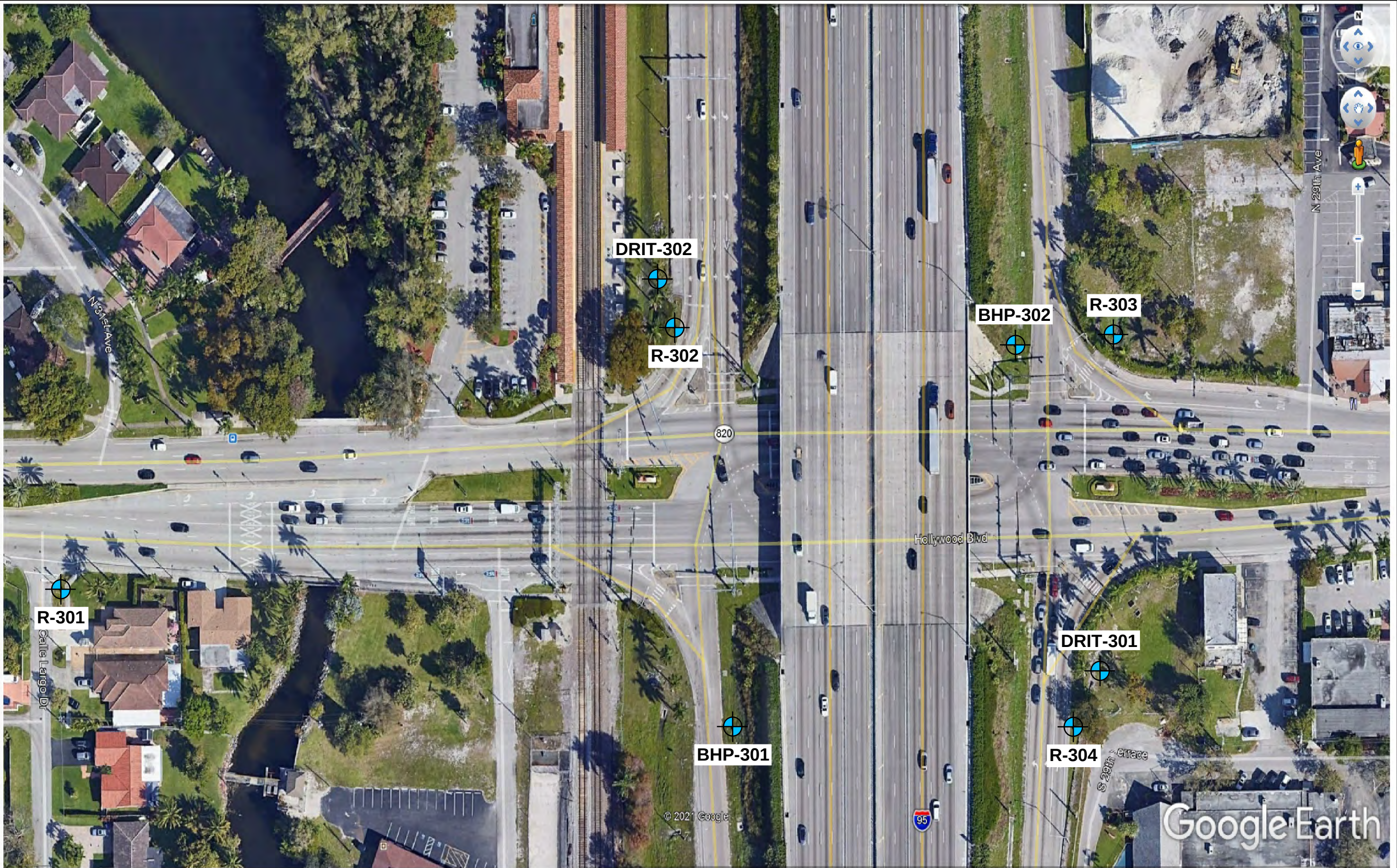
LEGEND:
B-# - Bridge Boring Location
R-# - Roadway Boring Location
BHP-# - Borehole Permeability Test
DRIT-# - Double Ring Infiltration Test

ENGINEER OF RECORD:
PARTHA GHOSH, P.E. LICENSE NO. 51377
GCME, INC.
1730 W. 10TH STREET
RIVIERA BEACH, FLORIDA 33404
CERTIFICATE OF AUTHORIZATION NO. 9076

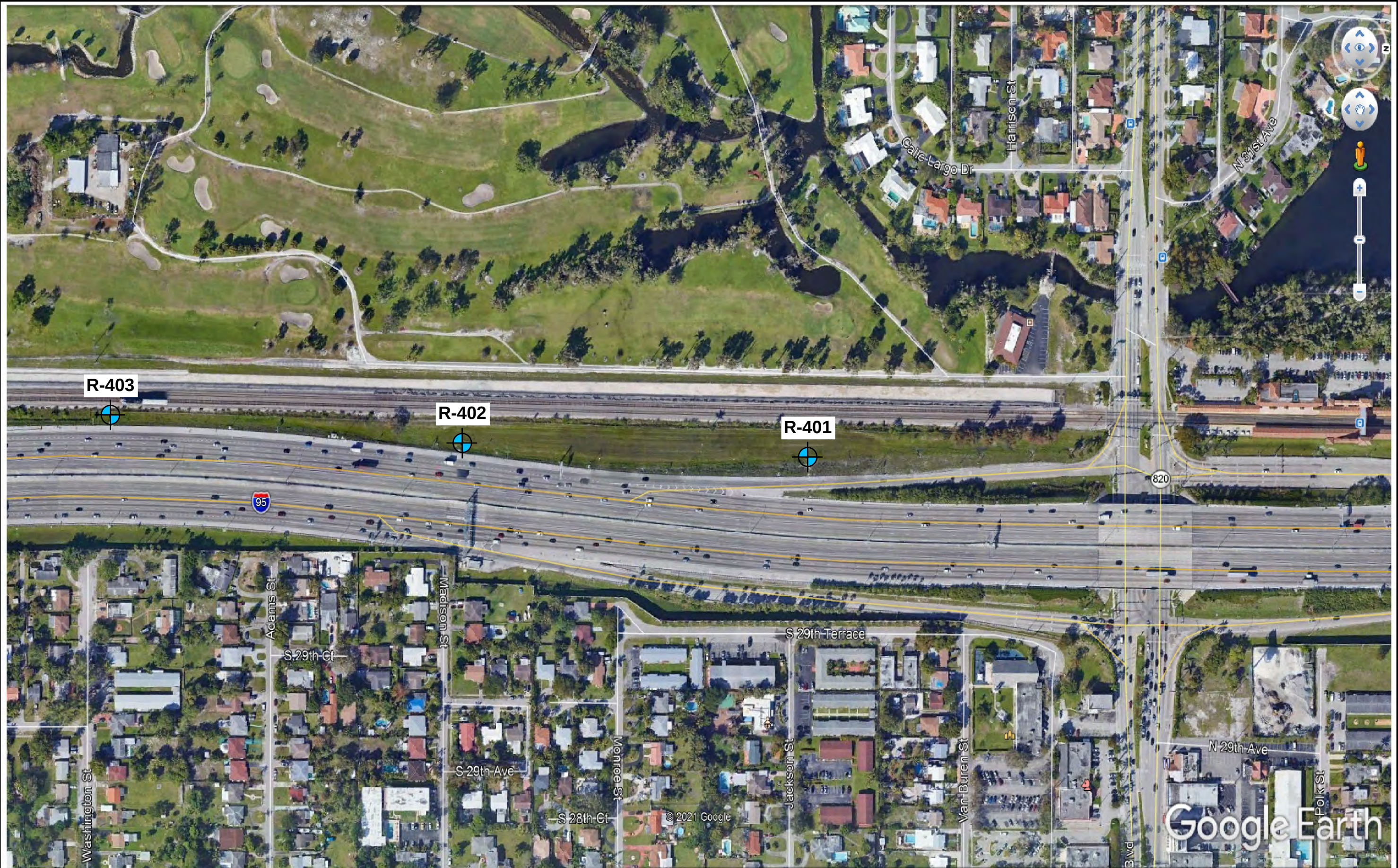
STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION		
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR-9	BROWARD	436903-1-22-02

APPROXIMATE BORING LOCATION PLAN PLATE-4	
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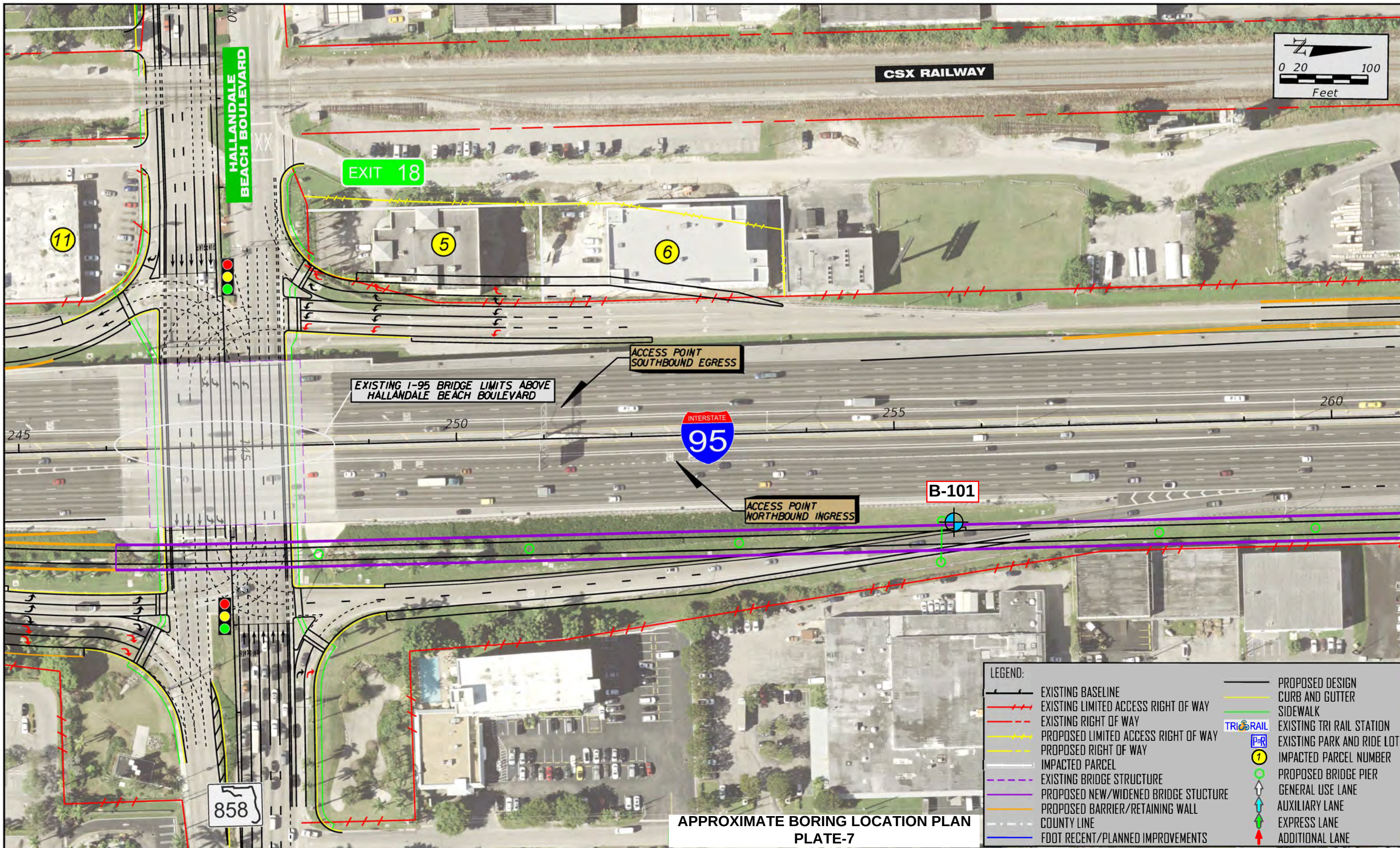
SHEET NO.



REVISIONS						ENGINEER OF RECORD: PARTHA GHOSH, P.E. LICENSE NO. 51377 GCME, INC. 1730 W. 10TH STREET RIVIERA BEACH, FLORIDA 33404 CERTIFICATE OF AUTHORIZATION NO. 9076	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			APPROXIMATE BORING LOCATION PLAN PLATE-5	SHEET NO.
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
					LEGEND: B-# - Bridge Boring Location R-# - Roadway Boring Location BHP-# - Borehole Permeability Test DRIT-# - Double Ring Infiltration Test						



REVISIONS						ENGINEER OF RECORD: PARTHA GHOSH, P.E. LICENSE NO. 51377 GCME, INC. 1730 W. 10TH STREET RIVIERA BEACH, FLORIDA 33404 CERTIFICATE OF AUTHORIZATION NO. 9076	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			APPROXIMATE BORING LOCATION PLAN PLATE-6	SHEET NO.
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
					LEGEND: B-# - Bridge Boring Location R-# - Roadway Boring Location BHP-# - Borehole Permeability Test DRIT-# - Double Ring InfiltrationTest 		SR-9	BROWARD	436903-1-22-02		



APPROXIMATE BORING LOCATION PLAN
PLATE-7



FLORIDA DEPARTMENT OF TRANSPORTATION
DISTRICT FOUR
3400 WEST COMMERCIAL BOULEVARD
FORT LAUDERDALE, FL 33309

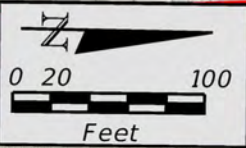
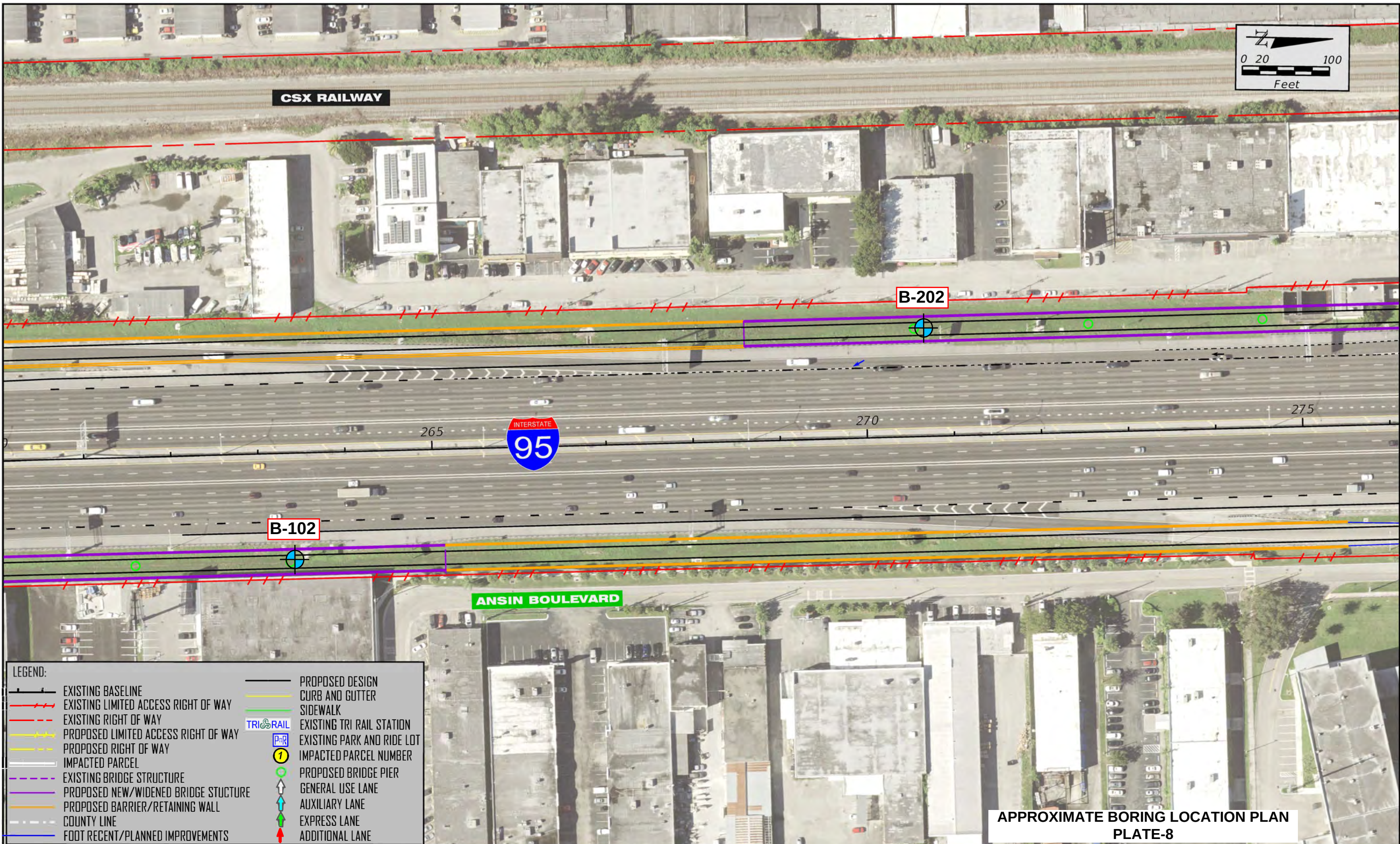
FEBRUARY 2018



I-95 (SR 9) PROJECT DEVELOPMENT & ENVIRONMENT STUDY
From South of Hallandale Beach Boulevard (SR 858) to North of Hollywood Boulevard (SR 820)
FPID No.: 436903-1-22-02
ETOM No.: 14254

**I-95 (SR 9)
CONCEPT PLANS
ALTERNATIVE 1**

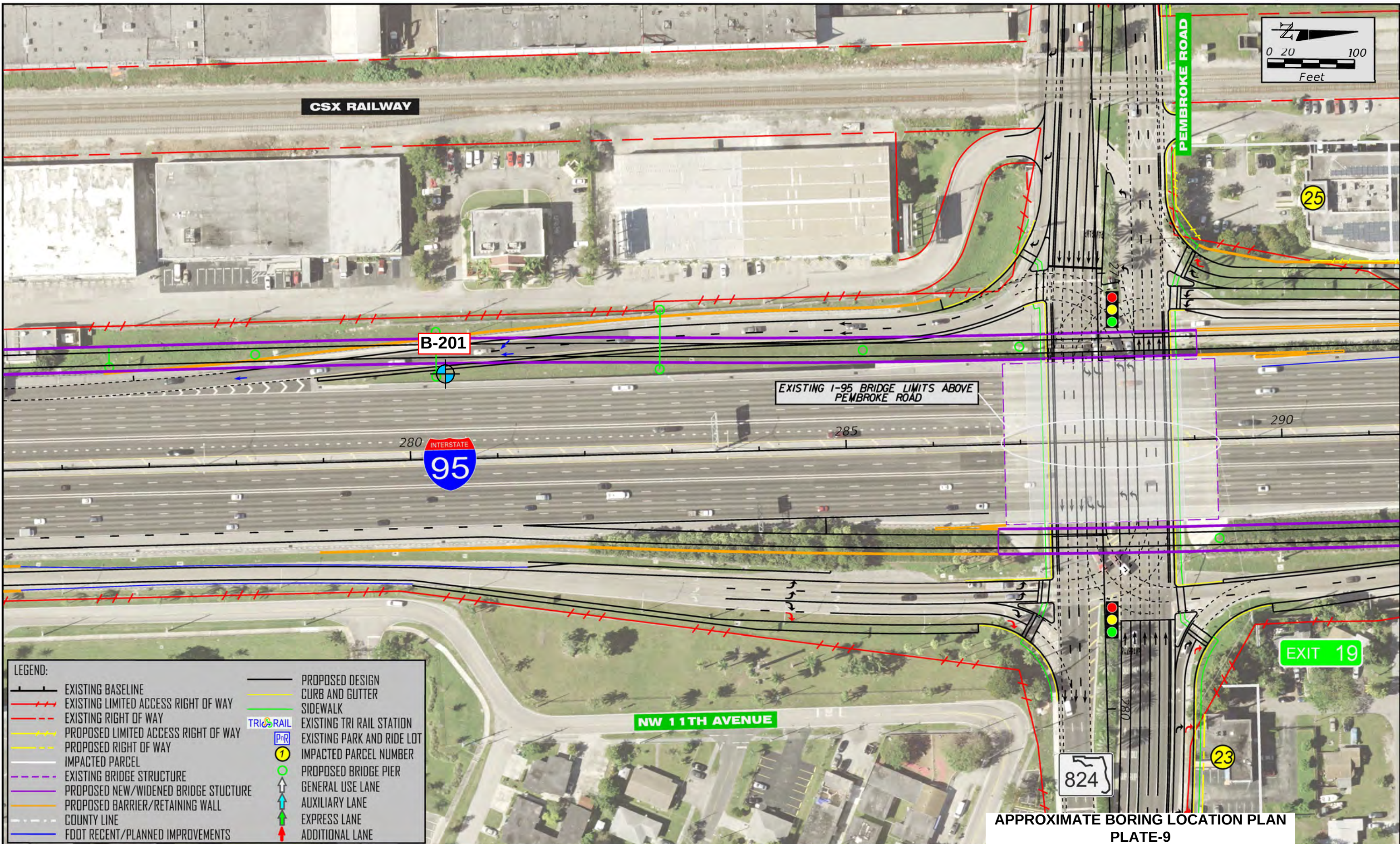
SHEET
NO.
7



LEGEND:

EXISTING BASELINE	PROPOSED DESIGN CURB AND GUTTER SIDEWALK
EXISTING LIMITED ACCESS RIGHT OF WAY	EXISTING TRI RAIL STATION
EXISTING RIGHT OF WAY	EXISTING PARK AND RIDE LOT
PROPOSED LIMITED ACCESS RIGHT OF WAY	IMPACTED PARCEL NUMBER
PROPOSED RIGHT OF WAY	PROPOSED BRIDGE PIER
IMPACTED PARCEL	GENERAL USE LANE
EXISTING BRIDGE STRUCTURE	AUXILIARY LANE
PROPOSED NEW/WIDENED BRIDGE STRUCTURE	EXPRESS LANE
PROPOSED BARRIER/RETAINING WALL	ADDITIONAL LANE
COUNTY LINE	
FOOT REGENT/PLANNED IMPROVEMENTS	

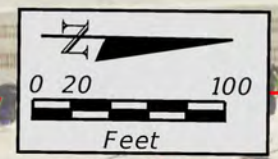
APPROXIMATE BORING LOCATION PLAN
PLATE-8



LEGEND:

	EXISTING BASELINE		PROPOSED DESIGN CURB AND GUTTER
	EXISTING LIMITED ACCESS RIGHT OF WAY		SIDEWALK
	EXISTING RIGHT OF WAY		EXISTING TRI RAIL STATION
	PROPOSED LIMITED ACCESS RIGHT OF WAY		EXISTING PARK AND RIDE LOT
	PROPOSED RIGHT OF WAY		IMPACTED PARCEL NUMBER
	IMPACTED PARCEL		PROPOSED BRIDGE PIER
	EXISTING BRIDGE STRUCTURE		GENERAL USE LANE
	PROPOSED NEW/WIDENED BRIDGE STRUCTURE		AUXILIARY LANE
	PROPOSED BARRIER/RETAINING WALL		EXPRESS LANE
	COUNTY LINE		ADDITIONAL LANE
	FDOT RECENT/PLANNED IMPROVEMENTS		

CSX RAILWAY



25

26

28

27

29

INTERSTATE
95

305

300

295

B-302

B-301

S 29TH AVENUE

LEGEND:

	EXISTING BASELINE		PROPOSED DESIGN
	EXISTING LIMITED ACCESS RIGHT OF WAY		CURB AND GUTTER
	EXISTING RIGHT OF WAY		SIDEWALK
	PROPOSED LIMITED ACCESS RIGHT OF WAY		EXISTING TRI RAIL STATION
	PROPOSED RIGHT OF WAY		EXISTING PARK AND RIDE LOT
	IMPACTED PARCEL		IMPACTED PARCEL NUMBER
	EXISTING BRIDGE STRUCTURE		PROPOSED BRIDGE PIER
	PROPOSED NEW/WIDENED BRIDGE STRUCTURE		GENERAL USE LANE
	PROPOSED BARRIER/RETAINING WALL		AUXILIARY LANE
	COUNTY LINE		EXPRESS LANE
	FOOT RECENT/PLANNED IMPROVEMENTS		ADDITIONAL LANE

APPROXIMATE BORING LOCATION PLAN
PLATE-10



FLORIDA DEPARTMENT OF TRANSPORTATION
DISTRICT FOUR
3400 WEST COMMERCIAL BOULEVARD
FORT LAUDERDALE, FL 33309

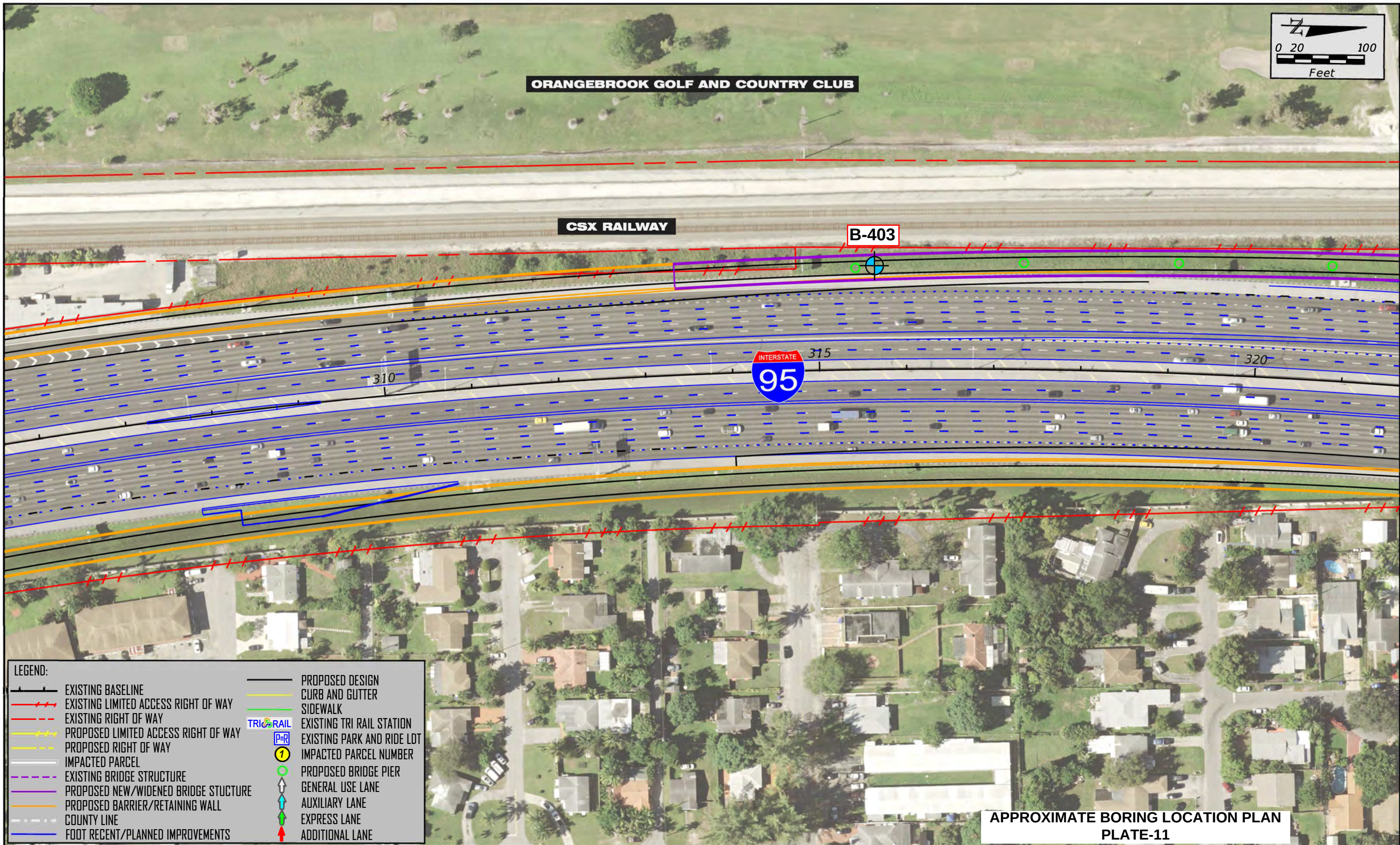
FEBRUARY 2018



I-95 (SR 9) PROJECT DEVELOPMENT & ENVIRONMENT STUDY
From South of Hallandale Beach Boulevard (SR 858) to North of Hollywood Boulevard (SR 820)
FPID No.: 436903-1-22-02
ETOM No.: 14254

I-95 (SR 9)
CONCEPT PLANS
ALTERNATIVE 1

SHEET
NO.
10



APPROXIMATE BORING LOCATION PLAN
PLATE-11



FLORIDA DEPARTMENT OF TRANSPORTATION
DISTRICT FOUR
3400 WEST COMMERCIAL BOULEVARD
FORT LAUDERDALE, FL 33309

FEBRUARY 2018



I-95 (SR 9) PROJECT DEVELOPMENT & ENVIRONMENT STUDY
From South of Hallandale Beach Boulevard (SR 858) to North of Hollywood Boulevard (SR 820)
FPID No.: 436903-I-22-02
ETDM No.: 14254

I-95 (SR 9)
CONCEPT PLANS
ALTERNATIVE 1

SHEET
NO.
11

ORANGEBROOK GOLF AND COUNTRY CLUB

CSX RAILWAY

B-402

ACCESS POINT
SOUTHBOUND INGRESS

B-401

INTERSTATE
95

LEGEND:

- | | | | |
|---|---------------------------------------|---|--|
| — | EXISTING BASELINE | — | PROPOSED DESIGN CURB AND GUTTER SIDEWALK |
| — | EXISTING LIMITED ACCESS RIGHT OF WAY | — | EXISTING TRI RAIL STATION |
| — | EXISTING RIGHT OF WAY | — | EXISTING PARK AND RIDE LOT |
| — | PROPOSED LIMITED ACCESS RIGHT OF WAY | — | EXISTING TRI RAIL STATION |
| — | PROPOSED RIGHT OF WAY | — | EXISTING PARK AND RIDE LOT |
| — | IMPACTED PARCEL | — | IMPACTED PARCEL NUMBER |
| — | EXISTING BRIDGE STRUCTURE | — | PROPOSED BRIDGE PIER |
| — | PROPOSED NEW/WIDENED BRIDGE STRUCTURE | — | GENERAL USE LANE |
| — | PROPOSED BARRIER/RETAINING WALL | — | AUXILIARY LANE |
| — | COUNTY LINE | — | EXPRESS LANE |
| — | FOOT RECENT/PLANNED IMPROVEMENTS | — | ADDITIONAL LANE |

APPROXIMATE BORING LOCATION PLAN
PLATE-12



FLORIDA DEPARTMENT OF TRANSPORTATION
DISTRICT FOUR
3400 WEST COMMERCIAL BOULEVARD
FORT LAUDERDALE, FL 33309

FEBRUARY 2018

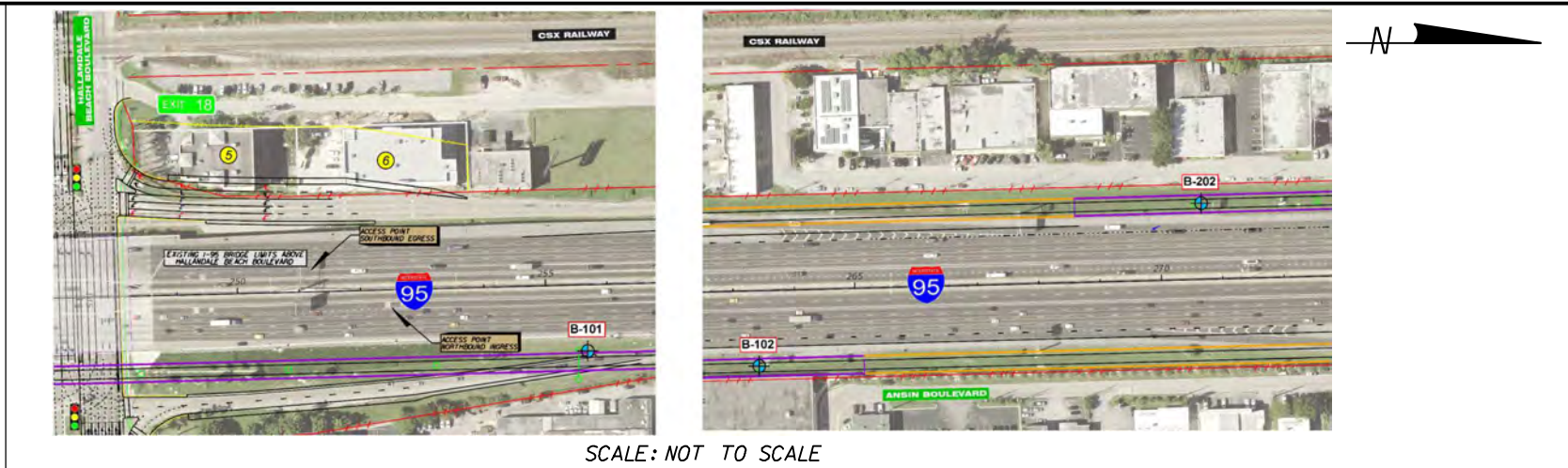


I-95 (SR 9) PROJECT DEVELOPMENT & ENVIRONMENT STUDY
From South of Hallandale Beach Boulevard (SR 858) to North of Hollywood Boulevard (SR 820)
FPID No.: 436903-1-22-02
ETOM No.: 14254

I-95 (SR 9)
CONCEPT PLANS
ALTERNATIVE 1

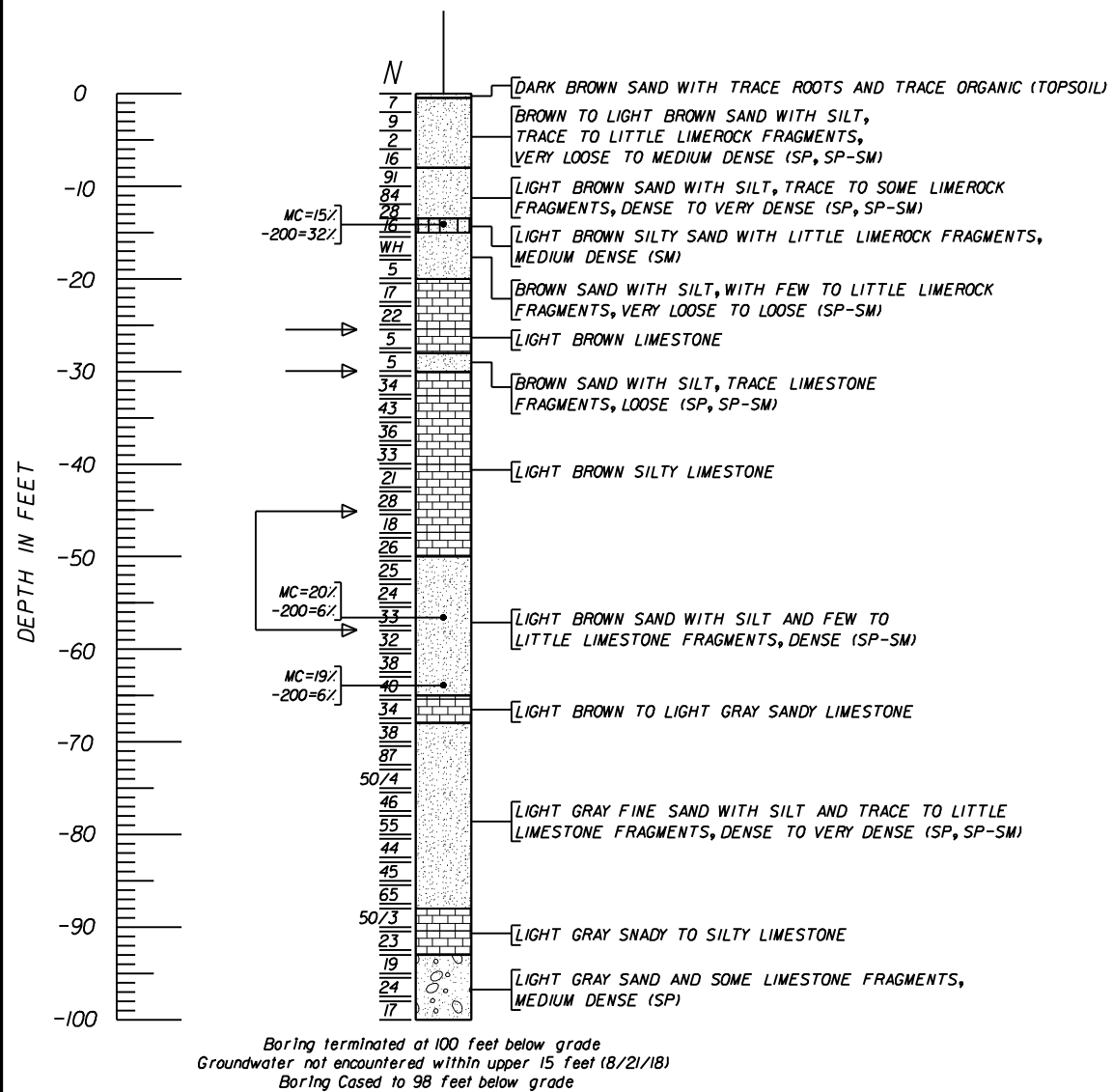
SHEET
NO.

12

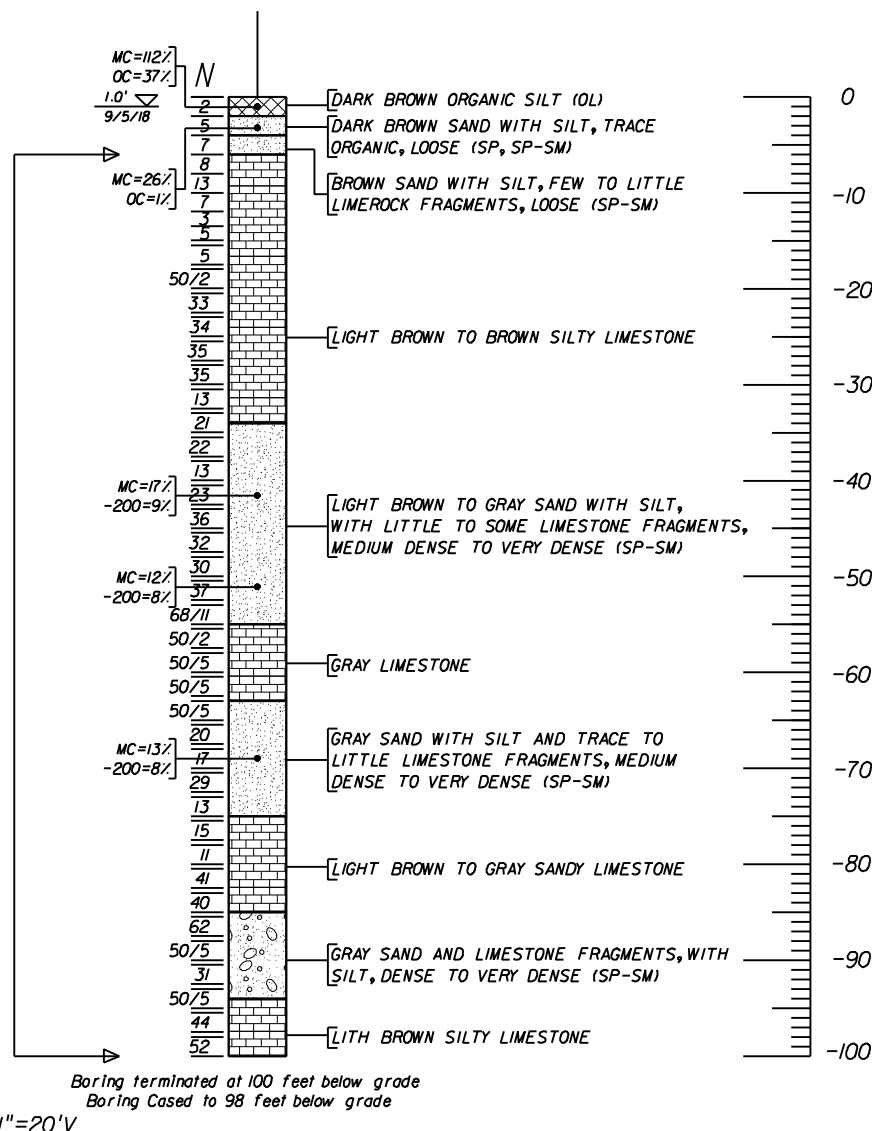


BORING NO.
STATION
OFFSET
ELEVATION
LATITUDE/LONGITUDE
RIG
HAMMER
DATE

B-101
-
-
25.9873° / -80.1654°
CME-55
AUTOMATIC
8/21/18



B-102
-
-
25.9894° / -80.1654°
CME-55
AUTOMATIC
9/5/18



SCALE: 1"=20'V

LEGEND

- (SP) UNIFIED SOIL CLASSIFICATION SYSTEM SYMBOL
- N STANDARD PENETRATION RESISTANCE IN BLOWS PER 12 INCHES UNLESS OTHERWISE NOTED. 50/3 INDICATES (50) BLOWS REQUIRED TO DRIVE A SAMPLING SPOON 3 INCHES.
- 8/21/18 WATER LEVEL WITH DATE OF READING
- LOSS OF CIRCULATION
- WR SAMPLER DROPPED DUE TO WEIGHT OF ROD
- WH SAMPLER DROPPED DUE TO WEIGHT OF HAMMER
- HA DRILLED WITH A HAND AUGER IN ORDER TO CLEAR LOCATION FROM UNDERGROUND UTILITIES
- NR NO RECOVERY - NO SOIL/ROCK WAS RECOVERED IN THE SAMPLING SPOON
- STATION / OFFSET / ELEVATION / COORDINATE INFORMATION ARE NOT PROVIDED BY SURVEYORS.
- MC= NATURAL MOISTURE CONTENT (%)
-200= FINES PASSING #200 SIEVE (%)
OC= ORGANIC CONTENT (%)
LL= LIQUID LIMIT (%)
PI= PLASTICITY INDEX (%)
NP= INDICATES NON-PLASTIC

NOTES: STRATA BOUNDARIES ARE APPROXIMATE AND MAY VARY BETWEEN OR AWAY FROM BORING LOCATIONS.

DRILLER: RICARDO

STANDARD PENETRATION TEST DATA
SPOON INSIDE DIA. 1.375 Inches
SPOON OUTSIDE DIA. 2.0 Inches
AVG. HAMMER DROP 30.0 Inches
HAMMER WEIGHT 140.0 pounds

SPT CONSISTENCY CHART

SILTS AND CLAYS-	SAFETY HAMMER	AUTOMATIC HAMMER
CONSISTENCY	SPT (BLOWS/1.0 ft)	SPT (BLOWS/1.0 ft)
VERY SOFT	LESS THAN 2	LESS THAN 1
SOFT	2 - 4	1 - 3
FIRM	4 - 8	3 - 6
STIFF	8 - 15	6 - 12
VERY STIFF	15 - 30	12 - 24
HARD	GREATER THAN 30	GREATER THAN 24

SPT DENSITY CHART

GRANULAR MATERIALS-	SAFETY HAMMER	AUTOMATIC HAMMER
RELATIVE DENSITY	SPT (BLOWS/1.0 ft)	SPT (BLOWS/1.0 ft)
VERY LOOSE	LESS THAN 4	LESS THAN 3
LOOSE	4 - 10	3 - 8
MEDIUM DENSE	10 - 30	8 - 24
DENSE	30 - 50	24 - 40
VERY DENSE	GREATER THAN 50	GREATER THAN 40

ENVIRONMENTAL CLASSIFICATION:

SUBSTRUCTURE:	SLIGHTLY AGGRESSIVE (CONCRETE) SLIGHTLY AGGRESSIVE (STEEL)
SUPERSTRUCTURE:	SLIGHTLY AGGRESSIVE

SOIL TYPE SYMBOLS:

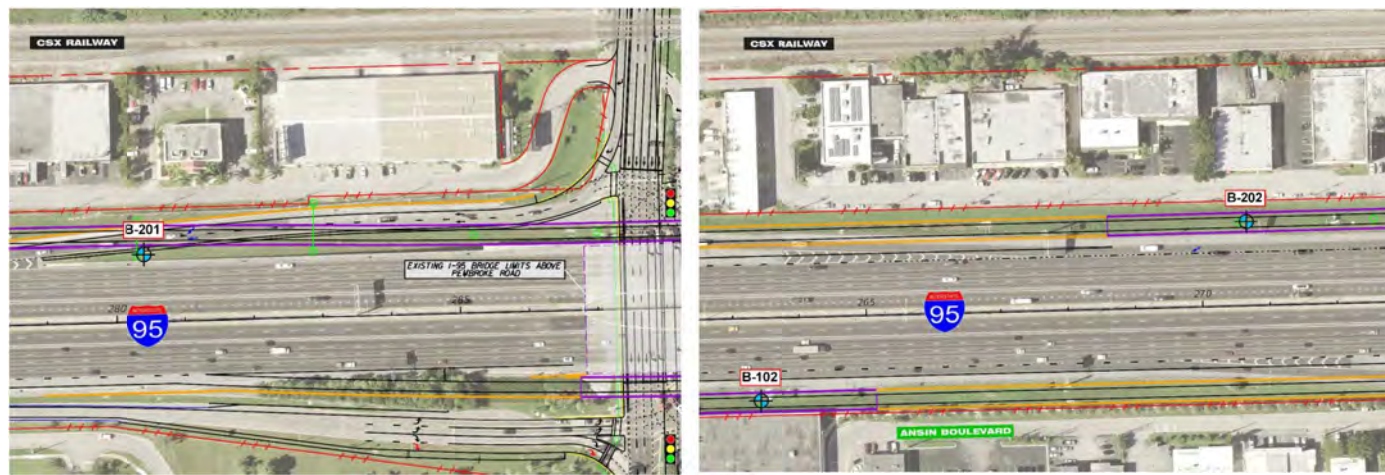
SAND	PEAT/MUCK
LIMESTONE	SILTY SAND
GRAVELLY SAND	SHELLY SAND
GRAVEL	CLAYEY SAND
CLAY	SILT

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

ENGINEER OF RECORD:
PARTHA GHOSH, P.E. LICENSE NO. 51377
GCME, INC.
1730 W. 10TH STREET
RIVIERA BEACH, FLORIDA 33404
CERTIFICATE OF AUTHORIZATION NO. 9076

DRAWN BY: FP 08-18 CHECKED BY: ZP 08-18 DESIGNED BY: XXX MM-YY CHECKED BY: XXX MM-YY	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION
ROAD NO. SR 9	COUNTY BROWARD
FINANCIAL PROJECT ID 436903-1-22-02	

SHEET TITLE: REPORT OF CORE BORINGS	REF. DWG. NO.
PROJECT NAME: I-95 FROM HALLANDALE BEACH BLVD. TO HOLLYWOOD BLVD.	SHEET NO.

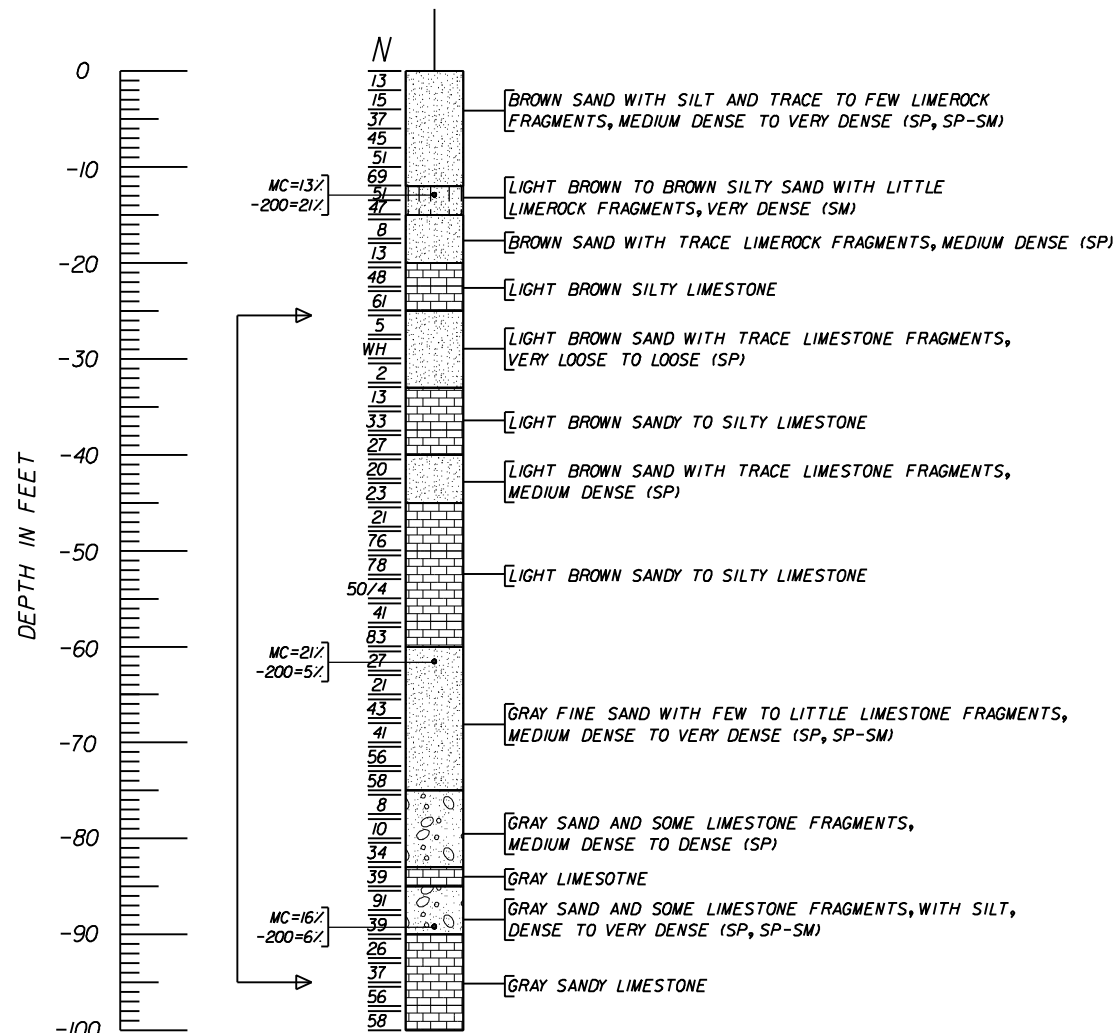


SCALE: NOT TO SCALE

BORING NO.
STATION
OFFSET
ELEVATION
LATITUDE/LONGITUDE
RIG
HAMMER
DATE

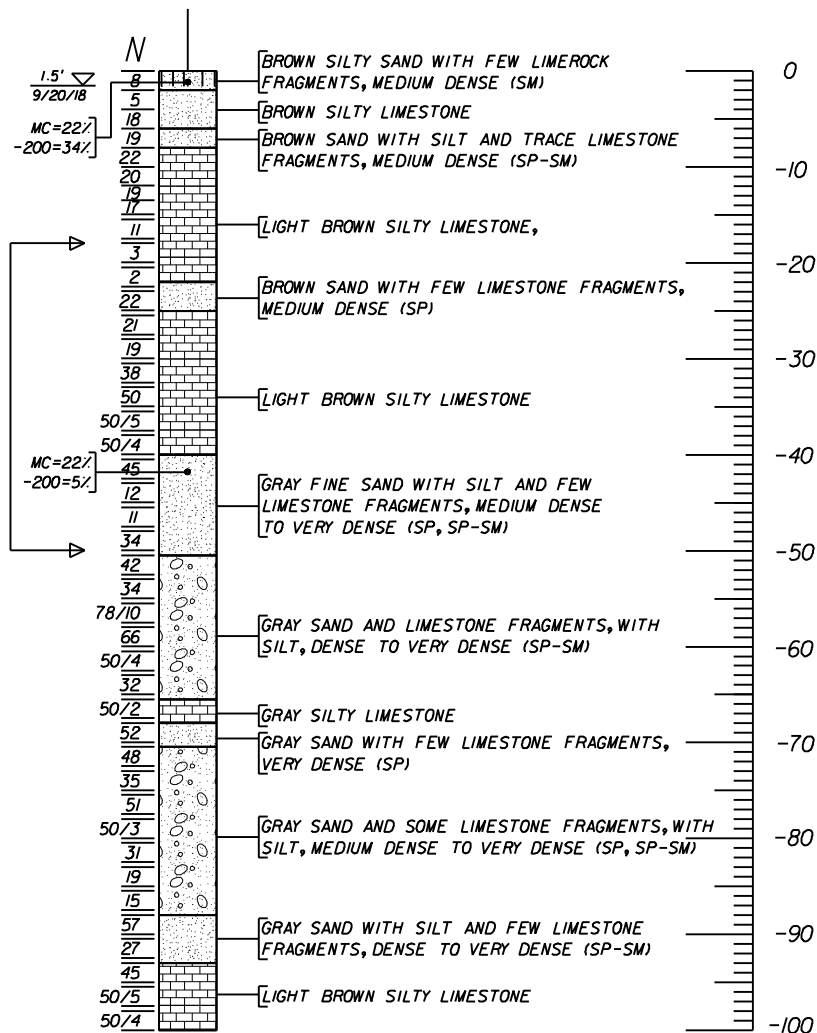
B-201
-
-
-
25.9840° / -80.1663°
CME-55
AUTOMATIC
8/23/18

B-202
-
-
-
25.9913° / -80.1663°
CME-55
AUTOMATIC
9/20/18



Boring terminated at 100 feet below grade
Groundwater not encountered within upper 15 feet (8/23/18)
Boring Cased to 98 feet below grade

SCALE: 1"=20'V



Boring terminated at 100 feet below grade
Boring Cased to 98 feet below grade

LEGEND

- (SP) UNIFIED SOIL CLASSIFICATION SYSTEM SYMBOL
- N STANDARD PENETRATION RESISTANCE IN BLOWS PER 12 inches UNLESS OTHERWISE NOTED. 50/3 INDICATES (50) BLOWS REQUIRED TO DRIVE A SAMPLING SPOON 3 INCHES.
- 8/23/18 WATER LEVEL WITH DATE OF READING
- LOSS OF CIRCULATION
- WR SAMPLER DROPPED DUE TO WEIGHT OF ROD
- WH SAMPLER DROPPED DUE TO WEIGHT OF HAMMER
- HA DRILLED WITH A HAND AUGER IN ORDER TO CLEAR LOCATION FROM UNDERGROUND UTILITIES
- NR NO RECOVERY - NO SOIL/ROCK WAS RECOVERED IN THE SAMPLING SPOON
- STATION / OFFSET / ELEVATION / COORDINATE INFORMATION ARE NOT PROVIDED BY SURVEYORS.
- MC= NATURAL MOISTURE CONTENT (%)
-200= FINES PASSING #200 SIEVE (%)
OC= ORGANIC CONTENT (%)
LL= LIQUID LIMIT (%)
PI= PLASTICITY INDEX (%)
NP= INDICATES NON-PLASTIC

NOTES: STRATA BOUNDARIES ARE APPROXIMATE AND MAY VARY BETWEEN OR AWAY FROM BORING LOCATIONS.

DRILLER: RICARDO

STANDARD PENETRATION TEST DATA
SPOON INSIDE DIA. 1.375 Inches
SPOON OUTSIDE DIA. 2.0 Inches
AVG. HAMMER DROP 30.0 Inches
HAMMER WEIGHT 140.0 pounds

SPT CONSISTENCY CHART

SILTS AND CLAYS- CONSISTENCY	SAFETY HAMMER	AUTOMATIC HAMMER
	SPT (BLOWS/1.0 ft)	SPT (BLOWS/1.0 ft)
VERY SOFT	LESS THAN 2	LESS THAN 1
SOFT	2 - 4	1 - 3
FIRM	4 - 8	3 - 6
STIFF	8 - 15	6 - 12
VERY STIFF	15 - 30	12 - 24
HARD	GREATER THAN 30	GREATER THAN 24

SPT DENSITY CHART

GRANULAR MATERIALS- RELATIVE DENSITY	SAFETY HAMMER	AUTOMATIC HAMMER
	SPT (BLOWS/1.0 ft)	SPT (BLOWS/1.0 ft)
VERY LOOSE	LESS THAN 4	LESS THAN 3
LOOSE	4 - 10	3 - 8
MEDIUM DENSE	10 - 30	8 - 24
DENSE	30 - 50	24 - 40
VERY DENSE	GREATER THAN 50	GREATER THAN 40

ENVIRONMENTAL CLASSIFICATION:

SUBSTRUCTURE:	SLIGHTLY AGGRESSIVE (CONCRETE) SLIGHTLY AGGRESSIVE (STEEL)
SUPERSTRUCTURE:	SLIGHTLY AGGRESSIVE

SOIL TYPE SYMBOLS:

SAND	PEAT/MUCK
LIMESTONE	SILTY SAND
GRAVELLY SAND	SHELLY SAND
GRAVEL	CLAYEY SAND
CLAY	SILT

REVISIONS

DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

ENGINEER OF RECORD:
PARTHA GHOSH, P.E. LICENSE NO. 51377
GCME, INC.
1730 W. 10TH STREET
RIVIERA BEACH, FLORIDA 33404
CERTIFICATE OF AUTHORIZATION NO. 9076

DRAWN BY:
FP 08-18
CHECKED BY:
ZP 08-18
DESIGNED BY:
XXX MM-YY
CHECKED BY:
XXX MM-YY

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 9	BROWARD	436903-1-22-02

SHEET TITLE:

REPORT OF CORE BORINGS

PROJECT NAME:

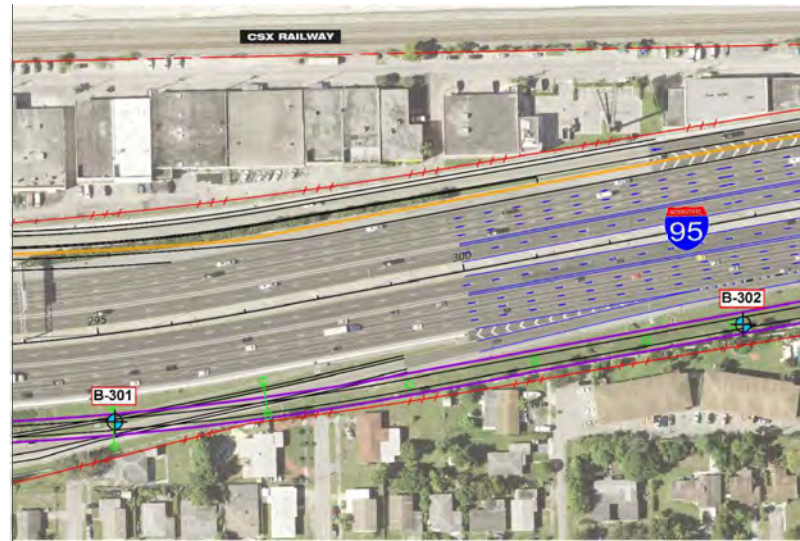
I-95 FROM HALLANDALE BEACH BLVD. TO HOLLYWOOD BLVD.

REF. DWG. NO.

SHEET NO.

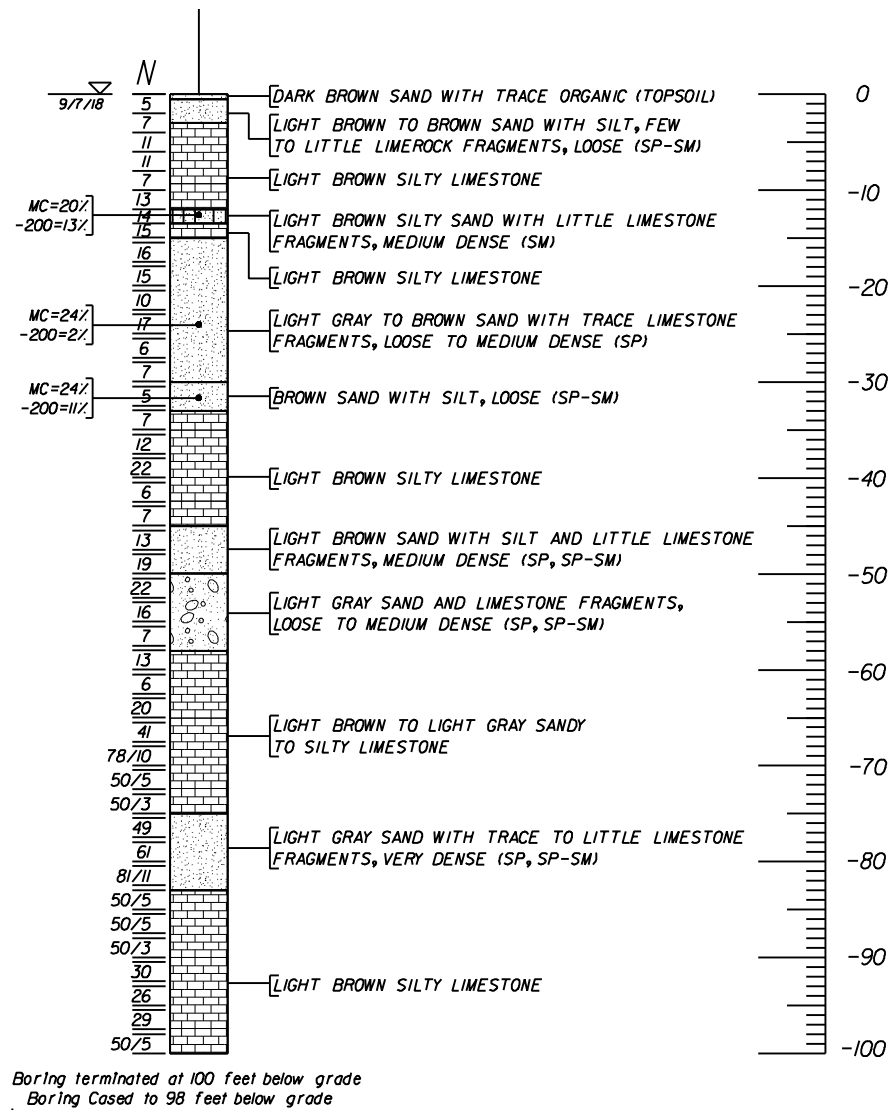
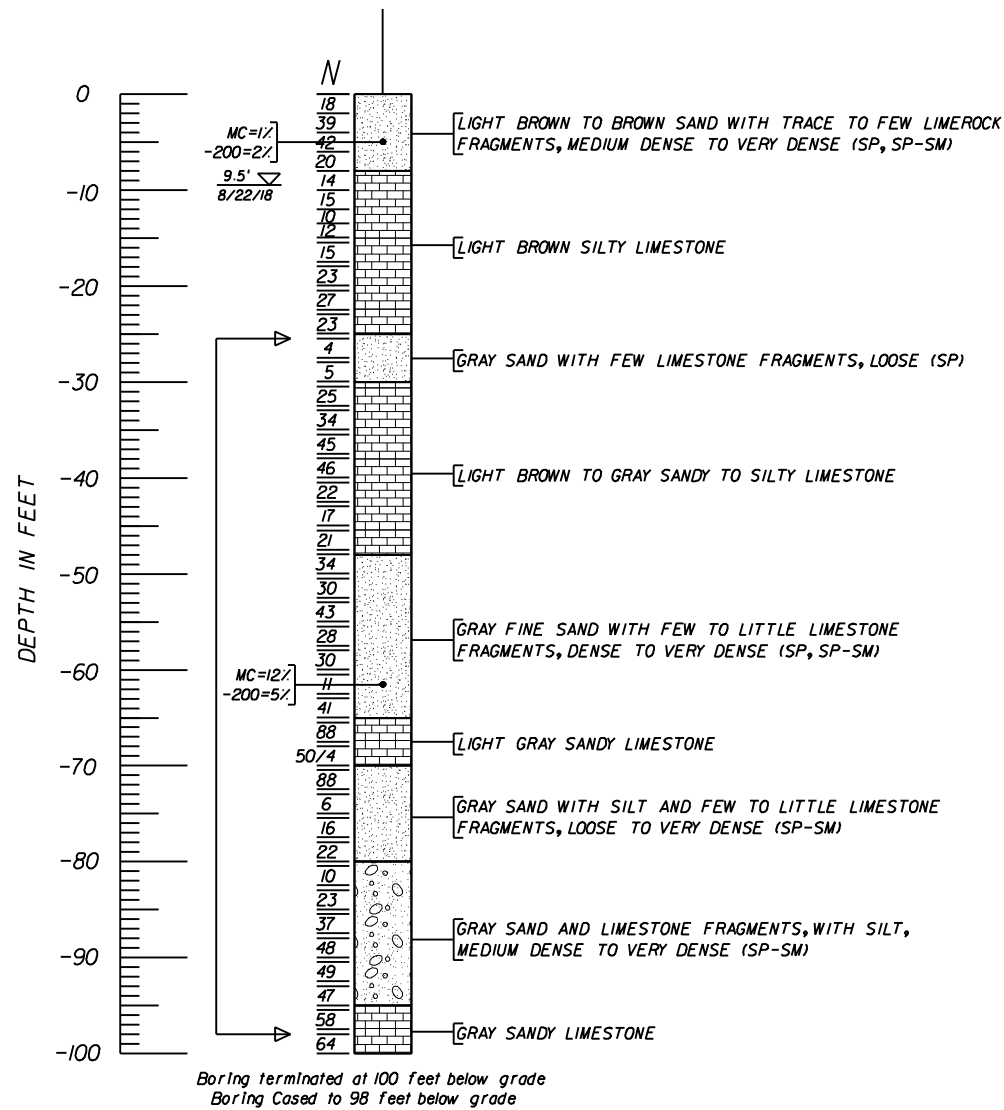
BORING NO.
STATION
OFFSET
ELEVATION
LATITUDE/LONGITUDE
RIG
HAMMER
DATE

B-301
-
-
25.9981° / -80.1658°
CME-55
AUTOMATIC
8/22/18



SCALE: NOT TO SCALE

B-302
-
-
26.0005° / -80.1663°
CME-55
AUTOMATIC
9/7/18



SCALE: 1"=20'V

LEGEND

- (SP) UNIFIED SOIL CLASSIFICATION SYSTEM SYMBOL
- N STANDARD PENETRATION RESISTANCE IN BLOWS PER 12 inches UNLESS OTHERWISE NOTED. 50/3 INDICATES (50) BLOWS REQUIRED TO DRIVE A SAMPLING SPOON 3 INCHES.
- 8/22/18 WATER LEVEL WITH DATE OF READING
- LOSS OF CIRCULATION
- WR SAMPLER DROPPED DUE TO WEIGHT OF ROD
- WH SAMPLER DROPPED DUE TO WEIGHT OF HAMMER
- HA DRILLED WITH A HAND AUGER IN ORDER TO CLEAR LOCATION FROM UNDERGROUND UTILITIES
- NR NO RECOVERY - NO SOIL/ROCK WAS RECOVERED IN THE SAMPLING SPOON
- STATION / OFFSET / ELEVATION / COORDINATE INFORMATION ARE NOT PROVIDED BY SURVEYORS.
- MC= NATURAL MOISTURE CONTENT (%)
-200= FINES PASSING #200 SIEVE (%)
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LL= LIQUID LIMIT (%)
PI= PLASTICITY INDEX (%)
NP= INDICATES NON-PLASTIC

NOTES: STRATA BOUNDARIES ARE APPROXIMATE AND MAY VARY BETWEEN OR AWAY FROM BORING LOCATIONS.

DRILLER: RICARDO

STANDARD PENETRATION TEST DATA
SPOON INSIDE DIA. 1.375 inches
SPOON OUTSIDE DIA. 2.0 inches
AVG. HAMMER DROP 30.0 inches
HAMMER WEIGHT 140.0 pounds

SPT CONSISTENCY CHART

SILTS AND CLAYS-	SAFETY HAMMER	AUTOMATIC HAMMER
CONSISTENCY	SPT (BLOWS/1.0 ft)	SPT (BLOWS/1.0 ft)
VERY SOFT	LESS THAN 2	LESS THAN 1
SOFT	2 - 4	1 - 3
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HARD	GREATER THAN 30	GREATER THAN 24

SPT DENSITY CHART

GRANULAR MATERIALS-	SAFETY HAMMER	AUTOMATIC HAMMER
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MEDIUM DENSE	10 - 30	8 - 24
DENSE	30 - 50	24 - 40
VERY DENSE	GREATER THAN 50	GREATER THAN 40

ENVIRONMENTAL CLASSIFICATION:

SUBSTRUCTURE:	SLIGHTLY AGGRESSIVE (CONCRETE)
	SLIGHTLY AGGRESSIVE (STEEL)
SUPERSTRUCTURE:	SLIGHTLY AGGRESSIVE

SOIL TYPE SYMBOLS:

SAND	PEAT/MUCK
LIMESTONE	SILTY SAND
GRAVELLY SAND	SHELLY SAND
GRAVEL	CLAYEY SAND
CLAY	SILT

REVISIONS

DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

ENGINEER OF RECORD:
PARTHA GHOSH, P.E. LICENSE NO. 51377
GCME, INC.
1730 W. 10TH STREET
RIVIERA BEACH, FLORIDA 33404
CERTIFICATE OF AUTHORIZATION NO. 9076

DRAWN BY:
FP 08-18
CHECKED BY:
ZP 08-18
DESIGNED BY:
XXX MM-YY
CHECKED BY:
XXX MM-YY

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 9	BROWARD	436903-1-22-02

SHEET TITLE:

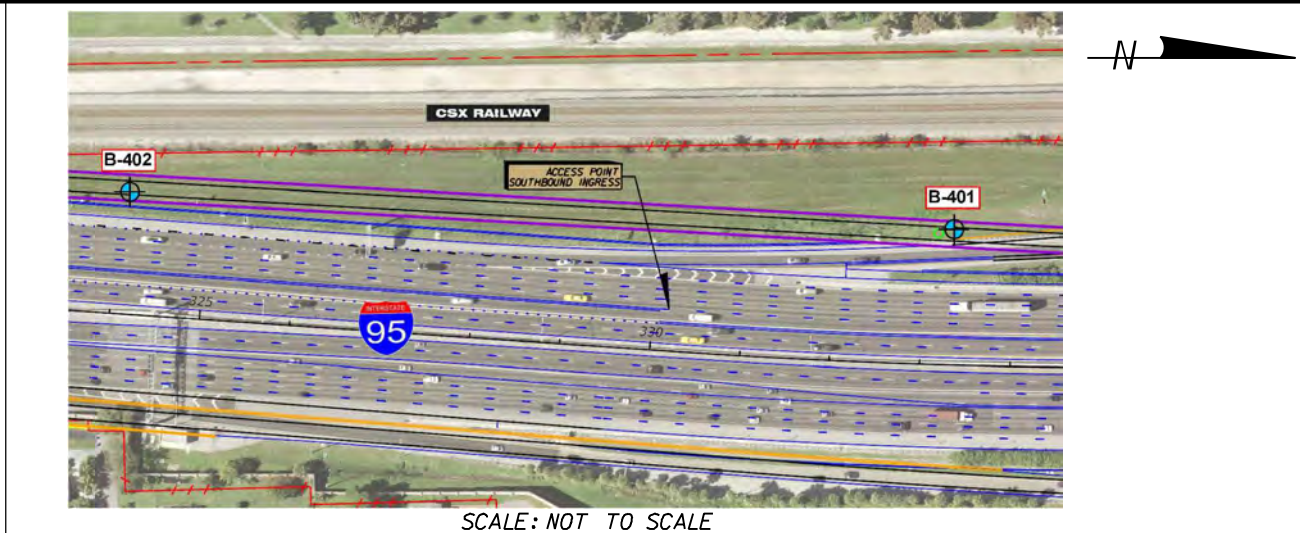
REPORT OF CORE BORINGS

REF. DWG. NO.

PROJECT NAME:

I-95 FROM HALLANDALE BEACH BLVD. TO HOLLYWOOD BLVD.

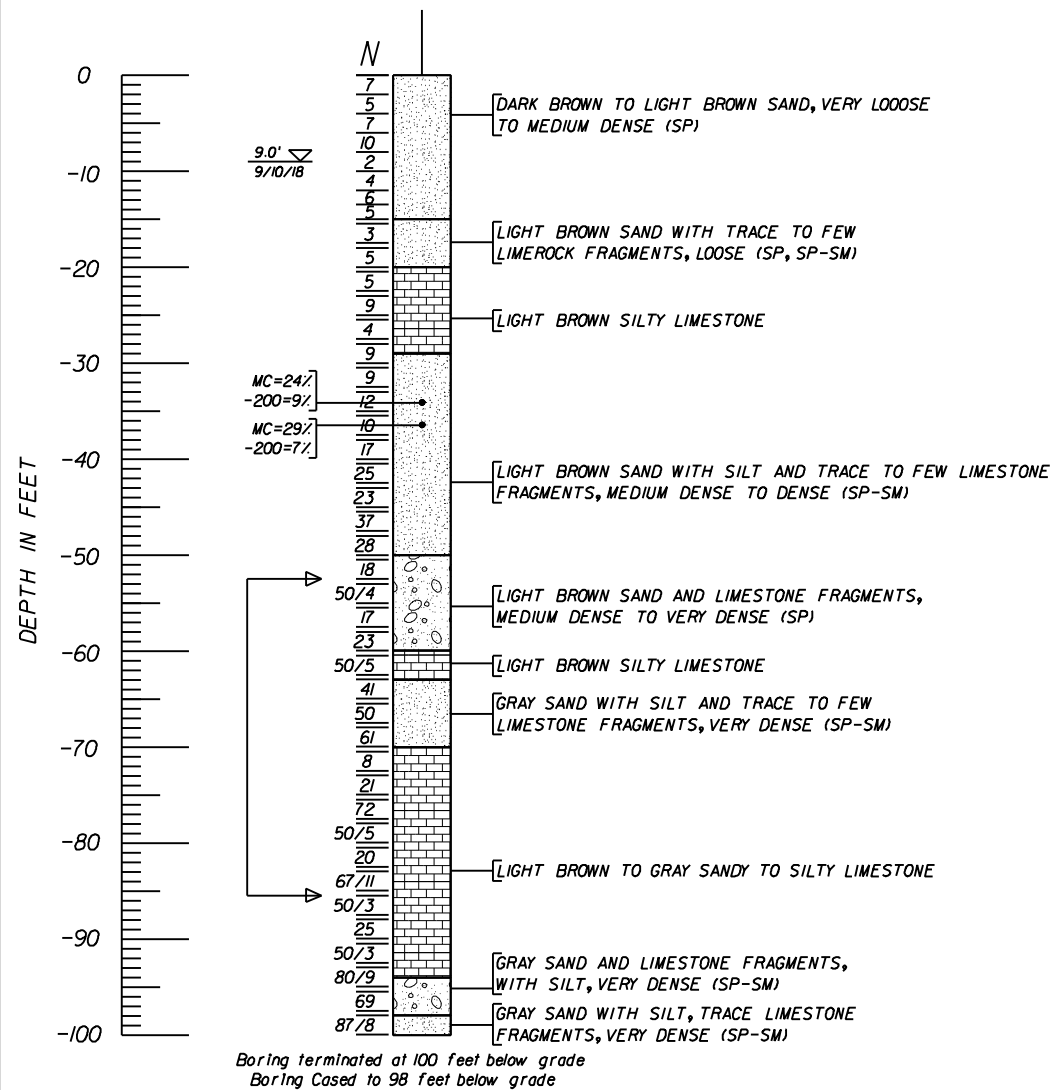
SHEET NO.



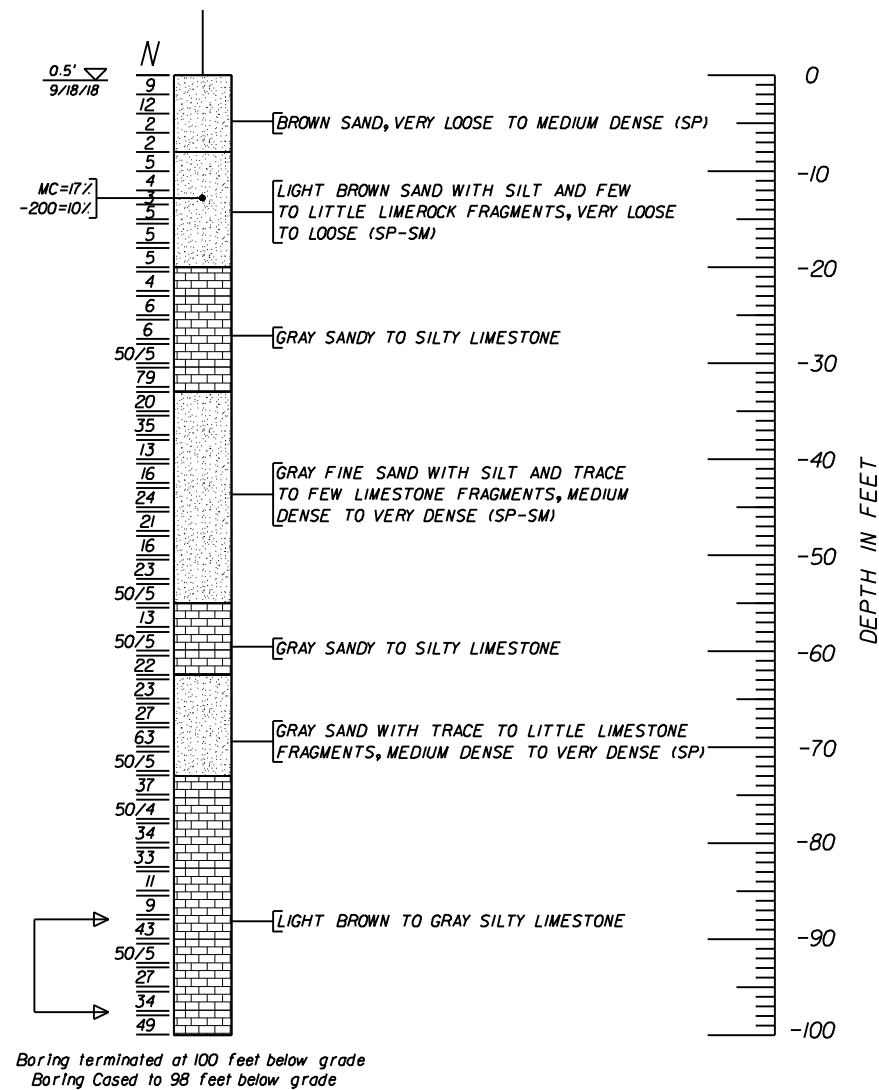
BORING NO.
STATION
OFFSET
ELEVATION
LATITUDE/LONGITUDE
RIG
HAMMER
DATE

B-401
-
-
-
26.0085° / -80.1673°
CME-55
AUTOMATIC
9/10/18

B-402
-
-
-
26.0061° / -80.1673°
CME-55
AUTOMATIC
9/18/18



SCALE: 1"=20'V



LEGEND

- (SP) UNIFIED SOIL CLASSIFICATION SYSTEM SYMBOL
- N STANDARD PENETRATION RESISTANCE IN BLOWS PER 12 INCHES UNLESS OTHERWISE NOTED. 50/3 INDICATES (50) BLOWS REQUIRED TO DRIVE A SAMPLING SPOON 3 INCHES.
- 9/10/18 WATER LEVEL WITH DATE OF READING
- LOSS OF CIRCULATION
- WR SAMPLER DROPPED DUE TO WEIGHT OF ROD
- WH SAMPLER DROPPED DUE TO WEIGHT OF HAMMER
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NOTES: STRATA BOUNDARIES ARE APPROXIMATE AND MAY VARY BETWEEN OR AWAY FROM BORING LOCATIONS.

DRILLER: RICARDO

STANDARD PENETRATION TEST DATA
SPOON INSIDE DIA. 1.375 Inches
SPOON OUTSIDE DIA. 2.0 Inches
AVG. HAMMER DROP 30.0 Inches
HAMMER WEIGHT 140.0 pounds

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SILTS AND CLAYS- CONSISTENCY	SAFETY HAMMER	AUTOMATIC HAMMER
	SPT (BLOWS/1.0 ft)	SPT (BLOWS/1.0 ft)
VERY SOFT	LESS THAN 2	LESS THAN 1
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FIRM	4 - 8	3 - 6
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GRANULAR MATERIALS- RELATIVE DENSITY	SAFETY HAMMER	AUTOMATIC HAMMER
	SPT (BLOWS/1.0 ft)	SPT (BLOWS/1.0 ft)
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LOOSE	4 - 10	3 - 8
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DENSE	30 - 50	24 - 40
VERY DENSE	GREATER THAN 50	GREATER THAN 40

ENVIRONMENTAL CLASSIFICATION:

SUBSTRUCTURE:	SLIGHTLY AGGRESSIVE (CONCRETE)
	SLIGHTLY AGGRESSIVE (STEEL)
SUPERSTRUCTURE:	SLIGHTLY AGGRESSIVE

SOIL TYPE SYMBOLS:

SAND	PEAT/MUCK
LIMESTONE	SILTY SAND
GRAVELLY SAND	SHELLY SAND
GRAVEL	CLAYEY SAND
CLAY	SILT

REVISIONS

DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

ENGINEER OF RECORD:
PARTHA GHOSH, P.E. LICENSE NO. 51377
GCME, INC.
1730 W. 10TH STREET
RIVIERA BEACH, FLORIDA 33404
CERTIFICATE OF AUTHORIZATION NO. 9076

DRAWN BY:
FP 08-18
CHECKED BY:
ZP 08-18
DESIGNED BY:
XXX MM-YY
CHECKED BY:
XXX MM-YY

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 9	BROWARD	436903-1-22-02

SHEET TITLE:

REPORT OF CORE BORINGS

PROJECT NAME:

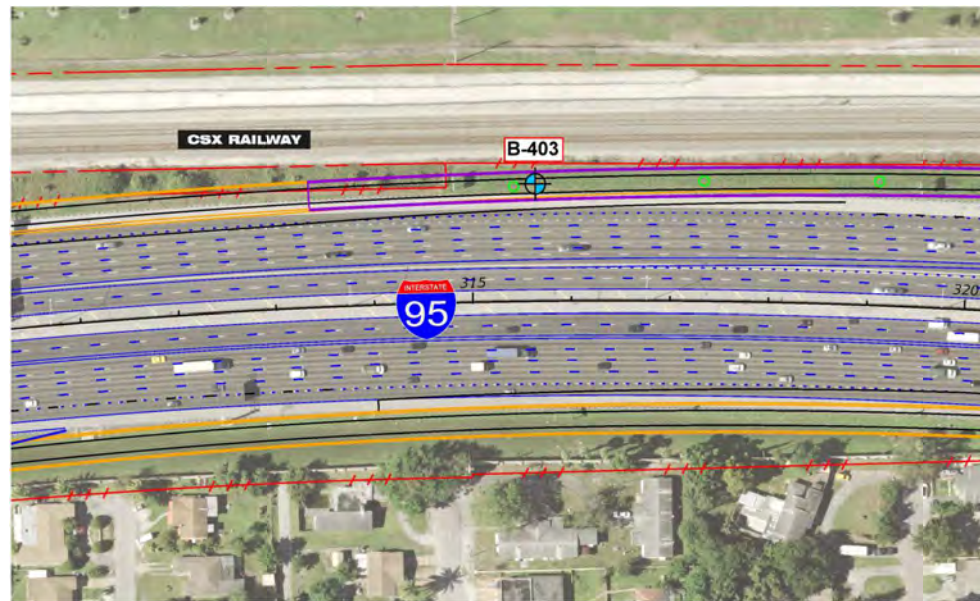
I-95 FROM HALLANDALE BEACH BLVD. TO HOLLYWOOD BLVD.

REF. DWG. NO.

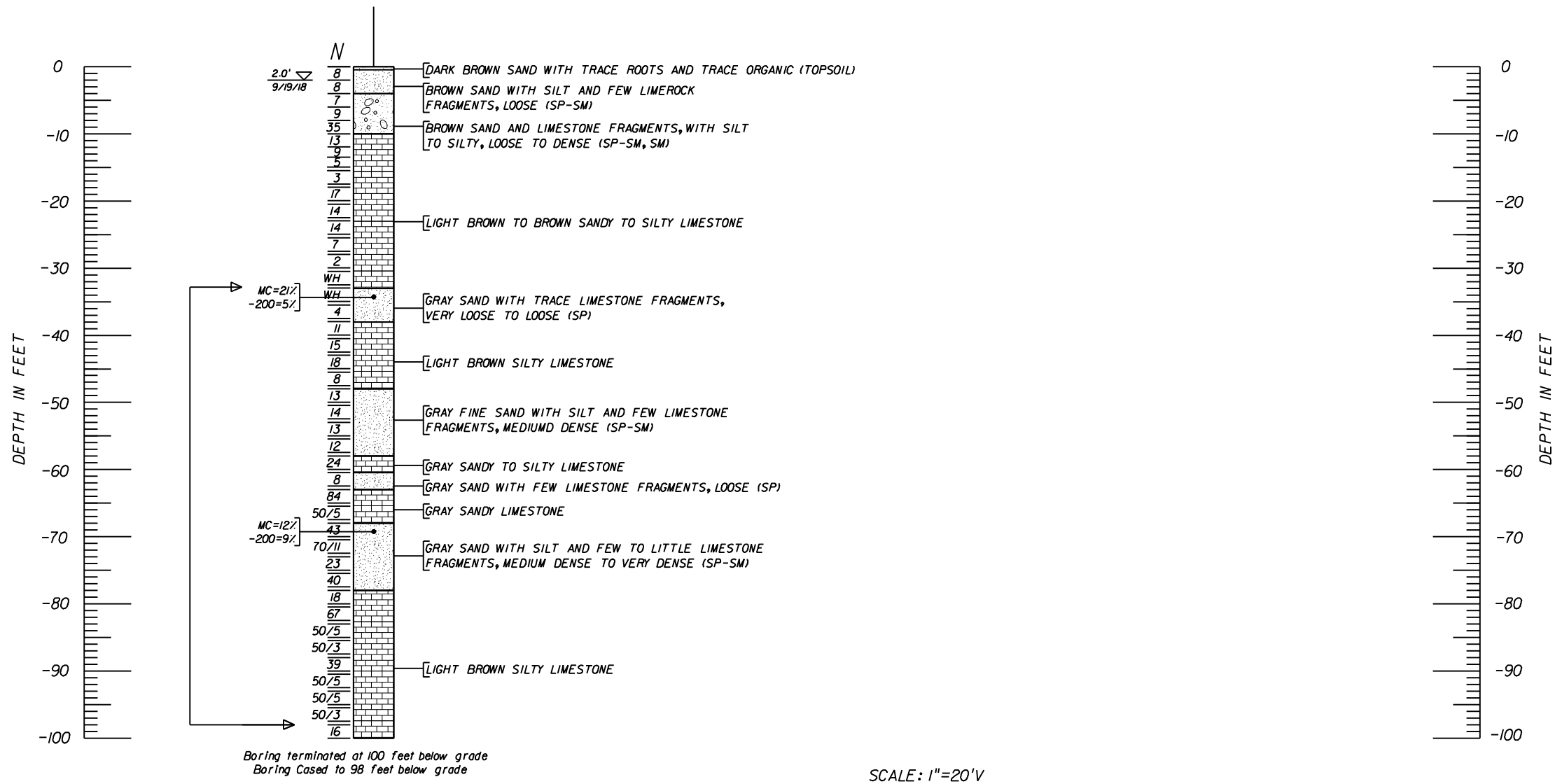
SHEET NO.

BORING NO.
STATION
OFFSET
ELEVATION
LATITUDE/LONGITUDE
RIG
HAMMER
DATE

B-403
-
-
-
26.0036° / -80.1674°
CME-55
AUTOMATIC
9/19/18



SCALE: NOT TO SCALE



LEGEND

- (SP) UNIFIED SOIL CLASSIFICATION SYSTEM SYMBOL
- N STANDARD PENETRATION RESISTANCE IN BLOWS PER 12 INCHES UNLESS OTHERWISE NOTED. 50/3 INDICATES (50) BLOWS REQUIRED TO DRIVE A SAMPLING SPOON 3 INCHES.
- 9/19/18 WATER LEVEL WITH DATE OF READING
- LOSS OF CIRCULATION
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- WH SAMPLER DROPPED DUE TO WEIGHT OF HAMMER
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PI= PLASTICITY INDEX (%)
NP= INDICATES NON-PLASTIC

NOTES: STRATA BOUNDARIES ARE APPROXIMATE AND MAY VARY BETWEEN OR AWAY FROM BORING LOCATIONS.

DRILLER: RICARDO

STANDARD PENETRATION TEST DATA

SPOON INSIDE DIA. 1.375 Inches
SPOON OUTSIDE DIA. 2.0 Inches
AVG. HAMMER DROP 30.0 Inches
HAMMER WEIGHT 140.0 pounds

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SILTS AND CLAYS- CONSISTENCY	SAFETY HAMMER	AUTOMATIC HAMMER
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STIFF	8 - 15	6 - 12
VERY STIFF	15 - 30	12 - 24
HARD	GREATER THAN 30	GREATER THAN 24

SPT DENSITY CHART

GRANULAR MATERIALS- RELATIVE DENSITY	SAFETY HAMMER	AUTOMATIC HAMMER
	SPT (BLOWS/1.0 ft)	SPT (BLOWS/1.0 ft)
VERY LOOSE	LESS THAN 4	LESS THAN 3
LOOSE	4 - 10	3 - 8
MEDIUM DENSE	10 - 30	8 - 24
DENSE	30 - 50	24 - 40
VERY DENSE	GREATER THAN 50	GREATER THAN 40

ENVIRONMENTAL CLASSIFICATION:

SUBSTRUCTURE:	SLIGHTLY AGGRESSIVE (CONCRETE)
	SLIGHTLY AGGRESSIVE (STEEL)
SUPERSTRUCTURE:	SLIGHTLY AGGRESSIVE

SOIL TYPE SYMBOLS:

SAND	PEAT/MUCK
LIMESTONE	SILTY SAND
GRAVELLY SAND	SHELLY SAND
GRAVEL	CLAYEY SAND
CLAY	SILT

REVISIONS

DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

ENGINEER OF RECORD:
PARTHA GHOSH, P.E. LICENSE NO. 51377
GCME, INC.
1730 W. 10TH STREET
RIVIERA BEACH, FLORIDA 33404
CERTIFICATE OF AUTHORIZATION NO. 9076

DRAWN BY:
FP 08-18
CHECKED BY:
ZP 08-18
DESIGNED BY:
XXX MM-YY
CHECKED BY:
XXX MM-YY

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 9	BROWARD	436903-1-22-02

SHEET TITLE:

REPORT OF CORE BORINGS

PROJECT NAME:

I-95 FROM HALLANDALE BEACH BLVD. TO HOLLYWOOD BLVD.

REF. DWG. NO.

SHEET NO.

DATE OF SURVEY: 11/19/18 - 2/1/21
SURVEY MADE BY: GCME, INC.
SUBMITTED BY: PARTHA GHOSH, P.E.

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION
MATERIALS AND RESEARCH

DISTRICT: 4
ROAD NO.: SR 9
COUNTY: BROWARD

FINANCIAL PROJECT ID : 436903-1-22-02
PROJECT NAME: I-95 PD&E FROM HALLANDALE BEACH BLVD. TO HOLLYWOOD BLVD

CROSS SECTION SOIL SURVEY FOR THE DESIGN OF ROADS

SURVEY BEGINS STA. : 245+00 SURVEY ENDS STA. : 345+00

REFERENCE: SR 9

ORGANIC CONTENT		MOISTURE CONTENT		SIEVE ANALYSIS RESULTS PERCENT PASS (%)							ATTERBERG LIMITS (%)				DESCRIPTION	CORROSION TEST RESULTS				
STRATUM NO.	NO. OF TESTS	% ORGANIC	NO. OF TESTS	MOISTURE CONTENT	NO. OF TESTS	10 MESH	40 MESH	60 MESH	100 MESH	200 MESH	NO. OF TESTS	LIQUID LIMIT	PLASTIC INDEX	AASHTO GROUP		NO. OF TESTS	RESISTIVITY ohm-cm	CHLORIDE ppm	SULFATES ppm	pH
1	-	-	-	-	-	-	-	-	-	-	-	-	-	A-8	DARK BROWN SAND WITH TRACE ROOTS (TOPSOIL)	-	-	-	-	-
2	-	-	18	2-26	18	64-100	55-92	3-67	1-21	1-10	-	-	-	A-3	LIGHT BROWN TO BROWN SAND WITH SILT, SOMETIMES WITH TRACE TO FEW LIMEROCK FRAGMENTS	4	5400-13200	3-7	3-32	8.2-8.9
3	-	-	11	5-25	11	66-92	56-82	32-55	14-29	11-21	-	-	-	A-2-4	BROWN SILTY SAND WITH FEW TO SOME LIMEROCK FRAGMENTS	-	-	-	-	-
4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	LIGHT BROWN SILTY LIMESTONE	-	-	-	-	-
5	2	24-80	2	135-376	-	-	-	-	-	-	-	-	-	A-8	BLACK ORGANIC SILT	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

EMBANKMENT AND SUBGRADE MATERIAL

STRATA BOUNDARIES ARE APPROXIMATE. MAKE FINAL CHECK AFTER GRADING.

∇ - WATER TABLE ENCOUNTERED

GNE - GROUNDWATER NOT ENCOUNTERED

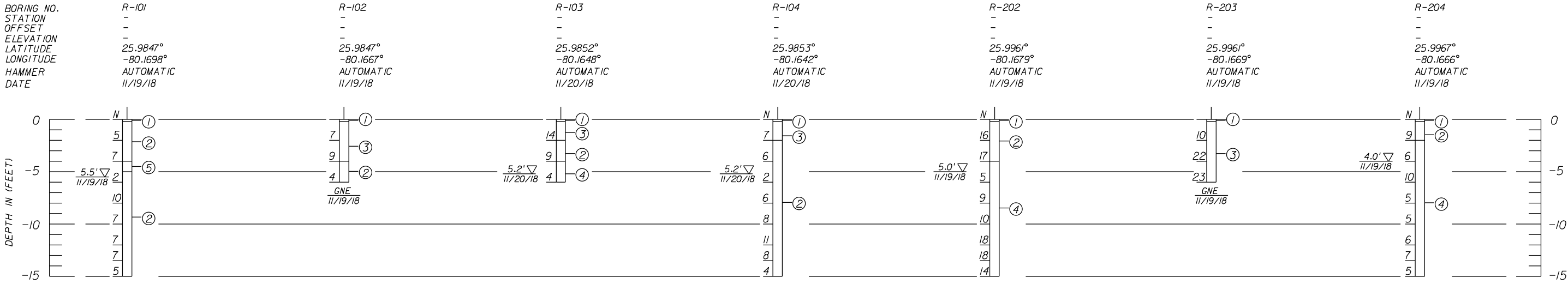
- NOTES: (1) THE MATERIAL FROM STRATUM 1 IS TOPSOIL (A-8) AND CONSIDERED TO BE UNSUITABLE (MUCK). IT SHALL BE REMOVED IN ACCORDANCE WITH SECTION 120 (EXCAVATION AND EMBANKMENT) OF THE FDOT STANDARD SPECIFICATIONS.
- (2) STRATUM 2 CONSISTS OF SELECT MATERIALS AND IS ADEQUATE FOR SUBGRADE AND EMBANKMENT SUPPORT, AND SHOULD BE UTILIZED ACCORDING TO STANDARD PLANS, INDEX 120-001.
- (3) STRATUM 3 CONSISTS OF SELECT MATERIALS AND IS GENERALLY ADEQUATE FOR SUBGRADE AND EMBANKMENT SUPPORT, AND SHOULD BE UTILIZED ACCORDING TO STANDARD PLANS, INDEX 120-001. HOWEVER, SOME PORTIONS OF THESE SOILS HAVE HIGH FINES CONTENT, AND HENCE WILL RETAIN EXCESS MOISTURE, AND WILL BE DIFFICULT TO HANDLE, PLACE AND COMPACT. THESE MATERIALS MAY BE USED IN THE ROADWAY SUBGRADE WITH EXTRA CAUTION AND PROPER SUPERVISION AND QUALITY CONTROL. A-2-4 MATERIAL PLACED BELOW THE EXISTING WATER LEVEL MUST BE NONPLASTIC AND CONTAIN LESS THAN 15% PASSING THE NO. 200 U.S. STANDARD SIEVE.
- (4) STRATUM 4 CONSISTS OF LIMESTONE.
- (5) STRATUM 5 CONSISTS OF ORGANIC MATERIALS WITH ORGANIC CONTENT OVER 5%. THESE SOILS SHOULD BE REMOVED AND REPLACED WITH SELECT FILL IN ACCORDANCE WITH STANDARD PLANS, INDEX 120-002.

REVISIONS				ENGINEER OF RECORD: PARTHA GHOSH, P.E. LICENSE NO. 51377 GCME, INC. 1730 W. 10TH STREET RIVIERA BEACH, FLORIDA 33404 CERTIFICATE OF AUTHORIZATION NO. 9076	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			ROADWAY SOIL SURVEY	SHEET NO.
DATE	DESCRIPTION		DATE		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
					SR 9	BROWARD	436903-1-22-02		

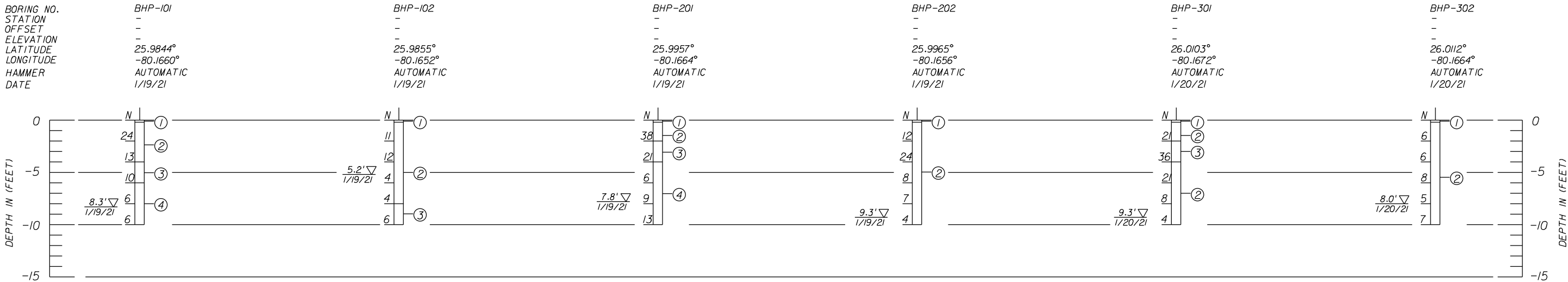
GCME PROJECT NO. 2000-01-16015

FIGURE: RSS-1

GCME PROJECT NO. 2000-01-16015



GCME PROJECT NO. 2000-01-16015



LEGEND

1. DARK BROWN SAND WITH TRACE ROOTS (TOPSOIL / A-8)
2. LIGHT BROWN TO BROWN SAND WITH SILT, SOMETIMES WITH TRACE TO FEW LIMEROCK FRAGMENTS (A-3)
3. BROWN SILTY SAND WITH FEW TO SOME LIMEROCK FRAGMENTS (A-2-4)
4. LIGHT BROWN SILTY LIMESTONE
5. BLACK ORGANIC SILT (A-8)

NOTES

- ∇ GROUNDWATER LEVEL RECORDED ON THE DATE OF DRILLING.
- GNE: WATER TABLE NOT ENCOUNTERED WITHIN THE DEPTH OF EXPLORATION.
- DRILLED BY: CARLOS
- COORDINATES INFORMATION ARE MEASURED BY HANDHELD GPS.
- STATION / OFFSET / ELEVATION INFORMATION ARE PROVIDED BY SURVEYORS.
- N - STANDARD PENETRATION RESISTANCE IN BLOWS PER 12 INCHES.
- (A-3) - AASHTO SOIL SYMBOL

SCALE: 1"=10'V

REVISIONS						ENGINEER OF RECORD: PARTHA GHOSH, P.E. LICENSE NO. 51377 GCME, INC. 1730 W. 10TH STREET RIVIERA BEACH, FLORIDA 33404 CERTIFICATE OF AUTHORIZATION NO. 9076	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			SOIL PROFILES	SHEET NO.
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
							SR 9	BROWARD	436903-1-22-01		

APPENDIX – A

USDA, SCS SOIL INFORMATION



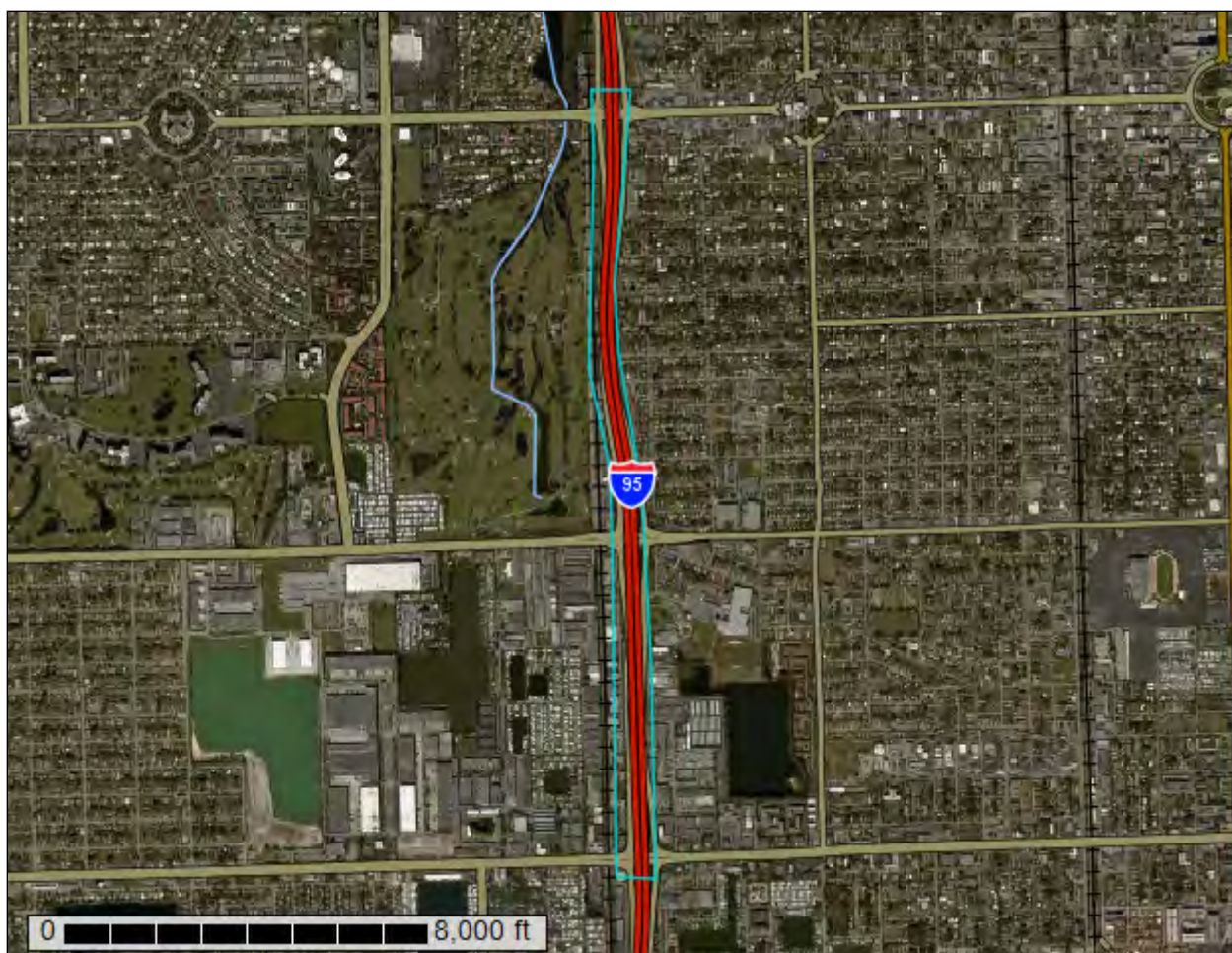
United States
Department of
Agriculture

NRCS

Natural
Resources
Conservation
Service

A product of the National
Cooperative Soil Survey,
a joint effort of the United
States Department of
Agriculture and other
Federal agencies, State
agencies including the
Agricultural Experiment
Stations, and local
participants

Custom Soil Resource Report for **Broward County, Florida, East Part**



March 3, 2016

Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (<http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/>) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (<http://offices.sc.egov.usda.gov/locator/app?agency=nrcs>) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

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How Soil Surveys Are Made

Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil scientists classified and named the soils in the survey area, they compared the

individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

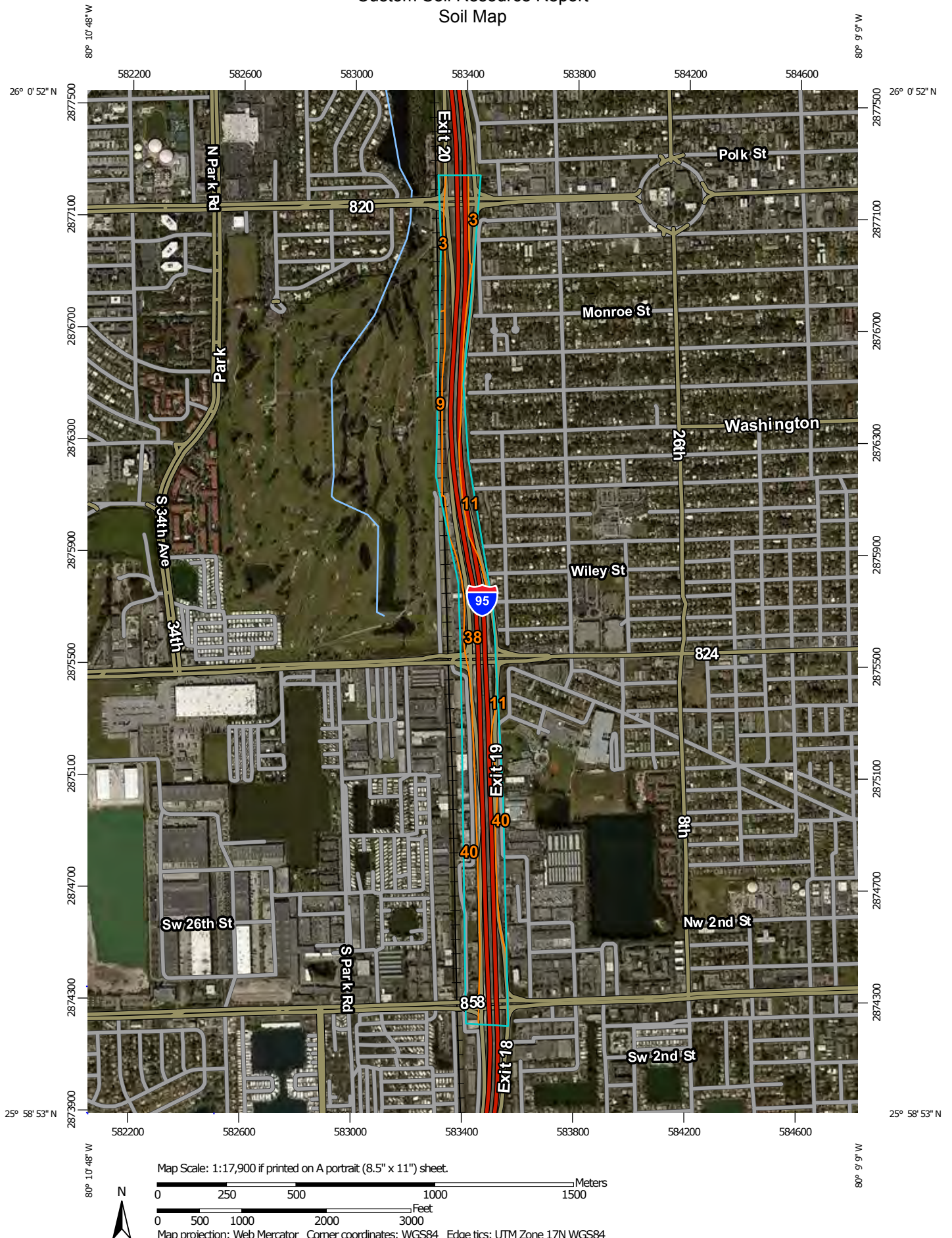
Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.

Custom Soil Resource Report Soil Map



Custom Soil Resource Report

MAP LEGEND

Area of Interest (AOI)

 Area of Interest (AOI)

Soils

 Soil Map Unit Polygons

 Soil Map Unit Lines

 Soil Map Unit Points

Special Point Features

 Blowout

 Borrow Pit

 Clay Spot

 Closed Depression

 Gravel Pit

 Gravelly Spot

 Landfill

 Lava Flow

 Marsh or swamp

 Mine or Quarry

 Miscellaneous Water

 Perennial Water

 Rock Outcrop

 Saline Spot

 Sandy Spot

 Severely Eroded Spot

 Sinkhole

 Slide or Slip

 Sodic Spot

 Spoil Area

 Stony Spot

 Very Stony Spot

 Wet Spot

 Other

 Special Line Features

Water Features

 Streams and Canals

Transportation

 Rails

 Interstate Highways

 US Routes

 Major Roads

 Local Roads

Background

 Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:20,000.

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

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL: <http://websoilsurvey.nrcs.usda.gov>
Coordinate System: Web Mercator (EPSG:3857)

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

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

Soil Survey Area: Broward County, Florida, East Part
Survey Area Data: Version 11, Nov 19, 2015

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

Date(s) aerial images were photographed: Dec 11, 2010—Feb 11, 2015

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

Map Unit Legend

Broward County, Florida, East Part (FL606)			
Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
3	Arents, organic substratum-Urban land complex	4.5	4.6%
9	Dade fine sand	3.0	3.1%
11	Dade-Urban land complex	6.5	6.7%
38	Udorthents, shaped	60.4	62.6%
40	Urban land	22.0	22.8%
Totals for Area of Interest		96.5	100.0%

Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that

have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

Broward County, Florida, East Part

3—Arents, organic substratum-Urban land complex

Map Unit Setting

National map unit symbol: 1hn8g
Mean annual precipitation: 60 to 68 inches
Mean annual air temperature: 72 to 79 degrees F
Frost-free period: 358 to 365 days
Farmland classification: Not prime farmland

Map Unit Composition

Arents, organic substratum and similar soils: 55 percent
Urban land: 45 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Arents, Organic Substratum

Setting

Landform: Rises on marine terraces
Landform position (three-dimensional): Rise
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Sandy dredge spoils over organic material over sandy marine deposits

Typical profile

A - 0 to 12 inches: gravelly sand
C - 12 to 38 inches: sand
Oa - 38 to 52 inches: muck
2C - 52 to 72 inches: sand

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Somewhat poorly drained
Runoff class: High
Capacity of the most limiting layer to transmit water (Ksat): High to very high (5.95 to 19.98 in/hr)
Depth to water table: About 24 to 36 inches
Frequency of flooding: None
Frequency of ponding: None
Salinity, maximum in profile: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Sodium adsorption ratio, maximum in profile: 4.0
Available water storage in profile: Moderate (about 8.3 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7s
Hydrologic Soil Group: A
Other vegetative classification: Forage suitability group not assigned (G156AC999FL)

Description of Urban Land

Setting

Landform: Marine terraces

Landform position (three-dimensional): Interfluve, talf

Down-slope shape: Linear

Across-slope shape: Linear

Interpretive groups

Land capability classification (irrigated): None specified

Other vegetative classification: Forage suitability group not assigned
(G156AC999FL)

9—Dade fine sand

Map Unit Setting

National map unit symbol: 1hn8n

Mean annual precipitation: 60 to 68 inches

Mean annual air temperature: 72 to 79 degrees F

Frost-free period: 358 to 365 days

Farmland classification: Not prime farmland

Map Unit Composition

Dade and similar soils: 94 percent

Minor components: 6 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Dade

Setting

Landform: Rises on marine terraces

Landform position (three-dimensional): Interfluve, rise

Down-slope shape: Convex

Across-slope shape: Linear

Parent material: Sandy marine deposits over soft limestone

Typical profile

A - 0 to 6 inches: fine sand

E - 6 to 27 inches: fine sand

Bh - 27 to 35 inches: fine sand

Cr - 35 to 39 inches: weathered bedrock

Properties and qualities

Slope: 0 to 2 percent

Depth to restrictive feature: 20 to 40 inches to paralithic bedrock

Natural drainage class: Well drained

Runoff class: Negligible

Capacity of the most limiting layer to transmit water (Ksat): High to very high (1.98 to 19.98 in/hr)

Depth to water table: About 60 to 72 inches

Custom Soil Resource Report

Frequency of flooding: None

Frequency of ponding: None

Salinity, maximum in profile: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)

Sodium adsorption ratio, maximum in profile: 4.0

Available water storage in profile: Very low (about 1.2 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 6s

Hydrologic Soil Group: A

Other vegetative classification: Shallow or moderately deep, sandy or loamy soils on rises and ridges of mesic uplands (G156AC521FL)

Minor Components

Duette

Percent of map unit: 2 percent

Landform: Flats on marine terraces

Landform position (three-dimensional): Talf

Down-slope shape: Convex

Across-slope shape: Linear

Other vegetative classification: Sandy soils on rises, knolls, and ridges of mesic uplands (G156AC121FL)

Basinger

Percent of map unit: 2 percent

Landform: Drainageways on marine terraces

Landform position (three-dimensional): Dip

Down-slope shape: Linear

Across-slope shape: Concave

Other vegetative classification: Sandy soils on flats of mesic or hydric lowlands (G156AC141FL)

Immokalee, limestone substratum

Percent of map unit: 1 percent

Landform: Flatwoods on marine terraces

Landform position (three-dimensional): Talf

Down-slope shape: Convex

Across-slope shape: Linear

Other vegetative classification: Sandy soils on flats of mesic or hydric lowlands (G156AC141FL)

Margate

Percent of map unit: 1 percent

Landform: Drainageways on marine terraces

Landform position (three-dimensional): Dip

Down-slope shape: Linear

Across-slope shape: Concave

Other vegetative classification: Sandy soils on stream terraces, flood plains, or in depressions (G156AC145FL)

11—Dade-Urban land complex

Map Unit Setting

National map unit symbol: 1hn8q
Mean annual precipitation: 60 to 68 inches
Mean annual air temperature: 72 to 79 degrees F
Frost-free period: 358 to 365 days
Farmland classification: Not prime farmland

Map Unit Composition

Dade and similar soils: 55 percent
Urban land: 40 percent
Minor components: 5 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Dade

Setting

Landform: Rises on marine terraces
Landform position (three-dimensional): Interfluve, rise
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Sandy marine deposits over soft limestone

Typical profile

A - 0 to 8 inches: gravelly sand
E - 8 to 27 inches: fine sand
Bh - 27 to 35 inches: fine sand
Cr - 35 to 39 inches: weathered bedrock

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: 20 to 40 inches to paralithic bedrock
Natural drainage class: Well drained
Runoff class: Negligible
Capacity of the most limiting layer to transmit water (Ksat): High to very high (1.98 to 19.98 in/hr)
Depth to water table: About 60 to 72 inches
Frequency of flooding: None
Frequency of ponding: None
Salinity, maximum in profile: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Sodium adsorption ratio, maximum in profile: 4.0
Available water storage in profile: Very low (about 1.2 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 6s
Hydrologic Soil Group: A
Other vegetative classification: Forage suitability group not assigned (G156AC999FL)

Description of Urban Land

Setting

Landform: Marine terraces

Landform position (three-dimensional): Interfluve, talf

Down-slope shape: Linear

Across-slope shape: Linear

Interpretive groups

Land capability classification (irrigated): None specified

Other vegetative classification: Forage suitability group not assigned
(G156AC999FL)

Minor Components

Basinger

Percent of map unit: 2 percent

Landform: Drainageways on marine terraces

Landform position (three-dimensional): Dip

Down-slope shape: Linear

Across-slope shape: Concave

Other vegetative classification: Forage suitability group not assigned
(G156AC999FL)

Immokalee, limestone substratum

Percent of map unit: 2 percent

Landform: Flatwoods on marine terraces

Landform position (three-dimensional): Talf

Down-slope shape: Convex

Across-slope shape: Linear

Other vegetative classification: Forage suitability group not assigned
(G156AC999FL)

Margate

Percent of map unit: 1 percent

Landform: Drainageways on marine terraces

Landform position (three-dimensional): Dip

Down-slope shape: Linear

Across-slope shape: Concave

Other vegetative classification: Forage suitability group not assigned
(G156AC999FL)

38—Udorthents, shaped

Map Unit Setting

National map unit symbol: 1hn9l

Mean annual precipitation: 60 to 68 inches

Mean annual air temperature: 72 to 79 degrees F

Frost-free period: 358 to 365 days

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Farmland classification: Not prime farmland

Map Unit Composition

Udorthents, shaped and similar soils: 90 percent

Minor components: 10 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Udorthents, Shaped

Setting

Landform: Marine terraces

Landform position (three-dimensional): Interfluve, tal

Down-slope shape: Linear

Across-slope shape: Linear

Parent material: Altered marine deposits

Typical profile

C1 - 0 to 30 inches: gravelly sand

C2 - 30 to 50 inches: sand

2R - 50 to 54 inches: weathered bedrock

Properties and qualities

Slope: 0 to 45 percent

Depth to restrictive feature: 40 to 72 inches to paralithic bedrock

Natural drainage class: Somewhat poorly drained

Runoff class: Low

Capacity of the most limiting layer to transmit water (Ksat): High to very high (1.98 to 19.98 in/hr)

Depth to water table: About 24 to 48 inches

Frequency of flooding: None

Frequency of ponding: None

Salinity, maximum in profile: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)

Sodium adsorption ratio, maximum in profile: 4.0

Available water storage in profile: Very low (about 2.2 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 7s

Hydrologic Soil Group: A

Other vegetative classification: Forage suitability group not assigned (G156AC999FL)

Minor Components

Udorthents

Percent of map unit: 10 percent

Landform: Marine terraces

Landform position (three-dimensional): Interfluve

Down-slope shape: Convex

Across-slope shape: Linear

Other vegetative classification: Forage suitability group not assigned (G156AC999FL)

40—Urban land

Map Unit Setting

National map unit symbol: 1hn9n

Mean annual precipitation: 60 to 68 inches

Mean annual air temperature: 72 to 79 degrees F

Frost-free period: 358 to 365 days

Farmland classification: Not prime farmland

Map Unit Composition

Urban land: 95 percent

Minor components: 5 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Urban Land

Setting

Landform: Marine terraces

Landform position (three-dimensional): Interfluve, talf

Down-slope shape: Linear

Across-slope shape: Linear

Interpretive groups

Land capability classification (irrigated): None specified

Other vegetative classification: Forage suitability group not assigned
(G156AC999FL)

Minor Components

Matlacha, limestone substratum

Percent of map unit: 5 percent

Landform: Flats on marine terraces

Landform position (three-dimensional): Talf

Down-slope shape: Convex

Across-slope shape: Linear

Other vegetative classification: Forage suitability group not assigned
(G156AC999FL)

References

American Association of State Highway and Transportation Officials (AASHTO). 2004. Standard specifications for transportation materials and methods of sampling and testing. 24th edition.

American Society for Testing and Materials (ASTM). 2005. Standard classification of soils for engineering purposes. ASTM Standard D2487-00.

Cowardin, L.M., V. Carter, F.C. Golet, and E.T. LaRoe. 1979. Classification of wetlands and deep-water habitats of the United States. U.S. Fish and Wildlife Service FWS/OBS-79/31.

Federal Register. July 13, 1994. Changes in hydric soils of the United States.

Federal Register. September 18, 2002. Hydric soils of the United States.

Hurt, G.W., and L.M. Vasilas, editors. Version 6.0, 2006. Field indicators of hydric soils in the United States.

National Research Council. 1995. Wetlands: Characteristics and boundaries.

Soil Survey Division Staff. 1993. Soil survey manual. Soil Conservation Service. U.S. Department of Agriculture Handbook 18. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_054262

Soil Survey Staff. 1999. Soil taxonomy: A basic system of soil classification for making and interpreting soil surveys. 2nd edition. Natural Resources Conservation Service, U.S. Department of Agriculture Handbook 436. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_053577

Soil Survey Staff. 2010. Keys to soil taxonomy. 11th edition. U.S. Department of Agriculture, Natural Resources Conservation Service. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_053580

Tiner, R.W., Jr. 1985. Wetlands of Delaware. U.S. Fish and Wildlife Service and Delaware Department of Natural Resources and Environmental Control, Wetlands Section.

United States Army Corps of Engineers, Environmental Laboratory. 1987. Corps of Engineers wetlands delineation manual. Waterways Experiment Station Technical Report Y-87-1.

United States Department of Agriculture, Natural Resources Conservation Service. National forestry manual. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/home/?cid=nrcs142p2_053374

United States Department of Agriculture, Natural Resources Conservation Service. National range and pasture handbook. <http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/landuse/rangepasture/?cid=stelprdb1043084>

Custom Soil Resource Report

United States Department of Agriculture, Natural Resources Conservation Service. National soil survey handbook, title 430-VI. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/scientists/?cid=nrcs142p2_054242

United States Department of Agriculture, Natural Resources Conservation Service. 2006. Land resource regions and major land resource areas of the United States, the Caribbean, and the Pacific Basin. U.S. Department of Agriculture Handbook 296. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_053624

United States Department of Agriculture, Soil Conservation Service. 1961. Land capability classification. U.S. Department of Agriculture Handbook 210. http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_052290.pdf

APPENDIX – B

**FB DEEP OUTPUTS – VERTICAL CAPACITY ANALYSIS OF
PRECAST CONCRETE DRIVEN PILES**

General Information:

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Input file:adino)\Analysis_Structure\FB-Deep_2021\Pile\B-101_Void-10ft.in
 Project number: 2000-01-16015
 Job name: I-95 From Hallandale Beach Blvd to Hollywood Blvd
 Engineer: JB Henry
 Units: English

Analysis Information:

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Analysis Type: SPT

Soil Information:

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Boring date: 8/21/2018, Boring Number: B-101
 Station number: Offset:

Ground Elevation: 0.000(ft)

Hammer type: Automatic Hammer, Correction factor = 1.24

ID	Depth (ft)	No. of Blows (Blows/ft)	Soil Type
1	0.00	7.00	5- Cavity layer
2	2.00	9.00	5- Cavity layer
3	4.00	2.00	5- Cavity layer
4	6.00	16.00	5- Cavity layer
5	8.00	91.00	5- Cavity layer
6	10.00	84.00	3- Clean sand
7	12.00	28.00	3- Clean sand
8	13.50	16.00	2- Clay and silty sand
9	15.50	1.00	3- Clean sand
10	18.00	5.00	3- Clean sand
11	20.50	17.00	4- Lime Stone/Very shelly sand
12	23.00	22.00	4- Lime Stone/Very shelly sand
13	25.50	5.00	4- Lime Stone/Very shelly sand
14	28.00	5.00	3- Clean sand
15	30.50	34.00	4- Lime Stone/Very shelly sand
16	33.00	43.00	4- Lime Stone/Very shelly sand
17	35.50	36.00	4- Lime Stone/Very shelly sand
18	38.00	33.00	4- Lime Stone/Very shelly sand
19	40.50	21.00	4- Lime Stone/Very shelly sand
20	43.00	28.00	4- Lime Stone/Very shelly sand
21	45.50	18.00	4- Lime Stone/Very shelly sand
22	48.00	26.00	4- Lime Stone/Very shelly sand
23	50.50	25.00	3- Clean sand
24	53.00	24.00	3- Clean sand
25	55.50	33.00	3- Clean sand
26	58.00	32.00	3- Clean sand
27	60.50	38.00	3- Clean sand
28	63.00	40.00	3- Clean sand
29	65.50	34.00	4- Lime Stone/Very shelly sand
30	68.00	38.00	3- Clean sand
31	70.50	87.00	3- Clean sand
32	73.00	50.00	3- Clean sand

B-101_Void-10ft.out

33	75.50	46.00	3- Clean sand
34	78.00	55.00	3- Clean sand
35	80.50	44.00	3- Clean sand
36	83.00	45.00	3- Clean sand
37	85.50	65.00	3- Clean sand
38	88.00	50.00	4- Lime Stone/Very shelly sand
39	90.50	23.00	4- Lime Stone/Very shelly sand
40	93.00	19.00	3- Clean sand
41	95.50	24.00	3- Clean sand
42	98.00	17.00	3- Clean sand
43	100.00	17.00	3- Clean sand

Blowcount Average Per Soil Layer

Layer Num.	Starting Elevation (ft)	Bottom Elevation (ft)	Thickness (ft)	Average Blowcount (Blows/ft)	Soil Type

1	0.00	-10.00	10.00	25.00	5-Void
2	-10.00	-13.50	3.50	60.00	3-Clean Sand
3	-13.50	-15.50	2.00	16.00	2-Clay and Silty Sand
4	-15.50	-20.50	5.00	3.00	3-Clean Sand
5	-20.50	-28.00	7.50	14.67	4-Limestone, Very
Shelly Sand					
6	-28.00	-30.50	2.50	5.00	3-Clean Sand
7	-30.50	-50.50	20.00	29.88	4-Limestone, Very
Shelly Sand					
8	-50.50	-65.50	15.00	32.00	3-Clean Sand
9	-65.50	-68.00	2.50	34.00	4-Limestone, Very
Shelly Sand					
10	-68.00	-88.00	20.00	53.75	3-Clean Sand
11	-88.00	-93.00	5.00	36.50	4-Limestone, Very
Shelly Sand					
12	-93.00	-100.00	7.00	20.21	3-Clean Sand

Driven Pile Data:

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Pile unit weight = 150.00(pcf), Section Type: Square

Pile Geometry:

Width (in)	Length (ft)	Tip Elev. (ft)

18.00	25.00	-25.00
18.00	26.00	-26.00
18.00	27.00	-27.00
18.00	28.00	-28.00
18.00	29.00	-29.00
18.00	30.00	-30.00
18.00	31.00	-31.00
18.00	32.00	-32.00
18.00	33.00	-33.00
18.00	34.00	-34.00
18.00	35.00	-35.00
18.00	36.00	-36.00
18.00	37.00	-37.00
18.00	38.00	-38.00

B-101_Void-10ft.out

18.00	39.00	-39.00
18.00	40.00	-40.00
18.00	41.00	-41.00
18.00	42.00	-42.00
18.00	43.00	-43.00
18.00	44.00	-44.00
18.00	45.00	-45.00
18.00	46.00	-46.00
18.00	47.00	-47.00
18.00	48.00	-48.00
18.00	49.00	-49.00
18.00	50.00	-50.00
18.00	51.00	-51.00
18.00	52.00	-52.00
18.00	53.00	-53.00
18.00	54.00	-54.00
18.00	55.00	-55.00
18.00	56.00	-56.00
18.00	57.00	-57.00
18.00	58.00	-58.00
18.00	59.00	-59.00
18.00	60.00	-60.00
18.00	61.00	-61.00
18.00	62.00	-62.00
18.00	63.00	-63.00
18.00	64.00	-64.00
18.00	65.00	-65.00
18.00	66.00	-66.00
18.00	67.00	-67.00
18.00	68.00	-68.00
18.00	69.00	-69.00
18.00	70.00	-70.00
18.00	71.00	-71.00
18.00	72.00	-72.00
18.00	73.00	-73.00
18.00	74.00	-74.00
18.00	75.00	-75.00
18.00	76.00	-76.00
18.00	77.00	-77.00
18.00	78.00	-78.00
18.00	79.00	-79.00
18.00	80.00	-80.00
18.00	81.00	-81.00
18.00	82.00	-82.00
18.00	83.00	-83.00
18.00	84.00	-84.00
18.00	85.00	-85.00
18.00	86.00	-86.00
18.00	87.00	-87.00
18.00	88.00	-88.00
18.00	89.00	-89.00
18.00	90.00	-90.00
18.00	91.00	-91.00
18.00	92.00	-92.00
18.00	93.00	-93.00
18.00	94.00	-94.00
24.00	25.00	-25.00
24.00	26.00	-26.00
24.00	27.00	-27.00
24.00	28.00	-28.00
24.00	29.00	-29.00
24.00	30.00	-30.00
24.00	31.00	-31.00

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24.00	32.00	-32.00
24.00	33.00	-33.00
24.00	34.00	-34.00
24.00	35.00	-35.00
24.00	36.00	-36.00
24.00	37.00	-37.00
24.00	38.00	-38.00
24.00	39.00	-39.00
24.00	40.00	-40.00
24.00	41.00	-41.00
24.00	42.00	-42.00
24.00	43.00	-43.00
24.00	44.00	-44.00
24.00	45.00	-45.00
24.00	46.00	-46.00
24.00	47.00	-47.00
24.00	48.00	-48.00
24.00	49.00	-49.00
24.00	50.00	-50.00
24.00	51.00	-51.00
24.00	52.00	-52.00
24.00	53.00	-53.00
24.00	54.00	-54.00
24.00	55.00	-55.00
24.00	56.00	-56.00
24.00	57.00	-57.00
24.00	58.00	-58.00
24.00	59.00	-59.00
24.00	60.00	-60.00
24.00	61.00	-61.00
24.00	62.00	-62.00
24.00	63.00	-63.00
24.00	64.00	-64.00
24.00	65.00	-65.00
24.00	66.00	-66.00
24.00	67.00	-67.00
24.00	68.00	-68.00
24.00	69.00	-69.00
24.00	70.00	-70.00
24.00	71.00	-71.00
24.00	72.00	-72.00
24.00	73.00	-73.00
24.00	74.00	-74.00
24.00	75.00	-75.00
24.00	76.00	-76.00
24.00	77.00	-77.00
24.00	78.00	-78.00
24.00	79.00	-79.00
24.00	80.00	-80.00
24.00	81.00	-81.00
24.00	82.00	-82.00
24.00	83.00	-83.00
24.00	84.00	-84.00
24.00	85.00	-85.00
24.00	86.00	-86.00
24.00	87.00	-87.00
24.00	88.00	-88.00
24.00	89.00	-89.00
24.00	90.00	-90.00
24.00	91.00	-91.00
24.00	92.00	-92.00
24.00	93.00	-93.00
24.00	94.00	-94.00

Driven Pile Capacity:

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Section Type: Square
 Pile Width: 18.00 (in)

Test Pile Length (ft)	Pile Width (in)	Ultimate Side Friction (tons)	Mobilized End Bearing (tons)	Estimated Davisson Capacity (tons)	Allowable Pile Capacity (tons)	Ultimate Pile Capacity (tons)
25.00	18.0	38.04	35.36	73.40	36.70	144.11
26.00	18.0	38.49	49.42	87.91	43.96	186.75
27.00	18.0	39.00	65.46	104.46	52.23	235.39
28.00	18.0	39.64	51.94	91.58	45.79	195.46
29.00	18.0	40.56	52.57	93.13	46.57	198.27
30.00	18.0	41.93	54.06	96.00	48.00	204.12
31.00	18.0	44.98	100.16	145.14	72.57	345.45
32.00	18.0	47.78	98.11	145.89	72.95	342.12
33.00	18.0	50.84	92.82	143.66	71.83	329.29
34.00	18.0	53.94	85.10	139.03	69.52	309.23
35.00	18.0	56.83	77.04	133.87	66.93	287.95
36.00	18.0	59.52	71.16	130.68	65.34	273.00
37.00	18.0	62.11	67.25	129.36	64.68	263.85
38.00	18.0	64.61	63.67	128.28	64.14	255.62
39.00	18.0	66.88	59.71	126.60	63.30	246.03
40.00	18.0	68.80	56.59	125.40	62.70	238.59
41.00	18.0	70.44	56.28	126.71	63.36	239.26
42.00	18.0	72.21	56.54	128.75	64.38	241.84
43.00	18.0	74.19	56.60	130.79	65.39	243.98
44.00	18.0	76.12	57.61	133.73	66.87	248.96
45.00	18.0	77.76	61.00	138.76	69.38	260.75
46.00	18.0	79.16	65.68	144.85	72.42	276.21
47.00	18.0	80.74	69.15	149.89	74.95	288.20
48.00	18.0	82.56	72.00	154.56	77.28	298.55
49.00	18.0	84.81	75.58	160.39	80.19	311.54
50.00	18.0	87.71	79.99	167.70	83.85	327.68
51.00	18.0	91.12	70.09	161.22	80.61	301.40
52.00	18.0	94.37	70.37	164.75	82.37	305.50
53.00	18.0	97.34	71.01	168.34	84.17	310.36
54.00	18.0	100.33	71.98	172.30	86.15	316.26
55.00	18.0	103.64	73.23	176.88	88.44	323.34
56.00	18.0	107.19	74.84	182.03	91.02	331.72
57.00	18.0	110.52	77.02	187.54	93.77	341.59
58.00	18.0	113.60	79.85	193.45	96.73	353.16
59.00	18.0	116.98	82.57	199.55	99.78	364.69
60.00	18.0	121.04	84.58	205.62	102.81	374.79
61.00	18.0	125.68	86.00	211.67	105.84	383.67
62.00	18.0	130.37	87.77	218.14	109.07	393.68
63.00	18.0	135.02	90.10	225.13	112.56	405.34
64.00	18.0	138.90	93.64	232.54	116.27	419.81
65.00	18.0	141.37	99.00	240.37	120.19	438.38
66.00	18.0	157.40	123.75	281.14	140.57	528.64
67.00	18.0	161.06	131.53	292.59	146.30	555.65
68.00	18.0	165.87	120.42	286.28	143.14	527.11
69.00	18.0	171.39	120.59	291.98	145.99	533.15

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70.00	18.0	177.31	121.00	298.31	149.16	540.32
71.00	18.0	183.65	121.52	305.18	152.59	548.22
72.00	18.0	189.99	122.17	312.16	156.08	556.50
73.00	18.0	196.27	122.95	319.22	159.61	565.11
74.00	18.0	202.50	123.75	326.25	163.13	573.75
75.00	18.0	208.69	124.48	333.18	166.59	582.14
76.00	18.0	214.80	125.27	340.06	170.03	590.59
77.00	18.0	220.84	126.36	347.20	173.60	599.92
78.00	18.0	226.88	127.77	354.66	177.33	610.20
79.00	18.0	232.84	129.37	362.22	181.11	620.96
80.00	18.0	238.50	131.28	369.78	184.89	632.34
81.00	18.0	243.99	133.35	377.33	188.67	644.03
82.00	18.0	249.77	135.00	384.78	192.39	654.78
83.00	18.0	255.95	136.05	392.00	196.00	664.09
84.00	18.0	263.21	134.86	398.07	199.03	667.79
85.00	18.0	272.09	130.24	402.33	201.17	662.82
86.00	18.0	282.34	122.63	404.97	202.49	650.23
87.00	18.0	287.94	114.58	402.52	201.26	631.68
88.00	18.0	293.34	73.63	366.97	183.49	514.24
89.00	18.0	296.66	64.33	360.99	180.49	489.64
90.00	18.0	299.17	61.18	360.35	180.17	482.70
91.00	18.0	301.03	61.70	362.74	181.37	486.14
92.00	18.0	303.13	61.48	364.61	182.31	487.57
93.00	18.0	305.62	61.93	367.55	183.78	491.41
94.00	18.0	308.45	59.87	368.33	184.16	488.07

Section Type: Square
Pile Width: 24.00 (in)

Test Pile Length (ft)	Pile Width (in)	Ultimate Side Friction (tons)	Mobilized End Bearing (tons)	Estimated Davisson Capacity (tons)	Allowable Pile Capacity (tons)	Ultimate Pile Capacity (tons)
25.00	24.0	50.72	93.10	143.82	71.91	330.02
26.00	24.0	51.32	114.58	165.90	82.95	395.06
27.00	24.0	52.00	134.30	186.30	93.15	454.91
28.00	24.0	52.85	98.35	151.20	75.60	347.90
29.00	24.0	54.19	98.70	152.89	76.45	350.28
30.00	24.0	56.29	99.67	155.96	77.98	355.30
31.00	24.0	59.97	169.71	229.69	114.84	569.11
32.00	24.0	63.70	162.15	225.85	112.93	550.15
33.00	24.0	67.79	149.74	217.53	108.77	517.01
34.00	24.0	71.92	138.17	210.09	105.05	486.44
35.00	24.0	75.77	130.23	206.00	103.00	466.46
36.00	24.0	79.36	123.73	203.09	101.55	450.56
37.00	24.0	82.81	115.79	198.60	99.30	430.18
38.00	24.0	86.14	106.79	192.93	96.47	406.51
39.00	24.0	89.18	101.02	190.20	95.10	392.24
40.00	24.0	91.74	100.10	191.84	95.92	392.05
41.00	24.0	93.92	102.98	196.89	98.45	402.84
42.00	24.0	96.28	105.67	201.95	100.97	413.28
43.00	24.0	98.92	107.45	206.37	103.18	421.28
44.00	24.0	101.49	109.47	210.96	105.48	429.90
45.00	24.0	103.68	113.60	217.28	108.64	444.49
46.00	24.0	105.55	120.64	226.19	113.10	467.48
47.00	24.0	107.65	128.71	236.36	118.18	493.78
48.00	24.0	110.08	136.93	247.01	123.51	520.88
49.00	24.0	113.08	143.82	256.90	128.45	544.54
50.00	24.0	116.94	149.51	266.45	133.23	565.47

B-101_Void-10ft.out						
51.00	24.0	121.52	134.85	256.37	128.19	526.06
52.00	24.0	126.04	135.01	261.04	130.52	531.05
53.00	24.0	130.26	135.47	265.73	132.86	536.67
54.00	24.0	134.53	136.32	270.85	135.42	543.48
55.00	24.0	139.23	137.52	276.74	138.37	551.78
56.00	24.0	144.22	139.15	283.36	141.68	561.66
57.00	24.0	149.06	141.13	290.18	145.09	572.44
58.00	24.0	154.01	142.90	296.92	148.46	582.72
59.00	24.0	159.44	144.22	303.66	151.83	592.11
60.00	24.0	165.16	145.81	310.97	155.48	602.59
61.00	24.0	170.88	148.14	319.03	159.51	615.31
62.00	24.0	176.32	151.52	327.83	163.92	630.86
63.00	24.0	181.56	155.81	337.37	168.68	648.98
64.00	24.0	185.84	161.27	347.11	173.56	669.65
65.00	24.0	188.63	167.76	356.39	178.20	691.91
66.00	24.0	209.86	228.68	438.54	219.27	895.90
67.00	24.0	214.75	238.11	452.86	226.43	929.08
68.00	24.0	221.15	210.34	431.50	215.75	852.19
69.00	24.0	228.54	210.55	439.09	219.54	860.19
70.00	24.0	236.42	211.10	447.51	223.76	869.71
71.00	24.0	244.80	211.86	456.65	228.33	880.37
72.00	24.0	253.19	212.74	465.93	232.97	891.42
73.00	24.0	261.57	213.68	475.25	237.63	902.61
74.00	24.0	269.88	214.65	484.53	242.27	913.83
75.00	24.0	277.96	215.75	493.72	246.86	925.22
76.00	24.0	285.91	216.93	502.84	251.42	936.70
77.00	24.0	294.01	218.14	512.15	256.07	948.42
78.00	24.0	302.22	219.49	521.72	260.86	960.71
79.00	24.0	310.26	221.11	531.37	265.68	973.59
80.00	24.0	317.84	223.08	540.92	270.46	987.09
81.00	24.0	324.92	225.61	550.53	275.26	1001.74
82.00	24.0	332.56	227.35	559.91	279.96	1014.62
83.00	24.0	341.84	226.26	568.10	284.05	1020.63
84.00	24.0	353.05	221.93	574.99	287.49	1018.85
85.00	24.0	365.54	215.93	581.47	290.74	1013.33
86.00	24.0	377.87	207.85	585.72	292.86	1001.42
87.00	24.0	385.33	197.39	582.71	291.36	977.49
88.00	24.0	391.12	128.20	519.32	259.66	775.73
89.00	24.0	395.54	115.27	510.81	255.41	741.34
90.00	24.0	398.90	107.76	506.65	253.33	722.17
91.00	24.0	401.38	105.68	507.06	253.53	718.42
92.00	24.0	404.18	104.46	508.64	254.32	717.55
93.00	24.0	407.50	105.06	512.56	256.28	722.67
94.00	24.0	Soil Elevations Must Extend At or Below Contribution Zone				

NOTES

1. MOBILIZED END BEARING IS 1/3 OF THE ORIGINAL RB-121 VALUES.
2. DAVISSON PILE CAPACITY IS AN ESTIMATE BASED ON FAILURE CRITERIA, AND EQUALS ULTIMATE SIDE FRICTION PLUS MOBILIZED END BEARING.
3. ALLOWABLE PILE CAPACITY IS 1/2 THE DAVISSON PILE CAPACITY.
4. ULTIMATE PILE CAPACITY IS ULTIMATE SIDE FRICTION PLUS 3 x THE MOBILIZED END BEARING.
EXCEPTION: FOR H-PILES TIPPED IN SAND OR LIMESTONE, THE ULTIMATE PILE CAPACITY IS ULTIMATE SIDE FRICTION PLUS 2 x THE MOBILIZED END BEARING.

General Information:

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Input file:adino)\Analysis_Structure\FB-Deep_2021\Pile\B-102_Void-10ft.in
 Project number: 2000-01-16015
 Job name: I-95 From Hallandale Beach Blvd to Hollywood Blvd
 Engineer: JB Henry
 Units: English

Analysis Information:

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Analysis Type: SPT

Soil Information:

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Boring date: 9/5 & 6/2018, Boring Number: B-102
 Station number: Offset:

Ground Elevation: 0.000(ft)

Hammer type: Automatic Hammer, Correction factor = 1.24

ID	Depth (ft)	No. of Blows (Blows/ft)	Soil Type
1	0.00	2.00	5- Cavity layer
2	2.00	5.00	5- Cavity layer
3	4.00	7.00	5- Cavity layer
4	6.00	8.00	5- Cavity layer
5	8.00	13.00	5- Cavity layer
6	10.00	7.00	4- Lime Stone/Very shelly sand
7	12.00	3.00	4- Lime Stone/Very shelly sand
8	13.50	5.00	4- Lime Stone/Very shelly sand
9	15.50	5.00	4- Lime Stone/Very shelly sand
10	18.00	50.00	4- Lime Stone/Very shelly sand
11	20.50	33.00	4- Lime Stone/Very shelly sand
12	23.00	34.00	4- Lime Stone/Very shelly sand
13	25.50	35.00	4- Lime Stone/Very shelly sand
14	28.00	35.00	4- Lime Stone/Very shelly sand
15	30.50	13.00	4- Lime Stone/Very shelly sand
16	33.00	21.00	4- Lime Stone/Very shelly sand
17	35.50	22.00	3- Clean sand
18	38.00	13.00	3- Clean sand
19	40.50	23.00	3- Clean sand
20	43.00	36.00	3- Clean sand
21	45.50	32.00	3- Clean sand
22	48.00	30.00	3- Clean sand
23	50.50	37.00	3- Clean sand
24	53.00	68.00	3- Clean sand
25	55.50	50.00	4- Lime Stone/Very shelly sand
26	58.00	50.00	4- Lime Stone/Very shelly sand
27	60.50	50.00	4- Lime Stone/Very shelly sand
28	63.00	50.00	3- Clean sand
29	65.50	20.00	3- Clean sand
30	68.00	17.00	3- Clean sand
31	70.50	29.00	3- Clean sand
32	73.00	13.00	3- Clean sand

			B-102_Void-10ft.out	
33	75.50	15.00	4- Lime Stone/Very shelly sand	
34	78.00	11.00	4- Lime Stone/Very shelly sand	
35	80.50	41.00	4- Lime Stone/Very shelly sand	
36	83.00	40.00	4- Lime Stone/Very shelly sand	
37	85.50	62.00	3- Clean sand	
38	88.00	50.00	3- Clean sand	
39	90.50	31.00	3- Clean sand	
40	93.00	50.00	3- Clean sand	
41	95.50	44.00	4- Lime Stone/Very shelly sand	
42	98.00	52.00	4- Lime Stone/Very shelly sand	
43	100.00	52.00	4- Lime Stone/Very shelly sand	

Blowcount Average Per Soil Layer

Layer Num.	Starting Elevation (ft)	Bottom Elevation (ft)	Thickness (ft)	Average Blowcount (Blows/ft)	Soil Type
1	0.00	-10.00	10.00	7.00	5-Void
2	-10.00	-35.50	25.50	23.27	4-Limestone, Very Shelly Sand
3	-35.50	-55.50	20.00	32.63	3-Clean Sand
4	-55.50	-63.00	7.50	50.00	4-Limestone, Very Shelly Sand
5	-63.00	-75.50	12.50	25.80	3-Clean Sand
6	-75.50	-85.50	10.00	26.75	4-Limestone, Very Shelly Sand
7	-85.50	-95.50	10.00	48.25	3-Clean Sand
8	-95.50	-100.00	4.50	47.56	4-Limestone, Very Shelly Sand

Driven Pile Data:

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Pile unit weight = 150.00(pcf), Section Type: Square

Pile Geometry:

Width (in)	Length (ft)	Tip Elev. (ft)
18.00	25.00	-25.00
18.00	26.00	-26.00
18.00	27.00	-27.00
18.00	28.00	-28.00
18.00	29.00	-29.00
18.00	30.00	-30.00
18.00	31.00	-31.00
18.00	32.00	-32.00
18.00	33.00	-33.00
18.00	34.00	-34.00
18.00	35.00	-35.00
18.00	36.00	-36.00
18.00	37.00	-37.00
18.00	38.00	-38.00
18.00	39.00	-39.00
18.00	40.00	-40.00
18.00	41.00	-41.00
18.00	42.00	-42.00

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18.00	43.00	-43.00
18.00	44.00	-44.00
18.00	45.00	-45.00
18.00	46.00	-46.00
18.00	47.00	-47.00
18.00	48.00	-48.00
18.00	49.00	-49.00
18.00	50.00	-50.00
18.00	51.00	-51.00
18.00	52.00	-52.00
18.00	53.00	-53.00
18.00	54.00	-54.00
18.00	55.00	-55.00
18.00	56.00	-56.00
18.00	57.00	-57.00
18.00	58.00	-58.00
18.00	59.00	-59.00
18.00	60.00	-60.00
18.00	61.00	-61.00
18.00	62.00	-62.00
18.00	63.00	-63.00
18.00	64.00	-64.00
18.00	65.00	-65.00
18.00	66.00	-66.00
18.00	67.00	-67.00
18.00	68.00	-68.00
18.00	69.00	-69.00
18.00	70.00	-70.00
18.00	71.00	-71.00
18.00	72.00	-72.00
18.00	73.00	-73.00
18.00	74.00	-74.00
18.00	75.00	-75.00
18.00	76.00	-76.00
18.00	77.00	-77.00
18.00	78.00	-78.00
18.00	79.00	-79.00
18.00	80.00	-80.00
18.00	81.00	-81.00
18.00	82.00	-82.00
18.00	83.00	-83.00
18.00	84.00	-84.00
18.00	85.00	-85.00
18.00	86.00	-86.00
18.00	87.00	-87.00
18.00	88.00	-88.00
18.00	89.00	-89.00
18.00	90.00	-90.00
18.00	91.00	-91.00
18.00	92.00	-92.00
18.00	93.00	-93.00
18.00	94.00	-94.00
24.00	25.00	-25.00
24.00	26.00	-26.00
24.00	27.00	-27.00
24.00	28.00	-28.00
24.00	29.00	-29.00
24.00	30.00	-30.00
24.00	31.00	-31.00
24.00	32.00	-32.00
24.00	33.00	-33.00
24.00	34.00	-34.00
24.00	35.00	-35.00

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24.00	36.00	-36.00
24.00	37.00	-37.00
24.00	38.00	-38.00
24.00	39.00	-39.00
24.00	40.00	-40.00
24.00	41.00	-41.00
24.00	42.00	-42.00
24.00	43.00	-43.00
24.00	44.00	-44.00
24.00	45.00	-45.00
24.00	46.00	-46.00
24.00	47.00	-47.00
24.00	48.00	-48.00
24.00	49.00	-49.00
24.00	50.00	-50.00
24.00	51.00	-51.00
24.00	52.00	-52.00
24.00	53.00	-53.00
24.00	54.00	-54.00
24.00	55.00	-55.00
24.00	56.00	-56.00
24.00	57.00	-57.00
24.00	58.00	-58.00
24.00	59.00	-59.00
24.00	60.00	-60.00
24.00	61.00	-61.00
24.00	62.00	-62.00
24.00	63.00	-63.00
24.00	64.00	-64.00
24.00	65.00	-65.00
24.00	66.00	-66.00
24.00	67.00	-67.00
24.00	68.00	-68.00
24.00	69.00	-69.00
24.00	70.00	-70.00
24.00	71.00	-71.00
24.00	72.00	-72.00
24.00	73.00	-73.00
24.00	74.00	-74.00
24.00	75.00	-75.00
24.00	76.00	-76.00
24.00	77.00	-77.00
24.00	78.00	-78.00
24.00	79.00	-79.00
24.00	80.00	-80.00
24.00	81.00	-81.00
24.00	82.00	-82.00
24.00	83.00	-83.00
24.00	84.00	-84.00
24.00	85.00	-85.00
24.00	86.00	-86.00
24.00	87.00	-87.00
24.00	88.00	-88.00
24.00	89.00	-89.00
24.00	90.00	-90.00
24.00	91.00	-91.00
24.00	92.00	-92.00
24.00	93.00	-93.00
24.00	94.00	-94.00

Driven Pile Capacity:

Section Type: Square
 Pile Width: 18.00 (in)

Test Pile Length (ft)	Pile Width (in)	Ultimate Side Friction (tons)	Mobilized End Bearing (tons)	Estimated Davisson Capacity (tons)	Allowable Pile Capacity (tons)	Ultimate Pile Capacity (tons)
25.00	18.0	26.64	72.51	99.15	49.57	244.16
26.00	18.0	29.24	63.96	93.20	46.60	221.12
27.00	18.0	31.84	56.74	88.58	44.29	202.07
28.00	18.0	34.45	50.70	85.15	42.57	186.55
29.00	18.0	36.72	47.64	84.37	42.18	179.65
30.00	18.0	38.35	49.21	87.55	43.78	185.97
31.00	18.0	39.42	52.64	92.06	46.03	197.34
32.00	18.0	40.63	53.60	94.23	47.11	201.42
33.00	18.0	42.07	53.30	95.37	47.69	201.97
34.00	18.0	43.95	53.81	97.75	48.88	205.37
35.00	18.0	46.44	55.38	101.81	50.91	212.57
36.00	18.0	49.40	60.05	109.45	54.72	229.54
37.00	18.0	51.89	60.20	112.09	56.04	232.48
38.00	18.0	53.61	60.81	114.42	57.21	236.05
39.00	18.0	55.22	61.85	117.06	58.53	240.75
40.00	18.0	57.31	63.02	120.33	60.17	246.38
41.00	18.0	59.89	64.32	124.21	62.11	252.86
42.00	18.0	63.01	65.84	128.85	64.42	260.52
43.00	18.0	66.71	67.49	134.21	67.10	269.20
44.00	18.0	70.57	69.38	139.95	69.98	278.72
45.00	18.0	74.08	71.85	145.93	72.96	289.63
46.00	18.0	77.21	75.12	152.33	76.17	302.58
47.00	18.0	80.01	79.53	159.54	79.77	318.60
48.00	18.0	82.54	85.29	167.84	83.92	338.42
49.00	18.0	85.23	92.00	177.22	88.61	361.21
50.00	18.0	88.38	99.20	187.58	93.79	385.98
51.00	18.0	92.09	106.49	198.58	99.29	411.56
52.00	18.0	96.60	113.27	209.87	104.93	436.41
53.00	18.0	101.92	119.31	221.22	110.61	459.84
54.00	18.0	107.45	122.97	230.42	115.21	476.36
55.00	18.0	112.26	124.43	236.69	118.34	485.54
56.00	18.0	135.84	138.15	273.99	137.00	550.30
57.00	18.0	139.56	139.00	278.56	139.28	556.55
58.00	18.0	143.28	137.23	280.52	140.26	554.98
59.00	18.0	147.00	129.84	276.84	138.42	536.52
60.00	18.0	150.72	117.44	268.16	134.08	503.05
61.00	18.0	154.60	103.77	258.37	129.18	465.90
62.00	18.0	159.57	89.13	248.70	124.35	426.95
63.00	18.0	165.78	77.17	242.95	121.48	397.29
64.00	18.0	170.69	78.55	249.24	124.62	406.35
65.00	18.0	175.28	78.44	253.72	126.86	410.60
66.00	18.0	178.90	77.70	256.60	128.30	412.00
67.00	18.0	181.92	75.35	257.27	128.63	407.97
68.00	18.0	184.40	71.30	255.70	127.85	398.30
69.00	18.0	187.15	67.66	254.81	127.40	390.12
70.00	18.0	190.57	64.04	254.60	127.30	382.68
71.00	18.0	194.47	59.93	254.40	127.20	374.27
72.00	18.0	197.66	55.95	253.61	126.81	365.50
73.00	18.0	199.95	52.65	252.60	126.30	357.91

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74.00	18.0	201.65	52.27	253.91	126.96	358.45
75.00	18.0	203.05	55.37	258.42	129.21	369.17
76.00	18.0	204.19	64.34	268.53	134.27	397.22
77.00	18.0	205.19	76.75	281.94	140.97	435.43
78.00	18.0	206.06	91.00	297.07	148.53	479.08
79.00	18.0	207.33	105.43	312.75	156.38	523.61
80.00	18.0	209.49	116.60	326.09	163.04	559.29
81.00	18.0	212.42	123.29	335.71	167.86	582.30
82.00	18.0	215.44	129.48	344.92	172.46	603.88
83.00	18.0	218.43	134.15	352.58	176.29	620.88
84.00	18.0	222.18	134.18	356.36	178.18	624.71
85.00	18.0	227.48	129.01	356.49	178.25	614.52
86.00	18.0	234.11	101.89	336.00	168.00	539.78
87.00	18.0	240.75	102.07	342.82	171.41	546.96
88.00	18.0	246.89	102.75	349.63	174.82	555.13
89.00	18.0	252.14	103.97	356.10	178.05	564.04
90.00	18.0	256.19	105.76	361.94	180.97	573.46
91.00	18.0	259.48	108.01	367.50	183.75	583.52
92.00	18.0	263.57	110.33	373.90	186.95	594.55
93.00	18.0	268.73	112.46	381.19	190.59	606.10
94.00	18.0	273.72	114.75	388.47	194.24	617.98

Section Type: Square
Pile Width: 24.00 (in)

Test Pile Length (ft)	Pile Width (in)	Ultimate Side Friction (tons)	Mobilized End Bearing (tons)	Estimated Davisson Capacity (tons)	Allowable Pile Capacity (tons)	Ultimate Pile Capacity (tons)
25.00	24.0	35.52	115.51	151.02	75.51	382.04
26.00	24.0	38.99	107.48	146.47	73.23	361.44
27.00	24.0	42.46	100.76	143.22	71.61	344.74
28.00	24.0	45.93	94.90	140.83	70.42	330.64
29.00	24.0	48.97	89.78	138.74	69.37	318.30
30.00	24.0	51.13	87.57	138.69	69.35	313.82
31.00	24.0	52.57	89.89	142.46	71.23	322.25
32.00	24.0	54.17	93.95	148.12	74.06	336.02
33.00	24.0	56.10	98.94	155.04	77.52	352.92
34.00	24.0	58.59	105.70	164.30	82.15	375.71
35.00	24.0	61.91	114.57	176.49	88.24	405.64
36.00	24.0	65.85	118.69	184.54	92.27	421.92
37.00	24.0	69.08	119.04	188.12	94.06	426.20
38.00	24.0	71.47	119.80	191.27	95.63	430.86
39.00	24.0	73.80	120.86	194.66	97.33	436.38
40.00	24.0	76.79	122.03	198.82	99.41	442.88
41.00	24.0	80.51	123.16	203.67	101.83	449.99
42.00	24.0	85.11	124.22	209.33	104.67	457.77
43.00	24.0	90.57	125.34	215.91	107.95	466.58
44.00	24.0	96.17	126.79	222.97	111.48	476.55
45.00	24.0	100.96	129.43	230.39	115.19	489.24
46.00	24.0	104.73	133.89	238.62	119.31	506.40
47.00	24.0	107.91	139.94	247.85	123.92	527.72
48.00	24.0	111.04	146.59	257.63	128.81	550.80
49.00	24.0	114.51	153.47	267.98	133.99	574.92
50.00	24.0	118.59	160.43	279.01	139.51	599.86
51.00	24.0	123.31	167.35	290.66	145.33	625.37
52.00	24.0	128.88	174.02	302.90	151.45	650.94
53.00	24.0	135.25	180.76	316.01	158.00	677.52
54.00	24.0	141.37	188.07	329.44	164.72	705.58

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55.00	24.0	146.31	196.13	342.44	171.22	734.71
56.00	24.0	181.12	244.17	425.29	212.65	913.63
57.00	24.0	186.08	234.31	420.39	210.20	889.01
58.00	24.0	191.04	217.78	408.82	204.41	844.38
59.00	24.0	196.00	199.62	395.62	197.81	794.85
60.00	24.0	200.96	180.66	381.62	190.81	742.95
61.00	24.0	206.13	162.83	368.96	184.48	694.61
62.00	24.0	212.76	147.67	360.43	180.21	655.77
63.00	24.0	221.04	132.52	353.56	176.78	618.60
64.00	24.0	227.24	134.80	362.04	181.02	631.64
65.00	24.0	233.08	135.04	368.12	184.06	638.19
66.00	24.0	238.20	133.66	371.86	185.93	639.19
67.00	24.0	242.56	128.52	371.08	185.54	628.12
68.00	24.0	245.87	120.73	366.60	183.30	608.06
69.00	24.0	249.53	114.75	364.28	182.14	593.79
70.00	24.0	254.09	109.20	363.29	181.64	581.68
71.00	24.0	259.29	103.07	362.36	181.18	568.51
72.00	24.0	263.55	99.04	362.59	181.29	560.66
73.00	24.0	266.61	100.09	366.70	183.35	566.89
74.00	24.0	268.86	105.71	374.58	187.29	586.00
75.00	24.0	270.74	112.25	382.99	191.49	607.49
76.00	24.0	272.25	134.33	406.58	203.29	675.24
77.00	24.0	273.58	155.93	429.51	214.76	741.38
78.00	24.0	274.75	181.44	456.19	228.10	819.07
79.00	24.0	276.44	204.13	480.57	240.29	888.84
80.00	24.0	279.32	219.47	498.78	249.39	937.71
81.00	24.0	283.23	226.09	509.32	254.66	961.50
82.00	24.0	287.26	227.44	514.70	257.35	969.58
83.00	24.0	291.24	225.62	516.86	258.43	968.10
84.00	24.0	296.24	225.65	521.90	260.95	973.20
85.00	24.0	303.30	226.82	530.12	265.06	983.76
86.00	24.0	312.12	175.69	487.82	243.91	839.21
87.00	24.0	320.96	175.93	496.90	248.45	848.76
88.00	24.0	329.62	176.35	505.97	252.98	858.67
89.00	24.0	337.36	177.07	514.43	257.21	868.57
90.00	24.0	343.15	178.62	521.77	260.89	879.02
91.00	24.0	347.36	181.27	528.64	264.32	891.18
92.00	24.0	352.30	184.56	536.86	268.43	905.97
93.00	24.0	358.40	188.14	546.54	273.27	922.81
94.00	24.0	Soil Elevations Must Extend At or Below Contribution Zone				

NOTES

1. MOBILIZED END BEARING IS 1/3 OF THE ORIGINAL RB-121 VALUES.
2. DAVISSON PILE CAPACITY IS AN ESTIMATE BASED ON FAILURE CRITERIA, AND EQUALS ULTIMATE SIDE FRICTION PLUS MOBILIZED END BEARING.
3. ALLOWABLE PILE CAPACITY IS 1/2 THE DAVISSON PILE CAPACITY.
4. ULTIMATE PILE CAPACITY IS ULTIMATE SIDE FRICTION PLUS 3 x THE MOBILIZED END BEARING.
EXCEPTION: FOR H-PILES TIPPED IN SAND OR LIMESTONE, THE ULTIMATE PILE CAPACITY IS ULTIMATE SIDE FRICTION PLUS 2 x THE MOBILIZED END BEARING.

General Information:

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Input file:adino)\Analysis_Structure\FB-Deep_2021\Pile\B-201_Void-10ft.in
 Project number: 2000-01-16015
 Job name: I-95 From Hallandale Beach Blvd to Hollywood Blvd
 Engineer: JB Henry
 Units: English

Analysis Information:

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Analysis Type: SPT

Soil Information:

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Boring date: 8/23/2018, Boring Number: B-201
 Station number: Offset:

Ground Elevation: 0.000(ft)

Hammer type: Automatic Hammer, Correction factor = 1.24

ID	Depth (ft)	No. of Blows (Blows/ft)	Soil Type
1	0.00	13.00	5- Cavity layer
2	2.00	15.00	5- Cavity layer
3	4.00	37.00	5- Cavity layer
4	6.00	45.00	5- Cavity layer
5	8.00	51.00	5- Cavity layer
6	10.00	69.00	3- Clean sand
7	12.00	51.00	2- Clay and silty sand
8	13.50	47.00	2- Clay and silty sand
9	15.50	8.00	3- Clean sand
10	18.00	13.00	3- Clean sand
11	20.50	48.00	4- Lime Stone/Very shelly sand
12	23.00	61.00	4- Lime Stone/Very shelly sand
13	25.50	5.00	3- Clean sand
14	28.00	2.00	3- Clean sand
15	30.50	2.00	3- Clean sand
16	33.00	13.00	4- Lime Stone/Very shelly sand
17	35.50	33.00	4- Lime Stone/Very shelly sand
18	38.00	27.00	4- Lime Stone/Very shelly sand
19	40.50	20.00	3- Clean sand
20	43.00	23.00	3- Clean sand
21	45.50	21.00	4- Lime Stone/Very shelly sand
22	48.00	76.00	4- Lime Stone/Very shelly sand
23	50.50	78.00	4- Lime Stone/Very shelly sand
24	53.00	50.00	4- Lime Stone/Very shelly sand
25	55.50	41.00	4- Lime Stone/Very shelly sand
26	58.00	83.00	4- Lime Stone/Very shelly sand
27	60.50	27.00	3- Clean sand
28	63.00	21.00	3- Clean sand
29	65.50	43.00	3- Clean sand
30	68.00	41.00	3- Clean sand
31	70.50	56.00	3- Clean sand
32	73.00	58.00	3- Clean sand

B-201_Void-10ft.out			
33	75.50	8.00	3- Clean sand
34	78.00	10.00	3- Clean sand
35	80.50	34.00	3- Clean sand
36	83.00	39.00	4- Lime Stone/Very shelly sand
37	85.50	91.00	3- Clean sand
38	88.00	39.00	3- Clean sand
39	90.50	26.00	4- Lime Stone/Very shelly sand
40	93.00	37.00	4- Lime Stone/Very shelly sand
41	95.50	56.00	4- Lime Stone/Very shelly sand
42	98.00	58.00	4- Lime Stone/Very shelly sand
43	100.00	58.00	4- Lime Stone/Very shelly sand

Blowcount Average Per Soil Layer

Layer Num.	Starting Elevation (ft)	Bottom Elevation (ft)	Thickness (ft)	Average Blowcount (Blows/ft)	Soil Type
1	0.00	-10.00	10.00	32.20	5-Void
2	-10.00	-12.00	2.00	69.00	3-Clean Sand
3	-12.00	-15.50	3.50	48.71	2-Clay and Silty Sand
4	-15.50	-20.50	5.00	10.50	3-Clean Sand
5	-20.50	-25.50	5.00	54.50	4-Limestone, Very Shelly Sand
6	-25.50	-33.00	7.50	3.00	3-Clean Sand
7	-33.00	-40.50	7.50	24.33	4-Limestone, Very Shelly Sand
8	-40.50	-45.50	5.00	21.50	3-Clean Sand
9	-45.50	-60.50	15.00	58.17	4-Limestone, Very Shelly Sand
10	-60.50	-83.00	22.50	33.11	3-Clean Sand
11	-83.00	-85.50	2.50	39.00	4-Limestone, Very Shelly Sand
12	-85.50	-90.50	5.00	65.00	3-Clean Sand
13	-90.50	-100.00	9.50	43.53	4-Limestone, Very Shelly Sand

Driven Pile Data:

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Pile unit weight = 150.00(pcf), Section Type: Square

Pile Geometry:

Width (in)	Length (ft)	Tip Elev. (ft)
18.00	25.00	-25.00
18.00	26.00	-26.00
18.00	27.00	-27.00
18.00	28.00	-28.00
18.00	29.00	-29.00
18.00	30.00	-30.00
18.00	31.00	-31.00
18.00	32.00	-32.00
18.00	33.00	-33.00
18.00	34.00	-34.00
18.00	35.00	-35.00
18.00	36.00	-36.00

B-201_Void-10ft.out

18.00	37.00	-37.00
18.00	38.00	-38.00
18.00	39.00	-39.00
18.00	40.00	-40.00
18.00	41.00	-41.00
18.00	42.00	-42.00
18.00	43.00	-43.00
18.00	44.00	-44.00
18.00	45.00	-45.00
18.00	46.00	-46.00
18.00	47.00	-47.00
18.00	48.00	-48.00
18.00	49.00	-49.00
18.00	50.00	-50.00
18.00	51.00	-51.00
18.00	52.00	-52.00
18.00	53.00	-53.00
18.00	54.00	-54.00
18.00	55.00	-55.00
18.00	56.00	-56.00
18.00	57.00	-57.00
18.00	58.00	-58.00
18.00	59.00	-59.00
18.00	60.00	-60.00
18.00	61.00	-61.00
18.00	62.00	-62.00
18.00	63.00	-63.00
18.00	64.00	-64.00
18.00	65.00	-65.00
18.00	66.00	-66.00
18.00	67.00	-67.00
18.00	68.00	-68.00
18.00	69.00	-69.00
18.00	70.00	-70.00
18.00	71.00	-71.00
18.00	72.00	-72.00
18.00	73.00	-73.00
18.00	74.00	-74.00
18.00	75.00	-75.00
18.00	76.00	-76.00
18.00	77.00	-77.00
18.00	78.00	-78.00
18.00	79.00	-79.00
18.00	80.00	-80.00
18.00	81.00	-81.00
18.00	82.00	-82.00
18.00	83.00	-83.00
18.00	84.00	-84.00
18.00	85.00	-85.00
18.00	86.00	-86.00
18.00	87.00	-87.00
18.00	88.00	-88.00
18.00	89.00	-89.00
18.00	90.00	-90.00
18.00	91.00	-91.00
18.00	92.00	-92.00
18.00	93.00	-93.00
18.00	94.00	-94.00
24.00	25.00	-25.00
24.00	26.00	-26.00
24.00	27.00	-27.00
24.00	28.00	-28.00
24.00	29.00	-29.00

B-201_Void-10ft.out

24.00	30.00	-30.00
24.00	31.00	-31.00
24.00	32.00	-32.00
24.00	33.00	-33.00
24.00	34.00	-34.00
24.00	35.00	-35.00
24.00	36.00	-36.00
24.00	37.00	-37.00
24.00	38.00	-38.00
24.00	39.00	-39.00
24.00	40.00	-40.00
24.00	41.00	-41.00
24.00	42.00	-42.00
24.00	43.00	-43.00
24.00	44.00	-44.00
24.00	45.00	-45.00
24.00	46.00	-46.00
24.00	47.00	-47.00
24.00	48.00	-48.00
24.00	49.00	-49.00
24.00	50.00	-50.00
24.00	51.00	-51.00
24.00	52.00	-52.00
24.00	53.00	-53.00
24.00	54.00	-54.00
24.00	55.00	-55.00
24.00	56.00	-56.00
24.00	57.00	-57.00
24.00	58.00	-58.00
24.00	59.00	-59.00
24.00	60.00	-60.00
24.00	61.00	-61.00
24.00	62.00	-62.00
24.00	63.00	-63.00
24.00	64.00	-64.00
24.00	65.00	-65.00
24.00	66.00	-66.00
24.00	67.00	-67.00
24.00	68.00	-68.00
24.00	69.00	-69.00
24.00	70.00	-70.00
24.00	71.00	-71.00
24.00	72.00	-72.00
24.00	73.00	-73.00
24.00	74.00	-74.00
24.00	75.00	-75.00
24.00	76.00	-76.00
24.00	77.00	-77.00
24.00	78.00	-78.00
24.00	79.00	-79.00
24.00	80.00	-80.00
24.00	81.00	-81.00
24.00	82.00	-82.00
24.00	83.00	-83.00
24.00	84.00	-84.00
24.00	85.00	-85.00
24.00	86.00	-86.00
24.00	87.00	-87.00
24.00	88.00	-88.00
24.00	89.00	-89.00
24.00	90.00	-90.00
24.00	91.00	-91.00
24.00	92.00	-92.00

Driven Pile Capacity:

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Section Type: Square
 Pile Width: 18.00 (in)

Test Pile Length (ft)	Pile Width (in)	Ultimate Side Friction (tons)	Mobilized End Bearing (tons)	Estimated Davisson Capacity (tons)	Allowable Pile Capacity (tons)	Ultimate Pile Capacity (tons)
25.00	18.0	68.99	5.94	74.93	37.47	86.82
26.00	18.0	69.68	3.87	73.55	36.77	81.28
27.00	18.0	69.93	4.22	74.15	37.08	82.60
28.00	18.0	70.00	4.86	74.85	37.43	84.57
29.00	18.0	69.93	6.66	76.59	38.29	89.90
30.00	18.0	69.89	10.46	80.35	40.17	101.26
31.00	18.0	69.91	16.47	86.38	43.19	119.32
32.00	18.0	70.11	23.62	93.73	46.86	140.97
33.00	18.0	71.63	65.99	137.61	68.81	269.59
34.00	18.0	72.89	69.57	142.46	71.23	281.60
35.00	18.0	74.75	69.23	143.98	71.99	282.44
36.00	18.0	77.11	66.37	143.47	71.74	276.21
37.00	18.0	79.38	64.65	144.03	72.02	273.32
38.00	18.0	81.48	63.77	145.25	72.63	272.78
39.00	18.0	83.66	62.50	146.16	73.08	271.16
40.00	18.0	86.16	62.23	148.38	74.19	272.84
41.00	18.0	88.95	61.66	150.61	75.31	273.94
42.00	18.0	91.41	62.67	154.08	77.04	279.43
43.00	18.0	93.17	66.17	159.34	79.67	291.69
44.00	18.0	94.37	72.35	166.72	83.36	311.43
45.00	18.0	95.11	81.08	176.19	88.10	338.36
46.00	18.0	102.13	208.59	310.72	155.36	727.90
47.00	18.0	105.33	214.26	319.59	159.80	748.11
48.00	18.0	110.16	202.84	313.01	156.50	718.70
49.00	18.0	115.85	182.93	298.77	149.39	664.62
50.00	18.0	121.59	161.95	283.55	141.77	607.46
51.00	18.0	127.28	149.89	277.17	138.59	576.94
52.00	18.0	132.25	154.09	286.34	143.17	594.52
53.00	18.0	136.39	164.62	301.01	150.50	630.24
54.00	18.0	139.98	167.90	307.88	153.94	643.68
55.00	18.0	143.29	162.63	305.93	152.96	631.19
56.00	18.0	146.53	155.32	301.84	150.92	612.47
57.00	18.0	150.76	138.30	289.06	144.53	565.67
58.00	18.0	156.17	112.88	269.04	134.52	494.80
59.00	18.0	161.73	92.74	254.47	127.24	439.96
60.00	18.0	166.42	88.23	254.65	127.33	431.12
61.00	18.0	170.30	84.30	254.60	127.30	423.20
62.00	18.0	173.66	85.61	259.27	129.63	430.48
63.00	18.0	176.43	86.22	262.65	131.33	435.10
64.00	18.0	179.24	87.63	266.87	133.44	442.14
65.00	18.0	182.78	89.92	272.70	136.35	452.54
66.00	18.0	187.03	92.73	279.77	139.88	465.24
67.00	18.0	191.31	95.76	287.06	143.53	478.58
68.00	18.0	195.53	98.94	294.47	147.24	492.36
69.00	18.0	200.55	100.72	301.27	150.63	502.72

B-201_Void-10ft.out

70.00	18.0	207.18	99.69	306.87	153.44	506.26
71.00	18.0	215.74	95.77	311.51	155.75	503.05
72.00	18.0	225.54	90.63	316.17	158.08	497.42
73.00	18.0	235.97	84.75	320.71	160.36	490.20
74.00	18.0	241.66	80.14	321.81	160.90	482.10
75.00	18.0	245.08	81.14	326.21	163.11	488.49
76.00	18.0	246.25	85.86	332.12	166.06	503.85
77.00	18.0	245.59	89.58	335.18	167.59	514.34
78.00	18.0	245.74	92.78	338.52	169.26	524.09
79.00	18.0	247.29	96.31	343.60	171.80	536.21
80.00	18.0	250.79	99.79	350.58	175.29	550.17
81.00	18.0	255.32	102.66	357.98	178.99	563.31
82.00	18.0	259.38	103.98	363.36	181.68	571.31
83.00	18.0	266.52	123.01	389.53	194.77	635.56
84.00	18.0	270.21	118.76	388.97	194.48	626.49
85.00	18.0	275.47	108.92	384.40	192.20	602.25
86.00	18.0	281.69	108.27	389.96	194.98	606.49
87.00	18.0	287.91	108.35	396.27	198.13	612.97
88.00	18.0	294.14	107.81	401.95	200.98	617.58
89.00	18.0	298.93	105.19	404.12	202.06	614.50
90.00	18.0	302.30	106.18	408.48	204.24	620.84
91.00	18.0	304.45	120.93	425.39	212.69	667.26
92.00	18.0	306.72	135.58	442.30	221.15	713.47
93.00	18.0	309.31	148.36	457.66	228.83	754.38
94.00	18.0	312.34	157.97	470.31	235.15	786.25

Section Type: Square
Pile Width: 24.00 (in)

Test Pile Length (ft)	Pile Width (in)	Ultimate Side Friction (tons)	Mobilized End Bearing (tons)	Estimated Davisson Capacity (tons)	Allowable Pile Capacity (tons)	Ultimate Pile Capacity (tons)
25.00	24.0	91.98	15.97	107.95	53.98	139.90
26.00	24.0	92.97	11.16	104.13	52.06	126.45
27.00	24.0	93.29	11.95	105.23	52.62	129.13
28.00	24.0	93.30	13.70	107.00	53.50	134.40
29.00	24.0	93.21	17.26	110.48	55.24	145.00
30.00	24.0	93.18	22.36	115.54	57.77	160.27
31.00	24.0	93.20	28.72	121.92	60.96	179.36
32.00	24.0	93.43	36.25	129.68	64.84	202.18
33.00	24.0	95.50	115.26	210.76	105.38	441.27
34.00	24.0	97.19	120.19	217.37	108.69	457.75
35.00	24.0	99.67	121.14	220.81	110.40	463.09
36.00	24.0	102.81	117.71	220.53	110.26	455.95
37.00	24.0	105.85	113.42	219.27	109.64	446.12
38.00	24.0	108.64	111.34	219.98	109.99	442.66
39.00	24.0	111.54	124.70	236.24	118.12	485.64
40.00	24.0	114.87	155.34	270.21	135.11	580.89
41.00	24.0	118.62	134.81	253.42	126.71	523.03
42.00	24.0	122.02	143.46	265.48	132.74	552.41
43.00	24.0	124.74	147.72	272.46	136.23	567.90
44.00	24.0	126.82	154.36	281.19	140.59	589.92
45.00	24.0	128.33	162.16	290.49	145.25	614.82
46.00	24.0	136.17	342.83	479.00	239.50	1164.66
47.00	24.0	140.44	341.62	482.06	241.03	1165.30
48.00	24.0	146.89	323.14	470.03	235.01	1116.31
49.00	24.0	154.46	307.29	461.75	230.88	1076.33
50.00	24.0	162.12	304.00	466.12	233.06	1074.13

B-201_Void-10ft.out						
51.00	24.0	169.71	300.01	469.72	234.86	1069.74
52.00	24.0	176.34	288.58	464.91	232.46	1042.07
53.00	24.0	181.85	272.78	454.64	227.32	1000.20
54.00	24.0	186.64	259.77	446.40	223.20	965.94
55.00	24.0	191.06	247.79	438.85	219.43	934.44
56.00	24.0	195.37	238.57	433.93	216.97	911.07
57.00	24.0	201.01	223.82	424.83	212.41	872.47
58.00	24.0	208.22	200.77	408.99	204.49	810.52
59.00	24.0	215.64	179.21	394.85	197.42	753.27
60.00	24.0	221.89	172.93	394.82	197.41	740.68
61.00	24.0	227.07	157.44	384.51	192.25	699.38
62.00	24.0	231.71	161.02	392.72	196.36	714.76
63.00	24.0	235.89	166.62	402.51	201.26	735.76
64.00	24.0	240.12	170.57	410.69	205.34	751.83
65.00	24.0	245.19	172.93	418.12	209.06	763.98
66.00	24.0	251.24	175.92	427.16	213.58	779.00
67.00	24.0	257.68	178.29	435.97	217.99	792.55
68.00	24.0	265.05	178.70	443.75	221.88	801.16
69.00	24.0	274.08	176.66	450.74	225.37	804.07
70.00	24.0	284.71	173.30	458.00	229.00	804.59
71.00	24.0	296.38	167.68	464.06	232.03	799.42
72.00	24.0	305.50	157.77	463.27	231.64	778.82
73.00	24.0	314.62	151.05	465.67	232.83	767.76
74.00	24.0	322.22	148.62	470.84	235.42	768.09
75.00	24.0	326.77	149.79	476.56	238.28	776.13
76.00	24.0	328.68	154.23	482.91	241.45	791.37
77.00	24.0	330.34	161.24	491.58	245.79	814.05
78.00	24.0	331.48	170.82	502.30	251.15	843.95
79.00	24.0	330.21	179.39	509.60	254.80	868.39
80.00	24.0	332.28	186.00	518.28	259.14	890.27
81.00	24.0	337.31	189.25	526.56	263.28	905.05
82.00	24.0	342.89	189.54	532.43	266.21	911.51
83.00	24.0	355.36	198.00	553.36	276.68	949.37
84.00	24.0	360.28	190.53	550.81	275.40	931.86
85.00	24.0	367.30	182.14	549.43	274.72	913.71
86.00	24.0	375.37	179.34	554.71	277.36	913.39
87.00	24.0	382.94	180.21	563.16	281.58	923.59
88.00	24.0	390.08	180.90	570.98	285.49	932.77
89.00	24.0	395.86	181.82	577.69	288.84	941.34
90.00	24.0	399.69	183.14	582.84	291.42	949.13
91.00	24.0	405.94	234.71	640.65	320.33	1110.08
92.00	24.0	408.96	254.57	663.53	331.76	1172.67

NOTES

1. MOBILIZED END BEARING IS 1/3 OF THE ORIGINAL RB-121 VALUES.
2. DAVISSON PILE CAPACITY IS AN ESTIMATE BASED ON FAILURE CRITERIA, AND EQUALS ULTIMATE SIDE FRICTION PLUS MOBILIZED END BEARING.
3. ALLOWABLE PILE CAPACITY IS 1/2 THE DAVISSON PILE CAPACITY.
4. ULTIMATE PILE CAPACITY IS ULTIMATE SIDE FRICTION PLUS 3 x THE MOBILIZED END BEARING.
EXCEPTION: FOR H-PILES TIPPED IN SAND OR LIMESTONE, THE ULTIMATE PILE CAPACITY IS ULTIMATE SIDE FRICTION PLUS 2 x THE MOBILIZED END BEARING.

General Information:

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Input file:adino)\Analysis_Structure\FB-Deep_2021\Pile\B-202_Void-10ft.in
 Project number: 2000-01-16015
 Job name: I-95 From Hallandale Beach Blvd to Hollywood Blvd
 Engineer: JB Henry
 Units: English

Analysis Information:

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Analysis Type: SPT

Soil Information:

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Boring date: 8/20/2018, Boring Number: B-202
 Station number: Offset:

Ground Elevation: 0.000(ft)

Hammer type: Automatic Hammer, Correction factor = 1.24

ID	Depth (ft)	No. of Blows (Blows/ft)	Soil Type
1	0.00	8.00	5- Cavity layer
2	2.00	5.00	5- Cavity layer
3	4.00	18.00	5- Cavity layer
4	6.00	19.00	5- Cavity layer
5	8.00	22.00	5- Cavity layer
6	10.00	20.00	4- Lime Stone/Very shelly sand
7	12.00	19.00	4- Lime Stone/Very shelly sand
8	13.50	17.00	4- Lime Stone/Very shelly sand
9	15.50	11.00	4- Lime Stone/Very shelly sand
10	18.00	3.00	4- Lime Stone/Very shelly sand
11	20.50	2.00	3- Clean sand
12	23.00	22.00	3- Clean sand
13	25.50	21.00	4- Lime Stone/Very shelly sand
14	28.00	19.00	4- Lime Stone/Very shelly sand
15	30.50	38.00	4- Lime Stone/Very shelly sand
16	33.00	50.00	4- Lime Stone/Very shelly sand
17	35.50	60.00	4- Lime Stone/Very shelly sand
18	38.00	60.00	4- Lime Stone/Very shelly sand
19	40.50	45.00	3- Clean sand
20	43.00	12.00	3- Clean sand
21	45.50	11.00	3- Clean sand
22	48.00	34.00	3- Clean sand
23	50.50	42.00	3- Clean sand
24	53.00	34.00	3- Clean sand
25	55.50	78.00	3- Clean sand
26	58.00	66.00	3- Clean sand
27	60.50	60.00	3- Clean sand
28	63.00	32.00	3- Clean sand
29	65.50	60.00	4- Lime Stone/Very shelly sand
30	68.00	52.00	3- Clean sand
31	70.50	48.00	3- Clean sand
32	73.00	35.00	3- Clean sand

B-202_Void-10ft.out

33	75.50	51.00	3- Clean sand
34	78.00	60.00	3- Clean sand
35	80.50	31.00	3- Clean sand
36	83.00	19.00	3- Clean sand
37	85.50	15.00	3- Clean sand
38	88.00	57.00	3- Clean sand
39	90.50	27.00	3- Clean sand
40	93.00	45.00	4- Lime Stone/Very shelly sand
41	95.50	60.00	4- Lime Stone/Very shelly sand
42	98.00	60.00	4- Lime Stone/Very shelly sand
43	100.00	60.00	4- Lime Stone/Very shelly sand

Blowcount Average Per Soil Layer

Layer Num.	Starting Elevation (ft)	Bottom Elevation (ft)	Thickness (ft)	Average Blowcount (Blows/ft)	Soil Type
1	0.00	-10.00	10.00	14.40	5-Void
2	-10.00	-20.50	10.50	13.10	4-Limestone, Very
Shelly Sand					
3	-20.50	-25.50	5.00	12.00	3-Clean Sand
4	-25.50	-40.50	15.00	41.33	4-Limestone, Very
Shelly Sand					
5	-40.50	-65.50	25.00	41.40	3-Clean Sand
6	-65.50	-68.00	2.50	60.00	4-Limestone, Very
Shelly Sand					
7	-68.00	-93.00	25.00	39.50	3-Clean Sand
8	-93.00	-100.00	7.00	54.64	4-Limestone, Very
Shelly Sand					

Driven Pile Data:

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Pile unit weight = 150.00(pcf), Section Type: Square

Pile Geometry:

Width (in)	Length (ft)	Tip Elev. (ft)
18.00	25.00	-25.00
18.00	26.00	-26.00
18.00	27.00	-27.00
18.00	28.00	-28.00
18.00	29.00	-29.00
18.00	30.00	-30.00
18.00	31.00	-31.00
18.00	32.00	-32.00
18.00	33.00	-33.00
18.00	34.00	-34.00
18.00	35.00	-35.00
18.00	36.00	-36.00
18.00	37.00	-37.00
18.00	38.00	-38.00
18.00	39.00	-39.00
18.00	40.00	-40.00
18.00	41.00	-41.00
18.00	42.00	-42.00

B-202_Void-10ft.out

18.00	43.00	-43.00
18.00	44.00	-44.00
18.00	45.00	-45.00
18.00	46.00	-46.00
18.00	47.00	-47.00
18.00	48.00	-48.00
18.00	49.00	-49.00
18.00	50.00	-50.00
18.00	51.00	-51.00
18.00	52.00	-52.00
18.00	53.00	-53.00
18.00	54.00	-54.00
18.00	55.00	-55.00
18.00	56.00	-56.00
18.00	57.00	-57.00
18.00	58.00	-58.00
18.00	59.00	-59.00
18.00	60.00	-60.00
18.00	61.00	-61.00
18.00	62.00	-62.00
18.00	63.00	-63.00
18.00	64.00	-64.00
18.00	65.00	-65.00
18.00	66.00	-66.00
18.00	67.00	-67.00
18.00	68.00	-68.00
18.00	69.00	-69.00
18.00	70.00	-70.00
18.00	71.00	-71.00
18.00	72.00	-72.00
18.00	73.00	-73.00
18.00	74.00	-74.00
18.00	75.00	-75.00
18.00	76.00	-76.00
18.00	77.00	-77.00
18.00	78.00	-78.00
18.00	79.00	-79.00
18.00	80.00	-80.00
18.00	81.00	-81.00
18.00	82.00	-82.00
18.00	83.00	-83.00
18.00	84.00	-84.00
18.00	85.00	-85.00
18.00	86.00	-86.00
18.00	87.00	-87.00
18.00	88.00	-88.00
18.00	89.00	-89.00
18.00	90.00	-90.00
18.00	91.00	-91.00
18.00	92.00	-92.00
18.00	93.00	-93.00
18.00	94.00	-94.00
24.00	25.00	-25.00
24.00	26.00	-26.00
24.00	27.00	-27.00
24.00	28.00	-28.00
24.00	29.00	-29.00
24.00	30.00	-30.00
24.00	31.00	-31.00
24.00	32.00	-32.00
24.00	33.00	-33.00
24.00	34.00	-34.00
24.00	35.00	-35.00

B-202_Void-10ft.out

24.00	36.00	-36.00
24.00	37.00	-37.00
24.00	38.00	-38.00
24.00	39.00	-39.00
24.00	40.00	-40.00
24.00	41.00	-41.00
24.00	42.00	-42.00
24.00	43.00	-43.00
24.00	44.00	-44.00
24.00	45.00	-45.00
24.00	46.00	-46.00
24.00	47.00	-47.00
24.00	48.00	-48.00
24.00	49.00	-49.00
24.00	50.00	-50.00
24.00	51.00	-51.00
24.00	52.00	-52.00
24.00	53.00	-53.00
24.00	54.00	-54.00
24.00	55.00	-55.00
24.00	56.00	-56.00
24.00	57.00	-57.00
24.00	58.00	-58.00
24.00	59.00	-59.00
24.00	60.00	-60.00
24.00	61.00	-61.00
24.00	62.00	-62.00
24.00	63.00	-63.00
24.00	64.00	-64.00
24.00	65.00	-65.00
24.00	66.00	-66.00
24.00	67.00	-67.00
24.00	68.00	-68.00
24.00	69.00	-69.00
24.00	70.00	-70.00
24.00	71.00	-71.00
24.00	72.00	-72.00
24.00	73.00	-73.00
24.00	74.00	-74.00
24.00	75.00	-75.00
24.00	76.00	-76.00
24.00	77.00	-77.00
24.00	78.00	-78.00
24.00	79.00	-79.00
24.00	80.00	-80.00
24.00	81.00	-81.00
24.00	82.00	-82.00
24.00	83.00	-83.00
24.00	84.00	-84.00
24.00	85.00	-85.00
24.00	86.00	-86.00
24.00	87.00	-87.00
24.00	88.00	-88.00
24.00	89.00	-89.00
24.00	90.00	-90.00
24.00	91.00	-91.00
24.00	92.00	-92.00

Driven Pile Capacity:

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B-202_Void-10ft.out

Section Type: Square
Pile Width: 18.00 (in)

Test Pile Length (ft)	Pile Width (in)	Ultimate Side Friction (tons)	Mobilized End Bearing (tons)	Estimated Davisson Capacity (tons)	Allowable Pile Capacity (tons)	Ultimate Pile Capacity (tons)
25.00	18.0	17.76	38.21	55.97	27.98	132.38
26.00	18.0	20.56	73.42	93.99	46.99	240.84
27.00	18.0	22.07	87.01	109.07	54.54	283.09
28.00	18.0	23.51	103.43	126.94	63.47	333.79
29.00	18.0	25.21	120.62	145.82	72.91	387.06
30.00	18.0	27.47	136.33	163.80	81.90	436.45
31.00	18.0	30.27	148.89	179.16	89.58	476.93
32.00	18.0	33.45	158.74	192.19	96.09	509.66
33.00	18.0	37.00	164.67	201.67	100.83	531.02
34.00	18.0	40.86	165.49	206.35	103.18	537.33
35.00	18.0	45.03	160.80	205.83	102.91	527.43
36.00	18.0	49.46	147.96	197.42	98.71	493.34
37.00	18.0	53.92	128.28	182.20	91.10	438.76
38.00	18.0	58.39	105.23	163.61	81.81	374.07
39.00	18.0	63.23	83.29	146.52	73.26	313.10
40.00	18.0	68.83	64.39	133.22	66.61	261.99
41.00	18.0	73.90	59.22	133.11	66.56	251.55
42.00	18.0	77.77	59.80	137.57	68.79	257.17
43.00	18.0	80.56	59.87	140.43	70.21	260.17
44.00	18.0	82.05	60.43	142.48	71.24	263.35
45.00	18.0	82.97	61.99	144.96	72.48	268.93
46.00	18.0	83.72	64.55	148.27	74.14	277.37
47.00	18.0	85.40	67.56	152.96	76.48	288.07
48.00	18.0	88.22	70.45	158.67	79.33	299.57
49.00	18.0	91.67	73.64	165.31	82.65	312.59
50.00	18.0	95.32	77.56	172.89	86.44	328.01
51.00	18.0	99.17	82.14	181.31	90.65	345.58
52.00	18.0	102.81	87.20	190.01	95.01	364.41
53.00	18.0	106.31	92.33	198.64	99.32	383.29
54.00	18.0	110.01	97.96	207.97	103.99	403.89
55.00	18.0	114.29	104.60	218.90	109.45	428.11
56.00	18.0	119.30	111.35	230.64	115.32	453.34
57.00	18.0	124.83	116.84	241.67	120.83	475.34
58.00	18.0	130.83	120.82	251.65	125.83	493.30
59.00	18.0	137.03	123.69	260.73	130.36	508.11
60.00	18.0	143.36	126.62	269.98	134.99	523.21
61.00	18.0	149.65	130.73	280.38	140.19	541.83
62.00	18.0	155.35	134.36	289.71	144.86	558.44
63.00	18.0	160.33	137.66	297.99	149.00	573.31
64.00	18.0	164.94	140.59	305.53	152.76	586.70
65.00	18.0	169.51	142.20	311.71	155.86	596.10
66.00	18.0	197.41	144.50	341.91	170.95	630.90
67.00	18.0	202.82	136.20	339.03	169.51	611.43
68.00	18.0	209.19	132.16	341.35	170.68	605.68
69.00	18.0	215.86	132.34	348.20	174.10	612.88
70.00	18.0	222.64	132.38	355.02	177.51	619.79
71.00	18.0	229.27	132.46	361.73	180.87	626.66
72.00	18.0	235.32	132.49	367.80	183.90	632.78
73.00	18.0	240.53	132.65	373.18	186.59	638.49
74.00	18.0	245.86	132.68	378.53	189.27	643.89
75.00	18.0	252.30	131.64	383.94	191.97	647.23

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76.00	18.0	259.04	127.36	386.40	193.20	641.11
77.00	18.0	265.88	121.44	387.32	193.66	630.20
78.00	18.0	272.72	114.05	386.77	193.38	614.87
79.00	18.0	279.07	106.36	385.43	192.71	598.15
80.00	18.0	284.44	99.33	383.76	191.88	582.42
81.00	18.0	288.86	93.68	382.54	191.27	569.90
82.00	18.0	292.56	92.52	385.08	192.54	570.11
83.00	18.0	295.58	95.81	391.39	195.69	583.00
84.00	18.0	298.16	99.49	397.65	198.82	596.63
85.00	18.0	300.50	101.65	402.16	201.08	605.47
86.00	18.0	302.89	102.46	405.34	202.67	610.26
87.00	18.0	306.90	102.19	409.08	204.54	613.46
88.00	18.0	312.79	100.77	413.56	206.78	615.10
89.00	18.0	319.03	100.76	419.78	209.89	621.30
90.00	18.0	324.05	104.11	428.16	214.08	636.37
91.00	18.0	328.00	110.41	438.41	219.20	659.23
92.00	18.0	331.63	117.05	448.67	224.34	682.77
93.00	18.0	335.07	162.51	497.58	248.79	822.60
94.00	18.0	338.64	169.51	508.15	254.07	847.16

Section Type: Square
Pile Width: 24.00 (in)

Test Pile Length (ft)	Pile Width (in)	Ultimate Side Friction (tons)	Mobilized End Bearing (tons)	Estimated Davisson Capacity (tons)	Allowable Pile Capacity (tons)	Ultimate Pile Capacity (tons)
25.00	24.0	21.61	66.76	88.37	44.19	221.89
26.00	24.0	27.42	158.95	186.37	93.18	504.27
27.00	24.0	29.42	183.56	212.98	106.49	580.10
28.00	24.0	31.35	211.41	242.76	121.38	665.58
29.00	24.0	33.61	237.51	271.12	135.56	746.14
30.00	24.0	36.62	258.86	295.48	147.74	813.19
31.00	24.0	40.36	273.85	314.21	157.10	861.90
32.00	24.0	44.61	281.71	326.31	163.16	889.72
33.00	24.0	49.33	281.95	331.27	165.64	895.17
34.00	24.0	54.49	270.79	325.28	162.64	866.86
35.00	24.0	60.04	247.73	307.77	153.88	803.23
36.00	24.0	65.94	217.39	283.33	141.67	718.11
37.00	24.0	71.90	186.38	258.28	129.14	631.05
38.00	24.0	77.85	155.91	233.76	116.88	545.58
39.00	24.0	84.31	132.48	216.79	108.39	481.75
40.00	24.0	91.77	118.65	210.43	105.21	447.73
41.00	24.0	98.49	107.27	205.75	102.88	420.29
42.00	24.0	103.21	108.57	211.79	105.89	428.94
43.00	24.0	106.55	109.19	215.74	107.87	434.12
44.00	24.0	108.51	110.20	218.71	109.36	439.11
45.00	24.0	110.03	111.95	221.98	110.99	445.88
46.00	24.0	111.51	114.30	225.81	112.91	454.42
47.00	24.0	113.90	117.59	231.49	115.74	466.66
48.00	24.0	117.29	122.00	239.29	119.65	483.30
49.00	24.0	121.30	127.37	248.67	124.33	503.40
50.00	24.0	125.73	133.09	258.82	129.41	524.99
51.00	24.0	130.54	138.98	269.52	134.76	547.48
52.00	24.0	135.07	145.27	280.34	140.17	570.88
53.00	24.0	139.22	152.14	291.36	145.68	595.64
54.00	24.0	143.69	159.10	302.80	151.40	621.01
55.00	24.0	149.46	164.42	313.88	156.94	642.72
56.00	24.0	156.59	167.43	324.02	162.01	658.89

B-202_Void-10ft.out						
57.00	24.0	164.14	169.89	334.03	167.01	673.81
58.00	24.0	171.05	175.58	346.64	173.32	697.81
59.00	24.0	177.14	185.71	362.85	181.42	734.26
60.00	24.0	183.35	196.74	380.09	190.05	773.58
61.00	24.0	189.85	207.40	397.25	198.63	812.06
62.00	24.0	195.74	218.93	414.66	207.33	852.52
63.00	24.0	200.97	231.07	432.04	216.02	894.18
64.00	24.0	206.27	241.64	447.91	223.95	931.19
65.00	24.0	212.31	244.66	456.97	228.49	946.29
66.00	24.0	263.21	242.44	505.66	252.83	990.55
67.00	24.0	270.43	234.98	505.41	252.71	975.37
68.00	24.0	278.92	230.48	509.40	254.70	970.36
69.00	24.0	287.57	230.99	518.56	259.28	980.55
70.00	24.0	296.22	231.50	527.72	263.86	990.72
71.00	24.0	304.79	231.96	536.75	268.37	1000.66
72.00	24.0	312.85	232.02	544.87	272.44	1008.91
73.00	24.0	320.45	231.43	551.88	275.94	1014.74
74.00	24.0	328.28	229.47	557.76	278.88	1016.70
75.00	24.0	336.39	222.88	559.27	279.64	1005.02
76.00	24.0	345.39	214.30	559.69	279.85	988.30
77.00	24.0	354.51	204.16	558.67	279.34	967.00
78.00	24.0	363.63	193.16	556.79	278.40	943.11
79.00	24.0	372.09	182.56	554.65	277.33	919.76
80.00	24.0	379.25	177.39	556.64	278.32	911.41
81.00	24.0	385.14	178.67	563.81	281.91	921.15
82.00	24.0	390.08	182.20	572.28	286.14	936.67
83.00	24.0	394.11	183.89	578.00	289.00	945.79
84.00	24.0	397.54	184.15	581.70	290.85	950.00
85.00	24.0	400.67	184.90	585.57	292.79	955.38
86.00	24.0	403.85	187.69	591.54	295.77	966.91
87.00	24.0	409.20	190.52	599.72	299.86	980.76
88.00	24.0	417.06	193.94	610.99	305.50	998.87
89.00	24.0	425.37	200.03	625.41	312.70	1025.48
90.00	24.0	432.07	208.27	640.34	320.17	1056.89
91.00	24.0	437.33	217.07	654.40	327.20	1088.54
92.00	24.0	442.17	224.31	666.48	333.24	1115.09

NOTES

1. MOBILIZED END BEARING IS 1/3 OF THE ORIGINAL RB-121 VALUES.
2. DAVISSON PILE CAPACITY IS AN ESTIMATE BASED ON FAILURE CRITERIA, AND EQUALS ULTIMATE SIDE FRICTION PLUS MOBILIZED END BEARING.
3. ALLOWABLE PILE CAPACITY IS 1/2 THE DAVISSON PILE CAPACITY.
4. ULTIMATE PILE CAPACITY IS ULTIMATE SIDE FRICTION PLUS 3 x THE MOBILIZED END BEARING.
EXCEPTION: FOR H-PILES TIPPED IN SAND OR LIMESTONE, THE ULTIMATE PILE CAPACITY IS ULTIMATE SIDE FRICTION PLUS 2 x THE MOBILIZED END BEARING.

General Information:

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Input file:adino)\Analysis_Structure\FB-Deep_2021\Pile\B-301_Void-10ft.in
 Project number: 2000-01-16015
 Job name: I-95 From Hallandale Beach Boulevard to Hollywood Blvd
 Engineer: JB Henry
 Units: English

Analysis Information:

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Analysis Type: SPT

Soil Information:

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Boring date: 8/22/2018, Boring Number: B-301
 Station number: Offset:

Ground Elevation: 0.000(ft)

Hammer type: Automatic Hammer, Correction factor = 1.24

ID	Depth (ft)	No. of Blows (Blows/ft)	Soil Type
1	0.00	18.00	5- Cavity layer
2	2.00	39.00	5- Cavity layer
3	4.00	42.00	5- Cavity layer
4	6.00	20.00	5- Cavity layer
5	8.00	14.00	5- Cavity layer
6	10.00	15.00	4- Lime Stone/Very shelly sand
7	12.00	10.00	4- Lime Stone/Very shelly sand
8	13.50	12.00	4- Lime Stone/Very shelly sand
9	15.50	15.00	4- Lime Stone/Very shelly sand
10	18.00	23.00	4- Lime Stone/Very shelly sand
11	20.50	27.00	4- Lime Stone/Very shelly sand
12	23.00	23.00	4- Lime Stone/Very shelly sand
13	25.50	4.00	3- Clean sand
14	28.00	5.00	3- Clean sand
15	30.50	25.00	4- Lime Stone/Very shelly sand
16	33.00	34.00	4- Lime Stone/Very shelly sand
17	35.50	45.00	4- Lime Stone/Very shelly sand
18	38.00	46.00	4- Lime Stone/Very shelly sand
19	40.50	22.00	4- Lime Stone/Very shelly sand
20	43.00	17.00	4- Lime Stone/Very shelly sand
21	45.50	21.00	4- Lime Stone/Very shelly sand
22	48.00	34.00	3- Clean sand
23	50.50	30.00	3- Clean sand
24	53.00	43.00	3- Clean sand
25	55.50	28.00	3- Clean sand
26	58.00	30.00	3- Clean sand
27	60.50	11.00	3- Clean sand
28	63.00	41.00	3- Clean sand
29	65.50	88.00	4- Lime Stone/Very shelly sand
30	68.00	60.00	4- Lime Stone/Very shelly sand
31	70.50	88.00	3- Clean sand
32	73.00	6.00	3- Clean sand

B-301_Void-10ft.out

33	75.50	16.00	3- Clean sand
34	78.00	22.00	3- Clean sand
35	80.50	10.00	3- Clean sand
36	83.00	23.00	3- Clean sand
37	85.50	37.00	3- Clean sand
38	88.00	48.00	3- Clean sand
39	90.50	49.00	3- Clean sand
40	93.00	47.00	3- Clean sand
41	95.50	58.00	4- Lime Stone/Very shelly sand
42	98.00	64.00	4- Lime Stone/Very shelly sand
43	100.00	64.00	4- Lime Stone/Very shelly sand

Blowcount Average Per Soil Layer

Layer Num.	Starting Elevation (ft)	Bottom Elevation (ft)	Thickness (ft)	Average Blowcount (Blows/ft)	Soil Type
1	0.00	-10.00	10.00	26.60	5-Void
2	-10.00	-25.50	15.50	18.65	4-Limestone, Very
Shelly Sand					
3	-25.50	-30.50	5.00	4.50	3-Clean Sand
4	-30.50	-48.00	17.50	30.00	4-Limestone, Very
Shelly Sand					
5	-48.00	-65.50	17.50	31.00	3-Clean Sand
6	-65.50	-70.50	5.00	74.00	4-Limestone, Very
Shelly Sand					
7	-70.50	-95.50	25.00	34.60	3-Clean Sand
8	-95.50	-100.00	4.50	60.67	4-Limestone, Very
Shelly Sand					

Driven Pile Data:

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Pile unit weight = 150.00(pcf), Section Type: Square

Pile Geometry:

Width (in)	Length (ft)	Tip Elev. (ft)
18.00	25.00	-25.00
18.00	26.00	-26.00
18.00	27.00	-27.00
18.00	28.00	-28.00
18.00	29.00	-29.00
18.00	30.00	-30.00
18.00	31.00	-31.00
18.00	32.00	-32.00
18.00	33.00	-33.00
18.00	34.00	-34.00
18.00	35.00	-35.00
18.00	36.00	-36.00
18.00	37.00	-37.00
18.00	38.00	-38.00
18.00	39.00	-39.00
18.00	40.00	-40.00
18.00	41.00	-41.00
18.00	42.00	-42.00

B-301_Void-10ft.out

18.00	43.00	-43.00
18.00	44.00	-44.00
18.00	45.00	-45.00
18.00	46.00	-46.00
18.00	47.00	-47.00
18.00	48.00	-48.00
18.00	49.00	-49.00
18.00	50.00	-50.00
18.00	51.00	-51.00
18.00	52.00	-52.00
18.00	53.00	-53.00
18.00	54.00	-54.00
18.00	55.00	-55.00
18.00	56.00	-56.00
18.00	57.00	-57.00
18.00	58.00	-58.00
18.00	59.00	-59.00
18.00	60.00	-60.00
18.00	61.00	-61.00
18.00	62.00	-62.00
18.00	63.00	-63.00
18.00	64.00	-64.00
18.00	65.00	-65.00
18.00	66.00	-66.00
18.00	67.00	-67.00
18.00	68.00	-68.00
18.00	69.00	-69.00
18.00	70.00	-70.00
18.00	71.00	-71.00
18.00	72.00	-72.00
18.00	73.00	-73.00
18.00	74.00	-74.00
18.00	75.00	-75.00
18.00	76.00	-76.00
18.00	77.00	-77.00
18.00	78.00	-78.00
18.00	79.00	-79.00
18.00	80.00	-80.00
18.00	81.00	-81.00
18.00	82.00	-82.00
18.00	83.00	-83.00
18.00	84.00	-84.00
18.00	85.00	-85.00
18.00	86.00	-86.00
18.00	87.00	-87.00
18.00	88.00	-88.00
18.00	89.00	-89.00
18.00	90.00	-90.00
18.00	91.00	-91.00
18.00	92.00	-92.00
18.00	93.00	-93.00
18.00	94.00	-94.00
24.00	25.00	-25.00
24.00	26.00	-26.00
24.00	27.00	-27.00
24.00	28.00	-28.00
24.00	29.00	-29.00
24.00	30.00	-30.00
24.00	31.00	-31.00
24.00	32.00	-32.00
24.00	33.00	-33.00
24.00	34.00	-34.00
24.00	35.00	-35.00

B-301_Void-10ft.out

24.00	36.00	-36.00
24.00	37.00	-37.00
24.00	38.00	-38.00
24.00	39.00	-39.00
24.00	40.00	-40.00
24.00	41.00	-41.00
24.00	42.00	-42.00
24.00	43.00	-43.00
24.00	44.00	-44.00
24.00	45.00	-45.00
24.00	46.00	-46.00
24.00	47.00	-47.00
24.00	48.00	-48.00
24.00	49.00	-49.00
24.00	50.00	-50.00
24.00	51.00	-51.00
24.00	52.00	-52.00
24.00	53.00	-53.00
24.00	54.00	-54.00
24.00	55.00	-55.00
24.00	56.00	-56.00
24.00	57.00	-57.00
24.00	58.00	-58.00
24.00	59.00	-59.00
24.00	60.00	-60.00
24.00	61.00	-61.00
24.00	62.00	-62.00
24.00	63.00	-63.00
24.00	64.00	-64.00
24.00	65.00	-65.00
24.00	66.00	-66.00
24.00	67.00	-67.00
24.00	68.00	-68.00
24.00	69.00	-69.00
24.00	70.00	-70.00
24.00	71.00	-71.00
24.00	72.00	-72.00
24.00	73.00	-73.00
24.00	74.00	-74.00
24.00	75.00	-75.00
24.00	76.00	-76.00
24.00	77.00	-77.00
24.00	78.00	-78.00
24.00	79.00	-79.00
24.00	80.00	-80.00
24.00	81.00	-81.00
24.00	82.00	-82.00
24.00	83.00	-83.00
24.00	84.00	-84.00
24.00	85.00	-85.00
24.00	86.00	-86.00
24.00	87.00	-87.00
24.00	88.00	-88.00
24.00	89.00	-89.00
24.00	90.00	-90.00
24.00	91.00	-91.00
24.00	92.00	-92.00
24.00	93.00	-93.00
24.00	94.00	-94.00

Driven Pile Capacity:

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Section Type: Square
 Pile Width: 18.00 (in)

Test Pile Length (ft)	Pile Width (in)	Ultimate Side Friction (tons)	Mobilized End Bearing (tons)	Estimated Davisson Capacity (tons)	Allowable Pile Capacity (tons)	Ultimate Pile Capacity (tons)
25.00	18.0	21.55	28.10	49.65	24.83	105.86
26.00	18.0	22.18	22.41	44.59	22.30	89.42
27.00	18.0	22.77	27.58	50.36	25.18	105.52
28.00	18.0	23.16	28.95	52.11	26.05	110.01
29.00	18.0	23.59	31.74	55.34	27.67	118.82
30.00	18.0	24.23	36.09	60.33	30.16	132.51
31.00	18.0	27.65	99.28	126.94	63.47	325.50
32.00	18.0	29.78	107.98	137.76	68.88	353.71
33.00	18.0	32.18	112.70	144.88	72.44	370.29
34.00	18.0	34.87	110.70	145.57	72.79	366.97
35.00	18.0	37.89	102.16	140.05	70.03	344.37
36.00	18.0	41.20	90.24	131.45	65.72	311.94
37.00	18.0	44.58	76.99	121.57	60.78	275.55
38.00	18.0	47.99	63.43	111.41	55.71	238.27
39.00	18.0	51.05	52.81	103.87	51.93	209.50
40.00	18.0	53.40	47.97	101.37	50.69	197.31
41.00	18.0	55.11	50.42	105.54	52.77	206.38
42.00	18.0	56.60	57.61	114.21	57.10	229.42
43.00	18.0	57.94	66.95	124.89	62.44	258.79
44.00	18.0	59.26	75.59	134.85	67.43	286.03
45.00	18.0	60.71	83.16	143.87	71.93	310.20
46.00	18.0	62.42	91.87	154.29	77.14	338.03
47.00	18.0	65.28	100.11	165.39	82.70	365.62
48.00	18.0	69.43	88.49	157.93	78.96	334.92
49.00	18.0	74.10	88.52	162.62	81.31	339.67
50.00	18.0	78.59	88.04	166.64	83.32	342.72
51.00	18.0	82.95	86.59	169.55	84.77	342.73
52.00	18.0	87.93	85.80	173.73	86.87	345.33
53.00	18.0	93.64	85.40	179.04	89.52	349.83
54.00	18.0	99.30	83.91	183.20	91.60	351.02
55.00	18.0	104.10	81.44	185.54	92.77	348.42
56.00	18.0	108.18	79.22	187.40	93.70	345.85
57.00	18.0	112.25	80.07	192.32	96.16	352.46
58.00	18.0	116.44	83.99	200.42	100.21	368.40
59.00	18.0	118.66	90.86	209.53	104.76	391.25
60.00	18.0	116.81	100.37	217.18	108.59	417.92
61.00	18.0	114.65	113.82	228.48	114.24	456.12
62.00	18.0	115.35	125.86	241.20	120.60	492.91
63.00	18.0	118.52	135.18	253.70	126.85	524.06
64.00	18.0	123.26	141.24	264.50	132.25	546.98
65.00	18.0	128.92	143.25	272.16	136.08	558.65
66.00	18.0	150.54	161.78	312.32	156.16	635.88
67.00	18.0	155.92	131.58	287.51	143.75	550.67
68.00	18.0	160.69	103.82	264.52	132.26	472.16
69.00	18.0	165.63	81.85	247.48	123.74	411.18
70.00	18.0	171.52	63.72	235.24	117.62	362.69
71.00	18.0	176.79	57.37	234.17	117.08	348.91
72.00	18.0	180.67	57.90	238.57	119.28	354.36
73.00	18.0	183.47	57.38	240.85	120.43	355.61

B-301_Void-10ft.out

74.00	18.0	185.30	56.74	242.04	121.02	355.53
75.00	18.0	187.26	55.27	242.53	121.26	353.07
76.00	18.0	189.49	53.07	242.56	121.28	348.69
77.00	18.0	192.10	52.42	244.52	122.26	349.36
78.00	18.0	195.04	53.08	248.11	124.06	354.26
79.00	18.0	197.81	55.32	253.13	126.57	363.78
80.00	18.0	198.88	58.18	257.06	128.53	373.43
81.00	18.0	198.68	62.19	260.87	130.43	385.24
82.00	18.0	199.05	67.45	266.50	133.25	401.40
83.00	18.0	200.46	72.69	273.15	136.57	418.53
84.00	18.0	202.66	78.21	280.87	140.44	437.30
85.00	18.0	205.37	85.37	290.73	145.37	461.46
86.00	18.0	208.78	93.22	302.00	151.00	488.43
87.00	18.0	212.99	100.57	313.56	156.78	514.69
88.00	18.0	217.98	107.26	325.24	162.62	539.77
89.00	18.0	223.65	112.84	336.49	168.24	562.16
90.00	18.0	229.71	117.63	347.34	173.67	582.61
91.00	18.0	235.85	123.53	359.38	179.69	606.43
92.00	18.0	242.00	130.96	372.96	186.48	634.87
93.00	18.0	248.15	139.75	387.90	193.95	667.40
94.00	18.0	253.93	148.06	401.99	200.99	698.11

Section Type: Square
Pile Width: 24.00 (in)

Test Pile Length (ft)	Pile Width (in)	Ultimate Side Friction (tons)	Mobilized End Bearing (tons)	Estimated Davisson Capacity (tons)	Allowable Pile Capacity (tons)	Ultimate Pile Capacity (tons)
25.00	24.0	28.74	71.49	100.23	50.11	243.20
26.00	24.0	29.58	49.89	79.46	39.73	179.24
27.00	24.0	30.41	60.64	91.05	45.52	212.33
28.00	24.0	31.20	69.50	100.70	50.35	239.70
29.00	24.0	31.91	72.61	104.51	52.26	249.73
30.00	24.0	32.91	77.48	110.39	55.19	265.34
31.00	24.0	36.87	184.29	221.16	110.58	589.75
32.00	24.0	39.71	186.55	226.26	113.13	599.35
33.00	24.0	42.90	180.86	223.76	111.88	585.47
34.00	24.0	46.50	170.71	217.20	108.60	558.62
35.00	24.0	50.52	156.36	206.89	103.44	519.62
36.00	24.0	54.94	139.21	194.15	97.07	472.56
37.00	24.0	59.44	122.34	181.78	90.89	426.45
38.00	24.0	63.98	106.54	170.52	85.26	383.60
39.00	24.0	68.07	97.81	165.89	82.94	361.52
40.00	24.0	71.21	99.92	171.12	85.56	370.96
41.00	24.0	73.48	109.42	182.90	91.45	401.74
42.00	24.0	75.47	119.67	195.13	97.57	434.46
43.00	24.0	77.25	130.57	207.82	103.91	468.95
44.00	24.0	79.02	144.46	223.48	111.74	512.41
45.00	24.0	80.94	160.88	241.82	120.91	563.58
46.00	24.0	83.22	175.67	258.89	129.44	610.22
47.00	24.0	87.04	182.42	269.46	134.73	634.31
48.00	24.0	92.58	164.30	256.88	128.44	585.47
49.00	24.0	98.84	163.61	262.44	131.22	589.65
50.00	24.0	104.79	162.57	267.36	133.68	592.51
51.00	24.0	110.61	161.24	271.85	135.92	594.33
52.00	24.0	117.24	157.02	274.26	137.13	588.31
53.00	24.0	124.86	148.67	273.53	136.76	570.87
54.00	24.0	132.39	138.39	270.78	135.39	547.55

B-301_Void-10ft.out						
55.00	24.0	138.80	133.74	272.54	136.27	540.01
56.00	24.0	144.24	136.30	280.54	140.27	553.14
57.00	24.0	149.67	146.01	295.68	147.84	587.71
58.00	24.0	155.25	162.92	318.17	159.09	644.02
59.00	24.0	154.02	174.41	328.43	164.21	677.24
60.00	24.0	152.38	186.42	338.79	169.40	711.63
61.00	24.0	151.35	198.41	349.76	174.88	746.58
62.00	24.0	153.02	208.89	361.91	180.96	779.70
63.00	24.0	157.35	217.33	374.69	187.34	809.36
64.00	24.0	163.65	222.17	385.83	192.91	830.17
65.00	24.0	171.87	220.01	391.88	195.94	831.90
66.00	24.0	200.72	230.57	431.29	215.64	892.43
67.00	24.0	207.90	188.67	396.57	198.28	773.91
68.00	24.0	214.26	156.81	371.07	185.54	684.70
69.00	24.0	220.84	131.75	352.59	176.30	616.09
70.00	24.0	228.70	110.89	339.58	169.79	561.36
71.00	24.0	235.68	101.28	336.96	168.48	539.53
72.00	24.0	240.62	102.21	342.82	171.41	547.24
73.00	24.0	244.49	101.37	345.85	172.93	548.59
74.00	24.0	247.42	99.98	347.40	173.70	547.37
75.00	24.0	249.68	95.50	345.18	172.59	536.19
76.00	24.0	252.66	95.44	348.10	174.05	538.97
77.00	24.0	256.13	98.04	354.17	177.08	550.25
78.00	24.0	259.43	100.85	360.28	180.14	561.98
79.00	24.0	261.56	103.33	364.89	182.45	571.56
80.00	24.0	262.38	107.23	369.61	184.80	584.06
81.00	24.0	262.33	112.88	375.21	187.60	600.98
82.00	24.0	262.98	119.76	382.74	191.37	622.26
83.00	24.0	264.62	127.25	391.87	195.94	646.38
84.00	24.0	267.21	135.08	402.29	201.15	672.46
85.00	24.0	270.77	142.86	413.63	206.82	699.34
86.00	24.0	275.30	150.28	425.58	212.79	726.14
87.00	24.0	280.82	156.47	437.29	218.65	750.22
88.00	24.0	286.93	163.41	450.34	225.17	777.15
89.00	24.0	292.93	173.54	466.47	233.24	813.55
90.00	24.0	298.77	186.18	484.94	242.47	857.30
91.00	24.0	304.72	200.11	504.83	252.41	905.04
92.00	24.0	310.82	215.00	525.82	262.91	955.83
93.00	24.0	317.10	230.54	547.64	273.82	1008.73
94.00	24.0	Soil Elevations Must Extend At or Below Contribution Zone				

NOTES

1. MOBILIZED END BEARING IS 1/3 OF THE ORIGINAL RB-121 VALUES.
2. DAVISSON PILE CAPACITY IS AN ESTIMATE BASED ON FAILURE CRITERIA, AND EQUALS ULTIMATE SIDE FRICTION PLUS MOBILIZED END BEARING.
3. ALLOWABLE PILE CAPACITY IS 1/2 THE DAVISSON PILE CAPACITY.
4. ULTIMATE PILE CAPACITY IS ULTIMATE SIDE FRICTION PLUS 3 x THE MOBILIZED END BEARING.
EXCEPTION: FOR H-PILES TIPPED IN SAND OR LIMESTONE, THE ULTIMATE PILE CAPACITY IS ULTIMATE SIDE FRICTION PLUS 2 x THE MOBILIZED END BEARING.

General Information:

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Input file:adino)\Analysis_Structure\FB-Deep_2021\Pile\B-302_Void-10ft.in
 Project number: 2000-01-16015
 Job name: I-95 From Hallandale Beach Boulevard to Hollywood Blvd
 Engineer: JB Henry
 Units: English

Analysis Information:

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Analysis Type: SPT

Soil Information:

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Boring date: 9/7/2018, Boring Number: B-302
 Station number: Offset:

Ground Elevation: 0.000(ft)

Hammer type: Automatic Hammer, Correction factor = 1.24

ID	Depth (ft)	No. of Blows (Blows/ft)	Soil Type
1	0.00	5.00	5- Cavity layer
2	2.00	7.00	5- Cavity layer
3	4.00	11.00	5- Cavity layer
4	6.00	11.00	5- Cavity layer
5	8.00	7.00	5- Cavity layer
6	10.00	13.00	4- Lime Stone/Very shelly sand
7	12.00	14.00	2- Clay and silty sand
8	13.50	15.00	4- Lime Stone/Very shelly sand
9	15.50	16.00	3- Clean sand
10	18.00	15.00	3- Clean sand
11	20.50	10.00	3- Clean sand
12	23.00	17.00	3- Clean sand
13	25.50	6.00	3- Clean sand
14	28.00	7.00	3- Clean sand
15	30.50	5.00	3- Clean sand
16	33.00	7.00	4- Lime Stone/Very shelly sand
17	35.50	12.00	4- Lime Stone/Very shelly sand
18	38.00	22.00	4- Lime Stone/Very shelly sand
19	40.50	6.00	4- Lime Stone/Very shelly sand
20	43.00	7.00	4- Lime Stone/Very shelly sand
21	45.50	13.00	3- Clean sand
22	48.00	19.00	3- Clean sand
23	50.50	22.00	3- Clean sand
24	53.00	16.00	3- Clean sand
25	55.50	7.00	3- Clean sand
26	58.00	13.00	4- Lime Stone/Very shelly sand
27	60.50	6.00	4- Lime Stone/Very shelly sand
28	63.00	20.00	4- Lime Stone/Very shelly sand
29	65.50	41.00	4- Lime Stone/Very shelly sand
30	68.00	78.00	4- Lime Stone/Very shelly sand
31	70.50	60.00	4- Lime Stone/Very shelly sand
32	73.00	60.00	4- Lime Stone/Very shelly sand

B-302_Void-10ft.out

33	75.50	49.00	3- Clean sand
34	78.00	61.00	3- Clean sand
35	80.50	81.00	3- Clean sand
36	83.00	60.00	4- Lime Stone/Very shelly sand
37	85.50	60.00	4- Lime Stone/Very shelly sand
38	88.00	60.00	4- Lime Stone/Very shelly sand
39	90.50	30.00	4- Lime Stone/Very shelly sand
40	93.00	26.00	4- Lime Stone/Very shelly sand
41	95.50	29.00	4- Lime Stone/Very shelly sand
42	98.00	60.00	4- Lime Stone/Very shelly sand
43	100.00	60.00	4- Lime Stone/Very shelly sand

Blowcount Average Per Soil Layer

Layer Num.	Starting Elevation (ft)	Bottom Elevation (ft)	Thickness (ft)	Average Blowcount (Blows/ft)	Soil Type
1	0.00	-10.00	10.00	8.20	5-Void
2	-10.00	-12.00	2.00	13.00	4-Limestone, Very
Shelly Sand					
3	-12.00	-13.50	1.50	14.00	2-Clay and Silty Sand
4	-13.50	-15.50	2.00	15.00	4-Limestone, Very
Shelly Sand					
5	-15.50	-33.00	17.50	10.86	3-Clean Sand
6	-33.00	-45.50	12.50	10.80	4-Limestone, Very
Shelly Sand					
7	-45.50	-58.00	12.50	15.40	3-Clean Sand
8	-58.00	-75.50	17.50	39.71	4-Limestone, Very
Shelly Sand					
9	-75.50	-83.00	7.50	63.67	3-Clean Sand
10	-83.00	-100.00	17.00	46.03	4-Limestone, Very
Shelly Sand					

Driven Pile Data:

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Pile unit weight = 150.00(pcf), Section Type: Square

Pile Geometry:

Width (in)	Length (ft)	Tip Elev. (ft)
18.00	25.00	-25.00
18.00	26.00	-26.00
18.00	27.00	-27.00
18.00	28.00	-28.00
18.00	29.00	-29.00
18.00	30.00	-30.00
18.00	31.00	-31.00
18.00	32.00	-32.00
18.00	33.00	-33.00
18.00	34.00	-34.00
18.00	35.00	-35.00
18.00	36.00	-36.00
18.00	37.00	-37.00
18.00	38.00	-38.00
18.00	39.00	-39.00

B-302_Void-10ft.out

18.00	40.00	-40.00
18.00	41.00	-41.00
18.00	42.00	-42.00
18.00	43.00	-43.00
18.00	44.00	-44.00
18.00	45.00	-45.00
18.00	46.00	-46.00
18.00	47.00	-47.00
18.00	48.00	-48.00
18.00	49.00	-49.00
18.00	50.00	-50.00
18.00	51.00	-51.00
18.00	52.00	-52.00
18.00	53.00	-53.00
18.00	54.00	-54.00
18.00	55.00	-55.00
18.00	56.00	-56.00
18.00	57.00	-57.00
18.00	58.00	-58.00
18.00	59.00	-59.00
18.00	60.00	-60.00
18.00	61.00	-61.00
18.00	62.00	-62.00
18.00	63.00	-63.00
18.00	64.00	-64.00
18.00	65.00	-65.00
18.00	66.00	-66.00
18.00	67.00	-67.00
18.00	68.00	-68.00
18.00	69.00	-69.00
18.00	70.00	-70.00
18.00	71.00	-71.00
18.00	72.00	-72.00
18.00	73.00	-73.00
18.00	74.00	-74.00
18.00	75.00	-75.00
18.00	76.00	-76.00
18.00	77.00	-77.00
18.00	78.00	-78.00
18.00	79.00	-79.00
18.00	80.00	-80.00
18.00	81.00	-81.00
18.00	82.00	-82.00
18.00	83.00	-83.00
18.00	84.00	-84.00
18.00	85.00	-85.00
18.00	86.00	-86.00
18.00	87.00	-87.00
18.00	88.00	-88.00
18.00	89.00	-89.00
18.00	90.00	-90.00
18.00	91.00	-91.00
18.00	92.00	-92.00
18.00	93.00	-93.00
18.00	94.00	-94.00
24.00	25.00	-25.00
24.00	26.00	-26.00
24.00	27.00	-27.00
24.00	28.00	-28.00
24.00	29.00	-29.00
24.00	30.00	-30.00
24.00	31.00	-31.00
24.00	32.00	-32.00

B-302_Void-10ft.out

24.00	33.00	-33.00
24.00	34.00	-34.00
24.00	35.00	-35.00
24.00	36.00	-36.00
24.00	37.00	-37.00
24.00	38.00	-38.00
24.00	39.00	-39.00
24.00	40.00	-40.00
24.00	41.00	-41.00
24.00	42.00	-42.00
24.00	43.00	-43.00
24.00	44.00	-44.00
24.00	45.00	-45.00
24.00	46.00	-46.00
24.00	47.00	-47.00
24.00	48.00	-48.00
24.00	49.00	-49.00
24.00	50.00	-50.00
24.00	51.00	-51.00
24.00	52.00	-52.00
24.00	53.00	-53.00
24.00	54.00	-54.00
24.00	55.00	-55.00
24.00	56.00	-56.00
24.00	57.00	-57.00
24.00	58.00	-58.00
24.00	59.00	-59.00
24.00	60.00	-60.00
24.00	61.00	-61.00
24.00	62.00	-62.00
24.00	63.00	-63.00
24.00	64.00	-64.00
24.00	65.00	-65.00
24.00	66.00	-66.00
24.00	67.00	-67.00
24.00	68.00	-68.00
24.00	69.00	-69.00
24.00	70.00	-70.00
24.00	71.00	-71.00
24.00	72.00	-72.00
24.00	73.00	-73.00
24.00	74.00	-74.00
24.00	75.00	-75.00
24.00	76.00	-76.00
24.00	77.00	-77.00
24.00	78.00	-78.00
24.00	79.00	-79.00
24.00	80.00	-80.00
24.00	81.00	-81.00
24.00	82.00	-82.00
24.00	83.00	-83.00
24.00	84.00	-84.00
24.00	85.00	-85.00
24.00	86.00	-86.00
24.00	87.00	-87.00
24.00	88.00	-88.00
24.00	89.00	-89.00
24.00	90.00	-90.00
24.00	91.00	-91.00
24.00	92.00	-92.00

Driven Pile Capacity:

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Section Type: Square
 Pile Width: 18.00 (in)

Test Pile Length (ft)	Pile Width (in)	Ultimate Side Friction (tons)	Mobilized End Bearing (tons)	Estimated Davisson Capacity (tons)	Allowable Pile Capacity (tons)	Ultimate Pile Capacity (tons)
25.00	18.0	31.75	29.70	61.45	30.72	120.84
26.00	18.0	32.68	28.28	60.95	30.48	117.50
27.00	18.0	33.58	27.08	60.67	30.33	114.83
28.00	18.0	34.55	25.76	60.30	30.15	111.82
29.00	18.0	35.48	24.62	60.10	30.05	109.33
30.00	18.0	36.30	24.11	60.41	30.20	108.63
31.00	18.0	37.01	24.46	61.47	30.73	110.38
32.00	18.0	37.64	26.00	63.64	31.82	115.65
33.00	18.0	38.20	33.46	71.66	35.83	138.57
34.00	18.0	38.80	35.31	74.11	37.06	144.74
35.00	18.0	39.54	34.09	73.63	36.81	141.80
36.00	18.0	40.45	31.76	72.21	36.11	135.73
37.00	18.0	41.64	28.01	69.65	34.82	125.66
38.00	18.0	43.13	23.40	66.53	33.26	113.32
39.00	18.0	44.53	20.79	65.32	32.66	106.89
40.00	18.0	45.45	22.30	67.75	33.88	112.35
41.00	18.0	45.96	27.34	73.30	36.65	127.97
42.00	18.0	46.44	33.76	80.20	40.10	147.71
43.00	18.0	46.94	40.92	87.86	43.93	169.70
44.00	18.0	47.73	47.84	95.56	47.78	191.23
45.00	18.0	49.04	53.60	102.64	51.32	209.84
46.00	18.0	50.82	41.42	92.24	46.12	175.08
47.00	18.0	52.80	41.75	94.55	47.27	178.04
48.00	18.0	55.08	42.13	97.21	48.60	181.46
49.00	18.0	57.79	42.19	99.98	49.99	184.36
50.00	18.0	61.12	41.57	102.69	51.34	185.82
51.00	18.0	64.30	38.76	103.07	51.53	180.59
52.00	18.0	67.07	36.84	103.92	51.96	177.61
53.00	18.0	69.50	36.21	105.71	52.85	178.12
54.00	18.0	71.51	35.74	107.25	53.62	178.72
55.00	18.0	73.01	35.17	108.18	54.09	178.52
56.00	18.0	74.06	34.78	108.84	54.42	178.41
57.00	18.0	75.04	35.16	110.20	55.10	180.51
58.00	18.0	76.01	31.88	107.89	53.95	171.64
59.00	18.0	76.88	41.41	118.29	59.14	201.10
60.00	18.0	77.53	56.72	134.25	67.13	247.69
61.00	18.0	78.06	81.28	159.34	79.67	321.91
62.00	18.0	78.92	113.20	192.12	96.06	418.52
63.00	18.0	80.20	145.00	225.20	112.60	515.21
64.00	18.0	82.00	168.79	250.79	125.39	588.36
65.00	18.0	84.42	184.30	268.72	134.36	637.32
66.00	18.0	87.53	194.53	282.07	141.03	671.13
67.00	18.0	91.69	196.20	287.88	143.94	680.28
68.00	18.0	96.94	187.66	284.60	142.30	659.93
69.00	18.0	102.47	174.99	277.46	138.73	627.44
70.00	18.0	107.47	165.46	272.94	136.47	603.86
71.00	18.0	112.00	159.95	271.95	135.98	591.85
72.00	18.0	116.47	155.04	271.51	135.75	581.59

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73.00	18.0	120.93	150.13	271.07	135.53	571.33
74.00	18.0	125.87	146.21	272.08	136.04	564.50
75.00	18.0	131.76	144.49	276.25	138.13	565.23
76.00	18.0	138.44	154.02	292.47	146.23	600.52
77.00	18.0	144.97	154.46	299.42	149.71	608.33
78.00	18.0	151.23	155.31	306.54	153.27	617.15
79.00	18.0	157.49	156.23	313.72	156.86	626.18
80.00	18.0	164.00	156.80	320.80	160.40	634.40
81.00	18.0	170.56	157.14	327.70	163.85	641.98
82.00	18.0	176.26	157.62	333.88	166.94	649.13
83.00	18.0	183.39	170.17	353.56	176.78	693.89
84.00	18.0	187.86	160.34	348.19	174.10	668.87
85.00	18.0	192.32	144.68	337.00	168.50	626.36
86.00	18.0	196.78	127.55	324.34	162.17	579.44
87.00	18.0	201.25	109.68	310.92	155.46	530.28
88.00	18.0	205.71	91.70	297.42	148.71	480.83
89.00	18.0	209.73	77.57	287.30	143.65	442.44
90.00	18.0	212.86	71.32	284.17	142.09	426.80
91.00	18.0	215.18	76.86	292.04	146.02	445.76
92.00	18.0	217.30	90.62	307.91	153.96	489.15
93.00	18.0	219.29	108.49	327.78	163.89	544.77
94.00	18.0	221.27	126.46	347.73	173.87	600.66

Section Type: Square
Pile Width: 24.00 (in)

Test Pile Length (ft)	Pile Width (in)	Ultimate Side Friction (tons)	Mobilized End Bearing (tons)	Estimated Davisson Capacity (tons)	Allowable Pile Capacity (tons)	Ultimate Pile Capacity (tons)
25.00	24.0	40.95	50.05	91.00	45.50	191.10
26.00	24.0	42.94	48.95	91.89	45.94	189.80
27.00	24.0	44.72	48.03	92.75	46.37	188.80
28.00	24.0	46.06	47.25	93.31	46.66	187.82
29.00	24.0	47.30	47.33	94.63	47.32	189.28
30.00	24.0	48.04	48.72	96.75	48.38	194.18
31.00	24.0	47.94	51.48	99.41	49.71	202.37
32.00	24.0	48.09	53.95	102.04	51.02	209.95
33.00	24.0	50.93	54.60	105.54	52.77	214.74
34.00	24.0	51.73	53.76	105.49	52.75	213.02
35.00	24.0	52.72	52.07	104.79	52.40	208.94
36.00	24.0	53.93	50.30	104.23	52.12	204.82
37.00	24.0	55.52	48.44	103.96	51.98	200.85
38.00	24.0	57.51	46.31	103.81	51.91	196.42
39.00	24.0	59.37	46.44	105.81	52.91	198.70
40.00	24.0	60.60	51.69	112.29	56.15	215.67
41.00	24.0	61.28	61.18	122.46	61.23	244.83
42.00	24.0	61.91	71.73	133.65	66.82	277.11
43.00	24.0	62.59	82.57	145.16	72.58	310.29
44.00	24.0	63.63	91.00	154.63	77.32	336.62
45.00	24.0	65.38	95.80	161.19	80.59	352.80
46.00	24.0	67.78	71.45	139.23	69.62	282.13
47.00	24.0	70.57	71.62	142.19	71.10	285.44
48.00	24.0	73.88	71.67	145.55	72.78	288.90
49.00	24.0	77.75	71.10	148.86	74.43	291.07
50.00	24.0	81.67	68.79	150.46	75.23	288.05
51.00	24.0	85.74	66.53	152.26	76.13	285.32
52.00	24.0	89.43	64.19	153.62	76.81	282.00
53.00	24.0	92.67	60.99	153.66	76.83	275.65

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54.00	24.0	95.35	57.34	152.69	76.35	267.38
55.00	24.0	97.35	56.04	153.39	76.69	265.47
56.00	24.0	98.75	58.00	156.75	78.37	272.74
57.00	24.0	100.06	62.99	163.04	81.52	289.01
58.00	24.0	101.35	86.07	187.42	93.71	359.57
59.00	24.0	102.50	116.43	218.93	109.47	451.79
60.00	24.0	103.38	160.56	263.94	131.97	585.06
61.00	24.0	104.07	208.51	312.58	156.29	729.59
62.00	24.0	105.23	247.48	352.70	176.35	847.66
63.00	24.0	106.93	277.72	384.65	192.33	940.09
64.00	24.0	109.33	302.95	412.28	206.14	1018.17
65.00	24.0	112.57	322.82	435.38	217.69	1081.01
66.00	24.0	116.71	335.15	451.87	225.93	1122.17
67.00	24.0	122.25	333.45	455.70	227.85	1122.59
68.00	24.0	129.25	317.16	446.41	223.21	1080.74
69.00	24.0	136.63	297.65	434.28	217.14	1029.57
70.00	24.0	143.30	284.62	427.92	213.96	997.15
71.00	24.0	149.34	277.26	426.60	213.30	981.13
72.00	24.0	155.29	270.72	426.01	213.01	967.45
73.00	24.0	161.24	264.51	425.75	212.87	954.76
74.00	24.0	167.83	261.89	429.72	214.86	953.49
75.00	24.0	175.68	264.51	440.19	220.09	969.20
76.00	24.0	184.55	247.04	431.59	215.80	925.68
77.00	24.0	192.96	247.94	440.89	220.45	936.77
78.00	24.0	200.81	249.67	450.48	225.24	949.81
79.00	24.0	208.27	252.14	460.41	230.20	964.69
80.00	24.0	215.49	255.21	470.69	235.35	981.11
81.00	24.0	222.50	258.64	481.14	240.57	998.42
82.00	24.0	229.06	261.36	490.42	245.21	1013.14
83.00	24.0	244.52	269.99	514.52	257.26	1054.50
84.00	24.0	250.48	247.15	497.63	248.81	991.94
85.00	24.0	256.43	223.32	479.75	239.87	926.39
86.00	24.0	262.38	199.36	461.74	230.87	860.46
87.00	24.0	268.33	176.14	444.47	222.24	796.76
88.00	24.0	274.28	154.70	428.98	214.49	738.38
89.00	24.0	279.64	145.58	425.22	212.61	716.39
90.00	24.0	283.81	154.19	438.00	219.00	746.39
91.00	24.0	286.91	175.07	461.98	230.99	812.12
92.00	24.0	289.73	197.91	487.64	243.82	883.45

NOTES

1. MOBILIZED END BEARING IS 1/3 OF THE ORIGINAL RB-121 VALUES.
2. DAVISSON PILE CAPACITY IS AN ESTIMATE BASED ON FAILURE CRITERIA, AND EQUALS ULTIMATE SIDE FRICTION PLUS MOBILIZED END BEARING.
3. ALLOWABLE PILE CAPACITY IS 1/2 THE DAVISSON PILE CAPACITY.
4. ULTIMATE PILE CAPACITY IS ULTIMATE SIDE FRICTION PLUS 3 x THE MOBILIZED END BEARING.
EXCEPTION: FOR H-PILES TIPPED IN SAND OR LIMESTONE, THE ULTIMATE PILE CAPACITY IS ULTIMATE SIDE FRICTION PLUS 2 x THE MOBILIZED END BEARING.

General Information:

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Input file:adino)\Analysis_Structure\FB-Deep_2021\Pile\B-401_Void-10ft.in
 Project number: 2000-01-16015
 Job name: I-95 From Hallandale Beach Boulevard to Hollywood Blvd
 Engineer: JB Henry
 Units: English

Analysis Information:

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Analysis Type: SPT

Soil Information:

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Boring date: 9/10/2018, Boring Number: B-401
 Station number: Offset:

Ground Elevation: 0.000(ft)

Hammer type: Automatic Hammer, Correction factor = 1.24

ID	Depth (ft)	No. of Blows (Blows/ft)	Soil Type
1	0.00	7.00	5- Cavity layer
2	2.00	5.00	5- Cavity layer
3	4.00	7.00	5- Cavity layer
4	6.00	10.00	5- Cavity layer
5	8.00	2.00	5- Cavity layer
6	10.00	4.00	3- Clean sand
7	12.00	6.00	3- Clean sand
8	13.50	5.00	3- Clean sand
9	15.50	3.00	3- Clean sand
10	18.00	5.00	3- Clean sand
11	20.50	5.00	4- Lime Stone/Very shelly sand
12	23.00	9.00	4- Lime Stone/Very shelly sand
13	25.50	4.00	4- Lime Stone/Very shelly sand
14	28.00	9.00	4- Lime Stone/Very shelly sand
15	30.50	9.00	3- Clean sand
16	33.00	12.00	3- Clean sand
17	35.50	10.00	3- Clean sand
18	38.00	17.00	3- Clean sand
19	40.50	25.00	3- Clean sand
20	43.00	23.00	3- Clean sand
21	45.50	37.00	3- Clean sand
22	48.00	28.00	3- Clean sand
23	50.50	18.00	3- Clean sand
24	53.00	60.00	3- Clean sand
25	55.50	17.00	3- Clean sand
26	58.00	23.00	3- Clean sand
27	60.50	60.00	4- Lime Stone/Very shelly sand
28	63.00	41.00	3- Clean sand
29	65.50	50.00	3- Clean sand
30	68.00	61.00	3- Clean sand
31	70.50	8.00	4- Lime Stone/Very shelly sand
32	73.00	21.00	4- Lime Stone/Very shelly sand

B-401_Void-10ft.out

33	75.50	72.00	4-	Lime Stone/Very shelly sand
34	78.00	60.00	4-	Lime Stone/Very shelly sand
35	80.50	20.00	4-	Lime Stone/Very shelly sand
36	83.00	67.00	4-	Lime Stone/Very shelly sand
37	85.50	60.00	4-	Lime Stone/Very shelly sand
38	88.00	25.00	4-	Lime Stone/Very shelly sand
39	90.50	60.00	4-	Lime Stone/Very shelly sand
40	93.00	80.00	3-	Clean sand
41	95.50	69.00	3-	Clean sand
42	98.00	87.00	3-	Clean sand
43	100.00	87.00	3-	Clean sand

Blowcount Average Per Soil Layer

Layer Num.	Starting Elevation (ft)	Bottom Elevation (ft)	Thickness (ft)	Average Blowcount (Blows/ft)	Soil Type
1	0.00	-10.00	10.00	6.20	5-Void
2	-10.00	-20.50	10.50	4.48	3-Clean Sand
3	-20.50	-30.50	10.00	6.75	4-Limestone, Very
Shelly Sand					
4	-30.50	-60.50	30.00	23.25	3-Clean Sand
5	-60.50	-63.00	2.50	60.00	4-Limestone, Very
Shelly Sand					
6	-63.00	-70.50	7.50	50.67	3-Clean Sand
7	-70.50	-93.00	22.50	43.67	4-Limestone, Very
Shelly Sand					
8	-93.00	-100.00	7.00	78.07	3-Clean Sand

Driven Pile Data:

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Pile unit weight = 150.00(pcf), Section Type: Square

Pile Geometry:

Width (in)	Length (ft)	Tip Elev. (ft)
18.00	25.00	-25.00
18.00	26.00	-26.00
18.00	27.00	-27.00
18.00	28.00	-28.00
18.00	29.00	-29.00
18.00	30.00	-30.00
18.00	31.00	-31.00
18.00	32.00	-32.00
18.00	33.00	-33.00
18.00	34.00	-34.00
18.00	35.00	-35.00
18.00	36.00	-36.00
18.00	37.00	-37.00
18.00	38.00	-38.00
18.00	39.00	-39.00
18.00	40.00	-40.00
18.00	41.00	-41.00
18.00	42.00	-42.00
18.00	43.00	-43.00

B-401_Void-10ft.out

18.00	44.00	-44.00
18.00	45.00	-45.00
18.00	46.00	-46.00
18.00	47.00	-47.00
18.00	48.00	-48.00
18.00	49.00	-49.00
18.00	50.00	-50.00
18.00	51.00	-51.00
18.00	52.00	-52.00
18.00	53.00	-53.00
18.00	54.00	-54.00
18.00	55.00	-55.00
18.00	56.00	-56.00
18.00	57.00	-57.00
18.00	58.00	-58.00
18.00	59.00	-59.00
18.00	60.00	-60.00
18.00	61.00	-61.00
18.00	62.00	-62.00
18.00	63.00	-63.00
18.00	64.00	-64.00
18.00	65.00	-65.00
18.00	66.00	-66.00
18.00	67.00	-67.00
18.00	68.00	-68.00
18.00	69.00	-69.00
18.00	70.00	-70.00
18.00	71.00	-71.00
18.00	72.00	-72.00
18.00	73.00	-73.00
18.00	74.00	-74.00
18.00	75.00	-75.00
18.00	76.00	-76.00
18.00	77.00	-77.00
18.00	78.00	-78.00
18.00	79.00	-79.00
18.00	80.00	-80.00
18.00	81.00	-81.00
18.00	82.00	-82.00
18.00	83.00	-83.00
18.00	84.00	-84.00
18.00	85.00	-85.00
18.00	86.00	-86.00
18.00	87.00	-87.00
18.00	88.00	-88.00
18.00	89.00	-89.00
18.00	90.00	-90.00
18.00	91.00	-91.00
18.00	92.00	-92.00
18.00	93.00	-93.00
18.00	94.00	-94.00
24.00	25.00	-25.00
24.00	26.00	-26.00
24.00	27.00	-27.00
24.00	28.00	-28.00
24.00	29.00	-29.00
24.00	30.00	-30.00
24.00	31.00	-31.00
24.00	32.00	-32.00
24.00	33.00	-33.00
24.00	34.00	-34.00
24.00	35.00	-35.00
24.00	36.00	-36.00

B-401_Void-10ft.out

24.00	37.00	-37.00
24.00	38.00	-38.00
24.00	39.00	-39.00
24.00	40.00	-40.00
24.00	41.00	-41.00
24.00	42.00	-42.00
24.00	43.00	-43.00
24.00	44.00	-44.00
24.00	45.00	-45.00
24.00	46.00	-46.00
24.00	47.00	-47.00
24.00	48.00	-48.00
24.00	49.00	-49.00
24.00	50.00	-50.00
24.00	51.00	-51.00
24.00	52.00	-52.00
24.00	53.00	-53.00
24.00	54.00	-54.00
24.00	55.00	-55.00
24.00	56.00	-56.00
24.00	57.00	-57.00
24.00	58.00	-58.00
24.00	59.00	-59.00
24.00	60.00	-60.00
24.00	61.00	-61.00
24.00	62.00	-62.00
24.00	63.00	-63.00
24.00	64.00	-64.00
24.00	65.00	-65.00
24.00	66.00	-66.00
24.00	67.00	-67.00
24.00	68.00	-68.00
24.00	69.00	-69.00
24.00	70.00	-70.00
24.00	71.00	-71.00
24.00	72.00	-72.00
24.00	73.00	-73.00
24.00	74.00	-74.00
24.00	75.00	-75.00
24.00	76.00	-76.00
24.00	77.00	-77.00
24.00	78.00	-78.00
24.00	79.00	-79.00
24.00	80.00	-80.00
24.00	81.00	-81.00
24.00	82.00	-82.00
24.00	83.00	-83.00
24.00	84.00	-84.00
24.00	85.00	-85.00
24.00	86.00	-86.00
24.00	87.00	-87.00
24.00	88.00	-88.00
24.00	89.00	-89.00
24.00	90.00	-90.00
24.00	91.00	-91.00
24.00	92.00	-92.00
24.00	93.00	-93.00
24.00	94.00	-94.00

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Section Type: Square
 Pile Width: 18.00 (in)

Test Pile Length (ft)	Pile Width (in)	Ultimate Side Friction (tons)	Mobilized End Bearing (tons)	Estimated Davisson Capacity (tons)	Allowable Pile Capacity (tons)	Ultimate Pile Capacity (tons)
25.00	18.0	9.38	19.14	28.52	14.26	66.81
26.00	18.0	9.72	22.52	32.24	16.12	77.27
27.00	18.0	10.16	25.91	36.07	18.04	87.90
28.00	18.0	10.76	28.63	39.39	19.69	96.65
29.00	18.0	11.55	30.36	41.91	20.95	102.62
30.00	18.0	12.58	31.49	44.07	22.04	107.06
31.00	18.0	13.83	24.23	38.05	19.03	86.51
32.00	18.0	15.11	24.40	39.51	19.76	88.31
33.00	18.0	16.35	24.85	41.19	20.60	90.88
34.00	18.0	17.38	25.69	43.07	21.54	94.45
35.00	18.0	18.12	27.09	45.21	22.61	99.38
36.00	18.0	18.72	29.12	47.84	23.92	106.08
37.00	18.0	19.55	31.53	51.08	25.54	114.14
38.00	18.0	20.68	34.21	54.89	27.44	123.30
39.00	18.0	22.02	37.51	59.54	29.77	134.56
40.00	18.0	23.57	41.75	65.32	32.66	148.82
41.00	18.0	25.35	46.71	72.06	36.03	165.48
42.00	18.0	27.29	51.63	78.91	39.46	182.17
43.00	18.0	29.34	56.33	85.67	42.84	198.32
44.00	18.0	31.85	60.18	92.02	46.01	212.38
45.00	18.0	35.16	62.46	97.63	48.81	222.55
46.00	18.0	39.11	64.20	103.31	51.65	231.71
47.00	18.0	42.58	69.30	111.88	55.94	250.47
48.00	18.0	45.50	78.43	123.93	61.97	280.80
49.00	18.0	48.60	85.29	133.89	66.95	304.48
50.00	18.0	51.64	87.34	138.98	69.49	313.66
51.00	18.0	54.51	86.96	141.47	70.73	315.39
52.00	18.0	58.37	85.12	143.49	71.75	313.73
53.00	18.0	63.50	81.79	145.29	72.65	308.87
54.00	18.0	68.69	81.59	150.28	75.14	313.47
55.00	18.0	72.62	87.50	160.12	80.06	335.12
56.00	18.0	75.44	97.13	172.58	86.29	366.84
57.00	18.0	78.31	104.22	182.53	91.26	390.96
58.00	18.0	81.43	108.49	189.92	94.96	406.91
59.00	18.0	84.86	111.81	196.67	98.34	420.29
60.00	18.0	88.68	114.16	202.84	101.42	431.15
61.00	18.0	113.97	138.95	252.92	126.46	530.81
62.00	18.0	118.97	137.47	256.44	128.22	531.38
63.00	18.0	124.49	138.47	262.96	131.48	539.89
64.00	18.0	130.50	130.52	261.02	130.51	522.06
65.00	18.0	136.92	125.17	262.09	131.04	512.42
66.00	18.0	143.71	115.80	259.51	129.75	491.11
67.00	18.0	150.55	106.50	257.05	128.52	470.05
68.00	18.0	157.39	98.14	255.53	127.76	451.80
69.00	18.0	162.98	94.85	257.84	128.92	447.54
70.00	18.0	166.07	99.73	265.80	132.90	465.25
71.00	18.0	167.03	120.69	287.72	143.86	529.09
72.00	18.0	168.01	145.99	314.00	157.00	605.98
73.00	18.0	169.38	163.37	332.75	166.38	659.50
74.00	18.0	171.70	165.63	337.33	168.67	668.59

B-401_Void-10ft.out

75.00	18.0	175.54	150.48	326.02	163.01	626.98
76.00	18.0	180.66	133.65	314.31	157.15	581.60
77.00	18.0	185.66	128.33	313.99	156.99	570.64
78.00	18.0	190.31	130.35	320.65	160.33	581.35
79.00	18.0	194.17	136.34	330.51	165.25	603.18
80.00	18.0	196.85	148.18	345.03	172.52	641.40
81.00	18.0	198.66	159.31	357.97	178.99	676.60
82.00	18.0	201.55	155.10	356.65	178.33	666.86
83.00	18.0	205.84	140.72	346.56	173.28	628.00
84.00	18.0	210.72	129.64	340.36	170.18	599.63
85.00	18.0	215.39	126.66	342.05	171.02	595.36
86.00	18.0	219.75	125.40	345.15	172.58	595.96
87.00	18.0	223.17	128.96	352.13	176.07	610.05
88.00	18.0	225.55	139.02	364.57	182.29	642.61
89.00	18.0	227.93	149.08	377.01	188.50	675.16
90.00	18.0	231.36	151.65	383.01	191.50	686.31
91.00	18.0	235.81	147.93	383.73	191.87	679.58
92.00	18.0	241.22	144.98	386.20	193.10	676.17
93.00	18.0	247.59	144.07	391.66	195.83	679.79
94.00	18.0	254.36	144.15	398.51	199.25	686.81

Section Type: Square
Pile Width: 24.00 (in)

Test Pile Length (ft)	Pile Width (in)	Ultimate Side Friction (tons)	Mobilized End Bearing (tons)	Estimated Davisson Capacity (tons)	Allowable Pile Capacity (tons)	Ultimate Pile Capacity (tons)
25.00	24.0	12.51	39.81	52.32	26.16	131.93
26.00	24.0	12.96	45.24	58.19	29.10	148.66
27.00	24.0	13.55	49.36	62.91	31.46	161.64
28.00	24.0	14.34	52.23	66.57	33.29	171.03
29.00	24.0	15.40	55.85	71.25	35.63	182.95
30.00	24.0	16.77	60.77	77.55	38.77	199.09
31.00	24.0	18.42	43.65	62.07	31.04	149.37
32.00	24.0	20.05	43.99	64.04	32.02	152.03
33.00	24.0	21.56	44.79	66.35	33.18	155.93
34.00	24.0	22.83	46.14	68.97	34.49	161.25
35.00	24.0	23.85	48.00	71.85	35.92	167.84
36.00	24.0	24.76	50.33	75.09	37.54	175.74
37.00	24.0	25.86	53.28	79.14	39.57	185.69
38.00	24.0	27.13	57.17	84.31	42.15	198.66
39.00	24.0	28.63	62.01	90.65	45.32	214.67
40.00	24.0	30.58	66.94	97.52	48.76	231.40
41.00	24.0	32.94	71.71	104.65	52.33	248.08
42.00	24.0	35.41	76.36	111.78	55.89	264.51
43.00	24.0	38.01	80.56	118.57	59.29	279.69
44.00	24.0	41.09	84.12	125.21	62.60	293.44
45.00	24.0	44.61	89.24	133.85	66.92	312.33
46.00	24.0	48.35	96.92	145.26	72.63	339.10
47.00	24.0	51.93	105.39	157.31	78.66	368.09
48.00	24.0	55.68	111.43	167.11	83.55	389.97
49.00	24.0	59.51	115.09	174.60	87.30	404.77
50.00	24.0	62.93	119.55	182.48	91.24	421.58
51.00	24.0	66.08	125.32	191.40	95.70	442.04
52.00	24.0	70.42	132.19	202.61	101.30	466.99
53.00	24.0	76.12	141.54	217.66	108.83	500.75
54.00	24.0	81.65	155.20	236.85	118.42	547.25
55.00	24.0	86.31	167.63	253.94	126.97	589.19

B-401_Void-10ft.out						
56.00	24.0	90.15	176.81	266.96	133.48	620.58
57.00	24.0	94.03	184.69	278.72	139.36	648.10
58.00	24.0	98.20	193.22	291.43	145.71	677.88
59.00	24.0	102.75	201.11	303.87	151.93	706.09
60.00	24.0	107.77	205.74	313.51	156.75	725.00
61.00	24.0	151.96	243.67	395.63	197.82	882.98
62.00	24.0	158.62	224.92	383.54	191.77	833.39
63.00	24.0	165.99	223.46	389.45	194.72	836.36
64.00	24.0	174.00	211.35	385.35	192.68	808.06
65.00	24.0	182.56	202.04	384.60	192.30	788.69
66.00	24.0	191.61	193.07	384.68	192.34	770.82
67.00	24.0	200.73	187.56	388.29	194.14	763.40
68.00	24.0	209.85	189.88	399.73	199.87	779.49
69.00	24.0	217.31	198.53	415.84	207.92	812.90
70.00	24.0	221.43	206.99	428.42	214.21	842.40
71.00	24.0	222.71	234.52	457.23	228.61	926.28
72.00	24.0	224.02	249.41	473.43	236.71	972.26
73.00	24.0	225.84	253.36	479.20	239.60	985.92
74.00	24.0	228.94	258.77	487.71	243.85	1005.24
75.00	24.0	234.05	262.61	496.66	248.33	1021.87
76.00	24.0	240.88	259.30	500.19	250.09	1018.79
77.00	24.0	247.55	255.39	502.94	251.47	1013.72
78.00	24.0	253.74	252.34	506.08	253.04	1010.76
79.00	24.0	258.90	247.94	506.84	253.42	1002.73
80.00	24.0	262.47	244.73	507.20	253.60	996.67
81.00	24.0	264.89	249.59	514.48	257.24	1013.66
82.00	24.0	268.73	253.96	522.69	261.35	1030.61
83.00	24.0	274.45	253.16	527.61	263.81	1033.94
84.00	24.0	280.96	245.74	526.70	263.35	1018.19
85.00	24.0	287.19	238.11	525.30	262.65	1001.52
86.00	24.0	293.00	232.51	525.51	262.76	990.54
87.00	24.0	297.56	235.95	533.51	266.76	1005.41
88.00	24.0	300.74	249.36	550.09	275.05	1048.81
89.00	24.0	303.91	262.77	566.68	283.34	1092.22
90.00	24.0	308.47	266.20	574.68	287.34	1107.08
91.00	24.0	314.41	261.23	575.64	287.82	1098.11
92.00	24.0	321.63	257.31	578.94	289.47	1093.56
93.00	24.0	330.12	251.37	581.49	290.75	1084.24
94.00	24.0	Soil Elevations Must Extend At or Below Contribution Zone				

NOTES

1. MOBILIZED END BEARING IS 1/3 OF THE ORIGINAL RB-121 VALUES.
2. DAVISSON PILE CAPACITY IS AN ESTIMATE BASED ON FAILURE CRITERIA, AND EQUALS ULTIMATE SIDE FRICTION PLUS MOBILIZED END BEARING.
3. ALLOWABLE PILE CAPACITY IS 1/2 THE DAVISSON PILE CAPACITY.
4. ULTIMATE PILE CAPACITY IS ULTIMATE SIDE FRICTION PLUS 3 x THE MOBILIZED END BEARING.
EXCEPTION: FOR H-PILES TIPPED IN SAND OR LIMESTONE, THE ULTIMATE PILE CAPACITY IS ULTIMATE SIDE FRICTION PLUS 2 x THE MOBILIZED END BEARING.

General Information:

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Input file:adino)\Analysis_Structure\FB-Deep_2021\Pile\B-402_Void-10ft.in
 Project number: 2000-01-16015
 Job name: I-95 From Hallandale Beach Boulevard to Hollywood Blvd
 Engineer: JB Henry
 Units: English

Analysis Information:

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Analysis Type: SPT

Soil Information:

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Boring date: 9/18/2018, Boring Number: B-402
 Station number: Offset:

Ground Elevation: 0.000(ft)

Hammer type: Automatic Hammer, Correction factor = 1.24

ID	Depth (ft)	No. of Blows (Blows/ft)	Soil Type
1	0.00	9.00	5- Cavity layer
2	2.00	12.00	5- Cavity layer
3	4.00	2.00	5- Cavity layer
4	6.00	2.00	5- Cavity layer
5	8.00	5.00	5- Cavity layer
6	10.00	4.00	3- Clean sand
7	12.00	3.00	3- Clean sand
8	13.50	5.00	3- Clean sand
9	15.50	5.00	3- Clean sand
10	18.00	5.00	3- Clean sand
11	20.50	4.00	3- Clean sand
12	23.00	6.00	4- Lime Stone/Very shelly sand
13	25.50	6.00	4- Lime Stone/Very shelly sand
14	28.00	60.00	4- Lime Stone/Very shelly sand
15	30.50	79.00	4- Lime Stone/Very shelly sand
16	33.00	20.00	3- Clean sand
17	35.50	35.00	3- Clean sand
18	38.00	13.00	3- Clean sand
19	40.50	16.00	3- Clean sand
20	43.00	24.00	3- Clean sand
21	45.50	21.00	3- Clean sand
22	48.00	16.00	3- Clean sand
23	50.50	23.00	3- Clean sand
24	53.00	60.00	3- Clean sand
25	55.50	13.00	4- Lime Stone/Very shelly sand
26	58.00	60.00	4- Lime Stone/Very shelly sand
27	60.50	22.00	4- Lime Stone/Very shelly sand
28	63.00	23.00	3- Clean sand
29	65.50	27.00	3- Clean sand
30	68.00	63.00	3- Clean sand
31	70.50	60.00	3- Clean sand
32	73.00	37.00	4- Lime Stone/Very shelly sand

B-402_Void-10ft.out

33	75.50	60.00	4-	Lime Stone/Very shelly sand
34	78.00	34.00	4-	Lime Stone/Very shelly sand
35	80.50	33.00	4-	Lime Stone/Very shelly sand
36	83.00	11.00	4-	Lime Stone/Very shelly sand
37	85.50	9.00	4-	Lime Stone/Very shelly sand
38	88.00	43.00	4-	Lime Stone/Very shelly sand
39	90.50	60.00	4-	Lime Stone/Very shelly sand
40	93.00	27.00	4-	Lime Stone/Very shelly sand
41	95.50	34.00	4-	Lime Stone/Very shelly sand
42	98.00	49.00	4-	Lime Stone/Very shelly sand
43	100.00	49.00	4-	Lime Stone/Very shelly sand

Blowcount Average Per Soil Layer

Layer Num.	Starting Elevation (ft)	Bottom Elevation (ft)	Thickness (ft)	Average Blowcount (Blows/ft)	Soil Type
1	0.00	-10.00	10.00	6.00	5-Void
2	-10.00	-23.00	13.00	4.42	3-Clean Sand
3	-23.00	-33.00	10.00	37.75	4-Limestone, Very
Shelly Sand					
4	-33.00	-55.50	22.50	25.33	3-Clean Sand
5	-55.50	-63.00	7.50	31.67	4-Limestone, Very
Shelly Sand					
6	-63.00	-73.00	10.00	43.25	3-Clean Sand
7	-73.00	-100.00	27.00	35.85	4-Limestone, Very
Shelly Sand					

Driven Pile Data:

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Pile unit weight = 150.00(pcf), Section Type: Square

Pile Geometry:

Width (in)	Length (ft)	Tip Elev. (ft)
18.00	25.00	-25.00
18.00	26.00	-26.00
18.00	27.00	-27.00
18.00	28.00	-28.00
18.00	29.00	-29.00
18.00	30.00	-30.00
18.00	31.00	-31.00
18.00	32.00	-32.00
18.00	33.00	-33.00
18.00	34.00	-34.00
18.00	35.00	-35.00
18.00	36.00	-36.00
18.00	37.00	-37.00
18.00	38.00	-38.00
18.00	39.00	-39.00
18.00	40.00	-40.00
18.00	41.00	-41.00
18.00	42.00	-42.00
18.00	43.00	-43.00
18.00	44.00	-44.00

B-402_Void-10ft.out

18.00	45.00	-45.00
18.00	46.00	-46.00
18.00	47.00	-47.00
18.00	48.00	-48.00
18.00	49.00	-49.00
18.00	50.00	-50.00
18.00	51.00	-51.00
18.00	52.00	-52.00
18.00	53.00	-53.00
18.00	54.00	-54.00
18.00	55.00	-55.00
18.00	56.00	-56.00
18.00	57.00	-57.00
18.00	58.00	-58.00
18.00	59.00	-59.00
18.00	60.00	-60.00
18.00	61.00	-61.00
18.00	62.00	-62.00
18.00	63.00	-63.00
18.00	64.00	-64.00
18.00	65.00	-65.00
18.00	66.00	-66.00
18.00	67.00	-67.00
18.00	68.00	-68.00
18.00	69.00	-69.00
18.00	70.00	-70.00
18.00	71.00	-71.00
18.00	72.00	-72.00
18.00	73.00	-73.00
18.00	74.00	-74.00
18.00	75.00	-75.00
18.00	76.00	-76.00
18.00	77.00	-77.00
18.00	78.00	-78.00
18.00	79.00	-79.00
18.00	80.00	-80.00
18.00	81.00	-81.00
18.00	82.00	-82.00
18.00	83.00	-83.00
18.00	84.00	-84.00
18.00	85.00	-85.00
18.00	86.00	-86.00
18.00	87.00	-87.00
18.00	88.00	-88.00
18.00	89.00	-89.00
18.00	90.00	-90.00
18.00	91.00	-91.00
18.00	92.00	-92.00
18.00	93.00	-93.00
18.00	94.00	-94.00
24.00	25.00	-25.00
24.00	26.00	-26.00
24.00	27.00	-27.00
24.00	28.00	-28.00
24.00	29.00	-29.00
24.00	30.00	-30.00
24.00	31.00	-31.00
24.00	32.00	-32.00
24.00	33.00	-33.00
24.00	34.00	-34.00
24.00	35.00	-35.00
24.00	36.00	-36.00
24.00	37.00	-37.00

B-402_Void-10ft.out

24.00	38.00	-38.00
24.00	39.00	-39.00
24.00	40.00	-40.00
24.00	41.00	-41.00
24.00	42.00	-42.00
24.00	43.00	-43.00
24.00	44.00	-44.00
24.00	45.00	-45.00
24.00	46.00	-46.00
24.00	47.00	-47.00
24.00	48.00	-48.00
24.00	49.00	-49.00
24.00	50.00	-50.00
24.00	51.00	-51.00
24.00	52.00	-52.00
24.00	53.00	-53.00
24.00	54.00	-54.00
24.00	55.00	-55.00
24.00	56.00	-56.00
24.00	57.00	-57.00
24.00	58.00	-58.00
24.00	59.00	-59.00
24.00	60.00	-60.00
24.00	61.00	-61.00
24.00	62.00	-62.00
24.00	63.00	-63.00
24.00	64.00	-64.00
24.00	65.00	-65.00
24.00	66.00	-66.00
24.00	67.00	-67.00
24.00	68.00	-68.00
24.00	69.00	-69.00
24.00	70.00	-70.00
24.00	71.00	-71.00
24.00	72.00	-72.00
24.00	73.00	-73.00
24.00	74.00	-74.00
24.00	75.00	-75.00
24.00	76.00	-76.00
24.00	77.00	-77.00
24.00	78.00	-78.00
24.00	79.00	-79.00
24.00	80.00	-80.00
24.00	81.00	-81.00
24.00	82.00	-82.00
24.00	83.00	-83.00
24.00	84.00	-84.00
24.00	85.00	-85.00
24.00	86.00	-86.00
24.00	87.00	-87.00
24.00	88.00	-88.00
24.00	89.00	-89.00
24.00	90.00	-90.00
24.00	91.00	-91.00
24.00	92.00	-92.00

Driven Pile Capacity:
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B-402_Void-10ft.out
Section Type: Square
Pile Width: 18.00 (in)

Test Pile Length (ft)	Pile Width (in)	Ultimate Side Friction (tons)	Mobilized End Bearing (tons)	Estimated Davisson Capacity (tons)	Allowable Pile Capacity (tons)	Ultimate Pile Capacity (tons)
25.00	18.0	9.33	147.77	157.10	78.55	452.64
26.00	18.0	9.98	173.23	183.21	91.61	529.68
27.00	18.0	12.03	176.62	188.65	94.32	541.88
28.00	18.0	15.69	164.45	180.14	90.07	509.04
29.00	18.0	20.44	147.35	167.79	83.89	462.48
30.00	18.0	25.75	127.14	152.90	76.45	407.19
31.00	18.0	31.41	100.58	131.98	65.99	333.13
32.00	18.0	36.06	80.16	116.22	58.11	276.53
33.00	18.0	39.50	74.85	114.35	57.17	264.04
34.00	18.0	42.75	69.07	111.82	55.91	249.96
35.00	18.0	46.85	69.59	116.44	58.22	255.63
36.00	18.0	51.54	68.52	120.06	60.03	257.10
37.00	18.0	55.24	65.95	121.19	60.60	253.10
38.00	18.0	57.70	64.45	122.15	61.08	251.06
39.00	18.0	59.62	64.13	123.75	61.88	252.02
40.00	18.0	61.72	64.25	125.96	62.98	254.45
41.00	18.0	64.01	64.29	128.30	64.15	256.88
42.00	18.0	66.73	63.68	130.41	65.20	257.78
43.00	18.0	69.89	62.20	132.10	66.05	256.50
44.00	18.0	73.20	60.96	134.16	67.08	256.07
45.00	18.0	76.34	60.65	136.99	68.50	258.30
46.00	18.0	79.29	61.77	141.07	70.53	264.61
47.00	18.0	81.98	65.26	147.24	73.62	277.77
48.00	18.0	84.38	71.21	155.60	77.80	298.02
49.00	18.0	86.56	75.56	162.12	81.06	313.25
50.00	18.0	89.16	76.31	165.47	82.74	318.10
51.00	18.0	92.87	75.44	168.31	84.16	319.20
52.00	18.0	97.55	78.02	175.57	87.78	331.60
53.00	18.0	103.66	83.94	187.60	93.80	355.47
54.00	18.0	109.32	88.14	197.46	98.73	373.75
55.00	18.0	112.63	89.81	202.44	101.22	382.06
56.00	18.0	114.31	100.35	214.65	107.33	415.35
57.00	18.0	116.67	96.66	213.34	106.67	406.67
58.00	18.0	120.44	84.34	204.77	102.39	373.45
59.00	18.0	124.33	72.04	196.37	98.19	340.45
60.00	18.0	127.10	68.99	196.09	98.04	334.06
61.00	18.0	128.96	76.64	205.60	102.80	358.87
62.00	18.0	131.24	88.64	219.88	109.94	397.16
63.00	18.0	134.17	95.14	229.31	114.66	419.60
64.00	18.0	137.35	95.47	232.81	116.41	423.74
65.00	18.0	140.50	96.27	236.76	118.38	429.29
66.00	18.0	143.80	97.44	241.24	120.62	436.13
67.00	18.0	148.01	98.79	246.80	123.40	444.37
68.00	18.0	153.39	99.95	253.34	126.67	453.24
69.00	18.0	159.45	100.90	260.36	130.18	462.17
70.00	18.0	165.45	102.08	267.53	133.76	471.69
71.00	18.0	171.02	103.82	274.84	137.42	482.48
72.00	18.0	175.38	105.65	281.03	140.51	492.33
73.00	18.0	185.42	124.66	310.08	155.04	559.39
74.00	18.0	188.51	120.27	308.79	154.39	549.34
75.00	18.0	192.29	110.05	302.35	151.17	522.46
76.00	18.0	196.58	92.59	289.16	144.58	474.33
77.00	18.0	200.27	75.63	275.89	137.95	427.14

B-402_Void-10ft.out

78.00	18.0	203.18	62.33	265.52	132.76	390.18
79.00	18.0	205.70	51.71	257.41	128.70	360.83
80.00	18.0	208.18	41.79	249.97	124.99	333.55
81.00	18.0	210.56	37.97	248.53	124.26	324.46
82.00	18.0	212.36	43.85	256.21	128.10	343.90
83.00	18.0	213.51	58.73	272.23	136.12	389.68
84.00	18.0	214.29	79.65	293.94	146.97	453.23
85.00	18.0	215.02	103.43	318.45	159.23	525.32
86.00	18.0	215.83	120.98	336.80	168.40	578.76
87.00	18.0	217.51	125.97	343.48	171.74	595.41
88.00	18.0	220.20	121.81	342.01	171.00	585.62
89.00	18.0	223.65	113.88	337.53	168.77	565.30
90.00	18.0	227.61	103.59	331.21	165.60	538.39
91.00	18.0	231.89	93.70	325.59	162.79	512.98
92.00	18.0	235.37	92.70	328.07	164.04	513.47
93.00	18.0	237.87	100.40	338.28	169.14	539.08
94.00	18.0	239.98	111.00	350.98	175.49	572.97

Section Type: Square
Pile Width: 24.00 (in)

Test Pile Length (ft)	Pile Width (in)	Ultimate Side Friction (tons)	Mobilized End Bearing (tons)	Estimated Davisson Capacity (tons)	Allowable Pile Capacity (tons)	Ultimate Pile Capacity (tons)
25.00	24.0	12.44	257.49	269.93	134.96	784.91
26.00	24.0	13.31	267.92	281.22	140.61	817.06
27.00	24.0	16.04	269.88	285.92	142.96	825.68
28.00	24.0	20.92	260.37	281.29	140.65	802.03
29.00	24.0	27.25	235.71	262.97	131.48	734.39
30.00	24.0	34.34	198.36	232.70	116.35	629.42
31.00	24.0	41.87	154.60	196.48	98.24	505.68
32.00	24.0	48.08	125.66	173.74	86.87	425.06
33.00	24.0	52.67	118.78	171.44	85.72	408.99
34.00	24.0	57.00	117.68	174.68	87.34	410.04
35.00	24.0	62.23	119.04	181.26	90.63	419.34
36.00	24.0	68.06	119.45	187.51	93.76	426.41
37.00	24.0	73.20	119.25	192.46	96.23	430.96
38.00	24.0	76.93	117.94	194.88	97.44	430.77
39.00	24.0	79.50	115.35	194.84	97.42	425.54
40.00	24.0	82.29	113.56	195.85	97.92	422.97
41.00	24.0	85.35	111.79	197.14	98.57	420.73
42.00	24.0	88.97	110.39	199.35	99.68	420.13
43.00	24.0	93.19	109.82	203.01	101.51	422.65
44.00	24.0	97.60	110.47	208.07	104.04	429.02
45.00	24.0	101.79	114.73	216.51	108.26	445.97
46.00	24.0	104.39	121.08	225.47	112.73	467.63
47.00	24.0	105.63	125.76	231.39	115.70	482.90
48.00	24.0	108.07	127.76	235.83	117.91	491.34
49.00	24.0	111.74	127.20	238.94	119.47	493.34
50.00	24.0	114.57	129.86	244.42	122.21	504.14
51.00	24.0	116.56	136.89	253.45	126.73	527.23
52.00	24.0	120.74	143.00	263.74	131.87	549.73
53.00	24.0	128.44	143.70	272.15	136.07	559.55
54.00	24.0	136.64	141.51	278.15	139.08	561.18
55.00	24.0	141.02	142.48	283.50	141.75	568.45
56.00	24.0	152.41	164.07	316.47	158.24	644.60
57.00	24.0	155.56	161.42	316.99	158.49	639.83
58.00	24.0	160.58	147.68	308.26	154.13	603.62

B-402_Void-10ft.out						
59.00	24.0	165.78	138.00	303.78	151.89	579.77
60.00	24.0	169.47	144.67	314.14	157.07	603.47
61.00	24.0	171.95	163.35	335.30	167.65	662.01
62.00	24.0	174.99	182.18	357.18	178.59	721.54
63.00	24.0	178.90	171.84	350.73	175.37	694.41
64.00	24.0	183.14	172.26	355.40	177.70	699.92
65.00	24.0	187.34	173.31	360.65	180.33	707.27
66.00	24.0	191.89	174.56	366.45	183.23	715.58
67.00	24.0	197.70	175.91	373.61	186.81	725.42
68.00	24.0	204.77	177.59	382.37	191.18	737.56
69.00	24.0	212.36	179.63	391.99	196.00	751.25
70.00	24.0	220.31	181.10	401.41	200.71	763.62
71.00	24.0	228.38	182.06	410.44	205.22	774.56
72.00	24.0	234.72	183.21	417.93	208.96	784.34
73.00	24.0	247.23	203.11	450.33	225.17	856.55
74.00	24.0	251.35	191.80	443.15	221.58	826.76
75.00	24.0	256.39	168.39	424.78	212.39	761.56
76.00	24.0	262.10	137.08	399.18	199.59	673.35
77.00	24.0	267.02	111.23	378.25	189.13	600.72
78.00	24.0	270.91	93.76	364.67	182.33	552.18
79.00	24.0	274.26	87.52	361.78	180.89	536.83
80.00	24.0	277.58	89.90	367.48	183.74	547.28
81.00	24.0	280.75	99.95	380.70	190.35	580.60
82.00	24.0	283.15	119.83	402.98	201.49	642.64
83.00	24.0	284.67	148.31	432.98	216.49	729.59
84.00	24.0	285.72	171.95	457.68	228.84	801.58
85.00	24.0	286.70	186.53	473.23	236.61	846.29
86.00	24.0	287.77	196.59	484.36	242.18	877.53
87.00	24.0	290.01	201.17	491.18	245.59	893.53
88.00	24.0	293.60	199.49	493.09	246.55	892.08
89.00	24.0	298.20	194.93	493.14	246.57	883.01
90.00	24.0	303.48	189.36	492.84	246.42	871.56
91.00	24.0	309.19	182.50	491.68	245.84	856.67
92.00	24.0	313.83	183.28	497.11	248.55	863.67

NOTES

1. MOBILIZED END BEARING IS 1/3 OF THE ORIGINAL RB-121 VALUES.
2. DAVISSON PILE CAPACITY IS AN ESTIMATE BASED ON FAILURE CRITERIA, AND EQUALS ULTIMATE SIDE FRICTION PLUS MOBILIZED END BEARING.
3. ALLOWABLE PILE CAPACITY IS 1/2 THE DAVISSON PILE CAPACITY.
4. ULTIMATE PILE CAPACITY IS ULTIMATE SIDE FRICTION PLUS 3 x THE MOBILIZED END BEARING.
EXCEPTION: FOR H-PILES TIPPED IN SAND OR LIMESTONE, THE ULTIMATE PILE CAPACITY IS ULTIMATE SIDE FRICTION PLUS 2 x THE MOBILIZED END BEARING.

General Information:

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Input file:adino)\Analysis_Structure\FB-Deep_2021\Pile\B-403_Void-10ft.in
 Project number: 2000-01-16015
 Job name: I-95 From Hallandale Beach Boulevard to Hollywood Blvd
 Engineer: JB Henry
 Units: English

Analysis Information:

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Analysis Type: SPT

Soil Information:

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Boring date: 9/19/2018, Boring Number: B-403
 Station number: Offset:

Ground Elevation: 0.000(ft)

Hammer type: Automatic Hammer, Correction factor = 1.24

ID	Depth (ft)	No. of Blows (Blows/ft)	Soil Type
1	0.00	8.00	5- Cavity layer
2	2.00	8.00	5- Cavity layer
3	4.00	7.00	5- Cavity layer
4	6.00	9.00	5- Cavity layer
5	8.00	35.00	5- Cavity layer
6	10.00	13.00	4- Lime Stone/Very shelly sand
7	12.00	9.00	4- Lime Stone/Very shelly sand
8	13.50	5.00	4- Lime Stone/Very shelly sand
9	15.50	3.00	4- Lime Stone/Very shelly sand
10	18.00	17.00	4- Lime Stone/Very shelly sand
11	20.50	14.00	4- Lime Stone/Very shelly sand
12	23.00	14.00	4- Lime Stone/Very shelly sand
13	25.50	7.00	4- Lime Stone/Very shelly sand
14	28.00	2.00	4- Lime Stone/Very shelly sand
15	30.50	1.00	4- Lime Stone/Very shelly sand
16	33.00	1.00	3- Clean sand
17	35.50	4.00	3- Clean sand
18	38.00	11.00	4- Lime Stone/Very shelly sand
19	40.50	15.00	4- Lime Stone/Very shelly sand
20	43.00	18.00	4- Lime Stone/Very shelly sand
21	45.50	8.00	4- Lime Stone/Very shelly sand
22	48.00	13.00	3- Clean sand
23	50.50	14.00	3- Clean sand
24	53.00	13.00	3- Clean sand
25	55.50	12.00	3- Clean sand
26	58.00	24.00	4- Lime Stone/Very shelly sand
27	60.50	8.00	3- Clean sand
28	63.00	84.00	4- Lime Stone/Very shelly sand
29	65.50	60.00	4- Lime Stone/Very shelly sand
30	68.00	43.00	3- Clean sand
31	70.50	70.00	3- Clean sand
32	73.00	23.00	3- Clean sand

B-403_Void-10ft.out

33	75.50	40.00	3- Clean sand
34	78.00	18.00	4- Lime Stone/Very shelly sand
35	80.50	67.00	4- Lime Stone/Very shelly sand
36	83.00	60.00	4- Lime Stone/Very shelly sand
37	85.50	60.00	4- Lime Stone/Very shelly sand
38	88.00	39.00	4- Lime Stone/Very shelly sand
39	90.50	60.00	4- Lime Stone/Very shelly sand
40	93.00	60.00	4- Lime Stone/Very shelly sand
41	95.50	60.00	4- Lime Stone/Very shelly sand
42	98.00	16.00	4- Lime Stone/Very shelly sand
43	100.00	16.00	4- Lime Stone/Very shelly sand

Blowcount Average Per Soil Layer

Layer Num.	Starting Elevation (ft)	Bottom Elevation (ft)	Thickness (ft)	Average Blowcount (Blows/ft)	Soil Type
1	0.00	-10.00	10.00	13.40	5-Void
2	-10.00	-33.00	23.00	8.46	4-Limestone, Very
Shelly Sand					
3	-33.00	-38.00	5.00	2.50	3-Clean Sand
4	-38.00	-48.00	10.00	13.00	4-Limestone, Very
Shelly Sand					
5	-48.00	-58.00	10.00	13.00	3-Clean Sand
6	-58.00	-60.50	2.50	24.00	4-Limestone, Very
Shelly Sand					
7	-60.50	-63.00	2.50	8.00	3-Clean Sand
8	-63.00	-68.00	5.00	72.00	4-Limestone, Very
Shelly Sand					
9	-68.00	-78.00	10.00	44.00	3-Clean Sand
10	-78.00	-100.00	22.00	49.64	4-Limestone, Very
Shelly Sand					

Driven Pile Data:

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Pile unit weight = 150.00(pcf), Section Type: Square

Pile Geometry:

Width (in)	Length (ft)	Tip Elev. (ft)
18.00	25.00	-25.00
18.00	26.00	-26.00
18.00	27.00	-27.00
18.00	28.00	-28.00
18.00	29.00	-29.00
18.00	30.00	-30.00
18.00	31.00	-31.00
18.00	32.00	-32.00
18.00	33.00	-33.00
18.00	34.00	-34.00
18.00	35.00	-35.00
18.00	36.00	-36.00
18.00	37.00	-37.00
18.00	38.00	-38.00
18.00	39.00	-39.00

B-403_Void-10ft.out

18.00	40.00	-40.00
18.00	41.00	-41.00
18.00	42.00	-42.00
18.00	43.00	-43.00
18.00	44.00	-44.00
18.00	45.00	-45.00
18.00	46.00	-46.00
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18.00	55.00	-55.00
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18.00	58.00	-58.00
18.00	59.00	-59.00
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18.00	62.00	-62.00
18.00	63.00	-63.00
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18.00	71.00	-71.00
18.00	72.00	-72.00
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18.00	75.00	-75.00
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18.00	78.00	-78.00
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18.00	80.00	-80.00
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18.00	83.00	-83.00
18.00	84.00	-84.00
18.00	85.00	-85.00
18.00	86.00	-86.00
18.00	87.00	-87.00
18.00	88.00	-88.00
18.00	89.00	-89.00
18.00	90.00	-90.00
18.00	91.00	-91.00
18.00	92.00	-92.00
18.00	93.00	-93.00
18.00	94.00	-94.00
24.00	25.00	-25.00
24.00	26.00	-26.00
24.00	27.00	-27.00
24.00	28.00	-28.00
24.00	29.00	-29.00
24.00	30.00	-30.00
24.00	31.00	-31.00
24.00	32.00	-32.00

B-403_Void-10ft.out

24.00	33.00	-33.00
24.00	34.00	-34.00
24.00	35.00	-35.00
24.00	36.00	-36.00
24.00	37.00	-37.00
24.00	38.00	-38.00
24.00	39.00	-39.00
24.00	40.00	-40.00
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24.00	44.00	-44.00
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24.00	81.00	-81.00
24.00	82.00	-82.00
24.00	83.00	-83.00
24.00	84.00	-84.00
24.00	85.00	-85.00
24.00	86.00	-86.00
24.00	87.00	-87.00
24.00	88.00	-88.00
24.00	89.00	-89.00
24.00	90.00	-90.00
24.00	91.00	-91.00
24.00	92.00	-92.00

Driven Pile Capacity:

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Section Type: Square
Pile Width: 18.00 (in)

Test Pile Length (ft)	Pile Width (in)	Ultimate Side Friction (tons)	Mobilized End Bearing (tons)	Estimated Davisson Capacity (tons)	Allowable Pile Capacity (tons)	Ultimate Pile Capacity (tons)
25.00	18.0	12.99	4.76	17.75	8.88	27.27
26.00	18.0	13.51	2.11	15.63	7.81	19.85
27.00	18.0	13.83	0.53	14.35	7.18	15.41
28.00	18.0	13.93	0.40	14.33	7.16	15.12
29.00	18.0	13.93	1.59	15.52	7.76	18.69
30.00	18.0	13.93	3.58	17.52	8.76	24.68
31.00	18.0	13.93	6.46	20.39	10.20	33.32
32.00	18.0	13.93	10.23	24.16	12.08	44.63
33.00	18.0	13.93	12.92	26.85	13.43	52.70
34.00	18.0	14.04	10.12	24.16	12.08	44.39
35.00	18.0	14.36	13.09	27.45	13.73	53.64
36.00	18.0	14.73	14.34	29.06	14.53	57.74
37.00	18.0	15.12	16.29	31.41	15.70	63.98
38.00	18.0	16.37	35.10	51.47	25.73	121.67
39.00	18.0	17.25	35.22	52.47	26.23	122.90
40.00	18.0	18.24	33.42	51.67	25.83	118.52
41.00	18.0	19.36	31.99	51.34	25.67	115.31
42.00	18.0	20.56	31.39	51.95	25.98	114.74
43.00	18.0	21.86	31.07	52.93	26.46	115.08
44.00	18.0	23.05	31.52	54.57	27.28	117.61
45.00	18.0	23.94	33.75	57.69	28.84	125.19
46.00	18.0	24.63	37.09	61.73	30.86	135.91
47.00	18.0	25.72	39.24	64.97	32.48	143.46
48.00	18.0	27.31	35.04	62.36	31.18	132.44
49.00	18.0	29.14	35.10	64.24	32.12	134.44
50.00	18.0	30.99	35.21	66.20	33.10	136.63
51.00	18.0	32.86	35.36	68.23	34.11	138.96
52.00	18.0	34.56	35.77	70.33	35.17	141.88
53.00	18.0	36.03	36.59	72.62	36.31	145.81
54.00	18.0	37.54	37.33	74.86	37.43	149.52
55.00	18.0	39.27	37.48	76.75	38.38	151.71
56.00	18.0	40.61	38.58	79.19	39.59	156.34
57.00	18.0	40.43	45.59	86.02	43.01	177.20
58.00	18.0	45.63	116.09	161.71	80.86	393.88
59.00	18.0	47.28	142.05	189.33	94.66	473.42
60.00	18.0	48.67	165.00	213.67	106.84	543.68
61.00	18.0	50.04	109.81	159.85	79.92	379.46
62.00	18.0	52.79	110.65	163.44	81.72	384.75
63.00	18.0	58.19	174.57	232.75	116.38	581.89
64.00	18.0	63.88	157.30	221.18	110.59	535.78
65.00	18.0	68.96	145.98	214.94	107.47	506.91
66.00	18.0	73.58	135.71	209.29	104.65	480.72
67.00	18.0	78.69	123.76	202.45	101.23	449.98
68.00	18.0	84.44	118.72	203.16	101.58	440.59
69.00	18.0	90.59	118.81	209.40	104.70	447.02
70.00	18.0	97.20	118.73	215.93	107.96	453.38
71.00	18.0	103.83	116.83	220.66	110.33	454.32
72.00	18.0	109.24	110.91	220.15	110.07	441.97

B-403_Void-10ft.out

73.00	18.0	113.21	103.33	216.54	108.27	423.20
74.00	18.0	116.94	100.88	217.82	108.91	419.57
75.00	18.0	121.63	104.97	226.60	113.30	436.53
76.00	18.0	126.95	112.90	239.85	119.92	465.65
77.00	18.0	130.23	119.84	250.07	125.04	489.76
78.00	18.0	133.08	157.46	290.54	145.27	605.45
79.00	18.0	135.15	173.99	309.14	154.57	657.12
80.00	18.0	138.67	179.41	318.08	159.04	676.90
81.00	18.0	143.45	171.68	315.13	157.56	658.48
82.00	18.0	148.23	159.44	307.66	153.83	626.54
83.00	18.0	152.80	149.00	301.79	150.90	599.78
84.00	18.0	157.26	144.23	301.49	150.74	589.94
85.00	18.0	161.72	143.63	305.35	152.68	592.61
86.00	18.0	166.11	144.23	310.34	155.17	598.79
87.00	18.0	169.95	149.00	318.94	159.47	616.94
88.00	18.0	173.16	158.54	331.70	165.85	648.77
89.00	18.0	176.38	168.08	344.45	172.23	680.60
90.00	18.0	180.22	171.71	351.93	175.96	695.36
91.00	18.0	184.60	163.26	347.86	173.93	674.37
92.00	18.0	189.07	145.15	334.21	167.11	624.51
93.00	18.0	193.53	122.51	316.04	158.02	561.06
94.00	18.0	197.99	99.87	297.87	148.93	497.61

Section Type: Square
Pile Width: 24.00 (in)

Test Pile Length (ft)	Pile Width (in)	Ultimate Side Friction (tons)	Mobilized End Bearing (tons)	Estimated Davisson Capacity (tons)	Allowable Pile Capacity (tons)	Ultimate Pile Capacity (tons)
25.00	24.0	17.33	6.34	23.67	11.83	36.36
26.00	24.0	18.02	3.34	21.36	10.68	28.05
27.00	24.0	18.44	2.82	21.26	10.63	26.90
28.00	24.0	18.58	4.78	23.35	11.68	32.91
29.00	24.0	18.58	8.62	27.19	13.60	44.42
30.00	24.0	18.58	13.64	32.22	16.11	59.50
31.00	24.0	18.58	19.70	38.28	19.14	77.68
32.00	24.0	18.58	26.64	45.21	22.61	98.48
33.00	24.0	18.58	30.44	49.02	24.51	109.90
34.00	24.0	18.73	21.48	40.21	20.10	83.16
35.00	24.0	19.18	27.53	46.71	23.36	101.78
36.00	24.0	19.81	31.18	50.98	25.49	113.33
37.00	24.0	20.42	33.04	53.46	26.73	119.53
38.00	24.0	21.82	57.56	79.38	39.69	194.50
39.00	24.0	22.99	57.36	80.35	40.18	195.07
40.00	24.0	24.32	58.11	82.44	41.22	198.66
41.00	24.0	25.81	59.06	84.87	42.44	203.00
42.00	24.0	27.41	59.58	86.99	43.50	206.15
43.00	24.0	29.14	59.62	88.76	44.38	208.00
44.00	24.0	30.73	60.21	90.94	45.47	211.37
45.00	24.0	31.92	62.73	94.64	47.32	220.09
46.00	24.0	32.84	66.65	99.50	49.75	232.80
47.00	24.0	34.30	68.99	103.29	51.65	241.27
48.00	24.0	36.42	56.22	92.64	46.32	205.07
49.00	24.0	38.83	56.32	95.15	47.58	207.80
50.00	24.0	41.11	56.73	97.84	48.92	211.29
51.00	24.0	43.21	57.56	100.77	50.39	215.89
52.00	24.0	45.16	58.67	103.83	51.92	221.18
53.00	24.0	47.21	59.57	106.78	53.39	225.92

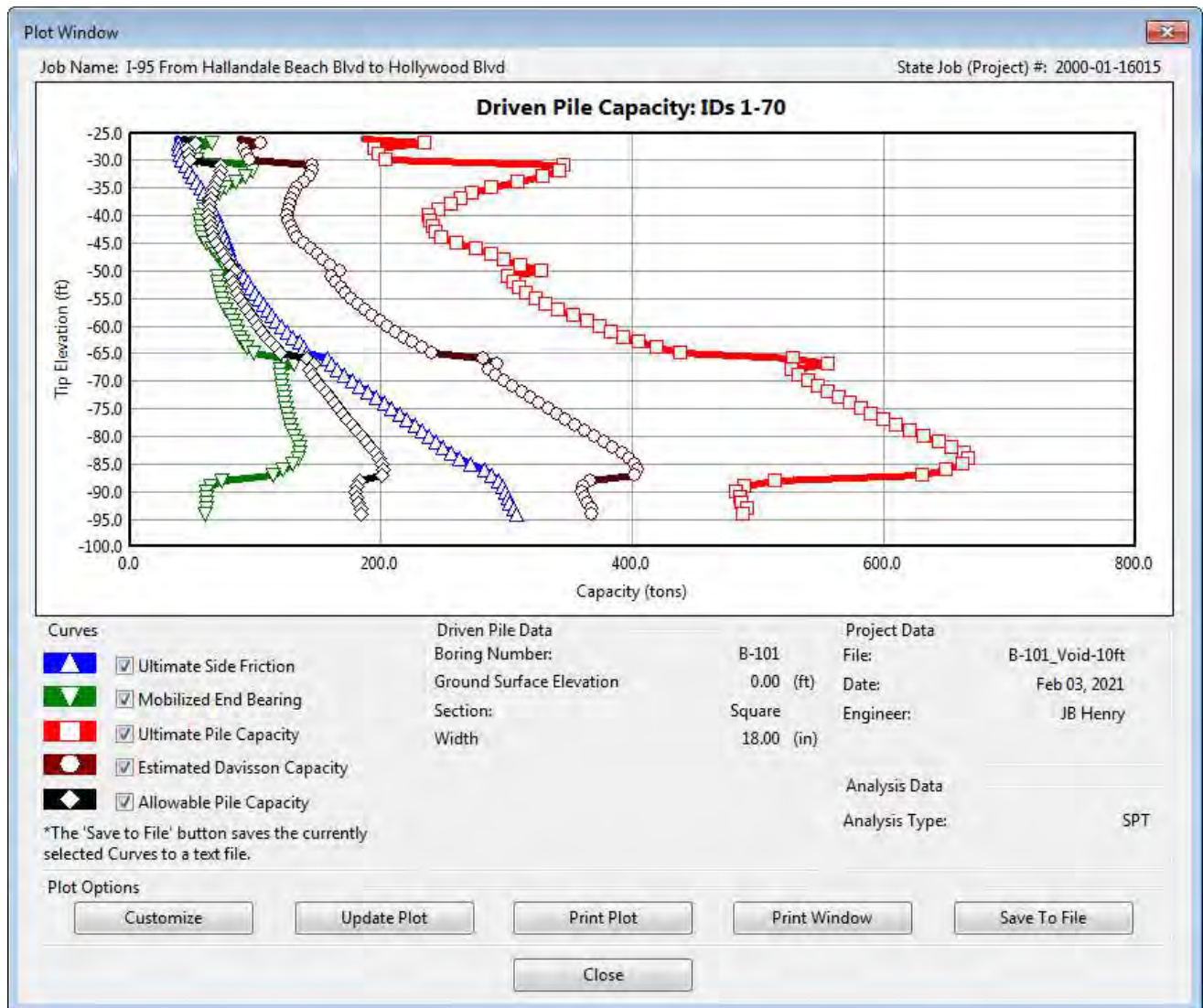
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54.00	24.0	49.21	60.49	109.70	54.85	230.69
55.00	24.0	49.73	65.40	115.13	57.56	245.92
56.00	24.0	49.25	76.69	125.94	62.97	279.31
57.00	24.0	49.21	91.98	141.20	70.60	325.17
58.00	24.0	60.83	239.83	300.67	150.33	780.33
59.00	24.0	63.04	262.88	325.92	162.96	851.67
60.00	24.0	64.90	284.96	349.86	174.93	919.78
61.00	24.0	66.74	186.63	253.37	126.68	626.63
62.00	24.0	70.55	187.32	257.87	128.94	632.52
63.00	24.0	77.58	294.32	371.90	185.95	960.53
64.00	24.0	85.17	266.00	351.17	175.59	883.17
65.00	24.0	91.94	238.50	330.44	165.22	807.43
66.00	24.0	98.10	216.98	315.08	157.54	749.04
67.00	24.0	104.92	204.43	309.35	154.68	718.22
68.00	24.0	112.59	198.83	311.42	155.71	709.08
69.00	24.0	120.33	199.45	319.78	159.89	718.68
70.00	24.0	128.72	199.78	328.51	164.25	728.07
71.00	24.0	138.13	199.15	337.28	168.64	735.59
72.00	24.0	145.65	191.46	337.11	168.56	720.04
73.00	24.0	150.94	189.95	340.89	170.45	720.80
74.00	24.0	155.92	197.95	353.87	176.94	749.78
75.00	24.0	160.39	201.38	361.77	180.88	764.52
76.00	24.0	165.50	204.57	370.07	185.04	779.21
77.00	24.0	168.75	208.46	377.21	188.61	794.14
78.00	24.0	177.44	286.23	463.67	231.84	1036.14
79.00	24.0	180.20	301.92	482.11	241.06	1085.95
80.00	24.0	184.90	297.22	482.12	241.06	1076.55
81.00	24.0	191.27	280.55	471.82	235.91	1032.91
82.00	24.0	197.64	270.59	468.22	234.11	1009.40
83.00	24.0	203.73	268.59	472.32	236.16	1009.50
84.00	24.0	209.68	268.59	478.27	239.14	1015.45
85.00	24.0	215.63	268.59	484.22	242.11	1021.41
86.00	24.0	221.48	269.39	490.87	245.43	1029.64
87.00	24.0	226.60	275.75	502.34	251.17	1053.84
88.00	24.0	230.88	286.96	517.84	258.92	1091.76
89.00	24.0	235.17	287.60	522.77	261.39	1097.98
90.00	24.0	240.29	269.82	510.11	255.05	1049.74
91.00	24.0	246.14	240.43	486.57	243.28	967.43
92.00	24.0	252.09	210.25	462.34	231.17	882.84

NOTES

1. MOBILIZED END BEARING IS 1/3 OF THE ORIGINAL RB-121 VALUES.
2. DAVISSON PILE CAPACITY IS AN ESTIMATE BASED ON FAILURE CRITERIA, AND EQUALS ULTIMATE SIDE FRICTION PLUS MOBILIZED END BEARING.
3. ALLOWABLE PILE CAPACITY IS 1/2 THE DAVISSON PILE CAPACITY.
4. ULTIMATE PILE CAPACITY IS ULTIMATE SIDE FRICTION PLUS 3 x THE MOBILIZED END BEARING.
EXCEPTION: FOR H-PILES TIPPED IN SAND OR LIMESTONE, THE ULTIMATE PILE CAPACITY IS ULTIMATE SIDE FRICTION PLUS 2 x THE MOBILIZED END BEARING.

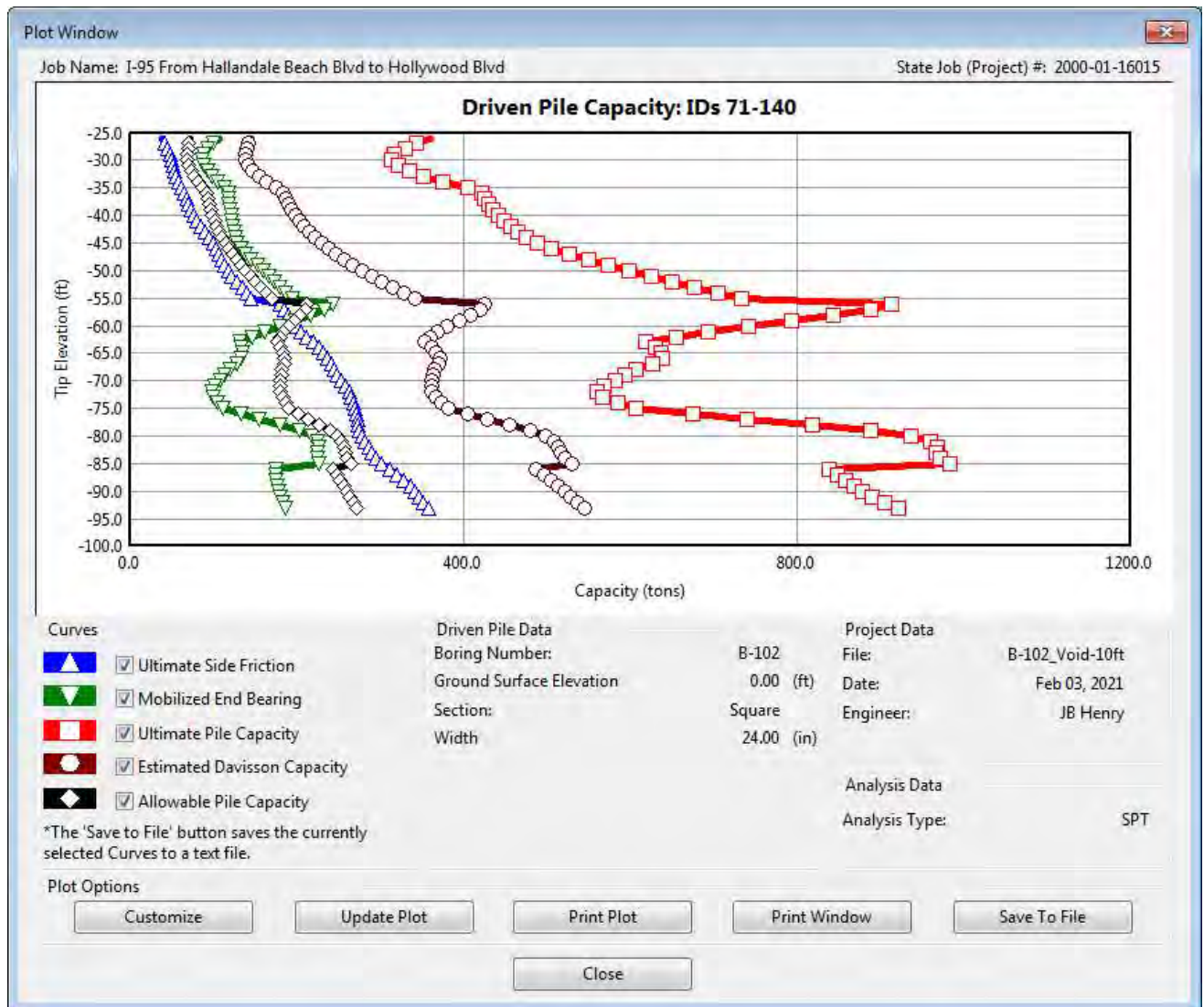
APPENDIX – C

GRAPHS – VERTICAL CAPACITY ANALYSIS OF
PRECAST CONCRETE DRIVEN PILES

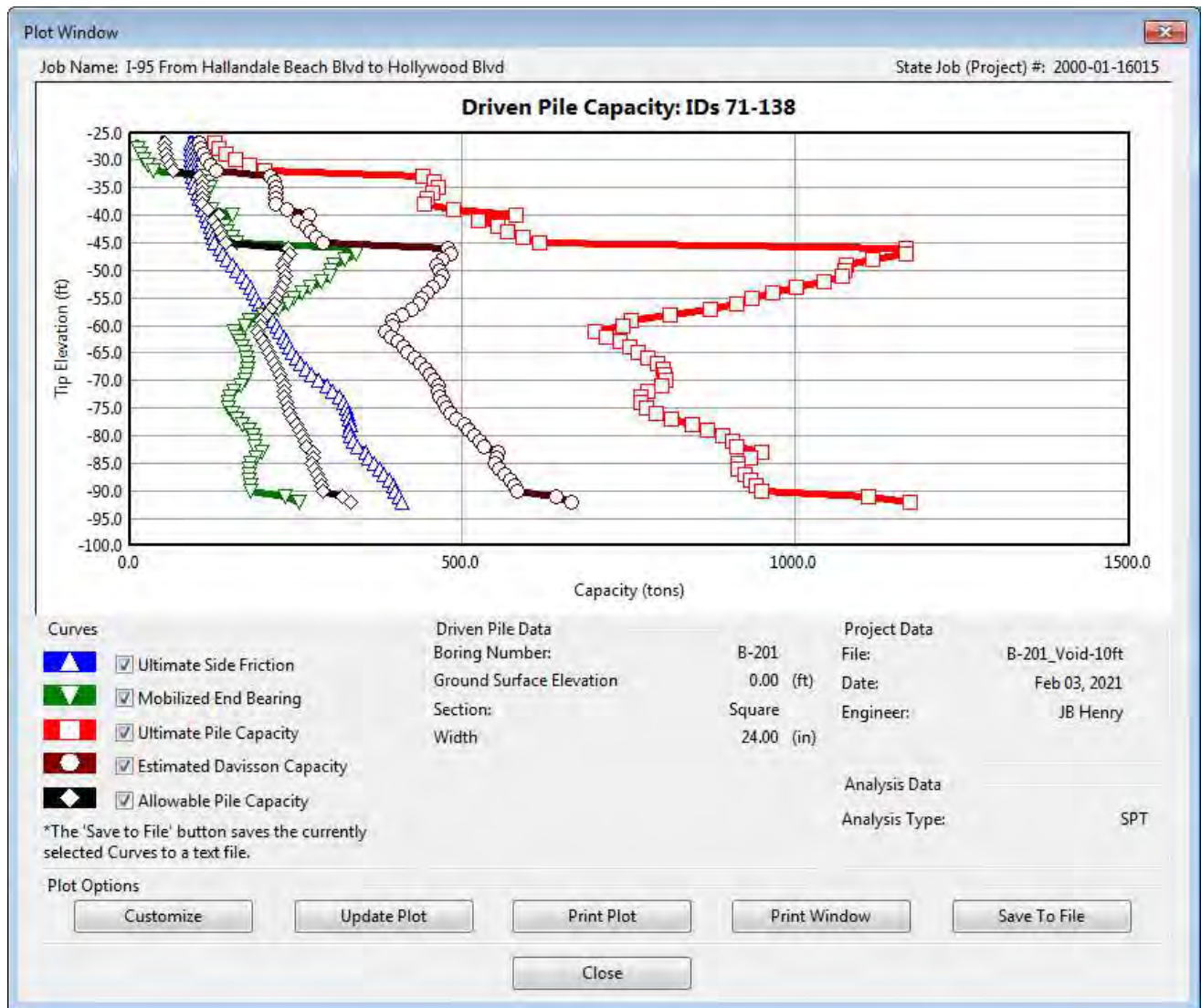




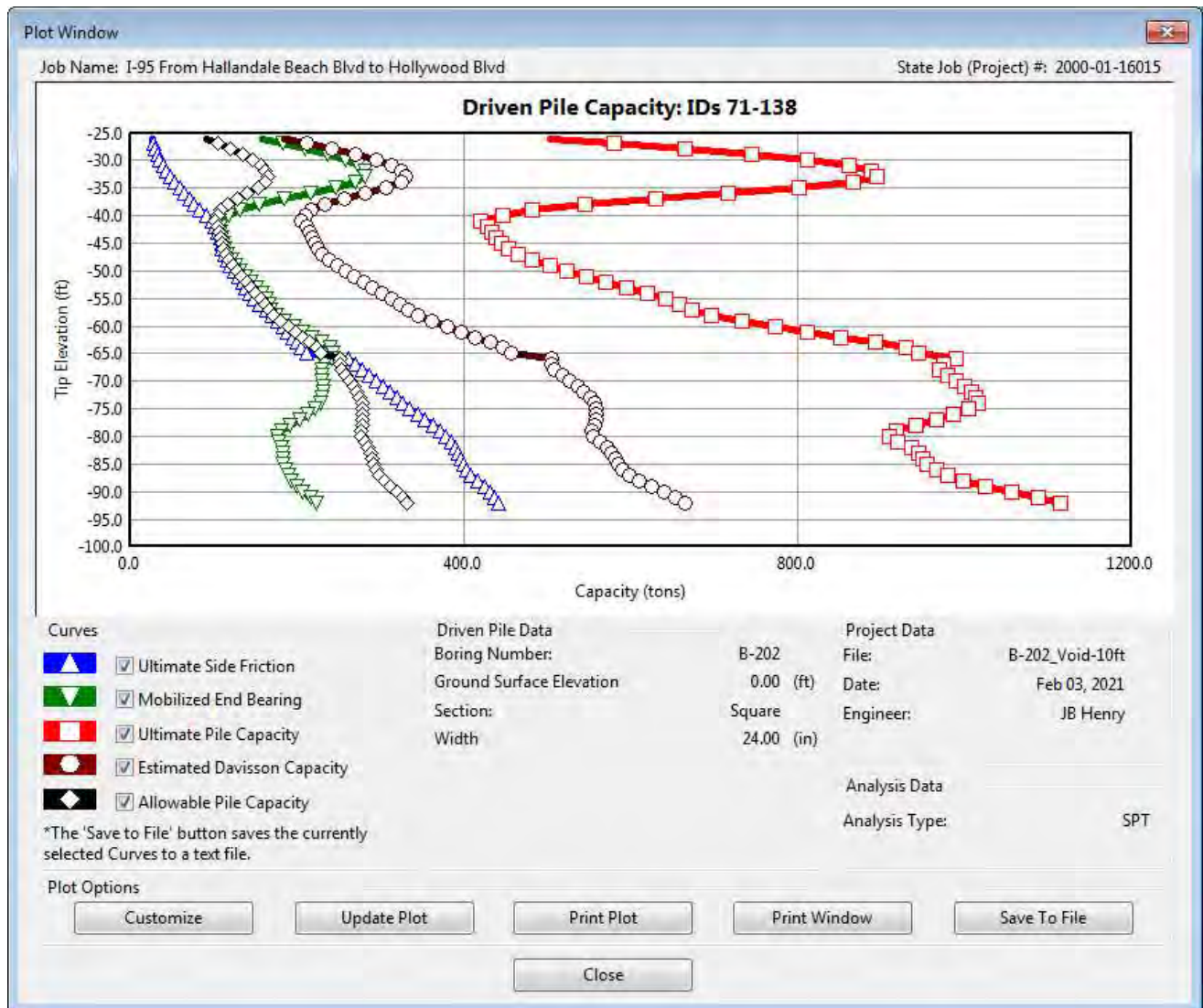






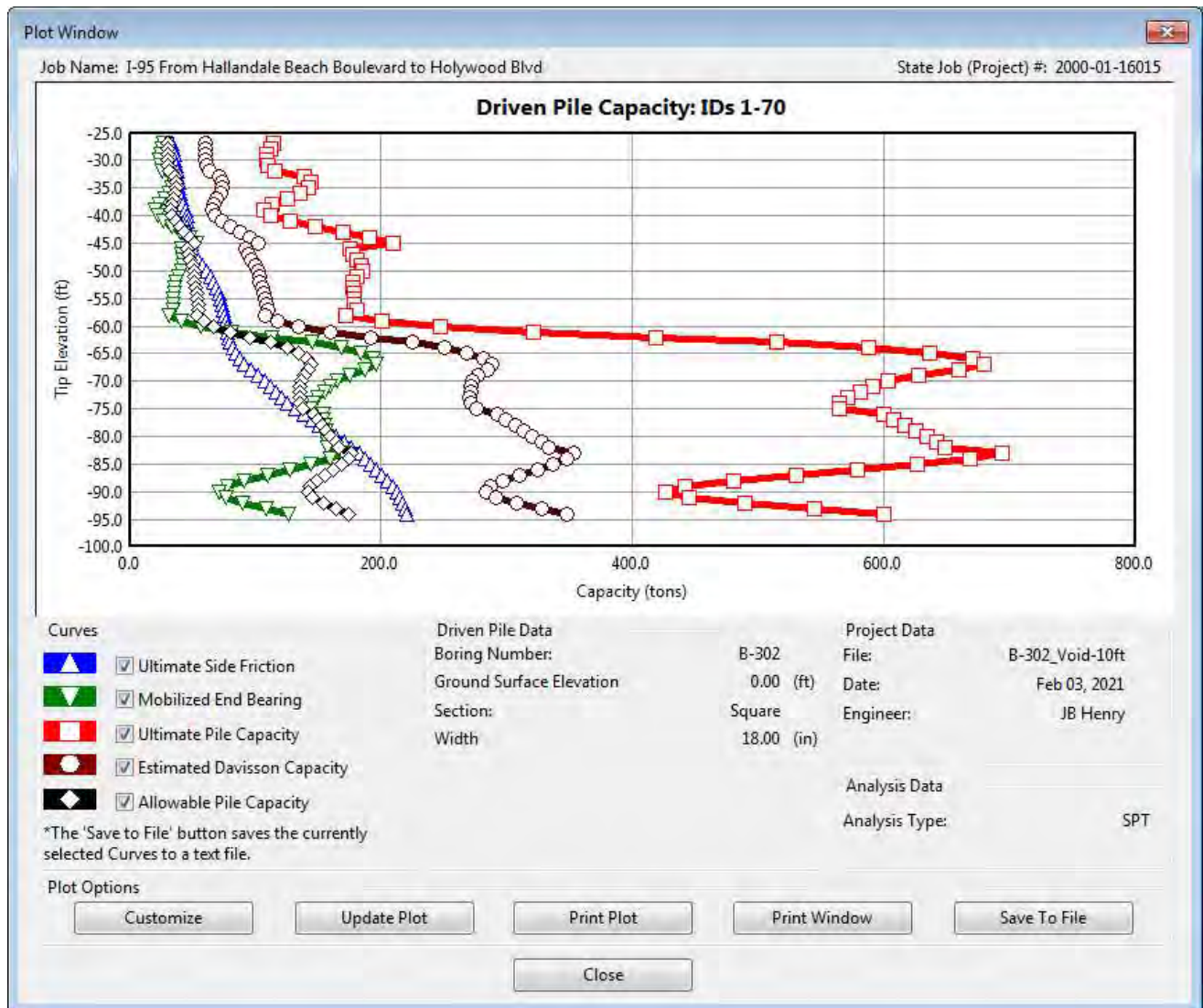


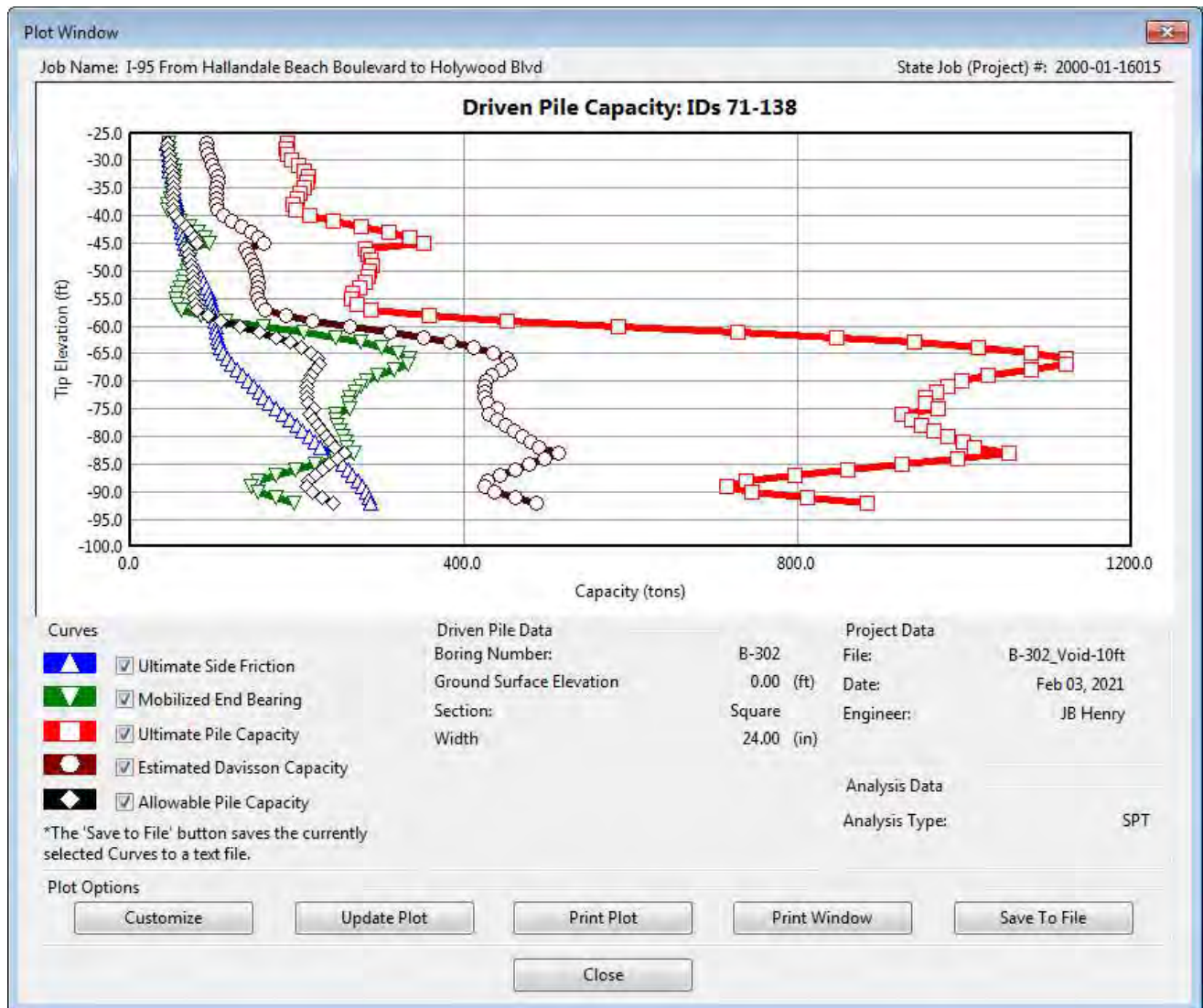


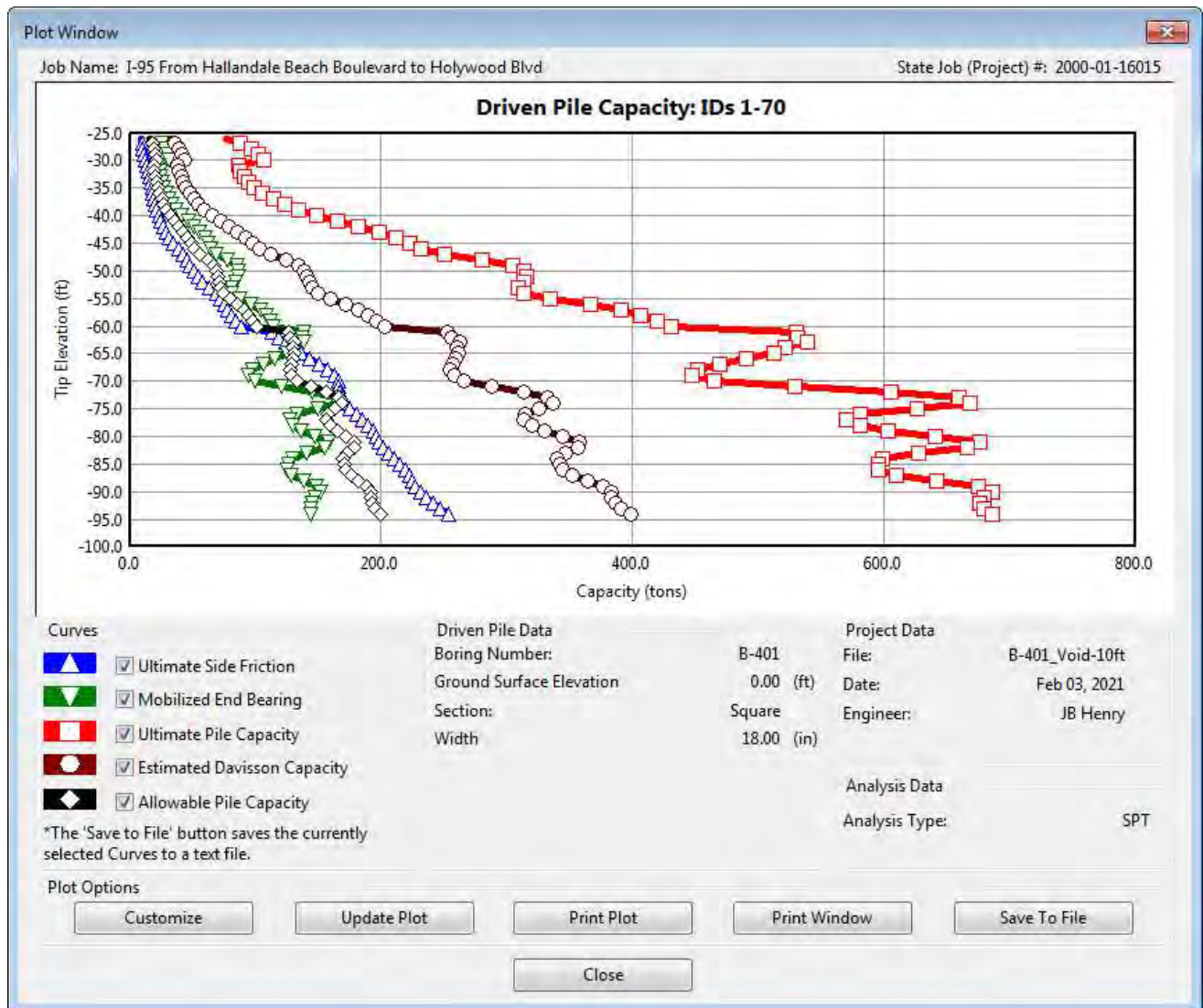


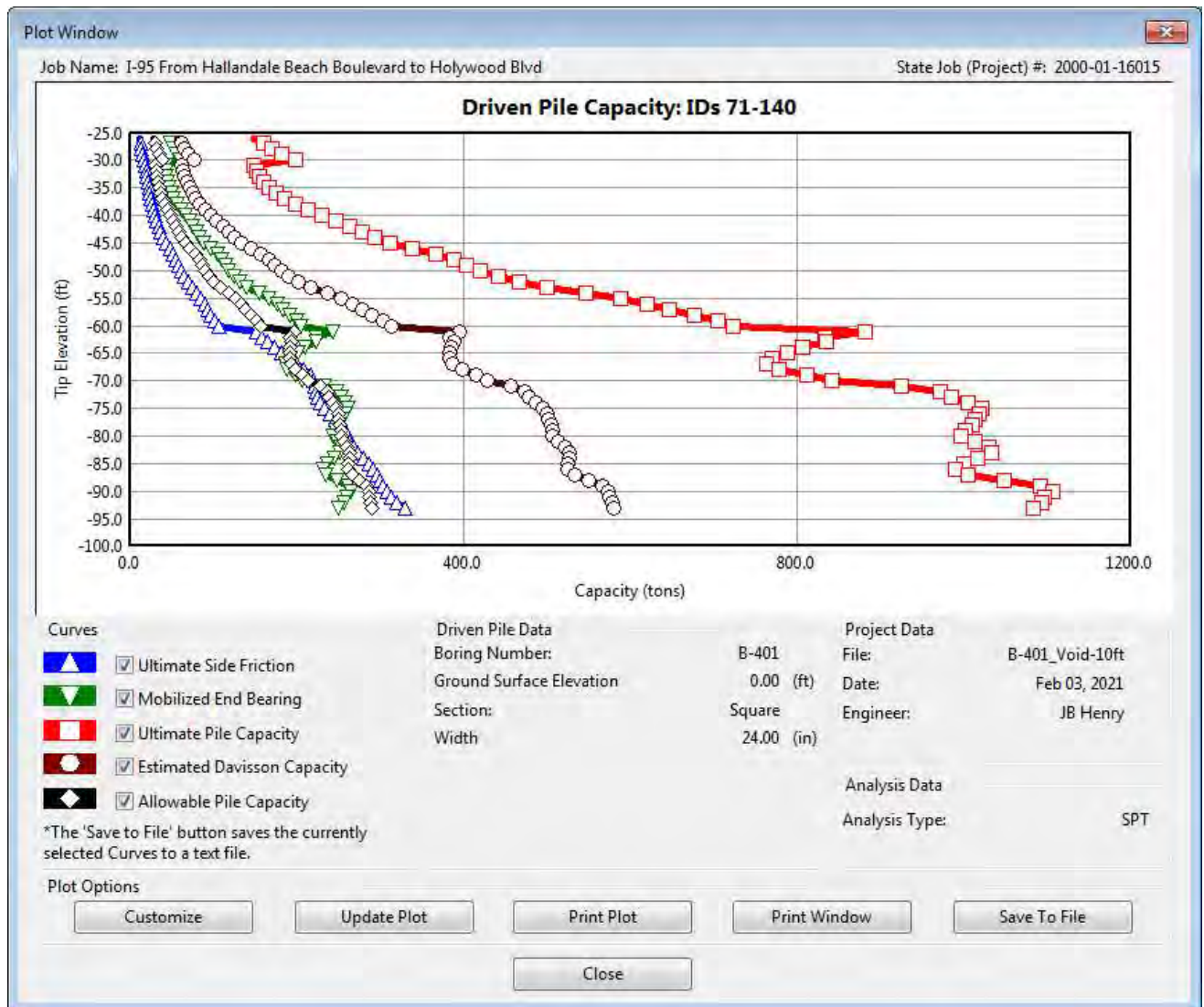








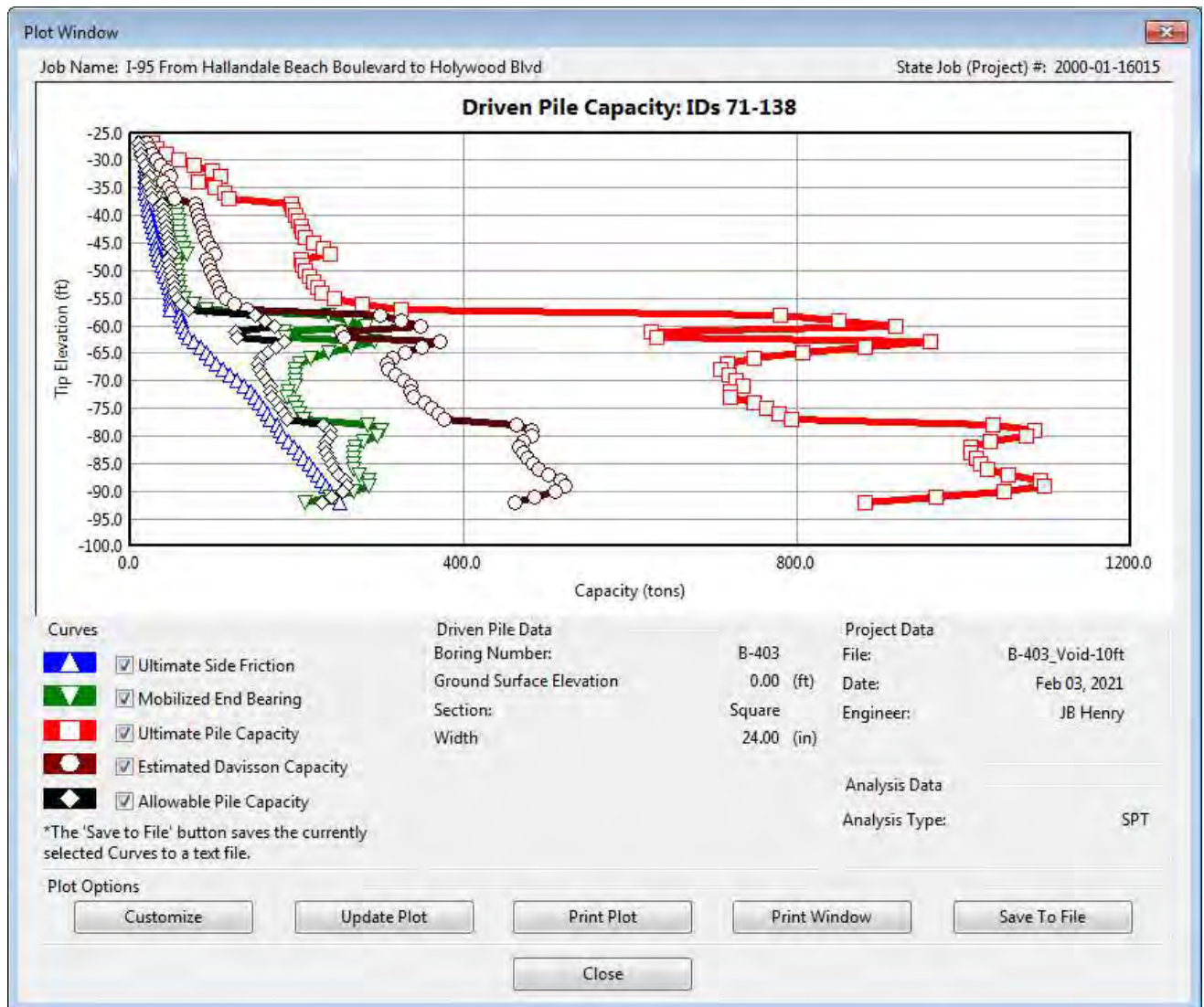












APPENDIX – D

**FB DEEP OUTPUTS – VERTICAL CAPACITY ANALYSIS OF
DRILLED SHAFTS**

General Information:

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Input file:analysis_Structure\FB-Deep_2021\Drilled Shaft\B-101Shaft48in.in
 Project number: 2000-01-16015
 Job name: I-95 From Hallandale Beach Blvd to Hollywood Blvd
 Engineer: JB Henry
 Units: English

Analysis Information:

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Analysis Type: Drilled Shaft Analysis

Soil Information:

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Boring date: 8/21/2018
 Boring number: B-101
 Station number: Offset:

Ground Elevation: 0.00(ft)
 Water table Elevation = 0.00(ft)

Hammer type: Automatic Hammer, Correction factor = 1.24

ID	Depth (ft)	Elevation (ft)	SPT Blows (Blows/ft)	Unit Weight (pcf)	Soil Type
1	0.00	0.00	N/A	0.00	5- Cavity layer
2	2.00	-2.00	N/A	0.00	5- Cavity layer
3	4.00	-4.00	N/A	0.00	5- Cavity layer
4	6.00	-6.00	N/A	0.00	5- Cavity layer
5	8.00	-8.00	N/A	0.00	5- Cavity layer
6	10.00	-10.00	84.00	130.00	3- Clean sand
7	12.00	-12.00	28.00	120.00	3- Clean sand
8	13.50	-13.50	16.00	115.00	3- Clean sand
9	15.50	-15.50	1.00	100.00	3- Clean sand
10	18.00	-18.00	5.00	105.00	3- Clean sand
11	20.50	-20.50	17.00	115.00	3- Clean sand
12	23.00	-23.00	22.00	115.00	3- Clean sand
13	25.50	-25.50	5.00	105.00	3- Clean sand
14	28.00	-28.00	5.00	105.00	3- Clean sand
15	30.50	-30.50	34.00	125.00	3- Clean sand
16	33.00	-33.00	43.00	125.00	3- Clean sand
17	35.50	-35.50	36.00	125.00	3- Clean sand
18	38.00	-38.00	33.00	125.00	3- Clean sand
19	40.50	-40.50	21.00	115.00	3- Clean sand
20	43.00	-43.00	28.00	120.00	3- Clean sand
21	45.50	-45.50	18.00	115.00	3- Clean sand
22	48.00	-48.00	26.00	120.00	3- Clean sand
23	50.50	-50.50	25.00	120.00	3- Clean sand
24	53.00	-53.00	24.00	120.00	3- Clean sand
25	55.50	-55.50	33.00	125.00	3- Clean sand
26	58.00	-58.00	32.00	125.00	3- Clean sand
27	60.50	-60.50	38.00	125.00	3- Clean sand
28	63.00	-63.00	40.00	125.00	3- Clean sand
29	65.50	-65.50	34.00	125.00	3- Clean sand
30	68.00	-68.00	38.00	125.00	3- Clean sand

B-101Shaft48in.out

31	70.50	-70.50	87.00	130.00	3-	Clean sand
32	73.00	-73.00	50.00	125.00	3-	Clean sand
33	75.50	-75.50	46.00	125.00	3-	Clean sand
34	78.00	-78.00	55.00	130.00	3-	Clean sand
35	80.50	-80.50	44.00	125.00	3-	Clean sand
36	83.00	-83.00	45.00	125.00	3-	Clean sand
37	85.50	-85.50	65.00	130.00	3-	Clean sand
38	88.00	-88.00	50.00	125.00	3-	Clean sand
39	90.50	-90.50	23.00	115.00	3-	Clean sand
40	93.00	-93.00	19.00	115.00	3-	Clean sand
41	95.50	-95.50	24.00	120.00	3-	Clean sand
42	98.00	-98.00	17.00	115.00	3-	Clean sand
43	100.00	-100.00	17.00	115.00	3-	Clean sand

ID	Cu-DIR (tsf)	qu (tsf)	qt (tsf)	Em (ksi)	qb (tsf)
1	N/A	N/A	N/A	N/A	N/A
2	N/A	N/A	N/A	N/A	N/A
3	N/A	N/A	N/A	N/A	N/A
4	N/A	N/A	N/A	N/A	N/A
5	N/A	N/A	N/A	N/A	N/A
6	N/A	N/A	N/A	N/A	N/A
7	N/A	N/A	N/A	N/A	N/A
8	N/A	N/A	N/A	N/A	N/A
9	N/A	N/A	N/A	N/A	N/A
10	N/A	N/A	N/A	N/A	N/A
11	N/A	N/A	N/A	N/A	N/A
12	N/A	N/A	N/A	N/A	N/A
13	N/A	N/A	N/A	N/A	N/A
14	N/A	N/A	N/A	N/A	N/A
15	N/A	N/A	N/A	N/A	N/A
16	N/A	N/A	N/A	N/A	N/A
17	N/A	N/A	N/A	N/A	N/A
18	N/A	N/A	N/A	N/A	N/A
19	N/A	N/A	N/A	N/A	N/A
20	N/A	N/A	N/A	N/A	N/A
21	N/A	N/A	N/A	N/A	N/A
22	N/A	N/A	N/A	N/A	N/A
23	N/A	N/A	N/A	N/A	N/A
24	N/A	N/A	N/A	N/A	N/A
25	N/A	N/A	N/A	N/A	N/A
26	N/A	N/A	N/A	N/A	N/A
27	N/A	N/A	N/A	N/A	N/A
28	N/A	N/A	N/A	N/A	N/A
29	N/A	N/A	N/A	N/A	N/A
30	N/A	N/A	N/A	N/A	N/A
31	N/A	N/A	N/A	N/A	N/A
32	N/A	N/A	N/A	N/A	N/A
33	N/A	N/A	N/A	N/A	N/A
34	N/A	N/A	N/A	N/A	N/A
35	N/A	N/A	N/A	N/A	N/A
36	N/A	N/A	N/A	N/A	N/A
37	N/A	N/A	N/A	N/A	N/A
38	N/A	N/A	N/A	N/A	N/A
39	N/A	N/A	N/A	N/A	N/A
40	N/A	N/A	N/A	N/A	N/A
41	N/A	N/A	N/A	N/A	N/A
42	N/A	N/A	N/A	N/A	N/A
43	N/A	N/A	N/A	N/A	N/A

ID RQD F.M. S.R.I. Rock Recovery

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1	N/A	N/A	N/A
2	N/A	N/A	N/A
3	N/A	N/A	N/A
4	N/A	N/A	N/A
5	N/A	N/A	N/A
6	N/A	N/A	N/A
7	N/A	N/A	N/A
8	N/A	N/A	N/A
9	N/A	N/A	N/A
10	N/A	N/A	N/A
11	N/A	N/A	N/A
12	N/A	N/A	N/A
13	N/A	N/A	N/A
14	N/A	N/A	N/A
15	N/A	N/A	N/A
16	N/A	N/A	N/A
17	N/A	N/A	N/A
18	N/A	N/A	N/A
19	N/A	N/A	N/A
20	N/A	N/A	N/A
21	N/A	N/A	N/A
22	N/A	N/A	N/A
23	N/A	N/A	N/A
24	N/A	N/A	N/A
25	N/A	N/A	N/A
26	N/A	N/A	N/A
27	N/A	N/A	N/A
28	N/A	N/A	N/A
29	N/A	N/A	N/A
30	N/A	N/A	N/A
31	N/A	N/A	N/A
32	N/A	N/A	N/A
33	N/A	N/A	N/A
34	N/A	N/A	N/A
35	N/A	N/A	N/A
36	N/A	N/A	N/A
37	N/A	N/A	N/A
38	N/A	N/A	N/A
39	N/A	N/A	N/A
40	N/A	N/A	N/A
41	N/A	N/A	N/A
42	N/A	N/A	N/A
43	N/A	N/A	N/A

Drilled Shaft Data:

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Shaft Geometry:

ID	Length (ft)	Tip Elev. (ft)	Case Len. (ft)	Diameter (in)	Base Diam. (in)	Bell Len. (ft)
1	15.00	-15.00	6.00	48.00	48.00	0.00
2	16.00	-16.00	6.00	48.00	48.00	0.00
3	17.00	-17.00	6.00	48.00	48.00	0.00
4	18.00	-18.00	6.00	48.00	48.00	0.00
5	19.00	-19.00	6.00	48.00	48.00	0.00
6	20.00	-20.00	6.00	48.00	48.00	0.00
7	21.00	-21.00	6.00	48.00	48.00	0.00
8	22.00	-22.00	6.00	48.00	48.00	0.00
9	23.00	-23.00	6.00	48.00	48.00	0.00

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10	24.00	-24.00	6.00	48.00	48.00	0.00
11	25.00	-25.00	6.00	48.00	48.00	0.00
12	26.00	-26.00	6.00	48.00	48.00	0.00
13	27.00	-27.00	6.00	48.00	48.00	0.00
14	28.00	-28.00	6.00	48.00	48.00	0.00
15	29.00	-29.00	6.00	48.00	48.00	0.00
16	30.00	-30.00	6.00	48.00	48.00	0.00
17	31.00	-31.00	6.00	48.00	48.00	0.00
18	32.00	-32.00	6.00	48.00	48.00	0.00
19	33.00	-33.00	6.00	48.00	48.00	0.00
20	34.00	-34.00	6.00	48.00	48.00	0.00
21	35.00	-35.00	6.00	48.00	48.00	0.00
22	36.00	-36.00	6.00	48.00	48.00	0.00
23	37.00	-37.00	6.00	48.00	48.00	0.00
24	38.00	-38.00	6.00	48.00	48.00	0.00
25	39.00	-39.00	6.00	48.00	48.00	0.00
26	40.00	-40.00	6.00	48.00	48.00	0.00
27	41.00	-41.00	6.00	48.00	48.00	0.00
28	42.00	-42.00	6.00	48.00	48.00	0.00
29	43.00	-43.00	6.00	48.00	48.00	0.00
30	44.00	-44.00	6.00	48.00	48.00	0.00
31	45.00	-45.00	6.00	48.00	48.00	0.00
32	46.00	-46.00	6.00	48.00	48.00	0.00
33	47.00	-47.00	6.00	48.00	48.00	0.00
34	48.00	-48.00	6.00	48.00	48.00	0.00
35	49.00	-49.00	6.00	48.00	48.00	0.00
36	50.00	-50.00	6.00	48.00	48.00	0.00
37	51.00	-51.00	6.00	48.00	48.00	0.00
38	52.00	-52.00	6.00	48.00	48.00	0.00
39	53.00	-53.00	6.00	48.00	48.00	0.00
40	54.00	-54.00	6.00	48.00	48.00	0.00
41	55.00	-55.00	6.00	48.00	48.00	0.00
42	56.00	-56.00	6.00	48.00	48.00	0.00
43	57.00	-57.00	6.00	48.00	48.00	0.00
44	58.00	-58.00	6.00	48.00	48.00	0.00
45	59.00	-59.00	6.00	48.00	48.00	0.00
46	60.00	-60.00	6.00	48.00	48.00	0.00
47	61.00	-61.00	6.00	48.00	48.00	0.00
48	62.00	-62.00	6.00	48.00	48.00	0.00
49	63.00	-63.00	6.00	48.00	48.00	0.00
50	64.00	-64.00	6.00	48.00	48.00	0.00
51	65.00	-65.00	6.00	48.00	48.00	0.00
52	66.00	-66.00	6.00	48.00	48.00	0.00
53	67.00	-67.00	6.00	48.00	48.00	0.00
54	68.00	-68.00	6.00	48.00	48.00	0.00
55	69.00	-69.00	6.00	48.00	48.00	0.00
56	70.00	-70.00	6.00	48.00	48.00	0.00
57	71.00	-71.00	6.00	48.00	48.00	0.00
58	72.00	-72.00	6.00	48.00	48.00	0.00
59	73.00	-73.00	6.00	48.00	48.00	0.00
60	74.00	-74.00	6.00	48.00	48.00	0.00
61	75.00	-75.00	6.00	48.00	48.00	0.00
62	76.00	-76.00	6.00	48.00	48.00	0.00
63	77.00	-77.00	6.00	48.00	48.00	0.00
64	78.00	-78.00	6.00	48.00	48.00	0.00
65	79.00	-79.00	6.00	48.00	48.00	0.00
66	80.00	-80.00	6.00	48.00	48.00	0.00
67	81.00	-81.00	6.00	48.00	48.00	0.00
68	82.00	-82.00	6.00	48.00	48.00	0.00
69	83.00	-83.00	6.00	48.00	48.00	0.00
70	84.00	-84.00	6.00	48.00	48.00	0.00
71	85.00	-85.00	6.00	48.00	48.00	0.00
72	86.00	-86.00	6.00	48.00	48.00	0.00

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73	87.00	-87.00	6.00	48.00	48.00	0.00
74	88.00	-88.00	6.00	48.00	48.00	0.00
75	89.00	-89.00	6.00	48.00	48.00	0.00
76	90.00	-90.00	6.00	48.00	48.00	0.00
77	91.00	-91.00	6.00	48.00	48.00	0.00
78	92.00	-92.00	6.00	48.00	48.00	0.00
79	93.00	-93.00	6.00	48.00	48.00	0.00
80	94.00	-94.00	6.00	48.00	48.00	0.00
81	95.00	-95.00	6.00	48.00	48.00	0.00

Drilled Shaft Capacity (sorted by shaft diameter):

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Strength reduction factors: Skin-friction = 1.00, End-bearing = 1.00

ID	Diameter (in)	Length (ft)	Skin Fric. (tons)	End Bearing (tons)	Capacity (tons)
1	48.00	15.00	5.042	49.778	54.820
2	48.00	16.00	6.267	152.130	158.397
3	48.00	17.00	6.839	130.516	137.355
4	48.00	18.00	7.471	110.537	118.008
5	48.00	19.00	8.526	96.201	104.727
6	48.00	20.00	9.665	88.985	98.649
7	48.00	21.00	11.767	91.916	103.683
8	48.00	22.00	14.952	107.041	121.993
9	48.00	23.00	18.373	128.310	146.683
10	48.00	24.00	22.012	150.006	172.018
11	48.00	25.00	25.870	169.362	195.232
12	48.00	26.00	28.726	184.053	212.779
13	48.00	27.00	30.467	194.101	224.569
14	48.00	28.00	32.269	201.347	233.616
15	48.00	29.00	34.128	207.424	241.551
16	48.00	30.00	36.041	216.929	252.970
17	48.00	31.00	39.424	232.018	271.441
18	48.00	32.00	44.396	249.651	294.047
19	48.00	33.00	49.578	266.189	315.767
20	48.00	34.00	54.957	283.886	338.843
21	48.00	35.00	60.528	298.364	358.892
22	48.00	36.00	66.284	303.129	369.413
23	48.00	37.00	72.214	297.157	369.371
24	48.00	38.00	78.316	286.285	364.600
25	48.00	39.00	84.575	274.202	358.777
26	48.00	40.00	90.991	262.743	353.734
27	48.00	41.00	97.548	252.699	350.247
28	48.00	42.00	104.210	244.077	348.287
29	48.00	43.00	110.968	236.754	347.722
30	48.00	44.00	117.823	230.014	347.837
31	48.00	45.00	124.782	224.599	349.381
32	48.00	46.00	131.835	223.255	355.090
33	48.00	47.00	138.962	227.463	366.424
34	48.00	48.00	146.157	232.663	378.821
35	48.00	49.00	153.421	236.013	389.435
36	48.00	50.00	160.761	239.519	400.280
37	48.00	51.00	168.169	246.648	414.817
38	48.00	52.00	175.639	257.517	433.156
39	48.00	53.00	183.168	267.801	450.969
40	48.00	54.00	190.746	276.488	467.234
41	48.00	55.00	198.372	285.253	483.625
42	48.00	56.00	206.041	294.467	500.507
43	48.00	57.00	213.758	302.608	516.366
44	48.00	58.00	221.522	309.874	531.396
45	48.00	59.00	229.323	318.288	547.611

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46	48.00	60.00	237.160	326.858	564.018
47	48.00	61.00	245.024	333.791	578.815
48	48.00	62.00	252.910	339.046	591.957
49	48.00	63.00	260.815	344.855	605.670
50	48.00	64.00	268.730	350.886	619.616
51	48.00	65.00	276.651	355.672	632.323
52	48.00	66.00	284.574	358.217	642.791
53	48.00	67.00	292.491	359.262	651.753
54	48.00	68.00	300.400	359.841	660.240
55	48.00	69.00	308.291	360.042	668.333
56	48.00	70.00	316.164	361.047	677.211
57	48.00	71.00	324.013	364.080	688.093
58	48.00	72.00	331.840	368.617	700.457
59	48.00	73.00	339.644	372.296	711.941
60	48.00	74.00	347.411	374.729	722.140
61	48.00	75.00	355.132	376.177	731.309
62	48.00	76.00	362.802	376.901	739.703
63	48.00	77.00	370.415	376.991	747.406
64	48.00	78.00	377.969	376.991	754.961
65	48.00	79.00	385.460	376.991	762.451
66	48.00	80.00	392.891	376.991	769.882
67	48.00	81.00	400.255	374.967	775.221
68	48.00	82.00	407.537	368.893	776.431
69	48.00	83.00	414.737	359.160	773.897
70	48.00	84.00	421.844	348.103	769.947
71	48.00	85.00	428.857	336.111	764.969
72	48.00	86.00	435.775	324.236	760.010
73	48.00	87.00	442.747	313.529	756.277
74	48.00	88.00	449.826	303.641	753.467
75	48.00	89.00	457.007	291.792	748.799
76	48.00	90.00	464.286	276.957	741.244
77	48.00	91.00	471.662	260.085	731.747
78	48.00	92.00	479.122	242.771	721.893
79	48.00	93.00	Soil Elevations Must Extend At or Below Contribution		
Zone					
80	48.00	94.00	Soil Elevations Must Extend At or Below Contribution		
Zone					
81	48.00	95.00	Soil Elevations Must Extend At or Below Contribution		
Zone					

Drilled Shaft Capacity at User-Defined Settlement (sorted by shaft diameter):

***** Capacity is NOT modified by the strength reduction factors *****

User-Defined Settlement = 1.04%

ID	Diameter (in)	Length (ft)	Skin Fric. (tons)	End Bearing (tons)	Capacity (tons)
1	48.00	15.00	4.932	15.811	20.743
2	48.00	16.00	6.130	48.322	54.451
3	48.00	17.00	6.689	41.456	48.146
4	48.00	18.00	7.307	35.110	42.417
5	48.00	19.00	8.340	30.557	38.896
6	48.00	20.00	9.453	28.265	37.718
7	48.00	21.00	11.509	29.196	40.705
8	48.00	22.00	14.625	34.000	48.625
9	48.00	23.00	17.970	40.756	58.726
10	48.00	24.00	21.531	47.647	69.178
11	48.00	25.00	25.304	53.795	79.099
12	48.00	26.00	28.097	58.462	86.559

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13	48.00	27.00	29.801	61.653	91.454
14	48.00	28.00	31.563	63.955	95.518
15	48.00	29.00	33.381	65.885	99.265
16	48.00	30.00	35.252	68.904	104.156
17	48.00	31.00	38.561	73.697	112.257
18	48.00	32.00	43.424	79.298	122.722
19	48.00	33.00	48.493	84.551	133.044
20	48.00	34.00	53.754	90.172	143.926
21	48.00	35.00	59.203	94.771	153.974
22	48.00	36.00	64.833	96.284	161.117
23	48.00	37.00	70.633	94.387	165.021
24	48.00	38.00	76.601	90.934	167.535
25	48.00	39.00	82.724	87.096	169.820
26	48.00	40.00	88.999	83.456	172.455
27	48.00	41.00	95.413	80.266	175.679
28	48.00	42.00	101.929	77.527	179.456
29	48.00	43.00	108.539	75.201	183.741
30	48.00	44.00	115.244	73.060	188.305
31	48.00	45.00	122.051	71.341	193.391
32	48.00	46.00	128.949	70.914	199.863
33	48.00	47.00	135.920	72.250	208.170
34	48.00	48.00	142.958	73.902	216.860
35	48.00	49.00	150.063	74.966	225.029
36	48.00	50.00	157.242	76.080	233.322
37	48.00	51.00	164.488	78.344	242.832
38	48.00	52.00	171.794	81.796	253.591
39	48.00	53.00	179.158	85.063	264.221
40	48.00	54.00	186.571	87.822	274.393
41	48.00	55.00	194.030	90.606	284.636
42	48.00	56.00	201.531	93.533	295.064
43	48.00	57.00	209.079	96.119	305.198
44	48.00	58.00	216.674	98.427	315.100
45	48.00	59.00	224.304	101.099	325.403
46	48.00	60.00	231.969	103.821	335.790
47	48.00	61.00	239.661	106.024	345.685
48	48.00	62.00	247.375	107.693	355.067
49	48.00	63.00	255.107	109.538	364.644
50	48.00	64.00	262.848	111.454	374.301
51	48.00	65.00	270.596	112.974	383.569
52	48.00	66.00	278.345	113.782	392.127
53	48.00	67.00	286.089	114.114	400.203
54	48.00	68.00	293.825	114.298	408.122
55	48.00	69.00	301.543	114.362	415.905
56	48.00	70.00	309.244	114.681	423.925
57	48.00	71.00	316.921	115.645	432.565
58	48.00	72.00	324.577	117.085	441.662
59	48.00	73.00	332.210	118.254	450.464
60	48.00	74.00	339.806	119.027	458.833
61	48.00	75.00	347.359	119.487	466.845
62	48.00	76.00	354.861	119.717	474.578
63	48.00	77.00	362.308	119.745	482.053
64	48.00	78.00	369.696	119.745	489.442
65	48.00	79.00	377.023	119.745	496.769
66	48.00	80.00	384.292	119.745	504.037
67	48.00	81.00	391.494	119.102	510.596
68	48.00	82.00	398.617	117.173	515.790
69	48.00	83.00	405.659	114.082	519.741
70	48.00	84.00	412.610	110.570	523.180
71	48.00	85.00	419.471	106.760	526.231
72	48.00	86.00	426.236	102.989	529.225
73	48.00	87.00	433.056	99.588	532.644
74	48.00	88.00	439.980	96.447	536.427
75	48.00	89.00	447.004	92.683	539.687

			B-101Shaft48in.out		
	76	48.00	90.00	454.124	87.971 542.095
	77	48.00	91.00	461.338	82.612 543.950
	78	48.00	92.00	468.635	77.112 545.748
	79	48.00	93.00	Soil Elevations Must Extend At or Below Contribution	
Zone	80	48.00	94.00	Soil Elevations Must Extend At or Below Contribution	
Zone	81	48.00	95.00	Soil Elevations Must Extend At or Below Contribution	
Zone					

General Information:

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Input file:analysis_Structure\FB-Deep_2021\Drilled Shaft\B-101Shaft60in.in
 Project number: 2000-01-16015
 Job name: I-95 From Hallandale Beach Blvd to Hollywood Blvd
 Engineer: JB Henry
 Units: English

Analysis Information:

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Analysis Type: Drilled Shaft Analysis

Soil Information:

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Boring date: 8/21/2018
 Boring number: B-101
 Station number: Offset:

Ground Elevation: 0.00(ft)
 Water table Elevation = 0.00(ft)

Hammer type: Automatic Hammer, Correction factor = 1.24

ID	Depth (ft)	Elevation (ft)	SPT Blows (Blows/ft)	Unit Weight (pcf)	Soil Type
1	0.00	0.00	N/A	0.00	5- Cavity layer
2	2.00	-2.00	N/A	0.00	5- Cavity layer
3	4.00	-4.00	N/A	0.00	5- Cavity layer
4	6.00	-6.00	N/A	0.00	5- Cavity layer
5	8.00	-8.00	N/A	0.00	5- Cavity layer
6	10.00	-10.00	84.00	130.00	3- Clean sand
7	12.00	-12.00	28.00	120.00	3- Clean sand
8	13.50	-13.50	16.00	115.00	3- Clean sand
9	15.50	-15.50	1.00	100.00	3- Clean sand
10	18.00	-18.00	5.00	105.00	3- Clean sand
11	20.50	-20.50	17.00	115.00	3- Clean sand
12	23.00	-23.00	22.00	115.00	3- Clean sand
13	25.50	-25.50	5.00	105.00	3- Clean sand
14	28.00	-28.00	5.00	105.00	3- Clean sand
15	30.50	-30.50	34.00	125.00	3- Clean sand
16	33.00	-33.00	43.00	125.00	3- Clean sand
17	35.50	-35.50	36.00	125.00	3- Clean sand
18	38.00	-38.00	33.00	125.00	3- Clean sand
19	40.50	-40.50	21.00	115.00	3- Clean sand
20	43.00	-43.00	28.00	120.00	3- Clean sand
21	45.50	-45.50	18.00	115.00	3- Clean sand
22	48.00	-48.00	26.00	120.00	3- Clean sand
23	50.50	-50.50	25.00	120.00	3- Clean sand
24	53.00	-53.00	24.00	120.00	3- Clean sand
25	55.50	-55.50	33.00	125.00	3- Clean sand
26	58.00	-58.00	32.00	125.00	3- Clean sand
27	60.50	-60.50	38.00	125.00	3- Clean sand
28	63.00	-63.00	40.00	125.00	3- Clean sand
29	65.50	-65.50	34.00	125.00	3- Clean sand
30	68.00	-68.00	38.00	125.00	3- Clean sand

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31	70.50	-70.50	87.00	130.00	3- Clean sand
32	73.00	-73.00	50.00	125.00	3- Clean sand
33	75.50	-75.50	46.00	125.00	3- Clean sand
34	78.00	-78.00	55.00	130.00	3- Clean sand
35	80.50	-80.50	44.00	125.00	3- Clean sand
36	83.00	-83.00	45.00	125.00	3- Clean sand
37	85.50	-85.50	65.00	130.00	3- Clean sand
38	88.00	-88.00	50.00	125.00	3- Clean sand
39	90.50	-90.50	23.00	115.00	3- Clean sand
40	93.00	-93.00	19.00	115.00	3- Clean sand
41	95.50	-95.50	24.00	120.00	3- Clean sand
42	98.00	-98.00	17.00	115.00	3- Clean sand
43	100.00	-100.00	17.00	115.00	3- Clean sand

ID	Cu-DIR (tsf)	qu (tsf)	qt (tsf)	Em (ksi)	qb (tsf)
1	N/A	N/A	N/A	N/A	N/A
2	N/A	N/A	N/A	N/A	N/A
3	N/A	N/A	N/A	N/A	N/A
4	N/A	N/A	N/A	N/A	N/A
5	N/A	N/A	N/A	N/A	N/A
6	N/A	N/A	N/A	N/A	N/A
7	N/A	N/A	N/A	N/A	N/A
8	N/A	N/A	N/A	N/A	N/A
9	N/A	N/A	N/A	N/A	N/A
10	N/A	N/A	N/A	N/A	N/A
11	N/A	N/A	N/A	N/A	N/A
12	N/A	N/A	N/A	N/A	N/A
13	N/A	N/A	N/A	N/A	N/A
14	N/A	N/A	N/A	N/A	N/A
15	N/A	N/A	N/A	N/A	N/A
16	N/A	N/A	N/A	N/A	N/A
17	N/A	N/A	N/A	N/A	N/A
18	N/A	N/A	N/A	N/A	N/A
19	N/A	N/A	N/A	N/A	N/A
20	N/A	N/A	N/A	N/A	N/A
21	N/A	N/A	N/A	N/A	N/A
22	N/A	N/A	N/A	N/A	N/A
23	N/A	N/A	N/A	N/A	N/A
24	N/A	N/A	N/A	N/A	N/A
25	N/A	N/A	N/A	N/A	N/A
26	N/A	N/A	N/A	N/A	N/A
27	N/A	N/A	N/A	N/A	N/A
28	N/A	N/A	N/A	N/A	N/A
29	N/A	N/A	N/A	N/A	N/A
30	N/A	N/A	N/A	N/A	N/A
31	N/A	N/A	N/A	N/A	N/A
32	N/A	N/A	N/A	N/A	N/A
33	N/A	N/A	N/A	N/A	N/A
34	N/A	N/A	N/A	N/A	N/A
35	N/A	N/A	N/A	N/A	N/A
36	N/A	N/A	N/A	N/A	N/A
37	N/A	N/A	N/A	N/A	N/A
38	N/A	N/A	N/A	N/A	N/A
39	N/A	N/A	N/A	N/A	N/A
40	N/A	N/A	N/A	N/A	N/A
41	N/A	N/A	N/A	N/A	N/A
42	N/A	N/A	N/A	N/A	N/A
43	N/A	N/A	N/A	N/A	N/A

ID RQD F.M. S.R.I. Rock Recovery

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1	N/A	N/A	N/A
2	N/A	N/A	N/A
3	N/A	N/A	N/A
4	N/A	N/A	N/A
5	N/A	N/A	N/A
6	N/A	N/A	N/A
7	N/A	N/A	N/A
8	N/A	N/A	N/A
9	N/A	N/A	N/A
10	N/A	N/A	N/A
11	N/A	N/A	N/A
12	N/A	N/A	N/A
13	N/A	N/A	N/A
14	N/A	N/A	N/A
15	N/A	N/A	N/A
16	N/A	N/A	N/A
17	N/A	N/A	N/A
18	N/A	N/A	N/A
19	N/A	N/A	N/A
20	N/A	N/A	N/A
21	N/A	N/A	N/A
22	N/A	N/A	N/A
23	N/A	N/A	N/A
24	N/A	N/A	N/A
25	N/A	N/A	N/A
26	N/A	N/A	N/A
27	N/A	N/A	N/A
28	N/A	N/A	N/A
29	N/A	N/A	N/A
30	N/A	N/A	N/A
31	N/A	N/A	N/A
32	N/A	N/A	N/A
33	N/A	N/A	N/A
34	N/A	N/A	N/A
35	N/A	N/A	N/A
36	N/A	N/A	N/A
37	N/A	N/A	N/A
38	N/A	N/A	N/A
39	N/A	N/A	N/A
40	N/A	N/A	N/A
41	N/A	N/A	N/A
42	N/A	N/A	N/A
43	N/A	N/A	N/A

Drilled Shaft Data:

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Shaft Geometry:

ID	Length (ft)	Tip Elev. (ft)	Case Len. (ft)	Diameter (in)	Base Diam. (in)	Bell Len. (ft)
1	15.00	-15.00	6.00	60.00	60.00	0.00
2	16.00	-16.00	6.00	60.00	60.00	0.00
3	17.00	-17.00	6.00	60.00	60.00	0.00
4	18.00	-18.00	6.00	60.00	60.00	0.00
5	19.00	-19.00	6.00	60.00	60.00	0.00
6	20.00	-20.00	6.00	60.00	60.00	0.00
7	21.00	-21.00	6.00	60.00	60.00	0.00
8	22.00	-22.00	6.00	60.00	60.00	0.00
9	23.00	-23.00	6.00	60.00	60.00	0.00

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10	24.00	-24.00	6.00	60.00	60.00	0.00
11	25.00	-25.00	6.00	60.00	60.00	0.00
12	26.00	-26.00	6.00	60.00	60.00	0.00
13	27.00	-27.00	6.00	60.00	60.00	0.00
14	28.00	-28.00	6.00	60.00	60.00	0.00
15	29.00	-29.00	6.00	60.00	60.00	0.00
16	30.00	-30.00	6.00	60.00	60.00	0.00
17	31.00	-31.00	6.00	60.00	60.00	0.00
18	32.00	-32.00	6.00	60.00	60.00	0.00
19	33.00	-33.00	6.00	60.00	60.00	0.00
20	34.00	-34.00	6.00	60.00	60.00	0.00
21	35.00	-35.00	6.00	60.00	60.00	0.00
22	36.00	-36.00	6.00	60.00	60.00	0.00
23	37.00	-37.00	6.00	60.00	60.00	0.00
24	38.00	-38.00	6.00	60.00	60.00	0.00
25	39.00	-39.00	6.00	60.00	60.00	0.00
26	40.00	-40.00	6.00	60.00	60.00	0.00
27	41.00	-41.00	6.00	60.00	60.00	0.00
28	42.00	-42.00	6.00	60.00	60.00	0.00
29	43.00	-43.00	6.00	60.00	60.00	0.00
30	44.00	-44.00	6.00	60.00	60.00	0.00
31	45.00	-45.00	6.00	60.00	60.00	0.00
32	46.00	-46.00	6.00	60.00	60.00	0.00
33	47.00	-47.00	6.00	60.00	60.00	0.00
34	48.00	-48.00	6.00	60.00	60.00	0.00
35	49.00	-49.00	6.00	60.00	60.00	0.00
36	50.00	-50.00	6.00	60.00	60.00	0.00
37	51.00	-51.00	6.00	60.00	60.00	0.00
38	52.00	-52.00	6.00	60.00	60.00	0.00
39	53.00	-53.00	6.00	60.00	60.00	0.00
40	54.00	-54.00	6.00	60.00	60.00	0.00
41	55.00	-55.00	6.00	60.00	60.00	0.00
42	56.00	-56.00	6.00	60.00	60.00	0.00
43	57.00	-57.00	6.00	60.00	60.00	0.00
44	58.00	-58.00	6.00	60.00	60.00	0.00
45	59.00	-59.00	6.00	60.00	60.00	0.00
46	60.00	-60.00	6.00	60.00	60.00	0.00
47	61.00	-61.00	6.00	60.00	60.00	0.00
48	62.00	-62.00	6.00	60.00	60.00	0.00
49	63.00	-63.00	6.00	60.00	60.00	0.00
50	64.00	-64.00	6.00	60.00	60.00	0.00
51	65.00	-65.00	6.00	60.00	60.00	0.00
52	66.00	-66.00	6.00	60.00	60.00	0.00
53	67.00	-67.00	6.00	60.00	60.00	0.00
54	68.00	-68.00	6.00	60.00	60.00	0.00
55	69.00	-69.00	6.00	60.00	60.00	0.00
56	70.00	-70.00	6.00	60.00	60.00	0.00
57	71.00	-71.00	6.00	60.00	60.00	0.00
58	72.00	-72.00	6.00	60.00	60.00	0.00
59	73.00	-73.00	6.00	60.00	60.00	0.00
60	74.00	-74.00	6.00	60.00	60.00	0.00
61	75.00	-75.00	6.00	60.00	60.00	0.00
62	76.00	-76.00	6.00	60.00	60.00	0.00
63	77.00	-77.00	6.00	60.00	60.00	0.00
64	78.00	-78.00	6.00	60.00	60.00	0.00
65	79.00	-79.00	6.00	60.00	60.00	0.00
66	80.00	-80.00	6.00	60.00	60.00	0.00
67	81.00	-81.00	6.00	60.00	60.00	0.00
68	82.00	-82.00	6.00	60.00	60.00	0.00
69	83.00	-83.00	6.00	60.00	60.00	0.00
70	84.00	-84.00	6.00	60.00	60.00	0.00
71	85.00	-85.00	6.00	60.00	60.00	0.00
72	86.00	-86.00	6.00	60.00	60.00	0.00

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73	87.00	-87.00	6.00	60.00	60.00	0.00
74	88.00	-88.00	6.00	60.00	60.00	0.00
75	89.00	-89.00	6.00	60.00	60.00	0.00
76	90.00	-90.00	6.00	60.00	60.00	0.00
77	91.00	-91.00	6.00	60.00	60.00	0.00
78	92.00	-92.00	6.00	60.00	60.00	0.00
79	93.00	-93.00	6.00	60.00	60.00	0.00
80	94.00	-94.00	6.00	60.00	60.00	0.00
81	95.00	-95.00	6.00	60.00	60.00	0.00

Drilled Shaft Capacity (sorted by shaft diameter):

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Strength reduction factors: Skin-friction = 1.00, End-bearing = 1.00

ID	Diameter (in)	Length (ft)	Skin Fric. (tons)	End Bearing (tons)	Capacity (tons)
1	60.00	15.00	6.303	70.356	76.659
2	60.00	16.00	7.833	72.616	80.449
3	60.00	17.00	8.549	74.077	82.626
4	60.00	18.00	9.338	160.941	170.279
5	60.00	19.00	10.658	141.292	151.949
6	60.00	20.00	12.081	134.864	146.945
7	60.00	21.00	14.709	142.016	156.724
8	60.00	22.00	18.691	158.163	176.854
9	60.00	23.00	22.966	182.343	205.309
10	60.00	24.00	27.516	208.674	236.189
11	60.00	25.00	32.337	231.274	263.611
12	60.00	26.00	35.907	250.031	285.938
13	60.00	27.00	38.084	264.274	302.358
14	60.00	28.00	40.337	273.891	314.228
15	60.00	29.00	42.659	280.100	322.759
16	60.00	30.00	45.051	284.117	329.169
17	60.00	31.00	49.279	287.184	336.464
18	60.00	32.00	55.495	296.746	352.241
19	60.00	33.00	61.973	314.045	376.018
20	60.00	34.00	68.696	333.818	402.514
21	60.00	35.00	75.660	350.807	426.467
22	60.00	36.00	82.855	364.394	447.248
23	60.00	37.00	90.267	370.886	461.154
24	60.00	38.00	97.895	369.669	467.563
25	60.00	39.00	105.719	362.962	468.681
26	60.00	40.00	113.738	352.984	466.723
27	60.00	41.00	121.935	340.362	462.297
28	60.00	42.00	130.262	328.843	459.105
29	60.00	43.00	138.710	319.052	457.762
30	60.00	44.00	147.279	311.301	458.580
31	60.00	45.00	155.977	305.904	461.881
32	60.00	46.00	164.794	303.104	467.898
33	60.00	47.00	173.702	304.362	478.064
34	60.00	48.00	182.697	309.921	492.618
35	60.00	49.00	191.777	317.185	508.962
36	60.00	50.00	200.951	323.556	524.507
37	60.00	51.00	210.211	329.602	539.813
38	60.00	52.00	219.548	338.732	558.281
39	60.00	53.00	228.960	351.515	580.474
40	60.00	54.00	238.432	364.459	602.892
41	60.00	55.00	247.965	374.077	622.041
42	60.00	56.00	257.551	380.934	638.485
43	60.00	57.00	267.197	388.442	655.639
44	60.00	58.00	276.903	397.166	674.069
45	60.00	59.00	286.654	407.188	693.842

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46	60.00	60.00	296.450	418.586	715.036
47	60.00	61.00	306.280	430.845	737.126
48	60.00	62.00	316.138	440.862	757.000
49	60.00	63.00	326.019	448.119	774.138
50	60.00	64.00	335.912	453.915	789.827
51	60.00	65.00	345.814	459.549	805.363
52	60.00	66.00	355.717	464.838	820.555
53	60.00	67.00	365.613	468.686	834.300
54	60.00	68.00	375.500	470.912	846.411
55	60.00	69.00	385.364	472.095	857.459
56	60.00	70.00	395.205	472.818	868.022
57	60.00	71.00	405.016	473.380	878.396
58	60.00	72.00	414.800	475.590	890.390
59	60.00	73.00	424.555	479.747	904.303
60	60.00	74.00	434.263	484.229	918.493
61	60.00	75.00	443.915	487.413	931.328
62	60.00	76.00	453.502	489.366	942.868
63	60.00	77.00	463.019	490.497	953.516
64	60.00	78.00	472.462	490.874	963.336
65	60.00	79.00	481.825	488.765	970.590
66	60.00	80.00	491.114	482.439	973.553
67	60.00	81.00	500.318	472.300	972.618
68	60.00	82.00	509.422	460.782	970.204
69	60.00	83.00	518.421	448.291	966.711
70	60.00	84.00	527.305	435.921	963.225
71	60.00	85.00	536.072	424.768	960.840
72	60.00	86.00	544.718	414.467	959.186
73	60.00	87.00	553.434	402.828	956.262
74	60.00	88.00	562.282	389.484	951.766
75	60.00	89.00	571.259	374.585	945.844
76	60.00	90.00	580.358	358.280	938.638
77	60.00	91.00	Soil Elevations Must Extend At or Below Contribution		
Zone					
78	60.00	92.00	Soil Elevations Must Extend At or Below Contribution		
Zone					
79	60.00	93.00	Soil Elevations Must Extend At or Below Contribution		
Zone					
80	60.00	94.00	Soil Elevations Must Extend At or Below Contribution		
Zone					
81	60.00	95.00	Soil Elevations Must Extend At or Below Contribution		
Zone					

Drilled Shaft Capacity at User-Defined Settlement (sorted by shaft diameter):

***** Capacity is NOT modified by the strength reduction factors *****

User-Defined Settlement = 0.83%

ID	Diameter (in)	Length (ft)	Skin Fric. (tons)	End Bearing (tons)	Capacity (tons)
1	60.00	15.00	6.142	18.369	24.511
2	60.00	16.00	7.634	18.959	26.593
3	60.00	17.00	8.331	19.341	27.672
4	60.00	18.00	9.100	42.020	51.121
5	60.00	19.00	10.386	36.890	47.276
6	60.00	20.00	11.773	35.212	46.985
7	60.00	21.00	14.334	37.079	51.413
8	60.00	22.00	18.214	41.295	59.509
9	60.00	23.00	22.380	47.608	69.989
10	60.00	24.00	26.814	54.483	81.297

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11	60.00	25.00	31.513	60.384	91.897
12	60.00	26.00	34.992	65.281	100.273
13	60.00	27.00	37.113	69.000	106.113
14	60.00	28.00	39.308	71.511	110.819
15	60.00	29.00	41.572	73.132	114.704
16	60.00	30.00	43.903	74.181	118.084
17	60.00	31.00	48.023	74.982	123.005
18	60.00	32.00	54.080	77.478	131.558
19	60.00	33.00	60.393	81.995	142.388
20	60.00	34.00	66.944	87.157	154.102
21	60.00	35.00	73.731	91.593	165.324
22	60.00	36.00	80.742	95.140	175.883
23	60.00	37.00	87.966	96.836	184.802
24	60.00	38.00	95.399	96.518	191.916
25	60.00	39.00	103.024	94.766	197.790
26	60.00	40.00	110.839	92.161	203.000
27	60.00	41.00	118.827	88.866	207.693
28	60.00	42.00	126.941	85.858	212.800
29	60.00	43.00	135.174	83.302	218.476
30	60.00	44.00	143.524	81.278	224.802
31	60.00	45.00	152.001	79.869	231.870
32	60.00	46.00	160.593	79.138	239.731
33	60.00	47.00	169.274	79.467	248.740
34	60.00	48.00	178.039	80.918	258.957
35	60.00	49.00	186.888	82.815	269.702
36	60.00	50.00	195.828	84.478	280.306
37	60.00	51.00	204.852	86.057	290.909
38	60.00	52.00	213.951	88.440	302.392
39	60.00	53.00	223.123	91.778	314.900
40	60.00	54.00	232.354	95.158	327.511
41	60.00	55.00	241.643	97.668	339.312
42	60.00	56.00	250.985	99.459	350.444
43	60.00	57.00	260.385	101.419	361.804
44	60.00	58.00	269.844	103.697	373.540
45	60.00	59.00	279.346	106.314	385.660
46	60.00	60.00	288.892	109.290	398.182
47	60.00	61.00	298.472	112.490	410.962
48	60.00	62.00	308.078	115.106	423.184
49	60.00	63.00	317.708	117.000	434.708
50	60.00	64.00	327.348	118.514	445.862
51	60.00	65.00	336.998	119.985	456.983
52	60.00	66.00	346.649	121.366	468.014
53	60.00	67.00	356.293	122.370	478.663
54	60.00	68.00	365.927	122.951	488.878
55	60.00	69.00	375.540	123.260	498.800
56	60.00	70.00	385.130	123.449	508.579
57	60.00	71.00	394.691	123.596	518.287
58	60.00	72.00	404.225	124.173	528.398
59	60.00	73.00	413.732	125.258	538.990
60	60.00	74.00	423.192	126.428	549.621
61	60.00	75.00	432.598	127.260	559.857
62	60.00	76.00	441.941	127.770	569.711
63	60.00	77.00	451.215	128.065	579.280
64	60.00	78.00	460.417	128.163	588.580
65	60.00	79.00	469.542	127.613	597.155
66	60.00	80.00	478.594	125.961	604.555
67	60.00	81.00	487.563	123.314	610.877
68	60.00	82.00	496.435	120.307	616.741
69	60.00	83.00	505.204	117.045	622.250
70	60.00	84.00	513.862	113.815	627.677
71	60.00	85.00	522.405	110.904	633.309
72	60.00	86.00	530.831	108.214	639.046
73	60.00	87.00	539.325	105.175	644.500

			B-101Shaft60in.out		
	74	60.00	88.00	547.948	101.691 649.639
	75	60.00	89.00	556.695	97.801 654.497
	76	60.00	90.00	565.563	93.544 659.107
	77	60.00	91.00	Soil Elevations Must Extend At or Below Contribution	
Zone	78	60.00	92.00	Soil Elevations Must Extend At or Below Contribution	
Zone	79	60.00	93.00	Soil Elevations Must Extend At or Below Contribution	
Zone	80	60.00	94.00	Soil Elevations Must Extend At or Below Contribution	
Zone	81	60.00	95.00	Soil Elevations Must Extend At or Below Contribution	
Zone					

General Information:

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Input file:analysis_Structure\FB-Deep_2021\Drilled Shaft\B-102Shaft48in.in
 Project number: 2000-01-16015
 Job name: I-95 From Hallandale Beach Blvd to Hollywood Blvd
 Engineer: JB Henry
 Units: English

Analysis Information:

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Analysis Type: Drilled Shaft Analysis

Soil Information:

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Boring date: 9/5 & 6/2018
 Boring number: B-102
 Station number: Offset:

Ground Elevation: 0.00(ft)
 Water table Elevation = 0.00(ft)

Hammer type: Automatic Hammer, Correction factor = 1.24

ID	Depth (ft)	Elevation (ft)	SPT Blows (Blows/ft)	Unit Weight (pcf)	Soil Type
1	0.00	0.00	N/A	0.00	5- Cavity layer
2	2.00	-2.00	N/A	0.00	5- Cavity layer
3	4.00	-4.00	N/A	0.00	5- Cavity layer
4	6.00	-6.00	N/A	0.00	5- Cavity layer
5	8.00	-8.00	N/A	0.00	5- Cavity layer
6	10.00	-10.00	7.00	105.00	3- Clean sand
7	12.00	-12.00	3.00	100.00	3- Clean sand
8	13.50	-13.50	5.00	105.00	3- Clean sand
9	15.50	-15.50	5.00	105.00	3- Clean sand
10	18.00	-18.00	50.00	125.00	3- Clean sand
11	20.50	-20.50	33.00	125.00	3- Clean sand
12	23.00	-23.00	34.00	125.00	3- Clean sand
13	25.50	-25.50	35.00	125.00	3- Clean sand
14	28.00	-28.00	35.00	125.00	3- Clean sand
15	30.50	-30.50	13.00	110.00	3- Clean sand
16	33.00	-33.00	21.00	115.00	3- Clean sand
17	35.50	-35.50	22.00	115.00	3- Clean sand
18	38.00	-38.00	13.00	110.00	3- Clean sand
19	40.50	-40.50	23.00	115.00	3- Clean sand
20	43.00	-43.00	36.00	125.00	3- Clean sand
21	45.50	-45.50	32.00	125.00	3- Clean sand
22	48.00	-48.00	30.00	120.00	3- Clean sand
23	50.50	-50.50	37.00	125.00	3- Clean sand
24	53.00	-53.00	68.00	130.00	3- Clean sand
25	55.50	-55.50	50.00	125.00	3- Clean sand
26	58.00	-58.00	50.00	125.00	3- Clean sand
27	60.50	-60.50	50.00	125.00	3- Clean sand
28	63.00	-63.00	50.00	125.00	3- Clean sand
29	65.50	-65.50	20.00	115.00	3- Clean sand
30	68.00	-68.00	17.00	115.00	3- Clean sand

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31	70.50	-70.50	29.00	120.00	3-	Clean sand
32	73.00	-73.00	13.00	110.00	3-	Clean sand
33	75.50	-75.50	15.00	110.00	3-	Clean sand
34	78.00	-78.00	11.00	110.00	3-	Clean sand
35	80.50	-80.50	41.00	125.00	3-	Clean sand
36	83.00	-83.00	40.00	125.00	3-	Clean sand
37	85.50	-85.50	62.00	130.00	3-	Clean sand
38	88.00	-88.00	50.00	125.00	3-	Clean sand
39	90.50	-90.50	31.00	120.00	3-	Clean sand
40	93.00	-93.00	50.00	125.00	3-	Clean sand
41	95.50	-95.50	44.00	125.00	3-	Clean sand
42	98.00	-98.00	52.00	130.00	3-	Clean sand
43	100.00	-100.00	52.00	130.00	3-	Clean sand

ID	Cu-DIR (tsf)	qu (tsf)	qt (tsf)	Em (ksi)	qb (tsf)
1	N/A	N/A	N/A	N/A	N/A
2	N/A	N/A	N/A	N/A	N/A
3	N/A	N/A	N/A	N/A	N/A
4	N/A	N/A	N/A	N/A	N/A
5	N/A	N/A	N/A	N/A	N/A
6	N/A	N/A	N/A	N/A	N/A
7	N/A	N/A	N/A	N/A	N/A
8	N/A	N/A	N/A	N/A	N/A
9	N/A	N/A	N/A	N/A	N/A
10	N/A	N/A	N/A	N/A	N/A
11	N/A	N/A	N/A	N/A	N/A
12	N/A	N/A	N/A	N/A	N/A
13	N/A	N/A	N/A	N/A	N/A
14	N/A	N/A	N/A	N/A	N/A
15	N/A	N/A	N/A	N/A	N/A
16	N/A	N/A	N/A	N/A	N/A
17	N/A	N/A	N/A	N/A	N/A
18	N/A	N/A	N/A	N/A	N/A
19	N/A	N/A	N/A	N/A	N/A
20	N/A	N/A	N/A	N/A	N/A
21	N/A	N/A	N/A	N/A	N/A
22	N/A	N/A	N/A	N/A	N/A
23	N/A	N/A	N/A	N/A	N/A
24	N/A	N/A	N/A	N/A	N/A
25	N/A	N/A	N/A	N/A	N/A
26	N/A	N/A	N/A	N/A	N/A
27	N/A	N/A	N/A	N/A	N/A
28	N/A	N/A	N/A	N/A	N/A
29	N/A	N/A	N/A	N/A	N/A
30	N/A	N/A	N/A	N/A	N/A
31	N/A	N/A	N/A	N/A	N/A
32	N/A	N/A	N/A	N/A	N/A
33	N/A	N/A	N/A	N/A	N/A
34	N/A	N/A	N/A	N/A	N/A
35	N/A	N/A	N/A	N/A	N/A
36	N/A	N/A	N/A	N/A	N/A
37	N/A	N/A	N/A	N/A	N/A
38	N/A	N/A	N/A	N/A	N/A
39	N/A	N/A	N/A	N/A	N/A
40	N/A	N/A	N/A	N/A	N/A
41	N/A	N/A	N/A	N/A	N/A
42	N/A	N/A	N/A	N/A	N/A
43	N/A	N/A	N/A	N/A	N/A

ID RQD F.M. S.R.I. Rock Recovery

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1	N/A	N/A	N/A
2	N/A	N/A	N/A
3	N/A	N/A	N/A
4	N/A	N/A	N/A
5	N/A	N/A	N/A
6	N/A	N/A	N/A
7	N/A	N/A	N/A
8	N/A	N/A	N/A
9	N/A	N/A	N/A
10	N/A	N/A	N/A
11	N/A	N/A	N/A
12	N/A	N/A	N/A
13	N/A	N/A	N/A
14	N/A	N/A	N/A
15	N/A	N/A	N/A
16	N/A	N/A	N/A
17	N/A	N/A	N/A
18	N/A	N/A	N/A
19	N/A	N/A	N/A
20	N/A	N/A	N/A
21	N/A	N/A	N/A
22	N/A	N/A	N/A
23	N/A	N/A	N/A
24	N/A	N/A	N/A
25	N/A	N/A	N/A
26	N/A	N/A	N/A
27	N/A	N/A	N/A
28	N/A	N/A	N/A
29	N/A	N/A	N/A
30	N/A	N/A	N/A
31	N/A	N/A	N/A
32	N/A	N/A	N/A
33	N/A	N/A	N/A
34	N/A	N/A	N/A
35	N/A	N/A	N/A
36	N/A	N/A	N/A
37	N/A	N/A	N/A
38	N/A	N/A	N/A
39	N/A	N/A	N/A
40	N/A	N/A	N/A
41	N/A	N/A	N/A
42	N/A	N/A	N/A
43	N/A	N/A	N/A

Drilled Shaft Data:

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Shaft Geometry:

ID	Length (ft)	Tip Elev. (ft)	Case Len. (ft)	Diameter (in)	Base Diam. (in)	Bell Len. (ft)
1	15.00	-15.00	6.00	48.00	48.00	0.00
2	16.00	-16.00	6.00	48.00	48.00	0.00
3	17.00	-17.00	6.00	48.00	48.00	0.00
4	18.00	-18.00	6.00	48.00	48.00	0.00
5	19.00	-19.00	6.00	48.00	48.00	0.00
6	20.00	-20.00	6.00	48.00	48.00	0.00
7	21.00	-21.00	6.00	48.00	48.00	0.00
8	22.00	-22.00	6.00	48.00	48.00	0.00
9	23.00	-23.00	6.00	48.00	48.00	0.00

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10	24.00	-24.00	6.00	48.00	48.00	0.00
11	25.00	-25.00	6.00	48.00	48.00	0.00
12	26.00	-26.00	6.00	48.00	48.00	0.00
13	27.00	-27.00	6.00	48.00	48.00	0.00
14	28.00	-28.00	6.00	48.00	48.00	0.00
15	29.00	-29.00	6.00	48.00	48.00	0.00
16	30.00	-30.00	6.00	48.00	48.00	0.00
17	31.00	-31.00	6.00	48.00	48.00	0.00
18	32.00	-32.00	6.00	48.00	48.00	0.00
19	33.00	-33.00	6.00	48.00	48.00	0.00
20	34.00	-34.00	6.00	48.00	48.00	0.00
21	35.00	-35.00	6.00	48.00	48.00	0.00
22	36.00	-36.00	6.00	48.00	48.00	0.00
23	37.00	-37.00	6.00	48.00	48.00	0.00
24	38.00	-38.00	6.00	48.00	48.00	0.00
25	39.00	-39.00	6.00	48.00	48.00	0.00
26	40.00	-40.00	6.00	48.00	48.00	0.00
27	41.00	-41.00	6.00	48.00	48.00	0.00
28	42.00	-42.00	6.00	48.00	48.00	0.00
29	43.00	-43.00	6.00	48.00	48.00	0.00
30	44.00	-44.00	6.00	48.00	48.00	0.00
31	45.00	-45.00	6.00	48.00	48.00	0.00
32	46.00	-46.00	6.00	48.00	48.00	0.00
33	47.00	-47.00	6.00	48.00	48.00	0.00
34	48.00	-48.00	6.00	48.00	48.00	0.00
35	49.00	-49.00	6.00	48.00	48.00	0.00
36	50.00	-50.00	6.00	48.00	48.00	0.00
37	51.00	-51.00	6.00	48.00	48.00	0.00
38	52.00	-52.00	6.00	48.00	48.00	0.00
39	53.00	-53.00	6.00	48.00	48.00	0.00
40	54.00	-54.00	6.00	48.00	48.00	0.00
41	55.00	-55.00	6.00	48.00	48.00	0.00
42	56.00	-56.00	6.00	48.00	48.00	0.00
43	57.00	-57.00	6.00	48.00	48.00	0.00
44	58.00	-58.00	6.00	48.00	48.00	0.00
45	59.00	-59.00	6.00	48.00	48.00	0.00
46	60.00	-60.00	6.00	48.00	48.00	0.00
47	61.00	-61.00	6.00	48.00	48.00	0.00
48	62.00	-62.00	6.00	48.00	48.00	0.00
49	63.00	-63.00	6.00	48.00	48.00	0.00
50	64.00	-64.00	6.00	48.00	48.00	0.00
51	65.00	-65.00	6.00	48.00	48.00	0.00
52	66.00	-66.00	6.00	48.00	48.00	0.00
53	67.00	-67.00	6.00	48.00	48.00	0.00
54	68.00	-68.00	6.00	48.00	48.00	0.00
55	69.00	-69.00	6.00	48.00	48.00	0.00
56	70.00	-70.00	6.00	48.00	48.00	0.00
57	71.00	-71.00	6.00	48.00	48.00	0.00
58	72.00	-72.00	6.00	48.00	48.00	0.00
59	73.00	-73.00	6.00	48.00	48.00	0.00
60	74.00	-74.00	6.00	48.00	48.00	0.00
61	75.00	-75.00	6.00	48.00	48.00	0.00
62	76.00	-76.00	6.00	48.00	48.00	0.00
63	77.00	-77.00	6.00	48.00	48.00	0.00
64	78.00	-78.00	6.00	48.00	48.00	0.00
65	79.00	-79.00	6.00	48.00	48.00	0.00
66	80.00	-80.00	6.00	48.00	48.00	0.00
67	81.00	-81.00	6.00	48.00	48.00	0.00
68	82.00	-82.00	6.00	48.00	48.00	0.00
69	83.00	-83.00	6.00	48.00	48.00	0.00
70	84.00	-84.00	6.00	48.00	48.00	0.00
71	85.00	-85.00	6.00	48.00	48.00	0.00
72	86.00	-86.00	6.00	48.00	48.00	0.00

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73	87.00	-87.00	6.00	48.00	48.00	0.00
74	88.00	-88.00	6.00	48.00	48.00	0.00
75	89.00	-89.00	6.00	48.00	48.00	0.00
76	90.00	-90.00	6.00	48.00	48.00	0.00
77	91.00	-91.00	6.00	48.00	48.00	0.00
78	92.00	-92.00	6.00	48.00	48.00	0.00
79	93.00	-93.00	6.00	48.00	48.00	0.00
80	94.00	-94.00	6.00	48.00	48.00	0.00
81	95.00	-95.00	6.00	48.00	48.00	0.00

Drilled Shaft Capacity (sorted by shaft diameter):

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Strength reduction factors: Skin-friction = 1.00, End-bearing = 1.00

ID	Diameter (in)	Length (ft)	Skin Fric. (tons)	End Bearing (tons)	Capacity (tons)
1	48.00	15.00	1.265	137.060	138.325
2	48.00	16.00	1.836	176.671	178.508
3	48.00	17.00	2.502	195.941	198.443
4	48.00	18.00	3.262	219.725	222.986
5	48.00	19.00	5.368	244.888	250.256
6	48.00	20.00	7.797	268.573	276.369
7	48.00	21.00	10.535	289.066	299.602
8	48.00	22.00	13.570	303.039	316.609
9	48.00	23.00	16.896	303.192	320.088
10	48.00	24.00	20.496	293.407	313.904
11	48.00	25.00	24.367	281.208	305.575
12	48.00	26.00	28.497	272.411	300.908
13	48.00	27.00	32.876	265.815	298.690
14	48.00	28.00	37.498	259.173	296.671
15	48.00	29.00	42.348	249.551	291.899
16	48.00	30.00	47.425	235.799	283.224
17	48.00	31.00	52.707	220.431	273.138
18	48.00	32.00	58.134	207.459	265.593
19	48.00	33.00	63.694	197.496	261.190
20	48.00	34.00	69.388	190.834	260.223
21	48.00	35.00	75.226	190.718	265.944
22	48.00	36.00	81.200	198.489	279.689
23	48.00	37.00	87.302	210.410	297.712
24	48.00	38.00	93.530	219.428	312.958
25	48.00	39.00	99.862	225.466	325.328
26	48.00	40.00	106.287	230.414	336.701
27	48.00	41.00	112.802	236.442	349.244
28	48.00	42.00	119.414	245.168	364.582
29	48.00	43.00	126.124	258.851	384.974
30	48.00	44.00	132.940	276.573	409.513
31	48.00	45.00	139.880	294.605	434.485
32	48.00	46.00	146.936	309.616	456.552
33	48.00	47.00	154.099	321.218	475.317
34	48.00	48.00	161.367	328.731	490.097
35	48.00	49.00	168.719	332.386	501.105
36	48.00	50.00	176.145	335.185	511.329
37	48.00	51.00	183.640	339.739	523.379
38	48.00	52.00	191.210	345.757	536.967
39	48.00	53.00	198.854	352.736	551.589
40	48.00	54.00	206.569	360.466	567.035
41	48.00	55.00	214.361	367.418	581.779
42	48.00	56.00	222.220	369.813	592.034
43	48.00	57.00	230.128	365.420	595.548
44	48.00	58.00	238.080	355.604	593.684
45	48.00	59.00	246.064	343.545	589.610

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46	48.00	60.00	254.081	330.268	584.348
47	48.00	61.00	262.122	318.042	580.164
48	48.00	62.00	270.181	308.621	578.802
49	48.00	63.00	278.256	301.187	579.443
50	48.00	64.00	286.337	290.039	576.376
51	48.00	65.00	294.422	273.568	567.990
52	48.00	66.00	302.501	254.047	556.548
53	48.00	67.00	310.550	234.590	545.140
54	48.00	68.00	318.563	215.192	533.755
55	48.00	69.00	326.532	195.385	521.918
56	48.00	70.00	334.458	178.745	513.202
57	48.00	71.00	342.335	172.059	514.394
58	48.00	72.00	350.168	176.913	527.080
59	48.00	73.00	357.955	188.116	546.072
60	48.00	74.00	365.678	200.501	566.179
61	48.00	75.00	373.326	211.563	584.888
62	48.00	76.00	380.893	218.983	599.875
63	48.00	77.00	388.375	223.576	611.951
64	48.00	78.00	395.772	231.818	627.591
65	48.00	79.00	402.415	246.044	648.458
66	48.00	80.00	408.973	264.735	673.707
67	48.00	81.00	415.767	283.709	699.476
68	48.00	82.00	422.807	300.378	723.185
69	48.00	83.00	429.769	316.401	746.170
70	48.00	84.00	436.646	335.305	771.951
71	48.00	85.00	443.436	352.467	795.903
72	48.00	86.00	450.136	361.602	811.738
73	48.00	87.00	456.892	362.757	819.649
74	48.00	88.00	463.755	362.857	826.612
75	48.00	89.00	470.720	362.695	833.415
76	48.00	90.00	477.784	361.807	839.590
77	48.00	91.00	484.944	360.273	845.217
78	48.00	92.00	492.197	359.196	851.393
79	48.00	93.00	Soil Elevations Must Extend At or Below Contribution		
Zone					
80	48.00	94.00	Soil Elevations Must Extend At or Below Contribution		
Zone					
81	48.00	95.00	Soil Elevations Must Extend At or Below Contribution		
Zone					

Drilled Shaft Capacity at User-Defined Settlement (sorted by shaft diameter):

***** Capacity is NOT modified by the strength reduction factors *****

User-Defined Settlement = 1.04%

ID	Diameter (in)	Length (ft)	Skin Fric. (tons)	End Bearing (tons)	Capacity (tons)
1	48.00	15.00	1.238	43.535	44.773
2	48.00	16.00	1.796	56.117	57.913
3	48.00	17.00	2.448	62.237	64.685
4	48.00	18.00	3.190	69.792	72.983
5	48.00	19.00	5.250	77.785	83.035
6	48.00	20.00	7.626	85.308	92.934
7	48.00	21.00	10.305	91.817	102.122
8	48.00	22.00	13.273	96.256	109.528
9	48.00	23.00	16.526	96.304	112.831
10	48.00	24.00	20.048	93.196	113.244
11	48.00	25.00	23.834	89.321	113.155
12	48.00	26.00	27.874	86.527	114.401

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13	48.00	27.00	32.156	84.432	116.588
14	48.00	28.00	36.677	82.322	118.999
15	48.00	29.00	41.422	79.266	120.687
16	48.00	30.00	46.387	74.898	121.284
17	48.00	31.00	51.554	70.017	121.570
18	48.00	32.00	56.862	65.896	122.758
19	48.00	33.00	62.300	62.732	125.032
20	48.00	34.00	67.870	60.616	128.485
21	48.00	35.00	73.580	60.578	134.158
22	48.00	36.00	79.423	63.047	142.470
23	48.00	37.00	85.391	66.833	152.224
24	48.00	38.00	91.483	69.698	161.181
25	48.00	39.00	97.676	71.616	169.292
26	48.00	40.00	103.961	73.187	177.148
27	48.00	41.00	110.333	75.102	185.435
28	48.00	42.00	116.800	77.874	194.674
29	48.00	43.00	123.363	82.220	205.583
30	48.00	44.00	130.030	87.849	217.879
31	48.00	45.00	136.818	93.577	230.395
32	48.00	46.00	143.720	98.345	242.064
33	48.00	47.00	150.726	102.030	252.756
34	48.00	48.00	157.835	104.416	262.251
35	48.00	49.00	165.026	105.577	270.603
36	48.00	50.00	172.289	106.466	278.755
37	48.00	51.00	179.620	107.913	287.533
38	48.00	52.00	187.024	109.824	296.849
39	48.00	53.00	194.501	112.041	306.542
40	48.00	54.00	202.047	114.497	316.544
41	48.00	55.00	209.669	116.705	326.374
42	48.00	56.00	217.356	117.465	334.822
43	48.00	57.00	225.091	116.070	341.161
44	48.00	58.00	232.868	112.952	345.821
45	48.00	59.00	240.678	109.122	349.800
46	48.00	60.00	248.519	104.904	353.424
47	48.00	61.00	256.385	101.021	357.406
48	48.00	62.00	264.268	98.029	362.296
49	48.00	63.00	272.166	95.667	367.833
50	48.00	64.00	280.070	92.126	372.196
51	48.00	65.00	287.978	86.895	374.872
52	48.00	66.00	295.880	80.694	376.574
53	48.00	67.00	303.752	74.514	378.266
54	48.00	68.00	311.590	68.352	379.943
55	48.00	69.00	319.385	62.061	381.446
56	48.00	70.00	327.137	56.775	383.913
57	48.00	71.00	334.842	54.652	389.494
58	48.00	72.00	342.503	56.194	398.697
59	48.00	73.00	350.120	59.752	409.873
60	48.00	74.00	357.674	63.686	421.360
61	48.00	75.00	365.154	67.200	432.354
62	48.00	76.00	372.556	69.556	442.112
63	48.00	77.00	379.875	71.015	450.890
64	48.00	78.00	387.110	73.634	460.743
65	48.00	79.00	393.607	78.152	471.759
66	48.00	80.00	400.021	84.089	484.110
67	48.00	81.00	406.666	90.116	496.782
68	48.00	82.00	413.552	95.411	508.963
69	48.00	83.00	420.363	100.500	520.862
70	48.00	84.00	427.089	106.504	533.593
71	48.00	85.00	433.730	111.956	545.686
72	48.00	86.00	440.283	114.857	555.140
73	48.00	87.00	446.892	115.224	562.116
74	48.00	88.00	453.605	115.256	568.861
75	48.00	89.00	460.417	115.204	575.622

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	76	48.00	90.00	467.326	114.922	582.248
	77	48.00	91.00	474.330	114.435	588.765
	78	48.00	92.00	481.423	114.093	595.516
	79	48.00	93.00	Soil Elevations Must Extend At or Below Contribution		
Zone	80	48.00	94.00	Soil Elevations Must Extend At or Below Contribution		
Zone	81	48.00	95.00	Soil Elevations Must Extend At or Below Contribution		
Zone						

General Information:

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Input file:analysis_Structure\FB-Deep_2021\Drilled Shaft\B-102Shaft60in.in
 Project number: 2000-01-16015
 Job name: I-95 From Hallandale Beach Blvd to Hollywood Blvd
 Engineer: JB Henry
 Units: English

Analysis Information:

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Analysis Type: Drilled Shaft Analysis

Soil Information:

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Boring date: 9/5 & 6/2018
 Boring number: B-102
 Station number: Offset:

Ground Elevation: 0.00(ft)
 Water table Elevation = 0.00(ft)

Hammer type: Automatic Hammer, Correction factor = 1.24

ID	Depth (ft)	Elevation (ft)	SPT Blows (Blows/ft)	Unit Weight (pcf)	Soil Type
1	0.00	0.00	N/A	0.00	5- Cavity layer
2	2.00	-2.00	N/A	0.00	5- Cavity layer
3	4.00	-4.00	N/A	0.00	5- Cavity layer
4	6.00	-6.00	N/A	0.00	5- Cavity layer
5	8.00	-8.00	N/A	0.00	5- Cavity layer
6	10.00	-10.00	7.00	105.00	3- Clean sand
7	12.00	-12.00	3.00	100.00	3- Clean sand
8	13.50	-13.50	5.00	105.00	3- Clean sand
9	15.50	-15.50	5.00	105.00	3- Clean sand
10	18.00	-18.00	50.00	125.00	3- Clean sand
11	20.50	-20.50	33.00	125.00	3- Clean sand
12	23.00	-23.00	34.00	125.00	3- Clean sand
13	25.50	-25.50	35.00	125.00	3- Clean sand
14	28.00	-28.00	35.00	125.00	3- Clean sand
15	30.50	-30.50	13.00	110.00	3- Clean sand
16	33.00	-33.00	21.00	115.00	3- Clean sand
17	35.50	-35.50	22.00	115.00	3- Clean sand
18	38.00	-38.00	13.00	110.00	3- Clean sand
19	40.50	-40.50	23.00	115.00	3- Clean sand
20	43.00	-43.00	36.00	125.00	3- Clean sand
21	45.50	-45.50	32.00	125.00	3- Clean sand
22	48.00	-48.00	30.00	120.00	3- Clean sand
23	50.50	-50.50	37.00	125.00	3- Clean sand
24	53.00	-53.00	68.00	130.00	3- Clean sand
25	55.50	-55.50	50.00	125.00	3- Clean sand
26	58.00	-58.00	50.00	125.00	3- Clean sand
27	60.50	-60.50	50.00	125.00	3- Clean sand
28	63.00	-63.00	50.00	125.00	3- Clean sand
29	65.50	-65.50	20.00	115.00	3- Clean sand
30	68.00	-68.00	17.00	115.00	3- Clean sand

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31	70.50	-70.50	29.00	120.00	3-	Clean sand
32	73.00	-73.00	13.00	110.00	3-	Clean sand
33	75.50	-75.50	15.00	110.00	3-	Clean sand
34	78.00	-78.00	11.00	110.00	3-	Clean sand
35	80.50	-80.50	41.00	125.00	3-	Clean sand
36	83.00	-83.00	40.00	125.00	3-	Clean sand
37	85.50	-85.50	62.00	130.00	3-	Clean sand
38	88.00	-88.00	50.00	125.00	3-	Clean sand
39	90.50	-90.50	31.00	120.00	3-	Clean sand
40	93.00	-93.00	50.00	125.00	3-	Clean sand
41	95.50	-95.50	44.00	125.00	3-	Clean sand
42	98.00	-98.00	52.00	130.00	3-	Clean sand
43	100.00	-100.00	52.00	130.00	3-	Clean sand

ID	Cu-DIR (tsf)	qu (tsf)	qt (tsf)	Em (ksi)	qb (tsf)
1	N/A	N/A	N/A	N/A	N/A
2	N/A	N/A	N/A	N/A	N/A
3	N/A	N/A	N/A	N/A	N/A
4	N/A	N/A	N/A	N/A	N/A
5	N/A	N/A	N/A	N/A	N/A
6	N/A	N/A	N/A	N/A	N/A
7	N/A	N/A	N/A	N/A	N/A
8	N/A	N/A	N/A	N/A	N/A
9	N/A	N/A	N/A	N/A	N/A
10	N/A	N/A	N/A	N/A	N/A
11	N/A	N/A	N/A	N/A	N/A
12	N/A	N/A	N/A	N/A	N/A
13	N/A	N/A	N/A	N/A	N/A
14	N/A	N/A	N/A	N/A	N/A
15	N/A	N/A	N/A	N/A	N/A
16	N/A	N/A	N/A	N/A	N/A
17	N/A	N/A	N/A	N/A	N/A
18	N/A	N/A	N/A	N/A	N/A
19	N/A	N/A	N/A	N/A	N/A
20	N/A	N/A	N/A	N/A	N/A
21	N/A	N/A	N/A	N/A	N/A
22	N/A	N/A	N/A	N/A	N/A
23	N/A	N/A	N/A	N/A	N/A
24	N/A	N/A	N/A	N/A	N/A
25	N/A	N/A	N/A	N/A	N/A
26	N/A	N/A	N/A	N/A	N/A
27	N/A	N/A	N/A	N/A	N/A
28	N/A	N/A	N/A	N/A	N/A
29	N/A	N/A	N/A	N/A	N/A
30	N/A	N/A	N/A	N/A	N/A
31	N/A	N/A	N/A	N/A	N/A
32	N/A	N/A	N/A	N/A	N/A
33	N/A	N/A	N/A	N/A	N/A
34	N/A	N/A	N/A	N/A	N/A
35	N/A	N/A	N/A	N/A	N/A
36	N/A	N/A	N/A	N/A	N/A
37	N/A	N/A	N/A	N/A	N/A
38	N/A	N/A	N/A	N/A	N/A
39	N/A	N/A	N/A	N/A	N/A
40	N/A	N/A	N/A	N/A	N/A
41	N/A	N/A	N/A	N/A	N/A
42	N/A	N/A	N/A	N/A	N/A
43	N/A	N/A	N/A	N/A	N/A

ID RQD F.M. S.R.I. Rock Recovery

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1	N/A	N/A	N/A
2	N/A	N/A	N/A
3	N/A	N/A	N/A
4	N/A	N/A	N/A
5	N/A	N/A	N/A
6	N/A	N/A	N/A
7	N/A	N/A	N/A
8	N/A	N/A	N/A
9	N/A	N/A	N/A
10	N/A	N/A	N/A
11	N/A	N/A	N/A
12	N/A	N/A	N/A
13	N/A	N/A	N/A
14	N/A	N/A	N/A
15	N/A	N/A	N/A
16	N/A	N/A	N/A
17	N/A	N/A	N/A
18	N/A	N/A	N/A
19	N/A	N/A	N/A
20	N/A	N/A	N/A
21	N/A	N/A	N/A
22	N/A	N/A	N/A
23	N/A	N/A	N/A
24	N/A	N/A	N/A
25	N/A	N/A	N/A
26	N/A	N/A	N/A
27	N/A	N/A	N/A
28	N/A	N/A	N/A
29	N/A	N/A	N/A
30	N/A	N/A	N/A
31	N/A	N/A	N/A
32	N/A	N/A	N/A
33	N/A	N/A	N/A
34	N/A	N/A	N/A
35	N/A	N/A	N/A
36	N/A	N/A	N/A
37	N/A	N/A	N/A
38	N/A	N/A	N/A
39	N/A	N/A	N/A
40	N/A	N/A	N/A
41	N/A	N/A	N/A
42	N/A	N/A	N/A
43	N/A	N/A	N/A

Drilled Shaft Data:

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Shaft Geometry:

ID	Length (ft)	Tip Elev. (ft)	Case Len. (ft)	Diameter (in)	Base Diam. (in)	Bell Len. (ft)
1	15.00	-15.00	6.00	60.00	60.00	0.00
2	16.00	-16.00	6.00	60.00	60.00	0.00
3	17.00	-17.00	6.00	60.00	60.00	0.00
4	18.00	-18.00	6.00	60.00	60.00	0.00
5	19.00	-19.00	6.00	60.00	60.00	0.00
6	20.00	-20.00	6.00	60.00	60.00	0.00
7	21.00	-21.00	6.00	60.00	60.00	0.00
8	22.00	-22.00	6.00	60.00	60.00	0.00
9	23.00	-23.00	6.00	60.00	60.00	0.00

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10	24.00	-24.00	6.00	60.00	60.00	0.00
11	25.00	-25.00	6.00	60.00	60.00	0.00
12	26.00	-26.00	6.00	60.00	60.00	0.00
13	27.00	-27.00	6.00	60.00	60.00	0.00
14	28.00	-28.00	6.00	60.00	60.00	0.00
15	29.00	-29.00	6.00	60.00	60.00	0.00
16	30.00	-30.00	6.00	60.00	60.00	0.00
17	31.00	-31.00	6.00	60.00	60.00	0.00
18	32.00	-32.00	6.00	60.00	60.00	0.00
19	33.00	-33.00	6.00	60.00	60.00	0.00
20	34.00	-34.00	6.00	60.00	60.00	0.00
21	35.00	-35.00	6.00	60.00	60.00	0.00
22	36.00	-36.00	6.00	60.00	60.00	0.00
23	37.00	-37.00	6.00	60.00	60.00	0.00
24	38.00	-38.00	6.00	60.00	60.00	0.00
25	39.00	-39.00	6.00	60.00	60.00	0.00
26	40.00	-40.00	6.00	60.00	60.00	0.00
27	41.00	-41.00	6.00	60.00	60.00	0.00
28	42.00	-42.00	6.00	60.00	60.00	0.00
29	43.00	-43.00	6.00	60.00	60.00	0.00
30	44.00	-44.00	6.00	60.00	60.00	0.00
31	45.00	-45.00	6.00	60.00	60.00	0.00
32	46.00	-46.00	6.00	60.00	60.00	0.00
33	47.00	-47.00	6.00	60.00	60.00	0.00
34	48.00	-48.00	6.00	60.00	60.00	0.00
35	49.00	-49.00	6.00	60.00	60.00	0.00
36	50.00	-50.00	6.00	60.00	60.00	0.00
37	51.00	-51.00	6.00	60.00	60.00	0.00
38	52.00	-52.00	6.00	60.00	60.00	0.00
39	53.00	-53.00	6.00	60.00	60.00	0.00
40	54.00	-54.00	6.00	60.00	60.00	0.00
41	55.00	-55.00	6.00	60.00	60.00	0.00
42	56.00	-56.00	6.00	60.00	60.00	0.00
43	57.00	-57.00	6.00	60.00	60.00	0.00
44	58.00	-58.00	6.00	60.00	60.00	0.00
45	59.00	-59.00	6.00	60.00	60.00	0.00
46	60.00	-60.00	6.00	60.00	60.00	0.00
47	61.00	-61.00	6.00	60.00	60.00	0.00
48	62.00	-62.00	6.00	60.00	60.00	0.00
49	63.00	-63.00	6.00	60.00	60.00	0.00
50	64.00	-64.00	6.00	60.00	60.00	0.00
51	65.00	-65.00	6.00	60.00	60.00	0.00
52	66.00	-66.00	6.00	60.00	60.00	0.00
53	67.00	-67.00	6.00	60.00	60.00	0.00
54	68.00	-68.00	6.00	60.00	60.00	0.00
55	69.00	-69.00	6.00	60.00	60.00	0.00
56	70.00	-70.00	6.00	60.00	60.00	0.00
57	71.00	-71.00	6.00	60.00	60.00	0.00
58	72.00	-72.00	6.00	60.00	60.00	0.00
59	73.00	-73.00	6.00	60.00	60.00	0.00
60	74.00	-74.00	6.00	60.00	60.00	0.00
61	75.00	-75.00	6.00	60.00	60.00	0.00
62	76.00	-76.00	6.00	60.00	60.00	0.00
63	77.00	-77.00	6.00	60.00	60.00	0.00
64	78.00	-78.00	6.00	60.00	60.00	0.00
65	79.00	-79.00	6.00	60.00	60.00	0.00
66	80.00	-80.00	6.00	60.00	60.00	0.00
67	81.00	-81.00	6.00	60.00	60.00	0.00
68	82.00	-82.00	6.00	60.00	60.00	0.00
69	83.00	-83.00	6.00	60.00	60.00	0.00
70	84.00	-84.00	6.00	60.00	60.00	0.00
71	85.00	-85.00	6.00	60.00	60.00	0.00
72	86.00	-86.00	6.00	60.00	60.00	0.00

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73	87.00	-87.00	6.00	60.00	60.00	0.00
74	88.00	-88.00	6.00	60.00	60.00	0.00
75	89.00	-89.00	6.00	60.00	60.00	0.00
76	90.00	-90.00	6.00	60.00	60.00	0.00
77	91.00	-91.00	6.00	60.00	60.00	0.00
78	92.00	-92.00	6.00	60.00	60.00	0.00
79	93.00	-93.00	6.00	60.00	60.00	0.00
80	94.00	-94.00	6.00	60.00	60.00	0.00
81	95.00	-95.00	6.00	60.00	60.00	0.00

Drilled Shaft Capacity (sorted by shaft diameter):

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Strength reduction factors: Skin-friction = 1.00, End-bearing = 1.00

ID	Diameter (in)	Length (ft)	Skin Fric. (tons)	End Bearing (tons)	Capacity (tons)
1	60.00	15.00	1.582	184.648	186.230
2	60.00	16.00	2.295	201.803	204.099
3	60.00	17.00	3.128	211.464	214.592
4	60.00	18.00	4.077	276.966	281.043
5	60.00	19.00	6.710	299.418	306.128
6	60.00	20.00	9.746	317.204	326.950
7	60.00	21.00	13.169	329.293	342.462
8	60.00	22.00	16.962	341.872	358.834
9	60.00	23.00	21.120	356.481	377.601
10	60.00	24.00	25.620	366.533	392.153
11	60.00	25.00	30.459	365.442	395.901
12	60.00	26.00	35.622	354.626	390.247
13	60.00	27.00	41.094	342.579	383.673
14	60.00	28.00	46.873	330.718	377.591
15	60.00	29.00	52.936	319.113	372.048
16	60.00	30.00	59.281	307.832	367.112
17	60.00	31.00	65.884	297.271	363.155
18	60.00	32.00	72.668	289.804	362.472
19	60.00	33.00	79.618	285.828	365.445
20	60.00	34.00	86.736	283.149	369.885
21	60.00	35.00	94.033	279.579	373.611
22	60.00	36.00	101.500	275.967	377.467
23	60.00	37.00	109.127	277.428	386.555
24	60.00	38.00	116.912	284.813	401.725
25	60.00	39.00	124.828	295.120	419.948
26	60.00	40.00	132.859	305.346	438.205
27	60.00	41.00	141.002	315.693	456.695
28	60.00	42.00	149.267	327.378	476.645
29	60.00	43.00	157.654	340.601	498.255
30	60.00	44.00	166.175	355.893	522.068
31	60.00	45.00	174.850	373.781	548.632
32	60.00	46.00	183.670	393.517	577.186
33	60.00	47.00	192.624	410.594	603.217
34	60.00	48.00	201.708	424.262	625.971
35	60.00	49.00	210.898	434.400	645.299
36	60.00	50.00	220.181	440.887	661.067
37	60.00	51.00	229.550	444.373	673.923
38	60.00	52.00	239.012	448.775	687.787
39	60.00	53.00	248.567	454.746	703.313
40	60.00	54.00	258.211	459.351	717.561
41	60.00	55.00	267.951	459.657	727.608
42	60.00	56.00	277.776	455.826	733.602
43	60.00	57.00	287.660	448.831	736.491
44	60.00	58.00	297.599	438.833	736.432
45	60.00	59.00	307.580	428.255	735.835

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46	60.00	60.00	317.601	419.520	737.121
47	60.00	61.00	327.652	411.911	739.563
48	60.00	62.00	337.727	401.123	738.850
49	60.00	63.00	347.820	386.440	734.261
50	60.00	64.00	357.921	369.228	727.150
51	60.00	65.00	368.027	350.854	718.881
52	60.00	66.00	378.127	331.310	709.437
53	60.00	67.00	388.187	310.556	698.744
54	60.00	68.00	398.203	288.585	686.788
55	60.00	69.00	408.166	270.061	678.227
56	60.00	70.00	418.072	259.651	677.723
57	60.00	71.00	427.919	256.992	684.911
58	60.00	72.00	437.710	259.915	697.625
59	60.00	73.00	447.444	268.058	715.502
60	60.00	74.00	457.098	279.419	736.517
61	60.00	75.00	466.657	291.994	758.651
62	60.00	76.00	476.116	305.105	781.221
63	60.00	77.00	485.469	314.675	800.145
64	60.00	78.00	494.715	320.025	814.741
65	60.00	79.00	503.018	325.917	828.935
66	60.00	80.00	511.216	337.113	848.329
67	60.00	81.00	519.708	353.149	872.857
68	60.00	82.00	528.508	371.243	899.752
69	60.00	83.00	537.212	390.932	928.144
70	60.00	84.00	545.808	412.080	957.888
71	60.00	85.00	554.295	434.553	988.848
72	60.00	86.00	562.670	456.995	1019.665
73	60.00	87.00	571.116	471.274	1042.389
74	60.00	88.00	579.694	476.033	1055.727
75	60.00	89.00	588.400	475.707	1064.108
76	60.00	90.00	597.230	474.729	1071.959
77	60.00	91.00	Soil Elevations Must Extend At or Below Contribution		
Zone					
78	60.00	92.00	Soil Elevations Must Extend At or Below Contribution		
Zone					
79	60.00	93.00	Soil Elevations Must Extend At or Below Contribution		
Zone					
80	60.00	94.00	Soil Elevations Must Extend At or Below Contribution		
Zone					
81	60.00	95.00	Soil Elevations Must Extend At or Below Contribution		
Zone					

Drilled Shaft Capacity at User-Defined Settlement (sorted by shaft diameter):

***** Capacity is NOT modified by the strength reduction factors *****

User-Defined Settlement = 0.83%

ID	Diameter (in)	Length (ft)	Skin Fric. (tons)	End Bearing (tons)	Capacity (tons)
1	60.00	15.00	1.541	48.210	49.752
2	60.00	16.00	2.237	52.689	54.926
3	60.00	17.00	3.048	55.211	58.260
4	60.00	18.00	3.973	72.314	76.287
5	60.00	19.00	6.539	78.176	84.714
6	60.00	20.00	9.498	82.819	92.317
7	60.00	21.00	12.833	85.976	98.809
8	60.00	22.00	16.530	89.260	105.790
9	60.00	23.00	20.582	93.074	113.656
10	60.00	24.00	24.967	95.699	120.666

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11	60.00	25.00	29.682	95.414	125.096
12	60.00	26.00	34.713	92.590	127.303
13	60.00	27.00	40.047	89.445	129.491
14	60.00	28.00	45.678	86.348	132.025
15	60.00	29.00	51.586	83.318	134.904
16	60.00	30.00	57.769	80.372	138.142
17	60.00	31.00	64.204	77.615	141.820
18	60.00	32.00	70.815	75.666	146.481
19	60.00	33.00	77.588	74.627	152.215
20	60.00	34.00	84.524	73.928	158.452
21	60.00	35.00	91.635	72.996	164.631
22	60.00	36.00	98.912	72.053	170.965
23	60.00	37.00	106.345	72.434	178.780
24	60.00	38.00	113.932	74.362	188.294
25	60.00	39.00	121.645	77.054	198.699
26	60.00	40.00	129.472	79.723	209.196
27	60.00	41.00	137.407	82.425	219.832
28	60.00	42.00	145.462	85.476	230.937
29	60.00	43.00	153.635	88.928	242.563
30	60.00	44.00	161.939	92.921	254.859
31	60.00	45.00	170.392	97.591	267.984
32	60.00	46.00	178.987	102.744	281.731
33	60.00	47.00	187.713	107.203	294.916
34	60.00	48.00	196.566	110.772	307.338
35	60.00	49.00	205.522	113.419	318.940
36	60.00	50.00	214.568	115.112	329.680
37	60.00	51.00	223.698	116.022	339.720
38	60.00	52.00	232.919	117.172	350.090
39	60.00	53.00	242.230	118.730	360.961
40	60.00	54.00	251.628	119.933	371.561
41	60.00	55.00	261.120	120.013	381.133
42	60.00	56.00	270.694	119.013	389.707
43	60.00	57.00	280.327	117.186	397.513
44	60.00	58.00	290.013	114.576	404.588
45	60.00	59.00	299.739	111.814	411.553
46	60.00	60.00	309.504	109.533	419.037
47	60.00	61.00	319.299	107.547	426.846
48	60.00	62.00	329.117	104.730	433.847
49	60.00	63.00	338.953	100.897	439.850
50	60.00	64.00	348.797	96.403	445.199
51	60.00	65.00	358.645	91.605	450.250
52	60.00	66.00	368.487	86.503	454.989
53	60.00	67.00	378.291	81.084	459.375
54	60.00	68.00	388.052	75.347	463.399
55	60.00	69.00	397.760	70.511	468.271
56	60.00	70.00	407.414	67.793	475.207
57	60.00	71.00	417.010	67.099	484.108
58	60.00	72.00	426.551	67.862	494.413
59	60.00	73.00	436.037	69.988	506.025
60	60.00	74.00	445.445	72.954	518.399
61	60.00	75.00	454.760	76.237	530.998
62	60.00	76.00	463.978	79.661	543.639
63	60.00	77.00	473.093	82.159	555.252
64	60.00	78.00	482.103	83.556	565.659
65	60.00	79.00	490.195	85.094	575.289
66	60.00	80.00	498.183	88.018	586.201
67	60.00	81.00	506.459	92.204	598.664
68	60.00	82.00	515.035	96.929	611.963
69	60.00	83.00	523.516	102.069	625.585
70	60.00	84.00	531.893	107.591	639.484
71	60.00	85.00	540.164	113.458	653.623
72	60.00	86.00	548.325	119.318	667.643
73	60.00	87.00	556.556	123.046	679.602

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	74	60.00	88.00	564.916	124.289	689.204
	75	60.00	89.00	573.400	124.203	697.603
	76	60.00	90.00	582.004	123.948	705.952
	77	60.00	91.00	Soil Elevations Must Extend At or Below Contribution		
Zone	78	60.00	92.00	Soil Elevations Must Extend At or Below Contribution		
Zone	79	60.00	93.00	Soil Elevations Must Extend At or Below Contribution		
Zone	80	60.00	94.00	Soil Elevations Must Extend At or Below Contribution		
Zone	81	60.00	95.00	Soil Elevations Must Extend At or Below Contribution		
Zone						

General Information:

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Input file:analysis_Structure\FB-Deep_2021\Drilled Shaft\B-201Shaft48in.in
 Project number: 2000-01-16015
 Job name: I-95 From Hallandale Beach Blvd to Hollywood Blvd
 Engineer: JB Henry
 Units: English

Analysis Information:

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Analysis Type: Drilled Shaft Analysis

Soil Information:

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Boring date: 8/23/2018
 Boring number: B-201
 Station number: Offset:

Ground Elevation: 0.00(ft)
 Water table Elevation = 0.00(ft)

Hammer type: Automatic Hammer, Correction factor = 1.24

ID	Depth (ft)	Elevation (ft)	SPT Blows (Blows/ft)	Unit Weight (pcf)	Soil Type
1	0.00	0.00	N/A	0.00	5- Cavity layer
2	2.00	-2.00	N/A	0.00	5- Cavity layer
3	4.00	-4.00	N/A	0.00	5- Cavity layer
4	6.00	-6.00	N/A	0.00	5- Cavity layer
5	8.00	-8.00	N/A	0.00	5- Cavity layer
6	10.00	-10.00	69.00	130.00	3- Clean sand
7	12.00	-12.00	51.00	130.00	3- Clean sand
8	13.50	-13.50	47.00	125.00	3- Clean sand
9	15.50	-15.50	8.00	110.00	3- Clean sand
10	18.00	-18.00	13.00	110.00	3- Clean sand
11	20.50	-20.50	48.00	125.00	3- Clean sand
12	23.00	-23.00	61.00	130.00	3- Clean sand
13	25.50	-25.50	5.00	105.00	3- Clean sand
14	28.00	-28.00	2.00	100.00	3- Clean sand
15	30.50	-30.50	2.00	100.00	3- Clean sand
16	33.00	-33.00	13.00	110.00	3- Clean sand
17	35.50	-35.50	33.00	125.00	3- Clean sand
18	38.00	-38.00	27.00	120.00	3- Clean sand
19	40.50	-40.50	20.00	115.00	3- Clean sand
20	43.00	-43.00	23.00	115.00	3- Clean sand
21	45.50	-45.50	21.00	115.00	3- Clean sand
22	48.00	-48.00	76.00	135.00	3- Clean sand
23	50.50	-50.50	78.00	135.00	3- Clean sand
24	53.00	-53.00	50.00	125.00	3- Clean sand
25	55.50	-55.50	41.00	125.00	3- Clean sand
26	58.00	-58.00	83.00	135.00	3- Clean sand
27	60.50	-60.50	27.00	120.00	3- Clean sand
28	63.00	-63.00	21.00	115.00	3- Clean sand
29	65.50	-65.50	43.00	125.00	3- Clean sand
30	68.00	-68.00	41.00	125.00	3- Clean sand

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31	70.50	-70.50	56.00	130.00	3- Clean sand
32	73.00	-73.00	58.00	130.00	3- Clean sand
33	75.50	-75.50	8.00	110.00	3- Clean sand
34	78.00	-78.00	10.00	110.00	3- Clean sand
35	80.50	-80.50	34.00	125.00	3- Clean sand
36	83.00	-83.00	39.00	125.00	3- Clean sand
37	85.50	-85.50	91.00	135.00	3- Clean sand
38	88.00	-88.00	39.00	125.00	3- Clean sand
39	90.50	-90.50	26.00	120.00	3- Clean sand
40	93.00	-93.00	37.00	125.00	3- Clean sand
41	95.50	-95.50	56.00	130.00	3- Clean sand
42	98.00	-98.00	58.00	130.00	3- Clean sand
43	100.00	-100.00	58.00	130.00	3- Clean sand

ID	Cu-DIR (tsf)	qu (tsf)	qt (tsf)	Em (ksi)	qb (tsf)
1	N/A	N/A	N/A	N/A	N/A
2	N/A	N/A	N/A	N/A	N/A
3	N/A	N/A	N/A	N/A	N/A
4	N/A	N/A	N/A	N/A	N/A
5	N/A	N/A	N/A	N/A	N/A
6	N/A	N/A	N/A	N/A	N/A
7	N/A	N/A	N/A	N/A	N/A
8	N/A	N/A	N/A	N/A	N/A
9	N/A	N/A	N/A	N/A	N/A
10	N/A	N/A	N/A	N/A	N/A
11	N/A	N/A	N/A	N/A	N/A
12	N/A	N/A	N/A	N/A	N/A
13	N/A	N/A	N/A	N/A	N/A
14	N/A	N/A	N/A	N/A	N/A
15	N/A	N/A	N/A	N/A	N/A
16	N/A	N/A	N/A	N/A	N/A
17	N/A	N/A	N/A	N/A	N/A
18	N/A	N/A	N/A	N/A	N/A
19	N/A	N/A	N/A	N/A	N/A
20	N/A	N/A	N/A	N/A	N/A
21	N/A	N/A	N/A	N/A	N/A
22	N/A	N/A	N/A	N/A	N/A
23	N/A	N/A	N/A	N/A	N/A
24	N/A	N/A	N/A	N/A	N/A
25	N/A	N/A	N/A	N/A	N/A
26	N/A	N/A	N/A	N/A	N/A
27	N/A	N/A	N/A	N/A	N/A
28	N/A	N/A	N/A	N/A	N/A
29	N/A	N/A	N/A	N/A	N/A
30	N/A	N/A	N/A	N/A	N/A
31	N/A	N/A	N/A	N/A	N/A
32	N/A	N/A	N/A	N/A	N/A
33	N/A	N/A	N/A	N/A	N/A
34	N/A	N/A	N/A	N/A	N/A
35	N/A	N/A	N/A	N/A	N/A
36	N/A	N/A	N/A	N/A	N/A
37	N/A	N/A	N/A	N/A	N/A
38	N/A	N/A	N/A	N/A	N/A
39	N/A	N/A	N/A	N/A	N/A
40	N/A	N/A	N/A	N/A	N/A
41	N/A	N/A	N/A	N/A	N/A
42	N/A	N/A	N/A	N/A	N/A
43	N/A	N/A	N/A	N/A	N/A

ID RQD F.M. S.R.I. Rock Recovery

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1	N/A	N/A	N/A
2	N/A	N/A	N/A
3	N/A	N/A	N/A
4	N/A	N/A	N/A
5	N/A	N/A	N/A
6	N/A	N/A	N/A
7	N/A	N/A	N/A
8	N/A	N/A	N/A
9	N/A	N/A	N/A
10	N/A	N/A	N/A
11	N/A	N/A	N/A
12	N/A	N/A	N/A
13	N/A	N/A	N/A
14	N/A	N/A	N/A
15	N/A	N/A	N/A
16	N/A	N/A	N/A
17	N/A	N/A	N/A
18	N/A	N/A	N/A
19	N/A	N/A	N/A
20	N/A	N/A	N/A
21	N/A	N/A	N/A
22	N/A	N/A	N/A
23	N/A	N/A	N/A
24	N/A	N/A	N/A
25	N/A	N/A	N/A
26	N/A	N/A	N/A
27	N/A	N/A	N/A
28	N/A	N/A	N/A
29	N/A	N/A	N/A
30	N/A	N/A	N/A
31	N/A	N/A	N/A
32	N/A	N/A	N/A
33	N/A	N/A	N/A
34	N/A	N/A	N/A
35	N/A	N/A	N/A
36	N/A	N/A	N/A
37	N/A	N/A	N/A
38	N/A	N/A	N/A
39	N/A	N/A	N/A
40	N/A	N/A	N/A
41	N/A	N/A	N/A
42	N/A	N/A	N/A
43	N/A	N/A	N/A

Drilled Shaft Data:

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Shaft Geometry:

ID	Length (ft)	Tip Elev. (ft)	Case Len. (ft)	Diameter (in)	Base Diam. (in)	Bell Len. (ft)
1	15.00	-15.00	6.00	48.00	48.00	0.00
2	16.00	-16.00	6.00	48.00	48.00	0.00
3	17.00	-17.00	6.00	48.00	48.00	0.00
4	18.00	-18.00	6.00	48.00	48.00	0.00
5	19.00	-19.00	6.00	48.00	48.00	0.00
6	20.00	-20.00	6.00	48.00	48.00	0.00
7	21.00	-21.00	6.00	48.00	48.00	0.00
8	22.00	-22.00	6.00	48.00	48.00	0.00
9	23.00	-23.00	6.00	48.00	48.00	0.00

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10	24.00	-24.00	6.00	48.00	48.00	0.00
11	25.00	-25.00	6.00	48.00	48.00	0.00
12	26.00	-26.00	6.00	48.00	48.00	0.00
13	27.00	-27.00	6.00	48.00	48.00	0.00
14	28.00	-28.00	6.00	48.00	48.00	0.00
15	29.00	-29.00	6.00	48.00	48.00	0.00
16	30.00	-30.00	6.00	48.00	48.00	0.00
17	31.00	-31.00	6.00	48.00	48.00	0.00
18	32.00	-32.00	6.00	48.00	48.00	0.00
19	33.00	-33.00	6.00	48.00	48.00	0.00
20	34.00	-34.00	6.00	48.00	48.00	0.00
21	35.00	-35.00	6.00	48.00	48.00	0.00
22	36.00	-36.00	6.00	48.00	48.00	0.00
23	37.00	-37.00	6.00	48.00	48.00	0.00
24	38.00	-38.00	6.00	48.00	48.00	0.00
25	39.00	-39.00	6.00	48.00	48.00	0.00
26	40.00	-40.00	6.00	48.00	48.00	0.00
27	41.00	-41.00	6.00	48.00	48.00	0.00
28	42.00	-42.00	6.00	48.00	48.00	0.00
29	43.00	-43.00	6.00	48.00	48.00	0.00
30	44.00	-44.00	6.00	48.00	48.00	0.00
31	45.00	-45.00	6.00	48.00	48.00	0.00
32	46.00	-46.00	6.00	48.00	48.00	0.00
33	47.00	-47.00	6.00	48.00	48.00	0.00
34	48.00	-48.00	6.00	48.00	48.00	0.00
35	49.00	-49.00	6.00	48.00	48.00	0.00
36	50.00	-50.00	6.00	48.00	48.00	0.00
37	51.00	-51.00	6.00	48.00	48.00	0.00
38	52.00	-52.00	6.00	48.00	48.00	0.00
39	53.00	-53.00	6.00	48.00	48.00	0.00
40	54.00	-54.00	6.00	48.00	48.00	0.00
41	55.00	-55.00	6.00	48.00	48.00	0.00
42	56.00	-56.00	6.00	48.00	48.00	0.00
43	57.00	-57.00	6.00	48.00	48.00	0.00
44	58.00	-58.00	6.00	48.00	48.00	0.00
45	59.00	-59.00	6.00	48.00	48.00	0.00
46	60.00	-60.00	6.00	48.00	48.00	0.00
47	61.00	-61.00	6.00	48.00	48.00	0.00
48	62.00	-62.00	6.00	48.00	48.00	0.00
49	63.00	-63.00	6.00	48.00	48.00	0.00
50	64.00	-64.00	6.00	48.00	48.00	0.00
51	65.00	-65.00	6.00	48.00	48.00	0.00
52	66.00	-66.00	6.00	48.00	48.00	0.00
53	67.00	-67.00	6.00	48.00	48.00	0.00
54	68.00	-68.00	6.00	48.00	48.00	0.00
55	69.00	-69.00	6.00	48.00	48.00	0.00
56	70.00	-70.00	6.00	48.00	48.00	0.00
57	71.00	-71.00	6.00	48.00	48.00	0.00
58	72.00	-72.00	6.00	48.00	48.00	0.00
59	73.00	-73.00	6.00	48.00	48.00	0.00
60	74.00	-74.00	6.00	48.00	48.00	0.00
61	75.00	-75.00	6.00	48.00	48.00	0.00
62	76.00	-76.00	6.00	48.00	48.00	0.00
63	77.00	-77.00	6.00	48.00	48.00	0.00
64	78.00	-78.00	6.00	48.00	48.00	0.00
65	79.00	-79.00	6.00	48.00	48.00	0.00
66	80.00	-80.00	6.00	48.00	48.00	0.00
67	81.00	-81.00	6.00	48.00	48.00	0.00
68	82.00	-82.00	6.00	48.00	48.00	0.00
69	83.00	-83.00	6.00	48.00	48.00	0.00
70	84.00	-84.00	6.00	48.00	48.00	0.00
71	85.00	-85.00	6.00	48.00	48.00	0.00
72	86.00	-86.00	6.00	48.00	48.00	0.00

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73	87.00	-87.00	6.00	48.00	48.00	0.00
74	88.00	-88.00	6.00	48.00	48.00	0.00
75	89.00	-89.00	6.00	48.00	48.00	0.00
76	90.00	-90.00	6.00	48.00	48.00	0.00
77	91.00	-91.00	6.00	48.00	48.00	0.00
78	92.00	-92.00	6.00	48.00	48.00	0.00
79	93.00	-93.00	6.00	48.00	48.00	0.00
80	94.00	-94.00	6.00	48.00	48.00	0.00
81	95.00	-95.00	6.00	48.00	48.00	0.00

Drilled Shaft Capacity (sorted by shaft diameter):

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Strength reduction factors: Skin-friction = 1.00, End-bearing = 1.00

ID	Diameter (in)	Length (ft)	Skin Fric. (tons)	End Bearing (tons)	Capacity (tons)
1	48.00	15.00	5.324	116.709	122.033
2	48.00	16.00	7.133	281.058	288.191
3	48.00	17.00	8.752	262.768	271.520
4	48.00	18.00	10.531	237.555	248.086
5	48.00	19.00	13.446	211.956	225.402
6	48.00	20.00	16.584	189.359	205.942
7	48.00	21.00	19.946	179.291	199.237
8	48.00	22.00	23.585	180.312	203.896
9	48.00	23.00	27.505	181.865	209.370
10	48.00	24.00	31.703	182.733	214.436
11	48.00	25.00	36.188	178.384	214.572
12	48.00	26.00	39.526	166.705	206.231
13	48.00	27.00	41.550	151.702	193.252
14	48.00	28.00	43.630	139.316	182.946
15	48.00	29.00	45.280	126.170	171.451
16	48.00	30.00	46.989	117.126	164.116
17	48.00	31.00	48.758	117.678	166.436
18	48.00	32.00	50.585	127.093	177.678
19	48.00	33.00	52.472	138.215	190.687
20	48.00	34.00	58.087	151.888	209.976
21	48.00	35.00	63.825	168.289	232.114
22	48.00	36.00	69.686	186.111	255.797
23	48.00	37.00	75.713	202.823	278.536
24	48.00	38.00	81.910	216.224	298.134
25	48.00	39.00	88.253	229.583	317.836
26	48.00	40.00	94.729	242.083	336.812
27	48.00	41.00	101.330	250.160	351.489
28	48.00	42.00	108.031	253.153	361.184
29	48.00	43.00	114.828	257.237	372.065
30	48.00	44.00	121.712	263.230	384.942
31	48.00	45.00	128.680	271.093	399.772
32	48.00	46.00	135.726	281.189	416.915
33	48.00	47.00	142.843	294.375	437.218
34	48.00	48.00	150.030	308.521	458.551
35	48.00	49.00	157.312	322.484	479.796
36	48.00	50.00	164.721	336.292	501.013
37	48.00	51.00	172.248	349.167	521.415
38	48.00	52.00	179.885	358.720	538.605
39	48.00	53.00	187.628	360.181	547.809
40	48.00	54.00	195.448	354.005	549.453
41	48.00	55.00	203.327	343.415	546.742
42	48.00	56.00	211.258	334.383	545.640
43	48.00	57.00	219.234	329.866	549.100
44	48.00	58.00	227.253	329.302	556.555
45	48.00	59.00	235.318	328.783	564.101

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46	48.00	60.00	243.443	327.226	570.669
47	48.00	61.00	251.614	324.702	576.316
48	48.00	62.00	259.791	321.640	581.431
49	48.00	63.00	267.968	318.110	586.077
50	48.00	64.00	276.128	315.099	591.227
51	48.00	65.00	284.265	315.669	599.935
52	48.00	66.00	292.376	317.932	610.308
53	48.00	67.00	300.475	316.694	617.169
54	48.00	68.00	308.562	311.059	619.621
55	48.00	69.00	316.628	306.759	623.387
56	48.00	70.00	324.671	300.850	625.521
57	48.00	71.00	332.687	291.958	624.645
58	48.00	72.00	340.677	283.407	624.084
59	48.00	73.00	348.642	279.157	627.799
60	48.00	74.00	356.569	275.372	631.941
61	48.00	75.00	364.459	270.238	634.696
62	48.00	76.00	371.396	263.658	635.054
63	48.00	77.00	377.468	257.209	634.676
64	48.00	78.00	383.614	251.147	634.762
65	48.00	79.00	389.866	245.867	635.733
66	48.00	80.00	396.131	247.184	643.315
67	48.00	81.00	402.977	258.585	661.562
68	48.00	82.00	410.255	276.258	686.514
69	48.00	83.00	417.450	292.698	710.148
70	48.00	84.00	424.553	310.630	735.183
71	48.00	85.00	431.563	327.185	758.748
72	48.00	86.00	438.477	338.011	776.488
73	48.00	87.00	445.454	342.798	788.252
74	48.00	88.00	452.544	345.863	798.407
75	48.00	89.00	459.741	346.908	806.649
76	48.00	90.00	467.036	345.956	812.992
77	48.00	91.00	474.428	343.812	818.240
78	48.00	92.00	481.912	341.982	823.894
79	48.00	93.00	Soil Elevations Must Extend At or Below Contribution		
Zone					
80	48.00	94.00	Soil Elevations Must Extend At or Below Contribution		
Zone					
81	48.00	95.00	Soil Elevations Must Extend At or Below Contribution		
Zone					

Drilled Shaft Capacity at User-Defined Settlement (sorted by shaft diameter):

***** Capacity is NOT modified by the strength reduction factors *****

User-Defined Settlement = 1.04%

ID	Diameter (in)	Length (ft)	Skin Fric. (tons)	End Bearing (tons)	Capacity (tons)
1	48.00	15.00	5.208	37.071	42.278
2	48.00	16.00	6.977	89.274	96.251
3	48.00	17.00	8.561	83.464	92.025
4	48.00	18.00	10.301	75.456	85.756
5	48.00	19.00	13.152	67.325	80.476
6	48.00	20.00	16.221	60.147	76.368
7	48.00	21.00	19.509	56.949	76.458
8	48.00	22.00	23.068	57.273	80.342
9	48.00	23.00	26.903	57.766	84.670
10	48.00	24.00	31.009	58.042	89.051
11	48.00	25.00	35.396	56.661	92.057
12	48.00	26.00	38.661	52.951	91.612

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13	48.00	27.00	40.641	48.186	88.827
14	48.00	28.00	42.675	44.252	86.926
15	48.00	29.00	44.289	40.076	84.365
16	48.00	30.00	45.961	37.203	83.164
17	48.00	31.00	47.691	37.379	85.069
18	48.00	32.00	49.478	40.369	89.847
19	48.00	33.00	51.323	43.902	95.225
20	48.00	34.00	56.816	48.245	105.061
21	48.00	35.00	62.428	53.454	115.882
22	48.00	36.00	68.161	59.115	127.276
23	48.00	37.00	74.056	64.424	138.479
24	48.00	38.00	80.117	68.680	148.797
25	48.00	39.00	86.321	72.923	159.244
26	48.00	40.00	92.656	76.894	169.550
27	48.00	41.00	99.112	79.459	178.571
28	48.00	42.00	105.666	80.410	186.076
29	48.00	43.00	112.315	81.707	194.022
30	48.00	44.00	119.048	83.611	202.659
31	48.00	45.00	125.863	86.108	211.972
32	48.00	46.00	132.755	89.315	222.070
33	48.00	47.00	139.717	93.504	233.220
34	48.00	48.00	146.746	97.997	244.743
35	48.00	49.00	153.868	102.432	256.301
36	48.00	50.00	161.115	106.818	267.933
37	48.00	51.00	168.478	110.907	279.385
38	48.00	52.00	175.948	113.942	289.889
39	48.00	53.00	183.521	114.406	297.927
40	48.00	54.00	191.170	112.444	303.614
41	48.00	55.00	198.876	109.081	307.957
42	48.00	56.00	206.634	106.211	312.845
43	48.00	57.00	214.435	104.777	319.212
44	48.00	58.00	222.279	104.598	326.876
45	48.00	59.00	230.168	104.433	334.600
46	48.00	60.00	238.115	103.938	342.053
47	48.00	61.00	246.106	103.137	349.243
48	48.00	62.00	254.105	102.164	356.268
49	48.00	63.00	262.102	101.043	363.145
50	48.00	64.00	270.084	100.086	370.171
51	48.00	65.00	278.043	100.267	378.311
52	48.00	66.00	285.977	100.986	386.963
53	48.00	67.00	293.898	100.593	394.491
54	48.00	68.00	301.808	98.803	400.611
55	48.00	69.00	309.698	97.437	407.135
56	48.00	70.00	317.565	95.560	413.125
57	48.00	71.00	325.405	92.736	418.141
58	48.00	72.00	333.221	90.020	423.240
59	48.00	73.00	341.010	88.670	429.680
60	48.00	74.00	348.765	87.468	436.232
61	48.00	75.00	356.481	85.837	442.318
62	48.00	76.00	363.267	83.747	447.014
63	48.00	77.00	369.206	81.698	450.904
64	48.00	78.00	375.218	79.773	454.991
65	48.00	79.00	381.332	78.096	459.428
66	48.00	80.00	387.461	78.514	465.975
67	48.00	81.00	394.157	82.136	476.292
68	48.00	82.00	401.276	87.749	489.025
69	48.00	83.00	408.313	92.971	501.284
70	48.00	84.00	415.261	98.667	513.927
71	48.00	85.00	422.117	103.925	526.042
72	48.00	86.00	428.880	107.364	536.244
73	48.00	87.00	435.703	108.884	544.588
74	48.00	88.00	442.639	109.858	552.497
75	48.00	89.00	449.678	110.190	559.868

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	76	48.00	90.00	456.813	109.887	566.701
	77	48.00	91.00	464.044	109.206	573.251
	78	48.00	92.00	471.364	108.625	579.990
	79	48.00	93.00	Soil Elevations Must Extend At or Below Contribution		
Zone	80	48.00	94.00	Soil Elevations Must Extend At or Below Contribution		
Zone	81	48.00	95.00	Soil Elevations Must Extend At or Below Contribution		
Zone						

General Information:

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Input file:analysis_Structure\FB-Deep_2021\Drilled Shaft\B-201Shaft60in.in
 Project number: 2000-01-16015
 Job name: I-95 From Hallandale Beach Blvd to Hollywood Blvd
 Engineer: JB Henry
 Units: English

Analysis Information:

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Analysis Type: Drilled Shaft Analysis

Soil Information:

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Boring date: 8/23/2018
 Boring number: B-201
 Station number: Offset:

Ground Elevation: 0.00(ft)
 Water table Elevation = 0.00(ft)

Hammer type: Automatic Hammer, Correction factor = 1.24

ID	Depth (ft)	Elevation (ft)	SPT Blows (Blows/ft)	Unit Weight (pcf)	Soil Type
1	0.00	0.00	N/A	0.00	5- Cavity layer
2	2.00	-2.00	N/A	0.00	5- Cavity layer
3	4.00	-4.00	N/A	0.00	5- Cavity layer
4	6.00	-6.00	N/A	0.00	5- Cavity layer
5	8.00	-8.00	N/A	0.00	5- Cavity layer
6	10.00	-10.00	69.00	130.00	3- Clean sand
7	12.00	-12.00	51.00	130.00	3- Clean sand
8	13.50	-13.50	47.00	125.00	3- Clean sand
9	15.50	-15.50	8.00	110.00	3- Clean sand
10	18.00	-18.00	13.00	110.00	3- Clean sand
11	20.50	-20.50	48.00	125.00	3- Clean sand
12	23.00	-23.00	61.00	130.00	3- Clean sand
13	25.50	-25.50	5.00	105.00	3- Clean sand
14	28.00	-28.00	2.00	100.00	3- Clean sand
15	30.50	-30.50	2.00	100.00	3- Clean sand
16	33.00	-33.00	13.00	110.00	3- Clean sand
17	35.50	-35.50	33.00	125.00	3- Clean sand
18	38.00	-38.00	27.00	120.00	3- Clean sand
19	40.50	-40.50	20.00	115.00	3- Clean sand
20	43.00	-43.00	23.00	115.00	3- Clean sand
21	45.50	-45.50	21.00	115.00	3- Clean sand
22	48.00	-48.00	76.00	135.00	3- Clean sand
23	50.50	-50.50	78.00	135.00	3- Clean sand
24	53.00	-53.00	50.00	125.00	3- Clean sand
25	55.50	-55.50	41.00	125.00	3- Clean sand
26	58.00	-58.00	83.00	135.00	3- Clean sand
27	60.50	-60.50	27.00	120.00	3- Clean sand
28	63.00	-63.00	21.00	115.00	3- Clean sand
29	65.50	-65.50	43.00	125.00	3- Clean sand
30	68.00	-68.00	41.00	125.00	3- Clean sand

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31	70.50	-70.50	56.00	130.00	3- Clean sand
32	73.00	-73.00	58.00	130.00	3- Clean sand
33	75.50	-75.50	8.00	110.00	3- Clean sand
34	78.00	-78.00	10.00	110.00	3- Clean sand
35	80.50	-80.50	34.00	125.00	3- Clean sand
36	83.00	-83.00	39.00	125.00	3- Clean sand
37	85.50	-85.50	91.00	135.00	3- Clean sand
38	88.00	-88.00	39.00	125.00	3- Clean sand
39	90.50	-90.50	26.00	120.00	3- Clean sand
40	93.00	-93.00	37.00	125.00	3- Clean sand
41	95.50	-95.50	56.00	130.00	3- Clean sand
42	98.00	-98.00	58.00	130.00	3- Clean sand
43	100.00	-100.00	58.00	130.00	3- Clean sand

ID	Cu-DIR (tsf)	qu (tsf)	qt (tsf)	Em (ksi)	qb (tsf)
1	N/A	N/A	N/A	N/A	N/A
2	N/A	N/A	N/A	N/A	N/A
3	N/A	N/A	N/A	N/A	N/A
4	N/A	N/A	N/A	N/A	N/A
5	N/A	N/A	N/A	N/A	N/A
6	N/A	N/A	N/A	N/A	N/A
7	N/A	N/A	N/A	N/A	N/A
8	N/A	N/A	N/A	N/A	N/A
9	N/A	N/A	N/A	N/A	N/A
10	N/A	N/A	N/A	N/A	N/A
11	N/A	N/A	N/A	N/A	N/A
12	N/A	N/A	N/A	N/A	N/A
13	N/A	N/A	N/A	N/A	N/A
14	N/A	N/A	N/A	N/A	N/A
15	N/A	N/A	N/A	N/A	N/A
16	N/A	N/A	N/A	N/A	N/A
17	N/A	N/A	N/A	N/A	N/A
18	N/A	N/A	N/A	N/A	N/A
19	N/A	N/A	N/A	N/A	N/A
20	N/A	N/A	N/A	N/A	N/A
21	N/A	N/A	N/A	N/A	N/A
22	N/A	N/A	N/A	N/A	N/A
23	N/A	N/A	N/A	N/A	N/A
24	N/A	N/A	N/A	N/A	N/A
25	N/A	N/A	N/A	N/A	N/A
26	N/A	N/A	N/A	N/A	N/A
27	N/A	N/A	N/A	N/A	N/A
28	N/A	N/A	N/A	N/A	N/A
29	N/A	N/A	N/A	N/A	N/A
30	N/A	N/A	N/A	N/A	N/A
31	N/A	N/A	N/A	N/A	N/A
32	N/A	N/A	N/A	N/A	N/A
33	N/A	N/A	N/A	N/A	N/A
34	N/A	N/A	N/A	N/A	N/A
35	N/A	N/A	N/A	N/A	N/A
36	N/A	N/A	N/A	N/A	N/A
37	N/A	N/A	N/A	N/A	N/A
38	N/A	N/A	N/A	N/A	N/A
39	N/A	N/A	N/A	N/A	N/A
40	N/A	N/A	N/A	N/A	N/A
41	N/A	N/A	N/A	N/A	N/A
42	N/A	N/A	N/A	N/A	N/A
43	N/A	N/A	N/A	N/A	N/A

ID RQD F.M. S.R.I. Rock Recovery

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1	N/A	N/A	N/A
2	N/A	N/A	N/A
3	N/A	N/A	N/A
4	N/A	N/A	N/A
5	N/A	N/A	N/A
6	N/A	N/A	N/A
7	N/A	N/A	N/A
8	N/A	N/A	N/A
9	N/A	N/A	N/A
10	N/A	N/A	N/A
11	N/A	N/A	N/A
12	N/A	N/A	N/A
13	N/A	N/A	N/A
14	N/A	N/A	N/A
15	N/A	N/A	N/A
16	N/A	N/A	N/A
17	N/A	N/A	N/A
18	N/A	N/A	N/A
19	N/A	N/A	N/A
20	N/A	N/A	N/A
21	N/A	N/A	N/A
22	N/A	N/A	N/A
23	N/A	N/A	N/A
24	N/A	N/A	N/A
25	N/A	N/A	N/A
26	N/A	N/A	N/A
27	N/A	N/A	N/A
28	N/A	N/A	N/A
29	N/A	N/A	N/A
30	N/A	N/A	N/A
31	N/A	N/A	N/A
32	N/A	N/A	N/A
33	N/A	N/A	N/A
34	N/A	N/A	N/A
35	N/A	N/A	N/A
36	N/A	N/A	N/A
37	N/A	N/A	N/A
38	N/A	N/A	N/A
39	N/A	N/A	N/A
40	N/A	N/A	N/A
41	N/A	N/A	N/A
42	N/A	N/A	N/A
43	N/A	N/A	N/A

Drilled Shaft Data:

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Shaft Geometry:

ID	Length (ft)	Tip Elev. (ft)	Case Len. (ft)	Diameter (in)	Base Diam. (in)	Bell Len. (ft)
1	15.00	-15.00	6.00	60.00	60.00	0.00
2	16.00	-16.00	6.00	60.00	60.00	0.00
3	17.00	-17.00	6.00	60.00	60.00	0.00
4	18.00	-18.00	6.00	60.00	60.00	0.00
5	19.00	-19.00	6.00	60.00	60.00	0.00
6	20.00	-20.00	6.00	60.00	60.00	0.00
7	21.00	-21.00	6.00	60.00	60.00	0.00
8	22.00	-22.00	6.00	60.00	60.00	0.00
9	23.00	-23.00	6.00	60.00	60.00	0.00

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10	24.00	-24.00	6.00	60.00	60.00	0.00
11	25.00	-25.00	6.00	60.00	60.00	0.00
12	26.00	-26.00	6.00	60.00	60.00	0.00
13	27.00	-27.00	6.00	60.00	60.00	0.00
14	28.00	-28.00	6.00	60.00	60.00	0.00
15	29.00	-29.00	6.00	60.00	60.00	0.00
16	30.00	-30.00	6.00	60.00	60.00	0.00
17	31.00	-31.00	6.00	60.00	60.00	0.00
18	32.00	-32.00	6.00	60.00	60.00	0.00
19	33.00	-33.00	6.00	60.00	60.00	0.00
20	34.00	-34.00	6.00	60.00	60.00	0.00
21	35.00	-35.00	6.00	60.00	60.00	0.00
22	36.00	-36.00	6.00	60.00	60.00	0.00
23	37.00	-37.00	6.00	60.00	60.00	0.00
24	38.00	-38.00	6.00	60.00	60.00	0.00
25	39.00	-39.00	6.00	60.00	60.00	0.00
26	40.00	-40.00	6.00	60.00	60.00	0.00
27	41.00	-41.00	6.00	60.00	60.00	0.00
28	42.00	-42.00	6.00	60.00	60.00	0.00
29	43.00	-43.00	6.00	60.00	60.00	0.00
30	44.00	-44.00	6.00	60.00	60.00	0.00
31	45.00	-45.00	6.00	60.00	60.00	0.00
32	46.00	-46.00	6.00	60.00	60.00	0.00
33	47.00	-47.00	6.00	60.00	60.00	0.00
34	48.00	-48.00	6.00	60.00	60.00	0.00
35	49.00	-49.00	6.00	60.00	60.00	0.00
36	50.00	-50.00	6.00	60.00	60.00	0.00
37	51.00	-51.00	6.00	60.00	60.00	0.00
38	52.00	-52.00	6.00	60.00	60.00	0.00
39	53.00	-53.00	6.00	60.00	60.00	0.00
40	54.00	-54.00	6.00	60.00	60.00	0.00
41	55.00	-55.00	6.00	60.00	60.00	0.00
42	56.00	-56.00	6.00	60.00	60.00	0.00
43	57.00	-57.00	6.00	60.00	60.00	0.00
44	58.00	-58.00	6.00	60.00	60.00	0.00
45	59.00	-59.00	6.00	60.00	60.00	0.00
46	60.00	-60.00	6.00	60.00	60.00	0.00
47	61.00	-61.00	6.00	60.00	60.00	0.00
48	62.00	-62.00	6.00	60.00	60.00	0.00
49	63.00	-63.00	6.00	60.00	60.00	0.00
50	64.00	-64.00	6.00	60.00	60.00	0.00
51	65.00	-65.00	6.00	60.00	60.00	0.00
52	66.00	-66.00	6.00	60.00	60.00	0.00
53	67.00	-67.00	6.00	60.00	60.00	0.00
54	68.00	-68.00	6.00	60.00	60.00	0.00
55	69.00	-69.00	6.00	60.00	60.00	0.00
56	70.00	-70.00	6.00	60.00	60.00	0.00
57	71.00	-71.00	6.00	60.00	60.00	0.00
58	72.00	-72.00	6.00	60.00	60.00	0.00
59	73.00	-73.00	6.00	60.00	60.00	0.00
60	74.00	-74.00	6.00	60.00	60.00	0.00
61	75.00	-75.00	6.00	60.00	60.00	0.00
62	76.00	-76.00	6.00	60.00	60.00	0.00
63	77.00	-77.00	6.00	60.00	60.00	0.00
64	78.00	-78.00	6.00	60.00	60.00	0.00
65	79.00	-79.00	6.00	60.00	60.00	0.00
66	80.00	-80.00	6.00	60.00	60.00	0.00
67	81.00	-81.00	6.00	60.00	60.00	0.00
68	82.00	-82.00	6.00	60.00	60.00	0.00
69	83.00	-83.00	6.00	60.00	60.00	0.00
70	84.00	-84.00	6.00	60.00	60.00	0.00
71	85.00	-85.00	6.00	60.00	60.00	0.00
72	86.00	-86.00	6.00	60.00	60.00	0.00

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73	87.00	-87.00	6.00	60.00	60.00	0.00
74	88.00	-88.00	6.00	60.00	60.00	0.00
75	89.00	-89.00	6.00	60.00	60.00	0.00
76	90.00	-90.00	6.00	60.00	60.00	0.00
77	91.00	-91.00	6.00	60.00	60.00	0.00
78	92.00	-92.00	6.00	60.00	60.00	0.00
79	93.00	-93.00	6.00	60.00	60.00	0.00
80	94.00	-94.00	6.00	60.00	60.00	0.00
81	95.00	-95.00	6.00	60.00	60.00	0.00

Drilled Shaft Capacity (sorted by shaft diameter):

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Strength reduction factors: Skin-friction = 1.00, End-bearing = 1.00

ID	Diameter (in)	Length (ft)	Skin Fric. (tons)	End Bearing (tons)	Capacity (tons)
1	60.00	15.00	6.655	153.459	160.115
2	60.00	16.00	8.916	151.235	160.152
3	60.00	17.00	10.941	147.461	158.402
4	60.00	18.00	13.164	300.436	313.600
5	60.00	19.00	16.807	272.675	289.482
6	60.00	20.00	20.730	247.131	267.861
7	60.00	21.00	24.932	223.862	248.795
8	60.00	22.00	29.481	209.772	239.253
9	60.00	23.00	34.381	211.477	245.858
10	60.00	24.00	39.629	221.268	260.896
11	60.00	25.00	45.235	231.439	276.674
12	60.00	26.00	49.408	240.620	290.028
13	60.00	27.00	51.938	240.597	292.534
14	60.00	28.00	54.537	229.999	284.536
15	60.00	29.00	56.600	213.262	269.862
16	60.00	30.00	58.737	194.821	253.558
17	60.00	31.00	60.947	176.525	237.472
18	60.00	32.00	63.232	169.469	232.701
19	60.00	33.00	65.590	175.504	241.094
20	60.00	34.00	72.609	189.138	261.747
21	60.00	35.00	79.781	204.883	284.664
22	60.00	36.00	87.108	223.001	310.109
23	60.00	37.00	94.641	245.073	339.715
24	60.00	38.00	102.387	271.363	373.751
25	60.00	39.00	110.316	297.692	408.008
26	60.00	40.00	118.412	319.883	438.294
27	60.00	41.00	126.662	337.670	464.332
28	60.00	42.00	135.039	349.472	484.510
29	60.00	43.00	143.535	355.025	498.560
30	60.00	44.00	152.140	358.345	510.485
31	60.00	45.00	160.850	363.452	524.301
32	60.00	46.00	169.657	370.601	540.258
33	60.00	47.00	178.554	381.333	559.887
34	60.00	48.00	187.538	395.906	583.444
35	60.00	49.00	196.640	410.291	606.930
36	60.00	50.00	205.901	420.458	626.359
37	60.00	51.00	215.310	426.833	642.143
38	60.00	52.00	224.856	431.971	656.827
39	60.00	53.00	234.535	436.297	670.832
40	60.00	54.00	244.310	439.433	683.743
41	60.00	55.00	254.158	441.001	695.160
42	60.00	56.00	264.072	441.197	705.270
43	60.00	57.00	274.043	441.197	715.240
44	60.00	58.00	284.066	441.197	725.264
45	60.00	59.00	294.148	440.657	734.805

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46	60.00	60.00	304.304	439.035	743.339
47	60.00	61.00	314.517	436.406	750.923
48	60.00	62.00	324.739	433.216	757.955
49	60.00	63.00	334.960	429.539	764.499
50	60.00	64.00	345.160	422.468	767.628
51	60.00	65.00	355.331	409.095	764.427
52	60.00	66.00	365.470	390.810	756.280
53	60.00	67.00	375.594	375.948	751.542
54	60.00	68.00	385.703	365.897	751.600
55	60.00	69.00	395.785	362.148	757.933
56	60.00	70.00	405.839	366.191	772.030
57	60.00	71.00	415.859	376.418	792.277
58	60.00	72.00	425.847	383.196	809.043
59	60.00	73.00	435.802	384.919	820.721
60	60.00	74.00	445.711	382.963	828.674
61	60.00	75.00	455.573	378.706	834.280
62	60.00	76.00	464.245	372.416	836.661
63	60.00	77.00	471.834	365.698	837.533
64	60.00	78.00	479.518	358.821	838.338
65	60.00	79.00	487.332	351.255	838.587
66	60.00	80.00	495.164	342.471	837.636
67	60.00	81.00	503.721	334.320	838.041
68	60.00	82.00	512.819	337.896	850.715
69	60.00	83.00	521.813	355.049	876.862
70	60.00	84.00	530.692	379.124	909.816
71	60.00	85.00	539.453	403.466	942.920
72	60.00	86.00	548.096	427.055	975.151
73	60.00	87.00	556.817	443.765	1000.582
74	60.00	88.00	565.680	452.578	1018.258
75	60.00	89.00	574.676	456.101	1030.777
76	60.00	90.00	583.795	456.947	1040.742
77	60.00	91.00	Soil Elevations Must Extend At or Below Contribution		
Zone					
78	60.00	92.00	Soil Elevations Must Extend At or Below Contribution		
Zone					
79	60.00	93.00	Soil Elevations Must Extend At or Below Contribution		
Zone					
80	60.00	94.00	Soil Elevations Must Extend At or Below Contribution		
Zone					
81	60.00	95.00	Soil Elevations Must Extend At or Below Contribution		
Zone					

Drilled Shaft Capacity at User-Defined Settlement (sorted by shaft diameter):

***** Capacity is NOT modified by the strength reduction factors *****

User-Defined Settlement = 0.83%

ID	Diameter (in)	Length (ft)	Skin Fric. (tons)	End Bearing (tons)	Capacity (tons)
1	60.00	15.00	6.485	40.067	46.553
2	60.00	16.00	8.689	39.486	48.175
3	60.00	17.00	10.662	38.501	49.163
4	60.00	18.00	12.828	78.442	91.270
5	60.00	19.00	16.379	71.193	87.572
6	60.00	20.00	20.201	64.524	84.725
7	60.00	21.00	24.297	58.449	82.745
8	60.00	22.00	28.729	54.770	83.499
9	60.00	23.00	33.505	55.215	88.720
10	60.00	24.00	38.618	57.771	96.390

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11	60.00	25.00	44.082	60.427	104.509
12	60.00	26.00	48.148	62.824	110.972
13	60.00	27.00	50.614	62.818	113.432
14	60.00	28.00	53.147	60.051	113.198
15	60.00	29.00	55.157	55.681	110.838
16	60.00	30.00	57.239	50.866	108.106
17	60.00	31.00	59.394	46.089	105.483
18	60.00	32.00	61.620	44.247	105.867
19	60.00	33.00	63.918	45.823	109.740
20	60.00	34.00	70.758	49.383	120.140
21	60.00	35.00	77.747	53.493	131.240
22	60.00	36.00	84.887	58.224	143.111
23	60.00	37.00	92.229	63.987	156.215
24	60.00	38.00	99.777	70.851	170.628
25	60.00	39.00	107.504	77.725	185.229
26	60.00	40.00	115.393	83.519	198.912
27	60.00	41.00	123.433	88.163	211.596
28	60.00	42.00	131.596	91.244	222.840
29	60.00	43.00	139.876	92.694	232.570
30	60.00	44.00	148.261	93.561	241.822
31	60.00	45.00	156.749	94.894	251.643
32	60.00	46.00	165.332	96.761	262.093
33	60.00	47.00	174.002	99.563	273.565
34	60.00	48.00	182.757	103.368	286.125
35	60.00	49.00	191.627	107.124	298.750
36	60.00	50.00	200.652	109.778	310.430
37	60.00	51.00	209.821	111.443	321.264
38	60.00	52.00	219.124	112.784	331.908
39	60.00	53.00	228.556	113.914	342.469
40	60.00	54.00	238.081	114.733	352.814
41	60.00	55.00	247.679	115.142	362.821
42	60.00	56.00	257.340	115.193	372.533
43	60.00	57.00	267.056	115.193	382.249
44	60.00	58.00	276.824	115.193	392.017
45	60.00	59.00	286.649	115.052	401.701
46	60.00	60.00	296.546	114.629	411.175
47	60.00	61.00	306.499	113.942	420.441
48	60.00	62.00	316.460	113.109	429.569
49	60.00	63.00	326.420	112.149	438.570
50	60.00	64.00	336.361	110.303	446.664
51	60.00	65.00	346.273	106.812	453.084
52	60.00	66.00	356.153	102.037	458.191
53	60.00	67.00	366.018	98.157	464.176
54	60.00	68.00	375.870	95.533	471.403
55	60.00	69.00	385.695	94.554	480.249
56	60.00	70.00	395.493	95.609	491.102
57	60.00	71.00	405.257	98.280	503.537
58	60.00	72.00	414.990	100.049	515.040
59	60.00	73.00	424.692	100.499	525.191
60	60.00	74.00	434.349	99.989	534.337
61	60.00	75.00	443.959	98.877	542.836
62	60.00	76.00	452.410	97.235	549.644
63	60.00	77.00	459.806	95.481	555.287
64	60.00	78.00	467.293	93.685	560.978
65	60.00	79.00	474.908	91.710	566.618
66	60.00	80.00	482.541	89.417	571.957
67	60.00	81.00	490.880	87.288	578.168
68	60.00	82.00	499.746	88.222	587.968
69	60.00	83.00	508.510	92.701	601.211
70	60.00	84.00	517.162	98.986	616.149
71	60.00	85.00	525.701	105.342	631.043
72	60.00	86.00	534.123	111.501	645.624
73	60.00	87.00	542.622	115.864	658.485

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	74	60.00	88.00	551.259	118.164	669.423
	75	60.00	89.00	560.026	119.084	679.110
	76	60.00	90.00	568.912	119.305	688.217
	77	60.00	91.00	Soil Elevations Must Extend At or Below Contribution		
Zone	78	60.00	92.00	Soil Elevations Must Extend At or Below Contribution		
Zone	79	60.00	93.00	Soil Elevations Must Extend At or Below Contribution		
Zone	80	60.00	94.00	Soil Elevations Must Extend At or Below Contribution		
Zone	81	60.00	95.00	Soil Elevations Must Extend At or Below Contribution		
Zone						

General Information:

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Input file:analysis_Structure\FB-Deep_2021\Drilled Shaft\B-202Shaft48in.in
 Project number: 2000-01-16015
 Job name: I-95 From Hallandale Beach Blvd to Hollywood Blvd
 Engineer: JB Henry
 Units: English

Analysis Information:

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Analysis Type: Drilled Shaft Analysis

Soil Information:

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Boring date: 8/20/2018
 Boring number: B-202
 Station number: Offset:

Ground Elevation: 0.00(ft)
 Water table Elevation = 0.00(ft)

Hammer type: Automatic Hammer, Correction factor = 1.24

ID	Depth (ft)	Elevation (ft)	SPT Blows (Blows/ft)	Unit Weight (pcf)	Soil Type
1	0.00	0.00	N/A	0.00	5- Cavity layer
2	2.00	-2.00	N/A	0.00	5- Cavity layer
3	4.00	-4.00	N/A	0.00	5- Cavity layer
4	6.00	-6.00	N/A	0.00	5- Cavity layer
5	8.00	-8.00	N/A	0.00	5- Cavity layer
6	10.00	-10.00	20.00	115.00	3- Clean sand
7	12.00	-12.00	19.00	115.00	3- Clean sand
8	13.50	-13.50	17.00	115.00	3- Clean sand
9	15.50	-15.50	11.00	110.00	3- Clean sand
10	18.00	-18.00	3.00	100.00	3- Clean sand
11	20.50	-20.50	2.00	100.00	3- Clean sand
12	23.00	-23.00	22.00	115.00	3- Clean sand
13	25.50	-25.50	21.00	115.00	3- Clean sand
14	28.00	-28.00	19.00	115.00	3- Clean sand
15	30.50	-30.50	38.00	125.00	3- Clean sand
16	33.00	-33.00	50.00	125.00	3- Clean sand
17	35.50	-35.50	60.00	130.00	3- Clean sand
18	38.00	-38.00	60.00	130.00	3- Clean sand
19	40.50	-40.50	45.00	125.00	3- Clean sand
20	43.00	-43.00	12.00	110.00	3- Clean sand
21	45.50	-45.50	11.00	110.00	3- Clean sand
22	48.00	-48.00	34.00	125.00	3- Clean sand
23	50.50	-50.50	42.00	125.00	3- Clean sand
24	53.00	-53.00	34.00	125.00	3- Clean sand
25	55.50	-55.50	78.00	135.00	3- Clean sand
26	58.00	-58.00	66.00	130.00	3- Clean sand
27	60.50	-60.50	60.00	130.00	3- Clean sand
28	63.00	-63.00	32.00	125.00	3- Clean sand
29	65.50	-65.50	60.00	130.00	3- Clean sand
30	68.00	-68.00	52.00	130.00	3- Clean sand

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31	70.50	-70.50	48.00	125.00	3- Clean sand
32	73.00	-73.00	35.00	125.00	3- Clean sand
33	75.50	-75.50	51.00	130.00	3- Clean sand
34	78.00	-78.00	60.00	130.00	3- Clean sand
35	80.50	-80.50	31.00	120.00	3- Clean sand
36	83.00	-83.00	19.00	115.00	3- Clean sand
37	85.50	-85.50	15.00	110.00	3- Clean sand
38	88.00	-88.00	57.00	130.00	3- Clean sand
39	90.50	-90.50	27.00	120.00	3- Clean sand
40	93.00	-93.00	45.00	125.00	3- Clean sand
41	95.50	-95.50	60.00	130.00	3- Clean sand
42	98.00	-98.00	60.00	130.00	3- Clean sand
43	100.00	-100.00	60.00	130.00	3- Clean sand

ID	Cu-DIR (tsf)	qu (tsf)	qt (tsf)	Em (ksi)	qb (tsf)
1	N/A	N/A	N/A	N/A	N/A
2	N/A	N/A	N/A	N/A	N/A
3	N/A	N/A	N/A	N/A	N/A
4	N/A	N/A	N/A	N/A	N/A
5	N/A	N/A	N/A	N/A	N/A
6	N/A	N/A	N/A	N/A	N/A
7	N/A	N/A	N/A	N/A	N/A
8	N/A	N/A	N/A	N/A	N/A
9	N/A	N/A	N/A	N/A	N/A
10	N/A	N/A	N/A	N/A	N/A
11	N/A	N/A	N/A	N/A	N/A
12	N/A	N/A	N/A	N/A	N/A
13	N/A	N/A	N/A	N/A	N/A
14	N/A	N/A	N/A	N/A	N/A
15	N/A	N/A	N/A	N/A	N/A
16	N/A	N/A	N/A	N/A	N/A
17	N/A	N/A	N/A	N/A	N/A
18	N/A	N/A	N/A	N/A	N/A
19	N/A	N/A	N/A	N/A	N/A
20	N/A	N/A	N/A	N/A	N/A
21	N/A	N/A	N/A	N/A	N/A
22	N/A	N/A	N/A	N/A	N/A
23	N/A	N/A	N/A	N/A	N/A
24	N/A	N/A	N/A	N/A	N/A
25	N/A	N/A	N/A	N/A	N/A
26	N/A	N/A	N/A	N/A	N/A
27	N/A	N/A	N/A	N/A	N/A
28	N/A	N/A	N/A	N/A	N/A
29	N/A	N/A	N/A	N/A	N/A
30	N/A	N/A	N/A	N/A	N/A
31	N/A	N/A	N/A	N/A	N/A
32	N/A	N/A	N/A	N/A	N/A
33	N/A	N/A	N/A	N/A	N/A
34	N/A	N/A	N/A	N/A	N/A
35	N/A	N/A	N/A	N/A	N/A
36	N/A	N/A	N/A	N/A	N/A
37	N/A	N/A	N/A	N/A	N/A
38	N/A	N/A	N/A	N/A	N/A
39	N/A	N/A	N/A	N/A	N/A
40	N/A	N/A	N/A	N/A	N/A
41	N/A	N/A	N/A	N/A	N/A
42	N/A	N/A	N/A	N/A	N/A
43	N/A	N/A	N/A	N/A	N/A

ID RQD F.M. S.R.I. Rock Recovery

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1	N/A	N/A	N/A
2	N/A	N/A	N/A
3	N/A	N/A	N/A
4	N/A	N/A	N/A
5	N/A	N/A	N/A
6	N/A	N/A	N/A
7	N/A	N/A	N/A
8	N/A	N/A	N/A
9	N/A	N/A	N/A
10	N/A	N/A	N/A
11	N/A	N/A	N/A
12	N/A	N/A	N/A
13	N/A	N/A	N/A
14	N/A	N/A	N/A
15	N/A	N/A	N/A
16	N/A	N/A	N/A
17	N/A	N/A	N/A
18	N/A	N/A	N/A
19	N/A	N/A	N/A
20	N/A	N/A	N/A
21	N/A	N/A	N/A
22	N/A	N/A	N/A
23	N/A	N/A	N/A
24	N/A	N/A	N/A
25	N/A	N/A	N/A
26	N/A	N/A	N/A
27	N/A	N/A	N/A
28	N/A	N/A	N/A
29	N/A	N/A	N/A
30	N/A	N/A	N/A
31	N/A	N/A	N/A
32	N/A	N/A	N/A
33	N/A	N/A	N/A
34	N/A	N/A	N/A
35	N/A	N/A	N/A
36	N/A	N/A	N/A
37	N/A	N/A	N/A
38	N/A	N/A	N/A
39	N/A	N/A	N/A
40	N/A	N/A	N/A
41	N/A	N/A	N/A
42	N/A	N/A	N/A
43	N/A	N/A	N/A

Drilled Shaft Data:

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Shaft Geometry:

ID	Length (ft)	Tip Elev. (ft)	Case Len. (ft)	Diameter (in)	Base Diam. (in)	Bell Len. (ft)
1	15.00	-15.00	6.00	48.00	48.00	0.00
2	16.00	-16.00	6.00	48.00	48.00	0.00
3	17.00	-17.00	6.00	48.00	48.00	0.00
4	18.00	-18.00	6.00	48.00	48.00	0.00
5	19.00	-19.00	6.00	48.00	48.00	0.00
6	20.00	-20.00	6.00	48.00	48.00	0.00
7	21.00	-21.00	6.00	48.00	48.00	0.00
8	22.00	-22.00	6.00	48.00	48.00	0.00
9	23.00	-23.00	6.00	48.00	48.00	0.00

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10	24.00	-24.00	6.00	48.00	48.00	0.00
11	25.00	-25.00	6.00	48.00	48.00	0.00
12	26.00	-26.00	6.00	48.00	48.00	0.00
13	27.00	-27.00	6.00	48.00	48.00	0.00
14	28.00	-28.00	6.00	48.00	48.00	0.00
15	29.00	-29.00	6.00	48.00	48.00	0.00
16	30.00	-30.00	6.00	48.00	48.00	0.00
17	31.00	-31.00	6.00	48.00	48.00	0.00
18	32.00	-32.00	6.00	48.00	48.00	0.00
19	33.00	-33.00	6.00	48.00	48.00	0.00
20	34.00	-34.00	6.00	48.00	48.00	0.00
21	35.00	-35.00	6.00	48.00	48.00	0.00
22	36.00	-36.00	6.00	48.00	48.00	0.00
23	37.00	-37.00	6.00	48.00	48.00	0.00
24	38.00	-38.00	6.00	48.00	48.00	0.00
25	39.00	-39.00	6.00	48.00	48.00	0.00
26	40.00	-40.00	6.00	48.00	48.00	0.00
27	41.00	-41.00	6.00	48.00	48.00	0.00
28	42.00	-42.00	6.00	48.00	48.00	0.00
29	43.00	-43.00	6.00	48.00	48.00	0.00
30	44.00	-44.00	6.00	48.00	48.00	0.00
31	45.00	-45.00	6.00	48.00	48.00	0.00
32	46.00	-46.00	6.00	48.00	48.00	0.00
33	47.00	-47.00	6.00	48.00	48.00	0.00
34	48.00	-48.00	6.00	48.00	48.00	0.00
35	49.00	-49.00	6.00	48.00	48.00	0.00
36	50.00	-50.00	6.00	48.00	48.00	0.00
37	51.00	-51.00	6.00	48.00	48.00	0.00
38	52.00	-52.00	6.00	48.00	48.00	0.00
39	53.00	-53.00	6.00	48.00	48.00	0.00
40	54.00	-54.00	6.00	48.00	48.00	0.00
41	55.00	-55.00	6.00	48.00	48.00	0.00
42	56.00	-56.00	6.00	48.00	48.00	0.00
43	57.00	-57.00	6.00	48.00	48.00	0.00
44	58.00	-58.00	6.00	48.00	48.00	0.00
45	59.00	-59.00	6.00	48.00	48.00	0.00
46	60.00	-60.00	6.00	48.00	48.00	0.00
47	61.00	-61.00	6.00	48.00	48.00	0.00
48	62.00	-62.00	6.00	48.00	48.00	0.00
49	63.00	-63.00	6.00	48.00	48.00	0.00
50	64.00	-64.00	6.00	48.00	48.00	0.00
51	65.00	-65.00	6.00	48.00	48.00	0.00
52	66.00	-66.00	6.00	48.00	48.00	0.00
53	67.00	-67.00	6.00	48.00	48.00	0.00
54	68.00	-68.00	6.00	48.00	48.00	0.00
55	69.00	-69.00	6.00	48.00	48.00	0.00
56	70.00	-70.00	6.00	48.00	48.00	0.00
57	71.00	-71.00	6.00	48.00	48.00	0.00
58	72.00	-72.00	6.00	48.00	48.00	0.00
59	73.00	-73.00	6.00	48.00	48.00	0.00
60	74.00	-74.00	6.00	48.00	48.00	0.00
61	75.00	-75.00	6.00	48.00	48.00	0.00
62	76.00	-76.00	6.00	48.00	48.00	0.00
63	77.00	-77.00	6.00	48.00	48.00	0.00
64	78.00	-78.00	6.00	48.00	48.00	0.00
65	79.00	-79.00	6.00	48.00	48.00	0.00
66	80.00	-80.00	6.00	48.00	48.00	0.00
67	81.00	-81.00	6.00	48.00	48.00	0.00
68	82.00	-82.00	6.00	48.00	48.00	0.00
69	83.00	-83.00	6.00	48.00	48.00	0.00
70	84.00	-84.00	6.00	48.00	48.00	0.00
71	85.00	-85.00	6.00	48.00	48.00	0.00
72	86.00	-86.00	6.00	48.00	48.00	0.00

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73	87.00	-87.00	6.00	48.00	48.00	0.00
74	88.00	-88.00	6.00	48.00	48.00	0.00
75	89.00	-89.00	6.00	48.00	48.00	0.00
76	90.00	-90.00	6.00	48.00	48.00	0.00
77	91.00	-91.00	6.00	48.00	48.00	0.00
78	92.00	-92.00	6.00	48.00	48.00	0.00
79	93.00	-93.00	6.00	48.00	48.00	0.00
80	94.00	-94.00	6.00	48.00	48.00	0.00
81	95.00	-95.00	6.00	48.00	48.00	0.00

Drilled Shaft Capacity (sorted by shaft diameter):

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Strength reduction factors: Skin-friction = 1.00, End-bearing = 1.00

ID	Diameter (in)	Length (ft)	Skin Fric. (tons)	End Bearing (tons)	Capacity (tons)
1	48.00	15.00	4.170	34.841	39.011
2	48.00	16.00	5.846	118.377	124.222
3	48.00	17.00	7.678	117.013	124.691
4	48.00	18.00	9.736	115.153	124.890
5	48.00	19.00	10.407	113.218	123.626
6	48.00	20.00	11.137	111.939	123.077
7	48.00	21.00	11.926	114.949	126.875
8	48.00	22.00	12.774	126.109	138.884
9	48.00	23.00	13.682	145.256	158.937
10	48.00	24.00	16.989	168.666	185.655
11	48.00	25.00	20.520	193.943	214.463
12	48.00	26.00	24.264	219.716	243.980
13	48.00	27.00	28.212	244.836	273.048
14	48.00	28.00	32.361	264.385	296.747
15	48.00	29.00	36.698	278.364	315.062
16	48.00	30.00	41.219	290.863	332.082
17	48.00	31.00	45.924	304.991	350.915
18	48.00	32.00	50.838	319.813	370.651
19	48.00	33.00	55.963	334.573	390.536
20	48.00	34.00	61.285	344.254	405.539
21	48.00	35.00	66.801	344.666	411.467
22	48.00	36.00	72.505	335.730	408.235
23	48.00	37.00	78.403	321.289	399.691
24	48.00	38.00	84.494	305.941	390.436
25	48.00	39.00	90.764	294.545	385.309
26	48.00	40.00	97.210	288.163	385.373
27	48.00	41.00	103.821	284.931	388.752
28	48.00	42.00	110.572	281.247	391.818
29	48.00	43.00	117.457	276.464	393.921
30	48.00	44.00	124.381	269.431	393.811
31	48.00	45.00	131.368	260.841	392.209
32	48.00	46.00	138.118	252.408	390.526
33	48.00	47.00	144.623	248.114	392.738
34	48.00	48.00	151.175	254.629	405.803
35	48.00	49.00	158.448	271.297	429.744
36	48.00	50.00	165.813	293.026	458.840
37	48.00	51.00	173.264	315.437	488.701
38	48.00	52.00	180.792	336.855	517.647
39	48.00	53.00	188.395	351.305	539.700
40	48.00	54.00	196.062	356.884	552.946
41	48.00	55.00	203.791	356.442	560.232
42	48.00	56.00	211.578	354.460	566.038
43	48.00	57.00	219.440	353.008	572.448
44	48.00	58.00	227.377	354.735	582.112
45	48.00	59.00	235.369	358.676	594.045

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46	48.00	60.00	243.407	362.616	606.024
47	48.00	61.00	251.484	364.506	615.990
48	48.00	62.00	259.592	364.104	623.696
49	48.00	63.00	267.729	362.651	630.380
50	48.00	64.00	275.876	360.110	635.986
51	48.00	65.00	284.026	356.974	641.000
52	48.00	66.00	292.174	354.405	646.579
53	48.00	67.00	300.323	353.485	653.808
54	48.00	68.00	308.472	355.923	664.395
55	48.00	69.00	316.610	361.110	677.720
56	48.00	70.00	324.736	366.298	691.033
57	48.00	71.00	332.841	367.750	700.591
58	48.00	72.00	340.910	364.391	705.301
59	48.00	73.00	348.940	358.036	706.976
60	48.00	74.00	356.921	348.954	705.876
61	48.00	75.00	364.853	337.482	702.335
62	48.00	76.00	372.730	324.504	697.233
63	48.00	77.00	380.554	310.849	691.403
64	48.00	78.00	388.323	298.568	686.891
65	48.00	79.00	396.029	292.644	688.673
66	48.00	80.00	403.670	291.912	695.582
67	48.00	81.00	411.236	290.172	701.408
68	48.00	82.00	418.709	282.958	701.667
69	48.00	83.00	426.084	272.266	698.350
70	48.00	84.00	433.350	263.286	696.636
71	48.00	85.00	440.502	258.561	699.063
72	48.00	86.00	447.535	258.272	705.808
73	48.00	87.00	454.594	262.681	717.275
74	48.00	88.00	461.728	272.697	734.425
75	48.00	89.00	468.952	286.921	755.873
76	48.00	90.00	476.283	302.600	778.883
77	48.00	91.00	483.718	318.747	802.465
78	48.00	92.00	491.245	335.777	827.022
79	48.00	93.00	Soil Elevations Must Extend At or Below Contribution		
Zone					
80	48.00	94.00	Soil Elevations Must Extend At or Below Contribution		
Zone					
81	48.00	95.00	Soil Elevations Must Extend At or Below Contribution		
Zone					

Drilled Shaft Capacity at User-Defined Settlement (sorted by shaft diameter):

***** Capacity is NOT modified by the strength reduction factors *****

User-Defined Settlement = 1.04%

ID	Diameter (in)	Length (ft)	Skin Fric. (tons)	End Bearing (tons)	Capacity (tons)
1	48.00	15.00	4.079	11.067	15.145
2	48.00	16.00	5.718	37.601	43.318
3	48.00	17.00	7.510	37.167	44.678
4	48.00	18.00	9.523	36.577	46.100
5	48.00	19.00	10.180	35.962	46.142
6	48.00	20.00	10.894	35.556	46.449
7	48.00	21.00	11.665	36.512	48.177
8	48.00	22.00	12.495	40.057	52.552
9	48.00	23.00	13.382	46.138	59.520
10	48.00	24.00	16.617	53.574	70.192
11	48.00	25.00	20.071	61.603	81.674
12	48.00	26.00	23.733	69.789	93.522

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13	48.00	27.00	27.595	77.768	105.363
14	48.00	28.00	31.653	83.978	115.631
15	48.00	29.00	35.894	88.418	124.313
16	48.00	30.00	40.317	92.388	132.705
17	48.00	31.00	44.919	96.876	141.794
18	48.00	32.00	49.725	101.584	151.309
19	48.00	33.00	54.738	106.272	161.010
20	48.00	34.00	59.943	109.347	169.290
21	48.00	35.00	65.339	109.478	174.817
22	48.00	36.00	70.918	106.639	177.557
23	48.00	37.00	76.687	102.052	178.739
24	48.00	38.00	82.645	97.178	179.822
25	48.00	39.00	88.777	93.558	182.335
26	48.00	40.00	95.083	91.530	186.613
27	48.00	41.00	101.549	90.504	192.052
28	48.00	42.00	108.152	89.334	197.485
29	48.00	43.00	114.887	87.814	202.701
30	48.00	44.00	121.658	85.580	207.239
31	48.00	45.00	128.492	82.852	211.345
32	48.00	46.00	135.095	80.174	215.269
33	48.00	47.00	141.458	78.810	220.268
34	48.00	48.00	147.866	80.879	228.745
35	48.00	49.00	154.979	86.173	241.153
36	48.00	50.00	162.184	93.075	255.259
37	48.00	51.00	169.471	100.194	269.665
38	48.00	52.00	176.835	106.997	283.832
39	48.00	53.00	184.271	111.587	295.858
40	48.00	54.00	191.770	113.359	305.129
41	48.00	55.00	199.330	113.218	312.548
42	48.00	56.00	206.947	112.589	319.536
43	48.00	57.00	214.637	112.127	326.764
44	48.00	58.00	222.400	112.676	335.076
45	48.00	59.00	230.217	113.928	344.145
46	48.00	60.00	238.080	115.179	353.259
47	48.00	61.00	245.980	115.780	361.759
48	48.00	62.00	253.910	115.652	369.562
49	48.00	63.00	261.868	115.191	377.059
50	48.00	64.00	269.838	114.383	384.221
51	48.00	65.00	277.809	113.387	391.197
52	48.00	66.00	285.779	112.571	398.350
53	48.00	67.00	293.750	112.279	406.029
54	48.00	68.00	301.720	113.053	414.773
55	48.00	69.00	309.680	114.701	424.381
56	48.00	70.00	317.628	116.349	433.977
57	48.00	71.00	325.556	116.810	442.366
58	48.00	72.00	333.448	115.743	449.191
59	48.00	73.00	341.302	113.725	455.027
60	48.00	74.00	349.109	110.840	459.949
61	48.00	75.00	356.867	107.196	464.063
62	48.00	76.00	364.572	103.074	467.645
63	48.00	77.00	372.224	98.736	470.961
64	48.00	78.00	379.824	94.835	474.659
65	48.00	79.00	387.361	92.954	480.315
66	48.00	80.00	394.834	92.721	487.555
67	48.00	81.00	402.235	92.169	494.403
68	48.00	82.00	409.544	89.877	499.421
69	48.00	83.00	416.758	86.481	503.239
70	48.00	84.00	423.865	83.629	507.494
71	48.00	85.00	430.860	82.128	512.988
72	48.00	86.00	437.740	82.036	519.776
73	48.00	87.00	444.644	83.436	528.081
74	48.00	88.00	451.622	86.618	538.240
75	48.00	89.00	458.688	91.136	549.824

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	76	48.00	90.00	465.858	96.116	561.974
	77	48.00	91.00	473.130	101.245	574.375
	78	48.00	92.00	480.492	106.654	587.147
	79	48.00	93.00	Soil Elevations Must Extend At or Below Contribution		
Zone	80	48.00	94.00	Soil Elevations Must Extend At or Below Contribution		
Zone	81	48.00	95.00	Soil Elevations Must Extend At or Below Contribution		
Zone						

General Information:

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Input file:analysis_Structure\FB-Deep_2021\Drilled Shaft\B-202Shaft60in.in
 Project number: 2000-01-16015
 Job name: I-95 From Hallandale Beach Blvd to Hollywood Blvd
 Engineer: JB Henry
 Units: English

Analysis Information:

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Analysis Type: Drilled Shaft Analysis

Soil Information:

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Boring date: 8/20/2018
 Boring number: B-202
 Station number: Offset:

Ground Elevation: 0.00(ft)
 Water table Elevation = 0.00(ft)

Hammer type: Automatic Hammer, Correction factor = 1.24

ID	Depth (ft)	Elevation (ft)	SPT Blows (Blows/ft)	Unit Weight (pcf)	Soil Type

1	0.00	0.00	N/A	0.00	5- Cavity layer
2	2.00	-2.00	N/A	0.00	5- Cavity layer
3	4.00	-4.00	N/A	0.00	5- Cavity layer
4	6.00	-6.00	N/A	0.00	5- Cavity layer
5	8.00	-8.00	N/A	0.00	5- Cavity layer
6	10.00	-10.00	20.00	115.00	3- Clean sand
7	12.00	-12.00	19.00	115.00	3- Clean sand
8	13.50	-13.50	17.00	115.00	3- Clean sand
9	15.50	-15.50	11.00	110.00	3- Clean sand
10	18.00	-18.00	3.00	100.00	3- Clean sand
11	20.50	-20.50	2.00	100.00	3- Clean sand
12	23.00	-23.00	22.00	115.00	3- Clean sand
13	25.50	-25.50	21.00	115.00	3- Clean sand
14	28.00	-28.00	19.00	115.00	3- Clean sand
15	30.50	-30.50	38.00	125.00	3- Clean sand
16	33.00	-33.00	50.00	125.00	3- Clean sand
17	35.50	-35.50	60.00	130.00	3- Clean sand
18	38.00	-38.00	60.00	130.00	3- Clean sand
19	40.50	-40.50	45.00	125.00	3- Clean sand
20	43.00	-43.00	12.00	110.00	3- Clean sand
21	45.50	-45.50	11.00	110.00	3- Clean sand
22	48.00	-48.00	34.00	125.00	3- Clean sand
23	50.50	-50.50	42.00	125.00	3- Clean sand
24	53.00	-53.00	34.00	125.00	3- Clean sand
25	55.50	-55.50	78.00	135.00	3- Clean sand
26	58.00	-58.00	66.00	130.00	3- Clean sand
27	60.50	-60.50	60.00	130.00	3- Clean sand
28	63.00	-63.00	32.00	125.00	3- Clean sand
29	65.50	-65.50	60.00	130.00	3- Clean sand
30	68.00	-68.00	52.00	130.00	3- Clean sand

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31	70.50	-70.50	48.00	125.00	3- Clean sand
32	73.00	-73.00	35.00	125.00	3- Clean sand
33	75.50	-75.50	51.00	130.00	3- Clean sand
34	78.00	-78.00	60.00	130.00	3- Clean sand
35	80.50	-80.50	31.00	120.00	3- Clean sand
36	83.00	-83.00	19.00	115.00	3- Clean sand
37	85.50	-85.50	15.00	110.00	3- Clean sand
38	88.00	-88.00	57.00	130.00	3- Clean sand
39	90.50	-90.50	27.00	120.00	3- Clean sand
40	93.00	-93.00	45.00	125.00	3- Clean sand
41	95.50	-95.50	60.00	130.00	3- Clean sand
42	98.00	-98.00	60.00	130.00	3- Clean sand
43	100.00	-100.00	60.00	130.00	3- Clean sand

ID	Cu-DIR (tsf)	qu (tsf)	qt (tsf)	Em (ksi)	qb (tsf)
1	N/A	N/A	N/A	N/A	N/A
2	N/A	N/A	N/A	N/A	N/A
3	N/A	N/A	N/A	N/A	N/A
4	N/A	N/A	N/A	N/A	N/A
5	N/A	N/A	N/A	N/A	N/A
6	N/A	N/A	N/A	N/A	N/A
7	N/A	N/A	N/A	N/A	N/A
8	N/A	N/A	N/A	N/A	N/A
9	N/A	N/A	N/A	N/A	N/A
10	N/A	N/A	N/A	N/A	N/A
11	N/A	N/A	N/A	N/A	N/A
12	N/A	N/A	N/A	N/A	N/A
13	N/A	N/A	N/A	N/A	N/A
14	N/A	N/A	N/A	N/A	N/A
15	N/A	N/A	N/A	N/A	N/A
16	N/A	N/A	N/A	N/A	N/A
17	N/A	N/A	N/A	N/A	N/A
18	N/A	N/A	N/A	N/A	N/A
19	N/A	N/A	N/A	N/A	N/A
20	N/A	N/A	N/A	N/A	N/A
21	N/A	N/A	N/A	N/A	N/A
22	N/A	N/A	N/A	N/A	N/A
23	N/A	N/A	N/A	N/A	N/A
24	N/A	N/A	N/A	N/A	N/A
25	N/A	N/A	N/A	N/A	N/A
26	N/A	N/A	N/A	N/A	N/A
27	N/A	N/A	N/A	N/A	N/A
28	N/A	N/A	N/A	N/A	N/A
29	N/A	N/A	N/A	N/A	N/A
30	N/A	N/A	N/A	N/A	N/A
31	N/A	N/A	N/A	N/A	N/A
32	N/A	N/A	N/A	N/A	N/A
33	N/A	N/A	N/A	N/A	N/A
34	N/A	N/A	N/A	N/A	N/A
35	N/A	N/A	N/A	N/A	N/A
36	N/A	N/A	N/A	N/A	N/A
37	N/A	N/A	N/A	N/A	N/A
38	N/A	N/A	N/A	N/A	N/A
39	N/A	N/A	N/A	N/A	N/A
40	N/A	N/A	N/A	N/A	N/A
41	N/A	N/A	N/A	N/A	N/A
42	N/A	N/A	N/A	N/A	N/A
43	N/A	N/A	N/A	N/A	N/A

ID RQD F.M. S.R.I. Rock Recovery

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1	N/A	N/A	N/A
2	N/A	N/A	N/A
3	N/A	N/A	N/A
4	N/A	N/A	N/A
5	N/A	N/A	N/A
6	N/A	N/A	N/A
7	N/A	N/A	N/A
8	N/A	N/A	N/A
9	N/A	N/A	N/A
10	N/A	N/A	N/A
11	N/A	N/A	N/A
12	N/A	N/A	N/A
13	N/A	N/A	N/A
14	N/A	N/A	N/A
15	N/A	N/A	N/A
16	N/A	N/A	N/A
17	N/A	N/A	N/A
18	N/A	N/A	N/A
19	N/A	N/A	N/A
20	N/A	N/A	N/A
21	N/A	N/A	N/A
22	N/A	N/A	N/A
23	N/A	N/A	N/A
24	N/A	N/A	N/A
25	N/A	N/A	N/A
26	N/A	N/A	N/A
27	N/A	N/A	N/A
28	N/A	N/A	N/A
29	N/A	N/A	N/A
30	N/A	N/A	N/A
31	N/A	N/A	N/A
32	N/A	N/A	N/A
33	N/A	N/A	N/A
34	N/A	N/A	N/A
35	N/A	N/A	N/A
36	N/A	N/A	N/A
37	N/A	N/A	N/A
38	N/A	N/A	N/A
39	N/A	N/A	N/A
40	N/A	N/A	N/A
41	N/A	N/A	N/A
42	N/A	N/A	N/A
43	N/A	N/A	N/A

Drilled Shaft Data:

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Shaft Geometry:

ID	Length (ft)	Tip Elev. (ft)	Case Len. (ft)	Diameter (in)	Base Diam. (in)	Bell Len. (ft)
1	15.00	-15.00	6.00	60.00	60.00	0.00
2	16.00	-16.00	6.00	60.00	60.00	0.00
3	17.00	-17.00	6.00	60.00	60.00	0.00
4	18.00	-18.00	6.00	60.00	60.00	0.00
5	19.00	-19.00	6.00	60.00	60.00	0.00
6	20.00	-20.00	6.00	60.00	60.00	0.00
7	21.00	-21.00	6.00	60.00	60.00	0.00
8	22.00	-22.00	6.00	60.00	60.00	0.00
9	23.00	-23.00	6.00	60.00	60.00	0.00

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10	24.00	-24.00	6.00	60.00	60.00	0.00
11	25.00	-25.00	6.00	60.00	60.00	0.00
12	26.00	-26.00	6.00	60.00	60.00	0.00
13	27.00	-27.00	6.00	60.00	60.00	0.00
14	28.00	-28.00	6.00	60.00	60.00	0.00
15	29.00	-29.00	6.00	60.00	60.00	0.00
16	30.00	-30.00	6.00	60.00	60.00	0.00
17	31.00	-31.00	6.00	60.00	60.00	0.00
18	32.00	-32.00	6.00	60.00	60.00	0.00
19	33.00	-33.00	6.00	60.00	60.00	0.00
20	34.00	-34.00	6.00	60.00	60.00	0.00
21	35.00	-35.00	6.00	60.00	60.00	0.00
22	36.00	-36.00	6.00	60.00	60.00	0.00
23	37.00	-37.00	6.00	60.00	60.00	0.00
24	38.00	-38.00	6.00	60.00	60.00	0.00
25	39.00	-39.00	6.00	60.00	60.00	0.00
26	40.00	-40.00	6.00	60.00	60.00	0.00
27	41.00	-41.00	6.00	60.00	60.00	0.00
28	42.00	-42.00	6.00	60.00	60.00	0.00
29	43.00	-43.00	6.00	60.00	60.00	0.00
30	44.00	-44.00	6.00	60.00	60.00	0.00
31	45.00	-45.00	6.00	60.00	60.00	0.00
32	46.00	-46.00	6.00	60.00	60.00	0.00
33	47.00	-47.00	6.00	60.00	60.00	0.00
34	48.00	-48.00	6.00	60.00	60.00	0.00
35	49.00	-49.00	6.00	60.00	60.00	0.00
36	50.00	-50.00	6.00	60.00	60.00	0.00
37	51.00	-51.00	6.00	60.00	60.00	0.00
38	52.00	-52.00	6.00	60.00	60.00	0.00
39	53.00	-53.00	6.00	60.00	60.00	0.00
40	54.00	-54.00	6.00	60.00	60.00	0.00
41	55.00	-55.00	6.00	60.00	60.00	0.00
42	56.00	-56.00	6.00	60.00	60.00	0.00
43	57.00	-57.00	6.00	60.00	60.00	0.00
44	58.00	-58.00	6.00	60.00	60.00	0.00
45	59.00	-59.00	6.00	60.00	60.00	0.00
46	60.00	-60.00	6.00	60.00	60.00	0.00
47	61.00	-61.00	6.00	60.00	60.00	0.00
48	62.00	-62.00	6.00	60.00	60.00	0.00
49	63.00	-63.00	6.00	60.00	60.00	0.00
50	64.00	-64.00	6.00	60.00	60.00	0.00
51	65.00	-65.00	6.00	60.00	60.00	0.00
52	66.00	-66.00	6.00	60.00	60.00	0.00
53	67.00	-67.00	6.00	60.00	60.00	0.00
54	68.00	-68.00	6.00	60.00	60.00	0.00
55	69.00	-69.00	6.00	60.00	60.00	0.00
56	70.00	-70.00	6.00	60.00	60.00	0.00
57	71.00	-71.00	6.00	60.00	60.00	0.00
58	72.00	-72.00	6.00	60.00	60.00	0.00
59	73.00	-73.00	6.00	60.00	60.00	0.00
60	74.00	-74.00	6.00	60.00	60.00	0.00
61	75.00	-75.00	6.00	60.00	60.00	0.00
62	76.00	-76.00	6.00	60.00	60.00	0.00
63	77.00	-77.00	6.00	60.00	60.00	0.00
64	78.00	-78.00	6.00	60.00	60.00	0.00
65	79.00	-79.00	6.00	60.00	60.00	0.00
66	80.00	-80.00	6.00	60.00	60.00	0.00
67	81.00	-81.00	6.00	60.00	60.00	0.00
68	82.00	-82.00	6.00	60.00	60.00	0.00
69	83.00	-83.00	6.00	60.00	60.00	0.00
70	84.00	-84.00	6.00	60.00	60.00	0.00
71	85.00	-85.00	6.00	60.00	60.00	0.00
72	86.00	-86.00	6.00	60.00	60.00	0.00

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73	87.00	-87.00	6.00	60.00	60.00	0.00
74	88.00	-88.00	6.00	60.00	60.00	0.00
75	89.00	-89.00	6.00	60.00	60.00	0.00
76	90.00	-90.00	6.00	60.00	60.00	0.00
77	91.00	-91.00	6.00	60.00	60.00	0.00
78	92.00	-92.00	6.00	60.00	60.00	0.00
79	93.00	-93.00	6.00	60.00	60.00	0.00
80	94.00	-94.00	6.00	60.00	60.00	0.00
81	95.00	-95.00	6.00	60.00	60.00	0.00

Drilled Shaft Capacity (sorted by shaft diameter):

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Strength reduction factors: Skin-friction = 1.00, End-bearing = 1.00

ID	Diameter (in)	Length (ft)	Skin Fric. (tons)	End Bearing (tons)	Capacity (tons)
1	60.00	15.00	5.212	62.588	67.800
2	60.00	16.00	7.307	68.660	75.967
3	60.00	17.00	9.598	76.207	85.805
4	60.00	18.00	12.171	167.642	179.812
5	60.00	19.00	13.009	166.262	179.271
6	60.00	20.00	13.922	169.917	183.839
7	60.00	21.00	14.908	178.821	193.729
8	60.00	22.00	15.968	191.966	207.934
9	60.00	23.00	17.102	209.734	226.836
10	60.00	24.00	21.237	231.072	252.309
11	60.00	25.00	25.650	254.926	280.576
12	60.00	26.00	30.330	281.001	311.332
13	60.00	27.00	35.265	307.533	342.799
14	60.00	28.00	40.452	334.228	374.680
15	60.00	29.00	45.872	358.528	404.400
16	60.00	30.00	51.524	377.878	429.402
17	60.00	31.00	57.405	392.098	449.503
18	60.00	32.00	63.547	400.114	463.661
19	60.00	33.00	69.954	401.748	471.701
20	60.00	34.00	76.606	400.393	476.999
21	60.00	35.00	83.501	399.444	482.945
22	60.00	36.00	90.631	398.779	489.409
23	60.00	37.00	98.003	397.667	495.671
24	60.00	38.00	105.618	395.988	501.605
25	60.00	39.00	113.455	394.417	507.872
26	60.00	40.00	121.513	393.632	515.145
27	60.00	41.00	129.776	393.054	522.830
28	60.00	42.00	138.215	389.216	527.431
29	60.00	43.00	146.822	381.540	528.362
30	60.00	44.00	155.476	372.674	528.150
31	60.00	45.00	164.210	365.266	529.476
32	60.00	46.00	172.648	359.368	532.016
33	60.00	47.00	180.779	355.285	536.065
34	60.00	48.00	188.968	353.069	542.038
35	60.00	49.00	198.059	356.640	554.700
36	60.00	50.00	207.266	369.919	577.185
37	60.00	51.00	216.580	391.414	607.994
38	60.00	52.00	225.990	412.185	638.175
39	60.00	53.00	235.494	430.742	666.235
40	60.00	54.00	245.077	445.727	690.804
41	60.00	55.00	254.738	455.786	710.524
42	60.00	56.00	264.473	461.276	725.749
43	60.00	57.00	274.300	464.355	738.655
44	60.00	58.00	284.221	465.381	749.603
45	60.00	59.00	294.211	466.407	760.619

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46	60.00	60.00	304.259	469.486	773.745
47	60.00	61.00	314.355	473.858	788.213
48	60.00	62.00	324.490	474.965	799.455
49	60.00	63.00	334.661	472.049	806.709
50	60.00	64.00	344.845	468.106	812.951
51	60.00	65.00	355.033	466.135	821.167
52	60.00	66.00	365.218	465.888	831.106
53	60.00	67.00	375.404	465.888	841.292
54	60.00	68.00	385.590	465.888	851.478
55	60.00	69.00	395.762	466.104	861.867
56	60.00	70.00	405.920	466.752	872.672
57	60.00	71.00	416.051	467.021	883.072
58	60.00	72.00	426.138	462.046	888.183
59	60.00	73.00	436.175	451.015	887.190
60	60.00	74.00	446.152	436.685	882.837
61	60.00	75.00	456.066	421.814	877.880
62	60.00	76.00	465.912	407.239	873.151
63	60.00	77.00	475.692	397.991	873.683
64	60.00	78.00	485.404	394.908	880.312
65	60.00	79.00	495.037	393.772	888.808
66	60.00	80.00	504.587	390.363	894.950
67	60.00	81.00	514.045	385.034	899.079
68	60.00	82.00	523.386	379.895	903.281
69	60.00	83.00	532.605	375.298	907.903
70	60.00	84.00	541.688	370.809	912.497
71	60.00	85.00	550.627	365.996	916.623
72	60.00	86.00	559.419	361.534	920.953
73	60.00	87.00	568.243	361.478	929.721
74	60.00	88.00	577.160	366.503	943.663
75	60.00	89.00	586.191	375.476	961.666
76	60.00	90.00	595.354	387.263	982.617
77	60.00	91.00	Soil Elevations Must Extend At or Below Contribution		
Zone					
78	60.00	92.00	Soil Elevations Must Extend At or Below Contribution		
Zone					
79	60.00	93.00	Soil Elevations Must Extend At or Below Contribution		
Zone					
80	60.00	94.00	Soil Elevations Must Extend At or Below Contribution		
Zone					
81	60.00	95.00	Soil Elevations Must Extend At or Below Contribution		
Zone					

Drilled Shaft Capacity at User-Defined Settlement (sorted by shaft diameter):

***** Capacity is NOT modified by the strength reduction factors *****

User-Defined Settlement = 0.83%

ID	Diameter (in)	Length (ft)	Skin Fric. (tons)	End Bearing (tons)	Capacity (tons)
1	60.00	15.00	5.080	16.341	21.421
2	60.00	16.00	7.121	17.926	25.047
3	60.00	17.00	9.353	19.897	29.250
4	60.00	18.00	11.860	43.770	55.630
5	60.00	19.00	12.678	43.410	56.087
6	60.00	20.00	13.567	44.364	57.931
7	60.00	21.00	14.528	46.689	61.217
8	60.00	22.00	15.561	50.121	65.682
9	60.00	23.00	16.666	54.760	71.426
10	60.00	24.00	20.695	60.331	81.026

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11	60.00	25.00	24.996	66.559	91.555
12	60.00	26.00	29.557	73.367	102.924
13	60.00	27.00	34.366	80.295	114.661
14	60.00	28.00	39.420	87.264	126.685
15	60.00	29.00	44.703	93.609	138.312
16	60.00	30.00	50.211	98.661	148.872
17	60.00	31.00	55.941	102.374	158.315
18	60.00	32.00	61.927	104.467	166.394
19	60.00	33.00	68.171	104.893	173.064
20	60.00	34.00	74.653	104.539	179.193
21	60.00	35.00	81.372	104.292	185.664
22	60.00	36.00	88.320	104.118	192.438
23	60.00	37.00	95.505	103.828	199.333
24	60.00	38.00	102.925	103.389	206.314
25	60.00	39.00	110.563	102.979	213.542
26	60.00	40.00	118.415	102.774	221.189
27	60.00	41.00	126.468	102.623	229.091
28	60.00	42.00	134.691	101.621	236.312
29	60.00	43.00	143.079	99.617	242.696
30	60.00	44.00	151.512	97.302	248.815
31	60.00	45.00	160.023	95.368	255.392
32	60.00	46.00	168.246	93.828	262.075
33	60.00	47.00	176.171	92.762	268.933
34	60.00	48.00	184.151	92.184	276.334
35	60.00	49.00	193.010	93.116	286.126
36	60.00	50.00	201.982	96.583	298.565
37	60.00	51.00	211.058	102.195	313.254
38	60.00	52.00	220.229	107.618	327.847
39	60.00	53.00	229.490	112.463	341.953
40	60.00	54.00	238.829	116.376	355.205
41	60.00	55.00	248.244	119.002	367.246
42	60.00	56.00	257.730	120.436	378.166
43	60.00	57.00	267.307	121.239	388.547
44	60.00	58.00	276.976	121.507	398.483
45	60.00	59.00	286.711	121.775	408.486
46	60.00	60.00	296.502	122.579	419.082
47	60.00	61.00	306.341	123.721	430.062
48	60.00	62.00	316.218	124.010	440.227
49	60.00	63.00	326.129	123.248	449.377
50	60.00	64.00	336.054	122.219	458.272
51	60.00	65.00	345.982	121.704	467.686
52	60.00	66.00	355.907	121.640	477.547
53	60.00	67.00	365.834	121.640	487.473
54	60.00	68.00	375.760	121.640	497.400
55	60.00	69.00	385.673	121.696	507.369
56	60.00	70.00	395.571	121.865	517.437
57	60.00	71.00	405.444	121.936	527.380
58	60.00	72.00	415.274	120.637	535.910
59	60.00	73.00	425.055	117.756	542.812
60	60.00	74.00	434.778	114.015	548.793
61	60.00	75.00	444.439	110.132	554.572
62	60.00	76.00	454.035	106.327	560.361
63	60.00	77.00	463.565	103.912	567.477
64	60.00	78.00	473.030	103.107	576.137
65	60.00	79.00	482.416	102.811	585.227
66	60.00	80.00	491.723	101.921	593.644
67	60.00	81.00	500.940	100.529	601.469
68	60.00	82.00	510.043	99.188	609.230
69	60.00	83.00	519.027	97.987	617.014
70	60.00	84.00	527.878	96.815	624.693
71	60.00	85.00	536.590	95.559	632.148
72	60.00	86.00	545.158	94.394	639.551
73	60.00	87.00	553.756	94.379	648.135

			B-202Shaft60in.out		
	74	60.00	88.00	562.446	95.691 658.137
	75	60.00	89.00	571.246	98.034 669.280
	76	60.00	90.00	580.176	101.111 681.287
	77	60.00	91.00	Soil Elevations Must Extend At or Below Contribution	
Zone	78	60.00	92.00	Soil Elevations Must Extend At or Below Contribution	
Zone	79	60.00	93.00	Soil Elevations Must Extend At or Below Contribution	
Zone	80	60.00	94.00	Soil Elevations Must Extend At or Below Contribution	
Zone	81	60.00	95.00	Soil Elevations Must Extend At or Below Contribution	
Zone					

General Information:

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Input file:analysis_Structure\FB-Deep_2021\Drilled Shaft\B-301Shaft48in.in
 Project number: 2000-01-16015
 Job name: I-95 From Hallandale Beach Boulevard to Hollywood Blvd
 Engineer: JB Henry
 Units: English

Analysis Information:

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Analysis Type: Drilled Shaft Analysis

Soil Information:

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Boring date: 8/22/2018
 Boring number: B-301
 Station number: Offset:

Ground Elevation: 0.00(ft)
 Water table Elevation = 0.00(ft)

Hammer type: Automatic Hammer, Correction factor = 1.24

ID	Depth (ft)	Elevation (ft)	SPT Blows (Blows/ft)	Unit Weight (pcf)	Soil Type
1	0.00	0.00	N/A	0.00	5- Cavity layer
2	2.00	-2.00	N/A	0.00	5- Cavity layer
3	4.00	-4.00	N/A	0.00	5- Cavity layer
4	6.00	-6.00	N/A	0.00	5- Cavity layer
5	8.00	-8.00	N/A	0.00	5- Cavity layer
6	10.00	-10.00	15.00	110.00	3- Clean sand
7	12.00	-12.00	10.00	110.00	3- Clean sand
8	13.50	-13.50	12.00	110.00	3- Clean sand
9	15.50	-15.50	15.00	110.00	3- Clean sand
10	18.00	-18.00	23.00	115.00	3- Clean sand
11	20.50	-20.50	27.00	120.00	3- Clean sand
12	23.00	-23.00	23.00	115.00	3- Clean sand
13	25.50	-25.50	4.00	105.00	3- Clean sand
14	28.00	-28.00	5.00	105.00	3- Clean sand
15	30.50	-30.50	25.00	120.00	3- Clean sand
16	33.00	-33.00	34.00	125.00	3- Clean sand
17	35.50	-35.50	45.00	125.00	3- Clean sand
18	38.00	-38.00	46.00	125.00	3- Clean sand
19	40.50	-40.50	22.00	115.00	3- Clean sand
20	43.00	-43.00	17.00	115.00	3- Clean sand
21	45.50	-45.50	21.00	115.00	3- Clean sand
22	48.00	-48.00	34.00	125.00	3- Clean sand
23	50.50	-50.50	30.00	120.00	3- Clean sand
24	53.00	-53.00	43.00	125.00	3- Clean sand
25	55.50	-55.50	28.00	120.00	3- Clean sand
26	58.00	-58.00	30.00	120.00	3- Clean sand
27	60.50	-60.50	11.00	110.00	3- Clean sand
28	63.00	-63.00	41.00	125.00	3- Clean sand
29	65.50	-65.50	88.00	135.00	3- Clean sand
30	68.00	-68.00	60.00	130.00	3- Clean sand

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31	70.50	-70.50	88.00	135.00	3- Clean sand
32	73.00	-73.00	6.00	105.00	3- Clean sand
33	75.50	-75.50	16.00	115.00	3- Clean sand
34	78.00	-78.00	22.00	115.00	3- Clean sand
35	80.50	-80.50	10.00	110.00	3- Clean sand
36	83.00	-83.00	23.00	115.00	3- Clean sand
37	85.50	-85.50	37.00	125.00	3- Clean sand
38	88.00	-88.00	48.00	125.00	3- Clean sand
39	90.50	-90.50	49.00	125.00	3- Clean sand
40	93.00	-93.00	47.00	125.00	3- Clean sand
41	95.50	-95.50	58.00	130.00	3- Clean sand
42	98.00	-98.00	64.00	130.00	3- Clean sand
43	100.00	-100.00	64.00	1300.00	3- Clean sand

ID	Cu-DIR (tsf)	qu (tsf)	qt (tsf)	Em (ksi)	qb (tsf)
1	N/A	N/A	N/A	N/A	N/A
2	N/A	N/A	N/A	N/A	N/A
3	N/A	N/A	N/A	N/A	N/A
4	N/A	N/A	N/A	N/A	N/A
5	N/A	N/A	N/A	N/A	N/A
6	N/A	N/A	N/A	N/A	N/A
7	N/A	N/A	N/A	N/A	N/A
8	N/A	N/A	N/A	N/A	N/A
9	N/A	N/A	N/A	N/A	N/A
10	N/A	N/A	N/A	N/A	N/A
11	N/A	N/A	N/A	N/A	N/A
12	N/A	N/A	N/A	N/A	N/A
13	N/A	N/A	N/A	N/A	N/A
14	N/A	N/A	N/A	N/A	N/A
15	N/A	N/A	N/A	N/A	N/A
16	N/A	N/A	N/A	N/A	N/A
17	N/A	N/A	N/A	N/A	N/A
18	N/A	N/A	N/A	N/A	N/A
19	N/A	N/A	N/A	N/A	N/A
20	N/A	N/A	N/A	N/A	N/A
21	N/A	N/A	N/A	N/A	N/A
22	N/A	N/A	N/A	N/A	N/A
23	N/A	N/A	N/A	N/A	N/A
24	N/A	N/A	N/A	N/A	N/A
25	N/A	N/A	N/A	N/A	N/A
26	N/A	N/A	N/A	N/A	N/A
27	N/A	N/A	N/A	N/A	N/A
28	N/A	N/A	N/A	N/A	N/A
29	N/A	N/A	N/A	N/A	N/A
30	N/A	N/A	N/A	N/A	N/A
31	N/A	N/A	N/A	N/A	N/A
32	N/A	N/A	N/A	N/A	N/A
33	N/A	N/A	N/A	N/A	N/A
34	N/A	N/A	N/A	N/A	N/A
35	N/A	N/A	N/A	N/A	N/A
36	N/A	N/A	N/A	N/A	N/A
37	N/A	N/A	N/A	N/A	N/A
38	N/A	N/A	N/A	N/A	N/A
39	N/A	N/A	N/A	N/A	N/A
40	N/A	N/A	N/A	N/A	N/A
41	N/A	N/A	N/A	N/A	N/A
42	N/A	N/A	N/A	N/A	N/A
43	N/A	N/A	N/A	N/A	N/A

ID RQD F.M. S.R.I. Rock Recovery

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1	N/A	N/A	N/A
2	N/A	N/A	N/A
3	N/A	N/A	N/A
4	N/A	N/A	N/A
5	N/A	N/A	N/A
6	N/A	N/A	N/A
7	N/A	N/A	N/A
8	N/A	N/A	N/A
9	N/A	N/A	N/A
10	N/A	N/A	N/A
11	N/A	N/A	N/A
12	N/A	N/A	N/A
13	N/A	N/A	N/A
14	N/A	N/A	N/A
15	N/A	N/A	N/A
16	N/A	N/A	N/A
17	N/A	N/A	N/A
18	N/A	N/A	N/A
19	N/A	N/A	N/A
20	N/A	N/A	N/A
21	N/A	N/A	N/A
22	N/A	N/A	N/A
23	N/A	N/A	N/A
24	N/A	N/A	N/A
25	N/A	N/A	N/A
26	N/A	N/A	N/A
27	N/A	N/A	N/A
28	N/A	N/A	N/A
29	N/A	N/A	N/A
30	N/A	N/A	N/A
31	N/A	N/A	N/A
32	N/A	N/A	N/A
33	N/A	N/A	N/A
34	N/A	N/A	N/A
35	N/A	N/A	N/A
36	N/A	N/A	N/A
37	N/A	N/A	N/A
38	N/A	N/A	N/A
39	N/A	N/A	N/A
40	N/A	N/A	N/A
41	N/A	N/A	N/A
42	N/A	N/A	N/A
43	N/A	N/A	N/A

Drilled Shaft Data:

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Shaft Geometry:

ID	Length (ft)	Tip Elev. (ft)	Case Len. (ft)	Diameter (in)	Base Diam. (in)	Bell Len. (ft)
1	15.00	-15.00	6.00	48.00	48.00	0.00
2	16.00	-16.00	6.00	48.00	48.00	0.00
3	17.00	-17.00	6.00	48.00	48.00	0.00
4	18.00	-18.00	6.00	48.00	48.00	0.00
5	19.00	-19.00	6.00	48.00	48.00	0.00
6	20.00	-20.00	6.00	48.00	48.00	0.00
7	21.00	-21.00	6.00	48.00	48.00	0.00
8	22.00	-22.00	6.00	48.00	48.00	0.00
9	23.00	-23.00	6.00	48.00	48.00	0.00

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10	24.00	-24.00	6.00	48.00	48.00	0.00
11	25.00	-25.00	6.00	48.00	48.00	0.00
12	26.00	-26.00	6.00	48.00	48.00	0.00
13	27.00	-27.00	6.00	48.00	48.00	0.00
14	28.00	-28.00	6.00	48.00	48.00	0.00
15	29.00	-29.00	6.00	48.00	48.00	0.00
16	30.00	-30.00	6.00	48.00	48.00	0.00
17	31.00	-31.00	6.00	48.00	48.00	0.00
18	32.00	-32.00	6.00	48.00	48.00	0.00
19	33.00	-33.00	6.00	48.00	48.00	0.00
20	34.00	-34.00	6.00	48.00	48.00	0.00
21	35.00	-35.00	6.00	48.00	48.00	0.00
22	36.00	-36.00	6.00	48.00	48.00	0.00
23	37.00	-37.00	6.00	48.00	48.00	0.00
24	38.00	-38.00	6.00	48.00	48.00	0.00
25	39.00	-39.00	6.00	48.00	48.00	0.00
26	40.00	-40.00	6.00	48.00	48.00	0.00
27	41.00	-41.00	6.00	48.00	48.00	0.00
28	42.00	-42.00	6.00	48.00	48.00	0.00
29	43.00	-43.00	6.00	48.00	48.00	0.00
30	44.00	-44.00	6.00	48.00	48.00	0.00
31	45.00	-45.00	6.00	48.00	48.00	0.00
32	46.00	-46.00	6.00	48.00	48.00	0.00
33	47.00	-47.00	6.00	48.00	48.00	0.00
34	48.00	-48.00	6.00	48.00	48.00	0.00
35	49.00	-49.00	6.00	48.00	48.00	0.00
36	50.00	-50.00	6.00	48.00	48.00	0.00
37	51.00	-51.00	6.00	48.00	48.00	0.00
38	52.00	-52.00	6.00	48.00	48.00	0.00
39	53.00	-53.00	6.00	48.00	48.00	0.00
40	54.00	-54.00	6.00	48.00	48.00	0.00
41	55.00	-55.00	6.00	48.00	48.00	0.00
42	56.00	-56.00	6.00	48.00	48.00	0.00
43	57.00	-57.00	6.00	48.00	48.00	0.00
44	58.00	-58.00	6.00	48.00	48.00	0.00
45	59.00	-59.00	6.00	48.00	48.00	0.00
46	60.00	-60.00	6.00	48.00	48.00	0.00
47	61.00	-61.00	6.00	48.00	48.00	0.00
48	62.00	-62.00	6.00	48.00	48.00	0.00
49	63.00	-63.00	6.00	48.00	48.00	0.00
50	64.00	-64.00	6.00	48.00	48.00	0.00
51	65.00	-65.00	6.00	48.00	48.00	0.00
52	66.00	-66.00	6.00	48.00	48.00	0.00
53	67.00	-67.00	6.00	48.00	48.00	0.00
54	68.00	-68.00	6.00	48.00	48.00	0.00
55	69.00	-69.00	6.00	48.00	48.00	0.00
56	70.00	-70.00	6.00	48.00	48.00	0.00
57	71.00	-71.00	6.00	48.00	48.00	0.00
58	72.00	-72.00	6.00	48.00	48.00	0.00
59	73.00	-73.00	6.00	48.00	48.00	0.00
60	74.00	-74.00	6.00	48.00	48.00	0.00
61	75.00	-75.00	6.00	48.00	48.00	0.00
62	76.00	-76.00	6.00	48.00	48.00	0.00
63	77.00	-77.00	6.00	48.00	48.00	0.00
64	78.00	-78.00	6.00	48.00	48.00	0.00
65	79.00	-79.00	6.00	48.00	48.00	0.00
66	80.00	-80.00	6.00	48.00	48.00	0.00
67	81.00	-81.00	6.00	48.00	48.00	0.00
68	82.00	-82.00	6.00	48.00	48.00	0.00
69	83.00	-83.00	6.00	48.00	48.00	0.00
70	84.00	-84.00	6.00	48.00	48.00	0.00
71	85.00	-85.00	6.00	48.00	48.00	0.00
72	86.00	-86.00	6.00	48.00	48.00	0.00

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73	87.00	-87.00	6.00	48.00	48.00	0.00
74	88.00	-88.00	6.00	48.00	48.00	0.00
75	89.00	-89.00	6.00	48.00	48.00	0.00
76	90.00	-90.00	6.00	48.00	48.00	0.00
77	91.00	-91.00	6.00	48.00	48.00	0.00
78	92.00	-92.00	6.00	48.00	48.00	0.00
79	93.00	-93.00	6.00	48.00	48.00	0.00
80	94.00	-94.00	6.00	48.00	48.00	0.00
81	95.00	-95.00	6.00	48.00	48.00	0.00

Drilled Shaft Capacity (sorted by shaft diameter):

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Strength reduction factors: Skin-friction = 1.00, End-bearing = 1.00

ID	Diameter (in)	Length (ft)	Skin Fric. (tons)	End Bearing (tons)	Capacity (tons)
1	48.00	15.00	3.541	105.071	108.612
2	48.00	16.00	5.129	166.925	172.055
3	48.00	17.00	6.980	166.536	173.516
4	48.00	18.00	9.082	164.861	173.943
5	48.00	19.00	11.434	163.757	175.191
6	48.00	20.00	14.047	162.144	176.190
7	48.00	21.00	16.914	162.066	178.979
8	48.00	22.00	20.044	165.094	185.139
9	48.00	23.00	23.438	169.837	193.275
10	48.00	24.00	27.064	173.616	200.680
11	48.00	25.00	30.909	176.148	207.057
12	48.00	26.00	33.587	177.939	211.525
13	48.00	27.00	34.976	180.156	215.131
14	48.00	28.00	36.413	184.678	221.091
15	48.00	29.00	38.266	191.450	229.716
16	48.00	30.00	40.175	203.364	243.539
17	48.00	31.00	43.546	220.510	264.056
18	48.00	32.00	48.483	239.323	287.806
19	48.00	33.00	53.608	255.411	309.019
20	48.00	34.00	58.918	270.227	329.145
21	48.00	35.00	64.423	281.094	345.518
22	48.00	36.00	70.113	286.043	356.156
23	48.00	37.00	75.979	286.184	362.163
24	48.00	38.00	82.017	284.289	366.306
25	48.00	39.00	88.214	281.651	369.866
26	48.00	40.00	94.568	278.237	372.805
27	48.00	41.00	101.066	272.606	373.672
28	48.00	42.00	107.668	263.797	371.465
29	48.00	43.00	114.368	253.836	368.204
30	48.00	44.00	121.156	245.830	366.986
31	48.00	45.00	128.030	243.403	371.433
32	48.00	46.00	134.983	246.853	381.835
33	48.00	47.00	142.009	253.538	395.547
34	48.00	48.00	149.107	260.851	409.958
35	48.00	49.00	156.283	270.123	426.406
36	48.00	50.00	163.553	279.706	443.260
37	48.00	51.00	170.909	285.884	456.792
38	48.00	52.00	178.328	286.688	465.016
39	48.00	53.00	185.808	281.566	467.375
40	48.00	54.00	193.346	277.758	471.104
41	48.00	55.00	200.948	278.440	479.388
42	48.00	56.00	208.606	282.975	491.581
43	48.00	57.00	216.300	288.215	504.515
44	48.00	58.00	224.027	290.952	514.979
45	48.00	59.00	231.776	289.810	521.587

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46	48.00	60.00	239.548	287.499	527.047
47	48.00	61.00	246.978	288.019	534.997
48	48.00	62.00	254.042	293.635	547.677
49	48.00	63.00	261.088	300.467	561.555
50	48.00	64.00	268.828	300.799	569.627
51	48.00	65.00	276.580	295.757	572.337
52	48.00	66.00	284.340	293.794	578.134
53	48.00	67.00	292.119	298.208	590.326
54	48.00	68.00	299.918	297.585	597.503
55	48.00	69.00	307.719	289.344	597.064
56	48.00	70.00	315.515	277.937	593.452
57	48.00	71.00	323.301	265.493	588.795
58	48.00	72.00	331.078	247.906	578.983
59	48.00	73.00	338.844	225.569	564.413
60	48.00	74.00	344.471	204.593	549.065
61	48.00	75.00	350.166	187.435	537.601
62	48.00	76.00	356.797	174.173	530.970
63	48.00	77.00	364.260	166.026	530.285
64	48.00	78.00	371.647	170.666	542.313
65	48.00	79.00	378.952	186.858	565.810
66	48.00	80.00	386.173	206.682	592.854
67	48.00	81.00	392.848	223.085	615.933
68	48.00	82.00	399.097	237.298	636.395
69	48.00	83.00	405.421	250.498	655.919
70	48.00	84.00	412.243	262.879	675.123
71	48.00	85.00	418.964	277.287	696.251
72	48.00	86.00	425.581	296.421	722.002
73	48.00	87.00	432.248	318.683	750.931
74	48.00	88.00	439.012	338.127	777.139
75	48.00	89.00	445.875	353.649	799.524
76	48.00	90.00	452.836	364.964	817.800
77	48.00	91.00	459.896	371.916	831.812
78	48.00	92.00	467.054	374.920	841.974
79	48.00	93.00	Soil Elevations Must Extend At or Below Contribution		
Zone					
80	48.00	94.00	Soil Elevations Must Extend At or Below Contribution		
Zone					
81	48.00	95.00	Soil Elevations Must Extend At or Below Contribution		
Zone					

Drilled Shaft Capacity at User-Defined Settlement (sorted by shaft diameter):

***** Capacity is NOT modified by the strength reduction factors *****

User-Defined Settlement = 1.04%

ID	Diameter (in)	Length (ft)	Skin Fric. (tons)	End Bearing (tons)	Capacity (tons)
1	48.00	15.00	3.463	33.374	36.837
2	48.00	16.00	5.017	53.021	58.038
3	48.00	17.00	6.827	52.898	59.725
4	48.00	18.00	8.883	52.365	61.249
5	48.00	19.00	11.183	52.015	63.198
6	48.00	20.00	13.739	51.502	65.242
7	48.00	21.00	16.543	51.478	68.021
8	48.00	22.00	19.605	52.440	72.045
9	48.00	23.00	22.925	53.946	76.871
10	48.00	24.00	26.472	55.146	81.618
11	48.00	25.00	30.232	55.951	86.183
12	48.00	26.00	32.851	56.520	89.371

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13	48.00	27.00	34.210	57.224	91.434
14	48.00	28.00	35.616	58.660	94.276
15	48.00	29.00	37.429	60.811	98.240
16	48.00	30.00	39.295	64.596	103.891
17	48.00	31.00	42.593	70.041	112.634
18	48.00	32.00	47.422	76.017	123.439
19	48.00	33.00	52.435	81.127	133.562
20	48.00	34.00	57.629	85.833	143.462
21	48.00	35.00	63.013	89.285	152.299
22	48.00	36.00	68.579	90.857	159.436
23	48.00	37.00	74.316	90.902	165.218
24	48.00	38.00	80.222	90.300	170.522
25	48.00	39.00	86.284	89.462	175.746
26	48.00	40.00	92.499	88.378	180.876
27	48.00	41.00	98.854	86.589	185.443
28	48.00	42.00	105.311	83.791	189.102
29	48.00	43.00	111.865	80.627	192.492
30	48.00	44.00	118.504	78.084	196.588
31	48.00	45.00	125.227	77.313	202.541
32	48.00	46.00	132.028	78.409	210.437
33	48.00	47.00	138.901	80.532	219.434
34	48.00	48.00	145.843	82.855	228.699
35	48.00	49.00	152.862	85.800	238.663
36	48.00	50.00	159.974	88.844	248.818
37	48.00	51.00	167.168	90.807	257.974
38	48.00	52.00	174.425	91.062	265.487
39	48.00	53.00	181.741	89.435	271.176
40	48.00	54.00	189.114	88.225	277.339
41	48.00	55.00	196.550	88.442	284.992
42	48.00	56.00	204.040	89.883	293.923
43	48.00	57.00	211.566	91.547	303.113
44	48.00	58.00	219.123	92.416	311.540
45	48.00	59.00	226.703	92.054	318.757
46	48.00	60.00	234.305	91.320	325.624
47	48.00	61.00	241.572	91.485	333.057
48	48.00	62.00	248.482	93.268	341.750
49	48.00	63.00	255.373	95.439	350.812
50	48.00	64.00	262.944	95.544	358.488
51	48.00	65.00	270.526	93.943	364.469
52	48.00	66.00	278.116	93.319	371.435
53	48.00	67.00	285.725	94.721	380.446
54	48.00	68.00	293.353	94.523	387.877
55	48.00	69.00	300.984	91.906	392.890
56	48.00	70.00	308.609	88.282	396.892
57	48.00	71.00	316.225	84.330	400.555
58	48.00	72.00	323.831	78.743	402.574
59	48.00	73.00	331.427	71.649	403.076
60	48.00	74.00	336.932	64.986	401.917
61	48.00	75.00	342.501	59.536	402.037
62	48.00	76.00	348.987	55.323	404.310
63	48.00	77.00	356.287	52.736	409.022
64	48.00	78.00	363.512	54.210	417.722
65	48.00	79.00	370.657	59.353	430.010
66	48.00	80.00	377.720	65.649	443.369
67	48.00	81.00	384.249	70.860	455.109
68	48.00	82.00	390.361	75.374	465.735
69	48.00	83.00	396.547	79.567	476.114
70	48.00	84.00	403.220	83.500	486.720
71	48.00	85.00	409.794	88.076	497.869
72	48.00	86.00	416.266	94.153	510.420
73	48.00	87.00	422.787	101.225	524.011
74	48.00	88.00	429.403	107.401	536.804
75	48.00	89.00	436.116	112.331	548.447

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	76	48.00	90.00	442.925	115.925	558.850
	77	48.00	91.00	449.830	118.133	567.963
	78	48.00	92.00	456.831	119.088	575.919
	79	48.00	93.00	Soil Elevations Must Extend At or Below Contribution		
Zone	80	48.00	94.00	Soil Elevations Must Extend At or Below Contribution		
Zone	81	48.00	95.00	Soil Elevations Must Extend At or Below Contribution		
Zone						

General Information:

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Input file:analysis_Structure\FB-Deep_2021\Drilled Shaft\B-301Shaft60in.in
 Project number: 2000-01-16015
 Job name: I-95 From Hallandale Beach Boulevard to Hollywood Blvd
 Engineer: JB Henry
 Units: English

Analysis Information:

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Analysis Type: Drilled Shaft Analysis

Soil Information:

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Boring date: 8/22/2018
 Boring number: B-301
 Station number: Offset:

Ground Elevation: 0.00(ft)
 Water table Elevation = 0.00(ft)

Hammer type: Automatic Hammer, Correction factor = 1.24

ID	Depth (ft)	Elevation (ft)	SPT Blows (Blows/ft)	Unit Weight (pcf)	Soil Type
1	0.00	0.00	N/A	0.00	5- Cavity layer
2	2.00	-2.00	N/A	0.00	5- Cavity layer
3	4.00	-4.00	N/A	0.00	5- Cavity layer
4	6.00	-6.00	N/A	0.00	5- Cavity layer
5	8.00	-8.00	N/A	0.00	5- Cavity layer
6	10.00	-10.00	15.00	110.00	3- Clean sand
7	12.00	-12.00	10.00	110.00	3- Clean sand
8	13.50	-13.50	12.00	110.00	3- Clean sand
9	15.50	-15.50	15.00	110.00	3- Clean sand
10	18.00	-18.00	23.00	115.00	3- Clean sand
11	20.50	-20.50	27.00	120.00	3- Clean sand
12	23.00	-23.00	23.00	115.00	3- Clean sand
13	25.50	-25.50	4.00	105.00	3- Clean sand
14	28.00	-28.00	5.00	105.00	3- Clean sand
15	30.50	-30.50	25.00	120.00	3- Clean sand
16	33.00	-33.00	34.00	125.00	3- Clean sand
17	35.50	-35.50	45.00	125.00	3- Clean sand
18	38.00	-38.00	46.00	125.00	3- Clean sand
19	40.50	-40.50	22.00	115.00	3- Clean sand
20	43.00	-43.00	17.00	115.00	3- Clean sand
21	45.50	-45.50	21.00	115.00	3- Clean sand
22	48.00	-48.00	34.00	125.00	3- Clean sand
23	50.50	-50.50	30.00	120.00	3- Clean sand
24	53.00	-53.00	43.00	125.00	3- Clean sand
25	55.50	-55.50	28.00	120.00	3- Clean sand
26	58.00	-58.00	30.00	120.00	3- Clean sand
27	60.50	-60.50	11.00	110.00	3- Clean sand
28	63.00	-63.00	41.00	125.00	3- Clean sand
29	65.50	-65.50	88.00	135.00	3- Clean sand
30	68.00	-68.00	60.00	130.00	3- Clean sand

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31	70.50	-70.50	88.00	135.00	3- Clean sand
32	73.00	-73.00	6.00	105.00	3- Clean sand
33	75.50	-75.50	16.00	115.00	3- Clean sand
34	78.00	-78.00	22.00	115.00	3- Clean sand
35	80.50	-80.50	10.00	110.00	3- Clean sand
36	83.00	-83.00	23.00	115.00	3- Clean sand
37	85.50	-85.50	37.00	125.00	3- Clean sand
38	88.00	-88.00	48.00	125.00	3- Clean sand
39	90.50	-90.50	49.00	125.00	3- Clean sand
40	93.00	-93.00	47.00	125.00	3- Clean sand
41	95.50	-95.50	58.00	130.00	3- Clean sand
42	98.00	-98.00	64.00	130.00	3- Clean sand
43	100.00	-100.00	64.00	1300.00	3- Clean sand

ID	Cu-DIR (tsf)	qu (tsf)	qt (tsf)	Em (ksi)	qb (tsf)
1	N/A	N/A	N/A	N/A	N/A
2	N/A	N/A	N/A	N/A	N/A
3	N/A	N/A	N/A	N/A	N/A
4	N/A	N/A	N/A	N/A	N/A
5	N/A	N/A	N/A	N/A	N/A
6	N/A	N/A	N/A	N/A	N/A
7	N/A	N/A	N/A	N/A	N/A
8	N/A	N/A	N/A	N/A	N/A
9	N/A	N/A	N/A	N/A	N/A
10	N/A	N/A	N/A	N/A	N/A
11	N/A	N/A	N/A	N/A	N/A
12	N/A	N/A	N/A	N/A	N/A
13	N/A	N/A	N/A	N/A	N/A
14	N/A	N/A	N/A	N/A	N/A
15	N/A	N/A	N/A	N/A	N/A
16	N/A	N/A	N/A	N/A	N/A
17	N/A	N/A	N/A	N/A	N/A
18	N/A	N/A	N/A	N/A	N/A
19	N/A	N/A	N/A	N/A	N/A
20	N/A	N/A	N/A	N/A	N/A
21	N/A	N/A	N/A	N/A	N/A
22	N/A	N/A	N/A	N/A	N/A
23	N/A	N/A	N/A	N/A	N/A
24	N/A	N/A	N/A	N/A	N/A
25	N/A	N/A	N/A	N/A	N/A
26	N/A	N/A	N/A	N/A	N/A
27	N/A	N/A	N/A	N/A	N/A
28	N/A	N/A	N/A	N/A	N/A
29	N/A	N/A	N/A	N/A	N/A
30	N/A	N/A	N/A	N/A	N/A
31	N/A	N/A	N/A	N/A	N/A
32	N/A	N/A	N/A	N/A	N/A
33	N/A	N/A	N/A	N/A	N/A
34	N/A	N/A	N/A	N/A	N/A
35	N/A	N/A	N/A	N/A	N/A
36	N/A	N/A	N/A	N/A	N/A
37	N/A	N/A	N/A	N/A	N/A
38	N/A	N/A	N/A	N/A	N/A
39	N/A	N/A	N/A	N/A	N/A
40	N/A	N/A	N/A	N/A	N/A
41	N/A	N/A	N/A	N/A	N/A
42	N/A	N/A	N/A	N/A	N/A
43	N/A	N/A	N/A	N/A	N/A

ID RQD F.M. S.R.I. Rock Recovery

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1	N/A	N/A	N/A
2	N/A	N/A	N/A
3	N/A	N/A	N/A
4	N/A	N/A	N/A
5	N/A	N/A	N/A
6	N/A	N/A	N/A
7	N/A	N/A	N/A
8	N/A	N/A	N/A
9	N/A	N/A	N/A
10	N/A	N/A	N/A
11	N/A	N/A	N/A
12	N/A	N/A	N/A
13	N/A	N/A	N/A
14	N/A	N/A	N/A
15	N/A	N/A	N/A
16	N/A	N/A	N/A
17	N/A	N/A	N/A
18	N/A	N/A	N/A
19	N/A	N/A	N/A
20	N/A	N/A	N/A
21	N/A	N/A	N/A
22	N/A	N/A	N/A
23	N/A	N/A	N/A
24	N/A	N/A	N/A
25	N/A	N/A	N/A
26	N/A	N/A	N/A
27	N/A	N/A	N/A
28	N/A	N/A	N/A
29	N/A	N/A	N/A
30	N/A	N/A	N/A
31	N/A	N/A	N/A
32	N/A	N/A	N/A
33	N/A	N/A	N/A
34	N/A	N/A	N/A
35	N/A	N/A	N/A
36	N/A	N/A	N/A
37	N/A	N/A	N/A
38	N/A	N/A	N/A
39	N/A	N/A	N/A
40	N/A	N/A	N/A
41	N/A	N/A	N/A
42	N/A	N/A	N/A
43	N/A	N/A	N/A

Drilled Shaft Data:

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Shaft Geometry:

ID	Length (ft)	Tip Elev. (ft)	Case Len. (ft)	Diameter (in)	Base Diam. (in)	Bell Len. (ft)
1	15.00	-15.00	6.00	60.00	60.00	0.00
2	16.00	-16.00	6.00	60.00	60.00	0.00
3	17.00	-17.00	6.00	60.00	60.00	0.00
4	18.00	-18.00	6.00	60.00	60.00	0.00
5	19.00	-19.00	6.00	60.00	60.00	0.00
6	20.00	-20.00	6.00	60.00	60.00	0.00
7	21.00	-21.00	6.00	60.00	60.00	0.00
8	22.00	-22.00	6.00	60.00	60.00	0.00
9	23.00	-23.00	6.00	60.00	60.00	0.00

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10	24.00	-24.00	6.00	60.00	60.00	0.00
11	25.00	-25.00	6.00	60.00	60.00	0.00
12	26.00	-26.00	6.00	60.00	60.00	0.00
13	27.00	-27.00	6.00	60.00	60.00	0.00
14	28.00	-28.00	6.00	60.00	60.00	0.00
15	29.00	-29.00	6.00	60.00	60.00	0.00
16	30.00	-30.00	6.00	60.00	60.00	0.00
17	31.00	-31.00	6.00	60.00	60.00	0.00
18	32.00	-32.00	6.00	60.00	60.00	0.00
19	33.00	-33.00	6.00	60.00	60.00	0.00
20	34.00	-34.00	6.00	60.00	60.00	0.00
21	35.00	-35.00	6.00	60.00	60.00	0.00
22	36.00	-36.00	6.00	60.00	60.00	0.00
23	37.00	-37.00	6.00	60.00	60.00	0.00
24	38.00	-38.00	6.00	60.00	60.00	0.00
25	39.00	-39.00	6.00	60.00	60.00	0.00
26	40.00	-40.00	6.00	60.00	60.00	0.00
27	41.00	-41.00	6.00	60.00	60.00	0.00
28	42.00	-42.00	6.00	60.00	60.00	0.00
29	43.00	-43.00	6.00	60.00	60.00	0.00
30	44.00	-44.00	6.00	60.00	60.00	0.00
31	45.00	-45.00	6.00	60.00	60.00	0.00
32	46.00	-46.00	6.00	60.00	60.00	0.00
33	47.00	-47.00	6.00	60.00	60.00	0.00
34	48.00	-48.00	6.00	60.00	60.00	0.00
35	49.00	-49.00	6.00	60.00	60.00	0.00
36	50.00	-50.00	6.00	60.00	60.00	0.00
37	51.00	-51.00	6.00	60.00	60.00	0.00
38	52.00	-52.00	6.00	60.00	60.00	0.00
39	53.00	-53.00	6.00	60.00	60.00	0.00
40	54.00	-54.00	6.00	60.00	60.00	0.00
41	55.00	-55.00	6.00	60.00	60.00	0.00
42	56.00	-56.00	6.00	60.00	60.00	0.00
43	57.00	-57.00	6.00	60.00	60.00	0.00
44	58.00	-58.00	6.00	60.00	60.00	0.00
45	59.00	-59.00	6.00	60.00	60.00	0.00
46	60.00	-60.00	6.00	60.00	60.00	0.00
47	61.00	-61.00	6.00	60.00	60.00	0.00
48	62.00	-62.00	6.00	60.00	60.00	0.00
49	63.00	-63.00	6.00	60.00	60.00	0.00
50	64.00	-64.00	6.00	60.00	60.00	0.00
51	65.00	-65.00	6.00	60.00	60.00	0.00
52	66.00	-66.00	6.00	60.00	60.00	0.00
53	67.00	-67.00	6.00	60.00	60.00	0.00
54	68.00	-68.00	6.00	60.00	60.00	0.00
55	69.00	-69.00	6.00	60.00	60.00	0.00
56	70.00	-70.00	6.00	60.00	60.00	0.00
57	71.00	-71.00	6.00	60.00	60.00	0.00
58	72.00	-72.00	6.00	60.00	60.00	0.00
59	73.00	-73.00	6.00	60.00	60.00	0.00
60	74.00	-74.00	6.00	60.00	60.00	0.00
61	75.00	-75.00	6.00	60.00	60.00	0.00
62	76.00	-76.00	6.00	60.00	60.00	0.00
63	77.00	-77.00	6.00	60.00	60.00	0.00
64	78.00	-78.00	6.00	60.00	60.00	0.00
65	79.00	-79.00	6.00	60.00	60.00	0.00
66	80.00	-80.00	6.00	60.00	60.00	0.00
67	81.00	-81.00	6.00	60.00	60.00	0.00
68	82.00	-82.00	6.00	60.00	60.00	0.00
69	83.00	-83.00	6.00	60.00	60.00	0.00
70	84.00	-84.00	6.00	60.00	60.00	0.00
71	85.00	-85.00	6.00	60.00	60.00	0.00
72	86.00	-86.00	6.00	60.00	60.00	0.00

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73	87.00	-87.00	6.00	60.00	60.00	0.00
74	88.00	-88.00	6.00	60.00	60.00	0.00
75	89.00	-89.00	6.00	60.00	60.00	0.00
76	90.00	-90.00	6.00	60.00	60.00	0.00
77	91.00	-91.00	6.00	60.00	60.00	0.00
78	92.00	-92.00	6.00	60.00	60.00	0.00
79	93.00	-93.00	6.00	60.00	60.00	0.00
80	94.00	-94.00	6.00	60.00	60.00	0.00
81	95.00	-95.00	6.00	60.00	60.00	0.00

Drilled Shaft Capacity (sorted by shaft diameter):

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Strength reduction factors: Skin-friction = 1.00, End-bearing = 1.00

ID	Diameter (in)	Length (ft)	Skin Fric. (tons)	End Bearing (tons)	Capacity (tons)
1	60.00	15.00	4.426	128.196	132.622
2	60.00	16.00	6.412	121.980	128.392
3	60.00	17.00	8.725	113.580	122.306
4	60.00	18.00	11.353	191.786	203.139
5	60.00	19.00	14.292	191.948	206.241
6	60.00	20.00	17.558	198.945	216.503
7	60.00	21.00	21.142	210.026	231.168
8	60.00	22.00	25.055	222.241	247.296
9	60.00	23.00	29.297	235.104	264.401
10	60.00	24.00	33.830	246.992	280.823
11	60.00	25.00	38.636	256.281	294.917
12	60.00	26.00	41.983	263.143	305.126
13	60.00	27.00	43.720	268.614	312.334
14	60.00	28.00	45.516	272.869	318.385
15	60.00	29.00	47.833	275.744	323.577
16	60.00	30.00	50.219	277.081	327.299
17	60.00	31.00	54.432	277.781	332.213
18	60.00	32.00	60.604	283.259	343.863
19	60.00	33.00	67.010	294.418	361.428
20	60.00	34.00	73.648	308.999	382.647
21	60.00	35.00	80.529	324.742	405.271
22	60.00	36.00	87.642	341.087	428.728
23	60.00	37.00	94.974	354.665	449.639
24	60.00	38.00	102.522	364.916	467.437
25	60.00	39.00	110.268	370.811	481.079
26	60.00	40.00	118.211	371.324	489.535
27	60.00	41.00	126.332	367.135	493.467
28	60.00	42.00	134.585	362.320	496.905
29	60.00	43.00	142.960	357.561	500.521
30	60.00	44.00	151.445	351.491	502.935
31	60.00	45.00	160.037	342.745	502.782
32	60.00	46.00	168.729	332.595	501.324
33	60.00	47.00	177.512	328.664	506.176
34	60.00	48.00	186.384	332.223	518.607
35	60.00	49.00	195.354	337.864	533.218
36	60.00	50.00	204.442	340.177	544.619
37	60.00	51.00	213.636	340.413	554.049
38	60.00	52.00	222.910	346.077	568.987
39	60.00	53.00	232.260	358.420	590.680
40	60.00	54.00	241.682	371.491	613.174
41	60.00	55.00	251.185	379.343	630.528
42	60.00	56.00	260.757	382.809	643.566
43	60.00	57.00	270.375	386.901	657.276
44	60.00	58.00	280.033	392.454	672.487
45	60.00	59.00	289.721	396.290	686.011

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46	60.00	60.00	299.435	395.234	694.669
47	60.00	61.00	308.723	389.649	698.372
48	60.00	62.00	317.552	381.723	699.276
49	60.00	63.00	326.359	371.821	698.180
50	60.00	64.00	336.036	361.822	697.858
51	60.00	65.00	345.725	353.610	699.335
52	60.00	66.00	355.424	347.913	703.338
53	60.00	67.00	365.148	349.115	714.263
54	60.00	68.00	374.897	357.945	732.842
55	60.00	69.00	384.649	364.370	749.019
56	60.00	70.00	394.394	358.354	752.748
57	60.00	71.00	404.126	341.499	745.626
58	60.00	72.00	413.847	323.422	737.269
59	60.00	73.00	423.555	305.724	729.279
60	60.00	74.00	430.589	290.327	720.916
61	60.00	75.00	437.707	279.149	716.856
62	60.00	76.00	445.996	271.826	717.822
63	60.00	77.00	455.324	266.165	721.489
64	60.00	78.00	464.559	261.799	726.358
65	60.00	79.00	473.690	263.166	736.856
66	60.00	80.00	482.716	274.701	757.417
67	60.00	81.00	491.059	294.859	785.919
68	60.00	82.00	498.871	314.371	813.242
69	60.00	83.00	506.776	331.692	838.468
70	60.00	84.00	515.304	347.511	862.815
71	60.00	85.00	523.705	362.519	886.223
72	60.00	86.00	531.977	377.337	909.313
73	60.00	87.00	540.309	395.698	936.007
74	60.00	88.00	548.765	418.225	966.990
75	60.00	89.00	557.344	440.724	998.067
76	60.00	90.00	566.046	459.002	1025.048
77	60.00	91.00	Soil Elevations Must Extend At or Below Contribution		
Zone					
78	60.00	92.00	Soil Elevations Must Extend At or Below Contribution		
Zone					
79	60.00	93.00	Soil Elevations Must Extend At or Below Contribution		
Zone					
80	60.00	94.00	Soil Elevations Must Extend At or Below Contribution		
Zone					
81	60.00	95.00	Soil Elevations Must Extend At or Below Contribution		
Zone					

Drilled Shaft Capacity at User-Defined Settlement (sorted by shaft diameter):

***** Capacity is NOT modified by the strength reduction factors *****

User-Defined Settlement = 0.83%

ID	Diameter (in)	Length (ft)	Skin Fric. (tons)	End Bearing (tons)	Capacity (tons)
1	60.00	15.00	4.313	33.471	37.784
2	60.00	16.00	6.248	31.848	38.096
3	60.00	17.00	8.503	29.655	38.158
4	60.00	18.00	11.063	50.074	61.137
5	60.00	19.00	13.928	50.116	64.044
6	60.00	20.00	17.111	51.943	69.054
7	60.00	21.00	20.603	54.836	75.439
8	60.00	22.00	24.416	58.025	82.442
9	60.00	23.00	28.550	61.384	89.934
10	60.00	24.00	32.968	64.488	97.456

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11	60.00	25.00	37.651	66.913	104.564
12	60.00	26.00	40.913	68.705	109.617
13	60.00	27.00	42.605	70.133	112.738
14	60.00	28.00	44.356	71.244	115.600
15	60.00	29.00	46.613	71.995	118.608
16	60.00	30.00	48.938	72.344	121.282
17	60.00	31.00	53.045	72.526	125.571
18	60.00	32.00	59.059	73.957	133.015
19	60.00	33.00	65.302	76.870	142.172
20	60.00	34.00	71.770	80.677	152.448
21	60.00	35.00	78.476	84.788	163.264
22	60.00	36.00	85.407	89.055	174.462
23	60.00	37.00	92.553	92.600	185.153
24	60.00	38.00	99.908	95.277	195.185
25	60.00	39.00	107.457	96.816	204.273
26	60.00	40.00	115.197	96.950	212.147
27	60.00	41.00	123.111	95.856	218.967
28	60.00	42.00	131.154	94.599	225.753
29	60.00	43.00	139.315	93.356	232.672
30	60.00	44.00	147.584	91.772	239.355
31	60.00	45.00	155.957	89.488	245.445
32	60.00	46.00	164.427	86.838	251.265
33	60.00	47.00	172.986	85.812	258.798
34	60.00	48.00	181.632	86.741	268.373
35	60.00	49.00	190.373	88.214	278.587
36	60.00	50.00	199.230	88.818	288.047
37	60.00	51.00	208.189	88.879	297.069
38	60.00	52.00	217.227	90.358	307.586
39	60.00	53.00	226.339	93.581	319.919
40	60.00	54.00	235.521	96.993	332.515
41	60.00	55.00	244.782	99.043	343.825
42	60.00	56.00	254.110	99.948	354.058
43	60.00	57.00	263.482	101.017	364.499
44	60.00	58.00	272.894	102.467	375.361
45	60.00	59.00	282.335	103.468	385.803
46	60.00	60.00	291.801	103.192	394.994
47	60.00	61.00	300.852	101.734	402.587
48	60.00	62.00	309.457	99.665	409.122
49	60.00	63.00	318.039	97.079	415.119
50	60.00	64.00	327.469	94.469	421.938
51	60.00	65.00	336.912	92.325	429.236
52	60.00	66.00	346.363	90.837	437.201
53	60.00	67.00	355.839	91.151	446.991
54	60.00	68.00	365.340	93.457	458.796
55	60.00	69.00	374.843	95.134	469.977
56	60.00	70.00	384.340	93.563	477.903
57	60.00	71.00	393.824	89.163	482.986
58	60.00	72.00	403.297	84.443	487.740
59	60.00	73.00	412.757	79.822	492.579
60	60.00	74.00	419.612	75.802	495.414
61	60.00	75.00	426.548	72.884	499.432
62	60.00	76.00	434.626	70.972	505.598
63	60.00	77.00	443.717	69.494	513.210
64	60.00	78.00	452.715	68.354	521.069
65	60.00	79.00	461.613	68.711	530.324
66	60.00	80.00	470.410	71.722	542.132
67	60.00	81.00	478.541	76.985	555.526
68	60.00	82.00	486.153	82.080	568.233
69	60.00	83.00	493.857	86.602	580.459
70	60.00	84.00	502.167	90.732	592.900
71	60.00	85.00	510.354	94.651	605.004
72	60.00	86.00	518.415	98.520	616.934
73	60.00	87.00	526.535	103.314	629.849

			B-301Shaft60in.out			
	74	60.00	88.00	534.775	109.195	643.970
	75	60.00	89.00	543.135	115.069	658.205
	76	60.00	90.00	551.615	119.842	671.457
	77	60.00	91.00	Soil Elevations Must Extend At or Below Contribution		
Zone	78	60.00	92.00	Soil Elevations Must Extend At or Below Contribution		
Zone	79	60.00	93.00	Soil Elevations Must Extend At or Below Contribution		
Zone	80	60.00	94.00	Soil Elevations Must Extend At or Below Contribution		
Zone	81	60.00	95.00	Soil Elevations Must Extend At or Below Contribution		
Zone						

General Information:

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Input file:analysis_Structure\FB-Deep_2021\Drilled Shaft\B-302Shaft48in.in
 Project number: 2000-01-16015
 Job name: I-95 From Hallandale Beach Boulevard to Hollywood Blvd
 Engineer: JB Henry
 Units: English

Analysis Information:

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Analysis Type: Drilled Shaft Analysis

Soil Information:

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Boring date: 9/7/2018
 Boring number: B-302
 Station number: Offset:

Ground Elevation: 0.00(ft)
 Water table Elevation = 0.00(ft)

Hammer type: Automatic Hammer, Correction factor = 1.24

ID	Depth (ft)	Elevation (ft)	SPT Blows (Blows/ft)	Unit Weight (pcf)	Soil Type
1	0.00	0.00	N/A	0.00	5- Cavity layer
2	2.00	-2.00	N/A	0.00	5- Cavity layer
3	4.00	-4.00	N/A	0.00	5- Cavity layer
4	6.00	-6.00	N/A	0.00	5- Cavity layer
5	8.00	-8.00	N/A	0.00	5- Cavity layer
6	10.00	-10.00	13.00	110.00	3- Clean sand
7	12.00	-12.00	14.00	110.00	3- Clean sand
8	13.50	-13.50	15.00	110.00	3- Clean sand
9	15.50	-15.50	16.00	115.00	3- Clean sand
10	18.00	-18.00	15.00	110.00	3- Clean sand
11	20.50	-20.50	10.00	110.00	3- Clean sand
12	23.00	-23.00	17.00	115.00	3- Clean sand
13	25.50	-25.50	6.00	105.00	3- Clean sand
14	28.00	-28.00	7.00	105.00	3- Clean sand
15	30.50	-30.50	5.00	105.00	3- Clean sand
16	33.00	-33.00	7.00	105.00	3- Clean sand
17	35.50	-35.50	12.00	110.00	3- Clean sand
18	38.00	-38.00	22.00	115.00	3- Clean sand
19	40.50	-40.50	6.00	105.00	3- Clean sand
20	43.00	-43.00	7.00	105.00	3- Clean sand
21	45.50	-45.50	13.00	110.00	3- Clean sand
22	48.00	-48.00	19.00	115.00	3- Clean sand
23	50.50	-50.50	22.00	115.00	3- Clean sand
24	53.00	-53.00	16.00	115.00	3- Clean sand
25	55.50	-55.50	7.00	105.00	3- Clean sand
26	58.00	-58.00	13.00	110.00	3- Clean sand
27	60.50	-60.50	6.00	105.00	3- Clean sand
28	63.00	-63.00	20.00	115.00	3- Clean sand
29	65.50	-65.50	41.00	125.00	3- Clean sand
30	68.00	-68.00	78.00	135.00	3- Clean sand

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31	70.50	-70.50	60.00	130.00	3- Clean sand
32	73.00	-73.00	60.00	130.00	3- Clean sand
33	75.50	-75.50	49.00	125.00	3- Clean sand
34	78.00	-78.00	61.00	130.00	3- Clean sand
35	80.50	-80.50	81.00	135.00	3- Clean sand
36	83.00	-83.00	60.00	130.00	3- Clean sand
37	85.50	-85.50	60.00	130.00	3- Clean sand
38	88.00	-88.00	60.00	130.00	3- Clean sand
39	90.50	-90.50	30.00	120.00	3- Clean sand
40	93.00	-93.00	26.00	120.00	3- Clean sand
41	95.50	-95.50	29.00	120.00	3- Clean sand
42	98.00	-98.00	60.00	130.00	3- Clean sand
43	100.00	-100.00	60.00	130.00	3- Clean sand

ID	Cu-DIR (tsf)	qu (tsf)	qt (tsf)	Em (ksi)	qb (tsf)
1	N/A	N/A	N/A	N/A	N/A
2	N/A	N/A	N/A	N/A	N/A
3	N/A	N/A	N/A	N/A	N/A
4	N/A	N/A	N/A	N/A	N/A
5	N/A	N/A	N/A	N/A	N/A
6	N/A	N/A	N/A	N/A	N/A
7	N/A	N/A	N/A	N/A	N/A
8	N/A	N/A	N/A	N/A	N/A
9	N/A	N/A	N/A	N/A	N/A
10	N/A	N/A	N/A	N/A	N/A
11	N/A	N/A	N/A	N/A	N/A
12	N/A	N/A	N/A	N/A	N/A
13	N/A	N/A	N/A	N/A	N/A
14	N/A	N/A	N/A	N/A	N/A
15	N/A	N/A	N/A	N/A	N/A
16	N/A	N/A	N/A	N/A	N/A
17	N/A	N/A	N/A	N/A	N/A
18	N/A	N/A	N/A	N/A	N/A
19	N/A	N/A	N/A	N/A	N/A
20	N/A	N/A	N/A	N/A	N/A
21	N/A	N/A	N/A	N/A	N/A
22	N/A	N/A	N/A	N/A	N/A
23	N/A	N/A	N/A	N/A	N/A
24	N/A	N/A	N/A	N/A	N/A
25	N/A	N/A	N/A	N/A	N/A
26	N/A	N/A	N/A	N/A	N/A
27	N/A	N/A	N/A	N/A	N/A
28	N/A	N/A	N/A	N/A	N/A
29	N/A	N/A	N/A	N/A	N/A
30	N/A	N/A	N/A	N/A	N/A
31	N/A	N/A	N/A	N/A	N/A
32	N/A	N/A	N/A	N/A	N/A
33	N/A	N/A	N/A	N/A	N/A
34	N/A	N/A	N/A	N/A	N/A
35	N/A	N/A	N/A	N/A	N/A
36	N/A	N/A	N/A	N/A	N/A
37	N/A	N/A	N/A	N/A	N/A
38	N/A	N/A	N/A	N/A	N/A
39	N/A	N/A	N/A	N/A	N/A
40	N/A	N/A	N/A	N/A	N/A
41	N/A	N/A	N/A	N/A	N/A
42	N/A	N/A	N/A	N/A	N/A
43	N/A	N/A	N/A	N/A	N/A

ID RQD F.M. S.R.I. Rock Recovery

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1	N/A	N/A	N/A
2	N/A	N/A	N/A
3	N/A	N/A	N/A
4	N/A	N/A	N/A
5	N/A	N/A	N/A
6	N/A	N/A	N/A
7	N/A	N/A	N/A
8	N/A	N/A	N/A
9	N/A	N/A	N/A
10	N/A	N/A	N/A
11	N/A	N/A	N/A
12	N/A	N/A	N/A
13	N/A	N/A	N/A
14	N/A	N/A	N/A
15	N/A	N/A	N/A
16	N/A	N/A	N/A
17	N/A	N/A	N/A
18	N/A	N/A	N/A
19	N/A	N/A	N/A
20	N/A	N/A	N/A
21	N/A	N/A	N/A
22	N/A	N/A	N/A
23	N/A	N/A	N/A
24	N/A	N/A	N/A
25	N/A	N/A	N/A
26	N/A	N/A	N/A
27	N/A	N/A	N/A
28	N/A	N/A	N/A
29	N/A	N/A	N/A
30	N/A	N/A	N/A
31	N/A	N/A	N/A
32	N/A	N/A	N/A
33	N/A	N/A	N/A
34	N/A	N/A	N/A
35	N/A	N/A	N/A
36	N/A	N/A	N/A
37	N/A	N/A	N/A
38	N/A	N/A	N/A
39	N/A	N/A	N/A
40	N/A	N/A	N/A
41	N/A	N/A	N/A
42	N/A	N/A	N/A
43	N/A	N/A	N/A

Drilled Shaft Data:

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Shaft Geometry:

ID	Length (ft)	Tip Elev. (ft)	Case Len. (ft)	Diameter (in)	Base Diam. (in)	Bell Len. (ft)
1	15.00	-15.00	6.00	48.00	48.00	0.00
2	16.00	-16.00	6.00	48.00	48.00	0.00
3	17.00	-17.00	6.00	48.00	48.00	0.00
4	18.00	-18.00	6.00	48.00	48.00	0.00
5	19.00	-19.00	6.00	48.00	48.00	0.00
6	20.00	-20.00	6.00	48.00	48.00	0.00
7	21.00	-21.00	6.00	48.00	48.00	0.00
8	22.00	-22.00	6.00	48.00	48.00	0.00
9	23.00	-23.00	6.00	48.00	48.00	0.00

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10	24.00	-24.00	6.00	48.00	48.00	0.00
11	25.00	-25.00	6.00	48.00	48.00	0.00
12	26.00	-26.00	6.00	48.00	48.00	0.00
13	27.00	-27.00	6.00	48.00	48.00	0.00
14	28.00	-28.00	6.00	48.00	48.00	0.00
15	29.00	-29.00	6.00	48.00	48.00	0.00
16	30.00	-30.00	6.00	48.00	48.00	0.00
17	31.00	-31.00	6.00	48.00	48.00	0.00
18	32.00	-32.00	6.00	48.00	48.00	0.00
19	33.00	-33.00	6.00	48.00	48.00	0.00
20	34.00	-34.00	6.00	48.00	48.00	0.00
21	35.00	-35.00	6.00	48.00	48.00	0.00
22	36.00	-36.00	6.00	48.00	48.00	0.00
23	37.00	-37.00	6.00	48.00	48.00	0.00
24	38.00	-38.00	6.00	48.00	48.00	0.00
25	39.00	-39.00	6.00	48.00	48.00	0.00
26	40.00	-40.00	6.00	48.00	48.00	0.00
27	41.00	-41.00	6.00	48.00	48.00	0.00
28	42.00	-42.00	6.00	48.00	48.00	0.00
29	43.00	-43.00	6.00	48.00	48.00	0.00
30	44.00	-44.00	6.00	48.00	48.00	0.00
31	45.00	-45.00	6.00	48.00	48.00	0.00
32	46.00	-46.00	6.00	48.00	48.00	0.00
33	47.00	-47.00	6.00	48.00	48.00	0.00
34	48.00	-48.00	6.00	48.00	48.00	0.00
35	49.00	-49.00	6.00	48.00	48.00	0.00
36	50.00	-50.00	6.00	48.00	48.00	0.00
37	51.00	-51.00	6.00	48.00	48.00	0.00
38	52.00	-52.00	6.00	48.00	48.00	0.00
39	53.00	-53.00	6.00	48.00	48.00	0.00
40	54.00	-54.00	6.00	48.00	48.00	0.00
41	55.00	-55.00	6.00	48.00	48.00	0.00
42	56.00	-56.00	6.00	48.00	48.00	0.00
43	57.00	-57.00	6.00	48.00	48.00	0.00
44	58.00	-58.00	6.00	48.00	48.00	0.00
45	59.00	-59.00	6.00	48.00	48.00	0.00
46	60.00	-60.00	6.00	48.00	48.00	0.00
47	61.00	-61.00	6.00	48.00	48.00	0.00
48	62.00	-62.00	6.00	48.00	48.00	0.00
49	63.00	-63.00	6.00	48.00	48.00	0.00
50	64.00	-64.00	6.00	48.00	48.00	0.00
51	65.00	-65.00	6.00	48.00	48.00	0.00
52	66.00	-66.00	6.00	48.00	48.00	0.00
53	67.00	-67.00	6.00	48.00	48.00	0.00
54	68.00	-68.00	6.00	48.00	48.00	0.00
55	69.00	-69.00	6.00	48.00	48.00	0.00
56	70.00	-70.00	6.00	48.00	48.00	0.00
57	71.00	-71.00	6.00	48.00	48.00	0.00
58	72.00	-72.00	6.00	48.00	48.00	0.00
59	73.00	-73.00	6.00	48.00	48.00	0.00
60	74.00	-74.00	6.00	48.00	48.00	0.00
61	75.00	-75.00	6.00	48.00	48.00	0.00
62	76.00	-76.00	6.00	48.00	48.00	0.00
63	77.00	-77.00	6.00	48.00	48.00	0.00
64	78.00	-78.00	6.00	48.00	48.00	0.00
65	79.00	-79.00	6.00	48.00	48.00	0.00
66	80.00	-80.00	6.00	48.00	48.00	0.00
67	81.00	-81.00	6.00	48.00	48.00	0.00
68	82.00	-82.00	6.00	48.00	48.00	0.00
69	83.00	-83.00	6.00	48.00	48.00	0.00
70	84.00	-84.00	6.00	48.00	48.00	0.00
71	85.00	-85.00	6.00	48.00	48.00	0.00
72	86.00	-86.00	6.00	48.00	48.00	0.00

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73	87.00	-87.00	6.00	48.00	48.00	0.00
74	88.00	-88.00	6.00	48.00	48.00	0.00
75	89.00	-89.00	6.00	48.00	48.00	0.00
76	90.00	-90.00	6.00	48.00	48.00	0.00
77	91.00	-91.00	6.00	48.00	48.00	0.00
78	92.00	-92.00	6.00	48.00	48.00	0.00
79	93.00	-93.00	6.00	48.00	48.00	0.00
80	94.00	-94.00	6.00	48.00	48.00	0.00
81	95.00	-95.00	6.00	48.00	48.00	0.00

Drilled Shaft Capacity (sorted by shaft diameter):

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Strength reduction factors: Skin-friction = 1.00, End-bearing = 1.00

ID	Diameter (in)	Length (ft)	Skin Fric. (tons)	End Bearing (tons)	Capacity (tons)
1	48.00	15.00	3.774	65.263	69.037
2	48.00	16.00	5.372	132.956	138.328
3	48.00	17.00	7.253	131.748	139.001
4	48.00	18.00	9.414	127.853	137.267
5	48.00	19.00	11.823	123.152	134.976
6	48.00	20.00	14.465	117.792	132.257
7	48.00	21.00	17.075	111.637	128.712
8	48.00	22.00	19.617	105.142	124.759
9	48.00	23.00	22.333	99.064	121.397
10	48.00	24.00	25.827	93.494	119.320
11	48.00	25.00	29.540	88.469	118.009
12	48.00	26.00	32.460	85.079	117.539
13	48.00	27.00	34.481	83.911	118.391
14	48.00	28.00	36.575	82.421	118.996
15	48.00	29.00	39.099	80.901	120.000
16	48.00	30.00	41.701	82.187	123.888
17	48.00	31.00	43.994	86.082	130.076
18	48.00	32.00	45.957	89.316	135.273
19	48.00	33.00	47.971	89.618	137.588
20	48.00	34.00	50.854	89.618	140.472
21	48.00	35.00	53.802	90.397	144.198
22	48.00	36.00	57.891	93.056	150.947
23	48.00	37.00	63.166	98.315	161.480
24	48.00	38.00	68.557	105.288	173.844
25	48.00	39.00	74.109	112.806	186.915
26	48.00	40.00	79.787	119.390	199.177
27	48.00	41.00	84.114	124.386	208.500
28	48.00	42.00	87.025	128.242	215.268
29	48.00	43.00	89.972	129.693	219.665
30	48.00	44.00	93.445	127.161	220.606
31	48.00	45.00	96.954	124.629	221.583
32	48.00	46.00	101.789	125.798	227.587
33	48.00	47.00	107.979	129.654	237.633
34	48.00	48.00	114.235	132.664	246.898
35	48.00	49.00	120.558	136.676	257.234
36	48.00	50.00	126.955	141.234	268.189
37	48.00	51.00	133.420	143.951	277.372
38	48.00	52.00	139.947	142.783	282.730
39	48.00	53.00	146.533	138.254	284.787
40	48.00	54.00	153.169	133.930	287.099
41	48.00	55.00	159.854	130.774	290.629
42	48.00	56.00	165.161	130.140	295.301
43	48.00	57.00	169.057	133.993	303.050
44	48.00	58.00	172.956	143.989	316.945
45	48.00	59.00	179.700	156.410	336.110

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46	48.00	60.00	186.455	170.622	357.078
47	48.00	61.00	191.723	187.299	379.021
48	48.00	62.00	195.546	207.082	402.628
49	48.00	63.00	199.436	226.670	426.106
50	48.00	64.00	206.164	245.726	451.890
51	48.00	65.00	212.897	266.521	479.418
52	48.00	66.00	219.632	290.883	510.514
53	48.00	67.00	226.383	316.806	543.189
54	48.00	68.00	233.150	339.184	572.334
55	48.00	69.00	239.936	357.199	597.135
56	48.00	70.00	246.749	369.866	616.615
57	48.00	71.00	253.583	376.199	629.782
58	48.00	72.00	260.419	376.991	637.410
59	48.00	73.00	267.254	376.991	644.245
60	48.00	74.00	274.079	376.991	651.070
61	48.00	75.00	280.890	376.991	657.881
62	48.00	76.00	287.681	376.991	664.672
63	48.00	77.00	294.437	376.991	671.428
64	48.00	78.00	301.154	376.991	678.145
65	48.00	79.00	307.829	376.991	684.820
66	48.00	80.00	314.464	376.991	691.455
67	48.00	81.00	321.054	375.785	696.839
68	48.00	82.00	327.599	372.166	699.765
69	48.00	83.00	334.098	366.319	700.416
70	48.00	84.00	340.535	359.352	699.887
71	48.00	85.00	346.906	351.450	698.356
72	48.00	86.00	353.206	343.431	696.637
73	48.00	87.00	359.566	336.114	695.680
74	48.00	88.00	366.032	329.741	695.773
75	48.00	89.00	372.604	325.369	697.973
76	48.00	90.00	379.283	322.839	702.122
77	48.00	91.00	386.066	320.890	706.956
78	48.00	92.00	392.941	318.568	711.509
79	48.00	93.00	Soil Elevations Must Extend At or Below Contribution		
Zone					
80	48.00	94.00	Soil Elevations Must Extend At or Below Contribution		
Zone					
81	48.00	95.00	Soil Elevations Must Extend At or Below Contribution		
Zone					

Drilled Shaft Capacity at User-Defined Settlement (sorted by shaft diameter):

***** Capacity is NOT modified by the strength reduction factors *****

User-Defined Settlement = 1.04%

ID	Diameter (in)	Length (ft)	Skin Fric. (tons)	End Bearing (tons)	Capacity (tons)
1	48.00	15.00	3.691	20.730	24.421
2	48.00	16.00	5.254	42.231	47.486
3	48.00	17.00	7.094	41.848	48.942
4	48.00	18.00	9.208	40.610	49.818
5	48.00	19.00	11.565	39.117	50.682
6	48.00	20.00	14.148	37.415	51.563
7	48.00	21.00	16.701	35.460	52.161
8	48.00	22.00	19.188	33.397	52.585
9	48.00	23.00	21.844	31.466	53.310
10	48.00	24.00	25.261	29.697	54.958
11	48.00	25.00	28.894	28.101	56.994
12	48.00	26.00	31.749	27.024	58.773

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13	48.00	27.00	33.726	26.653	60.379
14	48.00	28.00	35.775	26.180	61.954
15	48.00	29.00	38.243	25.697	63.940
16	48.00	30.00	40.788	26.105	66.894
17	48.00	31.00	43.031	27.343	70.374
18	48.00	32.00	44.951	28.370	73.321
19	48.00	33.00	46.921	28.466	75.386
20	48.00	34.00	49.741	28.466	78.207
21	48.00	35.00	52.624	28.713	81.337
22	48.00	36.00	56.624	29.558	86.182
23	48.00	37.00	61.783	31.228	93.011
24	48.00	38.00	67.056	33.443	100.499
25	48.00	39.00	72.487	35.831	108.318
26	48.00	40.00	78.041	37.922	115.963
27	48.00	41.00	82.273	39.509	121.782
28	48.00	42.00	85.120	40.734	125.855
29	48.00	43.00	88.002	41.195	129.197
30	48.00	44.00	91.400	40.391	131.790
31	48.00	45.00	94.832	39.587	134.418
32	48.00	46.00	99.561	39.958	139.519
33	48.00	47.00	105.615	41.183	146.798
34	48.00	48.00	111.734	42.139	153.873
35	48.00	49.00	117.919	43.413	161.332
36	48.00	50.00	124.176	44.861	169.037
37	48.00	51.00	130.500	45.724	176.224
38	48.00	52.00	136.884	45.353	182.237
39	48.00	53.00	143.326	43.914	187.240
40	48.00	54.00	149.817	42.541	192.358
41	48.00	55.00	156.355	41.538	197.894
42	48.00	56.00	161.546	41.337	202.883
43	48.00	57.00	165.357	42.561	207.918
44	48.00	58.00	169.171	45.736	214.907
45	48.00	59.00	175.767	49.681	225.448
46	48.00	60.00	182.374	54.195	236.570
47	48.00	61.00	187.526	59.493	247.019
48	48.00	62.00	191.266	65.776	257.042
49	48.00	63.00	195.071	71.998	267.069
50	48.00	64.00	201.652	78.051	279.703
51	48.00	65.00	208.237	84.656	292.893
52	48.00	66.00	214.825	92.394	307.219
53	48.00	67.00	221.428	100.628	322.056
54	48.00	68.00	228.047	107.737	335.783
55	48.00	69.00	234.684	113.459	348.143
56	48.00	70.00	241.349	117.482	358.831
57	48.00	71.00	248.032	119.494	367.526
58	48.00	72.00	254.719	119.745	374.464
59	48.00	73.00	261.405	119.745	381.150
60	48.00	74.00	268.079	119.745	387.825
61	48.00	75.00	274.742	119.745	394.487
62	48.00	76.00	281.384	119.745	401.130
63	48.00	77.00	287.992	119.745	407.738
64	48.00	78.00	294.563	119.745	414.308
65	48.00	79.00	301.091	119.745	420.836
66	48.00	80.00	307.581	119.745	427.326
67	48.00	81.00	314.027	119.362	433.389
68	48.00	82.00	320.429	118.213	438.641
69	48.00	83.00	326.785	116.355	443.140
70	48.00	84.00	333.082	114.142	447.224
71	48.00	85.00	339.313	111.633	450.946
72	48.00	86.00	345.475	109.086	454.560
73	48.00	87.00	351.695	106.761	458.457
74	48.00	88.00	358.020	104.737	462.757
75	48.00	89.00	364.449	103.348	467.797

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	76	48.00	90.00	370.981	102.545 473.526
	77	48.00	91.00	377.615	101.926 479.541
	78	48.00	92.00	384.340	101.188 485.528
	79	48.00	93.00	Soil Elevations Must Extend At or Below Contribution	
Zone	80	48.00	94.00	Soil Elevations Must Extend At or Below Contribution	
Zone	81	48.00	95.00	Soil Elevations Must Extend At or Below Contribution	
Zone					

General Information:

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Input file:analysis_Structure\FB-Deep_2021\Drilled Shaft\B-302Shaft60in.in
 Project number: 2000-01-16015
 Job name: I-95 From Hallandale Beach Boulevard to Hollywood Blvd
 Engineer: JB Henry
 Units: English

Analysis Information:

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Analysis Type: Drilled Shaft Analysis

Soil Information:

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Boring date: 9/7/2018
 Boring number: B-302
 Station number: Offset:

Ground Elevation: 0.00(ft)
 Water table Elevation = 0.00(ft)

Hammer type: Automatic Hammer, Correction factor = 1.24

ID	Depth (ft)	Elevation (ft)	SPT Blows (Blows/ft)	Unit Weight (pcf)	Soil Type
1	0.00	0.00	N/A	0.00	5- Cavity layer
2	2.00	-2.00	N/A	0.00	5- Cavity layer
3	4.00	-4.00	N/A	0.00	5- Cavity layer
4	6.00	-6.00	N/A	0.00	5- Cavity layer
5	8.00	-8.00	N/A	0.00	5- Cavity layer
6	10.00	-10.00	13.00	110.00	3- Clean sand
7	12.00	-12.00	14.00	110.00	3- Clean sand
8	13.50	-13.50	15.00	110.00	3- Clean sand
9	15.50	-15.50	16.00	115.00	3- Clean sand
10	18.00	-18.00	15.00	110.00	3- Clean sand
11	20.50	-20.50	10.00	110.00	3- Clean sand
12	23.00	-23.00	17.00	115.00	3- Clean sand
13	25.50	-25.50	6.00	105.00	3- Clean sand
14	28.00	-28.00	7.00	105.00	3- Clean sand
15	30.50	-30.50	5.00	105.00	3- Clean sand
16	33.00	-33.00	7.00	105.00	3- Clean sand
17	35.50	-35.50	12.00	110.00	3- Clean sand
18	38.00	-38.00	22.00	115.00	3- Clean sand
19	40.50	-40.50	6.00	105.00	3- Clean sand
20	43.00	-43.00	7.00	105.00	3- Clean sand
21	45.50	-45.50	13.00	110.00	3- Clean sand
22	48.00	-48.00	19.00	115.00	3- Clean sand
23	50.50	-50.50	22.00	115.00	3- Clean sand
24	53.00	-53.00	16.00	115.00	3- Clean sand
25	55.50	-55.50	7.00	105.00	3- Clean sand
26	58.00	-58.00	13.00	110.00	3- Clean sand
27	60.50	-60.50	6.00	105.00	3- Clean sand
28	63.00	-63.00	20.00	115.00	3- Clean sand
29	65.50	-65.50	41.00	125.00	3- Clean sand
30	68.00	-68.00	78.00	135.00	3- Clean sand

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31	70.50	-70.50	60.00	130.00	3- Clean sand
32	73.00	-73.00	60.00	130.00	3- Clean sand
33	75.50	-75.50	49.00	125.00	3- Clean sand
34	78.00	-78.00	61.00	130.00	3- Clean sand
35	80.50	-80.50	81.00	135.00	3- Clean sand
36	83.00	-83.00	60.00	130.00	3- Clean sand
37	85.50	-85.50	60.00	130.00	3- Clean sand
38	88.00	-88.00	60.00	130.00	3- Clean sand
39	90.50	-90.50	30.00	120.00	3- Clean sand
40	93.00	-93.00	26.00	120.00	3- Clean sand
41	95.50	-95.50	29.00	120.00	3- Clean sand
42	98.00	-98.00	60.00	130.00	3- Clean sand
43	100.00	-100.00	60.00	130.00	3- Clean sand

ID	Cu-DIR (tsf)	qu (tsf)	qt (tsf)	Em (ksi)	qb (tsf)
1	N/A	N/A	N/A	N/A	N/A
2	N/A	N/A	N/A	N/A	N/A
3	N/A	N/A	N/A	N/A	N/A
4	N/A	N/A	N/A	N/A	N/A
5	N/A	N/A	N/A	N/A	N/A
6	N/A	N/A	N/A	N/A	N/A
7	N/A	N/A	N/A	N/A	N/A
8	N/A	N/A	N/A	N/A	N/A
9	N/A	N/A	N/A	N/A	N/A
10	N/A	N/A	N/A	N/A	N/A
11	N/A	N/A	N/A	N/A	N/A
12	N/A	N/A	N/A	N/A	N/A
13	N/A	N/A	N/A	N/A	N/A
14	N/A	N/A	N/A	N/A	N/A
15	N/A	N/A	N/A	N/A	N/A
16	N/A	N/A	N/A	N/A	N/A
17	N/A	N/A	N/A	N/A	N/A
18	N/A	N/A	N/A	N/A	N/A
19	N/A	N/A	N/A	N/A	N/A
20	N/A	N/A	N/A	N/A	N/A
21	N/A	N/A	N/A	N/A	N/A
22	N/A	N/A	N/A	N/A	N/A
23	N/A	N/A	N/A	N/A	N/A
24	N/A	N/A	N/A	N/A	N/A
25	N/A	N/A	N/A	N/A	N/A
26	N/A	N/A	N/A	N/A	N/A
27	N/A	N/A	N/A	N/A	N/A
28	N/A	N/A	N/A	N/A	N/A
29	N/A	N/A	N/A	N/A	N/A
30	N/A	N/A	N/A	N/A	N/A
31	N/A	N/A	N/A	N/A	N/A
32	N/A	N/A	N/A	N/A	N/A
33	N/A	N/A	N/A	N/A	N/A
34	N/A	N/A	N/A	N/A	N/A
35	N/A	N/A	N/A	N/A	N/A
36	N/A	N/A	N/A	N/A	N/A
37	N/A	N/A	N/A	N/A	N/A
38	N/A	N/A	N/A	N/A	N/A
39	N/A	N/A	N/A	N/A	N/A
40	N/A	N/A	N/A	N/A	N/A
41	N/A	N/A	N/A	N/A	N/A
42	N/A	N/A	N/A	N/A	N/A
43	N/A	N/A	N/A	N/A	N/A

ID RQD F.M. S.R.I. Rock Recovery

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1	N/A	N/A	N/A
2	N/A	N/A	N/A
3	N/A	N/A	N/A
4	N/A	N/A	N/A
5	N/A	N/A	N/A
6	N/A	N/A	N/A
7	N/A	N/A	N/A
8	N/A	N/A	N/A
9	N/A	N/A	N/A
10	N/A	N/A	N/A
11	N/A	N/A	N/A
12	N/A	N/A	N/A
13	N/A	N/A	N/A
14	N/A	N/A	N/A
15	N/A	N/A	N/A
16	N/A	N/A	N/A
17	N/A	N/A	N/A
18	N/A	N/A	N/A
19	N/A	N/A	N/A
20	N/A	N/A	N/A
21	N/A	N/A	N/A
22	N/A	N/A	N/A
23	N/A	N/A	N/A
24	N/A	N/A	N/A
25	N/A	N/A	N/A
26	N/A	N/A	N/A
27	N/A	N/A	N/A
28	N/A	N/A	N/A
29	N/A	N/A	N/A
30	N/A	N/A	N/A
31	N/A	N/A	N/A
32	N/A	N/A	N/A
33	N/A	N/A	N/A
34	N/A	N/A	N/A
35	N/A	N/A	N/A
36	N/A	N/A	N/A
37	N/A	N/A	N/A
38	N/A	N/A	N/A
39	N/A	N/A	N/A
40	N/A	N/A	N/A
41	N/A	N/A	N/A
42	N/A	N/A	N/A
43	N/A	N/A	N/A

Drilled Shaft Data:

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Shaft Geometry:

ID	Length (ft)	Tip Elev. (ft)	Case Len. (ft)	Diameter (in)	Base Diam. (in)	Bell Len. (ft)
1	15.00	-15.00	6.00	60.00	60.00	0.00
2	16.00	-16.00	6.00	60.00	60.00	0.00
3	17.00	-17.00	6.00	60.00	60.00	0.00
4	18.00	-18.00	6.00	60.00	60.00	0.00
5	19.00	-19.00	6.00	60.00	60.00	0.00
6	20.00	-20.00	6.00	60.00	60.00	0.00
7	21.00	-21.00	6.00	60.00	60.00	0.00
8	22.00	-22.00	6.00	60.00	60.00	0.00
9	23.00	-23.00	6.00	60.00	60.00	0.00

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10	24.00	-24.00	6.00	60.00	60.00	0.00
11	25.00	-25.00	6.00	60.00	60.00	0.00
12	26.00	-26.00	6.00	60.00	60.00	0.00
13	27.00	-27.00	6.00	60.00	60.00	0.00
14	28.00	-28.00	6.00	60.00	60.00	0.00
15	29.00	-29.00	6.00	60.00	60.00	0.00
16	30.00	-30.00	6.00	60.00	60.00	0.00
17	31.00	-31.00	6.00	60.00	60.00	0.00
18	32.00	-32.00	6.00	60.00	60.00	0.00
19	33.00	-33.00	6.00	60.00	60.00	0.00
20	34.00	-34.00	6.00	60.00	60.00	0.00
21	35.00	-35.00	6.00	60.00	60.00	0.00
22	36.00	-36.00	6.00	60.00	60.00	0.00
23	37.00	-37.00	6.00	60.00	60.00	0.00
24	38.00	-38.00	6.00	60.00	60.00	0.00
25	39.00	-39.00	6.00	60.00	60.00	0.00
26	40.00	-40.00	6.00	60.00	60.00	0.00
27	41.00	-41.00	6.00	60.00	60.00	0.00
28	42.00	-42.00	6.00	60.00	60.00	0.00
29	43.00	-43.00	6.00	60.00	60.00	0.00
30	44.00	-44.00	6.00	60.00	60.00	0.00
31	45.00	-45.00	6.00	60.00	60.00	0.00
32	46.00	-46.00	6.00	60.00	60.00	0.00
33	47.00	-47.00	6.00	60.00	60.00	0.00
34	48.00	-48.00	6.00	60.00	60.00	0.00
35	49.00	-49.00	6.00	60.00	60.00	0.00
36	50.00	-50.00	6.00	60.00	60.00	0.00
37	51.00	-51.00	6.00	60.00	60.00	0.00
38	52.00	-52.00	6.00	60.00	60.00	0.00
39	53.00	-53.00	6.00	60.00	60.00	0.00
40	54.00	-54.00	6.00	60.00	60.00	0.00
41	55.00	-55.00	6.00	60.00	60.00	0.00
42	56.00	-56.00	6.00	60.00	60.00	0.00
43	57.00	-57.00	6.00	60.00	60.00	0.00
44	58.00	-58.00	6.00	60.00	60.00	0.00
45	59.00	-59.00	6.00	60.00	60.00	0.00
46	60.00	-60.00	6.00	60.00	60.00	0.00
47	61.00	-61.00	6.00	60.00	60.00	0.00
48	62.00	-62.00	6.00	60.00	60.00	0.00
49	63.00	-63.00	6.00	60.00	60.00	0.00
50	64.00	-64.00	6.00	60.00	60.00	0.00
51	65.00	-65.00	6.00	60.00	60.00	0.00
52	66.00	-66.00	6.00	60.00	60.00	0.00
53	67.00	-67.00	6.00	60.00	60.00	0.00
54	68.00	-68.00	6.00	60.00	60.00	0.00
55	69.00	-69.00	6.00	60.00	60.00	0.00
56	70.00	-70.00	6.00	60.00	60.00	0.00
57	71.00	-71.00	6.00	60.00	60.00	0.00
58	72.00	-72.00	6.00	60.00	60.00	0.00
59	73.00	-73.00	6.00	60.00	60.00	0.00
60	74.00	-74.00	6.00	60.00	60.00	0.00
61	75.00	-75.00	6.00	60.00	60.00	0.00
62	76.00	-76.00	6.00	60.00	60.00	0.00
63	77.00	-77.00	6.00	60.00	60.00	0.00
64	78.00	-78.00	6.00	60.00	60.00	0.00
65	79.00	-79.00	6.00	60.00	60.00	0.00
66	80.00	-80.00	6.00	60.00	60.00	0.00
67	81.00	-81.00	6.00	60.00	60.00	0.00
68	82.00	-82.00	6.00	60.00	60.00	0.00
69	83.00	-83.00	6.00	60.00	60.00	0.00
70	84.00	-84.00	6.00	60.00	60.00	0.00
71	85.00	-85.00	6.00	60.00	60.00	0.00
72	86.00	-86.00	6.00	60.00	60.00	0.00

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73	87.00	-87.00	6.00	60.00	60.00	0.00
74	88.00	-88.00	6.00	60.00	60.00	0.00
75	89.00	-89.00	6.00	60.00	60.00	0.00
76	90.00	-90.00	6.00	60.00	60.00	0.00
77	91.00	-91.00	6.00	60.00	60.00	0.00
78	92.00	-92.00	6.00	60.00	60.00	0.00
79	93.00	-93.00	6.00	60.00	60.00	0.00
80	94.00	-94.00	6.00	60.00	60.00	0.00
81	95.00	-95.00	6.00	60.00	60.00	0.00

Drilled Shaft Capacity (sorted by shaft diameter):

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Strength reduction factors: Skin-friction = 1.00, End-bearing = 1.00

ID	Diameter (in)	Length (ft)	Skin Fric. (tons)	End Bearing (tons)	Capacity (tons)

1	60.00	15.00	4.717	83.321	88.038
2	60.00	16.00	6.715	77.668	84.383
3	60.00	17.00	9.066	72.068	81.134
4	60.00	18.00	11.768	157.801	169.569
5	60.00	19.00	14.779	153.703	168.482
6	60.00	20.00	18.081	148.289	166.370
7	60.00	21.00	21.344	141.702	163.045
8	60.00	22.00	24.522	135.452	159.974
9	60.00	23.00	27.916	129.852	157.768
10	60.00	24.00	32.283	124.902	157.185
11	60.00	25.00	36.925	120.601	157.526
12	60.00	26.00	40.575	117.385	157.959
13	60.00	27.00	43.101	117.872	160.973
14	60.00	28.00	45.719	122.498	168.217
15	60.00	29.00	48.873	126.028	174.901
16	60.00	30.00	52.126	123.228	175.354
17	60.00	31.00	54.992	115.386	170.378
18	60.00	32.00	57.446	110.233	167.679
19	60.00	33.00	59.963	109.056	169.019
20	60.00	34.00	63.568	110.638	174.206
21	60.00	35.00	67.252	113.763	181.015
22	60.00	36.00	72.364	118.602	190.966
23	60.00	37.00	78.957	126.190	205.147
24	60.00	38.00	85.696	136.700	222.396
25	60.00	39.00	92.636	148.062	240.698
26	60.00	40.00	99.734	158.207	257.941
27	60.00	41.00	105.143	166.911	272.054
28	60.00	42.00	108.782	172.836	281.617
29	60.00	43.00	112.464	175.757	288.222
30	60.00	44.00	116.806	174.702	291.509
31	60.00	45.00	121.192	168.697	289.889
32	60.00	46.00	127.237	159.252	286.489
33	60.00	47.00	134.973	155.437	290.411
34	60.00	48.00	142.793	158.765	301.558
35	60.00	49.00	150.697	164.771	315.468
36	60.00	50.00	158.694	168.991	327.685
37	60.00	51.00	166.775	171.771	338.546
38	60.00	52.00	174.934	175.179	350.113
39	60.00	53.00	183.167	179.562	362.728
40	60.00	54.00	191.462	185.566	377.028
41	60.00	55.00	199.818	193.840	393.658
42	60.00	56.00	206.451	204.040	410.490
43	60.00	57.00	211.321	214.097	425.418
44	60.00	58.00	216.195	223.667	439.862
45	60.00	59.00	224.625	233.683	458.308

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46	60.00	60.00	233.069	245.079	478.149
47	60.00	61.00	239.654	258.190	497.843
48	60.00	62.00	244.432	275.024	519.456
49	60.00	63.00	249.295	295.915	545.210
50	60.00	64.00	257.705	318.686	576.391
51	60.00	65.00	266.121	341.159	607.280
52	60.00	66.00	274.540	363.655	638.195
53	60.00	67.00	282.979	388.102	671.080
54	60.00	68.00	291.438	414.821	706.259
55	60.00	69.00	299.919	440.404	740.324
56	60.00	70.00	308.437	461.442	769.879
57	60.00	71.00	316.978	477.679	794.657
58	60.00	72.00	325.523	487.575	813.099
59	60.00	73.00	334.068	490.874	824.942
60	60.00	74.00	342.598	490.874	833.472
61	60.00	75.00	351.113	490.874	841.987
62	60.00	76.00	359.601	490.874	850.475
63	60.00	77.00	368.046	490.874	858.920
64	60.00	78.00	376.443	490.874	867.317
65	60.00	79.00	384.786	489.617	874.403
66	60.00	80.00	393.080	485.847	878.927
67	60.00	81.00	401.317	479.757	881.074
68	60.00	82.00	409.499	472.499	881.998
69	60.00	83.00	417.622	464.268	881.891
70	60.00	84.00	425.669	455.916	881.585
71	60.00	85.00	433.633	448.293	881.926
72	60.00	86.00	441.507	441.655	883.162
73	60.00	87.00	449.457	437.520	886.977
74	60.00	88.00	457.540	436.141	893.681
75	60.00	89.00	465.755	435.723	901.478
76	60.00	90.00	474.103	434.466	908.569
77	60.00	91.00	Soil Elevations Must Extend At or Below Contribution		
Zone					
78	60.00	92.00	Soil Elevations Must Extend At or Below Contribution		
Zone					
79	60.00	93.00	Soil Elevations Must Extend At or Below Contribution		
Zone					
80	60.00	94.00	Soil Elevations Must Extend At or Below Contribution		
Zone					
81	60.00	95.00	Soil Elevations Must Extend At or Below Contribution		
Zone					

Drilled Shaft Capacity at User-Defined Settlement (sorted by shaft diameter):

***** Capacity is NOT modified by the strength reduction factors *****

User-Defined Settlement = 0.83%

ID	Diameter (in)	Length (ft)	Skin Fric. (tons)	End Bearing (tons)	Capacity (tons)
1	60.00	15.00	4.597	21.755	26.351
2	60.00	16.00	6.544	20.279	26.822
3	60.00	17.00	8.835	18.816	27.651
4	60.00	18.00	11.468	41.201	52.668
5	60.00	19.00	14.403	40.131	54.533
6	60.00	20.00	17.620	38.717	56.337
7	60.00	21.00	20.800	36.997	57.797
8	60.00	22.00	23.897	35.366	59.262
9	60.00	23.00	27.204	33.903	61.108
10	60.00	24.00	31.460	32.611	64.071

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11	60.00	25.00	35.984	31.488	67.472
12	60.00	26.00	39.540	30.648	70.189
13	60.00	27.00	42.002	30.775	72.777
14	60.00	28.00	44.554	31.983	76.537
15	60.00	29.00	47.627	32.905	80.532
16	60.00	30.00	50.798	32.174	82.971
17	60.00	31.00	53.590	30.126	83.717
18	60.00	32.00	55.982	28.781	84.763
19	60.00	33.00	58.435	28.474	86.908
20	60.00	34.00	61.947	28.887	90.834
21	60.00	35.00	65.538	29.703	95.240
22	60.00	36.00	70.519	30.966	101.485
23	60.00	37.00	76.944	32.947	109.892
24	60.00	38.00	83.511	35.691	119.203
25	60.00	39.00	90.274	38.658	128.932
26	60.00	40.00	97.191	41.307	138.498
27	60.00	41.00	102.462	43.579	146.041
28	60.00	42.00	106.008	45.126	151.134
29	60.00	43.00	109.597	45.889	155.486
30	60.00	44.00	113.828	45.613	159.442
31	60.00	45.00	118.103	44.045	162.148
32	60.00	46.00	123.993	41.579	165.572
33	60.00	47.00	131.532	40.584	172.116
34	60.00	48.00	139.153	41.452	180.605
35	60.00	49.00	146.855	43.020	189.876
36	60.00	50.00	154.648	44.122	198.770
37	60.00	51.00	162.524	44.848	207.372
38	60.00	52.00	170.474	45.738	216.212
39	60.00	53.00	178.497	46.882	225.379
40	60.00	54.00	186.581	48.450	235.031
41	60.00	55.00	194.724	50.610	245.334
42	60.00	56.00	201.188	53.273	254.461
43	60.00	57.00	205.934	55.899	261.833
44	60.00	58.00	210.684	58.398	269.081
45	60.00	59.00	218.899	61.013	279.912
46	60.00	60.00	227.127	63.988	291.116
47	60.00	61.00	233.544	67.411	300.955
48	60.00	62.00	238.201	71.806	310.008
49	60.00	63.00	242.940	77.261	320.201
50	60.00	64.00	251.135	83.207	334.342
51	60.00	65.00	259.337	89.074	348.411
52	60.00	66.00	267.541	94.947	362.488
53	60.00	67.00	275.764	101.330	377.095
54	60.00	68.00	284.008	108.307	392.314
55	60.00	69.00	292.273	114.986	407.259
56	60.00	70.00	300.574	120.479	421.053
57	60.00	71.00	308.897	124.718	433.616
58	60.00	72.00	317.225	127.302	444.527
59	60.00	73.00	325.551	128.163	453.714
60	60.00	74.00	333.864	128.163	462.027
61	60.00	75.00	342.162	128.163	470.325
62	60.00	76.00	350.434	128.163	478.597
63	60.00	77.00	358.663	128.163	486.826
64	60.00	78.00	366.846	128.163	495.009
65	60.00	79.00	374.976	127.835	502.812
66	60.00	80.00	383.059	126.851	509.910
67	60.00	81.00	391.086	125.261	516.347
68	60.00	82.00	399.059	123.366	522.425
69	60.00	83.00	406.975	121.217	528.192
70	60.00	84.00	414.817	119.036	533.853
71	60.00	85.00	422.578	117.046	539.624
72	60.00	86.00	430.251	115.313	545.564
73	60.00	87.00	437.999	114.233	552.232

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	74	60.00	88.00	445.875	113.873	559.749
	75	60.00	89.00	453.881	113.764	567.645
	76	60.00	90.00	462.017	113.436	575.453
	77	60.00	91.00	Soil Elevations Must Extend At or Below Contribution		
Zone	78	60.00	92.00	Soil Elevations Must Extend At or Below Contribution		
Zone	79	60.00	93.00	Soil Elevations Must Extend At or Below Contribution		
Zone	80	60.00	94.00	Soil Elevations Must Extend At or Below Contribution		
Zone	81	60.00	95.00	Soil Elevations Must Extend At or Below Contribution		
Zone						

General Information:

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Input file:analysis_Structure\FB-Deep_2021\Drilled Shaft\B-401Shaft48in.in
 Project number: 2000-01-16015
 Job name: I-95 From Hallandale Beach Boulevard to Hollywood Blvd
 Engineer: JB Henry
 Units: English

Analysis Information:

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Analysis Type: Drilled Shaft Analysis

Soil Information:

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Boring date: 9/10/2018
 Boring number: B-401
 Station number: Offset:

Ground Elevation: 0.00(ft)
 Water table Elevation = 0.00(ft)

Hammer type: Automatic Hammer, Correction factor = 1.24

ID	Depth (ft)	Elevation (ft)	SPT Blows (Blows/ft)	Unit Weight (pcf)	Soil Type
1	0.00	0.00	N/A	0.00	5- Cavity layer
2	2.00	-2.00	N/A	0.00	5- Cavity layer
3	4.00	-4.00	N/A	0.00	5- Cavity layer
4	6.00	-6.00	N/A	0.00	5- Cavity layer
5	8.00	-8.00	N/A	0.00	5- Cavity layer
6	10.00	-10.00	4.00	105.00	3- Clean sand
7	12.00	-12.00	6.00	105.00	3- Clean sand
8	13.50	-13.50	5.00	105.00	3- Clean sand
9	15.50	-15.50	3.00	100.00	3- Clean sand
10	18.00	-18.00	5.00	105.00	3- Clean sand
11	20.50	-20.50	5.00	105.00	3- Clean sand
12	23.00	-23.00	9.00	110.00	3- Clean sand
13	25.50	-25.50	4.00	105.00	3- Clean sand
14	28.00	-28.00	9.00	110.00	3- Clean sand
15	30.50	-30.50	9.00	110.00	3- Clean sand
16	33.00	-33.00	12.00	110.00	3- Clean sand
17	35.50	-35.50	10.00	110.00	3- Clean sand
18	38.00	-38.00	17.00	115.00	3- Clean sand
19	40.50	-40.50	25.00	120.00	3- Clean sand
20	43.00	-43.00	23.00	115.00	3- Clean sand
21	45.50	-45.50	37.00	125.00	3- Clean sand
22	48.00	-48.00	28.00	120.00	3- Clean sand
23	50.50	-50.50	18.00	115.00	3- Clean sand
24	53.00	-53.00	60.00	130.00	3- Clean sand
25	55.50	-55.50	17.00	115.00	3- Clean sand
26	58.00	-58.00	23.00	115.00	3- Clean sand
27	60.50	-60.50	60.00	130.00	3- Clean sand
28	63.00	-63.00	41.00	125.00	3- Clean sand
29	65.50	-65.50	50.00	125.00	3- Clean sand
30	68.00	-68.00	61.00	130.00	3- Clean sand

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31	70.50	-70.50	8.00	110.00	3- Clean sand
32	73.00	-73.00	21.00	115.00	3- Clean sand
33	75.50	-75.50	72.00	135.00	3- Clean sand
34	78.00	-78.00	60.00	130.00	3- Clean sand
35	80.50	-80.50	20.00	115.00	3- Clean sand
36	83.00	-83.00	67.00	130.00	3- Clean sand
37	85.50	-85.50	60.00	130.00	3- Clean sand
38	88.00	-88.00	25.00	120.00	3- Clean sand
39	90.50	-90.50	60.00	130.00	3- Clean sand
40	93.00	-93.00	80.00	135.00	3- Clean sand
41	95.50	-95.50	69.00	135.00	3- Clean sand
42	98.00	-98.00	87.00	135.00	3- Clean sand
43	100.00	-100.00	87.00	135.00	3- Clean sand

ID	Cu-DIR (tsf)	qu (tsf)	qt (tsf)	Em (ksi)	qb (tsf)
1	N/A	N/A	N/A	N/A	N/A
2	N/A	N/A	N/A	N/A	N/A
3	N/A	N/A	N/A	N/A	N/A
4	N/A	N/A	N/A	N/A	N/A
5	N/A	N/A	N/A	N/A	N/A
6	N/A	N/A	N/A	N/A	N/A
7	N/A	N/A	N/A	N/A	N/A
8	N/A	N/A	N/A	N/A	N/A
9	N/A	N/A	N/A	N/A	N/A
10	N/A	N/A	N/A	N/A	N/A
11	N/A	N/A	N/A	N/A	N/A
12	N/A	N/A	N/A	N/A	N/A
13	N/A	N/A	N/A	N/A	N/A
14	N/A	N/A	N/A	N/A	N/A
15	N/A	N/A	N/A	N/A	N/A
16	N/A	N/A	N/A	N/A	N/A
17	N/A	N/A	N/A	N/A	N/A
18	N/A	N/A	N/A	N/A	N/A
19	N/A	N/A	N/A	N/A	N/A
20	N/A	N/A	N/A	N/A	N/A
21	N/A	N/A	N/A	N/A	N/A
22	N/A	N/A	N/A	N/A	N/A
23	N/A	N/A	N/A	N/A	N/A
24	N/A	N/A	N/A	N/A	N/A
25	N/A	N/A	N/A	N/A	N/A
26	N/A	N/A	N/A	N/A	N/A
27	N/A	N/A	N/A	N/A	N/A
28	N/A	N/A	N/A	N/A	N/A
29	N/A	N/A	N/A	N/A	N/A
30	N/A	N/A	N/A	N/A	N/A
31	N/A	N/A	N/A	N/A	N/A
32	N/A	N/A	N/A	N/A	N/A
33	N/A	N/A	N/A	N/A	N/A
34	N/A	N/A	N/A	N/A	N/A
35	N/A	N/A	N/A	N/A	N/A
36	N/A	N/A	N/A	N/A	N/A
37	N/A	N/A	N/A	N/A	N/A
38	N/A	N/A	N/A	N/A	N/A
39	N/A	N/A	N/A	N/A	N/A
40	N/A	N/A	N/A	N/A	N/A
41	N/A	N/A	N/A	N/A	N/A
42	N/A	N/A	N/A	N/A	N/A
43	N/A	N/A	N/A	N/A	N/A

ID RQD F.M. S.R.I. Rock Recovery

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1	N/A	N/A	N/A
2	N/A	N/A	N/A
3	N/A	N/A	N/A
4	N/A	N/A	N/A
5	N/A	N/A	N/A
6	N/A	N/A	N/A
7	N/A	N/A	N/A
8	N/A	N/A	N/A
9	N/A	N/A	N/A
10	N/A	N/A	N/A
11	N/A	N/A	N/A
12	N/A	N/A	N/A
13	N/A	N/A	N/A
14	N/A	N/A	N/A
15	N/A	N/A	N/A
16	N/A	N/A	N/A
17	N/A	N/A	N/A
18	N/A	N/A	N/A
19	N/A	N/A	N/A
20	N/A	N/A	N/A
21	N/A	N/A	N/A
22	N/A	N/A	N/A
23	N/A	N/A	N/A
24	N/A	N/A	N/A
25	N/A	N/A	N/A
26	N/A	N/A	N/A
27	N/A	N/A	N/A
28	N/A	N/A	N/A
29	N/A	N/A	N/A
30	N/A	N/A	N/A
31	N/A	N/A	N/A
32	N/A	N/A	N/A
33	N/A	N/A	N/A
34	N/A	N/A	N/A
35	N/A	N/A	N/A
36	N/A	N/A	N/A
37	N/A	N/A	N/A
38	N/A	N/A	N/A
39	N/A	N/A	N/A
40	N/A	N/A	N/A
41	N/A	N/A	N/A
42	N/A	N/A	N/A
43	N/A	N/A	N/A

Drilled Shaft Data:

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Shaft Geometry:

ID	Length (ft)	Tip Elev. (ft)	Case Len. (ft)	Diameter (in)	Base Diam. (in)	Bell Len. (ft)
1	15.00	-15.00	6.00	48.00	48.00	0.00
2	16.00	-16.00	6.00	48.00	48.00	0.00
3	17.00	-17.00	6.00	48.00	48.00	0.00
4	18.00	-18.00	6.00	48.00	48.00	0.00
5	19.00	-19.00	6.00	48.00	48.00	0.00
6	20.00	-20.00	6.00	48.00	48.00	0.00
7	21.00	-21.00	6.00	48.00	48.00	0.00
8	22.00	-22.00	6.00	48.00	48.00	0.00
9	23.00	-23.00	6.00	48.00	48.00	0.00

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10	24.00	-24.00	6.00	48.00	48.00	0.00
11	25.00	-25.00	6.00	48.00	48.00	0.00
12	26.00	-26.00	6.00	48.00	48.00	0.00
13	27.00	-27.00	6.00	48.00	48.00	0.00
14	28.00	-28.00	6.00	48.00	48.00	0.00
15	29.00	-29.00	6.00	48.00	48.00	0.00
16	30.00	-30.00	6.00	48.00	48.00	0.00
17	31.00	-31.00	6.00	48.00	48.00	0.00
18	32.00	-32.00	6.00	48.00	48.00	0.00
19	33.00	-33.00	6.00	48.00	48.00	0.00
20	34.00	-34.00	6.00	48.00	48.00	0.00
21	35.00	-35.00	6.00	48.00	48.00	0.00
22	36.00	-36.00	6.00	48.00	48.00	0.00
23	37.00	-37.00	6.00	48.00	48.00	0.00
24	38.00	-38.00	6.00	48.00	48.00	0.00
25	39.00	-39.00	6.00	48.00	48.00	0.00
26	40.00	-40.00	6.00	48.00	48.00	0.00
27	41.00	-41.00	6.00	48.00	48.00	0.00
28	42.00	-42.00	6.00	48.00	48.00	0.00
29	43.00	-43.00	6.00	48.00	48.00	0.00
30	44.00	-44.00	6.00	48.00	48.00	0.00
31	45.00	-45.00	6.00	48.00	48.00	0.00
32	46.00	-46.00	6.00	48.00	48.00	0.00
33	47.00	-47.00	6.00	48.00	48.00	0.00
34	48.00	-48.00	6.00	48.00	48.00	0.00
35	49.00	-49.00	6.00	48.00	48.00	0.00
36	50.00	-50.00	6.00	48.00	48.00	0.00
37	51.00	-51.00	6.00	48.00	48.00	0.00
38	52.00	-52.00	6.00	48.00	48.00	0.00
39	53.00	-53.00	6.00	48.00	48.00	0.00
40	54.00	-54.00	6.00	48.00	48.00	0.00
41	55.00	-55.00	6.00	48.00	48.00	0.00
42	56.00	-56.00	6.00	48.00	48.00	0.00
43	57.00	-57.00	6.00	48.00	48.00	0.00
44	58.00	-58.00	6.00	48.00	48.00	0.00
45	59.00	-59.00	6.00	48.00	48.00	0.00
46	60.00	-60.00	6.00	48.00	48.00	0.00
47	61.00	-61.00	6.00	48.00	48.00	0.00
48	62.00	-62.00	6.00	48.00	48.00	0.00
49	63.00	-63.00	6.00	48.00	48.00	0.00
50	64.00	-64.00	6.00	48.00	48.00	0.00
51	65.00	-65.00	6.00	48.00	48.00	0.00
52	66.00	-66.00	6.00	48.00	48.00	0.00
53	67.00	-67.00	6.00	48.00	48.00	0.00
54	68.00	-68.00	6.00	48.00	48.00	0.00
55	69.00	-69.00	6.00	48.00	48.00	0.00
56	70.00	-70.00	6.00	48.00	48.00	0.00
57	71.00	-71.00	6.00	48.00	48.00	0.00
58	72.00	-72.00	6.00	48.00	48.00	0.00
59	73.00	-73.00	6.00	48.00	48.00	0.00
60	74.00	-74.00	6.00	48.00	48.00	0.00
61	75.00	-75.00	6.00	48.00	48.00	0.00
62	76.00	-76.00	6.00	48.00	48.00	0.00
63	77.00	-77.00	6.00	48.00	48.00	0.00
64	78.00	-78.00	6.00	48.00	48.00	0.00
65	79.00	-79.00	6.00	48.00	48.00	0.00
66	80.00	-80.00	6.00	48.00	48.00	0.00
67	81.00	-81.00	6.00	48.00	48.00	0.00
68	82.00	-82.00	6.00	48.00	48.00	0.00
69	83.00	-83.00	6.00	48.00	48.00	0.00
70	84.00	-84.00	6.00	48.00	48.00	0.00
71	85.00	-85.00	6.00	48.00	48.00	0.00
72	86.00	-86.00	6.00	48.00	48.00	0.00

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73	87.00	-87.00	6.00	48.00	48.00	0.00
74	88.00	-88.00	6.00	48.00	48.00	0.00
75	89.00	-89.00	6.00	48.00	48.00	0.00
76	90.00	-90.00	6.00	48.00	48.00	0.00
77	91.00	-91.00	6.00	48.00	48.00	0.00
78	92.00	-92.00	6.00	48.00	48.00	0.00
79	93.00	-93.00	6.00	48.00	48.00	0.00
80	94.00	-94.00	6.00	48.00	48.00	0.00
81	95.00	-95.00	6.00	48.00	48.00	0.00

Drilled Shaft Capacity (sorted by shaft diameter):

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Strength reduction factors: Skin-friction = 1.00, End-bearing = 1.00

ID	Diameter (in)	Length (ft)	Skin Fric. (tons)	End Bearing (tons)	Capacity (tons)
1	48.00	15.00	1.442	24.323	25.765
2	48.00	16.00	1.917	48.812	50.728
3	48.00	17.00	2.344	49.552	51.896
4	48.00	18.00	2.830	48.792	51.622
5	48.00	19.00	3.665	48.857	52.522
6	48.00	20.00	4.586	50.642	55.229
7	48.00	21.00	5.591	53.798	59.389
8	48.00	22.00	6.675	57.830	64.504
9	48.00	23.00	7.837	61.813	69.650
10	48.00	24.00	10.070	65.748	75.818
11	48.00	25.00	12.454	69.682	82.136
12	48.00	26.00	14.269	73.441	87.710
13	48.00	27.00	15.445	76.869	92.314
14	48.00	28.00	16.673	79.392	96.064
15	48.00	29.00	19.553	82.236	101.788
16	48.00	30.00	22.558	86.871	109.430
17	48.00	31.00	25.684	94.848	120.531
18	48.00	32.00	28.923	106.067	134.990
19	48.00	33.00	32.275	117.929	150.203
20	48.00	34.00	36.882	128.096	164.978
21	48.00	35.00	41.626	136.861	178.487
22	48.00	36.00	46.092	146.961	193.052
23	48.00	37.00	50.256	160.673	210.929
24	48.00	38.00	54.522	176.713	231.235
25	48.00	39.00	59.803	190.971	250.774
26	48.00	40.00	65.215	203.592	268.808
27	48.00	41.00	70.753	215.143	285.896
28	48.00	42.00	76.425	224.570	300.995
29	48.00	43.00	82.229	230.618	312.847
30	48.00	44.00	88.146	239.224	327.370
31	48.00	45.00	94.163	251.802	345.965
32	48.00	46.00	100.278	262.637	362.915
33	48.00	47.00	106.513	265.439	371.952
34	48.00	48.00	112.869	263.179	376.048
35	48.00	49.00	119.324	261.348	380.672
36	48.00	50.00	125.868	258.271	384.139
37	48.00	51.00	132.493	253.091	385.584
38	48.00	52.00	139.178	249.918	389.097
39	48.00	53.00	145.920	253.936	399.856
40	48.00	54.00	152.733	261.226	413.959
41	48.00	55.00	159.640	269.659	429.299
42	48.00	56.00	166.626	279.677	446.304
43	48.00	57.00	173.649	291.735	465.384
44	48.00	58.00	180.703	298.562	479.265
45	48.00	59.00	187.777	299.341	487.118

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46	48.00	60.00	194.871	301.626	496.497
47	48.00	61.00	201.984	308.582	510.566
48	48.00	62.00	209.142	314.279	523.421
49	48.00	63.00	216.348	313.017	529.364
50	48.00	64.00	223.582	311.599	535.181
51	48.00	65.00	230.838	309.586	540.424
52	48.00	66.00	238.107	305.952	544.059
53	48.00	67.00	245.385	302.110	547.495
54	48.00	68.00	252.668	301.546	554.214
55	48.00	69.00	259.952	300.287	560.239
56	48.00	70.00	267.243	296.509	563.752
57	48.00	71.00	273.384	288.280	561.663
58	48.00	72.00	278.430	275.872	554.301
59	48.00	73.00	283.550	260.914	544.464
60	48.00	74.00	290.676	250.778	541.454
61	48.00	75.00	297.750	251.934	549.684
62	48.00	76.00	304.773	266.856	571.629
63	48.00	77.00	311.770	290.273	602.043
64	48.00	78.00	318.742	310.957	629.699
65	48.00	79.00	325.674	323.664	649.339
66	48.00	80.00	332.561	326.170	658.731
67	48.00	81.00	339.391	321.466	660.858
68	48.00	82.00	346.139	316.263	662.402
69	48.00	83.00	352.801	315.023	667.824
70	48.00	84.00	359.380	315.023	674.404
71	48.00	85.00	365.890	318.190	684.080
72	48.00	86.00	372.324	327.541	699.864
73	48.00	87.00	378.817	340.597	719.414
74	48.00	88.00	385.417	347.710	733.127
75	48.00	89.00	392.115	348.489	740.604
76	48.00	90.00	398.903	347.295	746.199
77	48.00	91.00	405.784	347.146	752.930
78	48.00	92.00	412.769	347.743	760.512
79	48.00	93.00	Soil Elevations Must Extend At or Below Contribution		
Zone					
80	48.00	94.00	Soil Elevations Must Extend At or Below Contribution		
Zone					
81	48.00	95.00	Soil Elevations Must Extend At or Below Contribution		
Zone					

Drilled Shaft Capacity at User-Defined Settlement (sorted by shaft diameter):

***** Capacity is NOT modified by the strength reduction factors *****

User-Defined Settlement = 1.04%

ID	Diameter (in)	Length (ft)	Skin Fric. (tons)	End Bearing (tons)	Capacity (tons)
1	48.00	15.00	1.411	7.726	9.137
2	48.00	16.00	1.875	15.504	17.379
3	48.00	17.00	2.293	15.739	18.032
4	48.00	18.00	2.768	15.498	18.266
5	48.00	19.00	3.585	15.519	19.103
6	48.00	20.00	4.486	16.086	20.572
7	48.00	21.00	5.468	17.088	22.556
8	48.00	22.00	6.528	18.369	24.897
9	48.00	23.00	7.665	19.634	27.299
10	48.00	24.00	9.850	20.884	30.734
11	48.00	25.00	12.182	22.133	34.315
12	48.00	26.00	13.957	23.327	37.284

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13	48.00	27.00	15.107	24.416	39.523
14	48.00	28.00	16.308	25.218	41.525
15	48.00	29.00	19.125	26.121	45.246
16	48.00	30.00	22.065	27.593	49.658
17	48.00	31.00	25.122	30.127	55.248
18	48.00	32.00	28.290	33.690	61.980
19	48.00	33.00	31.568	37.458	69.026
20	48.00	34.00	36.075	40.688	76.762
21	48.00	35.00	40.715	43.472	84.187
22	48.00	36.00	45.083	46.680	91.763
23	48.00	37.00	49.156	51.035	100.192
24	48.00	38.00	53.328	56.130	109.458
25	48.00	39.00	58.494	60.659	119.153
26	48.00	40.00	63.788	64.668	128.456
27	48.00	41.00	69.205	68.337	137.541
28	48.00	42.00	74.752	71.331	146.083
29	48.00	43.00	80.430	73.252	153.682
30	48.00	44.00	86.216	75.986	162.202
31	48.00	45.00	92.102	79.981	172.083
32	48.00	46.00	98.084	83.422	181.506
33	48.00	47.00	104.182	84.313	188.494
34	48.00	48.00	110.398	83.595	193.993
35	48.00	49.00	116.712	83.013	199.725
36	48.00	50.00	123.113	82.036	205.149
37	48.00	51.00	129.593	80.391	209.983
38	48.00	52.00	136.132	79.383	215.514
39	48.00	53.00	142.726	80.659	223.385
40	48.00	54.00	149.390	82.974	232.365
41	48.00	55.00	156.146	85.653	241.799
42	48.00	56.00	162.979	88.835	251.814
43	48.00	57.00	169.849	92.665	262.514
44	48.00	58.00	176.747	94.834	271.581
45	48.00	59.00	183.667	95.081	278.748
46	48.00	60.00	190.606	95.807	286.412
47	48.00	61.00	197.563	98.016	295.580
48	48.00	62.00	204.565	99.826	304.390
49	48.00	63.00	211.612	99.425	311.037
50	48.00	64.00	218.688	98.975	317.663
51	48.00	65.00	225.785	98.335	324.120
52	48.00	66.00	232.896	97.181	330.077
53	48.00	67.00	240.014	95.961	335.975
54	48.00	68.00	247.137	95.781	342.919
55	48.00	69.00	254.262	95.381	349.644
56	48.00	70.00	261.393	94.182	355.575
57	48.00	71.00	267.400	91.568	358.967
58	48.00	72.00	272.335	87.626	359.962
59	48.00	73.00	277.344	82.875	360.219
60	48.00	74.00	284.314	79.656	363.970
61	48.00	75.00	291.233	80.023	371.256
62	48.00	76.00	298.102	84.763	382.865
63	48.00	77.00	304.946	92.201	397.146
64	48.00	78.00	311.765	98.771	410.536
65	48.00	79.00	318.546	102.807	421.353
66	48.00	80.00	325.282	103.603	428.884
67	48.00	81.00	331.963	102.109	434.071
68	48.00	82.00	338.563	100.456	439.019
69	48.00	83.00	345.079	100.062	445.141
70	48.00	84.00	351.514	100.062	451.577
71	48.00	85.00	357.881	101.068	458.949
72	48.00	86.00	364.174	104.038	468.212
73	48.00	87.00	370.526	108.185	478.711
74	48.00	88.00	376.981	110.445	487.425
75	48.00	89.00	383.532	110.692	494.224

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	76	48.00	90.00	390.172	110.313 500.485
	77	48.00	91.00	396.903	110.266 507.168
	78	48.00	92.00	403.735	110.455 514.190
	79	48.00	93.00	Soil Elevations Must Extend At or Below Contribution	
Zone	80	48.00	94.00	Soil Elevations Must Extend At or Below Contribution	
Zone	81	48.00	95.00	Soil Elevations Must Extend At or Below Contribution	
Zone					

General Information:

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Input file:analysis_Structure\FB-Deep_2021\Drilled Shaft\B-401Shaft60in.in
 Project number: 2000-01-16015
 Job name: I-95 From Hallandale Beach Boulevard to Hollywood Blvd
 Engineer: JB Henry
 Units: English

Analysis Information:

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Analysis Type: Drilled Shaft Analysis

Soil Information:

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Boring date: 9/10/2018
 Boring number: B-401
 Station number: Offset:

Ground Elevation: 0.00(ft)
 Water table Elevation = 0.00(ft)

Hammer type: Automatic Hammer, Correction factor = 1.24

ID	Depth (ft)	Elevation (ft)	SPT Blows (Blows/ft)	Unit Weight (pcf)	Soil Type
1	0.00	0.00	N/A	0.00	5- Cavity layer
2	2.00	-2.00	N/A	0.00	5- Cavity layer
3	4.00	-4.00	N/A	0.00	5- Cavity layer
4	6.00	-6.00	N/A	0.00	5- Cavity layer
5	8.00	-8.00	N/A	0.00	5- Cavity layer
6	10.00	-10.00	4.00	105.00	3- Clean sand
7	12.00	-12.00	6.00	105.00	3- Clean sand
8	13.50	-13.50	5.00	105.00	3- Clean sand
9	15.50	-15.50	3.00	100.00	3- Clean sand
10	18.00	-18.00	5.00	105.00	3- Clean sand
11	20.50	-20.50	5.00	105.00	3- Clean sand
12	23.00	-23.00	9.00	110.00	3- Clean sand
13	25.50	-25.50	4.00	105.00	3- Clean sand
14	28.00	-28.00	9.00	110.00	3- Clean sand
15	30.50	-30.50	9.00	110.00	3- Clean sand
16	33.00	-33.00	12.00	110.00	3- Clean sand
17	35.50	-35.50	10.00	110.00	3- Clean sand
18	38.00	-38.00	17.00	115.00	3- Clean sand
19	40.50	-40.50	25.00	120.00	3- Clean sand
20	43.00	-43.00	23.00	115.00	3- Clean sand
21	45.50	-45.50	37.00	125.00	3- Clean sand
22	48.00	-48.00	28.00	120.00	3- Clean sand
23	50.50	-50.50	18.00	115.00	3- Clean sand
24	53.00	-53.00	60.00	130.00	3- Clean sand
25	55.50	-55.50	17.00	115.00	3- Clean sand
26	58.00	-58.00	23.00	115.00	3- Clean sand
27	60.50	-60.50	60.00	130.00	3- Clean sand
28	63.00	-63.00	41.00	125.00	3- Clean sand
29	65.50	-65.50	50.00	125.00	3- Clean sand
30	68.00	-68.00	61.00	130.00	3- Clean sand

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31	70.50	-70.50	8.00	110.00	3- Clean sand
32	73.00	-73.00	21.00	115.00	3- Clean sand
33	75.50	-75.50	72.00	135.00	3- Clean sand
34	78.00	-78.00	60.00	130.00	3- Clean sand
35	80.50	-80.50	20.00	115.00	3- Clean sand
36	83.00	-83.00	67.00	130.00	3- Clean sand
37	85.50	-85.50	60.00	130.00	3- Clean sand
38	88.00	-88.00	25.00	120.00	3- Clean sand
39	90.50	-90.50	60.00	130.00	3- Clean sand
40	93.00	-93.00	80.00	135.00	3- Clean sand
41	95.50	-95.50	69.00	135.00	3- Clean sand
42	98.00	-98.00	87.00	135.00	3- Clean sand
43	100.00	-100.00	87.00	135.00	3- Clean sand

ID	Cu-DIR (tsf)	qu (tsf)	qt (tsf)	Em (ksi)	qb (tsf)
1	N/A	N/A	N/A	N/A	N/A
2	N/A	N/A	N/A	N/A	N/A
3	N/A	N/A	N/A	N/A	N/A
4	N/A	N/A	N/A	N/A	N/A
5	N/A	N/A	N/A	N/A	N/A
6	N/A	N/A	N/A	N/A	N/A
7	N/A	N/A	N/A	N/A	N/A
8	N/A	N/A	N/A	N/A	N/A
9	N/A	N/A	N/A	N/A	N/A
10	N/A	N/A	N/A	N/A	N/A
11	N/A	N/A	N/A	N/A	N/A
12	N/A	N/A	N/A	N/A	N/A
13	N/A	N/A	N/A	N/A	N/A
14	N/A	N/A	N/A	N/A	N/A
15	N/A	N/A	N/A	N/A	N/A
16	N/A	N/A	N/A	N/A	N/A
17	N/A	N/A	N/A	N/A	N/A
18	N/A	N/A	N/A	N/A	N/A
19	N/A	N/A	N/A	N/A	N/A
20	N/A	N/A	N/A	N/A	N/A
21	N/A	N/A	N/A	N/A	N/A
22	N/A	N/A	N/A	N/A	N/A
23	N/A	N/A	N/A	N/A	N/A
24	N/A	N/A	N/A	N/A	N/A
25	N/A	N/A	N/A	N/A	N/A
26	N/A	N/A	N/A	N/A	N/A
27	N/A	N/A	N/A	N/A	N/A
28	N/A	N/A	N/A	N/A	N/A
29	N/A	N/A	N/A	N/A	N/A
30	N/A	N/A	N/A	N/A	N/A
31	N/A	N/A	N/A	N/A	N/A
32	N/A	N/A	N/A	N/A	N/A
33	N/A	N/A	N/A	N/A	N/A
34	N/A	N/A	N/A	N/A	N/A
35	N/A	N/A	N/A	N/A	N/A
36	N/A	N/A	N/A	N/A	N/A
37	N/A	N/A	N/A	N/A	N/A
38	N/A	N/A	N/A	N/A	N/A
39	N/A	N/A	N/A	N/A	N/A
40	N/A	N/A	N/A	N/A	N/A
41	N/A	N/A	N/A	N/A	N/A
42	N/A	N/A	N/A	N/A	N/A
43	N/A	N/A	N/A	N/A	N/A

ID RQD F.M. S.R.I. Rock Recovery

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1	N/A	N/A	N/A
2	N/A	N/A	N/A
3	N/A	N/A	N/A
4	N/A	N/A	N/A
5	N/A	N/A	N/A
6	N/A	N/A	N/A
7	N/A	N/A	N/A
8	N/A	N/A	N/A
9	N/A	N/A	N/A
10	N/A	N/A	N/A
11	N/A	N/A	N/A
12	N/A	N/A	N/A
13	N/A	N/A	N/A
14	N/A	N/A	N/A
15	N/A	N/A	N/A
16	N/A	N/A	N/A
17	N/A	N/A	N/A
18	N/A	N/A	N/A
19	N/A	N/A	N/A
20	N/A	N/A	N/A
21	N/A	N/A	N/A
22	N/A	N/A	N/A
23	N/A	N/A	N/A
24	N/A	N/A	N/A
25	N/A	N/A	N/A
26	N/A	N/A	N/A
27	N/A	N/A	N/A
28	N/A	N/A	N/A
29	N/A	N/A	N/A
30	N/A	N/A	N/A
31	N/A	N/A	N/A
32	N/A	N/A	N/A
33	N/A	N/A	N/A
34	N/A	N/A	N/A
35	N/A	N/A	N/A
36	N/A	N/A	N/A
37	N/A	N/A	N/A
38	N/A	N/A	N/A
39	N/A	N/A	N/A
40	N/A	N/A	N/A
41	N/A	N/A	N/A
42	N/A	N/A	N/A
43	N/A	N/A	N/A

Drilled Shaft Data:

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Shaft Geometry:

ID	Length (ft)	Tip Elev. (ft)	Case Len. (ft)	Diameter (in)	Base Diam. (in)	Bell Len. (ft)
1	15.00	-15.00	6.00	60.00	60.00	0.00
2	16.00	-16.00	6.00	60.00	60.00	0.00
3	17.00	-17.00	6.00	60.00	60.00	0.00
4	18.00	-18.00	6.00	60.00	60.00	0.00
5	19.00	-19.00	6.00	60.00	60.00	0.00
6	20.00	-20.00	6.00	60.00	60.00	0.00
7	21.00	-21.00	6.00	60.00	60.00	0.00
8	22.00	-22.00	6.00	60.00	60.00	0.00
9	23.00	-23.00	6.00	60.00	60.00	0.00

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10	24.00	-24.00	6.00	60.00	60.00	0.00
11	25.00	-25.00	6.00	60.00	60.00	0.00
12	26.00	-26.00	6.00	60.00	60.00	0.00
13	27.00	-27.00	6.00	60.00	60.00	0.00
14	28.00	-28.00	6.00	60.00	60.00	0.00
15	29.00	-29.00	6.00	60.00	60.00	0.00
16	30.00	-30.00	6.00	60.00	60.00	0.00
17	31.00	-31.00	6.00	60.00	60.00	0.00
18	32.00	-32.00	6.00	60.00	60.00	0.00
19	33.00	-33.00	6.00	60.00	60.00	0.00
20	34.00	-34.00	6.00	60.00	60.00	0.00
21	35.00	-35.00	6.00	60.00	60.00	0.00
22	36.00	-36.00	6.00	60.00	60.00	0.00
23	37.00	-37.00	6.00	60.00	60.00	0.00
24	38.00	-38.00	6.00	60.00	60.00	0.00
25	39.00	-39.00	6.00	60.00	60.00	0.00
26	40.00	-40.00	6.00	60.00	60.00	0.00
27	41.00	-41.00	6.00	60.00	60.00	0.00
28	42.00	-42.00	6.00	60.00	60.00	0.00
29	43.00	-43.00	6.00	60.00	60.00	0.00
30	44.00	-44.00	6.00	60.00	60.00	0.00
31	45.00	-45.00	6.00	60.00	60.00	0.00
32	46.00	-46.00	6.00	60.00	60.00	0.00
33	47.00	-47.00	6.00	60.00	60.00	0.00
34	48.00	-48.00	6.00	60.00	60.00	0.00
35	49.00	-49.00	6.00	60.00	60.00	0.00
36	50.00	-50.00	6.00	60.00	60.00	0.00
37	51.00	-51.00	6.00	60.00	60.00	0.00
38	52.00	-52.00	6.00	60.00	60.00	0.00
39	53.00	-53.00	6.00	60.00	60.00	0.00
40	54.00	-54.00	6.00	60.00	60.00	0.00
41	55.00	-55.00	6.00	60.00	60.00	0.00
42	56.00	-56.00	6.00	60.00	60.00	0.00
43	57.00	-57.00	6.00	60.00	60.00	0.00
44	58.00	-58.00	6.00	60.00	60.00	0.00
45	59.00	-59.00	6.00	60.00	60.00	0.00
46	60.00	-60.00	6.00	60.00	60.00	0.00
47	61.00	-61.00	6.00	60.00	60.00	0.00
48	62.00	-62.00	6.00	60.00	60.00	0.00
49	63.00	-63.00	6.00	60.00	60.00	0.00
50	64.00	-64.00	6.00	60.00	60.00	0.00
51	65.00	-65.00	6.00	60.00	60.00	0.00
52	66.00	-66.00	6.00	60.00	60.00	0.00
53	67.00	-67.00	6.00	60.00	60.00	0.00
54	68.00	-68.00	6.00	60.00	60.00	0.00
55	69.00	-69.00	6.00	60.00	60.00	0.00
56	70.00	-70.00	6.00	60.00	60.00	0.00
57	71.00	-71.00	6.00	60.00	60.00	0.00
58	72.00	-72.00	6.00	60.00	60.00	0.00
59	73.00	-73.00	6.00	60.00	60.00	0.00
60	74.00	-74.00	6.00	60.00	60.00	0.00
61	75.00	-75.00	6.00	60.00	60.00	0.00
62	76.00	-76.00	6.00	60.00	60.00	0.00
63	77.00	-77.00	6.00	60.00	60.00	0.00
64	78.00	-78.00	6.00	60.00	60.00	0.00
65	79.00	-79.00	6.00	60.00	60.00	0.00
66	80.00	-80.00	6.00	60.00	60.00	0.00
67	81.00	-81.00	6.00	60.00	60.00	0.00
68	82.00	-82.00	6.00	60.00	60.00	0.00
69	83.00	-83.00	6.00	60.00	60.00	0.00
70	84.00	-84.00	6.00	60.00	60.00	0.00
71	85.00	-85.00	6.00	60.00	60.00	0.00
72	86.00	-86.00	6.00	60.00	60.00	0.00

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73	87.00	-87.00	6.00	60.00	60.00	0.00
74	88.00	-88.00	6.00	60.00	60.00	0.00
75	89.00	-89.00	6.00	60.00	60.00	0.00
76	90.00	-90.00	6.00	60.00	60.00	0.00
77	91.00	-91.00	6.00	60.00	60.00	0.00
78	92.00	-92.00	6.00	60.00	60.00	0.00
79	93.00	-93.00	6.00	60.00	60.00	0.00
80	94.00	-94.00	6.00	60.00	60.00	0.00
81	95.00	-95.00	6.00	60.00	60.00	0.00

Drilled Shaft Capacity (sorted by shaft diameter):

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Strength reduction factors: Skin-friction = 1.00, End-bearing = 1.00

ID	Diameter (in)	Length (ft)	Skin Fric. (tons)	End Bearing (tons)	Capacity (tons)

1	60.00	15.00	1.803	33.858	35.661
2	60.00	16.00	2.396	34.634	37.030
3	60.00	17.00	2.930	35.973	38.903
4	60.00	18.00	3.538	65.738	69.275
5	60.00	19.00	4.581	68.173	72.754
6	60.00	20.00	5.733	69.965	75.698
7	60.00	21.00	6.988	72.261	79.249
8	60.00	22.00	8.343	76.156	84.500
9	60.00	23.00	9.796	81.919	91.715
10	60.00	24.00	12.588	87.843	100.431
11	60.00	25.00	15.568	92.226	107.793
12	60.00	26.00	17.836	95.523	113.359
13	60.00	27.00	19.306	100.473	119.779
14	60.00	28.00	20.841	107.534	128.375
15	60.00	29.00	24.441	115.975	140.415
16	60.00	30.00	28.198	125.064	153.262
17	60.00	31.00	32.105	134.894	166.999
18	60.00	32.00	36.154	146.013	182.167
19	60.00	33.00	40.343	158.511	198.855
20	60.00	34.00	46.102	172.511	218.613
21	60.00	35.00	52.033	188.134	240.167
22	60.00	36.00	57.615	204.974	262.589
23	60.00	37.00	62.820	220.597	283.417
24	60.00	38.00	68.152	234.597	302.749
25	60.00	39.00	74.754	246.405	321.159
26	60.00	40.00	81.519	255.454	336.973
27	60.00	41.00	88.442	262.829	351.271
28	60.00	42.00	95.531	275.041	370.572
29	60.00	43.00	102.787	293.174	395.961
30	60.00	44.00	110.182	310.862	421.044
31	60.00	45.00	117.704	321.734	439.438
32	60.00	46.00	125.348	326.410	451.759
33	60.00	47.00	133.142	328.602	461.743
34	60.00	48.00	141.086	328.926	470.012
35	60.00	49.00	149.155	330.345	479.500
36	60.00	50.00	157.335	335.820	493.155
37	60.00	51.00	165.616	344.501	510.116
38	60.00	52.00	173.973	351.297	525.269
39	60.00	53.00	182.400	355.360	537.760
40	60.00	54.00	190.917	358.571	549.488
41	60.00	55.00	199.550	362.811	562.361
42	60.00	56.00	208.283	368.418	576.700
43	60.00	57.00	217.062	377.419	594.481
44	60.00	58.00	225.878	390.155	616.033
45	60.00	59.00	234.721	397.901	632.622

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46	60.00	60.00	243.589	391.938	635.526
47	60.00	61.00	252.480	375.319	627.799
48	60.00	62.00	261.428	366.381	627.809
49	60.00	63.00	270.435	368.180	638.615
50	60.00	64.00	279.478	376.725	656.203
51	60.00	65.00	288.547	388.027	676.574
52	60.00	66.00	297.634	401.038	698.672
53	60.00	67.00	306.731	409.473	716.204
54	60.00	68.00	315.835	412.285	728.120
55	60.00	69.00	324.940	408.499	733.440
56	60.00	70.00	334.053	397.142	731.196
57	60.00	71.00	341.729	379.911	721.641
58	60.00	72.00	348.037	366.986	715.023
59	60.00	73.00	354.438	360.064	714.502
60	60.00	74.00	363.345	356.928	720.273
61	60.00	75.00	372.188	355.360	727.548
62	60.00	76.00	380.966	356.009	736.975
63	60.00	77.00	389.712	362.771	752.483
64	60.00	78.00	398.427	376.296	774.723
65	60.00	79.00	407.093	392.132	799.225
66	60.00	80.00	415.701	405.829	821.530
67	60.00	81.00	424.239	417.077	841.316
68	60.00	82.00	432.674	424.012	856.686
69	60.00	83.00	441.001	426.324	867.325
70	60.00	84.00	449.226	426.324	875.550
71	60.00	85.00	457.362	426.324	883.686
72	60.00	86.00	465.405	426.993	892.398
73	60.00	87.00	473.521	432.347	905.868
74	60.00	88.00	481.771	443.055	924.826
75	60.00	89.00	490.144	453.762	943.906
76	60.00	90.00	498.629	459.116	957.745
77	60.00	91.00	Soil Elevations Must Extend At or Below Contribution		
Zone					
78	60.00	92.00	Soil Elevations Must Extend At or Below Contribution		
Zone					
79	60.00	93.00	Soil Elevations Must Extend At or Below Contribution		
Zone					
80	60.00	94.00	Soil Elevations Must Extend At or Below Contribution		
Zone					
81	60.00	95.00	Soil Elevations Must Extend At or Below Contribution		
Zone					

Drilled Shaft Capacity at User-Defined Settlement (sorted by shaft diameter):

***** Capacity is NOT modified by the strength reduction factors *****

User-Defined Settlement = 0.83%

ID	Diameter (in)	Length (ft)	Skin Fric. (tons)	End Bearing (tons)	Capacity (tons)
1	60.00	15.00	1.757	8.840	10.597
2	60.00	16.00	2.335	9.043	11.378
3	60.00	17.00	2.855	9.392	12.248
4	60.00	18.00	3.447	17.164	20.611
5	60.00	19.00	4.464	17.799	22.264
6	60.00	20.00	5.587	18.267	23.854
7	60.00	21.00	6.810	18.867	25.677
8	60.00	22.00	8.130	19.884	28.014
9	60.00	23.00	9.546	21.388	30.935
10	60.00	24.00	12.267	22.935	35.202

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11	60.00	25.00	15.171	24.079	39.250
12	60.00	26.00	17.382	24.940	42.322
13	60.00	27.00	18.814	26.233	45.047
14	60.00	28.00	20.309	28.076	48.386
15	60.00	29.00	23.818	30.280	54.098
16	60.00	30.00	27.479	32.653	60.132
17	60.00	31.00	31.286	35.220	66.506
18	60.00	32.00	35.232	38.123	73.355
19	60.00	33.00	39.315	41.386	80.701
20	60.00	34.00	44.927	45.041	89.968
21	60.00	35.00	50.706	49.120	99.827
22	60.00	36.00	56.146	53.517	109.663
23	60.00	37.00	61.219	57.596	118.815
24	60.00	38.00	66.414	61.251	127.666
25	60.00	39.00	72.848	64.334	137.183
26	60.00	40.00	79.441	66.697	146.138
27	60.00	41.00	86.187	68.623	154.810
28	60.00	42.00	93.096	71.811	164.907
29	60.00	43.00	100.166	76.546	176.712
30	60.00	44.00	107.373	81.164	188.537
31	60.00	45.00	114.703	84.002	198.705
32	60.00	46.00	122.153	85.223	207.376
33	60.00	47.00	129.747	85.795	215.543
34	60.00	48.00	137.489	85.880	223.369
35	60.00	49.00	145.352	86.251	231.603
36	60.00	50.00	153.324	87.680	241.004
37	60.00	51.00	161.394	89.946	251.340
38	60.00	52.00	169.537	91.721	261.258
39	60.00	53.00	177.750	92.782	270.532
40	60.00	54.00	186.049	93.620	279.670
41	60.00	55.00	194.463	94.727	289.190
42	60.00	56.00	202.973	96.191	299.164
43	60.00	57.00	211.528	98.541	310.069
44	60.00	58.00	220.120	101.866	321.986
45	60.00	59.00	228.737	103.889	332.626
46	60.00	60.00	237.379	102.332	339.710
47	60.00	61.00	246.044	97.993	344.037
48	60.00	62.00	254.763	95.659	350.423
49	60.00	63.00	263.540	96.129	359.669
50	60.00	64.00	272.353	98.360	370.713
51	60.00	65.00	281.191	101.311	382.502
52	60.00	66.00	290.047	104.708	394.754
53	60.00	67.00	298.912	106.910	405.822
54	60.00	68.00	307.783	107.644	415.427
55	60.00	69.00	316.657	106.656	423.312
56	60.00	70.00	325.537	103.691	429.228
57	60.00	71.00	333.018	99.192	432.209
58	60.00	72.00	339.164	95.817	434.982
59	60.00	73.00	345.402	94.010	439.412
60	60.00	74.00	354.082	93.191	447.273
61	60.00	75.00	362.699	92.782	455.481
62	60.00	76.00	371.254	92.951	464.205
63	60.00	77.00	379.777	94.717	474.494
64	60.00	78.00	388.270	98.248	486.518
65	60.00	79.00	396.715	102.383	499.097
66	60.00	80.00	405.103	105.959	511.062
67	60.00	81.00	413.424	108.896	522.319
68	60.00	82.00	421.644	110.706	532.350
69	60.00	83.00	429.758	111.310	541.068
70	60.00	84.00	437.773	111.310	549.083
71	60.00	85.00	445.702	111.310	557.012
72	60.00	86.00	453.540	111.485	565.024
73	60.00	87.00	461.450	112.882	574.332

			B-401Shaft60in.out			
	74	60.00	88.00	469.489	115.678	585.167
	75	60.00	89.00	477.648	118.474	596.122
	76	60.00	90.00	485.917	119.872	605.789
	77	60.00	91.00	Soil Elevations Must Extend At or Below Contribution		
Zone	78	60.00	92.00	Soil Elevations Must Extend At or Below Contribution		
Zone	79	60.00	93.00	Soil Elevations Must Extend At or Below Contribution		
Zone	80	60.00	94.00	Soil Elevations Must Extend At or Below Contribution		
Zone	81	60.00	95.00	Soil Elevations Must Extend At or Below Contribution		
Zone						

General Information:

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Input file:analysis_Structure\FB-Deep_2021\Drilled Shaft\B-402Shaft48in.in
 Project number: 2000-01-16015
 Job name: I-95 From Hallandale Beach Boulevard to Hollywood Blvd
 Engineer: JB Henry
 Units: English

Analysis Information:

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Analysis Type: Drilled Shaft Analysis

Soil Information:

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Boring date: 9/18/2018
 Boring number: B-402
 Station number: Offset:

Ground Elevation: 0.00(ft)
 Water table Elevation = 0.00(ft)

Hammer type: Automatic Hammer, Correction factor = 1.24

ID	Depth (ft)	Elevation (ft)	SPT Blows (Blows/ft)	Unit Weight (pcf)	Soil Type
1	0.00	0.00	N/A	0.00	5- Cavity layer
2	2.00	-2.00	N/A	0.00	5- Cavity layer
3	4.00	-4.00	N/A	0.00	5- Cavity layer
4	6.00	-6.00	N/A	0.00	5- Cavity layer
5	8.00	-8.00	N/A	0.00	5- Cavity layer
6	10.00	-10.00	4.00	105.00	3- Clean sand
7	12.00	-12.00	3.00	100.00	3- Clean sand
8	13.50	-13.50	5.00	105.00	3- Clean sand
9	15.50	-15.50	5.00	105.00	3- Clean sand
10	18.00	-18.00	5.00	105.00	3- Clean sand
11	20.50	-20.50	4.00	105.00	3- Clean sand
12	23.00	-23.00	6.00	105.00	3- Clean sand
13	25.50	-25.50	6.00	105.00	3- Clean sand
14	28.00	-28.00	60.00	130.00	3- Clean sand
15	30.50	-30.50	79.00	135.00	3- Clean sand
16	33.00	-33.00	20.00	115.00	3- Clean sand
17	35.50	-35.50	35.00	125.00	3- Clean sand
18	38.00	-38.00	13.00	110.00	3- Clean sand
19	40.50	-40.50	16.00	115.00	3- Clean sand
20	43.00	-43.00	24.00	120.00	3- Clean sand
21	45.50	-45.50	21.00	115.00	3- Clean sand
22	48.00	-48.00	16.00	115.00	3- Clean sand
23	50.50	-50.50	23.00	115.00	3- Clean sand
24	53.00	-53.00	60.00	130.00	3- Clean sand
25	55.50	-55.50	13.00	110.00	3- Clean sand
26	58.00	-58.00	60.00	130.00	3- Clean sand
27	60.50	-60.50	22.00	115.00	3- Clean sand
28	63.00	-63.00	23.00	115.00	3- Clean sand
29	65.50	-65.50	27.00	120.00	3- Clean sand
30	68.00	-68.00	63.00	135.00	3- Clean sand

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31	70.50	-70.50	60.00	130.00	3- Clean sand
32	73.00	-73.00	37.00	125.00	3- Clean sand
33	75.50	-75.50	60.00	130.00	3- Clean sand
34	78.00	-78.00	34.00	125.00	3- Clean sand
35	80.50	-80.50	33.00	125.00	3- Clean sand
36	83.00	-83.00	11.00	110.00	3- Clean sand
37	85.50	-85.50	9.00	110.00	3- Clean sand
38	88.00	-88.00	43.00	125.00	3- Clean sand
39	90.50	-90.50	60.00	130.00	3- Clean sand
40	93.00	-93.00	27.00	120.00	3- Clean sand
41	95.50	-95.50	34.00	125.00	3- Clean sand
42	98.00	-98.00	49.00	125.00	3- Clean sand
43	100.00	-100.00	49.00	125.00	3- Clean sand

ID	Cu-DIR (tsf)	qu (tsf)	qt (tsf)	Em (ksi)	qb (tsf)
1	N/A	N/A	N/A	N/A	N/A
2	N/A	N/A	N/A	N/A	N/A
3	N/A	N/A	N/A	N/A	N/A
4	N/A	N/A	N/A	N/A	N/A
5	N/A	N/A	N/A	N/A	N/A
6	N/A	N/A	N/A	N/A	N/A
7	N/A	N/A	N/A	N/A	N/A
8	N/A	N/A	N/A	N/A	N/A
9	N/A	N/A	N/A	N/A	N/A
10	N/A	N/A	N/A	N/A	N/A
11	N/A	N/A	N/A	N/A	N/A
12	N/A	N/A	N/A	N/A	N/A
13	N/A	N/A	N/A	N/A	N/A
14	N/A	N/A	N/A	N/A	N/A
15	N/A	N/A	N/A	N/A	N/A
16	N/A	N/A	N/A	N/A	N/A
17	N/A	N/A	N/A	N/A	N/A
18	N/A	N/A	N/A	N/A	N/A
19	N/A	N/A	N/A	N/A	N/A
20	N/A	N/A	N/A	N/A	N/A
21	N/A	N/A	N/A	N/A	N/A
22	N/A	N/A	N/A	N/A	N/A
23	N/A	N/A	N/A	N/A	N/A
24	N/A	N/A	N/A	N/A	N/A
25	N/A	N/A	N/A	N/A	N/A
26	N/A	N/A	N/A	N/A	N/A
27	N/A	N/A	N/A	N/A	N/A
28	N/A	N/A	N/A	N/A	N/A
29	N/A	N/A	N/A	N/A	N/A
30	N/A	N/A	N/A	N/A	N/A
31	N/A	N/A	N/A	N/A	N/A
32	N/A	N/A	N/A	N/A	N/A
33	N/A	N/A	N/A	N/A	N/A
34	N/A	N/A	N/A	N/A	N/A
35	N/A	N/A	N/A	N/A	N/A
36	N/A	N/A	N/A	N/A	N/A
37	N/A	N/A	N/A	N/A	N/A
38	N/A	N/A	N/A	N/A	N/A
39	N/A	N/A	N/A	N/A	N/A
40	N/A	N/A	N/A	N/A	N/A
41	N/A	N/A	N/A	N/A	N/A
42	N/A	N/A	N/A	N/A	N/A
43	N/A	N/A	N/A	N/A	N/A

ID RQD F.M. S.R.I. Rock Recovery

B-402Shaft48in.out

1	N/A	N/A	N/A
2	N/A	N/A	N/A
3	N/A	N/A	N/A
4	N/A	N/A	N/A
5	N/A	N/A	N/A
6	N/A	N/A	N/A
7	N/A	N/A	N/A
8	N/A	N/A	N/A
9	N/A	N/A	N/A
10	N/A	N/A	N/A
11	N/A	N/A	N/A
12	N/A	N/A	N/A
13	N/A	N/A	N/A
14	N/A	N/A	N/A
15	N/A	N/A	N/A
16	N/A	N/A	N/A
17	N/A	N/A	N/A
18	N/A	N/A	N/A
19	N/A	N/A	N/A
20	N/A	N/A	N/A
21	N/A	N/A	N/A
22	N/A	N/A	N/A
23	N/A	N/A	N/A
24	N/A	N/A	N/A
25	N/A	N/A	N/A
26	N/A	N/A	N/A
27	N/A	N/A	N/A
28	N/A	N/A	N/A
29	N/A	N/A	N/A
30	N/A	N/A	N/A
31	N/A	N/A	N/A
32	N/A	N/A	N/A
33	N/A	N/A	N/A
34	N/A	N/A	N/A
35	N/A	N/A	N/A
36	N/A	N/A	N/A
37	N/A	N/A	N/A
38	N/A	N/A	N/A
39	N/A	N/A	N/A
40	N/A	N/A	N/A
41	N/A	N/A	N/A
42	N/A	N/A	N/A
43	N/A	N/A	N/A

Drilled Shaft Data:

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Shaft Geometry:

ID	Length (ft)	Tip Elev. (ft)	Case Len. (ft)	Diameter (in)	Base Diam. (in)	Bell Len. (ft)
1	15.00	-15.00	6.00	48.00	48.00	0.00
2	16.00	-16.00	6.00	48.00	48.00	0.00
3	17.00	-17.00	6.00	48.00	48.00	0.00
4	18.00	-18.00	6.00	48.00	48.00	0.00
5	19.00	-19.00	6.00	48.00	48.00	0.00
6	20.00	-20.00	6.00	48.00	48.00	0.00
7	21.00	-21.00	6.00	48.00	48.00	0.00
8	22.00	-22.00	6.00	48.00	48.00	0.00
9	23.00	-23.00	6.00	48.00	48.00	0.00

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10	24.00	-24.00	6.00	48.00	48.00	0.00
11	25.00	-25.00	6.00	48.00	48.00	0.00
12	26.00	-26.00	6.00	48.00	48.00	0.00
13	27.00	-27.00	6.00	48.00	48.00	0.00
14	28.00	-28.00	6.00	48.00	48.00	0.00
15	29.00	-29.00	6.00	48.00	48.00	0.00
16	30.00	-30.00	6.00	48.00	48.00	0.00
17	31.00	-31.00	6.00	48.00	48.00	0.00
18	32.00	-32.00	6.00	48.00	48.00	0.00
19	33.00	-33.00	6.00	48.00	48.00	0.00
20	34.00	-34.00	6.00	48.00	48.00	0.00
21	35.00	-35.00	6.00	48.00	48.00	0.00
22	36.00	-36.00	6.00	48.00	48.00	0.00
23	37.00	-37.00	6.00	48.00	48.00	0.00
24	38.00	-38.00	6.00	48.00	48.00	0.00
25	39.00	-39.00	6.00	48.00	48.00	0.00
26	40.00	-40.00	6.00	48.00	48.00	0.00
27	41.00	-41.00	6.00	48.00	48.00	0.00
28	42.00	-42.00	6.00	48.00	48.00	0.00
29	43.00	-43.00	6.00	48.00	48.00	0.00
30	44.00	-44.00	6.00	48.00	48.00	0.00
31	45.00	-45.00	6.00	48.00	48.00	0.00
32	46.00	-46.00	6.00	48.00	48.00	0.00
33	47.00	-47.00	6.00	48.00	48.00	0.00
34	48.00	-48.00	6.00	48.00	48.00	0.00
35	49.00	-49.00	6.00	48.00	48.00	0.00
36	50.00	-50.00	6.00	48.00	48.00	0.00
37	51.00	-51.00	6.00	48.00	48.00	0.00
38	52.00	-52.00	6.00	48.00	48.00	0.00
39	53.00	-53.00	6.00	48.00	48.00	0.00
40	54.00	-54.00	6.00	48.00	48.00	0.00
41	55.00	-55.00	6.00	48.00	48.00	0.00
42	56.00	-56.00	6.00	48.00	48.00	0.00
43	57.00	-57.00	6.00	48.00	48.00	0.00
44	58.00	-58.00	6.00	48.00	48.00	0.00
45	59.00	-59.00	6.00	48.00	48.00	0.00
46	60.00	-60.00	6.00	48.00	48.00	0.00
47	61.00	-61.00	6.00	48.00	48.00	0.00
48	62.00	-62.00	6.00	48.00	48.00	0.00
49	63.00	-63.00	6.00	48.00	48.00	0.00
50	64.00	-64.00	6.00	48.00	48.00	0.00
51	65.00	-65.00	6.00	48.00	48.00	0.00
52	66.00	-66.00	6.00	48.00	48.00	0.00
53	67.00	-67.00	6.00	48.00	48.00	0.00
54	68.00	-68.00	6.00	48.00	48.00	0.00
55	69.00	-69.00	6.00	48.00	48.00	0.00
56	70.00	-70.00	6.00	48.00	48.00	0.00
57	71.00	-71.00	6.00	48.00	48.00	0.00
58	72.00	-72.00	6.00	48.00	48.00	0.00
59	73.00	-73.00	6.00	48.00	48.00	0.00
60	74.00	-74.00	6.00	48.00	48.00	0.00
61	75.00	-75.00	6.00	48.00	48.00	0.00
62	76.00	-76.00	6.00	48.00	48.00	0.00
63	77.00	-77.00	6.00	48.00	48.00	0.00
64	78.00	-78.00	6.00	48.00	48.00	0.00
65	79.00	-79.00	6.00	48.00	48.00	0.00
66	80.00	-80.00	6.00	48.00	48.00	0.00
67	81.00	-81.00	6.00	48.00	48.00	0.00
68	82.00	-82.00	6.00	48.00	48.00	0.00
69	83.00	-83.00	6.00	48.00	48.00	0.00
70	84.00	-84.00	6.00	48.00	48.00	0.00
71	85.00	-85.00	6.00	48.00	48.00	0.00
72	86.00	-86.00	6.00	48.00	48.00	0.00

			B-402Shaft48in.out			
73	87.00	-87.00	6.00	48.00	48.00	0.00
74	88.00	-88.00	6.00	48.00	48.00	0.00
75	89.00	-89.00	6.00	48.00	48.00	0.00
76	90.00	-90.00	6.00	48.00	48.00	0.00
77	91.00	-91.00	6.00	48.00	48.00	0.00
78	92.00	-92.00	6.00	48.00	48.00	0.00
79	93.00	-93.00	6.00	48.00	48.00	0.00
80	94.00	-94.00	6.00	48.00	48.00	0.00
81	95.00	-95.00	6.00	48.00	48.00	0.00

Drilled Shaft Capacity (sorted by shaft diameter):

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Strength reduction factors: Skin-friction = 1.00, End-bearing = 1.00

ID	Diameter (in)	Length (ft)	Skin Fric. (tons)	End Bearing (tons)	Capacity (tons)

1	48.00	15.00	1.126	22.643	23.769
2	48.00	16.00	1.697	43.095	44.791
3	48.00	17.00	2.363	44.653	47.016
4	48.00	18.00	3.122	47.604	50.726
5	48.00	19.00	3.969	57.210	61.179
6	48.00	20.00	4.902	73.852	78.754
7	48.00	21.00	5.814	94.327	100.141
8	48.00	22.00	6.691	114.928	121.619
9	48.00	23.00	7.629	135.092	142.721
10	48.00	24.00	9.125	151.177	160.302
11	48.00	25.00	10.708	162.667	173.375
12	48.00	26.00	12.373	174.182	186.555
13	48.00	27.00	14.118	191.737	205.855
14	48.00	28.00	15.941	213.885	229.826
15	48.00	29.00	19.825	232.686	252.510
16	48.00	30.00	23.974	246.032	270.006
17	48.00	31.00	28.380	256.961	285.340
18	48.00	32.00	33.049	265.868	298.916
19	48.00	33.00	37.980	264.679	302.659
20	48.00	34.00	43.110	254.311	297.420
21	48.00	35.00	48.392	241.632	290.024
22	48.00	36.00	53.825	230.347	284.172
23	48.00	37.00	59.433	217.798	277.231
24	48.00	38.00	65.217	208.317	273.534
25	48.00	39.00	71.133	203.320	274.453
26	48.00	40.00	77.149	198.217	275.366
27	48.00	41.00	83.261	188.955	272.215
28	48.00	42.00	89.477	178.671	268.147
29	48.00	43.00	95.797	176.362	272.159
30	48.00	44.00	102.221	184.852	287.073
31	48.00	45.00	108.756	200.118	308.873
32	48.00	46.00	115.392	213.026	328.419
33	48.00	47.00	122.110	218.049	340.159
34	48.00	48.00	128.903	215.594	344.497
35	48.00	49.00	135.762	215.514	351.276
36	48.00	50.00	142.687	221.586	364.273
37	48.00	51.00	149.670	230.291	379.961
38	48.00	52.00	156.706	236.975	393.680
39	48.00	53.00	163.792	242.771	406.563
40	48.00	54.00	170.943	249.404	420.348
41	48.00	55.00	178.182	253.832	432.014
42	48.00	56.00	185.492	255.065	440.557
43	48.00	57.00	192.821	256.246	449.067
44	48.00	58.00	200.158	255.767	455.925
45	48.00	59.00	207.526	253.082	460.607

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46	48.00	60.00	214.951	253.641	468.592
47	48.00	61.00	222.422	263.033	485.455
48	48.00	62.00	229.899	278.700	508.600
49	48.00	63.00	237.376	287.963	525.338
50	48.00	64.00	244.843	288.225	533.069
51	48.00	65.00	252.301	286.621	538.922
52	48.00	66.00	259.745	291.129	550.873
53	48.00	67.00	267.179	302.318	569.497
54	48.00	68.00	274.603	315.481	590.084
55	48.00	69.00	282.026	327.655	609.681
56	48.00	70.00	289.463	337.572	627.035
57	48.00	71.00	296.906	345.355	642.261
58	48.00	72.00	304.339	351.068	655.407
59	48.00	73.00	311.758	351.885	663.644
60	48.00	74.00	319.148	344.023	663.171
61	48.00	75.00	326.501	329.201	655.702
62	48.00	76.00	333.813	311.739	645.552
63	48.00	77.00	341.085	293.540	634.625
64	48.00	78.00	348.317	276.261	624.578
65	48.00	79.00	355.493	266.080	621.572
66	48.00	80.00	362.607	263.142	625.749
67	48.00	81.00	369.654	262.546	632.200
68	48.00	82.00	376.627	259.782	636.409
69	48.00	83.00	383.526	256.509	640.034
70	48.00	84.00	389.909	251.546	641.455
71	48.00	85.00	396.367	244.455	640.821
72	48.00	86.00	402.899	237.105	640.004
73	48.00	87.00	409.507	234.637	644.144
74	48.00	88.00	416.189	242.264	658.453
75	48.00	89.00	422.957	259.465	682.422
76	48.00	90.00	429.825	281.883	711.708
77	48.00	91.00	436.791	305.534	742.325
78	48.00	92.00	443.862	327.602	771.464
79	48.00	93.00	Soil Elevations Must Extend At or Below Contribution		
Zone					
80	48.00	94.00	Soil Elevations Must Extend At or Below Contribution		
Zone					
81	48.00	95.00	Soil Elevations Must Extend At or Below Contribution		
Zone					

Drilled Shaft Capacity at User-Defined Settlement (sorted by shaft diameter):

***** Capacity is NOT modified by the strength reduction factors *****

User-Defined Settlement = 1.04%

ID	Diameter (in)	Length (ft)	Skin Fric. (tons)	End Bearing (tons)	Capacity (tons)
1	48.00	15.00	1.101	7.192	8.293
2	48.00	16.00	1.660	13.688	15.348
3	48.00	17.00	2.311	14.183	16.494
4	48.00	18.00	3.054	15.121	18.174
5	48.00	19.00	3.882	18.172	22.054
6	48.00	20.00	4.795	23.458	28.253
7	48.00	21.00	5.687	29.961	35.649
8	48.00	22.00	6.544	36.505	43.049
9	48.00	23.00	7.462	42.910	50.372
10	48.00	24.00	8.925	48.019	56.944
11	48.00	25.00	10.473	51.669	62.142
12	48.00	26.00	12.102	55.326	67.428

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13	48.00	27.00	13.809	60.902	74.711
14	48.00	28.00	15.592	67.937	83.529
15	48.00	29.00	19.391	73.909	93.300
16	48.00	30.00	23.449	78.148	101.597
17	48.00	31.00	27.758	81.620	109.378
18	48.00	32.00	32.325	84.449	116.774
19	48.00	33.00	37.148	84.071	121.220
20	48.00	34.00	42.166	80.778	122.944
21	48.00	35.00	47.333	76.751	124.084
22	48.00	36.00	52.647	73.166	125.813
23	48.00	37.00	58.132	69.180	127.312
24	48.00	38.00	63.789	66.169	129.958
25	48.00	39.00	69.576	64.581	134.158
26	48.00	40.00	75.460	62.960	138.421
27	48.00	41.00	81.438	60.019	141.457
28	48.00	42.00	87.518	56.752	144.270
29	48.00	43.00	93.700	56.019	149.719
30	48.00	44.00	99.983	58.715	158.699
31	48.00	45.00	106.375	63.564	169.940
32	48.00	46.00	112.867	67.665	180.531
33	48.00	47.00	119.437	69.260	188.697
34	48.00	48.00	126.081	68.480	194.561
35	48.00	49.00	132.791	68.455	201.245
36	48.00	50.00	139.564	70.383	209.947
37	48.00	51.00	146.394	73.148	219.542
38	48.00	52.00	153.276	75.271	228.547
39	48.00	53.00	160.207	77.112	237.319
40	48.00	54.00	167.202	79.219	246.421
41	48.00	55.00	174.282	80.626	254.908
42	48.00	56.00	181.432	81.017	262.450
43	48.00	57.00	188.600	81.393	269.993
44	48.00	58.00	195.777	81.240	277.017
45	48.00	59.00	202.983	80.387	283.371
46	48.00	60.00	210.247	80.565	290.812
47	48.00	61.00	217.554	83.548	301.102
48	48.00	62.00	224.867	88.525	313.392
49	48.00	63.00	232.180	91.467	323.647
50	48.00	64.00	239.484	91.550	331.035
51	48.00	65.00	246.779	91.041	337.819
52	48.00	66.00	254.060	92.472	346.532
53	48.00	67.00	261.331	96.027	357.358
54	48.00	68.00	268.592	100.208	368.800
55	48.00	69.00	275.853	104.075	379.927
56	48.00	70.00	283.127	107.225	390.352
57	48.00	71.00	290.408	109.697	400.104
58	48.00	72.00	297.678	111.511	409.189
59	48.00	73.00	304.935	111.771	416.706
60	48.00	74.00	312.162	109.273	421.436
61	48.00	75.00	319.355	104.565	423.920
62	48.00	76.00	326.507	99.019	425.525
63	48.00	77.00	333.620	93.238	426.858
64	48.00	78.00	340.693	87.750	428.443
65	48.00	79.00	347.712	84.516	432.228
66	48.00	80.00	354.670	83.583	438.253
67	48.00	81.00	361.563	83.394	444.957
68	48.00	82.00	368.384	82.516	450.899
69	48.00	83.00	375.131	81.476	456.607
70	48.00	84.00	381.374	79.900	461.274
71	48.00	85.00	387.691	77.647	465.338
72	48.00	86.00	394.081	75.313	469.393
73	48.00	87.00	400.543	74.529	475.072
74	48.00	88.00	407.079	76.951	484.031
75	48.00	89.00	413.700	82.415	496.115

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	76	48.00	90.00	420.417	89.536 509.952
	77	48.00	91.00	427.230	97.048 524.279
	78	48.00	92.00	434.147	104.058 538.205
	79	48.00	93.00	Soil Elevations Must Extend At or Below Contribution	
Zone	80	48.00	94.00	Soil Elevations Must Extend At or Below Contribution	
Zone	81	48.00	95.00	Soil Elevations Must Extend At or Below Contribution	
Zone					

General Information:

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Input file:analysis_Structure\FB-Deep_2021\Drilled Shaft\B-402Shaft60in.in
 Project number: 2000-01-16015
 Job name: I-95 From Hallandale Beach Boulevard to Hollywood Blvd
 Engineer: JB Henry
 Units: English

Analysis Information:

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Analysis Type: Drilled Shaft Analysis

Soil Information:

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Boring date: 9/18/2018
 Boring number: B-402
 Station number: Offset:

Ground Elevation: 0.00(ft)
 Water table Elevation = 0.00(ft)

Hammer type: Automatic Hammer, Correction factor = 1.24

ID	Depth (ft)	Elevation (ft)	SPT Blows (Blows/ft)	Unit Weight (pcf)	Soil Type
1	0.00	0.00	N/A	0.00	5- Cavity layer
2	2.00	-2.00	N/A	0.00	5- Cavity layer
3	4.00	-4.00	N/A	0.00	5- Cavity layer
4	6.00	-6.00	N/A	0.00	5- Cavity layer
5	8.00	-8.00	N/A	0.00	5- Cavity layer
6	10.00	-10.00	4.00	105.00	3- Clean sand
7	12.00	-12.00	3.00	100.00	3- Clean sand
8	13.50	-13.50	5.00	105.00	3- Clean sand
9	15.50	-15.50	5.00	105.00	3- Clean sand
10	18.00	-18.00	5.00	105.00	3- Clean sand
11	20.50	-20.50	4.00	105.00	3- Clean sand
12	23.00	-23.00	6.00	105.00	3- Clean sand
13	25.50	-25.50	6.00	105.00	3- Clean sand
14	28.00	-28.00	60.00	130.00	3- Clean sand
15	30.50	-30.50	79.00	135.00	3- Clean sand
16	33.00	-33.00	20.00	115.00	3- Clean sand
17	35.50	-35.50	35.00	125.00	3- Clean sand
18	38.00	-38.00	13.00	110.00	3- Clean sand
19	40.50	-40.50	16.00	115.00	3- Clean sand
20	43.00	-43.00	24.00	120.00	3- Clean sand
21	45.50	-45.50	21.00	115.00	3- Clean sand
22	48.00	-48.00	16.00	115.00	3- Clean sand
23	50.50	-50.50	23.00	115.00	3- Clean sand
24	53.00	-53.00	60.00	130.00	3- Clean sand
25	55.50	-55.50	13.00	110.00	3- Clean sand
26	58.00	-58.00	60.00	130.00	3- Clean sand
27	60.50	-60.50	22.00	115.00	3- Clean sand
28	63.00	-63.00	23.00	115.00	3- Clean sand
29	65.50	-65.50	27.00	120.00	3- Clean sand
30	68.00	-68.00	63.00	135.00	3- Clean sand

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31	70.50	-70.50	60.00	130.00	3- Clean sand
32	73.00	-73.00	37.00	125.00	3- Clean sand
33	75.50	-75.50	60.00	130.00	3- Clean sand
34	78.00	-78.00	34.00	125.00	3- Clean sand
35	80.50	-80.50	33.00	125.00	3- Clean sand
36	83.00	-83.00	11.00	110.00	3- Clean sand
37	85.50	-85.50	9.00	110.00	3- Clean sand
38	88.00	-88.00	43.00	125.00	3- Clean sand
39	90.50	-90.50	60.00	130.00	3- Clean sand
40	93.00	-93.00	27.00	120.00	3- Clean sand
41	95.50	-95.50	34.00	125.00	3- Clean sand
42	98.00	-98.00	49.00	125.00	3- Clean sand
43	100.00	-100.00	49.00	125.00	3- Clean sand

ID	Cu-DIR (tsf)	qu (tsf)	qt (tsf)	Em (ksi)	qb (tsf)
1	N/A	N/A	N/A	N/A	N/A
2	N/A	N/A	N/A	N/A	N/A
3	N/A	N/A	N/A	N/A	N/A
4	N/A	N/A	N/A	N/A	N/A
5	N/A	N/A	N/A	N/A	N/A
6	N/A	N/A	N/A	N/A	N/A
7	N/A	N/A	N/A	N/A	N/A
8	N/A	N/A	N/A	N/A	N/A
9	N/A	N/A	N/A	N/A	N/A
10	N/A	N/A	N/A	N/A	N/A
11	N/A	N/A	N/A	N/A	N/A
12	N/A	N/A	N/A	N/A	N/A
13	N/A	N/A	N/A	N/A	N/A
14	N/A	N/A	N/A	N/A	N/A
15	N/A	N/A	N/A	N/A	N/A
16	N/A	N/A	N/A	N/A	N/A
17	N/A	N/A	N/A	N/A	N/A
18	N/A	N/A	N/A	N/A	N/A
19	N/A	N/A	N/A	N/A	N/A
20	N/A	N/A	N/A	N/A	N/A
21	N/A	N/A	N/A	N/A	N/A
22	N/A	N/A	N/A	N/A	N/A
23	N/A	N/A	N/A	N/A	N/A
24	N/A	N/A	N/A	N/A	N/A
25	N/A	N/A	N/A	N/A	N/A
26	N/A	N/A	N/A	N/A	N/A
27	N/A	N/A	N/A	N/A	N/A
28	N/A	N/A	N/A	N/A	N/A
29	N/A	N/A	N/A	N/A	N/A
30	N/A	N/A	N/A	N/A	N/A
31	N/A	N/A	N/A	N/A	N/A
32	N/A	N/A	N/A	N/A	N/A
33	N/A	N/A	N/A	N/A	N/A
34	N/A	N/A	N/A	N/A	N/A
35	N/A	N/A	N/A	N/A	N/A
36	N/A	N/A	N/A	N/A	N/A
37	N/A	N/A	N/A	N/A	N/A
38	N/A	N/A	N/A	N/A	N/A
39	N/A	N/A	N/A	N/A	N/A
40	N/A	N/A	N/A	N/A	N/A
41	N/A	N/A	N/A	N/A	N/A
42	N/A	N/A	N/A	N/A	N/A
43	N/A	N/A	N/A	N/A	N/A

ID RQD F.M. S.R.I. Rock Recovery

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1	N/A	N/A	N/A
2	N/A	N/A	N/A
3	N/A	N/A	N/A
4	N/A	N/A	N/A
5	N/A	N/A	N/A
6	N/A	N/A	N/A
7	N/A	N/A	N/A
8	N/A	N/A	N/A
9	N/A	N/A	N/A
10	N/A	N/A	N/A
11	N/A	N/A	N/A
12	N/A	N/A	N/A
13	N/A	N/A	N/A
14	N/A	N/A	N/A
15	N/A	N/A	N/A
16	N/A	N/A	N/A
17	N/A	N/A	N/A
18	N/A	N/A	N/A
19	N/A	N/A	N/A
20	N/A	N/A	N/A
21	N/A	N/A	N/A
22	N/A	N/A	N/A
23	N/A	N/A	N/A
24	N/A	N/A	N/A
25	N/A	N/A	N/A
26	N/A	N/A	N/A
27	N/A	N/A	N/A
28	N/A	N/A	N/A
29	N/A	N/A	N/A
30	N/A	N/A	N/A
31	N/A	N/A	N/A
32	N/A	N/A	N/A
33	N/A	N/A	N/A
34	N/A	N/A	N/A
35	N/A	N/A	N/A
36	N/A	N/A	N/A
37	N/A	N/A	N/A
38	N/A	N/A	N/A
39	N/A	N/A	N/A
40	N/A	N/A	N/A
41	N/A	N/A	N/A
42	N/A	N/A	N/A
43	N/A	N/A	N/A

Drilled Shaft Data:

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Shaft Geometry:

ID	Length (ft)	Tip Elev. (ft)	Case Len. (ft)	Diameter (in)	Base Diam. (in)	Bell Len. (ft)
1	15.00	-15.00	6.00	60.00	60.00	0.00
2	16.00	-16.00	6.00	60.00	60.00	0.00
3	17.00	-17.00	6.00	60.00	60.00	0.00
4	18.00	-18.00	6.00	60.00	60.00	0.00
5	19.00	-19.00	6.00	60.00	60.00	0.00
6	20.00	-20.00	6.00	60.00	60.00	0.00
7	21.00	-21.00	6.00	60.00	60.00	0.00
8	22.00	-22.00	6.00	60.00	60.00	0.00
9	23.00	-23.00	6.00	60.00	60.00	0.00

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10	24.00	-24.00	6.00	60.00	60.00	0.00
11	25.00	-25.00	6.00	60.00	60.00	0.00
12	26.00	-26.00	6.00	60.00	60.00	0.00
13	27.00	-27.00	6.00	60.00	60.00	0.00
14	28.00	-28.00	6.00	60.00	60.00	0.00
15	29.00	-29.00	6.00	60.00	60.00	0.00
16	30.00	-30.00	6.00	60.00	60.00	0.00
17	31.00	-31.00	6.00	60.00	60.00	0.00
18	32.00	-32.00	6.00	60.00	60.00	0.00
19	33.00	-33.00	6.00	60.00	60.00	0.00
20	34.00	-34.00	6.00	60.00	60.00	0.00
21	35.00	-35.00	6.00	60.00	60.00	0.00
22	36.00	-36.00	6.00	60.00	60.00	0.00
23	37.00	-37.00	6.00	60.00	60.00	0.00
24	38.00	-38.00	6.00	60.00	60.00	0.00
25	39.00	-39.00	6.00	60.00	60.00	0.00
26	40.00	-40.00	6.00	60.00	60.00	0.00
27	41.00	-41.00	6.00	60.00	60.00	0.00
28	42.00	-42.00	6.00	60.00	60.00	0.00
29	43.00	-43.00	6.00	60.00	60.00	0.00
30	44.00	-44.00	6.00	60.00	60.00	0.00
31	45.00	-45.00	6.00	60.00	60.00	0.00
32	46.00	-46.00	6.00	60.00	60.00	0.00
33	47.00	-47.00	6.00	60.00	60.00	0.00
34	48.00	-48.00	6.00	60.00	60.00	0.00
35	49.00	-49.00	6.00	60.00	60.00	0.00
36	50.00	-50.00	6.00	60.00	60.00	0.00
37	51.00	-51.00	6.00	60.00	60.00	0.00
38	52.00	-52.00	6.00	60.00	60.00	0.00
39	53.00	-53.00	6.00	60.00	60.00	0.00
40	54.00	-54.00	6.00	60.00	60.00	0.00
41	55.00	-55.00	6.00	60.00	60.00	0.00
42	56.00	-56.00	6.00	60.00	60.00	0.00
43	57.00	-57.00	6.00	60.00	60.00	0.00
44	58.00	-58.00	6.00	60.00	60.00	0.00
45	59.00	-59.00	6.00	60.00	60.00	0.00
46	60.00	-60.00	6.00	60.00	60.00	0.00
47	61.00	-61.00	6.00	60.00	60.00	0.00
48	62.00	-62.00	6.00	60.00	60.00	0.00
49	63.00	-63.00	6.00	60.00	60.00	0.00
50	64.00	-64.00	6.00	60.00	60.00	0.00
51	65.00	-65.00	6.00	60.00	60.00	0.00
52	66.00	-66.00	6.00	60.00	60.00	0.00
53	67.00	-67.00	6.00	60.00	60.00	0.00
54	68.00	-68.00	6.00	60.00	60.00	0.00
55	69.00	-69.00	6.00	60.00	60.00	0.00
56	70.00	-70.00	6.00	60.00	60.00	0.00
57	71.00	-71.00	6.00	60.00	60.00	0.00
58	72.00	-72.00	6.00	60.00	60.00	0.00
59	73.00	-73.00	6.00	60.00	60.00	0.00
60	74.00	-74.00	6.00	60.00	60.00	0.00
61	75.00	-75.00	6.00	60.00	60.00	0.00
62	76.00	-76.00	6.00	60.00	60.00	0.00
63	77.00	-77.00	6.00	60.00	60.00	0.00
64	78.00	-78.00	6.00	60.00	60.00	0.00
65	79.00	-79.00	6.00	60.00	60.00	0.00
66	80.00	-80.00	6.00	60.00	60.00	0.00
67	81.00	-81.00	6.00	60.00	60.00	0.00
68	82.00	-82.00	6.00	60.00	60.00	0.00
69	83.00	-83.00	6.00	60.00	60.00	0.00
70	84.00	-84.00	6.00	60.00	60.00	0.00
71	85.00	-85.00	6.00	60.00	60.00	0.00
72	86.00	-86.00	6.00	60.00	60.00	0.00

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73	87.00	-87.00	6.00	60.00	60.00	0.00
74	88.00	-88.00	6.00	60.00	60.00	0.00
75	89.00	-89.00	6.00	60.00	60.00	0.00
76	90.00	-90.00	6.00	60.00	60.00	0.00
77	91.00	-91.00	6.00	60.00	60.00	0.00
78	92.00	-92.00	6.00	60.00	60.00	0.00
79	93.00	-93.00	6.00	60.00	60.00	0.00
80	94.00	-94.00	6.00	60.00	60.00	0.00
81	95.00	-95.00	6.00	60.00	60.00	0.00

Drilled Shaft Capacity (sorted by shaft diameter):

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Strength reduction factors: Skin-friction = 1.00, End-bearing = 1.00

ID	Diameter (in)	Length (ft)	Skin Fric. (tons)	End Bearing (tons)	Capacity (tons)
1	60.00	15.00	1.407	30.891	32.298
2	60.00	16.00	2.121	32.544	34.665
3	60.00	17.00	2.954	41.509	44.463
4	60.00	18.00	3.903	86.070	89.973
5	60.00	19.00	4.961	108.747	113.708
6	60.00	20.00	6.127	131.563	137.690
7	60.00	21.00	7.268	152.813	160.081
8	60.00	22.00	8.363	169.325	177.688
9	60.00	23.00	9.537	181.051	190.587
10	60.00	24.00	11.406	192.210	203.616
11	60.00	25.00	13.384	207.021	220.406
12	60.00	26.00	15.466	224.747	240.214
13	60.00	27.00	17.648	240.964	258.612
14	60.00	28.00	19.926	254.935	274.862
15	60.00	29.00	24.781	267.824	292.604
16	60.00	30.00	29.967	280.793	310.760
17	60.00	31.00	35.474	293.871	329.346
18	60.00	32.00	41.311	307.220	348.531
19	60.00	33.00	47.475	320.868	368.343
20	60.00	34.00	53.887	329.337	383.224
21	60.00	35.00	60.490	327.151	387.641
22	60.00	36.00	67.281	315.266	382.547
23	60.00	37.00	74.291	299.422	373.713
24	60.00	38.00	81.521	280.575	362.096
25	60.00	39.00	88.916	264.500	353.416
26	60.00	40.00	96.436	256.969	353.405
27	60.00	41.00	104.076	256.915	360.991
28	60.00	42.00	111.846	257.927	369.773
29	60.00	43.00	119.746	258.936	378.682
30	60.00	44.00	127.776	260.067	387.843
31	60.00	45.00	135.945	261.444	397.389
32	60.00	46.00	144.241	263.695	407.936
33	60.00	47.00	152.637	270.591	423.228
34	60.00	48.00	161.128	282.760	443.888
35	60.00	49.00	169.703	294.319	464.022
36	60.00	50.00	178.358	299.389	477.748
37	60.00	51.00	187.087	299.108	486.196
38	60.00	52.00	195.882	300.311	496.193
39	60.00	53.00	204.740	304.137	508.877
40	60.00	54.00	213.679	309.465	523.144
41	60.00	55.00	222.728	315.172	537.900
42	60.00	56.00	231.865	321.610	553.476
43	60.00	57.00	241.026	330.886	571.911
44	60.00	58.00	250.197	343.350	593.547
45	60.00	59.00	259.407	353.853	613.260

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46	60.00	60.00	268.689	357.246	625.936
47	60.00	61.00	278.028	355.435	633.463
48	60.00	62.00	287.374	359.860	647.234
49	60.00	63.00	296.720	372.426	669.146
50	60.00	64.00	306.054	385.195	691.249
51	60.00	65.00	315.376	390.228	705.605
52	60.00	66.00	324.681	389.179	713.860
53	60.00	67.00	333.974	391.965	725.939
54	60.00	68.00	343.254	400.242	743.496
55	60.00	69.00	352.532	410.980	763.512
56	60.00	70.00	361.829	421.149	782.978
57	60.00	71.00	371.133	429.956	801.089
58	60.00	72.00	380.424	432.633	813.058
59	60.00	73.00	389.698	428.386	818.084
60	60.00	74.00	398.935	418.405	817.339
61	60.00	75.00	408.126	403.881	812.007
62	60.00	76.00	417.266	386.273	803.539
63	60.00	77.00	426.357	374.320	800.677
64	60.00	78.00	435.396	369.481	804.877
65	60.00	79.00	444.366	368.697	813.062
66	60.00	80.00	453.259	368.910	822.169
67	60.00	81.00	462.067	369.233	831.300
68	60.00	82.00	470.784	364.336	835.120
69	60.00	83.00	479.407	353.331	832.738
70	60.00	84.00	487.386	341.070	828.455
71	60.00	85.00	495.458	332.403	827.861
72	60.00	86.00	503.624	327.432	831.056
73	60.00	87.00	511.883	326.766	838.649
74	60.00	88.00	520.236	330.505	850.741
75	60.00	89.00	528.697	340.019	868.716
76	60.00	90.00	537.281	356.675	893.955
77	60.00	91.00	Soil Elevations Must Extend At or Below Contribution		
Zone					
78	60.00	92.00	Soil Elevations Must Extend At or Below Contribution		
Zone					
79	60.00	93.00	Soil Elevations Must Extend At or Below Contribution		
Zone					
80	60.00	94.00	Soil Elevations Must Extend At or Below Contribution		
Zone					
81	60.00	95.00	Soil Elevations Must Extend At or Below Contribution		
Zone					

Drilled Shaft Capacity at User-Defined Settlement (sorted by shaft diameter):

***** Capacity is NOT modified by the strength reduction factors *****

User-Defined Settlement = 0.83%

ID	Diameter (in)	Length (ft)	Skin Fric. (tons)	End Bearing (tons)	Capacity (tons)
1	60.00	15.00	1.371	8.065	9.437
2	60.00	16.00	2.067	8.497	10.564
3	60.00	17.00	2.878	10.838	13.716
4	60.00	18.00	3.803	22.472	26.275
5	60.00	19.00	4.835	28.393	33.227
6	60.00	20.00	5.971	34.350	40.321
7	60.00	21.00	7.083	39.898	46.981
8	60.00	22.00	8.150	44.209	52.359
9	60.00	23.00	9.293	47.271	56.564
10	60.00	24.00	11.115	50.184	61.300

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11	60.00	25.00	13.043	54.052	67.095
12	60.00	26.00	15.072	58.680	73.752
13	60.00	27.00	17.198	62.914	80.112
14	60.00	28.00	19.418	66.562	85.980
15	60.00	29.00	24.149	69.927	94.076
16	60.00	30.00	29.203	73.313	102.516
17	60.00	31.00	34.570	76.727	111.298
18	60.00	32.00	40.258	80.213	120.471
19	60.00	33.00	46.264	83.776	130.040
20	60.00	34.00	52.513	85.987	138.501
21	60.00	35.00	58.948	85.417	144.364
22	60.00	36.00	65.566	82.314	147.879
23	60.00	37.00	72.397	78.177	150.574
24	60.00	38.00	79.443	73.256	152.699
25	60.00	39.00	86.650	69.059	155.708
26	60.00	40.00	93.978	67.093	161.070
27	60.00	41.00	101.422	67.078	168.501
28	60.00	42.00	108.994	67.343	176.337
29	60.00	43.00	116.693	67.606	184.300
30	60.00	44.00	124.519	67.901	192.420
31	60.00	45.00	132.479	68.261	200.740
32	60.00	46.00	140.563	68.849	209.412
33	60.00	47.00	148.746	70.649	219.395
34	60.00	48.00	157.021	73.826	230.847
35	60.00	49.00	165.376	76.845	242.221
36	60.00	50.00	173.811	78.168	251.980
37	60.00	51.00	182.318	78.095	260.413
38	60.00	52.00	190.888	78.409	269.297
39	60.00	53.00	199.520	79.408	278.928
40	60.00	54.00	208.232	80.799	289.031
41	60.00	55.00	217.049	82.289	299.338
42	60.00	56.00	225.954	83.970	309.924
43	60.00	57.00	234.881	86.392	321.273
44	60.00	58.00	243.819	89.646	333.465
45	60.00	59.00	252.794	92.388	345.182
46	60.00	60.00	261.840	93.274	355.114
47	60.00	61.00	270.940	92.801	363.741
48	60.00	62.00	280.048	93.957	374.004
49	60.00	63.00	289.155	97.238	386.393
50	60.00	64.00	298.252	100.571	398.823
51	60.00	65.00	307.336	101.886	409.222
52	60.00	66.00	316.404	101.611	418.015
53	60.00	67.00	325.460	102.339	427.799
54	60.00	68.00	334.503	104.500	439.003
55	60.00	69.00	343.545	107.304	450.848
56	60.00	70.00	352.605	109.959	462.563
57	60.00	71.00	361.671	112.258	473.930
58	60.00	72.00	370.726	112.957	483.683
59	60.00	73.00	379.763	111.848	491.611
60	60.00	74.00	388.765	109.242	498.007
61	60.00	75.00	397.722	105.450	503.172
62	60.00	76.00	406.629	100.853	507.481
63	60.00	77.00	415.487	97.732	513.219
64	60.00	78.00	424.296	96.469	520.765
65	60.00	79.00	433.037	96.264	529.301
66	60.00	80.00	441.704	96.320	538.023
67	60.00	81.00	450.288	96.404	546.691
68	60.00	82.00	458.782	95.125	553.907
69	60.00	83.00	467.185	92.252	559.437
70	60.00	84.00	474.961	89.051	564.011
71	60.00	85.00	482.827	86.788	569.615
72	60.00	86.00	490.785	85.490	576.275
73	60.00	87.00	498.833	85.316	584.149

			B-402Shaft60in.out		
	74	60.00	88.00	506.973	86.292 593.266
	75	60.00	89.00	515.218	88.776 603.995
	76	60.00	90.00	523.583	93.125 616.708
	77	60.00	91.00	Soil Elevations Must Extend At or Below Contribution	
Zone	78	60.00	92.00	Soil Elevations Must Extend At or Below Contribution	
Zone	79	60.00	93.00	Soil Elevations Must Extend At or Below Contribution	
Zone	80	60.00	94.00	Soil Elevations Must Extend At or Below Contribution	
Zone	81	60.00	95.00	Soil Elevations Must Extend At or Below Contribution	
Zone					

General Information:

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Input file:analysis_Structure\FB-Deep_2021\Drilled Shaft\B-403Shaft48in.in
 Project number: 2000-01-16015
 Job name: I-95 From Hallandale Beach Boulevard to Hollywood Blvd
 Engineer: JB Henry
 Units: English

Analysis Information:

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Analysis Type: Drilled Shaft Analysis

Soil Information:

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Boring date: 9/19/2018
 Boring number: B-403
 Station number: Offset:

Ground Elevation: 0.00(ft)
 Water table Elevation = 0.00(ft)

Hammer type: Automatic Hammer, Correction factor = 1.24

ID	Depth (ft)	Elevation (ft)	SPT Blows (Blows/ft)	Unit Weight (pcf)	Soil Type
1	0.00	0.00	N/A	0.00	5- Cavity layer
2	2.00	-2.00	N/A	0.00	5- Cavity layer
3	4.00	-4.00	N/A	0.00	5- Cavity layer
4	6.00	-6.00	N/A	0.00	5- Cavity layer
5	8.00	-8.00	N/A	0.00	5- Cavity layer
6	10.00	-10.00	13.00	110.00	3- Clean sand
7	12.00	-12.00	9.00	110.00	3- Clean sand
8	13.50	-13.50	5.00	105.00	3- Clean sand
9	15.50	-15.50	3.00	100.00	3- Clean sand
10	18.00	-18.00	17.00	115.00	3- Clean sand
11	20.50	-20.50	14.00	110.00	3- Clean sand
12	23.00	-23.00	14.00	110.00	3- Clean sand
13	25.50	-25.50	7.00	105.00	3- Clean sand
14	28.00	-28.00	2.00	100.00	3- Clean sand
15	30.50	-30.50	1.00	100.00	3- Clean sand
16	33.00	-33.00	1.00	100.00	3- Clean sand
17	35.50	-35.50	4.00	105.00	3- Clean sand
18	38.00	-38.00	11.00	110.00	3- Clean sand
19	40.50	-40.50	15.00	110.00	3- Clean sand
20	43.00	-43.00	18.00	115.00	3- Clean sand
21	45.50	-45.50	8.00	110.00	3- Clean sand
22	48.00	-48.00	13.00	110.00	3- Clean sand
23	50.50	-50.50	14.00	110.00	3- Clean sand
24	53.00	-53.00	13.00	110.00	3- Clean sand
25	55.50	-55.50	12.00	110.00	3- Clean sand
26	58.00	-58.00	24.00	120.00	3- Clean sand
27	60.50	-60.50	8.00	110.00	3- Clean sand
28	63.00	-63.00	84.00	135.00	3- Clean sand
29	65.50	-65.50	60.00	130.00	3- Clean sand
30	68.00	-68.00	43.00	125.00	3- Clean sand

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31	70.50	-70.50	70.00	135.00	3- Clean sand
32	73.00	-73.00	23.00	1115.00	3- Clean sand
33	75.50	-75.50	40.00	125.00	3- Clean sand
34	78.00	-78.00	18.00	115.00	3- Clean sand
35	80.50	-80.50	67.00	135.00	3- Clean sand
36	83.00	-83.00	60.00	130.00	3- Clean sand
37	85.50	-85.50	60.00	130.00	3- Clean sand
38	88.00	-88.00	39.00	125.00	3- Clean sand
39	90.50	-90.50	60.00	130.00	3- Clean sand
40	93.00	-93.00	60.00	130.00	3- Clean sand
41	95.50	-95.50	60.00	130.00	3- Clean sand
42	98.00	-98.00	16.00	115.00	3- Clean sand
43	100.00	-100.00	16.00	115.00	3- Clean sand

ID	Cu-DIR (tsf)	qu (tsf)	qt (tsf)	Em (ksi)	qb (tsf)
1	N/A	N/A	N/A	N/A	N/A
2	N/A	N/A	N/A	N/A	N/A
3	N/A	N/A	N/A	N/A	N/A
4	N/A	N/A	N/A	N/A	N/A
5	N/A	N/A	N/A	N/A	N/A
6	N/A	N/A	N/A	N/A	N/A
7	N/A	N/A	N/A	N/A	N/A
8	N/A	N/A	N/A	N/A	N/A
9	N/A	N/A	N/A	N/A	N/A
10	N/A	N/A	N/A	N/A	N/A
11	N/A	N/A	N/A	N/A	N/A
12	N/A	N/A	N/A	N/A	N/A
13	N/A	N/A	N/A	N/A	N/A
14	N/A	N/A	N/A	N/A	N/A
15	N/A	N/A	N/A	N/A	N/A
16	N/A	N/A	N/A	N/A	N/A
17	N/A	N/A	N/A	N/A	N/A
18	N/A	N/A	N/A	N/A	N/A
19	N/A	N/A	N/A	N/A	N/A
20	N/A	N/A	N/A	N/A	N/A
21	N/A	N/A	N/A	N/A	N/A
22	N/A	N/A	N/A	N/A	N/A
23	N/A	N/A	N/A	N/A	N/A
24	N/A	N/A	N/A	N/A	N/A
25	N/A	N/A	N/A	N/A	N/A
26	N/A	N/A	N/A	N/A	N/A
27	N/A	N/A	N/A	N/A	N/A
28	N/A	N/A	N/A	N/A	N/A
29	N/A	N/A	N/A	N/A	N/A
30	N/A	N/A	N/A	N/A	N/A
31	N/A	N/A	N/A	N/A	N/A
32	N/A	N/A	N/A	N/A	N/A
33	N/A	N/A	N/A	N/A	N/A
34	N/A	N/A	N/A	N/A	N/A
35	N/A	N/A	N/A	N/A	N/A
36	N/A	N/A	N/A	N/A	N/A
37	N/A	N/A	N/A	N/A	N/A
38	N/A	N/A	N/A	N/A	N/A
39	N/A	N/A	N/A	N/A	N/A
40	N/A	N/A	N/A	N/A	N/A
41	N/A	N/A	N/A	N/A	N/A
42	N/A	N/A	N/A	N/A	N/A
43	N/A	N/A	N/A	N/A	N/A

ID RQD F.M. S.R.I. Rock Recovery

B-403Shaft48in.out

1	N/A	N/A	N/A
2	N/A	N/A	N/A
3	N/A	N/A	N/A
4	N/A	N/A	N/A
5	N/A	N/A	N/A
6	N/A	N/A	N/A
7	N/A	N/A	N/A
8	N/A	N/A	N/A
9	N/A	N/A	N/A
10	N/A	N/A	N/A
11	N/A	N/A	N/A
12	N/A	N/A	N/A
13	N/A	N/A	N/A
14	N/A	N/A	N/A
15	N/A	N/A	N/A
16	N/A	N/A	N/A
17	N/A	N/A	N/A
18	N/A	N/A	N/A
19	N/A	N/A	N/A
20	N/A	N/A	N/A
21	N/A	N/A	N/A
22	N/A	N/A	N/A
23	N/A	N/A	N/A
24	N/A	N/A	N/A
25	N/A	N/A	N/A
26	N/A	N/A	N/A
27	N/A	N/A	N/A
28	N/A	N/A	N/A
29	N/A	N/A	N/A
30	N/A	N/A	N/A
31	N/A	N/A	N/A
32	N/A	N/A	N/A
33	N/A	N/A	N/A
34	N/A	N/A	N/A
35	N/A	N/A	N/A
36	N/A	N/A	N/A
37	N/A	N/A	N/A
38	N/A	N/A	N/A
39	N/A	N/A	N/A
40	N/A	N/A	N/A
41	N/A	N/A	N/A
42	N/A	N/A	N/A
43	N/A	N/A	N/A

Drilled Shaft Data:

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Shaft Geometry:

ID	Length (ft)	Tip Elev. (ft)	Case Len. (ft)	Diameter (in)	Base Diam. (in)	Bell Len. (ft)
1	15.00	-15.00	6.00	48.00	48.00	0.00
2	16.00	-16.00	6.00	48.00	48.00	0.00
3	17.00	-17.00	6.00	48.00	48.00	0.00
4	18.00	-18.00	6.00	48.00	48.00	0.00
5	19.00	-19.00	6.00	48.00	48.00	0.00
6	20.00	-20.00	6.00	48.00	48.00	0.00
7	21.00	-21.00	6.00	48.00	48.00	0.00
8	22.00	-22.00	6.00	48.00	48.00	0.00
9	23.00	-23.00	6.00	48.00	48.00	0.00

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10	24.00	-24.00	6.00	48.00	48.00	0.00
11	25.00	-25.00	6.00	48.00	48.00	0.00
12	26.00	-26.00	6.00	48.00	48.00	0.00
13	27.00	-27.00	6.00	48.00	48.00	0.00
14	28.00	-28.00	6.00	48.00	48.00	0.00
15	29.00	-29.00	6.00	48.00	48.00	0.00
16	30.00	-30.00	6.00	48.00	48.00	0.00
17	31.00	-31.00	6.00	48.00	48.00	0.00
18	32.00	-32.00	6.00	48.00	48.00	0.00
19	33.00	-33.00	6.00	48.00	48.00	0.00
20	34.00	-34.00	6.00	48.00	48.00	0.00
21	35.00	-35.00	6.00	48.00	48.00	0.00
22	36.00	-36.00	6.00	48.00	48.00	0.00
23	37.00	-37.00	6.00	48.00	48.00	0.00
24	38.00	-38.00	6.00	48.00	48.00	0.00
25	39.00	-39.00	6.00	48.00	48.00	0.00
26	40.00	-40.00	6.00	48.00	48.00	0.00
27	41.00	-41.00	6.00	48.00	48.00	0.00
28	42.00	-42.00	6.00	48.00	48.00	0.00
29	43.00	-43.00	6.00	48.00	48.00	0.00
30	44.00	-44.00	6.00	48.00	48.00	0.00
31	45.00	-45.00	6.00	48.00	48.00	0.00
32	46.00	-46.00	6.00	48.00	48.00	0.00
33	47.00	-47.00	6.00	48.00	48.00	0.00
34	48.00	-48.00	6.00	48.00	48.00	0.00
35	49.00	-49.00	6.00	48.00	48.00	0.00
36	50.00	-50.00	6.00	48.00	48.00	0.00
37	51.00	-51.00	6.00	48.00	48.00	0.00
38	52.00	-52.00	6.00	48.00	48.00	0.00
39	53.00	-53.00	6.00	48.00	48.00	0.00
40	54.00	-54.00	6.00	48.00	48.00	0.00
41	55.00	-55.00	6.00	48.00	48.00	0.00
42	56.00	-56.00	6.00	48.00	48.00	0.00
43	57.00	-57.00	6.00	48.00	48.00	0.00
44	58.00	-58.00	6.00	48.00	48.00	0.00
45	59.00	-59.00	6.00	48.00	48.00	0.00
46	60.00	-60.00	6.00	48.00	48.00	0.00
47	61.00	-61.00	6.00	48.00	48.00	0.00
48	62.00	-62.00	6.00	48.00	48.00	0.00
49	63.00	-63.00	6.00	48.00	48.00	0.00
50	64.00	-64.00	6.00	48.00	48.00	0.00
51	65.00	-65.00	6.00	48.00	48.00	0.00
52	66.00	-66.00	6.00	48.00	48.00	0.00
53	67.00	-67.00	6.00	48.00	48.00	0.00
54	68.00	-68.00	6.00	48.00	48.00	0.00
55	69.00	-69.00	6.00	48.00	48.00	0.00
56	70.00	-70.00	6.00	48.00	48.00	0.00
57	71.00	-71.00	6.00	48.00	48.00	0.00
58	72.00	-72.00	6.00	48.00	48.00	0.00
59	73.00	-73.00	6.00	48.00	48.00	0.00
60	74.00	-74.00	6.00	48.00	48.00	0.00
61	75.00	-75.00	6.00	48.00	48.00	0.00
62	76.00	-76.00	6.00	48.00	48.00	0.00
63	77.00	-77.00	6.00	48.00	48.00	0.00
64	78.00	-78.00	6.00	48.00	48.00	0.00
65	79.00	-79.00	6.00	48.00	48.00	0.00
66	80.00	-80.00	6.00	48.00	48.00	0.00
67	81.00	-81.00	6.00	48.00	48.00	0.00
68	82.00	-82.00	6.00	48.00	48.00	0.00
69	83.00	-83.00	6.00	48.00	48.00	0.00
70	84.00	-84.00	6.00	48.00	48.00	0.00
71	85.00	-85.00	6.00	48.00	48.00	0.00
72	86.00	-86.00	6.00	48.00	48.00	0.00

			B-403Shaft48in.out			
73	87.00	-87.00	6.00	48.00	48.00	0.00
74	88.00	-88.00	6.00	48.00	48.00	0.00
75	89.00	-89.00	6.00	48.00	48.00	0.00
76	90.00	-90.00	6.00	48.00	48.00	0.00
77	91.00	-91.00	6.00	48.00	48.00	0.00
78	92.00	-92.00	6.00	48.00	48.00	0.00
79	93.00	-93.00	6.00	48.00	48.00	0.00
80	94.00	-94.00	6.00	48.00	48.00	0.00
81	95.00	-95.00	6.00	48.00	48.00	0.00

Drilled Shaft Capacity (sorted by shaft diameter):

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Strength reduction factors: Skin-friction = 1.00, End-bearing = 1.00

ID	Diameter (in)	Length (ft)	Skin Fric. (tons)	End Bearing (tons)	Capacity (tons)
1	48.00	15.00	2.330	58.653	60.983
2	48.00	16.00	2.840	97.049	99.889
3	48.00	17.00	3.295	95.101	98.396
4	48.00	18.00	3.808	94.224	98.033
5	48.00	19.00	5.958	94.367	100.325
6	48.00	20.00	8.372	95.023	103.395
7	48.00	21.00	11.037	95.714	106.751
8	48.00	22.00	13.920	96.279	110.199
9	48.00	23.00	17.016	92.919	109.935
10	48.00	24.00	20.310	84.894	105.204
11	48.00	25.00	23.801	74.610	98.411
12	48.00	26.00	26.695	65.085	91.780
13	48.00	27.00	28.913	56.671	85.584
14	48.00	28.00	31.220	48.802	80.022
15	48.00	29.00	32.541	42.218	74.759
16	48.00	30.00	33.920	38.284	72.204
17	48.00	31.00	35.359	37.748	73.107
18	48.00	32.00	36.856	40.241	77.098
19	48.00	33.00	38.413	45.276	83.689
20	48.00	34.00	40.029	52.717	92.746
21	48.00	35.00	41.704	62.027	103.731
22	48.00	36.00	43.438	71.104	114.542
23	48.00	37.00	45.239	78.622	123.862
24	48.00	38.00	47.107	84.826	131.933
25	48.00	39.00	51.777	92.189	143.966
26	48.00	40.00	56.549	100.564	157.114
27	48.00	41.00	61.662	109.008	170.670
28	48.00	42.00	67.116	116.838	183.954
29	48.00	43.00	72.666	123.051	195.718
30	48.00	44.00	78.315	126.635	204.950
31	48.00	45.00	84.068	127.492	211.560
32	48.00	46.00	88.924	126.236	215.160
33	48.00	47.00	92.842	123.782	216.624
34	48.00	48.00	96.808	120.889	217.697
35	48.00	49.00	102.867	119.721	222.588
36	48.00	50.00	108.988	122.526	231.514
37	48.00	51.00	115.164	128.038	243.202
38	48.00	52.00	121.391	132.284	253.675
39	48.00	53.00	127.665	133.150	260.816
40	48.00	54.00	133.979	138.524	272.503
41	48.00	55.00	140.332	150.439	290.771
42	48.00	56.00	146.692	165.869	312.561
43	48.00	57.00	153.054	181.874	334.928
44	48.00	58.00	159.442	199.047	358.489
45	48.00	59.00	165.914	216.376	382.290

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46	48.00	60.00	172.432	232.770	405.202
47	48.00	61.00	177.875	248.700	426.575
48	48.00	62.00	182.215	266.482	448.697
49	48.00	63.00	186.557	283.044	469.601
50	48.00	64.00	193.151	293.582	486.734
51	48.00	65.00	199.806	300.695	500.501
52	48.00	66.00	206.512	312.756	519.268
53	48.00	67.00	213.250	331.894	545.145
54	48.00	68.00	220.018	345.676	565.694
55	48.00	69.00	226.797	345.382	572.179
56	48.00	70.00	233.581	334.909	568.491
57	48.00	71.00	240.367	324.306	564.672
58	48.00	72.00	247.163	317.738	564.902
59	48.00	73.00	253.972	314.387	568.359
60	48.00	74.00	261.835	311.675	573.510
61	48.00	75.00	271.757	310.288	582.045
62	48.00	76.00	283.362	309.845	593.207
63	48.00	77.00	295.037	308.743	603.780
64	48.00	78.00	306.555	310.612	617.167
65	48.00	79.00	317.898	317.622	635.520
66	48.00	80.00	329.057	326.111	655.168
67	48.00	81.00	340.031	330.825	670.856
68	48.00	82.00	350.844	332.287	683.130
69	48.00	83.00	361.497	339.355	700.852
70	48.00	84.00	371.977	353.319	725.296
71	48.00	85.00	382.278	367.233	749.510
72	48.00	86.00	392.397	374.177	766.574
73	48.00	87.00	402.551	374.943	777.494
74	48.00	88.00	412.810	374.026	786.837
75	48.00	89.00	423.172	368.135	791.308
76	48.00	90.00	433.633	356.662	790.295
77	48.00	91.00	444.192	342.437	786.629
78	48.00	92.00	454.857	328.276	783.133
79	48.00	93.00	Soil Elevations Must Extend At or Below Contribution		
Zone					
80	48.00	94.00	Soil Elevations Must Extend At or Below Contribution		
Zone					
81	48.00	95.00	Soil Elevations Must Extend At or Below Contribution		
Zone					

Drilled Shaft Capacity at User-Defined Settlement (sorted by shaft diameter):

***** Capacity is NOT modified by the strength reduction factors *****

User-Defined Settlement = 1.04%

ID	Diameter (in)	Length (ft)	Skin Fric. (tons)	End Bearing (tons)	Capacity (tons)
1	48.00	15.00	2.279	18.630	20.909
2	48.00	16.00	2.778	30.826	33.604
3	48.00	17.00	3.223	30.207	33.430
4	48.00	18.00	3.725	29.929	33.654
5	48.00	19.00	5.827	29.974	35.802
6	48.00	20.00	8.189	30.183	38.371
7	48.00	21.00	10.795	30.402	41.197
8	48.00	22.00	13.615	30.582	44.197
9	48.00	23.00	16.643	29.514	46.158
10	48.00	24.00	19.866	26.965	46.831
11	48.00	25.00	23.280	23.699	46.979
12	48.00	26.00	26.110	20.673	46.784

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13	48.00	27.00	28.281	18.001	46.281
14	48.00	28.00	30.537	15.501	46.038
15	48.00	29.00	31.829	13.410	45.238
16	48.00	30.00	33.178	12.160	45.338
17	48.00	31.00	34.585	11.990	46.575
18	48.00	32.00	36.050	12.782	48.832
19	48.00	33.00	37.572	14.381	51.954
20	48.00	34.00	39.153	16.745	55.897
21	48.00	35.00	40.791	19.702	60.493
22	48.00	36.00	42.488	22.585	65.073
23	48.00	37.00	44.249	24.973	69.222
24	48.00	38.00	46.076	26.944	73.019
25	48.00	39.00	50.644	29.282	79.926
26	48.00	40.00	55.312	31.943	87.254
27	48.00	41.00	60.312	34.625	94.937
28	48.00	42.00	65.647	37.112	102.758
29	48.00	43.00	71.076	39.085	110.161
30	48.00	44.00	76.600	40.224	116.824
31	48.00	45.00	82.228	40.496	122.724
32	48.00	46.00	86.977	40.097	127.074
33	48.00	47.00	90.810	39.317	130.127
34	48.00	48.00	94.689	38.399	133.088
35	48.00	49.00	100.616	38.027	138.643
36	48.00	50.00	106.602	38.918	145.521
37	48.00	51.00	112.644	40.669	153.313
38	48.00	52.00	118.734	42.018	160.752
39	48.00	53.00	124.871	42.293	167.164
40	48.00	54.00	131.047	44.000	175.047
41	48.00	55.00	137.260	47.785	185.045
42	48.00	56.00	143.481	52.686	196.167
43	48.00	57.00	149.704	57.769	207.474
44	48.00	58.00	155.952	63.224	219.176
45	48.00	59.00	162.283	68.728	231.011
46	48.00	60.00	168.658	73.936	242.594
47	48.00	61.00	173.982	78.996	252.977
48	48.00	62.00	178.226	84.644	262.870
49	48.00	63.00	182.473	89.905	272.378
50	48.00	64.00	188.924	93.252	282.176
51	48.00	65.00	195.433	95.511	290.944
52	48.00	66.00	201.991	99.342	301.334
53	48.00	67.00	208.582	105.421	314.004
54	48.00	68.00	215.202	109.799	325.000
55	48.00	69.00	221.833	109.705	331.538
56	48.00	70.00	228.469	106.379	334.847
57	48.00	71.00	235.105	103.011	338.116
58	48.00	72.00	241.753	100.925	342.678
59	48.00	73.00	248.413	99.860	348.273
60	48.00	74.00	256.104	98.999	355.102
61	48.00	75.00	265.809	98.558	364.367
62	48.00	76.00	277.160	98.418	375.577
63	48.00	77.00	288.579	98.067	386.647
64	48.00	78.00	299.845	98.661	398.506
65	48.00	79.00	310.940	100.888	411.827
66	48.00	80.00	321.854	103.584	425.438
67	48.00	81.00	332.588	105.081	437.670
68	48.00	82.00	343.164	105.546	448.710
69	48.00	83.00	353.584	107.791	461.375
70	48.00	84.00	363.835	112.226	476.061
71	48.00	85.00	373.910	116.646	490.556
72	48.00	86.00	383.808	118.851	502.660
73	48.00	87.00	393.740	119.095	512.835
74	48.00	88.00	403.775	118.804	522.578
75	48.00	89.00	413.910	116.932	530.842

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	76	48.00	90.00	424.141	113.288	537.429
	77	48.00	91.00	434.470	108.770	543.239
	78	48.00	92.00	444.901	104.272	549.173
	79	48.00	93.00	Soil Elevations Must Extend At or Below Contribution		
Zone	80	48.00	94.00	Soil Elevations Must Extend At or Below Contribution		
Zone	81	48.00	95.00	Soil Elevations Must Extend At or Below Contribution		
Zone						

General Information:

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Input file:analysis_Structure\FB-Deep_2021\Drilled Shaft\B-403Shaft60in.in
 Project number: 2000-01-16015
 Job name: I-95 From Hallandale Beach Boulevard to Hollywood Blvd
 Engineer: JB Henry
 Units: English

Analysis Information:

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Analysis Type: Drilled Shaft Analysis

Soil Information:

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Boring date: 9/19/2018
 Boring number: B-403
 Station number: Offset:

Ground Elevation: 0.00(ft)
 Water table Elevation = 0.00(ft)

Hammer type: Automatic Hammer, Correction factor = 1.24

ID	Depth (ft)	Elevation (ft)	SPT Blows (Blows/ft)	Unit Weight (pcf)	Soil Type
1	0.00	0.00	N/A	0.00	5- Cavity layer
2	2.00	-2.00	N/A	0.00	5- Cavity layer
3	4.00	-4.00	N/A	0.00	5- Cavity layer
4	6.00	-6.00	N/A	0.00	5- Cavity layer
5	8.00	-8.00	N/A	0.00	5- Cavity layer
6	10.00	-10.00	13.00	110.00	3- Clean sand
7	12.00	-12.00	9.00	110.00	3- Clean sand
8	13.50	-13.50	5.00	105.00	3- Clean sand
9	15.50	-15.50	3.00	100.00	3- Clean sand
10	18.00	-18.00	17.00	115.00	3- Clean sand
11	20.50	-20.50	14.00	110.00	3- Clean sand
12	23.00	-23.00	14.00	110.00	3- Clean sand
13	25.50	-25.50	7.00	105.00	3- Clean sand
14	28.00	-28.00	2.00	100.00	3- Clean sand
15	30.50	-30.50	1.00	100.00	3- Clean sand
16	33.00	-33.00	1.00	100.00	3- Clean sand
17	35.50	-35.50	4.00	105.00	3- Clean sand
18	38.00	-38.00	11.00	110.00	3- Clean sand
19	40.50	-40.50	15.00	110.00	3- Clean sand
20	43.00	-43.00	18.00	115.00	3- Clean sand
21	45.50	-45.50	8.00	110.00	3- Clean sand
22	48.00	-48.00	13.00	110.00	3- Clean sand
23	50.50	-50.50	14.00	110.00	3- Clean sand
24	53.00	-53.00	13.00	110.00	3- Clean sand
25	55.50	-55.50	12.00	110.00	3- Clean sand
26	58.00	-58.00	24.00	120.00	3- Clean sand
27	60.50	-60.50	8.00	110.00	3- Clean sand
28	63.00	-63.00	84.00	135.00	3- Clean sand
29	65.50	-65.50	60.00	130.00	3- Clean sand
30	68.00	-68.00	43.00	125.00	3- Clean sand

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31	70.50	-70.50	70.00	135.00	3- Clean sand
32	73.00	-73.00	23.00	1115.00	3- Clean sand
33	75.50	-75.50	40.00	125.00	3- Clean sand
34	78.00	-78.00	18.00	115.00	3- Clean sand
35	80.50	-80.50	67.00	135.00	3- Clean sand
36	83.00	-83.00	60.00	130.00	3- Clean sand
37	85.50	-85.50	60.00	130.00	3- Clean sand
38	88.00	-88.00	39.00	125.00	3- Clean sand
39	90.50	-90.50	60.00	130.00	3- Clean sand
40	93.00	-93.00	60.00	130.00	3- Clean sand
41	95.50	-95.50	60.00	130.00	3- Clean sand
42	98.00	-98.00	16.00	115.00	3- Clean sand
43	100.00	-100.00	16.00	115.00	3- Clean sand

ID	Cu-DIR (tsf)	qu (tsf)	qt (tsf)	Em (ksi)	qb (tsf)
1	N/A	N/A	N/A	N/A	N/A
2	N/A	N/A	N/A	N/A	N/A
3	N/A	N/A	N/A	N/A	N/A
4	N/A	N/A	N/A	N/A	N/A
5	N/A	N/A	N/A	N/A	N/A
6	N/A	N/A	N/A	N/A	N/A
7	N/A	N/A	N/A	N/A	N/A
8	N/A	N/A	N/A	N/A	N/A
9	N/A	N/A	N/A	N/A	N/A
10	N/A	N/A	N/A	N/A	N/A
11	N/A	N/A	N/A	N/A	N/A
12	N/A	N/A	N/A	N/A	N/A
13	N/A	N/A	N/A	N/A	N/A
14	N/A	N/A	N/A	N/A	N/A
15	N/A	N/A	N/A	N/A	N/A
16	N/A	N/A	N/A	N/A	N/A
17	N/A	N/A	N/A	N/A	N/A
18	N/A	N/A	N/A	N/A	N/A
19	N/A	N/A	N/A	N/A	N/A
20	N/A	N/A	N/A	N/A	N/A
21	N/A	N/A	N/A	N/A	N/A
22	N/A	N/A	N/A	N/A	N/A
23	N/A	N/A	N/A	N/A	N/A
24	N/A	N/A	N/A	N/A	N/A
25	N/A	N/A	N/A	N/A	N/A
26	N/A	N/A	N/A	N/A	N/A
27	N/A	N/A	N/A	N/A	N/A
28	N/A	N/A	N/A	N/A	N/A
29	N/A	N/A	N/A	N/A	N/A
30	N/A	N/A	N/A	N/A	N/A
31	N/A	N/A	N/A	N/A	N/A
32	N/A	N/A	N/A	N/A	N/A
33	N/A	N/A	N/A	N/A	N/A
34	N/A	N/A	N/A	N/A	N/A
35	N/A	N/A	N/A	N/A	N/A
36	N/A	N/A	N/A	N/A	N/A
37	N/A	N/A	N/A	N/A	N/A
38	N/A	N/A	N/A	N/A	N/A
39	N/A	N/A	N/A	N/A	N/A
40	N/A	N/A	N/A	N/A	N/A
41	N/A	N/A	N/A	N/A	N/A
42	N/A	N/A	N/A	N/A	N/A
43	N/A	N/A	N/A	N/A	N/A

ID RQD F.M. S.R.I. Rock Recovery

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1	N/A	N/A	N/A
2	N/A	N/A	N/A
3	N/A	N/A	N/A
4	N/A	N/A	N/A
5	N/A	N/A	N/A
6	N/A	N/A	N/A
7	N/A	N/A	N/A
8	N/A	N/A	N/A
9	N/A	N/A	N/A
10	N/A	N/A	N/A
11	N/A	N/A	N/A
12	N/A	N/A	N/A
13	N/A	N/A	N/A
14	N/A	N/A	N/A
15	N/A	N/A	N/A
16	N/A	N/A	N/A
17	N/A	N/A	N/A
18	N/A	N/A	N/A
19	N/A	N/A	N/A
20	N/A	N/A	N/A
21	N/A	N/A	N/A
22	N/A	N/A	N/A
23	N/A	N/A	N/A
24	N/A	N/A	N/A
25	N/A	N/A	N/A
26	N/A	N/A	N/A
27	N/A	N/A	N/A
28	N/A	N/A	N/A
29	N/A	N/A	N/A
30	N/A	N/A	N/A
31	N/A	N/A	N/A
32	N/A	N/A	N/A
33	N/A	N/A	N/A
34	N/A	N/A	N/A
35	N/A	N/A	N/A
36	N/A	N/A	N/A
37	N/A	N/A	N/A
38	N/A	N/A	N/A
39	N/A	N/A	N/A
40	N/A	N/A	N/A
41	N/A	N/A	N/A
42	N/A	N/A	N/A
43	N/A	N/A	N/A

Drilled Shaft Data:

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Shaft Geometry:

ID	Length (ft)	Tip Elev. (ft)	Case Len. (ft)	Diameter (in)	Base Diam. (in)	Bell Len. (ft)
1	15.00	-15.00	6.00	60.00	60.00	0.00
2	16.00	-16.00	6.00	60.00	60.00	0.00
3	17.00	-17.00	6.00	60.00	60.00	0.00
4	18.00	-18.00	6.00	60.00	60.00	0.00
5	19.00	-19.00	6.00	60.00	60.00	0.00
6	20.00	-20.00	6.00	60.00	60.00	0.00
7	21.00	-21.00	6.00	60.00	60.00	0.00
8	22.00	-22.00	6.00	60.00	60.00	0.00
9	23.00	-23.00	6.00	60.00	60.00	0.00

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10	24.00	-24.00	6.00	60.00	60.00	0.00
11	25.00	-25.00	6.00	60.00	60.00	0.00
12	26.00	-26.00	6.00	60.00	60.00	0.00
13	27.00	-27.00	6.00	60.00	60.00	0.00
14	28.00	-28.00	6.00	60.00	60.00	0.00
15	29.00	-29.00	6.00	60.00	60.00	0.00
16	30.00	-30.00	6.00	60.00	60.00	0.00
17	31.00	-31.00	6.00	60.00	60.00	0.00
18	32.00	-32.00	6.00	60.00	60.00	0.00
19	33.00	-33.00	6.00	60.00	60.00	0.00
20	34.00	-34.00	6.00	60.00	60.00	0.00
21	35.00	-35.00	6.00	60.00	60.00	0.00
22	36.00	-36.00	6.00	60.00	60.00	0.00
23	37.00	-37.00	6.00	60.00	60.00	0.00
24	38.00	-38.00	6.00	60.00	60.00	0.00
25	39.00	-39.00	6.00	60.00	60.00	0.00
26	40.00	-40.00	6.00	60.00	60.00	0.00
27	41.00	-41.00	6.00	60.00	60.00	0.00
28	42.00	-42.00	6.00	60.00	60.00	0.00
29	43.00	-43.00	6.00	60.00	60.00	0.00
30	44.00	-44.00	6.00	60.00	60.00	0.00
31	45.00	-45.00	6.00	60.00	60.00	0.00
32	46.00	-46.00	6.00	60.00	60.00	0.00
33	47.00	-47.00	6.00	60.00	60.00	0.00
34	48.00	-48.00	6.00	60.00	60.00	0.00
35	49.00	-49.00	6.00	60.00	60.00	0.00
36	50.00	-50.00	6.00	60.00	60.00	0.00
37	51.00	-51.00	6.00	60.00	60.00	0.00
38	52.00	-52.00	6.00	60.00	60.00	0.00
39	53.00	-53.00	6.00	60.00	60.00	0.00
40	54.00	-54.00	6.00	60.00	60.00	0.00
41	55.00	-55.00	6.00	60.00	60.00	0.00
42	56.00	-56.00	6.00	60.00	60.00	0.00
43	57.00	-57.00	6.00	60.00	60.00	0.00
44	58.00	-58.00	6.00	60.00	60.00	0.00
45	59.00	-59.00	6.00	60.00	60.00	0.00
46	60.00	-60.00	6.00	60.00	60.00	0.00
47	61.00	-61.00	6.00	60.00	60.00	0.00
48	62.00	-62.00	6.00	60.00	60.00	0.00
49	63.00	-63.00	6.00	60.00	60.00	0.00
50	64.00	-64.00	6.00	60.00	60.00	0.00
51	65.00	-65.00	6.00	60.00	60.00	0.00
52	66.00	-66.00	6.00	60.00	60.00	0.00
53	67.00	-67.00	6.00	60.00	60.00	0.00
54	68.00	-68.00	6.00	60.00	60.00	0.00
55	69.00	-69.00	6.00	60.00	60.00	0.00
56	70.00	-70.00	6.00	60.00	60.00	0.00
57	71.00	-71.00	6.00	60.00	60.00	0.00
58	72.00	-72.00	6.00	60.00	60.00	0.00
59	73.00	-73.00	6.00	60.00	60.00	0.00
60	74.00	-74.00	6.00	60.00	60.00	0.00
61	75.00	-75.00	6.00	60.00	60.00	0.00
62	76.00	-76.00	6.00	60.00	60.00	0.00
63	77.00	-77.00	6.00	60.00	60.00	0.00
64	78.00	-78.00	6.00	60.00	60.00	0.00
65	79.00	-79.00	6.00	60.00	60.00	0.00
66	80.00	-80.00	6.00	60.00	60.00	0.00
67	81.00	-81.00	6.00	60.00	60.00	0.00
68	82.00	-82.00	6.00	60.00	60.00	0.00
69	83.00	-83.00	6.00	60.00	60.00	0.00
70	84.00	-84.00	6.00	60.00	60.00	0.00
71	85.00	-85.00	6.00	60.00	60.00	0.00
72	86.00	-86.00	6.00	60.00	60.00	0.00

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73	87.00	-87.00	6.00	60.00	60.00	0.00
74	88.00	-88.00	6.00	60.00	60.00	0.00
75	89.00	-89.00	6.00	60.00	60.00	0.00
76	90.00	-90.00	6.00	60.00	60.00	0.00
77	91.00	-91.00	6.00	60.00	60.00	0.00
78	92.00	-92.00	6.00	60.00	60.00	0.00
79	93.00	-93.00	6.00	60.00	60.00	0.00
80	94.00	-94.00	6.00	60.00	60.00	0.00
81	95.00	-95.00	6.00	60.00	60.00	0.00

Drilled Shaft Capacity (sorted by shaft diameter):

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Strength reduction factors: Skin-friction = 1.00, End-bearing = 1.00

ID	Diameter (in)	Length (ft)	Skin Fric. (tons)	End Bearing (tons)	Capacity (tons)
1	60.00	15.00	2.912	74.731	77.643
2	60.00	16.00	3.550	76.725	80.275
3	60.00	17.00	4.119	74.533	78.652
4	60.00	18.00	4.761	115.802	120.563
5	60.00	19.00	7.447	111.298	118.745
6	60.00	20.00	10.465	107.997	118.462
7	60.00	21.00	13.796	106.367	120.163
8	60.00	22.00	17.400	106.165	123.564
9	60.00	23.00	21.270	106.773	128.043
10	60.00	24.00	25.388	105.596	130.984
11	60.00	25.00	29.752	100.037	129.789
12	60.00	26.00	33.368	90.927	124.296
13	60.00	27.00	36.142	83.258	119.400
14	60.00	28.00	39.025	77.861	116.886
15	60.00	29.00	40.676	74.046	114.722
16	60.00	30.00	42.400	71.125	113.525
17	60.00	31.00	44.198	69.359	113.558
18	60.00	32.00	46.070	70.333	116.404
19	60.00	33.00	48.016	74.310	122.326
20	60.00	34.00	50.036	79.504	129.540
21	60.00	35.00	52.129	84.130	136.260
22	60.00	36.00	54.298	88.523	142.821
23	60.00	37.00	56.549	94.691	151.240
24	60.00	38.00	58.883	102.969	161.852
25	60.00	39.00	64.721	112.586	177.307
26	60.00	40.00	70.687	122.771	193.458
27	60.00	41.00	77.077	133.332	210.410
28	60.00	42.00	83.895	143.112	227.006
29	60.00	43.00	90.833	151.917	242.750
30	60.00	44.00	97.893	158.572	256.466
31	60.00	45.00	105.085	161.900	266.985
32	60.00	46.00	111.155	162.569	273.724
33	60.00	47.00	116.053	164.598	280.651
34	60.00	48.00	121.010	168.656	289.666
35	60.00	49.00	128.584	171.334	299.918
36	60.00	50.00	136.235	169.224	305.459
37	60.00	51.00	143.955	164.304	308.259
38	60.00	52.00	151.738	168.440	320.178
39	60.00	53.00	159.581	183.611	343.193
40	60.00	54.00	167.474	203.448	370.922
41	60.00	55.00	175.415	221.580	396.995
42	60.00	56.00	183.365	238.302	421.667
43	60.00	57.00	191.318	255.379	446.697
44	60.00	58.00	199.303	273.106	472.409
45	60.00	59.00	207.393	290.670	498.063

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46	60.00	60.00	215.540	307.260	522.800
47	60.00	61.00	222.344	322.840	545.183
48	60.00	62.00	227.768	337.186	564.955
49	60.00	63.00	233.196	350.263	583.459
50	60.00	64.00	241.439	362.827	604.266
51	60.00	65.00	249.758	375.634	625.392
52	60.00	66.00	258.140	388.634	646.774
53	60.00	67.00	266.563	401.522	668.085
54	60.00	68.00	275.022	414.248	689.270
55	60.00	69.00	283.496	424.364	707.861
56	60.00	70.00	291.977	429.422	721.399
57	60.00	71.00	300.458	429.879	730.337
58	60.00	72.00	308.954	428.473	737.427
59	60.00	73.00	317.464	425.661	743.126
60	60.00	74.00	327.293	422.836	750.130
61	60.00	75.00	339.696	421.391	761.088
62	60.00	76.00	354.203	420.890	775.093
63	60.00	77.00	368.796	418.717	787.513
64	60.00	78.00	383.194	414.437	797.630
65	60.00	79.00	397.373	412.981	810.354
66	60.00	80.00	411.321	419.283	830.603
67	60.00	81.00	425.039	431.682	856.720
68	60.00	82.00	438.555	440.222	878.776
69	60.00	83.00	451.871	443.243	895.114
70	60.00	84.00	464.971	447.075	912.046
71	60.00	85.00	477.847	458.050	935.897
72	60.00	86.00	490.497	473.614	964.111
73	60.00	87.00	503.188	478.455	981.643
74	60.00	88.00	516.013	470.020	986.033
75	60.00	89.00	528.965	455.000	983.966
76	60.00	90.00	542.041	440.088	982.129
77	60.00	91.00	Soil Elevations Must Extend At or Below Contribution		
Zone					
78	60.00	92.00	Soil Elevations Must Extend At or Below Contribution		
Zone					
79	60.00	93.00	Soil Elevations Must Extend At or Below Contribution		
Zone					
80	60.00	94.00	Soil Elevations Must Extend At or Below Contribution		
Zone					
81	60.00	95.00	Soil Elevations Must Extend At or Below Contribution		
Zone					

Drilled Shaft Capacity at User-Defined Settlement (sorted by shaft diameter):

***** Capacity is NOT modified by the strength reduction factors *****

User-Defined Settlement = 0.83%

ID	Diameter (in)	Length (ft)	Skin Fric. (tons)	End Bearing (tons)	Capacity (tons)
1	60.00	15.00	2.838	19.512	22.350
2	60.00	16.00	3.460	20.032	23.492
3	60.00	17.00	4.014	19.460	23.474
4	60.00	18.00	4.639	30.235	34.874
5	60.00	19.00	7.257	29.059	36.316
6	60.00	20.00	10.198	28.197	38.396
7	60.00	21.00	13.444	27.772	41.216
8	60.00	22.00	16.956	27.719	44.675
9	60.00	23.00	20.727	27.878	48.605
10	60.00	24.00	24.740	27.570	52.311

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11	60.00	25.00	28.993	26.119	55.112
12	60.00	26.00	32.518	23.740	56.258
13	60.00	27.00	35.220	21.738	56.958
14	60.00	28.00	38.031	20.329	58.359
15	60.00	29.00	39.639	19.333	58.972
16	60.00	30.00	41.319	18.570	59.889
17	60.00	31.00	43.072	18.109	61.181
18	60.00	32.00	44.896	18.363	63.259
19	60.00	33.00	46.792	19.402	66.194
20	60.00	34.00	48.760	20.758	69.518
21	60.00	35.00	50.800	21.966	72.766
22	60.00	36.00	52.914	23.113	76.026
23	60.00	37.00	55.107	24.723	79.830
24	60.00	38.00	57.382	26.884	84.267
25	60.00	39.00	63.071	29.395	92.467
26	60.00	40.00	68.885	32.055	100.939
27	60.00	41.00	75.113	34.812	109.924
28	60.00	42.00	81.756	37.365	119.121
29	60.00	43.00	88.517	39.664	128.182
30	60.00	44.00	95.398	41.402	136.800
31	60.00	45.00	102.406	42.271	144.677
32	60.00	46.00	108.321	42.446	150.766
33	60.00	47.00	113.094	42.975	156.069
34	60.00	48.00	117.925	44.035	161.960
35	60.00	49.00	125.306	44.734	170.040
36	60.00	50.00	132.762	44.183	176.945
37	60.00	51.00	140.285	42.898	183.184
38	60.00	52.00	147.870	43.978	191.848
39	60.00	53.00	155.513	47.939	203.453
40	60.00	54.00	163.205	53.119	216.323
41	60.00	55.00	170.943	57.853	228.796
42	60.00	56.00	178.690	62.219	240.909
43	60.00	57.00	186.440	66.678	253.118
44	60.00	58.00	194.222	71.306	265.528
45	60.00	59.00	202.106	75.892	277.997
46	60.00	60.00	210.045	80.223	290.268
47	60.00	61.00	216.676	84.291	300.966
48	60.00	62.00	221.962	88.037	309.998
49	60.00	63.00	227.251	91.451	318.702
50	60.00	64.00	235.284	94.731	330.015
51	60.00	65.00	243.391	98.075	341.466
52	60.00	66.00	251.559	101.469	353.028
53	60.00	67.00	259.767	104.834	364.601
54	60.00	68.00	268.011	108.157	376.168
55	60.00	69.00	276.269	110.798	387.067
56	60.00	70.00	284.533	112.119	396.652
57	60.00	71.00	292.798	112.238	405.036
58	60.00	72.00	301.078	111.871	412.949
59	60.00	73.00	309.371	111.137	420.508
60	60.00	74.00	318.949	110.399	429.349
61	60.00	75.00	331.036	110.022	441.058
62	60.00	76.00	345.173	109.891	455.064
63	60.00	77.00	359.394	109.324	468.718
64	60.00	78.00	373.425	108.206	481.631
65	60.00	79.00	387.242	107.826	495.068
66	60.00	80.00	400.835	109.471	510.306
67	60.00	81.00	414.203	112.709	526.912
68	60.00	82.00	427.374	114.938	542.313
69	60.00	83.00	440.351	115.727	556.078
70	60.00	84.00	453.117	116.728	569.845
71	60.00	85.00	465.665	119.593	585.258
72	60.00	86.00	477.992	123.657	601.649
73	60.00	87.00	490.360	124.921	615.281

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	74	60.00	88.00	502.858	122.719	625.576
	75	60.00	89.00	515.480	118.797	634.277
	76	60.00	90.00	528.222	114.904	643.126
	77	60.00	91.00	Soil Elevations Must Extend At or Below Contribution		
Zone	78	60.00	92.00	Soil Elevations Must Extend At or Below Contribution		
Zone	79	60.00	93.00	Soil Elevations Must Extend At or Below Contribution		
Zone	80	60.00	94.00	Soil Elevations Must Extend At or Below Contribution		
Zone	81	60.00	95.00	Soil Elevations Must Extend At or Below Contribution		
Zone						

APPENDIX – E

GRAPHS – VERTICAL CAPACITY ANALYSIS OF

DRILLED SHAFTS





