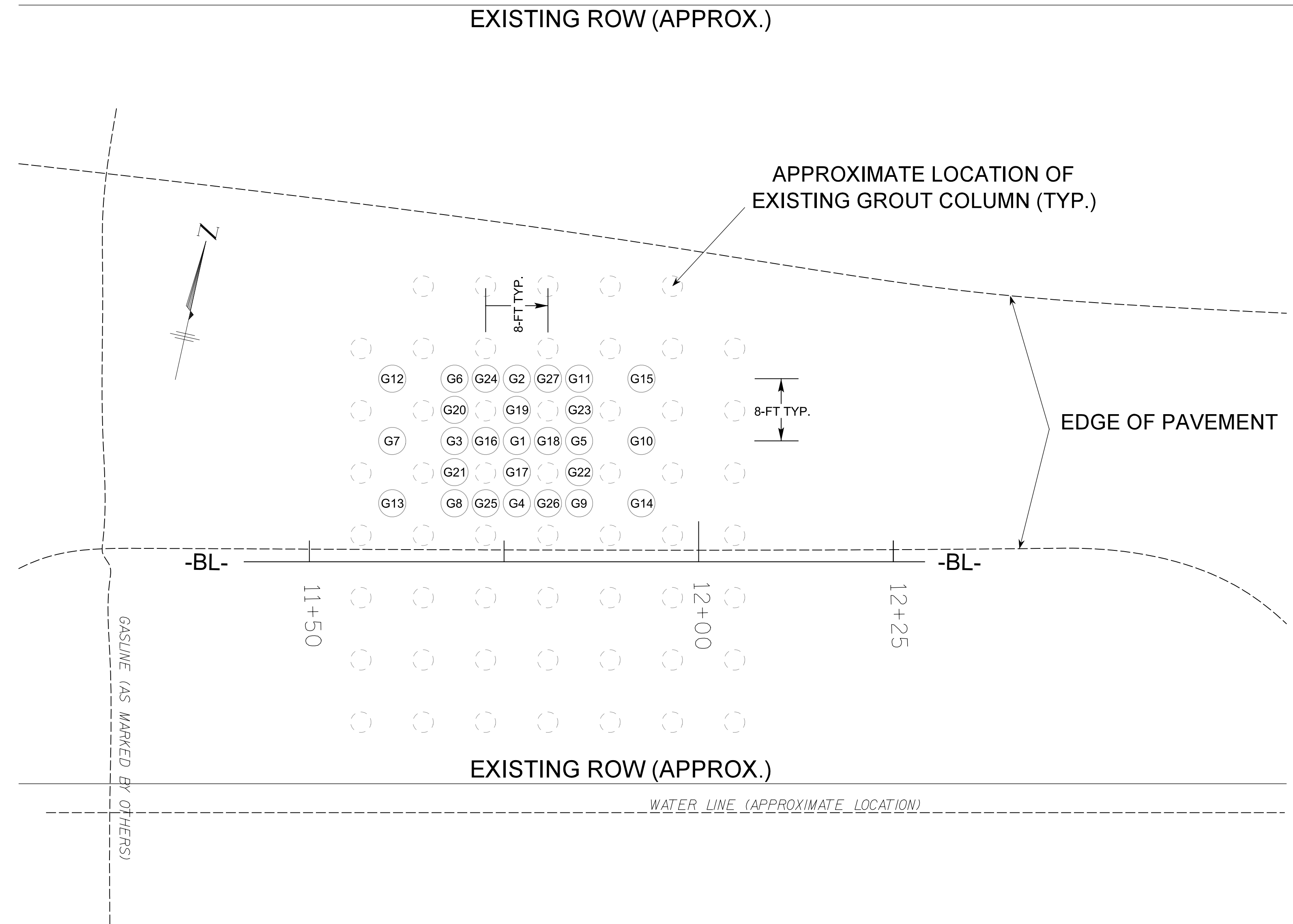


PROJECT REFERENCE NO. 51215.01AD		SHEET NO. 1	
GEOTECHNICAL ENGINEER		ENGINEER	
DocuSigned by: Matthew Snyder 7/26/2021			
SIGNATURE DATE		SIGNATURE DATE	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED			

Grout Hole Number	Station	Offset (ft.)	Anticipated Casing Depth (ft.)
G1	11+77	16 LT	103
G2	11+77	24 LT	92
G3	11+69	16 LT	103
G4	11+77	8 LT	105
G5	11+85	16 LT	97
G6	11+69	24 LT	94
G7	11+61	16 LT	94
G8	11+69	8 LT	106
G9	11+85	8 LT	97
G10	11+93	16 LT	96
G11	11+85	24 LT	92
G12	11+61	24 LT	94
G13	11+61	8 LT	106
G14	11+93	8 LT	102
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G16	11+73	16 LT	103
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G18	11+81	16 LT	97
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G23	11+85	20 LT	92
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G25	11+73	8 LT	105
G26	11+81	8 LT	96
G27	11+81	24 LT	92



DEEP SOIL STABILIZATION PRESSURE GROUTING ESTIMATED QUANTITIES	
MOBILIZATION.....	1 EACH
CASING INSTALLATION.....	2,700 LINEAR FEET
PRESSURE GROUT.....	615 CUBIC YARDS

NOTES

THE BASELINE -BL- WAS ESTABLISHED AS A STRAIGHT LINE BETWEEN BENCHMARK S1 AND BENCHMARK S3. BENCHMARK S3 WAS ESTABLISHED AS STA 10+00 -BL-, CL. BENCHMARK S1 WAS ESTABLISHED AS 13+52.373 -BL-, CL.

BENCHMARK S1 IS LOCATED AT N: 138151.48 E: 2330083.53
 BENCHMARK S3 IS LOCATED AT N: 138075.08 E: 2329739.49

FOR DEEP SOIL STABILIZATION PRESSURE GROUTING, SEE DEEP SOIL STABILIZATION PRESSURE GROUTING SPECIAL PROVISION.

PERFORM DEEP SOIL STABILIZATION PRESSURE GROUTING IN SEQUENCE PATTERN FOLLOWING THE GROUT HOLE LOCATION NUMBERS.

THE FOLLOWING SEQUENCE APPLIES TO ALL GROUT HOLE LOCATIONS.

1. INSTALL CASING TO REFUSAL ON LIMESTONE, SEE ANTICIPATED DEPTHS.
2. PULL GROUT CASING UP TO 1-FT ABOVE LIMESTONE.
3. PRESSURE GROUT FROM 1-FT ABOVE LIMESTONE SURFACE UP TO 6-FT BELOW THE GROUND SURFACE.
4. FOR THE FIRST 5-FT OF GROUTING ABOVE THE LIMESTONE, PUMP PRESSURE GROUT IN 1-FT LIFTS UNTIL 135 CUBIC FEET OF GROUT HAS BEEN PLACED PER FOOT OF LIFT HEIGHT OR A GROUND LEVEL GROUT PRESSURE OF 500 PSI HAS BEEN REACHED.
5. FOR THE REMAINING DEPTH OF GROUTING, PUMP PRESSURE GROUT IN 1-FT LIFTS UNTIL 20 CUBIC FEET OF GROUT HAS BEEN PLACED PER FOOT OF LIFT HEIGHT, A GROUND LEVEL GROUT PRESSURE OF 500 PSI HAS BEEN REACHED AT INJECTION DEPTHS GREATER THAN 60-FT, 400 PSI AT INJECTION DEPTHS BETWEEN 30-FT AND 60-FT, OR 300 PSI AT DEPTHS LESS THAN 30-FT.
6. PUMP PRESSURE GROUT IN EACH LIFT UNTIL CONDITIONS OF NOTES 4 AND 5 ARE MET, OR THE GROUND SURFACE HEAVES MORE THAN 0.125 INCHES PER LIFT OR CUMULATIVE HEAVE TOTALS 1.5 INCHES, WHICHEVER OCCURS FIRST.

USE A MAXIMUM PRESSURE GROUT PUMP RATE OF 12.0 CUBIC FEET PER MINUTE FOR ALL DEEP SOIL STABILIZATIONS PRESSURE GROUTING.

THE ENGINEER RESERVES THE RIGHT TO ADD OR DELETE GROUT LOCATIONS, ADJUST GROUT HOLE LAYOUT AND SEQUENCE, CASING INSTALLATION DEPTHS, GROUT TERMINATION CRITERIA, OR GROUT MIX DESIGN AT ANYTIME DURING CONSTRUCTION.

THE CONTRACTOR SHALL BE PREPARED TO INSTALL CASING THROUGH UP TO 5 FEET OF ASPHALT.

THE GROUT VOLUME IS ESTIMATED TO BE 35% OF THE SOIL TREATED VOLUME.

THE CONTRACTOR SHALL BE PREPARED TO INSTALL CASING THROUGH EXISTING GROUT COLUMNS. ENGINEER SHALL APPROVE CASING DEPTHS PRIOR TO GROUTING.

AFTER COMPLETING DEEP SOIL STABILIZATION PRESSURE GROUTING, FILL HOLES WITH GROUT OR FLOWABLE FILL TO WITHIN 6 INCHES OF THE GROUND SURFACE.

PREPARED BY: MRS	DATE: 07/2021
REVIEWED BY: MDV	DATE: 07/2021

ICE of CAROLINAS, PLLC
 4505 FALLS OF NEUSE ROAD, SUITE 110
 RALEIGH, NORTH CAROLINA 27609
 PHONE: 803-822-0333
 LICENSE #: P-0999

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS

GEOTECHNICAL ENGINEERING UNIT

SANDERS RD. SINKHOLE DEEP SOIL STABILIZATION PRESSURE GROUTING

REVISIONS					
NO.	BY	DATE	NO.	BY	DATE
1			3		
2			4		

DEEP SOIL STABILIZATION PRESSURE GROUTING**(SPECIAL)****1.0 GENERAL**

The work covered by this consists of pressure grouting for stabilization and improvement of deep subsoil conditions to minimize the potential for future ground subsidence. Deep soil stabilization pressure grouting involves the injection of a medium to high-slump grout material under high pressure to reinforce the surrounding soil profile. Deep soil stabilization pressure grouting stabilizes the soils from the top of limestone up to within 6 feet from the ground surface. This work consists of furnishing all labor, equipment, and materials necessary to install grout casings through asphalt pavements, existing grout columns, and all soils to underlying limestone and inject medium to high-slump at high pressure in lifts while withdrawing casings. Monitor grout pressures, injection volumes, casing withdrawal depths, and ground heaves. Fill holes to within 6 inches of ground surface with Type 1 grout or flowable fill after completing deep soil stabilization pressure grouting.

2.0 MATERIALS

Refer to the *Standard Specifications*.

Item	Section
Type 1 Grout	1003
Flowable Fill, Excavatable	1000

3.0 CONTRACTOR QUALIFICATIONS AND SUBMITTALS

The Contractor who performs deep soil stabilization pressure grouting shall have at least five (5) years of experience in deep pressure grouting above 200 psi and shall show evidence of at least ten (10) projects completed within the last three (3) years including project description and contact/reference information. The Contractor's superintendent who performs this work shall have at least five (5) years of experience in deep pressure grouting above 200 psi and shall show evidence of at least five (5) projects completed in the last three (3) years including project description and contact/reference information. Do not perform work until the Contractor and superintendent are approved by the Engineer. Submit the items listed below a minimum of 10 working days before beginning work.

- A. Provide a list of major components to be used, such as pumps, hoses, pipes, fittings and casing installation equipment, manufacturers' data on size, type, pressure rating, capacity, and other critical characteristics for each item prior to the commencement of work.
- B. Provide a work schedule outlining mobilization, drilling (sequence and location), grouting and demobilization.
- C. Provide a description of the program for monitoring the work, including means of grout pressure measurement, grout flow volumes, and ground heave detection. Include certification(s) of grout pressure gauges and volume meters.
- D. Provide of listing of personnel to perform the work that includes the experience and qualification of key personnel.
- E. Submit copies of drilling and grouting report forms for approval by the Engineer.

4.0 PRECONSTRUCTION MEETING

Before starting deep soil stabilization pressure grouting, hold a preconstruction meeting to discuss the construction and inspection of the pressure grouting. If this meeting occurs before all submittals have been accepted, additional preconstruction meetings may be required before beginning construction. The Resident or County Maintenance Engineer, Geotechnical Operations Engineer, Contractor and Grouting Superintendent will attend preconstruction meetings.

5.0 GROUT MIX AND TESTING

A. Grout Mix

The mixture used for grouting shall be a creamy consistency which will permit the grout to flow. The measured slump of the grout shall be between five (5) and seven (7) inches. The slump may be varied throughout the grouting operations at the discretion of the Engineer. The follow mixture shall be used with minor variations of constituents permitted to meet the above requirements.

For one (1) cubic yard batch:

- Portland Cement (Section 1024-1) = 250 lb
- Fly Ash (Section 1024-5) = 750 lb
- Water (Section 1024-4) = 400 lb
- Sand (Section 1014-1) = 2,275 lb
- Air Entrainment (Section 1024-3) = 2 to 4%
- Water Reducing Admixture = 19.0 oz

B. Slump Testing

The Engineer will perform slump sampling and testing in accordance with Section 420-6.

C. Grout Placement Time Limit

The maximum allowable time between initial introduction of water to the grout mix and injecting the grout in-place is 90 minutes. This time may be extended at the discretion of the Engineer.

D. Grout Mixing and Placement

If on-site mixing is used, facilities and measuring devices shall be provided for accurately measuring the ingredients in each batch of grout to within +/- 1% of the mix design. The equipment and measuring devices used shall allow the Engineer to verify the appropriate ingredient quantities throughout the mixing process. If at any time the ingredient quantities are found to be out of tolerance, or if the Engineer cannot verify the appropriate ingredient quantities, all mixing operations shall cease until the Engineer determines that the appropriate measures have been taken to accurately produce the grout mixture and verify that it is within tolerance. The ingredients shall be thoroughly mixed and immediately pumped to the grout pipes through a flexible hose not more than 250 feet long.

6.0 CONSTRUCTION METHODS**A. Equipment**

Provide an on-site volumetric mixer to batch grout. Provide a mixer of sufficient production capacity to supply the grout pump at its required rate.

Provide a pump of sufficient capacity to deliver grout having a slump of five to seven inches at pressures up to 600 psi, at flow rates ranging from 0.1 to 12.0 cubic feet per minute.

Provide gauges at the pump and the grout pipe head to measure pressure. Verify pump stroke volume accuracy at the site by filling a container of known volume prior to beginning grouting.

Provide grout hose with a uniform minimum inside diameter of 3 inches with non-restrictive full flow couplings.

B. Grout Pipe Installation

Provide flush joint steel casing with uniform minimum inside diameter of 3 inches. Provide steel casings with adequate strength to maintain the hole and to withstand the required casing installation, withdrawal, and pumping pressures. Use casing installation equipment and techniques to install casings through overlying soils, pavements, and existing grout columns to limestone at anticipated depths as shown on the plans. The Contractor shall be prepared to install casing through at least 5 feet of asphalt. If encountered, the Contractor shall be prepared to install casing through existing grout columns. The casing installation technique shall be capable of confirming casing refusal on limestone. The Contractor shall be prepared to install casings to depths at least 20-ft deeper than the deepest casing depth shown on the plans. The Engineer shall approve grout casing depths prior to grouting.

If drilling is used, the drilling method to be used must be capable of simultaneously drilling the hole and advancing the casing to prevent collapsing of the hole. Install the casing to provide intimate contact between the casing and the surrounding soil in order to prevent grout leakage and/or premature upward movement of the casing during injection of high-pressure grout. Install all grout pipes to within three degrees of vertical, or as directed by the Engineer. Provide riser elbow with a minimum 1-foot radius curve to minimize the potential for grout blockage.

C. Grout Injection Procedures.

Inject grout at locations, sequencing, and to grout lift termination criteria as shown on the plans. The Engineer reserves the right to move, add or delete grout locations.

Continuously monitor grouting pressure and flow rates at the grout pipe head with gauges suitably protected to prevent grout clogging or damage from handling, vibration, or shock.

Unless otherwise directed by the Engineer, pumping shall cease, if an injection pipe takes 60 cubic yards of grout. If this excessive pumping occurs, the grout pipe shall be raised and flushed to prevent the pipe from being cemented in place. Pumping can then proceed to another grout pipe location. Pumping may resume at the excessive grout location and depth after a period of 12 hours has passed. The grout pipe shall be re-installed to within 1 foot of the depth grouting was terminated unless otherwise directed by the Engineer.

Replace any holes lost due to failure of grouting or drilling equipment at no charge to the Project.

Monitor the existing pavement and/or adjacent structures continuously during grouting operations. Terminate grouting immediately if upward heave movement exceeds per lift limitations shown on the plans of sudden grout pressure loss is observed indicated hydraulic fracturing.

Fill holes to within 6 inches of ground surface with Type 1 grout or flowable fill after completing pressure grouting.

D. Records

The Contractor is responsible for preparation of casing installation reports which contain at least the following information: Name of driller, type of casing installation method being used, date started, date completed, type of flushing, location of hole, depth of hole, and type of depth of material encountered. Submit casing installation reports to the Engineer at the end of each working day.

The Contractor is responsible for preparation of grouting reports which contain at least the following information: Name of grouting technician, constituents and proportions of grout, log of quantity injected per grout lift for hole, date, rate of pumping, grouting pressure at the hole, type of pump, refusal criteria, and movements detected in the monitoring system. Submit grouting reports to the Engineer at the end of each working day.

E. Protection and Cleanup. The contractor is fully responsible for removing all equipment and unused materials from the job site.

7.0 MEASUREMENT AND PAYMENT

Mobilization will be measured and paid at the contract lump sum price. Such payment will be considered full compensation for mobilization materials, labor, equipment, and incidentals to the site needed to perform the work of this special provision and pressure grouting plan sheet.

Casing Installation will be measured and paid for as the actual number of feet of grout pipe installed on the project. Such payment will be full compensation for all items required to install and remove grout pipe, including but not limited to supplying and installing material, tools, equipment, cleanup and incidentals necessary to complete this work.

Pressure Grout will be measured and paid for as the actual number of cubic yards of grout installed on the project. Such payment will be full compensation for all items required to install grout, including but not limited to supplying and installing material, tools, equipment, cleanup and incidentals necessary to complete this work. Type 1 or flowable fill used to fill holes to within 6" of ground surface will be measured and paid for as *Pressure Grout*.

51215.01AD

GT-1.6

New Hanover County

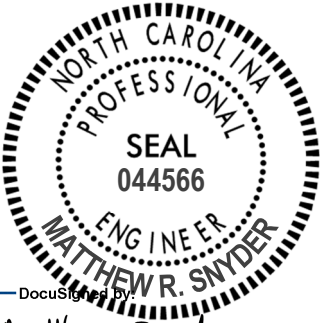
Payment will be made under:

Pay Item

Mobilization
Casing Installation
Pressure Grout

Pay Unit

Lump Sum
Linear Foot
Cubic Yard



7/26/2021

DocuSign by

Matthew Snyder

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REFERENCE: N/A

PROJECT: 51215

CONTENTS

<u>SHEET NO.</u>	<u>DESCRIPTION</u>
1	TITLE SHEET
2	LEGEND (SOIL & ROCK)
3	SITE PLAN
4-19	CPT LOGS

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
GEOTECHNICAL ENGINEERING UNIT

STRUCTURE
SUBSURFACE INVESTIGATION

COUNTY NEW HANOVER
PROJECT DESCRIPTION SANDERS ROAD SINKHOLE

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	51215.01AD	1	19

CAUTION NOTICE

THE SUBSURFACE INFORMATION AND THE SUBSURFACE INVESTIGATION ON WHICH IT IS BASED WERE MADE FOR THE PURPOSE OF STUDY, PLANNING AND DESIGN, AND NOT FOR CONSTRUCTION OR PAY PURPOSES. THE VARIOUS FIELD BORING LOGS, ROCK CORES AND SOIL TEST DATA AVAILABLE MAY BE REVIEWED OR INSPECTED IN RALEIGH BY CONTACTING THE N. C. DEPARTMENT OF TRANSPORTATION, GEOTECHNICAL ENGINEERING UNIT AT (919) 707-6850. THE SUBSURFACE PLANS AND REPORTS, FIELD BORING LOGS, ROCK CORES AND SOIL TEST DATA ARE NOT PART OF THE CONTRACT.

GENERAL SOIL AND ROCK STRATA DESCRIPTIONS AND INDICATED BOUNDARIES ARE BASED ON A GEOTECHNICAL INTERPRETATION OF ALL AVAILABLE SUBSURFACE DATA AND MAY NOT NECESSARILY REFLECT THE ACTUAL SUBSURFACE CONDITIONS BETWEEN BORINGS OR BETWEEN SAMPLED STRATA WITHIN THE BOREHOLE. THE LABORATORY SAMPLE DATA AND THE IN SITU (IN-PLACE) TEST DATA CAN BE RELIED ON ONLY TO THE DEGREE OF RELIABILITY INHERENT IN THE STANDARD TEST METHOD. THE OBSERVED WATER LEVELS OR SOIL MOISTURE CONDITIONS INDICATED IN THE SUBSURFACE INVESTIGATIONS ARE AS RECORDED AT THE TIME OF THE INVESTIGATION. THESE WATER LEVELS OR SOIL MOISTURE CONDITIONS MAY VARY CONSIDERABLY WITH TIME ACCORDING TO CLIMATIC CONDITIONS INCLUDING TEMPERATURES, PRECIPITATION AND WIND, AS WELL AS OTHER NON-CLIMATIC FACTORS.

THE BIDDER OR CONTRACTOR IS CAUTIONED THAT DETAILS SHOWN ON THE SUBSURFACE PLANS ARE PRELIMINARY ONLY AND IN MANY CASES THE FINAL DESIGN DETAILS ARE DIFFERENT. FOR BIDDING AND CONSTRUCTION PURPOSES, REFER TO THE CONSTRUCTION PLANS AND DOCUMENTS FOR FINAL DESIGN INFORMATION ON THIS PROJECT. THE DEPARTMENT DOES NOT WARRANT OR GUARANTEE THE SUFFICIENCY OR ACCURACY OF THE INVESTIGATION MADE, NOR THE INTERPRETATIONS MADE, OR OPINION OF THE DEPARTMENT AS TO THE TYPE OF MATERIALS AND CONDITIONS TO BE ENCOUNTERED. THE BIDDER OR CONTRACTOR IS CAUTIONED TO MAKE SUCH INDEPENDENT SUBSURFACE INVESTIGATIONS AS HE DEEMS NECESSARY TO SATISFY HIMSELF AS TO CONDITIONS TO BE ENCOUNTERED ON THE PROJECT. THE CONTRACTOR SHALL HAVE NO CLAIM FOR ADDITIONAL COMPENSATION OR FOR AN EXTENSION OF TIME FOR ANY REASON RESULTING FROM THE ACTUAL CONDITIONS ENCOUNTERED AT THE SITE DIFFERING FROM THOSE INDICATED IN THE SUBSURFACE INFORMATION.

NOTES:

- THE INFORMATION CONTAINED HEREIN IS NOT IMPLIED OR GUARANTEED BY THE N. C. DEPARTMENT OF TRANSPORTATION AS ACCURATE NOR IS IT CONSIDERED PART OF THE PLANS, SPECIFICATIONS OR CONTRACT FOR THE PROJECT.
- BY HAVING REQUESTED THIS INFORMATION, THE CONTRACTOR SPECIFICALLY WAIVES ANY CLAIMS FOR INCREASED COMPENSATION OR EXTENSION OF TIME BASED ON DIFFERENCES BETWEEN THE CONDITIONS INDICATED HEREIN AND THE ACTUAL CONDITIONS AT THE PROJECT SITE.

PERSONNEL

M. SNYDER, PE

CATLIN

INVESTIGATED BY M. SNYDER, PE

DRAWN BY M. SNYDER, PE

CHECKED BY N. MOHS, LG

SUBMITTED BY M. SNYDER, PE

DATE JULY, 2021



DocuSigned by:

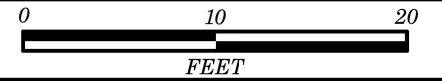
Matthew Snyder 7/26/2021

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SIGNATURE

DATE

**DOCUMENT NOT CONSIDERED FINAL
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SITE PLAN



← TO SR 1100
(RIVER ROAD)

SANDERS ROAD

TO US 421 →
(CAROLINA BEACH ROAD)

CPT-01

CPT-02

CPT-03

CPT-04

CPT-08

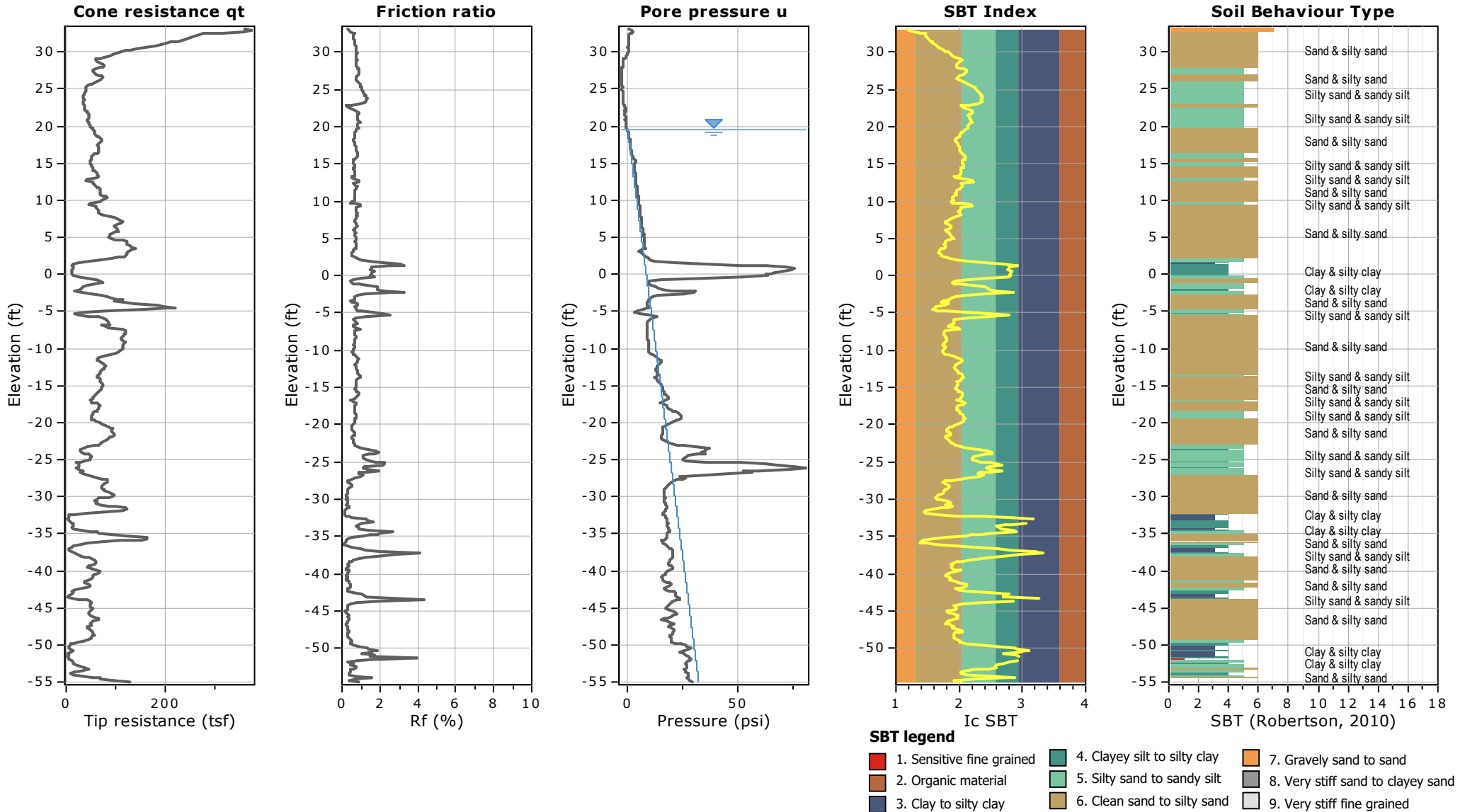
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CPT-06

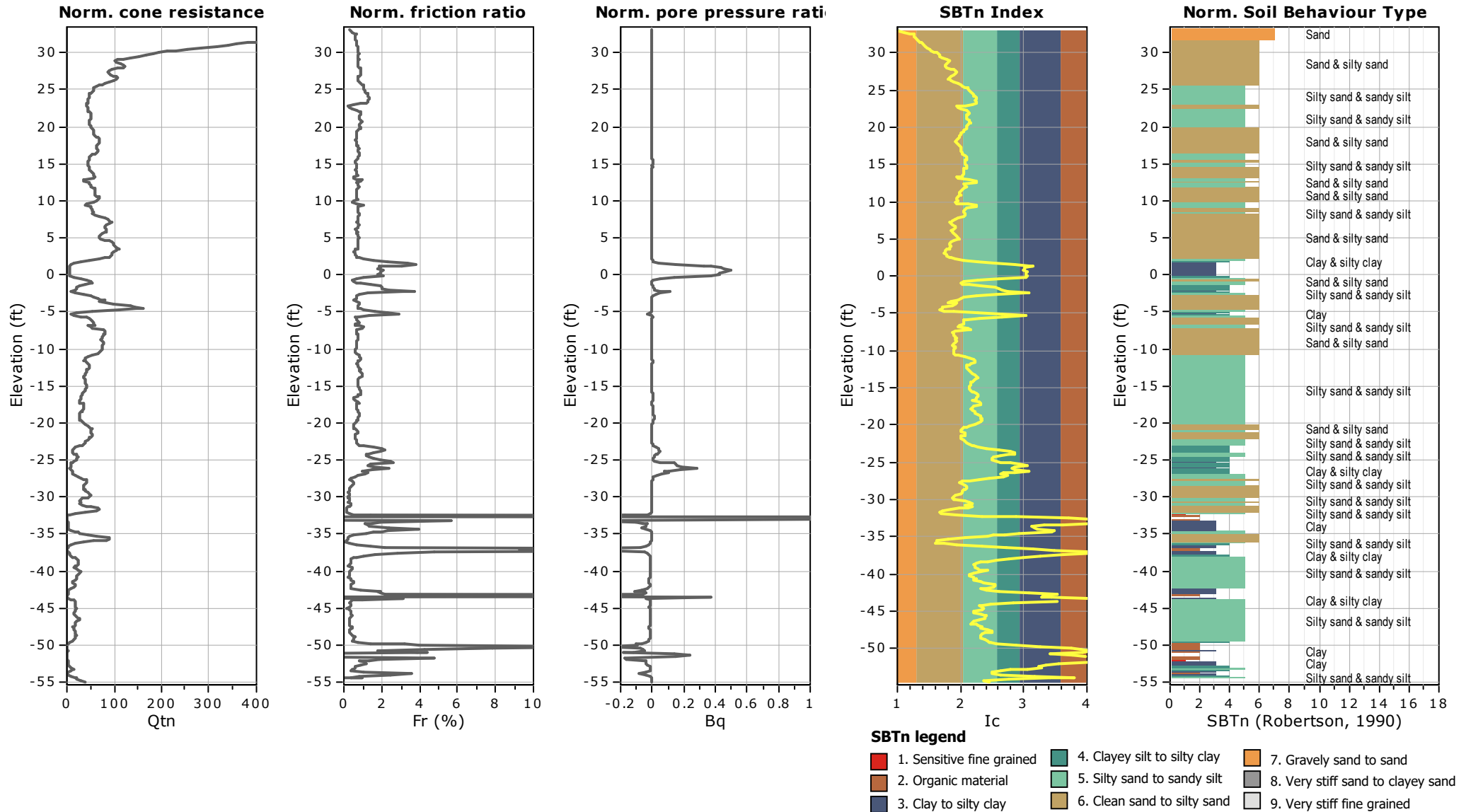
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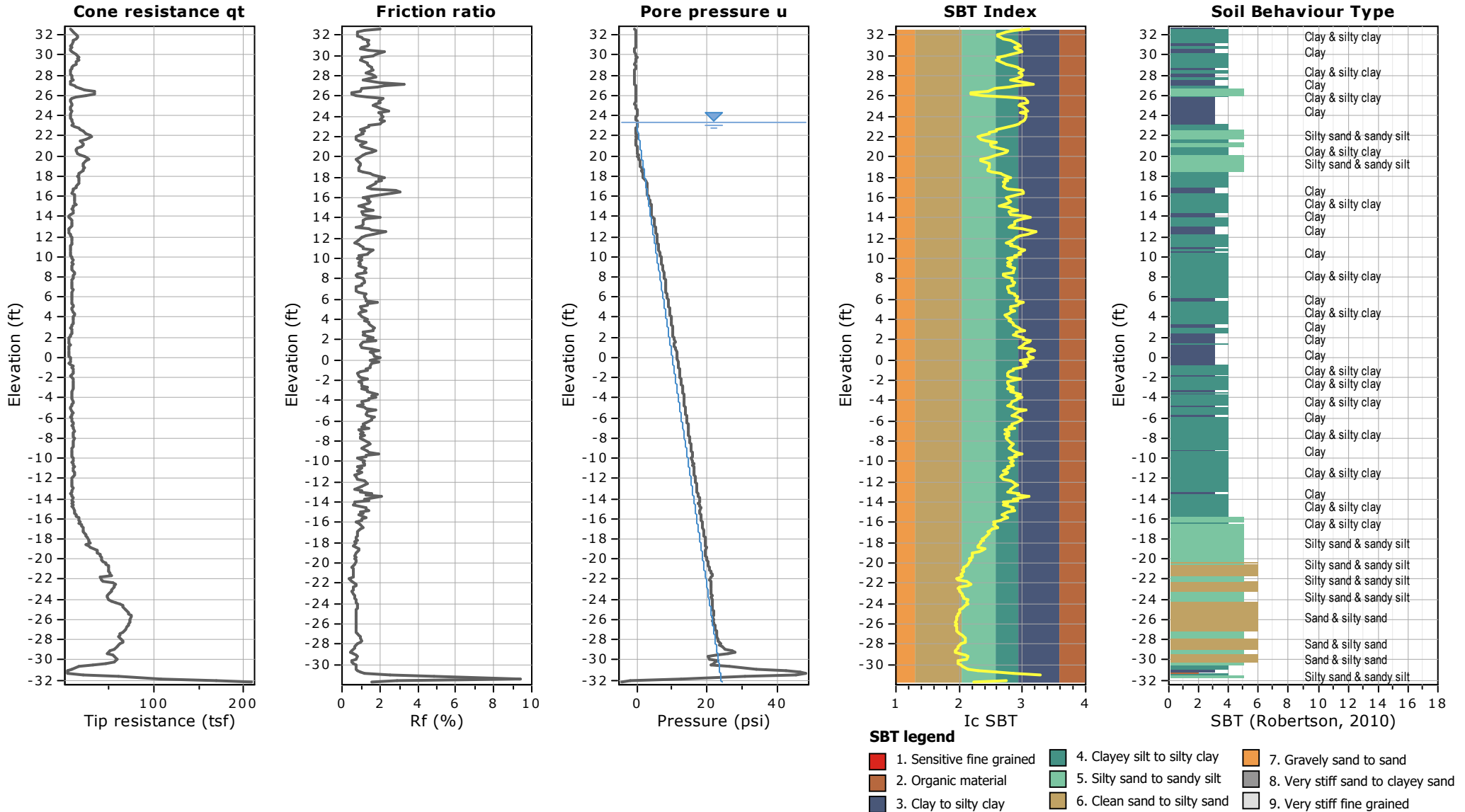
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Location: New Hanover Co, NC



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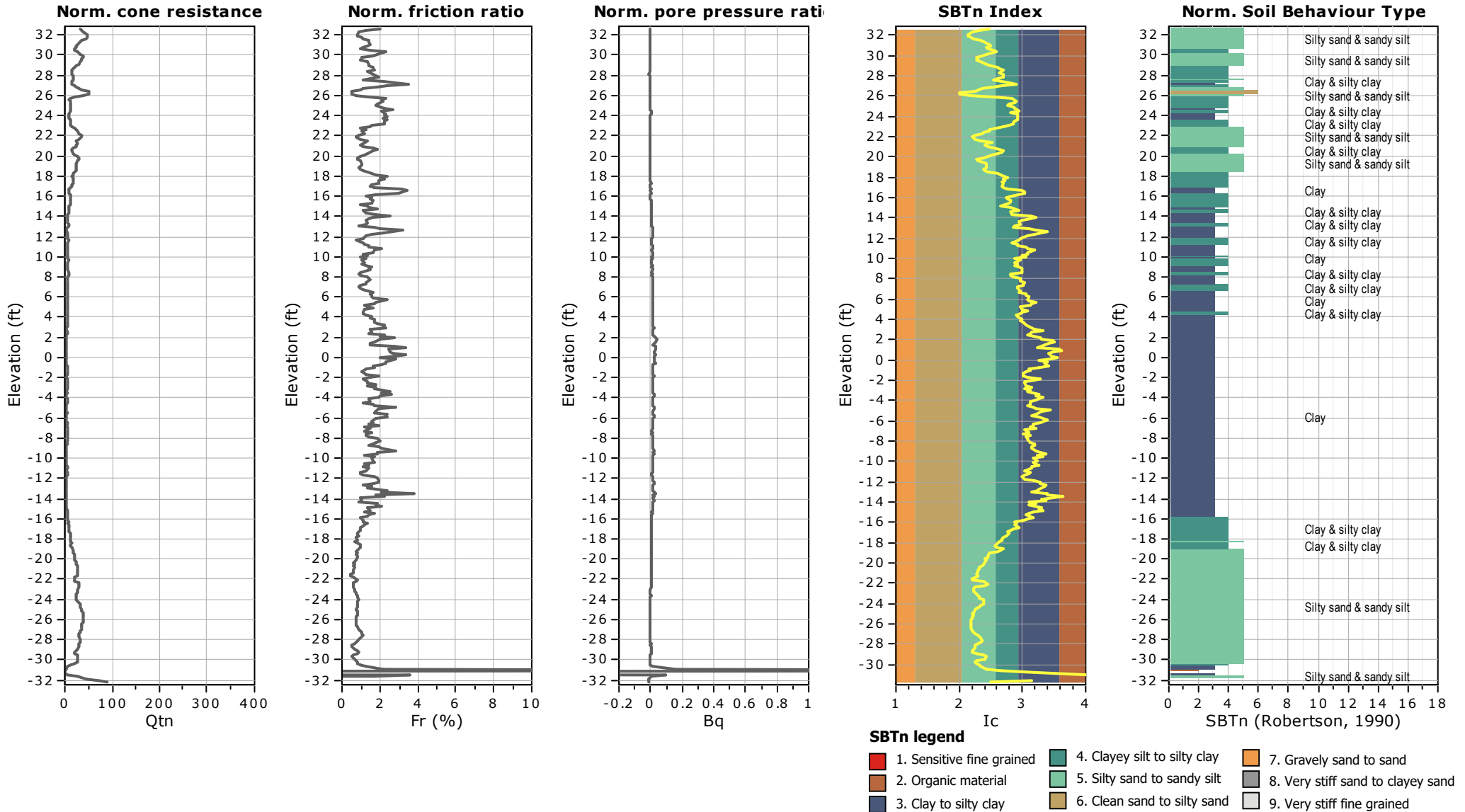


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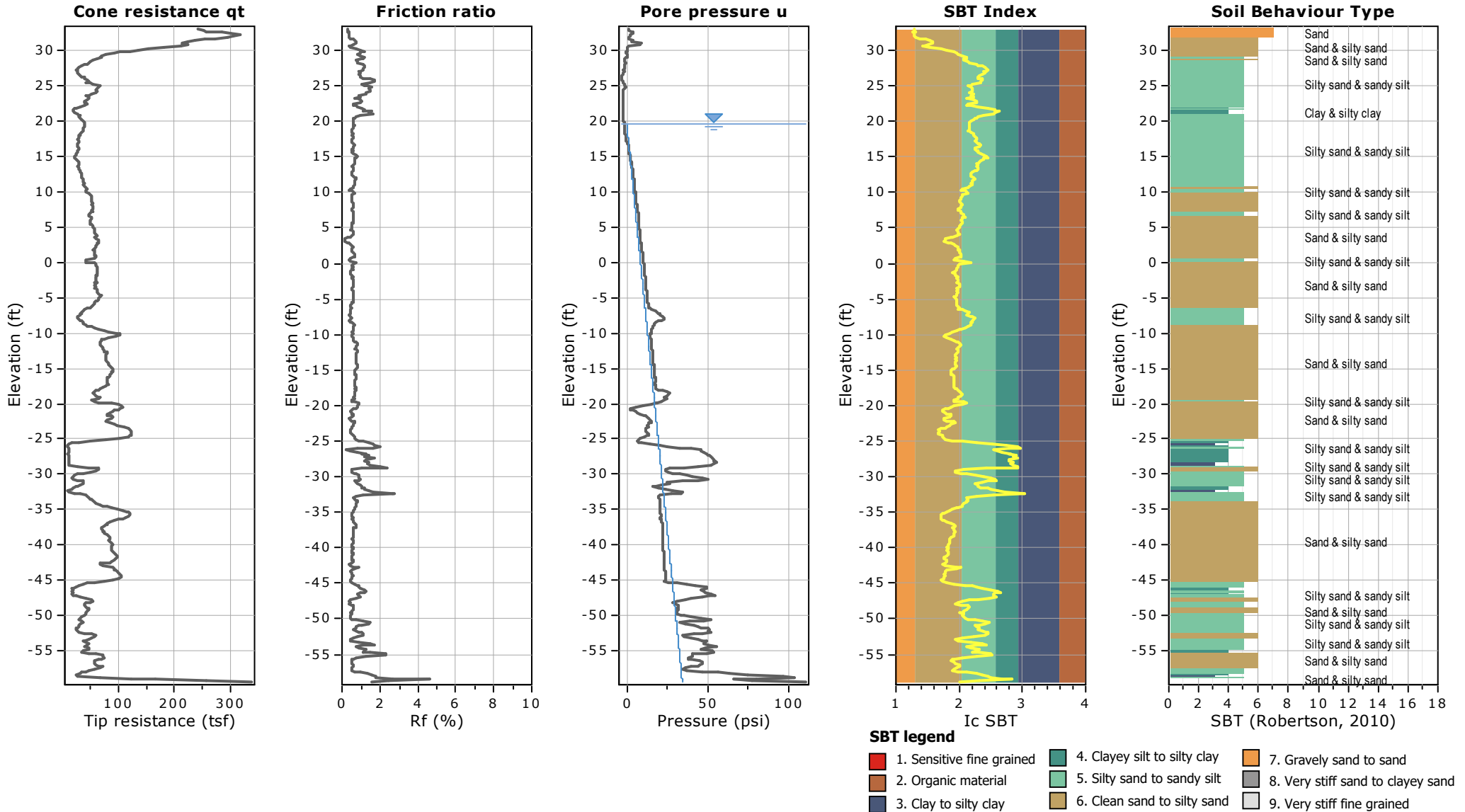


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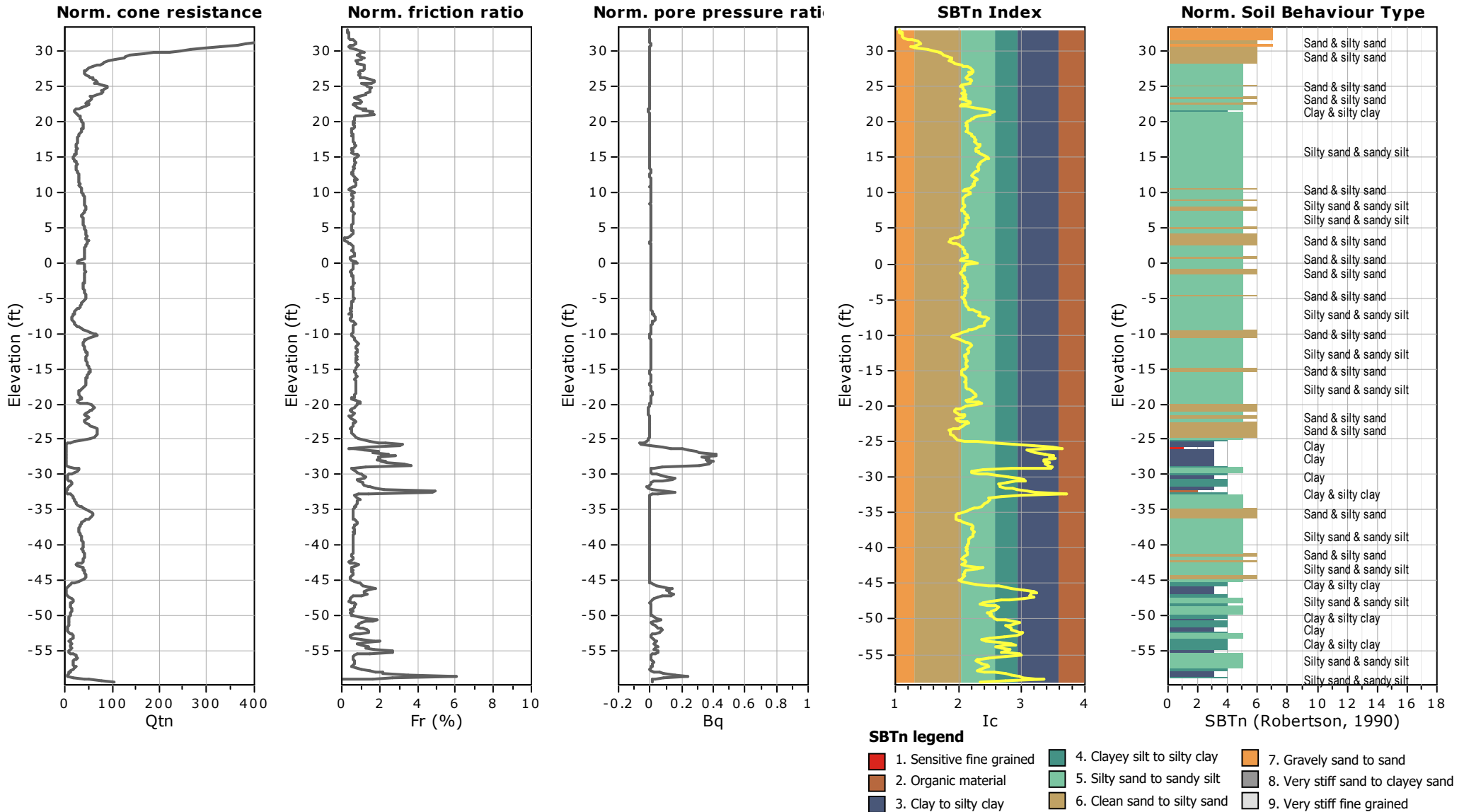
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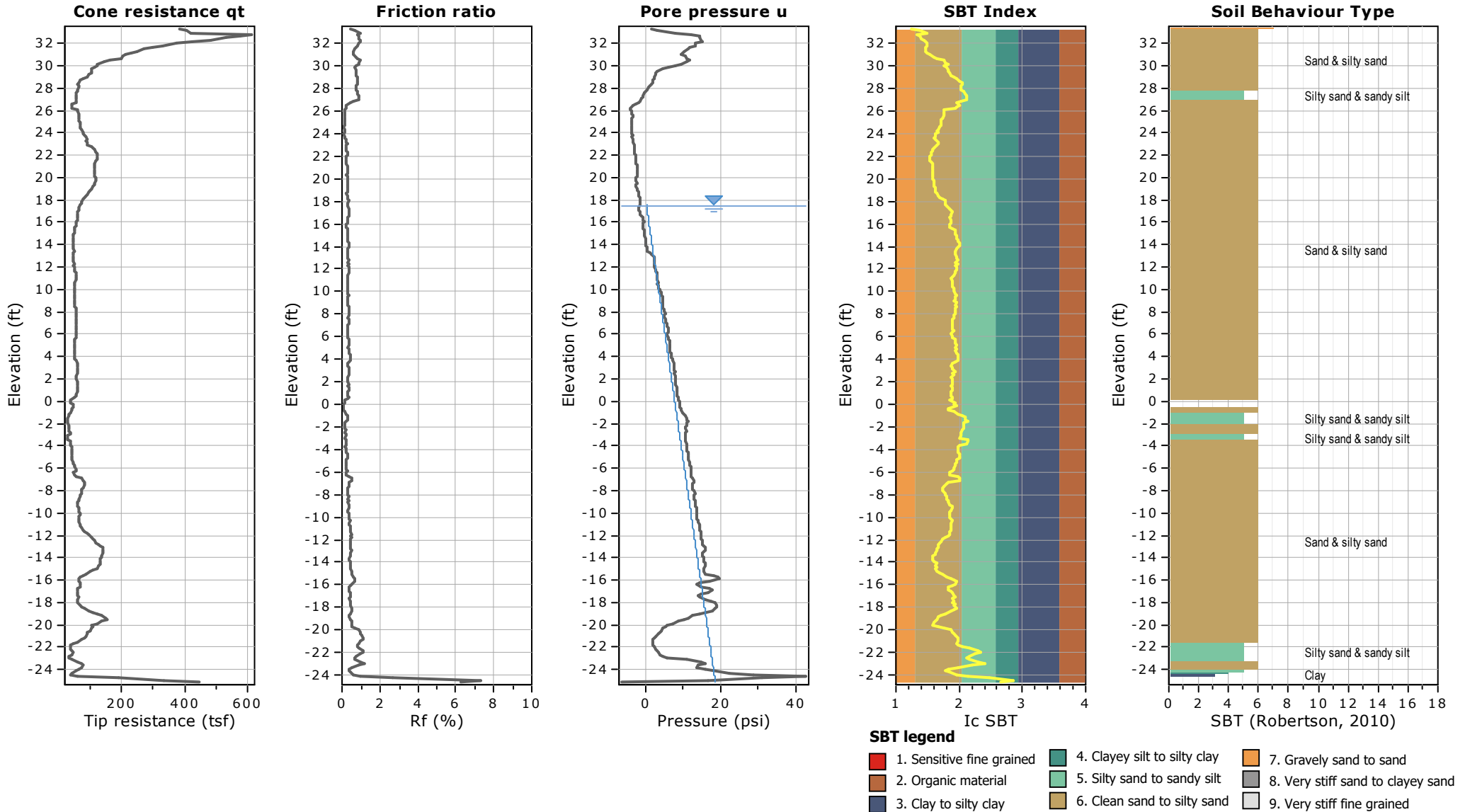
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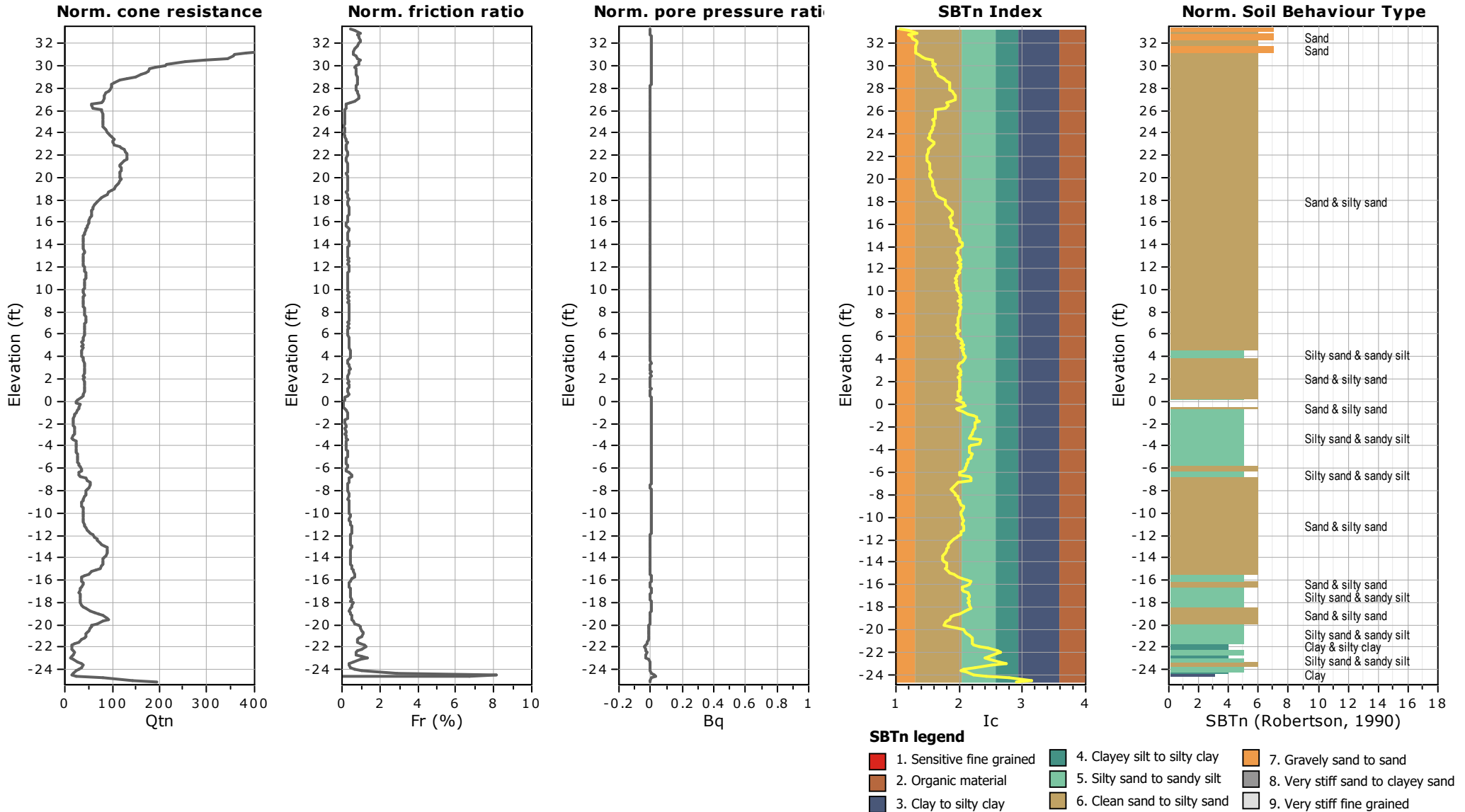
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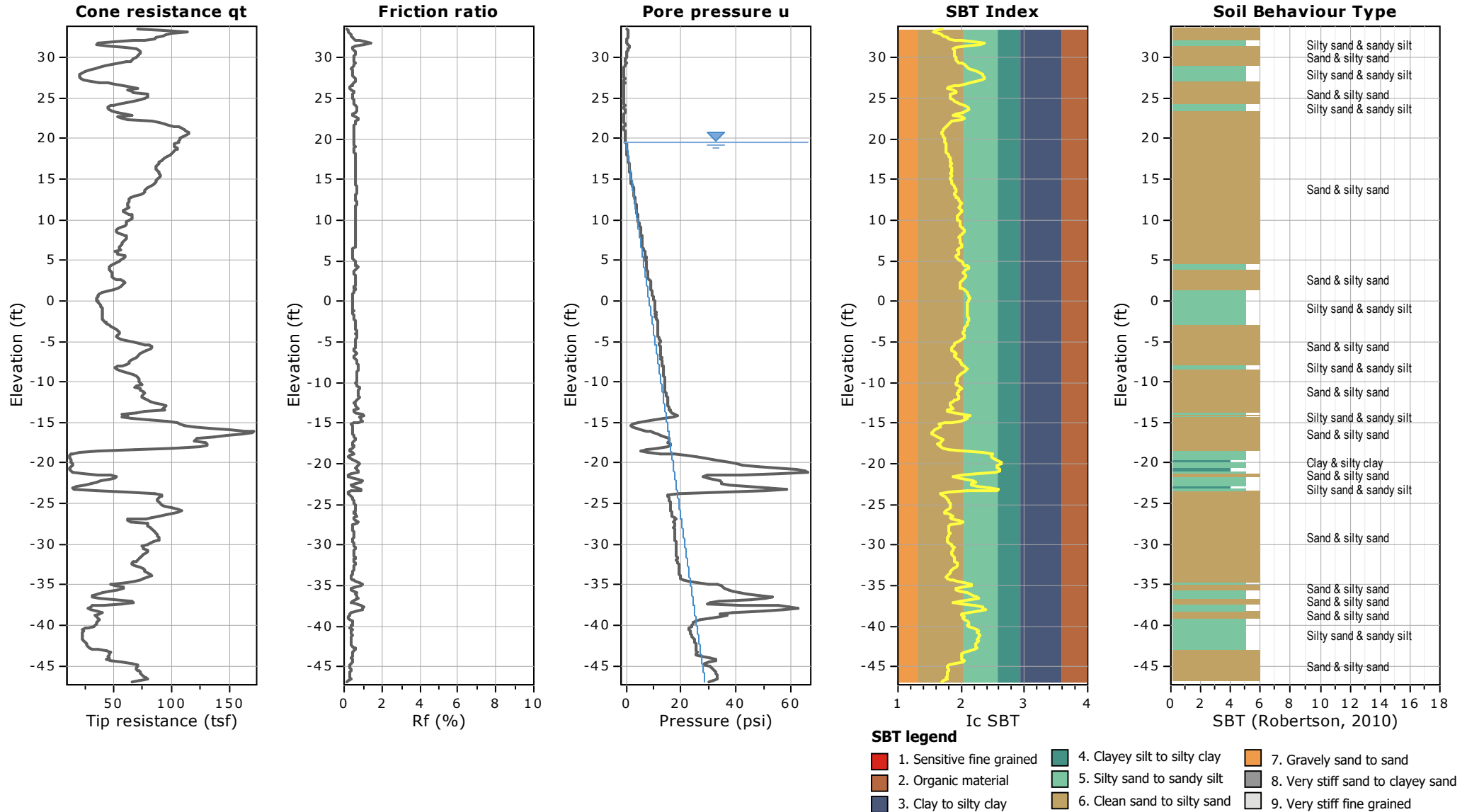
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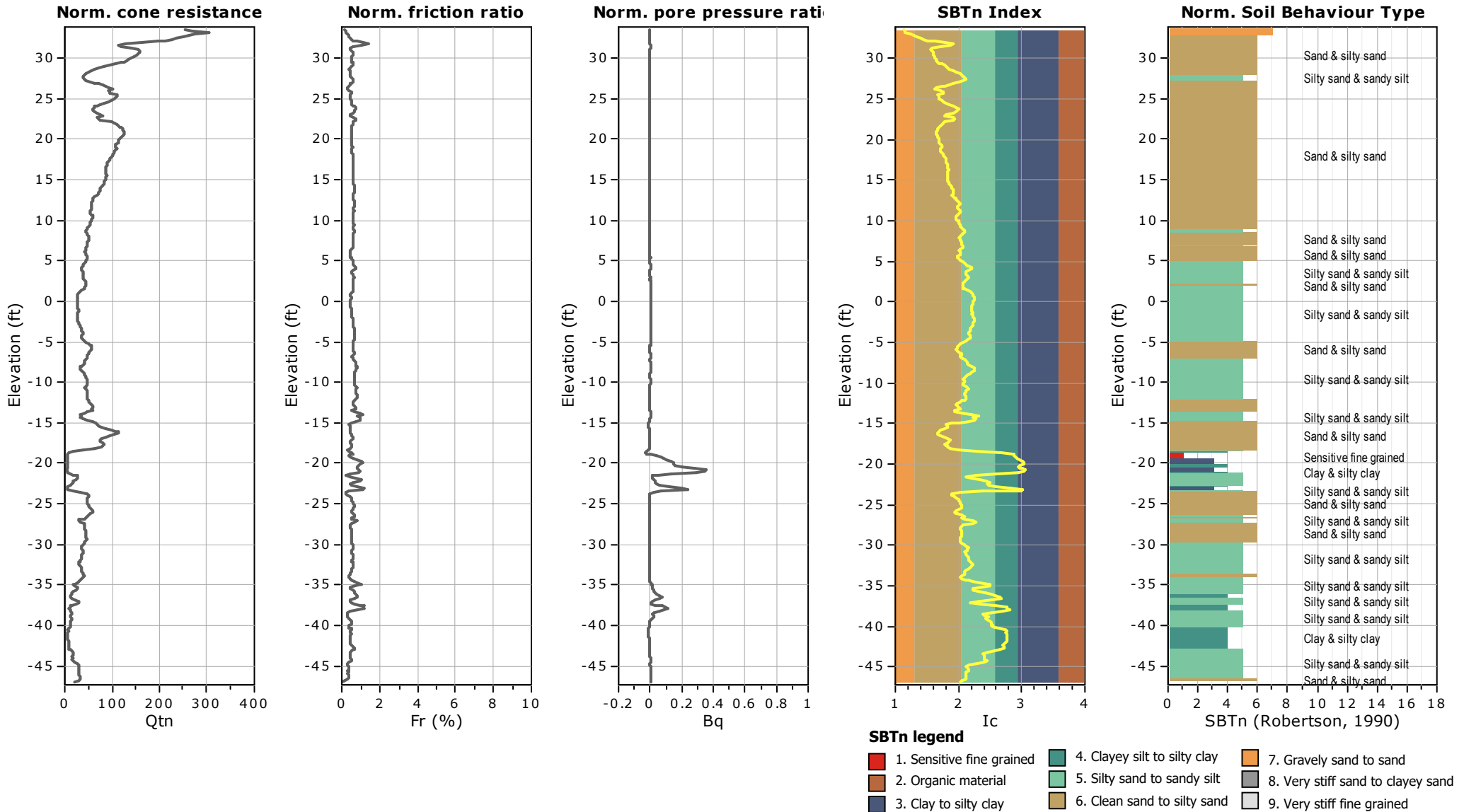
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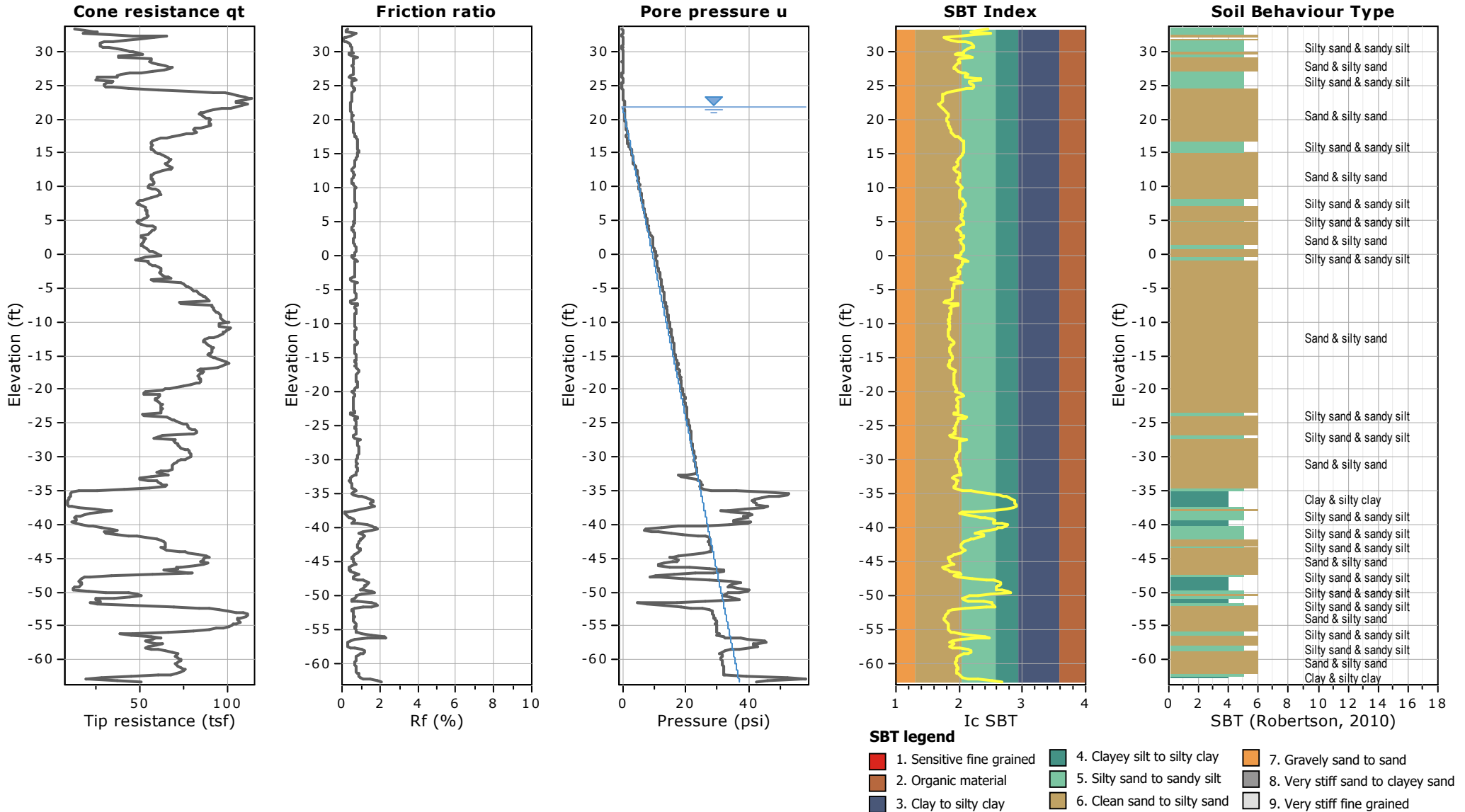
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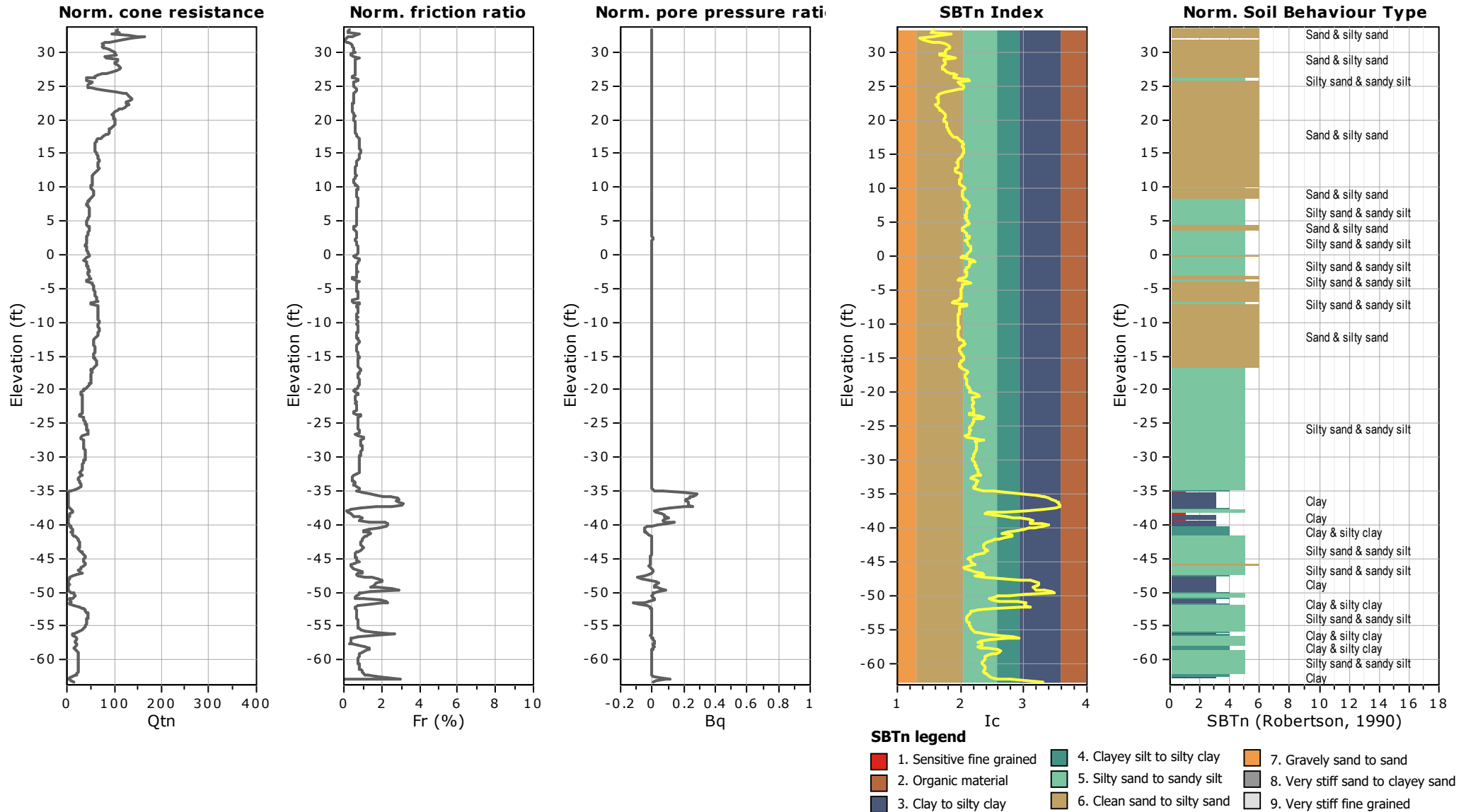
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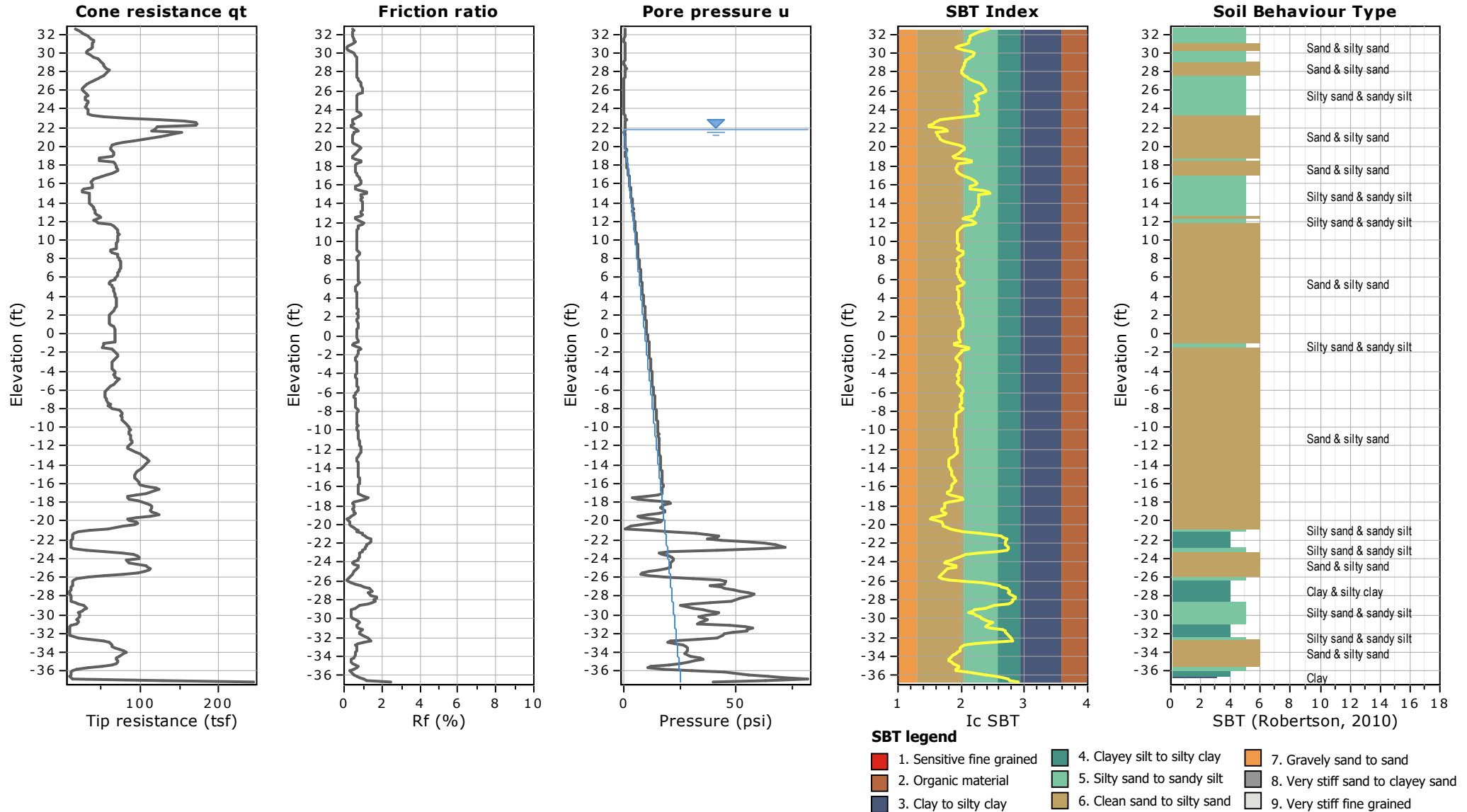
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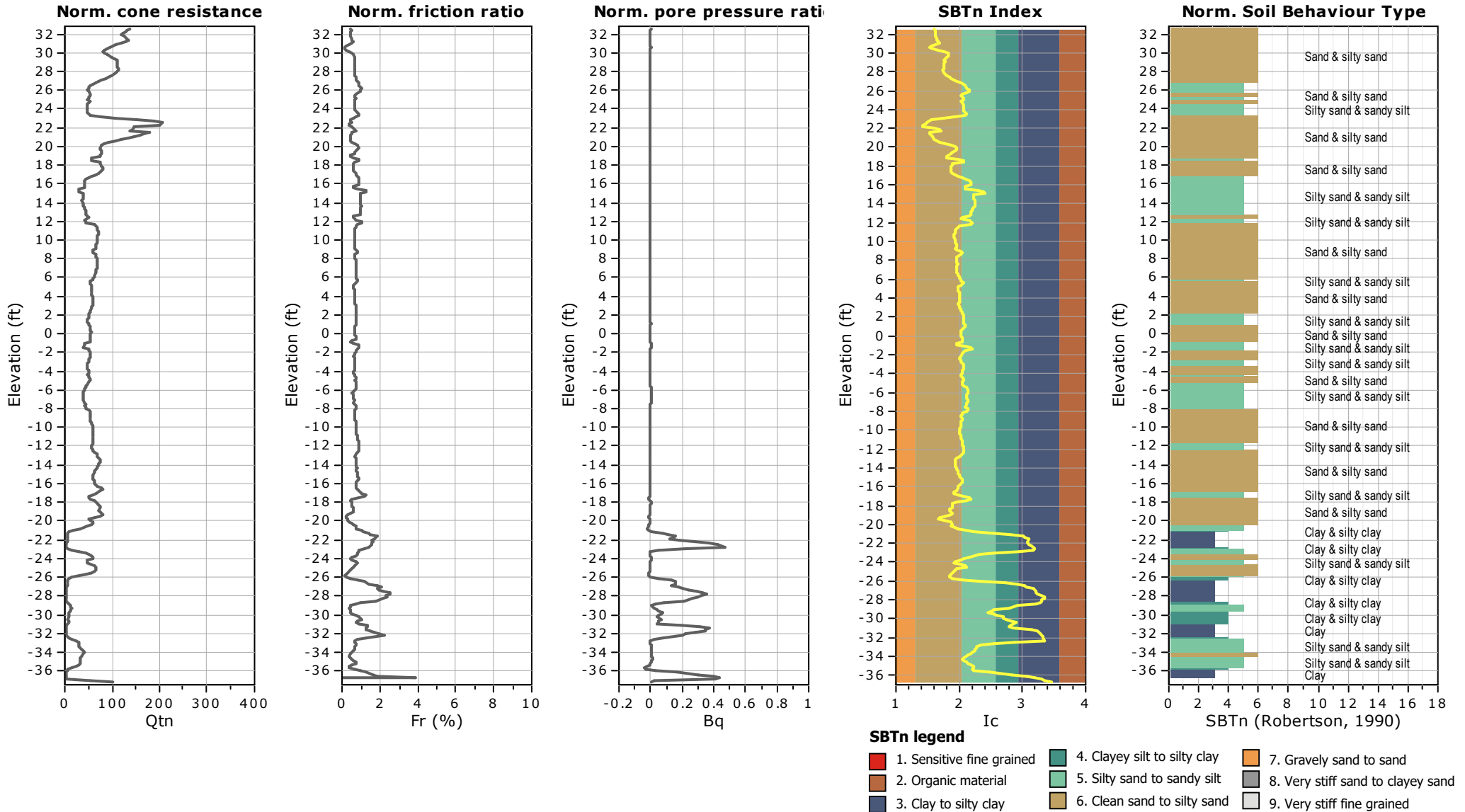
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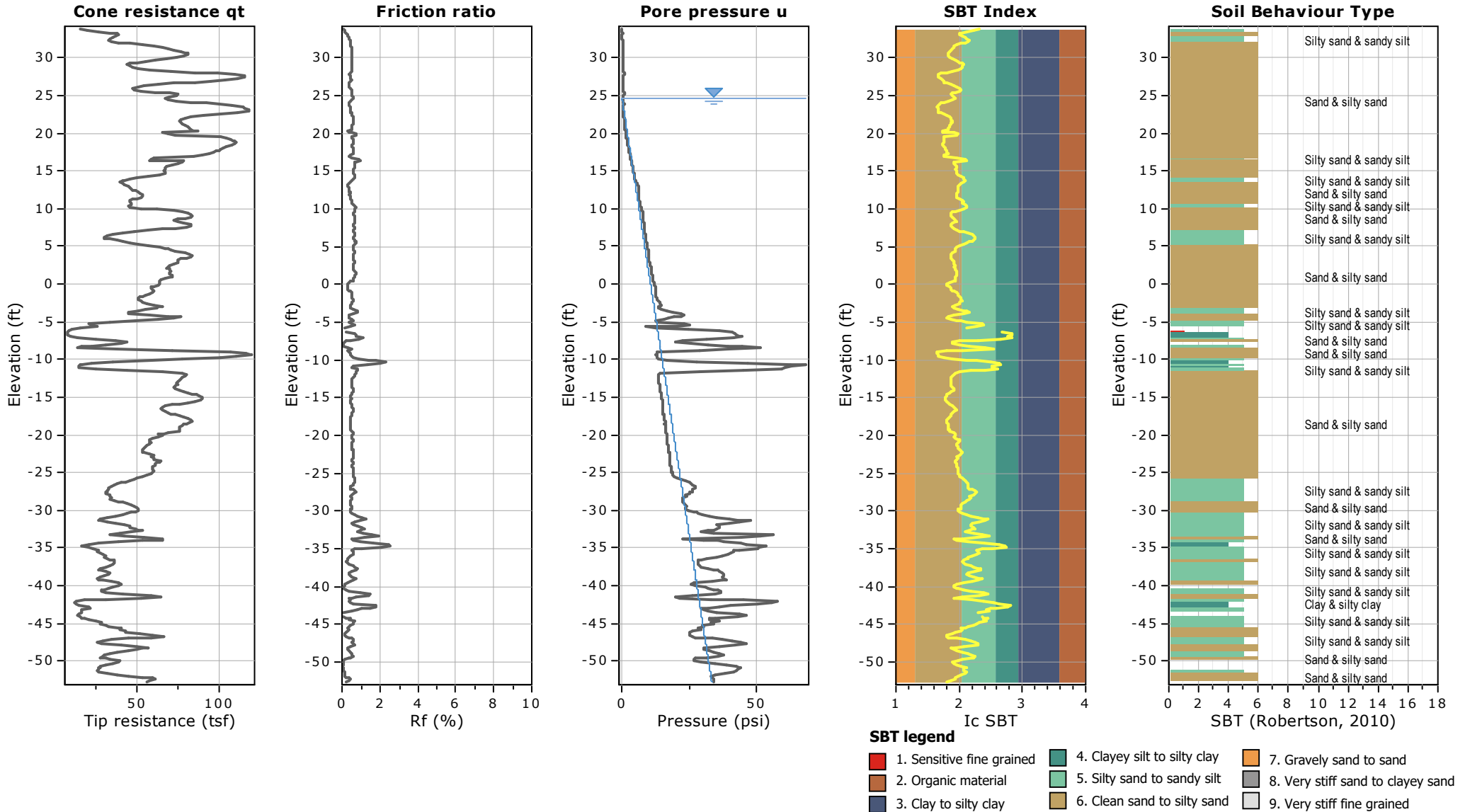
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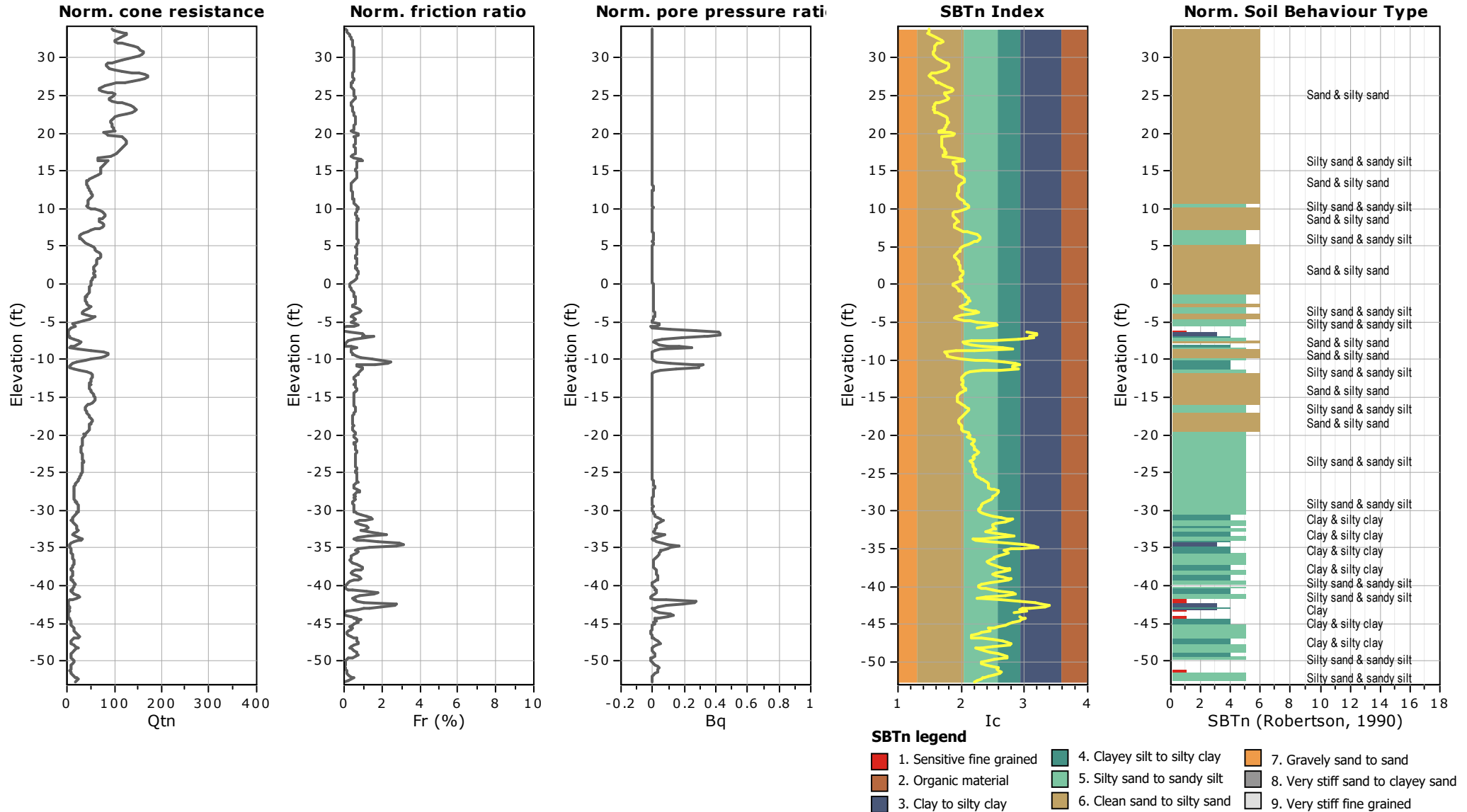
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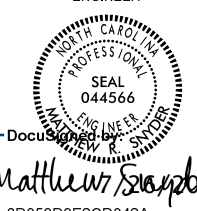


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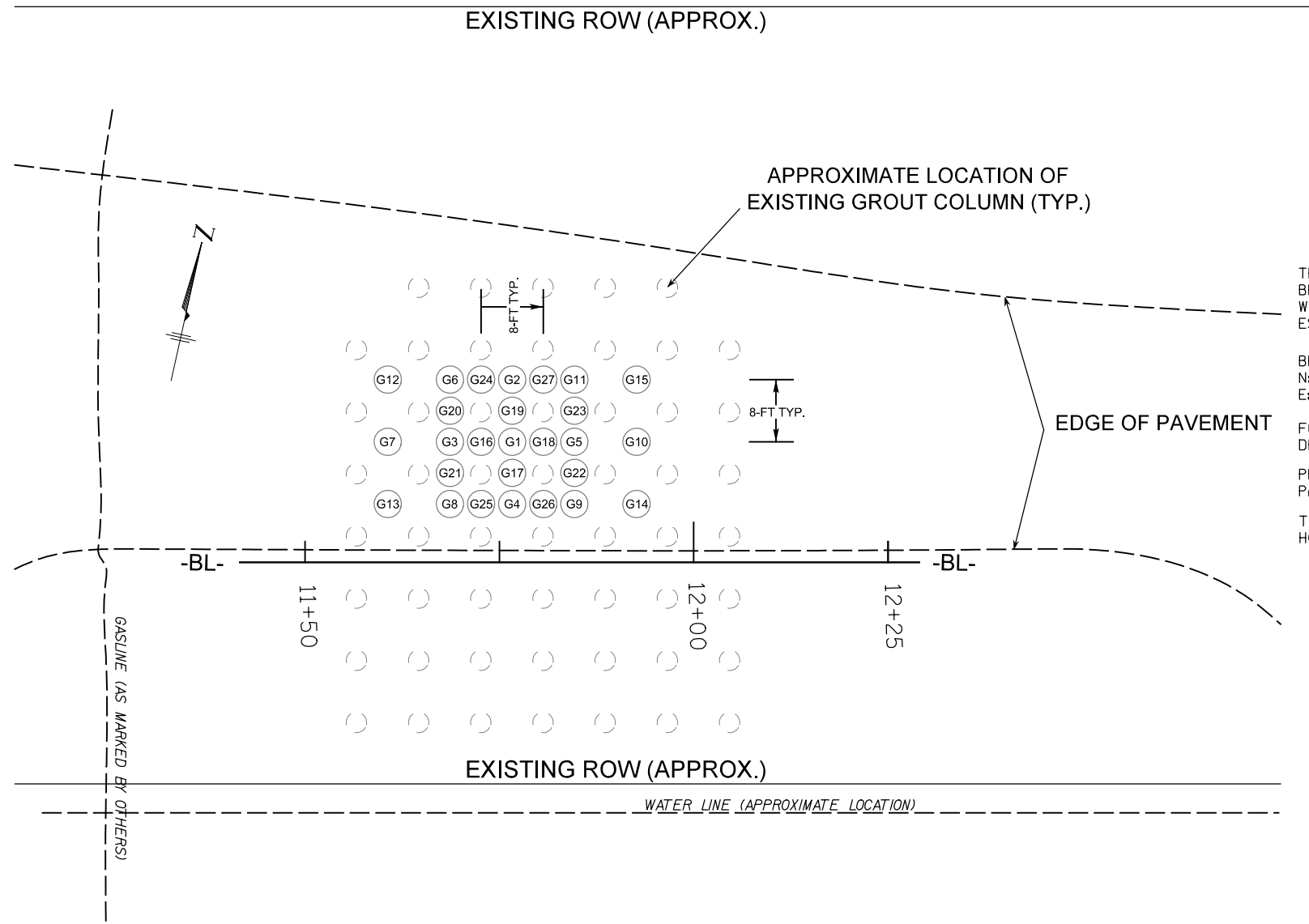


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PROJECT REFERENCE NO. 51215.01AD		SHEET NO. 1	
GEOTECHNICAL ENGINEER  Documented by: <i>Matthew R. Snyder</i> 08863D3E2CD842A... DATE: _____ SIGNATURE: _____ DATE: _____		ENGINEER	
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PERFORM DEEP SOIL STABILIZATION PRESSURE GROUTING IN SEQUENCE PATTERN FOLLOWING THE GROUT HOLE LOCATION NUMBERS.

THE FOLLOWING SEQUENCE APPLIES TO ALL GROUT HOLE LOCATIONS.

1. INSTALL CASING TO REFUSAL ON LIMESTONE. SEE ANTICIPATED DEPTHS.
2. PULL GROUT CASING UP TO 1-FT ABOVE LIMESTONE.
3. PRESSURE GROUT FROM 1-FT ABOVE LIMESTONE SURFACE UP TO 6-FT BELOW THE GROUND SURFACE.
4. FOR THE FIRST 5-FT OF GROUTING ABOVE THE LIMESTONE, PUMP PRESSURE GROUT IN 1-FT LIFTS UNTIL 135 CUBIC FEET OF GROUT HAS BEEN PLACED PER FOOT OF LIFT HEIGHT OR A GROUND LEVEL GROUT PRESSURE OF 500 PSI HAS BEEN REACHED.
5. FOR THE REMAINING DEPTH OF GROUTING, PUMP PRESSURE GROUT IN 1-FT LIFTS UNTIL 20 CUBIC FEET OF GROUT HAS BEEN PLACED PER FOOT OF LIFT HEIGHT, A GROUND LEVEL GROUT PRESSURE OF 500 PSI HAS BEEN REACHED AT INJECTION DEPTHS GREATER THAN 60-FT, 400 PSI AT INJECTION DEPTHS BETWEEN 30-FT AND 60-FT, OR 300 PSI AT DEPTHS LESS THAN 30-FT.
6. PUMP PRESSURE GROUT IN EACH LIFT UNTIL CONDITIONS OF NOTES 4 AND 5 ARE MET, OR THE GROUND SURFACE HEAVES MORE THAN 0.125 INCHES PER LIFT OR CUMULATIVE HEAVE TOTALS 1.5 INCHES, WHICHEVER OCCURS FIRST.

USE A MAXIMUM PRESSURE GROUT PUMP RATE OF 12.0 CUBIC FEET PER MINUTE FOR ALL DEEP SOIL STABILIZATIONS PRESSURE GROUTING.

THE ENGINEER RESERVES THE RIGHT TO ADD OR DELETE GROUT LOCATIONS, ADJUST GROUT HOLE LAYOUT AND SEQUENCE, CASING INSTALLATION DEPTHS, GROUT TERMINATION CRITERIA, OR GROUT MIX DESIGN AT ANYTIME DURING CONSTRUCTION.

THE CONTRACTOR SHALL BE PREPARED TO INSTALL CASING THROUGH UP TO 5 FEET OF ASPHALT.

THE GROUT VOLUME IS ESTIMATED TO BE 35% OF THE SOIL TREATED VOLUME.

THE CONTRACTOR SHALL BE PREPARED TO INSTALL CASING THROUGH EXISTING GROUT COLUMNS. ENGINEER SHALL APPROVE CASING DEPTHS PRIOR TO GROUTING.

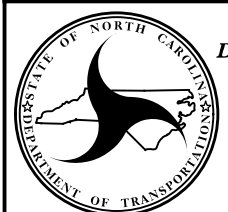
AFTER COMPLETING DEEP SOIL STABILIZATION PRESSURE GROUTING, FILL HOLES WITH GROUT OR FLOWABLE FILL TO WITHIN 6 INCHES OF THE GROUND SURFACE.

PREPARED BY: MRS	DATE: 07/2021
REVIEWED BY: MDV	DATE: 07/2021

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 DEPARTMENT OF TRANSPORTATION
 DIVISION OF HIGHWAYS

GEOTECHNICAL ENGINEERING UNIT



SANDERS RD. SINKHOLE DEEP SOIL STABILIZATION PRESSURE GROUTING

REVISIONS					
NO.	BY	DATE	NO.	BY	DATE
1			3		
2			4		