



Georgetown County, South Carolina

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ADDENDUM #1 TO SOLICITATION #20-058

SOLICITATION NUMBER: 20-058

ISSUE DATE: Friday, October 02, 2020

OPENING DATE: Wednesday, October 21, 2020

OPENING TIME: 3:00 PM (ET)

Pre-Bid Site Inspection: INDEPENDENT, On Own

PROCUREMENT FOR: South Island Landing Parking Lot Improvements

This addendum will amend **Bid #20-058, South Island Landing Parking Lot Improvements** originally issued on Wednesday, September 23, 2020. This clarification is being provided to all known and registered correspondents in response to questions received. All addenda and original bid documents are also available online at: www.gtcounty.org, select "Bid Opportunities" from the Quick Links section and "View Current Bid Solicitations."

Question 1: What is the thickness of the existing asphalt that needs to be removed?

Response: Cores were taken and showed the asphalt thickness ranges from 1 to 6.5 inches. The Geotechnical Report has been attached to this Addendum for informational purposes.

Question 2: Is there any stone under the existing asphalt? If so, what is average thickness and do we have to remove it also?

Response: The base coarse ranges from 0 to 12 inches. The existing base course should be removed up to proposed bottom of the new base course. Any existing base course below that elevation can remain as subgrade.

Question 3: There is a note on the plans that states fibers can be utilized in lieu of rebar. Can the fiber dosage rate/type be identified by the civil engineer?

Response: **Fiber admixture shall be finalized at construction. For the purposes of bidding, assume Polypropylene Macro Fiber at a dosage rate of 10.5 pcy (0.5%).**

Question 4: We work closely with the National Ready Mixed Concrete Association (NRMCA) and they routinely provide assistance via the Design Assistance Program (DAP) for concrete parking lots. Can we provide an alternate design to be submitted per ACI 330 via the NRMCA DAP? The link to the NRMCA Pave Ahead is <https://paveahead.com/>.

Response: **Your bid should be based upon the plans, however we are open to evaluating an alternate design during construction if signed and sealed by another geotechnical engineer.**

Question 5: Can the expansion joint between the curb/pavement be eliminated per ACI 330/

Response: Your bid should be based upon the plans however we are open to evaluating an alternate design during construction.

Question 6: [Can] the curb joints be aligned with the pavement contraction/construction joints?

Response: **No objection, provided the curb joint spacing meets SCDOT requirements.**

Question 7: Can we formulate and construct the pavement in accordance with our own joint layout based on ACI 330 as this will allow the contractor to determine where a construction joint is needed, eliminate dead end joints (eliminate sympathy cracking), utilize PNA diamond dowels at the construction joints in lieu of round dowels, and install an unreinforced thickened edge where the pavement is not bound by curb and gutter, and eliminate the thickened edge at the curb and gutter?

Response: **No objection, provided that it complies with ACI requirements.**

Question 8: Will the project be awarded concrete or asphalt based solely on bid price, overall budget, or life cycle costs of the concrete pavement vs asphalt pavement?

Response: **Concrete is the preferred alternative, however the County will make the decision based on budget and comparative life cycle costs**

Question 9: Will “aggregate base material” meeting SCDOT Section 305 be acceptable for use on this project?

Response: **Yes aggregate material meeting SCDOT Section 305 – Graded Aggregate Base Course is acceptable.**

Question 10: Is the allowance for Testing \$5000 or \$15,000? The specs state \$5000, but the Unit Price Schedule lists \$15,000.

Response: **The allowance should be in the amount of \$15,000. Paragraph seven (7) on Page 5 of 186, shall be amended to read as follows:**

Allowances:

The Bidder shall include in the Contract sum, an Allowance in the amount of **fifteen thousand dollars (\$15,000)** for Geotech testing. These services are not intended to relieve the contractor of his/her responsibility for testing and / or laboratory services required in the construction contract documents as part of his/her Quality Control (QC) activities.

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SECTION 00900 - REVISED 10-01-2020

**LIST OF DRAWINGS AND TECHNICAL SPECIFICATIONS
SOUTH ISLAND FERRY LANDING IMPROVEMENTS**

I – LIST OF DRAWINGS

<u>SHEET TITLE</u>	<u>SHEET NO.</u>
COVER SHEET	C0-00
PROJECT NOTES	C0-01
EXISTING CONDITIONS SURVEY – BY OTHERS	C1-00
COASTAL CRITICAL LINE EXHIBIT – BY OTHERS	C0-01
DEMOLITION PLAN	C2-00
EROSION CONTROL PLAN	C3-00
EROSION CONTROL DETAILS	C3-01
SITE & LAYOUT PLAN	C4-00
CONCRETE SCORING PLAN	C4-01
SITE DETAILS	C4-02
SITE DETAILS	C4-03
GRADING AND DRAINAGE PLAN	C5-00

[ALL STANDARD DRAWINGS SHOULD BE PLOTTED TO 24x36 TO MAINTAIN SCALE]

II - LIST OF TECHNICAL SPECIFICATIONS

<u>SECTION NO.</u>	<u>TITLE</u>
02000	Site Clearing
02050	Selective Demolition
02100	Erosion and Sediment Control
02105	General Excavation, Filling and Backfilling
02335	Sub-grade
02340	Base Course
02345	Proof Rolling
02400	Hot Mix Asphalt Pavement
02450	Roadway Pavement Markings
02460	Thermoplastic Pavement Markings
02470	Concrete Curb and Gutter
02560	Cast-in-Place Concrete
02740	Riprap and Slope Protection
02800	Seeding
805	Guardrail (from SCDOT Standard Specifications)

III – ADDITIONAL PROJECT DOCUMENTATION

<u>SECTION NO.</u>	<u>TITLE</u>
Addendum 01 Attachment	Geotechnical Engineering Report

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ADDENDUM ACKNOWLEDGEMENT

SOLICITATION #20-058 South Island Landing Parking Lot Improvements Mandatory Submittal Form

To be returned with the final proposal submission to Georgetown County.

COMPANY NAME: _____

- Addendum #1 Received Date: _____ Initialed By: _____
- Addendum #2 Received Date: _____ Initialed By: _____
- Addendum #3 Received Date: _____ Initialed By: _____
- Addendum #4 Received Date: _____ Initialed By: _____
- Addendum #5 Received Date: _____ Initialed By: _____
- Addendum #6 Received Date: _____ Initialed By: _____

If your RFP submission has already been submitted, acknowledgment may be provided by e-mail to purch@gtcounty.org or fax to (843)545-3500.

GEOTECHNICAL ENGINEERING REPORT

**SOUTH ISLAND FERRY BOAT LANDING PAVEMENT
GEORGETOWN, SOUTH CAROLINA**

APRIL 7, 2020

INSIGHT GROUP NO. 20-0063

Prepared for:

**Stantec Consulting Services, Inc.
4969 Centre Pointe Drive Suite 200
North Charleston, South Carolina**

Prepared by:

**Insight Group, LLC
3359 Meeting Street, Suite 101
North Charleston, South Carolina**



April 7, 2020

Stantec Consulting Services, Inc
4969 Centre Pointe Drive Suite 200
North Charleston, South Carolina



Attn: Mr. Bryan Kizer, P.E.
843.817.9817
Bryan.Kizer@stantec.com

Re: Geotechnical Engineering Report
South Island Ferry Boat Landing Pavement
Georgetown, South Carolina
Insight Group Number: 20-0063

Dear Mr. Kizer,

The purpose of this report is to present geotechnical recommendations for design and construction of paved areas for the South Island Ferry Boat Landing project in Georgetown, South Carolina. This report presents our understanding of the proposed improvements, the site and subsurface conditions, and recommendations.

We appreciate the opportunity to be of service to Stantec Consulting Services, Inc on this project. If you have any questions concerning this submittal, or if we may be of further service, please contact us.

Sincerely,
Insight Group, LLC

A handwritten signature in black ink, appearing to read 'Zach Driggers'.

Zach Driggers, E.I.T.
Geotechnical Professional



Ryan Keiper, P.E.
Geotechnical Consultant

Geotechnical Engineering Report

South Island Ferry Boat Landing Pavement | Georgetown, SC

April 7, 2020 | Insight Group No. 20-0063



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Exhibit B	Testing Logs

1 INTRODUCTION

Insight Group has completed the geotechnical evaluation of the existing pavement areas located at the South Island Road Ferry Boat Landing in Georgetown, South Carolina in general accordance with our proposal dated March 2, 2020. The purpose of this report is to provide geotechnical information and recommendations for design and construction of the project.

Insight Group evaluated the subsurface conditions with ten cores of the existing pavement areas. Within each hole a Dynamic Cone Penetrometer (DCP) and a Hand Auger Boring were performed to 4 feet below the existing pavement section. DCP logs are attached in Exhibit B and the test location plan is attached in Exhibit A.

2 PROJECT INFORMATION

2.1 Site Location and Current Condition

The site is located at the South Island Road Ferry Boat Landing in Georgetown, SC. The site currently consists of South Island Rd, a parking lot on the south side of South Island Rd and the on-street parking on the north side of South Island Rd. Coordinates of the site are 33.2512, -79.2709.

2.2 Project Description

New pavement areas are to be constructed that will include South Island Road (Area 2), the main parking lot on the south side of South Island Road (Area 1) and the on-street parking on the north side of South Island Road (Area 3).

3 GEOTECHNICAL CONDITIONS

3.1 Soil Profile

The field investigation indicates the subsurface conditions consisted primarily of poorly-graded sands and silty sands. In the street parking area on the north side of the project, lean clay with sand was encountered approximately 3 feet beneath the pavement section. Additionally, at the PC-3 location within the main parking lot area, roots were encountered at approximate depths of 1.5 feet and 4 feet below the existing grade.

Coring show that the asphalt thickness ranges from 1 to 6.5 inches and the base coarse ranges from 0 to 12 inches across the project site. The table below shows the results of the corings:

Table 1. Core Results

Pavement Area	Core	Asphalt Thickness	Base Thickness
Area 1: Main Parking Lot	PC-1	3"	0"
	PC-2	3.25"	0"
	PC-3	1"	5"
	PC-4	1.5"	4.5"
Area 2: South Island Rd	PC-5	4.5"	2"
	PC-6	6.5"	0"
	PC-7	4.5"	0"
Area 3: Street Parking	PC-8	1.25"	8"
	PC-9	1.5"	7.5"
	PC-10	1.25"	12"

3.2 Groundwater

Groundwater was not encountered at the time of testing.

4 GEOTECHNICAL RECOMMENDATIONS

4.1 Earthwork

Earthwork should generally proceed in the following order:

1. Clear and grub vegetation
2. Remove existing pavements and other deleterious material
3. Strip topsoil and other organic materials.
4. Mitigate subgrade instability identified during proof-rolling operations
5. Verification of the stability of stripped subgrade by Geotechnical Engineer
6. Place fill per the grading plan
7. Verification of compaction and stability of fill by Geotechnical Engineer

4.1.1 Site Drainage

Local sites typically have two conditions which cause drainage issues during earthwork operations:

1. High ground water table
2. Relatively flat topography

Combined, these conditions inhibit storm water from naturally draining from subsurface soils in a timely manner. The long-term saturation of on-site soils will lead to severe degradation of the subgrade. Therefore, developing and implementing a comprehensive site drainage plan prior to major construction activities will be key to successful earthwork operations.

4.1.2 Site Preparation

After implementation of site drainage, the initial step in site preparation should be to remove all topsoil, organics, existing pavements and other deleterious material from within the proposed construction area footprint. Stripping should extend a minimum of 5 feet outside the construction area footprint. At the PC-3 location within the main parking lot area, roots were encountered at approximate depths of 1.5 feet and 4 feet below the existing grade. The contractor should ensure that remnant root systems in the area are removed during site preparation. Voids remaining from the clearing/stripping operation should be backfilled with properly compacted Controlled Fill.

After stripping and subgrade repair is completed, the exposed subgrade should be evaluated by the Geotechnical Engineer. Depending on the grading plans, the evaluation may include proofrolling with a loaded tandem axle dump truck or other similar approved construction equipment. The Geotechnical Engineer should monitor proofrolling operations.

4.1.3 Borrow Material

Materials used for site grading should meet the following criteria:

Table 2. Borrow Material

Type¹	USCS Classification	Acceptable Location for Placement
Offsite Borrow Material¹	SP, SP-SM, SP-SW, SW, SM (Passing #200<15%)	All locations

1. Controlled Fill should consist of approved materials that are free of organic matter and other deleterious debris.

4.1.4 Compaction Specifications

We recommend the following compaction specifications be utilized for the project:

Table 3. Compaction Specifications

ITEM	DESCRIPTION
Fill Lift Thickness	<ul style="list-style-type: none"> ➤ Smooth drum/sheepsfoot rollers: fill lifts shall have a maximum of 12 inches in loose thickness ➤ Jumping jack/plate compactor: fill lifts shall have a maximum of 2 to 4 inches in loose thickness
Compaction Requirements^{1,2}	<ul style="list-style-type: none"> ➤ Controlled Fill: 95% of the material's maximum Modified Proctor dry density (ASTM D1557) ➤ General (Onsite) Fill: 95% of the material's maximum Standard Proctor dry density (ASTM D698)
Moisture Content	Workable levels, generally within the range of ±2% of optimum moisture content value.

1. Fill should be tested for moisture content and compaction during placement. If the results of the in-place density tests indicate the specified moisture or compaction limits have not been met, the area represented by the test should be reworked and retested as required until the specified moisture and compaction requirements are achieved.
2. Asphalt concrete and base course materials for pavements should meet SCDOT compaction specifications.

4.1.5 Earthwork Quality Control

The earthwork efforts should be monitored under the direction of the Geotechnical Engineer. This monitoring should include documentation of adequate removal of vegetation, topsoil, and pavements, proof-rolling and mitigation of areas delineated by the proof-roll to require mitigation.

Each lift of compacted fill should be tested, evaluated, and reworked as necessary until approved by the Geotechnical Engineer prior to placement of additional lifts. Each lift of fill should be tested for density and water content at a frequency of at least one test for every 5,000 square feet of compacted fill in pavement areas. One density and water content test for every 50 linear feet of compacted utility trench backfill.

In addition to the documentation of the essential parameters necessary for construction, the continuation of Insight Group into the construction phase of the project provides the continuity to maintain the Geotechnical Engineer of Record's evaluation of subsurface conditions, including assessing variations and associated design changes.

5 PAVEMENTS

5.1 Existing Pavement Conditions

The existing pavement conditions indicate that the pavement sections have reached the end of their design life. The existing pavements have alligator cracking throughout and are ponding water. We recommend removal of the current pavement and replacement with one of the pavement sections outlined below.

5.2 Subgrade Preparation

We recommend the moisture content and density of the top 12 inches of the subgrade be evaluated prior to commencement of paving operations. Areas not in compliance with the required ranges of moisture or density should be moisture-conditioned and recompact. Attention should be paid to high traffic areas that were previously rutted and disturbed and to areas where backfilled trenches are located. Areas where unsuitable conditions are located should be repaired by removing and replacing the materials with properly compacted fills.

The Graded Aggregate Base (GAB) should be compacted to 100% of its modified Proctor as determined by ASTM D1557. The Asphalt Concrete should be compacted to SCODT specifications.

5.3 Design Considerations and Pavement Sections

Traffic counts and vehicle types were not available at the time of this report. However, based on our understanding of the project we have assumed the following traffic conditions and pavement types for the different areas of the site:

- Main Parking Lot and South Island Road (Areas 1 and 2) – Heavy duty asphalt and concrete pavements
- On-Street Parking (Area 3) – Light duty asphalt pavements

Table 4 shows the recommended minimum pavement sections.

Table 4. Minimum Pavement Sections

Pavement Section	Minimum Section Thickness (in)		
	Area 3 Light Duty ¹	Area 1 and 2 Heavy Duty Asphalt ²	Area 1 and 2 Heavy Duty Concrete ^{2,3,4}
SCDOT Asphalt Type⁵	D	C	---
Surface Course	2.5	3	---
Intermediate Course SCDOT Type B	---	---	---
Portland Cement Concrete	---	---	6
Graded Aggregate Base	6	10	4
Total Thickness	8.5	13	10

1. Area 3 - Car parking areas
2. Areas 1 and 2 –Truck traffic, main drive and loading unloading areas
3. Recommended for turning aprons and dumpster pad
4. Concrete pavement should have a minimum 4,000 psi compressive strength, 4-inch maximum slump and 5% to 7%
5. Type and allowable thicknesses based on SCDOT Guidelines for Asphalt Mixture Selection Rev 01/01/2018

An alternative to the pavement section above is the use of Cement Modified Recycled Base (CMRB). CMRB mixes the existing pavement and base with cement to form the base for the new pavement section. CMRB chemical modification process is accomplished with a specialty mixing machine or reclaimer. Given the limited size of the new pavement area, mobilizing equipment for CMRB will likely not be cost effective compared to traditional pavement construction. However, Insight Group can provide CMRB recommendations upon request, including a mix design and associated new asphalt thicknesses.

Minimum section thickness is based upon assumed traffic amounts, Insight Group should be notified once the traffic requirements are determined to review and revise these estimates as needed.

6 LIMITATIONS OF REPORT

These services and this report have been performed in accordance with the local standard of practice. These recommendations apply only to the specific project referenced herein. Conclusions and recommendations are based on the observations and collected measurements. Subsurface tests were performed at discrete locations; subsurface conditions can vary between test locations. Insight Group should review final plans and specifications for construction to ensure that the recommendations contained herein remain valid.

APPENDICES

Exhibit A

Site and Test Location Plans

Exhibit B

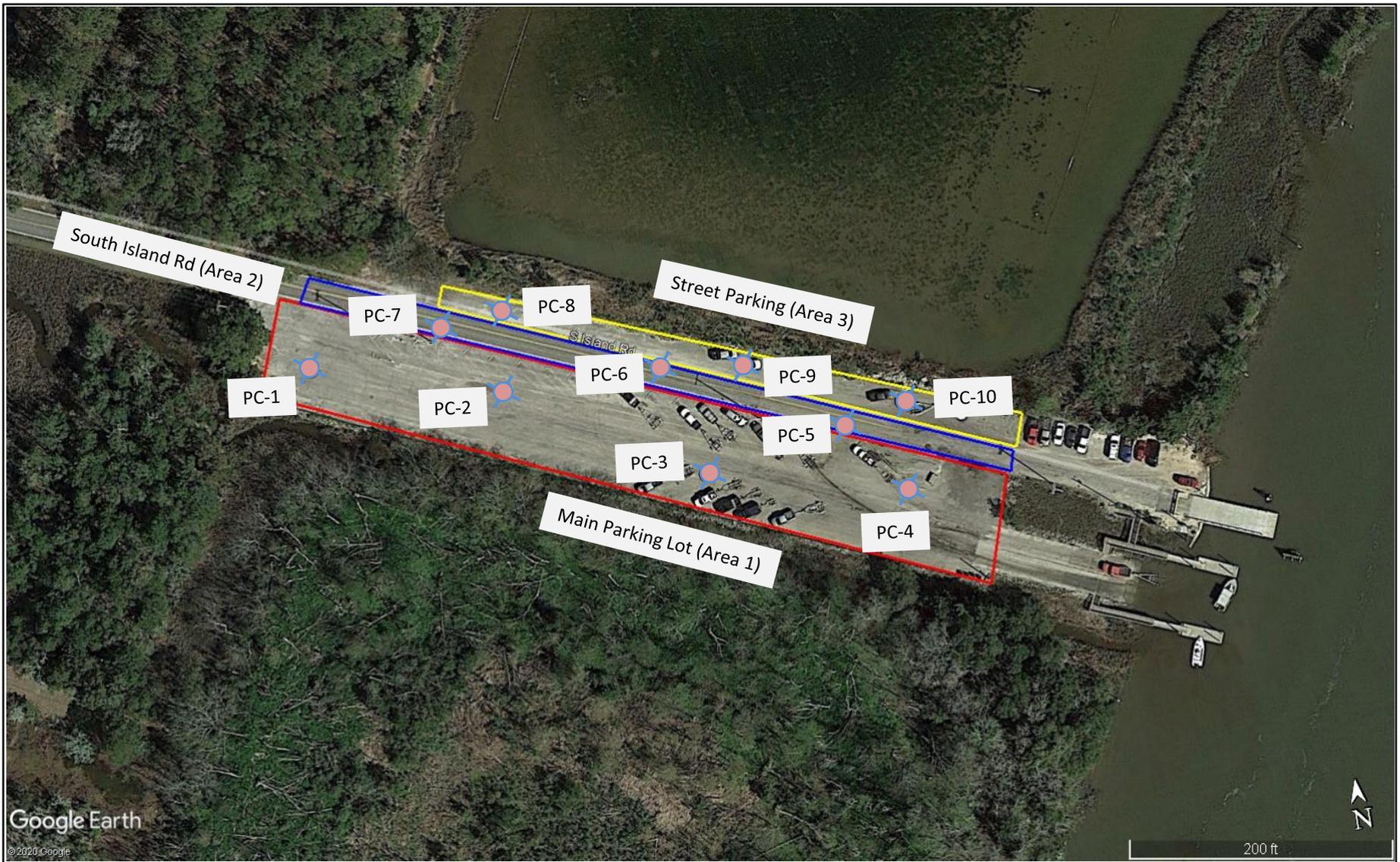
Testing Logs

EXHIBIT A

Site and Test Location Plans



<p>Legend</p> <p>Bid No. 02-058, Addendum No. 01</p>	 <p>3359 Meeting St. N. Charleston, SC 29405 Phone: (843) 779 9824 InsightGrp.com</p>	<p>Project Name: South Island Ferry</p> <p>Project Number: 20-0063</p> <p>Date: 4/2/2020</p> <p>Georgetown County, South Carolina</p>	<p>Site Location</p> <p>South Island Ferry Boat Landing Pavement Geotechnical Engineering Report</p> <p>Georgetown South Carolina</p>	<p>Exhibit</p> <p>A</p>
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Legend  Pavement Core with 4' Kessler DCP and Hand Auger	 3359 Meeting St. N. Charleston, SC 29405 Phone: (843) 779 9824 InsightGrp.com	Project Name: South Island Ferry	Test Location Plan		Exhibit A
		Project Number: 20-0063	South Island Ferry Boat Landing Pavement Geotechnical Engineering Report		
Bid No. 02-058, Addendum No. 01		Date: 4/2/2020	Georgetown		South Carolina

EXHIBIT B

Testing Logs



Insight Group, LLC
 3359 Meeting Street Road, Suite 101
 North Charleston, SC 29405

BORING NUMBER PC-1

PAGE 1 OF 1

PROJECT: South Island Ferry Boat Landing
 Georgetown, SC

INSIGHT GROUP NUMBER: 20-0063

CLIENT: Stantec Consulting Services Inc.

CLIENT LOCATION: North Charleston, SC

DATE STARTED 4/1/20 **COMPLETED** 4/1/20

DRILLER/OPERATOR M. Hess

GROUND WATER LEVELS:

Water Note: Groundwater not encountered.

ADVANCEMENT METHOD Hand Auger

ADVANCEMENT RIG **LOGGED BY** M. Hess

NOTES Latitude: 33.251494, Longitude: -79.271267

DEPTH (ft)	SAMPLE TYPE NUMBER	Kessler DCP	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION
0					
					3" of asphalt
					0.3
		13			Moist, yellowish brown, weak cemented, fine grained, SILTY SAND (SM)
		15			
		14	SM		
1		18			
		16			
		20			1.3
		14			Moist, light brown, weak cemented, fine grained, POORLY GRADED SAND (SP)
		7			
		7			
2		8			
		9			
		8			
		7			
		9			
		9	SP		
3		8			
		9			
		7			
		7			
		5			
		6			
4		7			
		6			
		5			4.3

Terminated at 4.3 feet

GENERAL BH / TP / WELL - IG-PROJ-FOR-TEMPLATE.GPJ - 4/3/20 12:11 - 20-0063 SOUTH ISLAND FERRY BOAT LANDING.GPJ



Insight Group, LLC
 3359 Meeting Street Road, Suite 101
 North Charleston, SC 29405

BORING NUMBER PC-2

PAGE 1 OF 1

PROJECT: South Island Ferry Boat Landing
 Georgetown, SC

INSIGHT GROUP NUMBER: 20-0063

CLIENT: Stantec Consulting Services Inc.

CLIENT LOCATION: North Charleston, SC

DATE STARTED 4/1/20 **COMPLETED** 4/1/20

DRILLER/OPERATOR M. Hess

GROUND WATER LEVELS:

Water Note: Groundwater not encountered.

ADVANCEMENT METHOD Hand Auger

ADVANCEMENT RIG _____ **LOGGED BY** M. Hess

NOTES Latitude: 33.251386, Longitude: -79.270806

DEPTH (ft)	SAMPLE TYPE NUMBER	Kessler DCP	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION
0					
				0.3	3.25" of asphalt
				SP	Moist, brown, weak cemented, fine grained, POORLY GRADED SAND (SP)
8		8			
12		12			
8		8			
6		6			
9		9			
14		14			
12		12			
15		15			
10		10			
11		11			
14		14			
14		14			
14		14			
15		15			
16		16			
10		10			
14		14			
12		12			
12		12			
11		11			
12		12			
12		12			
13		13			
10		10		4.3	Terminated at 4.3 feet

GENERAL BH / TP / WELL - IG-PROJ-FOR-TEMPLATE.GPJ - 4/3/20 12:11 - 20-0063 SOUTH ISLAND FERRY BOAT LANDING.GPJ



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 North Charleston, SC 29405

BORING NUMBER PC-3

PAGE 1 OF 1

PROJECT: South Island Ferry Boat Landing
 Georgetown, SC

INSIGHT GROUP NUMBER: 20-0063

CLIENT: Stantec Consulting Services Inc.

CLIENT LOCATION: North Charleston, SC

DATE STARTED 4/1/20 **COMPLETED** 4/1/20

DRILLER/OPERATOR M. Hess

GROUND WATER LEVELS:

Water Note: Groundwater not encountered.

ADVANCEMENT METHOD Hand Auger

ADVANCEMENT RIG _____ **LOGGED BY** M. Hess

NOTES Latitude: 33.251156, Longitude: -79.270342

DEPTH (ft)	SAMPLE TYPE NUMBER	Kessler DCP	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION
0					
0.1					1" of asphalt
0.5					5" of base coarse
0.5 - 1.5		8			Moist, dark brown, weak cemented, fine grained, POORLY GRADED SAND (SP)
1.5 - 2.83		12			
2.83 - 3.83		12			
3.83 - 4.5		16			
		18			
		30			
		27+			Root encountered at 1.5 feet, DCP testing resumed at 2.83 feet
2			SP		
3		1			
		2			
		1			
		1			
		2			
		30+			
4					DCP Refusal at 3.83 feet due to roots
4.5					Terminated at 4.5 feet

GENERAL BH / TP / WELL - IG-PROJ-FOR-TEMPLATE.GPJ - 4/3/20 12:11 - 20-0063 SOUTH ISLAND FERRY BOAT LANDING.GPJ



Insight Group, LLC
 3359 Meeting Street Road, Suite 101
 North Charleston, SC 29405

BORING NUMBER PC-4

PAGE 1 OF 1

PROJECT: South Island Ferry Boat Landing
 Georgetown, SC

INSIGHT GROUP NUMBER: 20-0063

CLIENT: Stantec Consulting Services Inc.

CLIENT LOCATION: North Charleston, SC

DATE STARTED 4/1/20 **COMPLETED** 4/1/20

DRILLER/OPERATOR M. Hess

GROUND WATER LEVELS:

ADVANCEMENT METHOD Hand Auger

Water Note: Groundwater not encountered.

ADVANCEMENT RIG _____ **LOGGED BY** M. Hess

NOTES Latitude: 33.251056, Longitude: -79.269856

DEPTH (ft)	SAMPLE TYPE NUMBER	Kessler DCP	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION
0					
				0.1	1.5" of asphalt
				0.5	4.5" of base coarse
1		5			Moist, grayish brown, weak cemented, fine grained, SILTY SAND (SM)
		9			
		30	SM		
		16			
		25			
		30		1.5	Moist, brown, weak cemented, fine grained, POORLY GRADED SAND (SP) High DCP blow counts at 1.67 feet, DCP resumed at 2.83 feet
		30+			
2					Moist, brown, weak cemented, fine grained, POORLY GRADED SAND (SP) High DCP blow counts at 1.67 feet, DCP resumed at 2.83 feet
3		30+	SP		DCP Refusal at 3 feet
4					
				4.5	Terminated at 4.5 feet

GENERAL BH / TP / WELL - IG-PROJ-FOR-TEMPLATE.GPJ - 4/3/20 12:11 - 20-0063 SOUTH ISLAND FERRY BOAT LANDING.GPJ



Insight Group, LLC
 3359 Meeting Street Road, Suite 101
 North Charleston, SC 29405

BORING NUMBER PC-5

PAGE 1 OF 1

PROJECT: South Island Ferry Boat Landing
 Georgetown, SC

INSIGHT GROUP NUMBER: 20-0063

CLIENT: Stantec Consulting Services Inc.

CLIENT LOCATION: North Charleston, SC

DATE STARTED 4/1/20 **COMPLETED** 4/1/20

DRILLER/OPERATOR M. Hess

GROUND WATER LEVELS:

Water Note: Groundwater not encountered.

ADVANCEMENT METHOD Hand Auger

ADVANCEMENT RIG _____ **LOGGED BY** M. Hess

NOTES Latitude: 33.251203, Longitude: -79.269975

GENERAL BH / TP / WELL - IG-PROJ-FOR-TEMPLATE.GPJ - 4/3/20 12:11 - 20-0063 SOUTH ISLAND FERRY BOAT LANDING.GPJ

DEPTH (ft)	SAMPLE TYPE NUMBER	Kessler DCP	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION
0					
				0.4	4.5" of asphalt
				0.5	2" of base coarse
1		7	SC	1.0	Moist, brown, weak cemented, fine grained, CLAYEY SAND (SC)
		13			
		15			
2		13			Moist, grayish brown, weak cemented, fine grained, POORLY GRADED SAND (SP)
		15			
		15			
		16			
3		14			
		15			
		15			
		10			
		12			
4		7	SP		
		6			
		5			
		3			
		3			
		5			
		6			
		7			
		6			
		5			
		6			
		5			
		5		4.5	Terminated at 4.5 feet



Insight Group, LLC
 3359 Meeting Street Road, Suite 101
 North Charleston, SC 29405

BORING NUMBER PC-6

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PROJECT: South Island Ferry Boat Landing
 Georgetown, SC

INSIGHT GROUP NUMBER: 20-0063

CLIENT: Stantec Consulting Services Inc.

CLIENT LOCATION: North Charleston, SC

DATE STARTED 4/1/20 **COMPLETED** 4/1/20

DRILLER/OPERATOR M. Hess

GROUND WATER LEVELS:

Water Note: Groundwater not encountered.

ADVANCEMENT METHOD Hand Auger

ADVANCEMENT RIG _____ **LOGGED BY** M. Hess

NOTES Latitude: 33.251383, Longitude: -79.270417

DEPTH (ft)	SAMPLE TYPE NUMBER	Kessler DCP	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION
0					
					6.5" of asphalt
					0.5
1		10			Moist, yellowish brown, weak cemented, fine grained, SILTY SAND (SM)
		10	SM		
		10			
		11			
		10			
		10			1.5
2		9			Moist, grayish brown, weak cemented, fine grained, POORLY GRADED SAND (SP)
		7			
		5			
		4			
		4			
		3	SP		
		2			
3		1			
		2			
		2			
		3			
		2			3.5
4		3			Moist, dark grayish brown, weak cemented, fine grained, LEAN CLAY WITH SAND (CL)
		2			
		3	CL		
		3			
		3			
		4			
		3			4.5
		3			Terminated at 4.5 feet

GENERAL BH / TP / WELL - IG-PROJ-FOR-TEMPLATE.GPJ - 4/3/20 12:11 - 20-0063 SOUTH ISLAND FERRY BOAT LANDING.GPJ



Insight Group, LLC
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 North Charleston, SC 29405

BORING NUMBER PC-7

PAGE 1 OF 1

PROJECT: South Island Ferry Boat Landing
 Georgetown, SC

INSIGHT GROUP NUMBER: 20-0063

CLIENT: Stantec Consulting Services Inc.

CLIENT LOCATION: North Charleston, SC

DATE STARTED 4/1/20 **COMPLETED** 4/1/20

DRILLER/OPERATOR M. Hess

GROUND WATER LEVELS:

Water Note: Groundwater not encountered.

ADVANCEMENT METHOD Hand Auger

ADVANCEMENT RIG _____ **LOGGED BY** M. Hess

NOTES Latitude: 33.251536, Longitude: -79.270931

DEPTH (ft)	SAMPLE TYPE NUMBER	Kessler DCP	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION
0					
					4.5" of asphalt
		7			
		18			
1		20			
		20	SM		
		16			
		12			
		19			
		19			
2		22			
		18			
		20			
		22			
3		15			
		18			
		17			
4		15	SP		
		11			
		8			
		7			
		7			
		8			
		7			
		7			
		5			
Terminated at 4.4 feet					

GENERAL BH / TP / WELL - IG-PROJ-FOR-TEMPLATE.GPJ - 4/3/20 12:11 - 20-0063 SOUTH ISLAND FERRY BOAT LANDING.GPJ



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 North Charleston, SC 29405

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PROJECT: South Island Ferry Boat Landing
 Georgetown, SC

INSIGHT GROUP NUMBER: 20-0063

CLIENT: Stantec Consulting Services Inc.

CLIENT LOCATION: North Charleston, SC

DATE STARTED 4/1/20 **COMPLETED** 4/1/20

DRILLER/OPERATOR M. Hess

GROUND WATER LEVELS:

Water Note: Groundwater not encountered.

ADVANCEMENT METHOD Hand Auger

ADVANCEMENT RIG _____ **LOGGED BY** M. Hess

NOTES Latitude: 33.251356, Longitude: -79.270208

DEPTH (ft)	SAMPLE TYPE NUMBER	Kessler DCP	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION
0					
				0.1	1.5" of asphalt
					7.5" of base coarse
				0.8	
1		5			Moist, dark grayish brown, weak cemented, fine grained, SILTY SAND (SM)
		8			
		9			
		5			
		10			
		11			
2		10			
		11			
		8	SM		
		8			
		6			
		5			
3		6			
		7			
		3			
		2			
		2			
4		2		3.8	Moist, grayish brown, weak cemented, fine grained, LEAN CLAY WITH SAND (CL)
		2			
		2	CL		
		2			
		2			
		2			
		2		4.8	Terminated at 4.8 feet

GENERAL BH / TP / WELL - IG-PROJ-FOR-TEMPLATE.GPJ - 4/3/20 12:11 - 20-0063 SOUTH ISLAND FERRY BOAT LANDING.GPJ



Insight Group, LLC
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 North Charleston, SC 29405

BORING NUMBER PC-10

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PROJECT: South Island Ferry Boat Landing
 Georgetown, SC

INSIGHT GROUP NUMBER: 20-0063

CLIENT: Stantec Consulting Services Inc.

CLIENT LOCATION: North Charleston, SC

DATE STARTED 4/1/20 **COMPLETED** 4/1/20

DRILLER/OPERATOR M. Hess

GROUND WATER LEVELS:

Water Note: Groundwater not encountered.

ADVANCEMENT METHOD Hand Auger

ADVANCEMENT RIG _____ **LOGGED BY** M. Hess

NOTES Latitude: 33.251233, Longitude: -79.269833

DEPTH (ft)	SAMPLE TYPE NUMBER	Kessler DCP	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION
0					
0.1				0.1	1.25" of asphalt 12" of base coarse
1.1				1.1	Moist, dark grayish brown, weak cemented, fine grained, SILTY SAND (SM)
1.5		8			
1.7		10			
1.9		9			
2.1		10			
2.3		7			
2.5		3			
2.7		1			
2.9		1			
3.1		1	SM		
3.3		2			
3.5		2			
3.7		2			
3.9		3			
4.1		4			
4.3		4			
4.5		4			
4.7		4			
4.9		4			
5.1		3	CL		Moist, grayish brown, weak cemented, fine grained, LEAN CLAY WITH SAND (CL)
5.3		3			
5.5		3			
5.7		3			
5.9		3			
6.1					Terminated at 5.1 feet

GENERAL BH / TP / WELL - IG-PROJ-FOR-TEMPLATE.GPJ - 4/3/20 12:11 - 20-0063 SOUTH ISLAND FERRY BOAT LANDING.GPJ