

TEST BORING RESULTS

**CLEARWATER EXECUTIVE AIRPARK FACILITY
CLEARWATER, FLORIDA**

City of Clearwater
100 South Myrtle Ave., #220
Clearwater, Florida 33756-5520

March 22, 2011

Attention: Mr. Joe DeCicco

RE: Test Boring Results
Clearwater Executive Airpark Facility
Clearwater, Florida
Purchase Order No. BR 506568
Our File: DES 116719

Dear Mr. DeCicco:

Pursuant to your request and authorization, **DRIGGERS ENGINEERING SERVICES, INC.** has performed the requested test borings at the subject project. Included herein are the results of the test borings.

SUBSURFACE INVESTIGATION

STANDARD PENETRATION TEST BORINGS - To identify subsurface soil and groundwater conditions within your requested staked boring locations at the Clearwater Executive Airpark Facility five (5) Standard Penetration Test (SPT) borings were requested and conducted in general accordance with ASTM D-1586 at the locations specified in the field. The SPT borings were advanced to your requested depth of 10 to 15 feet below existing grade. Standard Penetration method of sampling and testing was utilized to provide soil samples for visual classification, plus to develop Standard Penetration resistance data reflective of the strength and bearing capability of the soils penetrated. Representative samples were returned to the laboratory for examination by the project engineer.

SUBSURFACE SOIL AND GROUNDWATER CONDITIONS

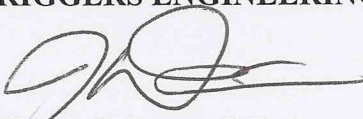
SOIL CONDITIONS - The borings predominately identified fine sands with variable content of debris to a depth of about 4 to 8 feet below existing grade. These fine sands which primarily comprise the SP and SP-SM Unified Soil Classification designation were considered very loose to medium dense in relative density. The debris encountered mainly consisted of construction debris of concrete, glass, crushed limestone and wood. Below these sands and debris, the borings encountered fine sands with variable silt content to the termination depth of the borings at 10 to 15 feet below existing grade. These fine sands which also primarily comprise the SP and SP-SM Unified Soil Classification designation were considered loose to medium dense in relative density.

Please note that the Unified Classification was estimated based on visual examination only. Laboratory classification tests that would be needed to refine the Unified Soil Classification were not requested.

At the time of this field investigation, the groundwater levels were identified at 4.0 to 5.2 feet below existing grade.

DRIGGERS ENGINEERING SERVICES, INC. appreciates this opportunity to be of service to you on this project. Should you have any questions or require further assistance, please do not hesitate to contact the undersigned at your earliest convenience.

Respectfully submitted,
DRIGGERS ENGINEERING SERVICES, INC.


Jeffrey A. Driggers, P.E.
Project Engineer
FL Registration No. 70598



JAD
JAD-RP\116719
Copies submitted: (3)

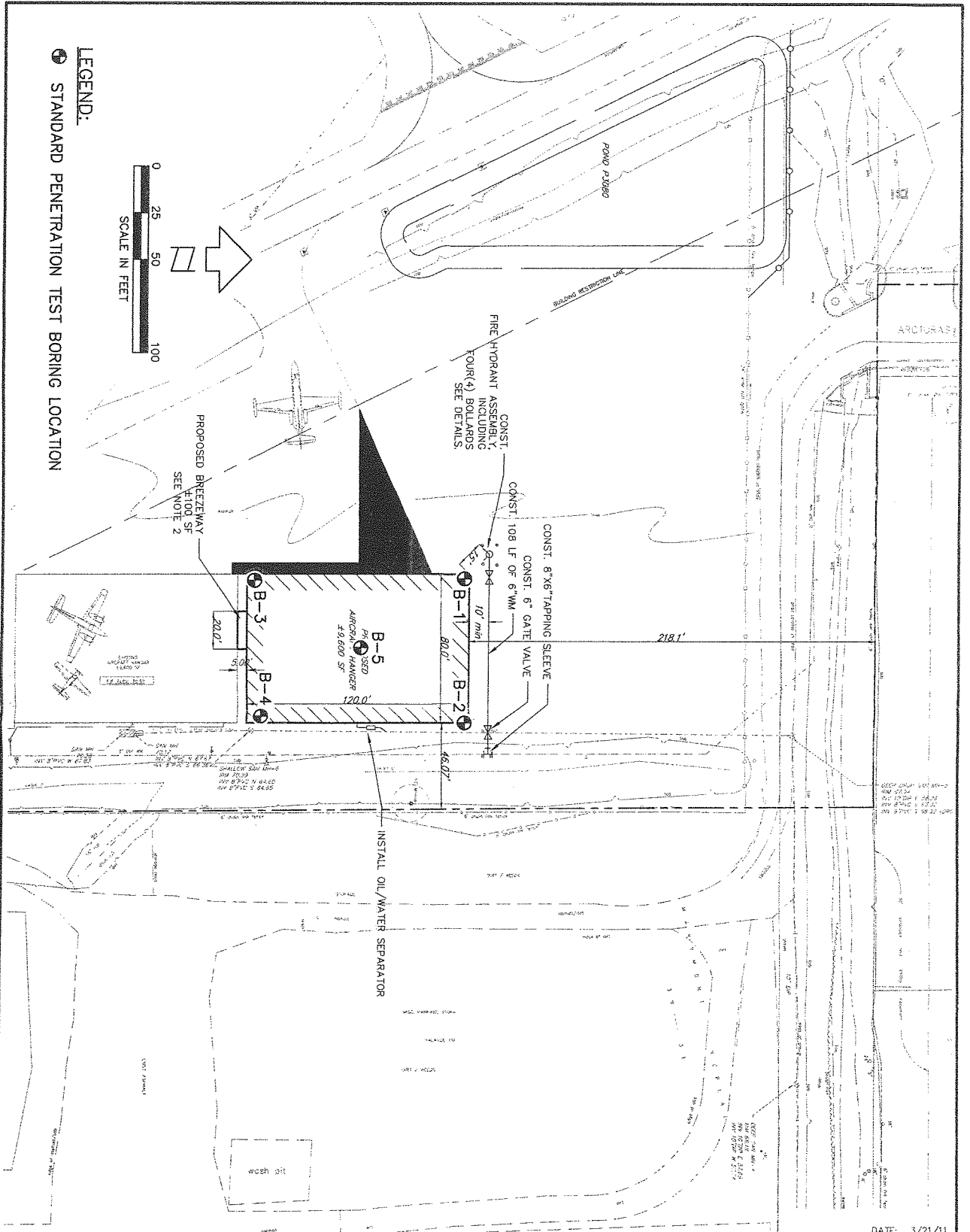
APPENDIX


PLATE I - BORING LOCATION PLAN

STANDARD PENETRATION TEST BORING LOGS

METHOD OF TESTING

PLATE I - BORING LOCATION PLAN



CAD / ENGINEER	SHEET TITLE	PROJECT NO.
R.D.B. / J.A.D.	BORING LOCATION PLAN	DES 116719
PREPARED BY	PROJECT NAME	SHEET NO.
 DRIGGERS ENGINEERING SERVICES, INCORPORATED	EXECUTIVE AIRPARK FACILITY 1100 NORTH HERCULES AVENUE CLEARWATER, FLORIDA	PLATE I

STANDARD PENETRATION TEST BORING LOGS



DRIGGERS ENGINEERING SERVICES INCORPORATED

Project No. DES 116719 **BORING NO. P-2**
 Project Executive Airpark Facility, 1100 N. Hercules Ave., Clearwater, FL
 Location See Plate I Foreman _____ M.B. _____
 Completion Depth 11.5' Date 3/16/11 Depth To Water 4.0' Time _____ Date 3/16/11

DEPTH, FT	SYMBOL	SAMPLES	SOIL DESCRIPTION	BLOWS ON SAMPLER PER 6" OR PEN. STR.	STANDARD PENETRATION TEST BLOWS/FT. ON 2" O.D. SAMPLER-140 LB. HAMMER, 30" DROP (AUTOMATIC HAMMER)				
					10	20	40	60	80
0			SURF. EL: Medium dense brown and tan Fine SAND with trace of roots (SP)	2/5/6					
			Medium dense brown Fine SAND with Limestone Gravel (SP)	7/6/4					
			Loose dark brown Fine SAND (SP)	2/3/6					
5			Loose dark grayish-brown slightly silty Fine SAND with glass fragments and wood debris (SP-SM)	4/5/8					
			Medium dense light brown and gray to light grayish-brown Fine SAND (SP) - light brown at depth 8.0'	7/10/6					
10				6/7/9					
15									
20									
25									
30									

Remarks Borehole Grouted Casing Length _____



DRIGGERS ENGINEERING SERVICES INCORPORATED

Project No. DES 116719 **BORING NO. P-3**
 Project Executive Airpark Facility, 1100 N. Hercules Ave., Clearwater, FL
 Location See Plate I Foreman M.B.
 Completion 13.5' Date 3/16/11 Depth To 4.6' Time _____ Date 3/16/11

DEPTH, FT	SYMBOL	SAMPLES	SOIL DESCRIPTION	BLOWS ON SAMPLER PER 6" OR PEN. STR.	STANDARD PENETRATION TEST BLOWS/FT. ON 2" O.D. SAMPLER-140 LB. HAMMER, 30" DROP (AUTOMATIC HAMMER)					
					10	20	40	60	80	
0			SURF. EL: Very loose tan Fine SAND with dark brown seams (SP)	1/1/6						
			Medium dense dark grayish-brown slightly silty Fine SAND with trace of rock fragments (SP-SM)	6/5/5						
5			Loose dark grayish-brown Fine SAND with some glass fragments (SP)	4/4/2						
			Loose gray and dark brown silty, clayey Fine SAND with some rock and glass fragments (SM)	2/6/4						
			Very loose dark grayish-brown slightly silty Fine SAND with rock and glass fragments (SP-SM)	1/2/4						
10			Loose grayish-brown Fine SAND with rock and glass fragments and plastic wrapper (SP)	4/4/4						
			Loose gray and light brown slightly silty Fine SAND (SP-SM)							
			Loose to medium dense light brown to light brownish-gray Fine SAND (SP)	5/10/13						
15										
20										
25										
30										

Remarks Borehole Grouted Casing Length _____



DRIGGERS ENGINEERING SERVICES INCORPORATED

Project No. DES 116719 **BORING NO. P-4**
 Project Executive Airpark Facility, 1100 N. Hercules Ave., Clearwater, FL
 Location See Plate I Foreman M.B.
 Completion Depth 11.5' Date 3/16/11 Depth To Water 5.2' Time _____ Date 3/16/11

DEPTH, FT	SYMBOL	SAMPLES	SOIL DESCRIPTION	BLOWS ON SAMPLER PER 6" OR PEN. STR.	STANDARD PENETRATION TEST BLOWS/FT. ON 2" O.D. SAMPLER-140 LB. HAMMER, 30" DROP (AUTOMATIC HAMMER)					
					10	20	40	60	80	
SURF. EL:										
0			Loose brown Fine SAND with trace of roots and trace of concrete fragments (SP)	2/7/14						
			Medium dense brown Fine SAND with rock fragments (SP)	6/5/5						
			Loose brown and reddish-brown Fine SAND with cemented sand and metal debris (SP)	3/7/10						
5			Loose brown slightly silty Fine SAND with rock fragments and paper debris (SP-SM)	6/7/8						
			Medium dense light brown Fine SAND (SP)	8/8/8						
			Medium dense gray and light brown slightly silty Fine SAND (SP-SM)	7/7/10						
10			Medium dense grayish-brown and light brown to light brownish-gray Fine SAND (SP)							
15										
20										
25										
30										

Remarks Borehole Grouted Casing Length _____



DRIGGERS ENGINEERING SERVICES INCORPORATED

Project No. DES 116719 **BORING NO. P-5**

Project Executive Airpark Facility, 1100 N. Hercules Ave., Clearwater, FL

Location See Plate I Foreman M.B.

Completion Depth 11.5' Date 3/16/11 Depth To Water 4.7' Time _____ Date 3/16/11

DEPTH, FT	SYMBOL	SAMPLES	SOIL DESCRIPTION	BLOWS ON SAMPLER PER 6" OR PEN. STR.	STANDARD PENETRATION TEST BLOWS/FT. ON 2" O.D. SAMPLER-140 LB. HAMMER, 30" DROP (AUTOMATIC HAMMER)				
					10	20	40	60	80
0			SURF. EL: Very loose brown Fine SAND with pockets of light gray CLAY (SP/CH)	WH/1/3					
			Very loose dark grayish-brown silty Fine SAND with glass fragments and plastic debris (SM)	WH/WH/1					
5			Very loose brown slightly silty Fine SAND with glass fragments (SP-SM)	2/1/2					
			Loose brown Fine SAND with glass fragments and wood debris (SP)	4/6/7					
			Medium dense light brown and grayish-brown to light brown Fine SAND (SP)	6/6/8					
10				5/7/8					
15									
20									
25									
30									

Remarks Borehole Grouted
WH = Weight of Hammer Casing Length _____

METHOD OF TESTING

STANDARD PENETRATION TEST WITH AUTOMATIC HAMMER AND SOIL CLASSIFICATION

STANDARD PENETRATION TEST (ASTM D-1586)

In the Standard Penetration Test borings, a rotary drilling rig is used to advance the borehole to the desired test depth. A viscous drilling fluid is circulated through the drill rods and bit to stabilize the borehole and to assist in removal of soil and rock cuttings up and out of the borehole.

Upon reaching the desired test depth, the 2 inch O.D. split-barrel sampler or "split-spoon", as it is sometimes called, is attached to an N-size drill rod and lowered to the bottom of the borehole. A 140 pound automatic hammer, attached to the drill string at the ground surface, is then used to drive the sampler into the formation. The hammer is successively raised and dropped for a distance of 30 inches using an automated lifting mechanism. The number of blows is recorded for each 6 inch interval of penetration or until virtual refusal is achieved. In the above manner, the samples are ideally advanced a total of 18 inches. The sum of the blows required to effect the final 12 inches of penetration is called the blowcount, penetration resistance or "N" value of the particular material at the sample depth.

After penetration, the rods and sampler are retracted to the ground surface where the core sample is removed, sealed in a glass jar and transported to the laboratory for verification of field classification and storage.

SOIL SYMBOLS AND CLASSIFICATION

Soil and rock samples secured in the field sampling operation were visually classified as to texture, color and consistency. Soil classifications are presented descriptively and symbolically for ease of interpretation. The stratum identification lines represent the approximate boundary between soil types. In many cases, this transition may be gradual.

Consistency of the soil as to relative density or undrained shear strength, unless otherwise noted, is based upon Standard Penetration resistance values of "N" values and industry-accepted standards. "N" values, or blowcounts, are presented in both tabular and graphical form on each respective boring log at each sample interval. The graphical plot of blowcount versus depth is for illustration purposes only and does not warrant continuity in soil consistency or linear variation between sample intervals.

The borings represent subsurface conditions at respective boring locations and sample intervals only. Variations in subsurface conditions may occur between boring locations. Groundwater depths shown represent water depths at the dates and time shown only. The absence of water table information does not necessarily imply that groundwater was not encountered.

