



Infiltration Testing Report

**Lakewood Elementary Infiltration Testing
Myrtle Beach, Horry County, South Carolina**

January 12, 2021

Terracon Project No. ER205098

Prepared for:

Mead & Hunt
Myrtle Beach, SC

Prepared by:

Terracon Consultants, Inc.
Myrtle Beach, SC



January 12, 2021

Mead & Hunt
333 Wellness Drive
Myrtle Beach, SC 29579



Attn: Mr. Jeffrey Miller
E: jeff.miller@meadhunt.com

Re: Infiltration Testing Report – Revision 1
Lakewood Elementary Infiltration Testing
Myrtle Beach, Horry County, South Carolina
Terracon Project No. ER205098

Dear Mr. Miller:

We have completed the Infiltration Testing services for the above referenced project. This study was performed in general accordance with Terracon Proposal No. PER205098 dated December 29, 2020. The site location and scope of work was provided by Jeff Miller with Mead & Hunt via email on December 23, 2020 and January 6, 2021. The field exploration included the evaluation of one location for infiltration rate and seasonal high groundwater measurements and was performed on January 11, 2021. The testing log and exploration plan are attached as an appendix to this report.

A Hand Auger Boring (HAB) was performed to a depth of approximately 6 feet below the existing ground surface. The seasonal high groundwater level is estimated through visual observations of mottling (contrasting color pattern) and color change (gleying) in the soils encountered from the HAB. Adjacent to the applicable HAB, infiltration testing was performed at a depth of approximately 1 foot below the existing ground surface to determine the infiltration rate.

Based on the results of the field exploration, subsurface conditions at the test location can be generalized as follows:

Description	Approximate Depth to Bottom of Stratum	Material Encountered ¹
Stratum 1	6 inches	Topsoil
Stratum 2	6 feet ²	Sand with silt (SP-SM)

1. Based on published correlations with HABs.
2. Termination of deepest boring.

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Groundwater was encountered at approximately 4 feet below the existing ground surface at the time of testing. Evidence of the seasonal high water table (SHWT) was not found during our exploration at the testing location.

The Infiltration rate was evaluated utilizing the double-ring infiltration method (ASTM D3385). The results of our infiltration testing for the in situ soils are summarized in the following table.

Infiltration Test Results

Test Location	Depth of Infiltration Test (in)	Groundwater Depth at Time of Boring (in)	Seasonal High Groundwater Reading (in)	Infiltration Rate K_H (in/hr)
INF-01	12	48	N/E ¹	48

1. N/E – Not Encountered

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

Sincerely,
Terracon Consultants, Inc.

Wendy H. Parsons, PE
Senior Engineer

Dylan Tanner
Field Engineer

- Attachments: Exploration and Testing Procedures
Site Location and Exploration Plan
Exploration Results
Supporting Information

ATTACHMENTS

EXPLORATION AND TESTING PROCEDURES

Field Exploration

Type of Test	Number of Borings	Depth (feet)	Planned Location
Infiltration Test (INF)	1	1 foot	See Exploration Plan
Hand Auger Boring (HAB)	1	6 feet	See Exploration Plan

Boring Layout and Elevations: Unless otherwise noted, Terracon personnel provided the boring layout. The test locations were located in the field by Terracon personnel utilizing a commercially available handheld Global Position System (GPS) unit which are typically considered accurate to within ± 20 feet. The locations should be considered accurate only to the degree implied by the means and methods used to define them. If elevations and a more precise boring layout are desired, we recommend borings be surveyed following completion of fieldwork.

The field exploration was performed on January 11th, 2021.

Subsurface Exploration Procedures:

Hand Auger Borings

Hand auger borings were conducted in general accordance with ASTM D 1452-80, Standard Practice for Soil Investigation and Sampling by Auger Borings. In this test, hand auger borings are drilled by rotating and advancing a bucket auger to the desired depths while periodically removing the auger from the hole to clear and examine the auger cuttings. The soils were classified in accordance with ASTM D 2488.

Double-Ring Infiltration Test

Double-ring percolation tests were conducted in general accordance with ASTM D3385, Standard Test Method for Infiltration rate of Soils in Field Using Double-Ring Infiltrimeter. In this test, two open cylinders (infiltrimeter rings) are driven into the ground, one inside the other, partially filling the rings with water. A constant head within the inner ring is kept, recording the volume of liquid that is added within the outer ring as well as the annular space within each timing interval.

SITE LOCATION AND EXPLORATION PLANS

Contents:

Site Location Plan

Exploration Plan

Note: All attachments are one page unless noted above.

SITE LOCATION

Lakewood Elementary Infiltration Testing ■ Myrtle Beach, Horry County, South Carolina
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EXPLORATION PLAN

Lakewood Elementary Infiltration Testing ■ Myrtle Beach, Horry County, South Carolina
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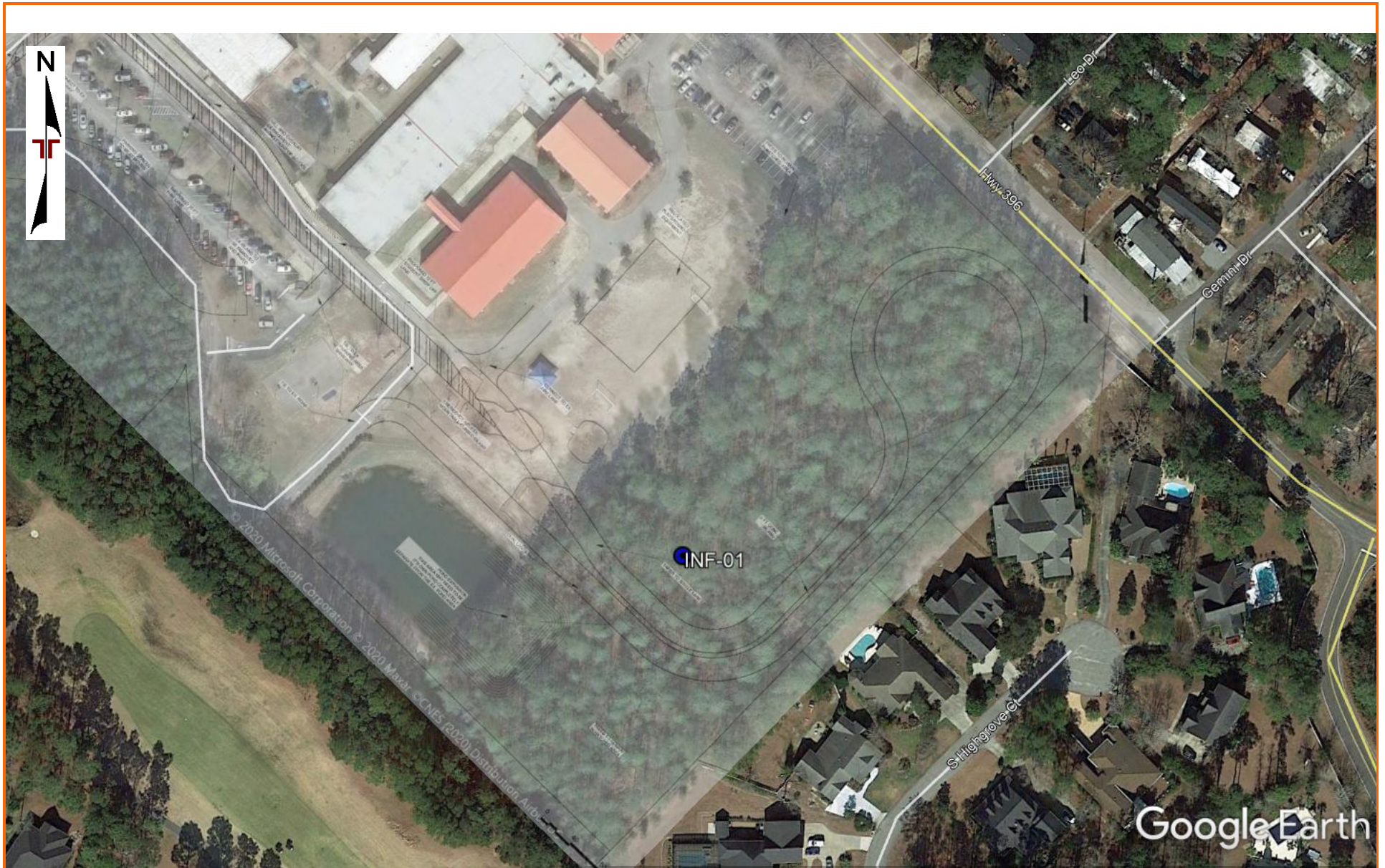


DIAGRAM IS FOR GENERAL LOCATION ONLY, AND IS NOT INTENDED FOR CONSTRUCTION PURPOSES

MAP PROVIDED BY MICROSOFT BING MAPS

EXPLORATION RESULTS

Contents:

Hand Auger Boring Log

Note: All attachments are one page unless noted above.

BORING LOG NO. HAB at INF-01

PROJECT: Lakewood Elementary Infiltration Testing

CLIENT: Mead & Hunt, Inc.
Myrtle Beach, SC

SITE: 1675 Hwy 396
Myrtle Beach, SC

GRAPHIC LOG	LOCATION See Exploration Plan	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE
DEPTH				
0.5	TOPSOIL			
6.0	POORLY GRADED SAND WITH SILT (SP-SM) , gray and brown	1 2 3 4 5 6	▽	
Boring Terminated at 6 Feet				

Stratification lines are approximate. In-situ, the transition may be gradual.

Advancement Method:
Manual Hand Auger

Abandonment Method:
Boring backfilled with auger cuttings upon completion.

WATER LEVEL OBSERVATIONS

▽ Groundwater encountered at approximately 4 feet at time of testing



1246 Howard Ave
Myrtle Beach, SC

Notes:

Boring Started: 01-11-2021	Boring Completed: 01-11-2021
Drill Rig:	Driller:
Project No.: ER205098	

THIS BORING LOG IS NOT VALID IF SEPARATED FROM ORIGINAL REPORT. GEO SMART LOG-NO WELL. ER205098 LAKEWOOD ELEMENTA.GPJ TERRACON.DATATEMPLATE.GDT 1/11/21

SUPPORTING INFORMATION

Contents:

Unified Soil Classification System

Note: All attachments are one page unless noted above.

Criteria for Assigning Group Symbols and Group Names Using Laboratory Tests ^A				Soil Classification						
				Group Symbol	Group Name ^B					
Coarse-Grained Soils: More than 50% retained on No. 200 sieve	Gravels: More than 50% of coarse fraction retained on No. 4 sieve	Clean Gravels: Less than 5% fines ^C	Cu ³ 4 and 1 £ Cc £ 3 ^E	GW	Well-graded gravel ^F					
			Cu < 4 and/or [Cc<1 or Cc>3.0] ^E	GP	Poorly graded gravel ^F					
		Gravels with Fines: More than 12% fines ^C	Fines classify as ML or MH	GM	Silty gravel ^{F, G, H}					
			Fines classify as CL or CH	GC	Clayey gravel ^{F, G, H}					
	Sands: 50% or more of coarse fraction passes No. 4 sieve	Clean Sands: Less than 5% fines ^D	Cu ³ 6 and 1 £ Cc £ 3 ^E	SW	Well-graded sand ^I					
			Cu < 6 and/or [Cc<1 or Cc>3.0] ^E	SP	Poorly graded sand ^I					
		Sands with Fines: More than 12% fines ^D	Fines classify as ML or MH	SM	Silty sand ^{G, H, I}					
			Fines classify as CL or CH	SC	Clayey sand ^{G, H, I}					
Fine-Grained Soils: 50% or more passes the No. 200 sieve	Silts and Clays: Liquid limit less than 50	Inorganic:	PI > 7 and plots on or above "A" line	CL	Lean clay ^{K, L, M}					
			PI < 4 or plots below "A" line ^J	ML	Silt ^{K, L, M}					
		Organic:	Liquid limit - oven dried	< 0.75	OL	Organic clay ^{K, L, M, N}				
			Liquid limit - not dried			Organic silt ^{K, L, M, O}				
	Silts and Clays: Liquid limit 50 or more	Inorganic:	PI plots on or above "A" line	CH	Fat clay ^{K, L, M}					
			PI plots below "A" line	MH	Elastic Silt ^{K, L, M}					
		Organic:	Liquid limit - oven dried	< 0.75	OH	Organic clay ^{K, L, M, P}				
			Liquid limit - not dried			Organic silt ^{K, L, M, Q}				
			Highly organic soils:			Primarily organic matter, dark in color, and organic odor		PT	Peat	

^A Based on the material passing the 3-inch (75-mm) sieve.

^B If field sample contained cobbles or boulders, or both, add "with cobbles or boulders, or both" to group name.

^C Gravels with 5 to 12% fines require dual symbols: GW-GM well-graded gravel with silt, GW-GC well-graded gravel with clay, GP-GM poorly graded gravel with silt, GP-GC poorly graded gravel with clay.

^D Sands with 5 to 12% fines require dual symbols: SW-SM well-graded sand with silt, SW-SC well-graded sand with clay, SP-SM poorly graded sand with silt, SP-SC poorly graded sand with clay.

$$E \text{ Cu} = D_{60}/D_{10} \quad Cc = \frac{(D_{30})^2}{D_{10} \times D_{60}}$$

^F If soil contains ³ 15% sand, add "with sand" to group name.

^G If fines classify as CL-ML, use dual symbol GC-GM, or SC-SM.

^H If fines are organic, add "with organic fines" to group name.

^I If soil contains ³ 15% gravel, add "with gravel" to group name.

^J If Atterberg limits plot in shaded area, soil is a CL-ML, silty clay.

^K If soil contains 15 to 29% plus No. 200, add "with sand" or "with gravel," whichever is predominant.

^L If soil contains ³ 30% plus No. 200 predominantly sand, add "sandy" to group name.

^M If soil contains ³ 30% plus No. 200, predominantly gravel, add "gravelly" to group name.

^N PI ³ 4 and plots on or above "A" line.

^O PI < 4 or plots below "A" line.

^P PI plots on or above "A" line.

^Q PI plots below "A" line.

