

Green Recycling Solutions LLC

**Application for Permit to Operate
Maysville C&D Recycling & Recovery
Facility - PTC# 5202-TP-2012**
Maysville, North Carolina

October 2014

ERM NC, Inc.

15720 Brixham Hill Avenue
Suite 120
Charlotte, NC 28277
(704) 541-8345
(704) 541-8416 (fax)

October 8, 2014

NCDENR – Division of Waste Management
1646 Mail Service Center
Raleigh, North Carolina 27699-1646



Attention: Mr. Geof Little

Reference: Application for Permit to Operate
Engineer's Certification Letter - PERMIT NO. 5202-TP-2012
Green Recycling Solutions LLC – C&D Recycling / Recovery Facility -
Maysville, Jones County, North Carolina

Mr. Little:

In accordance with NCDENR Division of Waste Management Permit to Construct No. 5202-TP-2012, ERM NC, Inc. (ERM) is submitting this certification on behalf of Green Recycling Solutions LLC in order to receive a Permit to Operate. In accordance with Attachment 2, Item 7(b) of the Permit to Construct, "Certification by the project engineer that the facility was built in accordance with approved plans and the conditions of the permit must be submitted to the Section for review and approval". This letter and attachments serve to provide this required certification along with photo documentation in Appendix A.

Site Preparation

Site preparation along with installation of approved erosion and sedimentation control measures was provided by Morton Trucking, Inc. in accordance with the approved plans prepared by Parker & Associates, Inc. approved by Division of Land Quality on July 18, 2012. Site preparation also included clearing & grubbing, proofrolling of areas to receive structural fill or concrete, foundation subgrade preparation and pavement subgrade preparation. ECS Carolinas, LLP provided third party Construction Quality Assurance (CQA) testing for subgrade and structural fill placement included in Appendix B.

Facility Structures

Construction of the facility structures including the scales, scale house and recycling/recovery building was performed by Quadrant Construction, Inc. (Quadrant) of Jacksonville, North Carolina. Third party CQA testing for foundations, prepared subgrade and concrete poured for slabs and foundations was provided by ECS Carolinas, LLP. Results of third party CQA testing are included in Appendix B.

Mr. Geof Little
October 8, 2014
Page 2

The facility structures have been constructed in general accordance with the plans prepared by Stillwater Engineering Incorporated in Hampstead, North Carolina previously submitted with the Application for Permit to Construct (ERM July 2012).

Recycling/Recovery Equipment

Recycling/Recovery equipment was supplied and installed in general accordance with the plans included in the Application for Permit to Construct. Equipment was supplied and installed by MetalTech Systems, Inc. in Pawleys Island, South Carolina. The system equipment will endure a "start-up" or "shakedown" phase over the initial weeks of operation for the purpose of executing any needed final adjustments.

Financial Assurance

Financial Assurance for facility closure will be submitted under separate cover by Green Recycling Solutions LLC. As discussed previously with Mr. Geof Little (DWM) and Mr. James Maides (Green Recycling Solutions LLC), the financial assurance amount will be based on the first initial months of operation estimated at 2,000 tons of waste received per month. Using a closure unit cost of \$150.00 per ton of waste received, the financial assurance amount for initial operations will be set at \$300,000.00. Financial assurance may be adjusted following completion and subsequent operation of the Green Recycling Solutions C&D Landfill located adjacent to the Recycling/Recovery facility.

Facility Boundary Markers

Facility boundary markers have been placed at boundary corners by installing driven rebar to support 2-inch diameter PVC pipe filled with sand. Markers will be maintained as needed to clearly define the facility boundary.

Disposal of Non-Recyclable Waste & Unacceptable Waste

The Application for Permit to Construct listed Sampson County Disposal, Inc. as a proposed disposal site for non-recyclable waste or unacceptable waste received at the Green Recycling Solutions facility. The Tuscarora Regional Landfill (Permit 25-09) located at 7400 Old Hwy 70 West, New Bern, North Carolina is also proposed to receive these waste types.

ENGINEER'S CERTIFICATION

The professional seal of David W. Wasiela, P.E. is affixed to this letter to certify that the construction of Green Recycling Solutions LLC, C&D Recycling & Recovery Facility has been completed in general accordance with the approved Plans, Technical Specifications and information contained in the Application for Permit to Operate prepared by ERM

Mr. Geof Little
October 8, 2014
Page 3

dated July 2012 and in accordance with the conditions and requirements of the Permit to Construct 5202-TP-2012 issued by Division of Waste Management dated February 25, 2013.

If you should have any questions or require additional information concerning this submittal, please contact me at (704) 541-8345.

Sincerely,

ERM NC, Inc.


David W. Wasiela, P.E.
Project Engineer
N.C. Registration No. 20770 *10-8-14*



Thomas M. Wilson, P.G.
Principal

Attch: Appendix A - Photo Documentation
Appendix B - Third party CQA Testing Results

Appendix A

Photo Documentation



Previously Constructed Access Road - April 2014



Prepared Facility Area - April 2014



Initial Concrete Slab for Recycling Building - May 2014



Steel Erected - July 2014



Scale Foundations - July 2014



Scale House - July 2014



Project Site - July 2014



First Equipment Install - July 31, 2014



Full A-Line Equipment Installed - September 2014



Full B-Line Equipment Installed - September 2014



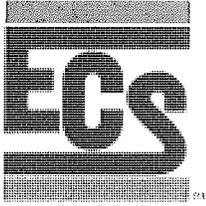
Recycling/Recovery Building - September 2014



Scales installed - September 2014

Appendix B

Third Party CQA Testing Results

**ECS Carolinas, LLP**

6714 Netherlands Drive
 Wilmington, NC 28405
 (910) 686-9114 [Phone]
 (910) 686-9666 [Fax]
 NC Registered Engineering Firm # F-1078

LETTER OF TRANSMITTAL

May 5, 2014

Quadrant Construction, Inc.
 166 Center Sreet
 Jacksonville, NC 28546

ATTN: Mr. Steven Kellum

RE: **C & D Landfill**ECS Job # **22:20747**

Permits:

Location: **Hwy 17**
Maysville, NC

We are enclosing:

- Materials Engineering Division Reports
 For your use
 As requested

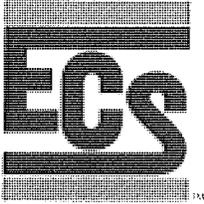
ENCL:

Field Report # 1 05/01/2014



Winslow E. Goins, P.E. **MAY 2 2014**
 Geotechnical Department Manager

Harry Slater, Jr.
 Project Manager

**ECS Carolinas, LLP**

6714 Netherlands Drive
 Wilmington, NC 28405
 (910) 686-9114 [Phone]
 (910) 686-9666 [Fax]

FIELD REPORT

Project **C & D Landfill**
 Location **Maysville, NC**
 Client **Quadrant Construction, Inc. - Steven Kellum**
 Contractor **Quadrant Construction, Inc. - Steven Kellum**

Project No. **22:20747**
 Report No. **1**
 Day & Date **Thursday 05/01/2014**
 Weather **60°/ Sunny**
 On-Site Time **5.75**
 Lab Time **0.50**
 Travel Time* **1.50**
 Total **7.75**
 Re Obs. Time **0.00**

Remarks

Trip Charges*	Tolls/Parking*	Mileage*	74	Time of Arrival	Departure
Chargeable Items				09:15A	03:00P

* Travel time and mileage will be billed in accordance with the contract.

Summary of Services Performed (field test data, locations, elevations & depths are estimates) & Individuals Contacted.

The undersigned arrived on site, as requested, to perform hand auger borings with Dynamic Cone Penetrometer testing to check the bearing capacity of the underlying foundation soils for C and D Landfill. Please see the attached sketch for the approximate DCP test locations.

Utilizing the DCP test equipment (ASTM STP-399) to check the bearing capacity of the soils, test results indicate that the material, at the areas and depths tested, should be capable of supporting a foundation designed for a net allowable bearing capacity of 2,000 psf, except at test locations 1, 4, 5 and 8.

The subgrade in the area of test locations 1, 4, 5 and 8 should be undercut by 4 feet below the bottom of the footing subgrade. The undercut areas should be backfilled with clean stone. The stone should be placed in 12 inch loose lifts and repeatedly tamped with the backhoe bucket to set the stone in the bottom and sidewalls of excavation. The depth and lateral extent should be determined in the field during undercutting operation. The project superintendent was notified of the test results. We recommend that ECS observe the repairs and test fill placed for undercut.

By Jason M. Morgan

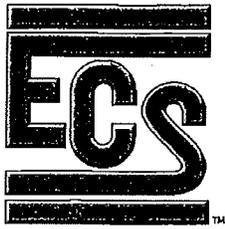
1700

1023914

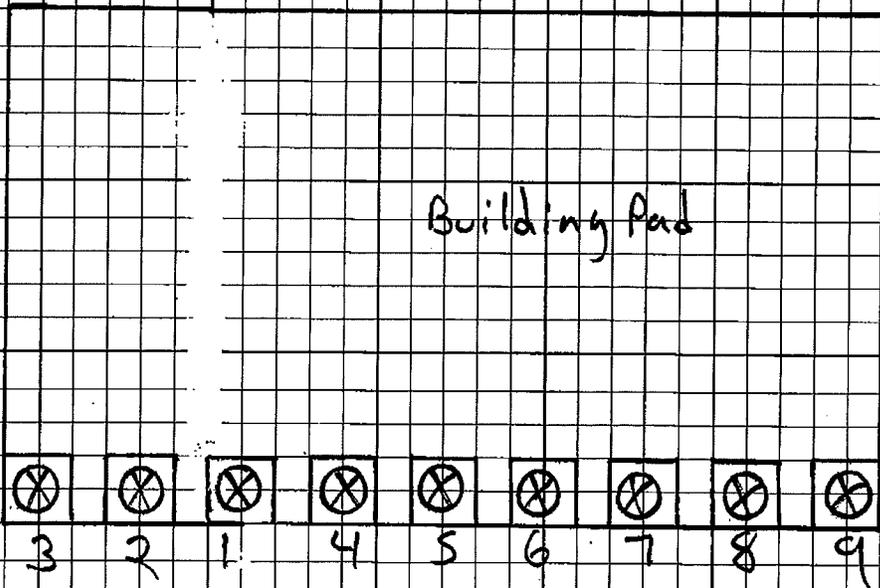
From:

05/01/2014 16:29

#457 P.001



PROJECT: C and D Landfill		SHEET NO:
TITLE: DCP test locations		PROJ. NO: 20747
BY: Jmm	DATE: 5-1-14	SCALE: NTS
APPROVED:	DATE:	



⊗ = DCP'S

- Entrance



May 17



7211 Golden Business Park, Suite 201
 Wilmington, NC 28411
 (910) 686-9114 Phone
 (910) 686-9666 Fax

DYNAMIC CONE PENETROMETER TEST REPORT

Test Location	Water Table Depth	Test Depth	Footing Dimensions	Penetrometer Blow Counts			Average	Remarks/Soil Descriptions
				1 3/4"	1 3/4"	1 3/4"		
4	N/E	OFF		17	t20	t20	t20	grey screenings
↓	↓	1		16	17	t20	18 1/2	↓
↓	H2O	2		2	2	3	2 1/2	Dark Fat silty clay
↓	↓	3		2	3	3	3	↓
↓	↓	4		2	5	8	6 1/2	↓
↓	↓	5		6	8	9	8 1/2	↓
5	N/E	OFF		6	17	t20	18 1/2	grey screenings
↓	↓	1		10	12	19	15 1/2	↓
↓	H2O	2		2	3	4	3 1/2	Dark Fat silty clay
↓	↓	3		5	7	8	7 1/2	↓
↓	↓	4		7	9	10	9 1/2	↓
↓	↓	5		6	9	12	10 1/2	↓
6	N/E	OFF		16	t20	t20	t20	grey screenings
↓	↓	1		11	15	t20	17 1/2	↓
↓	↓	2		5	6	6	6	grey Fat silty clay
↓	↓	3		4	7	8	7 1/2	↓
↓	↓	4		6	8	9	8 1/2	↓
↓	↓	5		7	7	9	8	↓

Project: C and D Landfill
 Project #: 2014
 Technician: Jank
 Date: 5-1-14

Fill or Native Material: Native
 Weather/Temperature: 60° Sunny
 Elevation Provided By:
 Bearing Pressure Provided By: Plans

Average Criteria: 6 blows for 2000 psf
 Design Bearing For Column: 2000 psf
 Design Bearing For Wall: psf
 Design Bearing For Other: psf



7211 Ogden Business Park, Suite 201
 Wilmington, NC 28411
 (910) 686-9114 Phone
 (910) 686-9666 Fax

DYNAMIC CONE PENETROMETER TEST REPORT

Test Location	Water Table Depth	Test Depth	Footing Dimensions	Penetrometer Blow Counts			Average	Remarks/Soil Descriptions
				1 3/4"	1 3/4"	1 3/4"		
1	N/E	OFF.		9	t20	t20	t20	grey screenings
	↓	1		10	18	t20	19	↓
	H2O	2		2	3	5	4	Dark Fat Silty Clay
	↓	3		2	3	3	3	
	↓	4		5	7	8	7 1/2	
	↓	5		6	7	10	8 1/2	
2	N/E	OFF		12	15	t20	17 1/2	grey screenings
	↓	1		16	10	17	13 1/2	↓
	H2O	2		4	6	7	6 1/2	grey Fat Silty Clay
	↓	3		6	7	9	8	
	↓	4		7	9	10	9 1/2	
	↓	5		6	8	9	8 1/2	
3	N/E	OFF		9	t20	t20	t20	grey screenings
	↓	1		12	16	t20	18	↓
	↓	2		5	6	6	6	grey Fat Silty Clay
	↓	3		6	8	9	8 1/2	
	↓	4		6	8	8	8	
	↓	5		7	8	9	8 1/2	

Project: C and O Landfill
 Project #: 20747
 Technician: Jmm
 Date: 5-1-14

Fill or Native Material: Native
 Weather/Temperature: 60° Sunny
 Elevation Provided By:
 Bearing Pressure Provided By: Plans

Average Criteria: 6 blows for 1000psf
 Design Bearing For Column: 2000 psf
 Design Bearing For Wall: psf
 Design Bearing For Other: psf



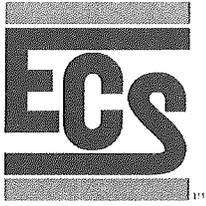
7211 Golden Business Park, Suite 201
 Wilmington, NC 28411
 (910) 686-9114 Phone
 (910) 686-9666 Fax

DYNAMIC CONE PENETROMETER TEST REPORT

Test Location	Water Table Depth	Test Depth	Footing Dimensions	Penetrometer Blow Counts				Average	Remarks/Soil Descriptions
				1 3/4"	1 3/4"	1 3/4"	1 3/4"		
7	N/E	OFF		7	12	t20	t20	16	grey screenings ↓
		1		7	19	t20	t20	19 1/2	
		2		5	7	7	7	8	
		3		6	8	8	8	8	grey Fat silty Clay ↓
		4		6	7	9	9	8	
		5		6	7	9	9	8	
8	N/E	OFF		6	18	t20	t20	19	grey screenings ↓
		1		7	t20	t20	t20	t20	
	H2O	2		2	3	3	3	3 1/2	
		3		2	2	3	3	2 1/2	
		4		5	6	8	8	7	
		5		6	7	9	9	8	Dark Fat silty Clay ↓
9	N/E	OFF		8	15	t20	t20	17 1/2	grey screenings ↓
		1		16	t20	t20	t20	t20	
	H2O	2		5	6	7	7	6 1/2	
		3		6	8	9	9	8 1/2	
		4		7	7	10	10	8 1/2	
		5		6	8	10	10	9	grey Fat silty clay ↓

Project: C and D Landfill
 Project #: 20147
 Technician: JMM
 Date: 5-1-14
 Fill or Native Material: Native
 Weather/Temperature: 60° Sunny
 Elevation Provided By: Plans
 Bearing Pressure Provided By: Plans

Average Criteria: 6 blows for 2000psf
 Design Bearing For Column: 2000 psf
 Design Bearing For Wall: psf
 Design Bearing For Other: psf

**ECS Carolinas, LLP**

6714 Netherlands Drive
 Wilmington, NC 28405
 (910) 686-9114 [Phone]
 (910) 686-9666 [Fax]
 NC Registered Engineering Firm # F-1078

LETTER OF TRANSMITTAL

May 5, 2014

Quadrant Construction, Inc.
 166 Center Sreet
 Jacksonville, NC 28546

ATTN: Mr. Steven Kellum

RE: **C & D Landfill**

ECS Job # **22:20747**

Permits:

Location: **Hwy 17**
Maysville, NC

We are enclosing:

- Materials Engineering Division Reports
- For your use
- As requested

ENCL:

As requested, ECS Carolinas, LLP (ECS) has performed the laboratory testing on the processed fill material (S-1) picked up from the above referenced project site in Maysville, North Carolina.

The sample was tested in accordance with test procedures ASTM D-698 entitled "Laboratory Compaction Characteristics of Soil Using Standard Effort". The Proctor curve for the sample is attached.

Kris J. Stamm
 Branch Manager/Principal

Harry Slater, Jr.
 Project Manager

COMPACTION TEST REPORT

Curve No.: S-1

Project No.: 20747

Date: 5/2/14

Project: C & D Landfill

Client: Quadrant Construction Inc.

Source of Sample: Processed Fill **Depth:** 0.00-0.00

Sample Number: S-1

Remarks:

MATERIAL DESCRIPTION

Description: Light Gray, Fine to Coarse Sand, with Silt

Classifications -

USCS:

AASHTO:

Nat. Moist. =

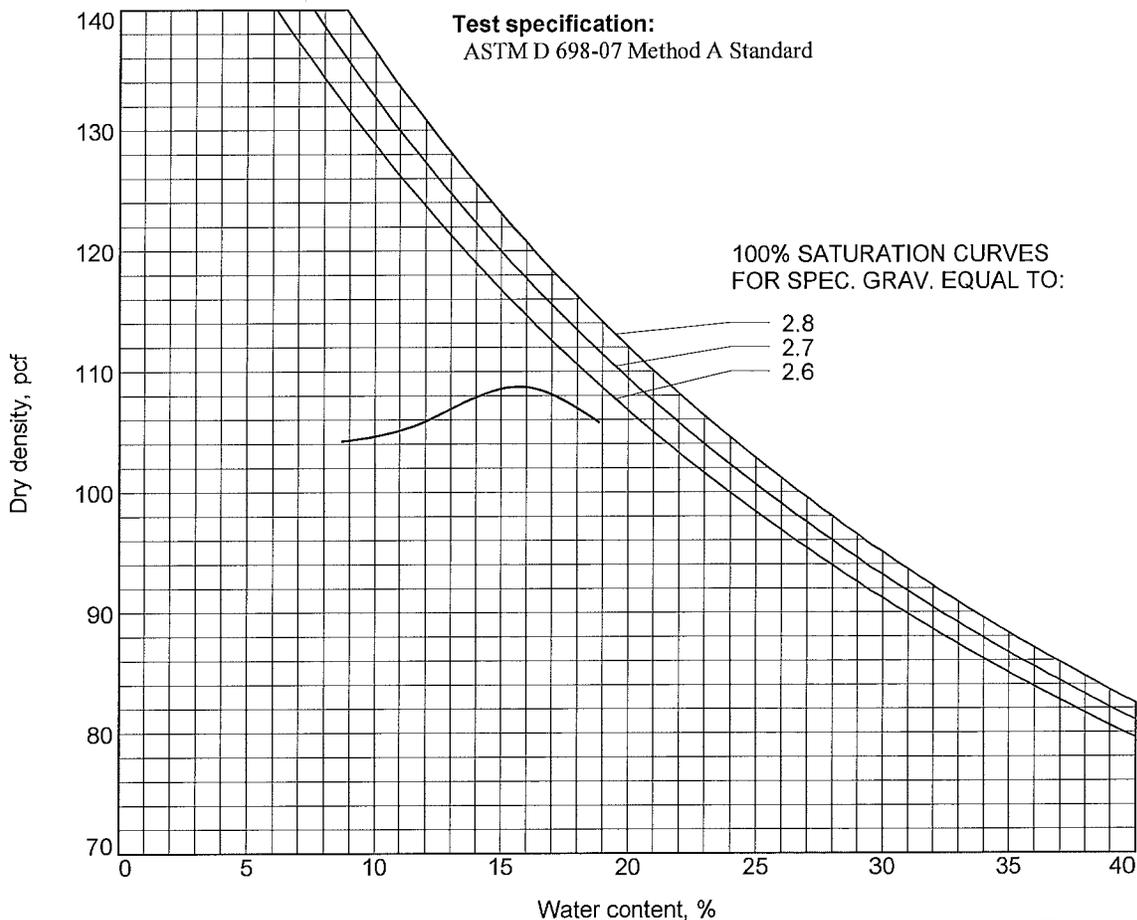
Sp.G. = 2.60

Liquid Limit =

Plasticity Index =

% < No.200 =

TEST RESULTS
Maximum dry density = 108.7 pcf
Optimum moisture = 15.7 %

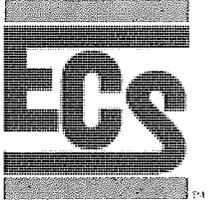


ECS Carolinas, LLP

Figure

Tested By: EG

Checked By: KEL



ECS Carolinas, LLP
6714 Netherlands Drive
Wilmington, NC 28405
(910) 686-9114 [Phone]
(910) 686-9666 [Fax]
NC Registered Engineering Firm # F-1078

LETTER OF TRANSMITTAL

May 12, 2014
Quadrant Construction, Inc.
166 Center Sreet
Jacksonville, NC 28546

ATTN: Mr. Steven Kellum

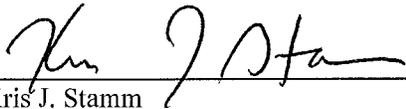
RE: **C & D Landfill**
ECS Job # **22:20747**

Permits:
Location: **Hwy 17**
Maysville, NC

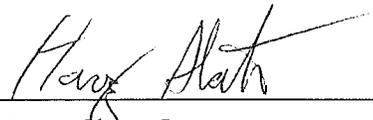
- We are enclosing:
- Materials Engineering Division Reports
 - For your use
 - As requested

CC: Quadrant Construction, Inc. - Brad Hartsfield

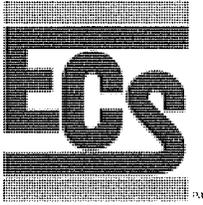
ENCL:
Field Report # 2 05/05/2014



Kris J. Stamm
Branch Manager/Principal



Harry Slater, Jr.
Project Manager

**ECS Carolinas, LLP**

6714 Netherlands Drive
 Wilmington, NC 28405
 (910) 686-9114 [Phone]
 (910) 686-9666 [Fax]

FIELD REPORT

Project **C & D Landfill**
 Location **Maysville, NC**
 Client **Quadrant Construction, Inc. - Steven Kellum**
 Contractor **Quadrant Construction, Inc. - Steven Kellum**

Project No. **22:20747**
 Report No. **2**
 Day & Date **Monday 05/05/2014**
 Weather **85°/ Sunny**
 On-Site Time **8.75**
 Lab Time **0.50**
 Travel Time* **1.17**
 Total **10.42**
 Re Obs.Time **0.00**

Remarks

Trip Charges*	Tolls/Parking*	Mileage*	50	Time of Arrival	Departure
Chargeable Items				08:00A	04:45P

* Travel time and mileage will be billed in accordance with the contract.

Summary of Services Performed (field test data, locations, elevations & depths are estimates) & Individuals Contacted.

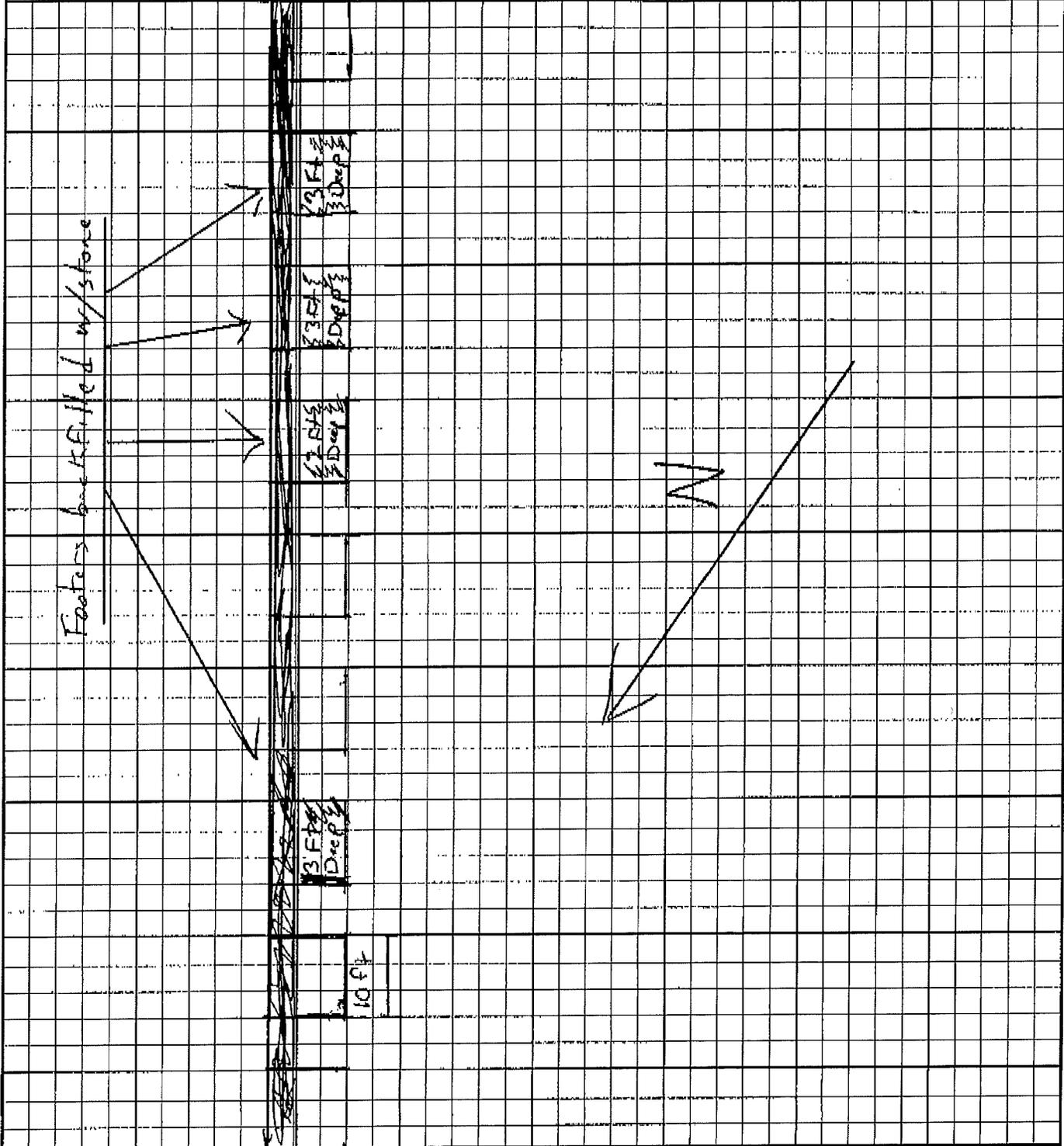
The undersigned arrived on site, as requested, to observe the removal of unsuitable material from the footings and replace with lifts of washed stone. Please see the attached sketch for the approximate locations.

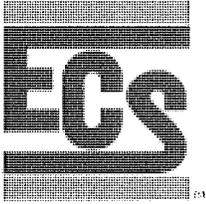
The footings were excavated to a depth recommended by ECS. The excavator operator on site refused to tamp the washed stone with the excavator bucket, as recommended by ECS. The footings were filled to the bottom of the designed footing.

Approximately 41 cubic yards of material was removed from the footings on this date.



PROJECT: 4D Landfill		SHEET NO:
TITLE: Backfill of Pier Footers		PROJ. NO: 20747
BY: Jordy P.		SCALE: NTS
DATE: 5/4/14	APPROVED:	DATE:





ECS Carolinas, LLP

6714 Netherlands Drive
Wilmington, NC 28405
(910) 686-9114 [Phone]
(910) 686-9666 [Fax]
NC Registered Engineering Firm # F-1078

LETTER OF TRANSMITTAL

May 16, 2014

Quadrant Construction, Inc.
166 Center Sreet
Jacksonville, NC 28546

ATTN: Mr. Steven Kellum

RE: **C & D Landfill**

ECS Job # **22:20747**

Permits:

Location: **Hwy 17**
Maysville, NC

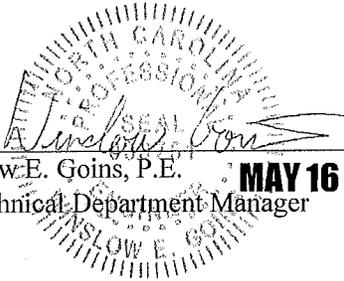
We are enclosing:

- Materials Engineering Division Reports
- For your use
- As requested

CC: **Quadrant Construction, Inc. - Brad Hartsfield**

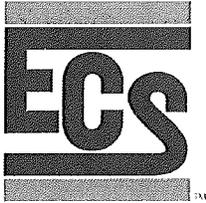
ENCL:

Field Report # 3 05/12/2014



Winslow E. Goins, P.E. **MAY 16 2014**
Geotechnical Department Manager

Harry Slater, Jr.
Project Manager

**ECS Carolinas, LLP**

6714 Netherlands Drive
 Wilmington, NC 28405
 (910) 686-9114 [Phone]
 (910) 686-9666 [Fax]

FIELD REPORT

Project **C & D Landfill**
 Location **Maysville, NC**
 Client **Quadrant Construction, Inc. - Steven Kellum**
 Contractor **Quadrant Construction, Inc. - Steven Kellum**

Project No. **22:20747**
 Report No. **3**
 Day & Date **Monday 05/12/2014**
 Weather **85°/ Sunny**
 On-Site Time **5.00**
 Lab Time **0.50**
 Travel Time* **0.50**
 Total **6.00**
 Re Obs.Time **0.00**

Remarks

Trip Charges*	Tolls/Parking*	Mileage*	50	Time of Arrival	Departure
Chargeable Items				08:00A	01:00P

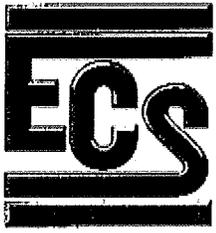
* Travel time and mileage will be billed in accordance with the contract.

Summary of Services Performed (field test data, locations, elevations & depths are estimates) & Individuals Contacted.

The undersigned arrived on site, as requested, to perform hand auger borings with Dynamic Cone Penetrometer testing to check the bearing capacity of the underlying foundation soils at four corners of scale station. Please see the attached sketch for the approximate DCP test locations.

Utilizing the Dynamic Cone Penetrometer test equipment (ASTM STP-399) to check the bearing capacity of the soil, test results indicate that the material, at the areas and depths tested, are capable of supporting a foundation designed for a net allowable bearing capacity of 2,000 psf, except at test locations 1, 2, and 4.

The subgrade in the area of test location #1 should be undercut by at least 5 feet, test location #2 by 2 feet and test locations #4 by 4 feet below the bottom of the footing subgrade. The undercut area should be backfilled with clean stone. The clean stone should be placed in 12 inch loose lifts and repeatedly tamped with the backhoe bucket to set the stone in the bottom and sidewalls of excavation. The depth and lateral extent of the undercut should be determined in the field during undercutting operation. The project superintendent was notified of the test results. An ECS representative must be on site during the undercut and backfill of the areas in order to provide a report stating that the repairs were in accordance with our recommendations.



PROJECT: CD Landfill

SHEET NO:

TITLE: Scale Station DCPs Footings

PROJ. NO:

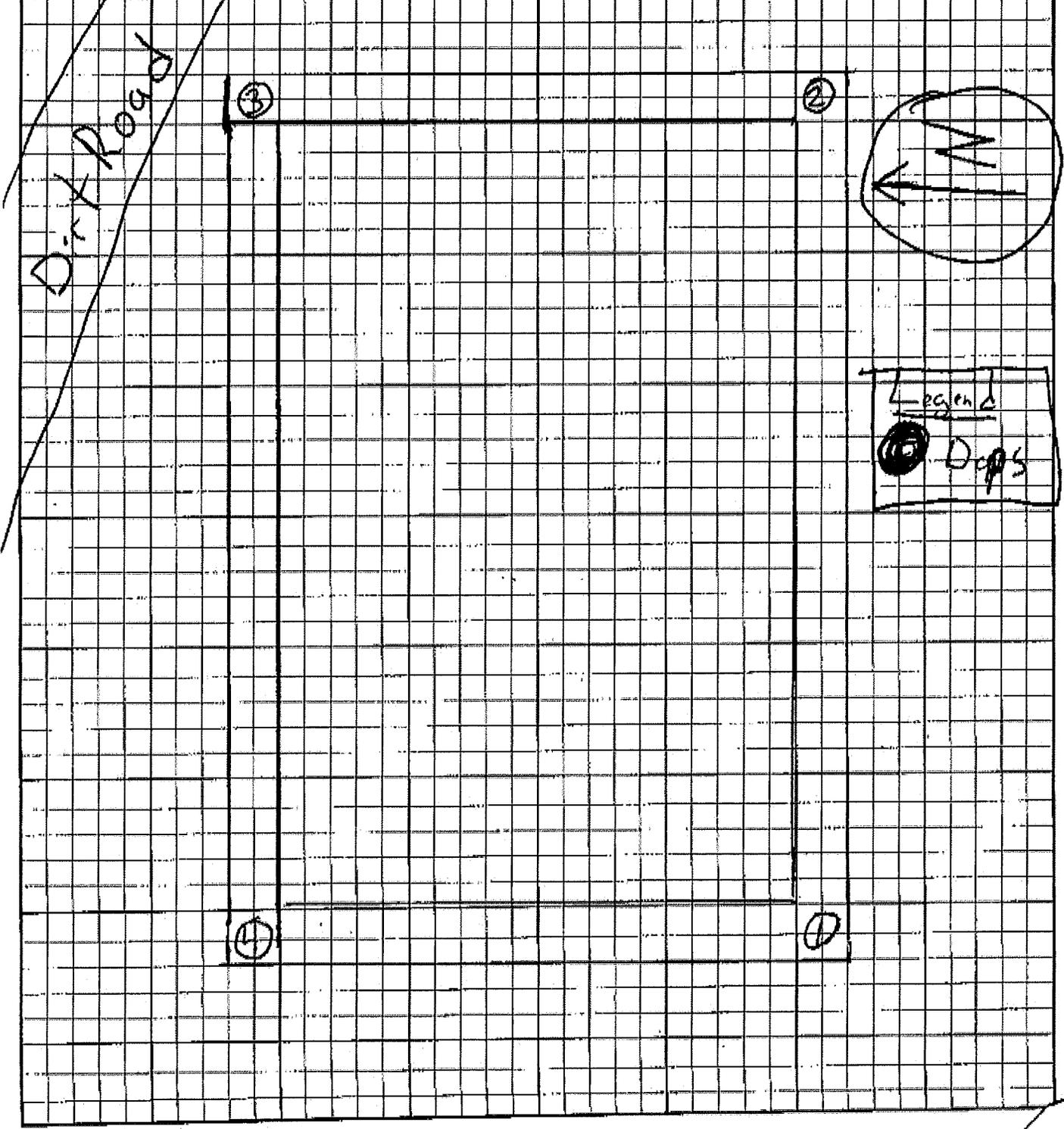
SCALE: NTS

BY: Jordy P.

DATE: 5/12/14

APPROVED:

DATE:



ECS Carolinas, LLP
 7211 Ogden Business Park, Suite 201
 Wilmington, NC 28411
 (910) 686-9114 Phone
 (910) 686-9666 Fax

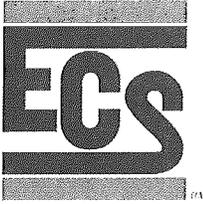
DYNAMIC CONE PENETROMETER TEST REPORT



0102

Test Location	Water Table Depth	Test Depth	Footing Dimensions	Penetrometer Blow Counts				Average	Remarks/Soil Descriptions
				13/4"	13/4"	13/4"	13/4"		
①		Bottom		3	4	6	6	5	coarse sand
		-1		4	6	6	6	6	coarse sand
		-2		6	8	5	5	6.5	Dark clay w/trace organics
		-3		4	5	4	4	4.5	Grey clay/sand
		-4		3	2	4	4	3	Grey clay/sand
②		-5		2	2	2	2	2	Grey clay/sand
		0		4	4	6	6	5	Coarse Sand
		-1		7	7	5	5	6	Dark silty Sand w/organics
		-2		4	2	3	3	2.5	Grey Clay sand
		-3		4	6	6	6	6	
③		-4		6	7	7	7	7	
		-5		6	6	7	7	6.5	
		0		4	4	6	6	5	Coarse Sand
		-1		4	4	6	6	5	Coarse Sand
		-2		4	5	6	6	5.5	Grey sandy Clay
	-3		4	8	7	7	7.5		
	-4		4	5	8	8	6.5		
	-5		4	5	8	8	6.5		

05/12/2014 15:57 FAX



ECS Carolinas, LLP

6714 Netherlands Drive
Wilmington, NC 28405
(910) 686-9114 [Phone]
(910) 686-9666 [Fax]
NC Registered Engineering Firm # F-1078

LETTER OF TRANSMITTAL

May 15, 2014
Quadrant Construction, Inc.
166 Center Sreet
Jacksonville, NC 28546

ATTN: Mr. Steven Kellum

RE: **C & D Landfill**
ECS Job # **22:20747**

Permits:
Location: **Hwy 17**
Maysville, NC

We are enclosing:

- Materials Engineering Division Reports
- For your use
- As requested

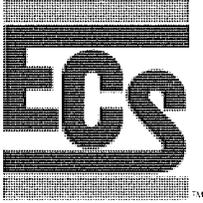
CC: **Quadrant Construction, Inc. - Brad Hartsfield**

ENCL:

Field Report # 4 05/13/2014

Kris J. Stamm
Branch Manager/Principal

Harry Slater, Jr.
Project Manager

**ECS Carolinas, LLP**

6714 Netherlands Drive
 Wilmington, NC 28405
 (910) 686-9114 [Phone]
 (910) 686-9666 [Fax]

FIELD REPORT

Project **C & D Landfill**
 Location **Maysville, NC**
 Client **Quadrant Construction, Inc. - Steven Kellum**
 Contractor **Quadrant Construction, Inc. - Steven Kellum**

Project No. **22:20747**
 Report No. **4**
 Day & Date **Tuesday 05/13/2014**
 Weather **90°/ Sunny**
 On-Site Time **9.50**
 Lab Time **0.50**
 Travel Time* **3.00**
 Total **13.00**
 Re Obs. Time **0.00**

Remarks

Trip Charges*	Tolls/Parking*	Mileage*	50	Time of Arrival	Departure
Chargeable Items				07:30A	05:00P

* Travel time and mileage will be billed in accordance with the contract.

Summary of Services Performed (field test data, locations, elevations & depths are estimates) & Individuals Contacted.

The undersigned arrived on site, as requested, to observe the undercutting of the footings for the scale house. Please see the attached sketch for the approximate undercut locations.

The previously failed areas were undercut and backfilled with clean stone and tamped repeatedly with the backhoe bucket. Area A was undercut 5 feet and final dimensions were 17' x 5' x 2' wide. Area B was undercut 4 feet and final dimensions were 37' x 4' x 2' wide. Area C was undercut 4 feet and final dimensions were 8' x 4' x 2' wide. Area D was undercut 3 feet and final dimensions were 25' x 3' x 2' wide. Total undercut today was 25.2 cubic yards.

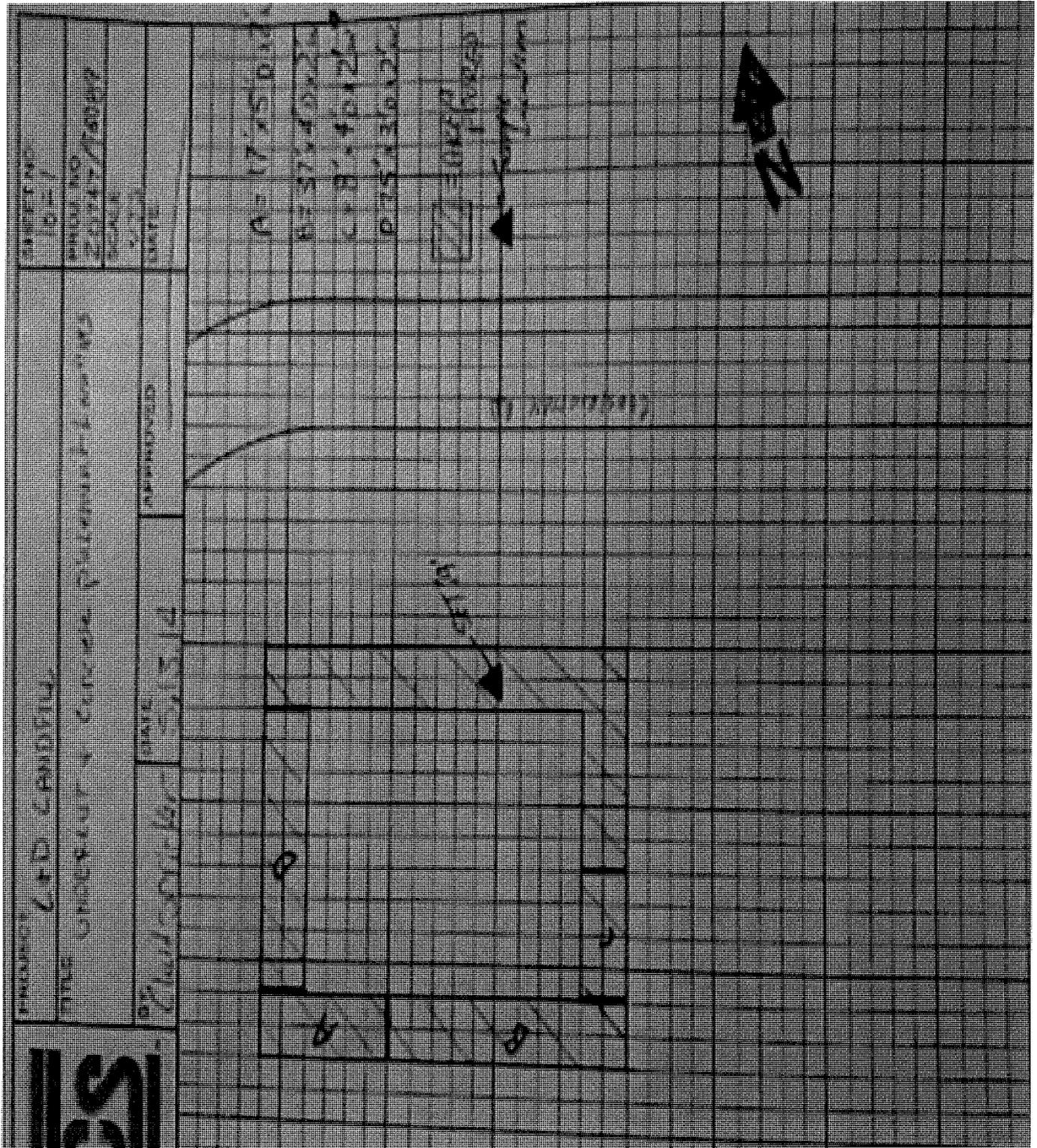
Also while onsite, the undersigned observed the placement of 14.5 cubic yards of 3,000 psi concrete for footings of the scale house. Please see the attached sketch for the approximate concrete placement locations.

The concrete observed on this date appeared to be placed in accordance with the project specifications with regard to mix temperature, slump, air content, and batch to placement time.

The following samples were obtained for compressive strength testing in our laboratory:

Set A:1 set of 4 lab cylinders were cast for scale house footings.

ATTACHMENTS



Attachment No. 1

sketch 1 of 1

Concrete Summary Report

Project: C & D Landfill
 Location: Hwy 17
 Contractor : Maysville, NC 28555
 Supplier: Ready Mixed Concrete
 Client: Quadrant Construction,
 Weather / Temp: Sunny / 90
 Design Strength: 3000 psi

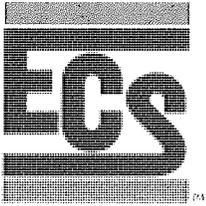
Mix Designation: 30CNF732
 Mix Strength: 3000 psi

No.	Truck No.	Ticket No.	CY Concrete		Batch Time	Truck Time		Slump	% Air	Concrete Temp.	Water Added	Location and Remarks
			Truck	Cum		Arrive	Finish					
1	2609	4972283	10.0	10.0	02:32	03:10	04:00	3.00		75	20	*
2	2618	4972287	4.5	14.5	04:25	05:00	05:15					

* Location: scale house footings

By: Chad R. Stricker

ECS Carolinas, LLP

**ECS Carolinas, LLP**

6714 Netherlands Drive
 Wilmington, NC 28405
 (910) 686-9114 [Phone]
 (910) 686-9666 [Fax]
 NC Registered Engineering Firm # F-1078

LETTER OF TRANSMITTAL

May 16, 2014

Quadrant Construction, Inc.
 166 Center Sreet
 Jacksonville, NC 28546

ATTN: Mr. Steven Kellum

RE: **C & D Landfill**ECS Job # **22:20747**

Permits:

Location: **Hwy 17**
Maysville, NC

We are enclosing:

- Materials Engineering Division Reports
 For your use
 As requested

CC: **Quadrant Construction, Inc. - Brad Hartsfield**

ENCL:

Field Report # 5 05/15/2014

Winslow E. Goms, P.E.
 Geotechnical Department Manager

MAY 16 2014

Harry Slater, Jr.
 Harry Slater, Jr.
 Project Manager

**ECS Carolinas, LLP**

6714 Netherlands Drive
 Wilmington, NC 28405
 (910) 686-9114 [Phone]
 (910) 686-9666 [Fax]

FIELD REPORT

Project **C & D Landfill**
 Location **Maysville, NC**
 Client **Quadrant Construction, Inc. - Steven Kellum**
 Contractor **Quadrant Construction, Inc. - Steven Kellum**

Project No. **22:20747**
 Report No. **5**
 Day & Date **Thursday 05/15/2014**
 Weather **82°/ Sunny**
 On-Site Time **8.00**
 Lab Time **0.50**
 Travel Time* **1.00**
 Total **9.50**
 Re Obs. Time **0.00**

Remarks

Trip Charges*	Tolls/Parking*	Mileage*	50	Time of Arrival	08:00A	Departure	04:00P
Chargeable Items							

* Travel time and mileage will be billed in accordance with the contract.

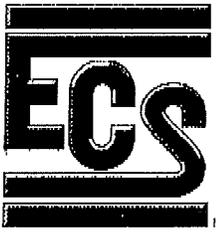
Summary of Services Performed (field test data, locations, elevations & depths are estimates) & Individuals Contacted.

The undersigned arrived on site, as requested, to perform hand auger borings with Dynamic Cone Penetrometer testing to check the bearing capacity of the underlying foundation soils at footings 3 through 9. Please see the attached sketch for the approximate DCP test locations.

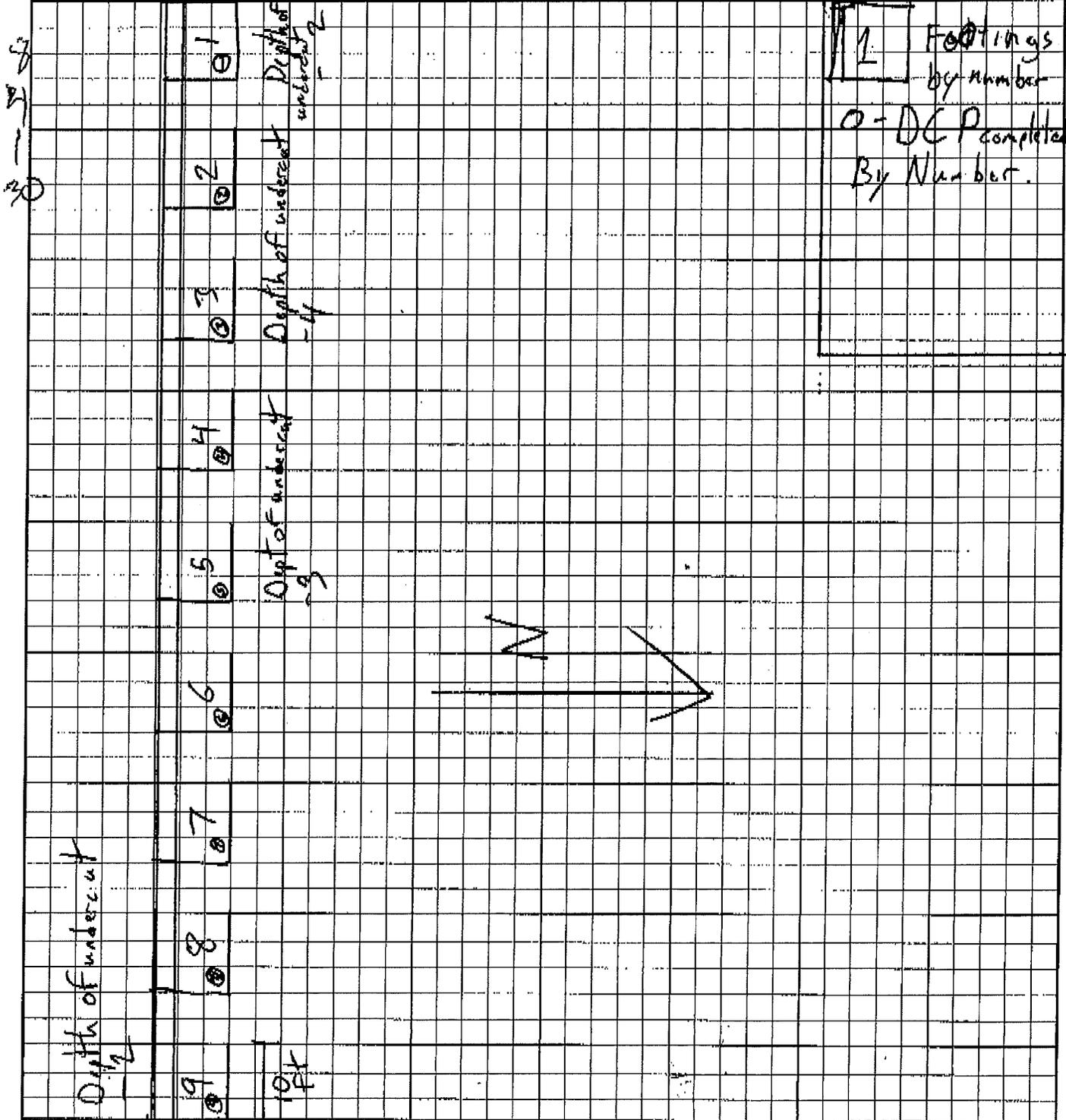
Utilizing the Dynamic Cone Penetrometer test equipment (ASTM STP-399) to check the bearing capacity of the soil, test results indicate that the material, at the areas and depths tested, are capable of supporting a foundation designed for a net allowable bearing capacity of 2,000 psf, except at test locations 3, 5, and 9.

The subgrade in the area of test location 3 was undercut by at least 4 feet below the bottom of the footing subgrade. The subgrade in the area of test location 5 was undercut by at least 3 feet below the bottom of the footing subgrade. The subgrade in the area of test location 9 was undercut by at least 2 feet below the bottom of the footing subgrade. The undercut area was backfilled with clean stone. The clean stone was placed in 12 inch loose lifts and repeatedly tamped with the backhoe bucket to set the stone in the bottom and sidewalls of excavation. The depth and lateral extent of the undercut was determined in the field during undercutting operation. An ECS representative was on site during the undercut and backfill of the areas in order to provide a report stating that the repairs were in accordance with our recommendations.

The undersigned also picked up 3 sets of 4 cylinders and returned them to the ECS laboratory for curing and compressive strength testing. The cylinders were found to be undisturbed.



PROJECT: C D Landfill		SHEET NO:	
TITLE: DCPs & Footings undercut and backfill		PROJ. NO: 20747	SCALE: NTS
BY: Jordy P	DATE: 5/15/14	APPROVED:	DATE:



WOID 96217



ECS Carolinas, L.L.P.
 7211 Ogden Business Park, Suite 201
 Wilmington, NC 28411
 (910) 686-9114 Phone
 (910) 686-9666 Fax

DYNAMIC CONE PENETROMETER TEST REPORT

001

Project	CD	Location	Water Table Depth	Test Depth	Footing Dimensions	Penetrometer Blow Counts				Average	Average Criteria:			
						1 3/4"	1 3/4"	1 3/4"	1 3/4"		Design Bearing For Column:	Design Bearing For Wall:	Design Bearing For Other:	
Project: CD L-2-Fill						Fill or Native Material: Both						Average Criteria:		
Project #: 20747						Weather/Temperature: Sunny 83						Design Bearing For Column: psf		
Technician: Jerry P						Elevation Provided By:						Design Bearing For Wall: psf		
Date: 5/15/14						Bearing Pressure Provided By:						Design Bearing For Other: psf		
3				BoF	10x10x2	8	8	6	7	7	Remarks/Soil Descriptions			
				-1		4	5	6	5.5		Engineered Fill			
				-2		8	4	6	5		grey sandy clay			
				-3		3	3	4	3.5					
				-4		5	6	6	6					
				-5		4	4	6	5					
4			5	BoF	10x10x2	8	12	11	11.5		Engineered Fill			
				-1		4	5	6	5.5		Clay and Traceory.			
				-2		4	5	5	5					
				-3		4	4	7	6		grey sandy clay			
				-4		5	12	12	12					
				-5		5	7	12	9.5					
5			5	BoF	10x10x2	12	12	12	12		Engineered Fill			
				-1		4	4	4	4		Grey Sandy Clay			
				-2		3	3	6	4.5					
				-3		4	7	7	7					
				-4		7	9	10	9					
				-5		6	12	12	12					

WOFD96217

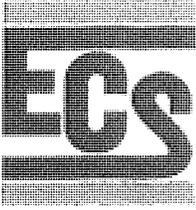


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DYNAMIC CONE PENETROMETER TEST REPORT

Project	Project #	Technician	Date	Fill or Native Material	Weather/Temperature	Elevation Provided By	Penetrometer Blow Counts				Average	Average Criteria:		
							1 3/4"	1 3/4"	1 3/4"	1 3/4"		Design Bearing For Column	Design Bearing For Mat	Design Bearing For Other
Test Location	Water Table Depth	Test Depth	Footing Dimensions	Remarks/Soil Descriptions										
60	5	BoF	10x10x2	12	12	7	7	12	12	12	7.5	Engineered Fill Grey sandy Clay		
		-1		4	5	9	7							
		-2		6	6	8	7							
		-3		3	5	7	6							
		-4		3	6	9	7.5							
		-5												
7	5	BoF	10x10x2	12	12	6	6	12	12	12	7	Engineered Fill Grey sandy Clay		
		-1		4	6	7	6.5							
		-2		5	5	5	5							
		-3		5	6	9	7.5							
		-4		7	9	12	10.5							
		-5												
8	5	BoF	10x10x2	12	12	12	12	12	12	12	7	Engineered Fill Grey sandy Clay		
		-1		4	5	6	5.5							
		-2		6	5	9	7							
		-3		6	6	8	7							
		-4		6	10	12	11							
		-5		7	7	10	8.5							

WOD 96217

**ECS CAROLINAS, LLP**

6714 Netherlands Drive
 Wilmington, NC 28405
 (910) 686-9114 [Phone]
 (910) 686-9666 [Fax]

LETTER OF TRANSMITTAL

May 21, 2014

Quadrant Construction, Inc.
 166 Center Sreet
 Jacksonville, NC 28546

ATTN: Mr. Steven Kellum

RE: **C & D Landfill**

ECS Job # **22:20747**

Permits:

Location: **Hwy 17**
Maysville, NC

We are enclosing:

- Materials Engineering Division Reports
- For your use
- As requested

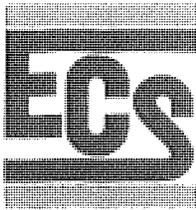
CC: **Quadrant Construction, Inc. - Mr. Brad Hartsfield**

ENCL:

Attached is the revised report that includes the undercutting of test locations 1 and 2.
 Field Report # 5R 05/15/2014

Kris J. Stamm
 Branch Manager/Principal

Harry Slater Jr.
 Project Manager



ECS CAROLINAS, LLP

6714 Netherlands Drive
 Wilmington, NC 28405
 (910) 686-9114 [Phone]
 (910) 686-9666 [Fax]

FIELD REPORT

Project **C & D Landfill**
 Location **Maysville, NC**
 Client **Quadrant Construction, Inc.**
 Contractor **Quadrant Construction, Inc.**

Project No. **22:20747**
 Report No. **5R**
 Day & Date **Thursday 05/15/2014**
 Weather **82° Sunny**
 On-Site Time **8.00**
 Lab Time **0.50**
 Travel Time* **1.00**
 Total **9.50**
 Reinsp.Time **0.00**

Remarks

Trip Charges*	Tolls/Parking*	Mileage*	50	Time of Arrival	Departure
Chargeable Items				08:00A	04:00P

* Travel time and mileage will be billed in accordance with the contract.

Summary of Services Performed (field test data, locations, elevations & depths are estimates) & Individuals Contacted.

The undersigned arrived on site, as requested, to perform hand auger borings with Dynamic Cone Penetrometer testing to check the bearing capacity of the underlying foundation soils at footings 3 through 9. Please see the attached sketch for the approximate DCP test locations.

Utilizing the Dynamic Cone Penetrometer test equipment (ASTM STP-399) to check the bearing capacity of the soil, test results indicate that the material, at the areas and depths tested, are capable of supporting a foundation designed for a net allowable bearing capacity of 2,000 psf, except at test locations 3, 5, and 9.

The subgrade in the area of test location 3 was undercut by at least 4 feet below the bottom of the footing subgrade. The subgrade in the area of test location 5 was undercut by at least 3 feet below the bottom of the footing subgrade. The subgrade in the area of test location 9 was undercut by at least 2 feet below the bottom of the footing subgrade. The subgrade in test location 1 was undercut by 2 feet below the bottom of the footing subgrade. The subgrade at test location 2 was undercut by 1 foot below the bottom of the footing subgrade. The undercut area was backfilled with clean stone. The clean stone was placed in 12 inch loose lifts and repeatedly tamped with the backhoe bucket to set the stone in the bottom and sidewalls of excavation. The depth and lateral extent of the undercut was determined in the field during undercutting operation. An ECS representative was on site during the undercut and backfill of the areas in order to provide a report stating that the repairs were in accordance with our recommendations.

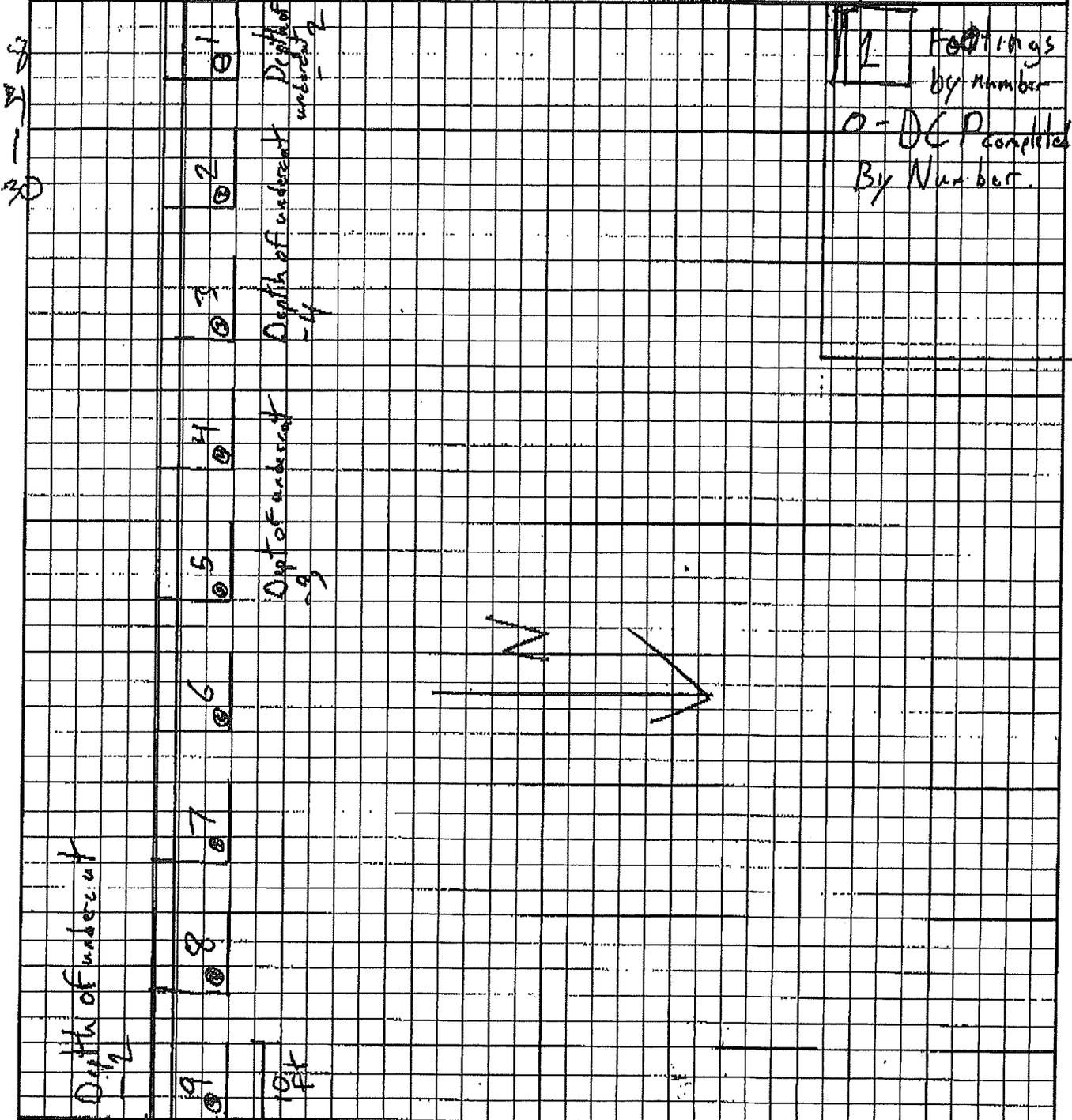
The undersigned also picked up 3 sets of 4 cylinders and returned them to the ECS laboratory for curing and compressive strength testing. The cylinders were found to be undisturbed.

05/15/2014 18:43 FAX

001



PROJECT: C D Landfill		SHEET NO:	
TITLE: Dcps & Footings undercut and backfill		PROJ. NO: 20747	
BY: Jordy P		SCALE: NTS	
DATE: 5/15/14	APPROVED:	DATE:	



WOID 96217



ECS Carolinas, LLP
 7211 Ogden Business Park, Suite 201
 Wilmington, NC 28414
 (910) 686-9114 Phone
 (910) 686-9666 Fax

DYNAMIC CONE PENETROMETER TEST REPORT

001

Test Location	Water Table Depth	Test Depth	Footing Dimensions	Penetrometer Blow Counts			Average	Remarks/Soil Descriptions
				1 3/4"	1 3/4"	1 3/4"		
Project: CD Landfill Project #: 20747 Technician: Jerry P Date: 5/15/14 Fill or Native Material: Both Weather/Temperature: January 83 Elevation Provided By: Bearing Pressure Provided By:								
3		BoF	10x10x2	8	8	6	7	Engineered Fill grey sandy clay
		-1		4	5	6	5.5	
		-2		8	4	6	5	
		-3		3	3	4	3.5	
		-4		5	6	6	6	
		-5		4	4	6	5	
4	5	BoF	16x10x2	8	12	11	11.5	Engineered Fill Clayey sand Freecorg.
		-1		4	5	6	5.5	
		-2		4	5	5	5	
		-3		4	4	7	6	Grey sandy clay
		-4		5	12	12	12	
		-5		5	7	12	9.5	
5	5	BoF	10x10x2	12	12	12	12	Engineered Fill Grey Sandy Clay
		-1		4	4	4	4	
		-2		3	3	6	4.5	
		-3		4	7	7	7	
		-4		7	9	10	9	
		-5		6	12	12	12	

WOID 96217

05/15/2014 19:23 FAX

DYNAMIC CONE PENETROMETER TEST REPORT

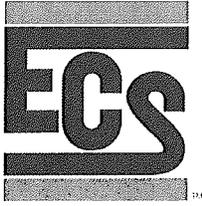
ECS Carolinas, LLP
 7211 Ogden Business Park, Suite 201
 Wilmington, NC 28411
 (910) 686-9114 Phone
 (910) 686-9666 Fax



001

Project	Project #	Technician	Date	Fill or Native Material	Weather/Temperature	Elevation	Penetrometer Blow Counts			Average	Remarks/Soil Descriptions
							1 3/4"	1 3/4"	1 3/4"		
60	CD 1604 Fill	207MH	5/15/14	Engineered Fill	12	12	12	12	12	Engineered Fill	
					7	7	8	7.5	7	gray sandy clay	
					4	5	9	7			
					6	6	8	7			
					3	5	7	6			
					3	6	9	7.5			
7	1010xL	BoF		12	12	12	12	12	12	Engineered Fill	
					6	6	9	7	7	gray sandy clay	
					4	6	7	6.5			
					5	5	5	5			
					5	6	9	7.5			
					7	9	12	10.5			
8	1010xR	BoF		12	12	12	12	12	12	Engineered Fill	
					4	5	6	5.5	5.5	gray sandy clay	
					6	5	9	7	7		
					6	6	8	7	7		
					6	10	12	11	11		
					7	7	10	8.5	8.5		

wotd 96217

**ECS Carolinas, LLP**

6714 Netherlands Drive
 Wilmington, NC 28405
 (910) 686-9114 [Phone]
 (910) 686-9666 [Fax]

FIELD REPORT

Project **C & D Landfill**
 Location **Maysville, NC**
 Client **Quadrant Construction, Inc. - Steven Kellum**
 Contractor **Quadrant Construction, Inc. - Steven Kellum**

Project No. **22:20747**
 Report No. **6**
 Day & Date **Wednesday 05/14/2014**
 Weather **80°/ Sunny**
 On-Site Time **11.00**
 Lab Time **0.50**
 Travel Time* **3.00**
 Total **14.50**
 Re Obs. Time **0.00**

Remarks

Trip Charges*	Tolls/Parking*	Mileage*	50	Time of Arrival	Departure
Chargeable Items				04:00A	03:00P

* Travel time and mileage will be billed in accordance with the contract.

Summary of Services Performed (field test data, locations, elevations & depths are estimates) & Individuals Contacted.

The undersigned arrived on site, as requested, to observe the placement of 356 cubic yards of 5,000 psi concrete for warehouse slab. Please see the attached sketch for approximate placement locations.

Concrete observed on this date appeared to be placed in compliance with project specifications with regard to temperature, slump, air content, and batch to placement time.

The following samples were obtained for compressive strength testing in our laboratory:

Set A:1 set of 4 lab cylinders(5,000 psi) were cast for slab.

Set B:1 set of 4 lab cylinders(5,000 psi) were cast for slab.

Set C:1 set of 4 lab cylinders(5,000 psi) were cast for Slab.

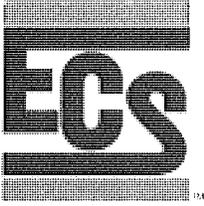
Also while onsite, the undersigned performed hand auger borings with Dynamic Cone Penetrometer testing to check the bearing capacity of the underlying foundation soils at column footings. Please see the attached sketch for the approximate DCP test locations.

Utilizing the Dynamic Cone Penetrometer test equipment (ASTM STP-399) to check the bearing capacity of the soil, test results indicate that the material, at the areas and depths tested, are not capable of supporting a foundation designed for a net allowable bearing capacity of 2,000 psf.

The subgrade in the area of test location #1 should be undercut by at least 2 feet and test location #2 should be undercut by at least 1 foot below the bottom of the footing subgrade. The

By **Chad R. Stricker**

1700

**ECS Carolinas, LLP**

6714 Netherlands Drive
Wilmington, NC 28405
(910) 686-9114 [Phone]
(910) 686-9666 [Fax]

FIELD REPORTProject No. **22:20747**Report No. **6**Day & Date **Wednesday 05/14/2014**Project **C & D Landfill**

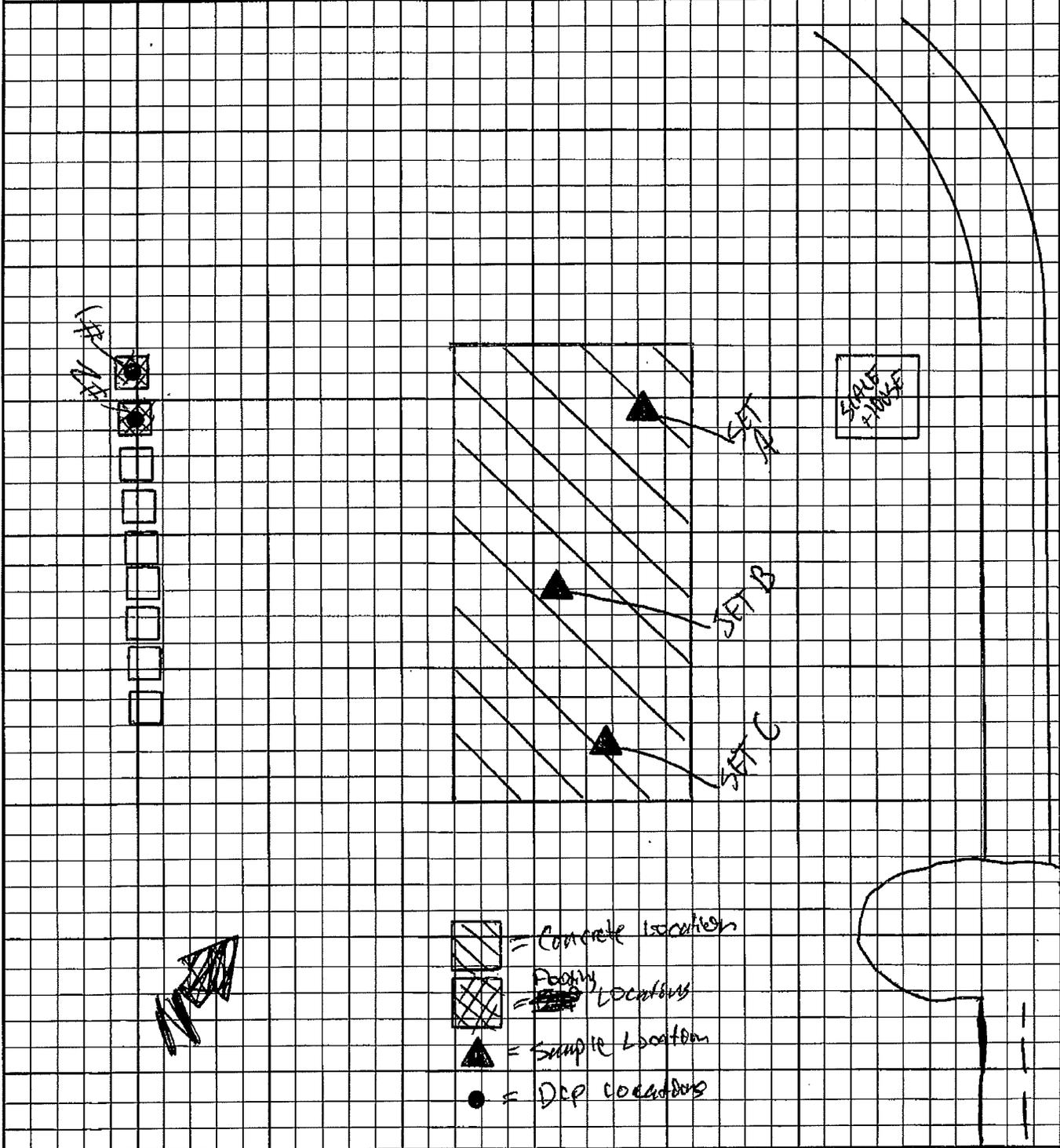
undercut area should be backfilled with clean stone. The clean stone should be placed in 12 inch loose lifts and repeatedly tamped with the backhoe bucket to set the stone in the bottom and sidewalls of excavation. The depth and lateral extent of the undercut should be determined in the field during undercutting operation. The project superintendent was notified of the test results. An ECS representative must be on site during the undercut and backfill of the areas in order to provide a report stating that the repairs were in accordance with our recommendations.

From:

05/16/2014 12:21

#606 P.001

	PROJECT: CTD LANDFILL		SHEET NO: 10F5
	TITLE: Concrete, DEP Locations		PROJ. NO: 20747/96122
	BY: Chd Stecker	DATE: 5/14/14	APPROVED: _____
			SCALE: NTS
			DATE: _____



From:

05/16/2014 12:22

#606 P.002



ECS Carolinas, LLP
 7211 Ogden Business Park, Suite 201
 Wilmington, NC 28411
 (910) 686-9114 Phone
 (910) 686-9666 Fax

CONCRETE SUMMARY REPORT

Project: C&D Laidall
 Location: ANNSVILLE, N.C.
 Contractor: DPD
 Supplier: DPD

Project No: 20747/961ZZ
 Day/Date: 05/14/14
 Project: SETA
 Weather/Temp: 5.1/80

NO.	TRUCK NO.	TICKET NO.	CY CONCRETE		BATCH TIME	TRUCK TIME		SLUMP	% AIR	CONCRETE TEMP	WATER ADDED	LOCATION & REMARKS
			TRUCK	CUM		ARRIVE	FINISH					
1	0145	945488			2:54 AM	4:12 AM	4:20 AM	7"	4.2	83		SETA
2	0146	945489			3:05 AM	4:25 AM	4:33 AM					
3	0122	945490			3:48 AM	4:38 AM	4:50 AM					
4	0135	945491			4:14 AM	4:41 AM	4:55 AM					
5	0154	945492			4:21 AM	4:58 AM	5:09 AM					
6	0142	945493			4:31 AM	5:11 AM	5:20 AM					
7	0138	945494			4:38 AM	5:13 AM	5:30 AM					
8	0136	945495			4:44 AM	5:15 AM	5:32 AM					
9	0143	945496			4:51 AM	5:25 AM	5:55 AM					
10	0145	945497			4:58 AM	5:45 AM	6:03 AM					
11	0146	945498			5:08 AM	5:49 AM	6:20 AM					
12	0122	945499			5:20 AM	5:53 AM	6:40 AM	7.25"	5.2	80		SETB
13	0135	945450			5:30 AM	6:02 AM	6:47 AM					
14	0154	945451			5:41 AM	6:10 AM	6:52 AM					

Location: WAREHOUSE SLAB
 By: Chad Strecher
 Page 2 of 5

From:

05/16/2014 12:22

#606 P.003

CONCRETE SUMMARY REPORT

ECS Carolinas, L.L.P.
 7211 Ogden Business Park, Suite 201
 Wilmington, NC 28411
 (910) 686-9114 Phone
 (910) 686-9666 Fax

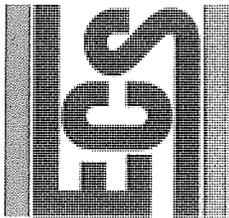
Project: LTD Levee #11
 Location: Morehouse, NC
 Contractor: PPP
 Supplier: PPP

Project No: 20147/96122
 Day/Date: 05/14/14
 Project: Morehouse
 Weather/Temp: Sunny/80

NO.	TRUCK NO.	TICKET NO.	CY CONCRETE		BATCH TIME	TRUCK TIME		SLUMP	% AIR	CONCRETE TEMP	WATER ADDED	LOCATION & REMARKS
			TRUCK	CUM		ARRIVE	FINISH					
15	0142	945452			6:01 AM	6:20 AM	6:50 AM					
16	0145	945453			6:11 AM	6:40 AM	7:08 AM					
17	0136	945454			6:24 AM	6:47 AM	7:20 AM					
18	0138	945455			6:32 AM	7:03 AM	7:30 AM					
19	0143	945456			6:38 AM	7:16 AM	7:42 AM					
20	0146	945457			6:44 AM	7:20 AM	7:58 AM					
21	0122	945458			6:51 AM	7:22 AM	8:15 AM					
22	0135	945459			6:59 AM	7:30 AM	8:30 AM					
23	0157	945460			7:05 AM	7:30 AM	8:30 AM	6.5"	5.5	82		SET C
24	0145	945461			7:10 AM	7:54 AM	8:42 AM					
25	0136	945463			7:17 AM	8:09 AM	8:50 AM					
26	0143	945464			7:54 AM	8:35 AM	9:52 AM					
27	0138	945465			8:10 AM	8:36 AM	9:55 AM					
28	0122	945467			8:14 AM	8:45 AM	9:58 AM					

By: Ch Shrycker

Location: MOREHOUSE SLAB



Concrete Summary Report

Project: C & D Landfill
 Location: Hwy 17
 Contractor : Quadrant Construction, Inc.
 Supplier: DPD
 Project No. 20747
 Day/Date: 05/14/14
 Client: Quadrant Construction,
 Weather / Temp: Sunny / 80
 Design Strength: 5000 psi

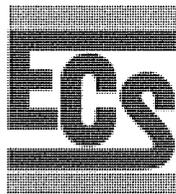
Mix Designation: 5030AE Mix Strength: 5000 psi

No.	Truck No.	Ticket No.	CY Concrete		Batch Time	Truck Time		Slump	% Air	Concrete Temp.	Water Added	Location and Remarks
			Truck	Cum		Arrive	Finish					
1	0145	945438	11.0	11.0	02:54	04:12	04:21	7.00	4.20(P)	83		*
2	0122	945449	11.0	22.0	05:20	05:53	06:40	7.25	5.20(P)	80		*
3	0154	945460	11.0	33.0	07:05	07:30	08:30	6.50	5.50(P)	82		*

* Location: warehouse slab

By: Chad R. Stricker

ECS Carolinas, LLP



ECS Carolinas, LLP
6714 Netherlands Drive
Wilmington, NC 28405
(910) 686-9114 [Phone]
(910) 686-9666 [Fax]

NC Registered Engineering Firm # F-1078

CONCRETE, GROUT, AND MORTAR TESTS
LETTER OF TRANSMITTAL

TO: Quadrant Construction, Inc.
166 Center Sreet

Jacksonville, NC 28546

ATTN: Mr. Steven Kellum

JOB NO.: 020747

DATE: 05/21/2014

RE: C & D Landfill

PERMIT #:

LOCATION:
Hwy 17, Maysville, NC

We are enclosing:

X Attached

X Materials Engineering Division Concrete Reports:

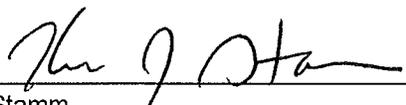
1

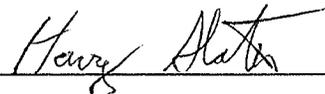
X For Your Use

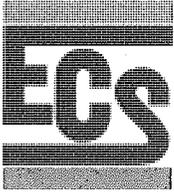
X As Requested

CC: Quadrant Construction, Inc. - Brad Hartsfield

By:


Kris J. Stamm
Branch Manager/Principal


Harry Slater, Jr.
Project Manager



ECS Carolinas, LLP
6714 Netherlands Drive
Wilmington, NC 28405
(910) 686-9114 [Phone]
(910) 686-9666 [Fax]

NC Registered Engineering Firm # F-1078

CONCRETE, GROUT, AND MORTAR TESTS
LETTER OF TRANSMITTAL

TO: Quadrant Construction, Inc.
166 Center Sreet

Jacksonville, NC 28546

ATTN: Mr. Steven Kellum

JOB NO.: 020747

DATE: 05/23/2014
RE: C & D Landfill
PERMIT #:

LOCATION:
Hwy 17, Maysville, NC

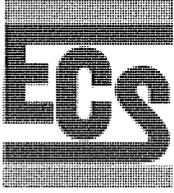
We are enclosing:

<input checked="" type="checkbox"/>	Attached	<input checked="" type="checkbox"/>	For Your Use
<input checked="" type="checkbox"/>	Materials Engineering Division Concrete Reports:	<input checked="" type="checkbox"/>	As Requested
	4		

CC: Quadrant Construction, Inc. - Brad Hartsfield

By: Winslow E. Goins
Winslow E. Goins, P.E.
Geotechnical Department Manager

Harry Slater, Jr.
Harry Slater, Jr.
Project Manager



ECS Carolinas, LLP
6714 Netherlands Drive
Wilmington, NC 28405
(910) 686-9114 [Phone]
(910) 686-9666 [Fax]

NC Registered Engineering Firm # F-1078

CONCRETE, GROUT, AND MORTAR TESTS
LETTER OF TRANSMITTAL

TO: Quadrant Construction, Inc.
166 Center Sreet

Jacksonville, NC 28546

ATTN: Mr. Steven Kellum

JOB NO.: 020747

DATE: 05/23/2014
RE: C & D Landfill
PERMIT #:

LOCATION:
Hwy 17, Maysville, NC

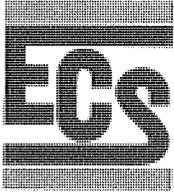
We are enclosing:

<input checked="" type="checkbox"/>	Attached	<input checked="" type="checkbox"/>	For Your Use
<input checked="" type="checkbox"/>	Materials Engineering Division Concrete Reports:	<input checked="" type="checkbox"/>	As Requested
	3		

CC: Quadrant Construction, Inc. - Brad Hartsfield

By: Winslow E. Goins
Winslow E. Goins, P.E.
Geotechnical Department Manager

Harry Slater, Jr.
Harry Slater, Jr.
Project Manager



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6714 Netherlands Drive
Wilmington, NC 28405
(910) 686-9114 [Phone]
(910) 686-9666 [Fax]

NC Registered Engineering Firm # F-1078

CONCRETE, GROUT, AND MORTAR TESTS
LETTER OF TRANSMITTAL

TO: Quadrant Construction, Inc.
166 Center Sreet

Jacksonville, NC 28546

ATTN: Mr. Steven Kellum

JOB NO.: 020747

DATE: 05/23/2014

RE: C & D Landfill

PERMIT #:

LOCATION:
Hwy 17, Maysville, NC

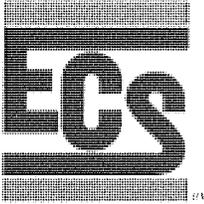
We are enclosing:

<input checked="" type="checkbox"/>	Attached	<input checked="" type="checkbox"/>	For Your Use
<input checked="" type="checkbox"/>	Materials Engineering Division Concrete Reports:	<input checked="" type="checkbox"/>	As Requested
	2		

CC: Quadrant Construction, Inc. - Brad Hartsfield

By: Winslow E. Goins
Winslow E. Goins, P.E.
Geotechnical Department Manager

Harry Slater, Jr.
Harry Slater, Jr.
Project Manager

**ECS Carolinas, LLP**

6714 Netherlands Drive
 Wilmington, NC 28405
 (910) 686-9114 [Phone]
 (910) 686-9666 [Fax]

NC Registered Engineering Firm # F-1078

LETTER OF TRANSMITTAL

June 6, 2014

Quadrant Construction, Inc.
 166 Center Sreet
 Jacksonville, NC 28546

ATTN: Mr. Steven Kellum

RE: **C & D Landfill**

ECS Job # **22:20747**

Permits:

Location: **Hwy 17**
Maysville, NC

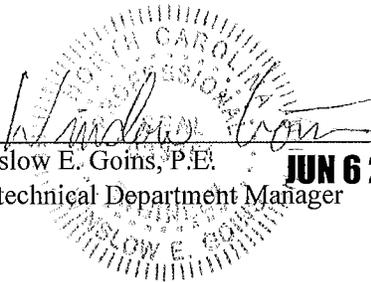
We are enclosing:

- Materials Engineering Division Reports
- For your use
- As requested

CC: **Quadrant Construction, Inc. - Brad Hartsfield**

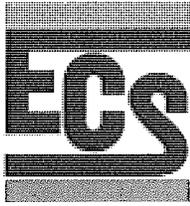
ENCL:

Field Report # 7 06/03/2014



Winslow E. Goins, P.E.
 Geotechnical Department Manager
JUN 6 2014

Harry Slater, Jr.
 Project Manager

**ECS Carolinas, LLP**

6714 Netherlands Drive
 Wilmington, NC 28405
 (910) 686-9114 [Phone]
 (910) 686-9666 [Fax]

FIELD REPORT

Project **C & D Landfill**
 Location **Maysville, NC**
 Client **Quadrant Construction, Inc. - Steven Kellum**
 Contractor **Quadrant Construction, Inc. - Steven Kellum**

Project No. **22:20747**
 Report No. **7**
 Day & Date **Tuesday 06/03/2014**
 Weather **57°/ Sunny**
 On-Site Time **8.50**
 Lab Time **0.50**
 Travel Time* **1.50**
 Total **10.50**
 Re Obs. Time **0.00**

Remarks

Trip Charges*	Tolls/Parking*	Mileage*	50	Times of Arrival	Departure
Chargeable Items				03:00A	08:45A
				10:15A	01:00P

* Travel time and mileage will be billed in accordance with the contract.

Summary of Services Performed (field test data, locations, elevations & depths are estimates) & Individuals Contacted.

The undersigned arrived on site, as requested, to observe the placement of 330 cubic yards of 5,000 psi concrete for the southern slab. Please see the attached sketch for approximate placement locations.

Concrete observed on this date appeared to be placed in accordance with project specifications with regard to mix temperature, slump, air content, and batch to placement time.

The following samples were obtained for compressive strength testing in our laboratory:

Set A: 1 set of 5 lab cylinders were cast for the southern slab.

Set B: 1 set of 5 lab cylinders were cast for the southern slab.

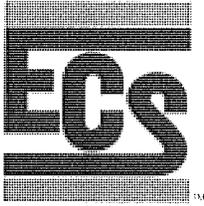
Set C: 1 set of 5 lab cylinders were cast for the southern slab.

The undersigned also, as requested, performed hand auger borings with Dynamic Cone Penetrometer testing to check the bearing capacity of the underlying foundation soils at four footings for the scale and the porch footing. Please see the attached sketch for the approximate DCP test locations.

Utilizing the Dynamic Cone Penetrometer test equipment (ASTM STP-399) to check the bearing capacity of the soil, test results indicate that the material, at the areas and depths tested, should be capable of supporting a foundation designed for a net allowable bearing capacity of 3,000 psf for the scale footing and 2,000 psf for the porch footing, except at test locations 2, 3, and 4.

 By **Joe M. Sonnier**

1700

**ECS Carolinas, LLP**

6714 Netherlands Drive
Wilmington, NC 28405
(910) 686-9114 [Phone]
(910) 686-9666 [Fax]

FIELD REPORT

Project No. 22:20747
Report No. 7
Day & Date Tuesday 06/03/2014

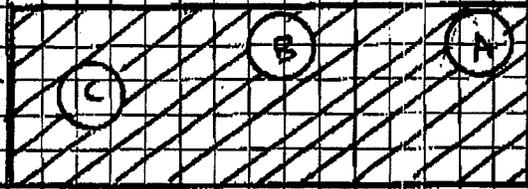
Project **C & D Landfill**

The subgrade in the area of test location #2 should be undercut by at least 3 feet below the bottom of the footing subgrade. The subgrade in the area of test location #3 should be undercut by at least 5 feet below the bottom of the footing subgrade. The subgrade in the area of test location #4 should be undercut by at least 3 feet below the bottom of the footing subgrade. The undercut area should be backfilled with clean stone. The clean stone should be placed in 12 inch loose lifts and repeatedly tamped with the backhoe bucket to set the stone in the bottom and sidewalls of excavation. The depth and lateral extent of the undercut should be determined in the field during undercutting operation. The project superintendent was notified of the test results. The repairs were in accordance with our recommendations.

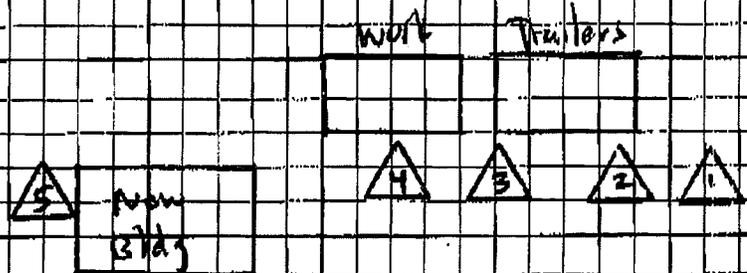


PROJECT: C & D Landfill		SHEET NO: 1
TITLE: Concrete & DCP Testing w/o 96798		PROJ. NO: 20747
BY: Joe Sannier	DATE: 6/3/14	SCALE: N.T.S.
APPROVED:		DATE:

- = Concrete Placement Location
- = Concrete Sample Location
- = DCP Test Location



Aug 17



5030AE
5000 psi

CONCRETE SUMMARY REPORT

Project No: 20747
Day/Date: 6/03/14
Project: _____
Weather/Temp: 57°

Project: CSD Landfill
Location: Maxville
Contractor: Guadalupe
Supplier: DLO

ECS Carolinas, LLP
7211 Ogden Business Park, Suite 201
Wilmington, NC 28411
(910) 686-9114 Phone
(910) 686-9666 Fax



TRUCK NO.	TICKET NO.	CY CONCRETE		BATCH TIME	TRUCK TIME		SLUMP	% AIR	CONCRETE TEMP	WATER ADDED	LOCATION & REMARKS
		TRUCK	SUM		ARRIVE	FINISH					
1	0143	945841	11	2:42	3:15	3:32	5"	5.6	65°		57°
2	0135	945841	14	2:49	3:26	3:40					
3	0145	945845	14	2:56	3:33	3:49					
4	0115	945846	14	3:05	3:39	3:58					
5	0138	945847	14	3:12	3:48	4:05					
6	0154	945848	14	3:19	3:51	4:15					
7	0174	945849	14	3:27	3:57	4:23					
8	0142	945850	14	3:34	4:09	4:34					
9	0136	945851	14	3:41	4:09	4:34					
10	0143	945852	14	3:53	4:24	4:56					
11	0135	945853	14	4:02	4:31	5:04					
12	0115	945854	14	4:21	4:52	5:18	6.25"	5.2	77°		57°
13	0145	945855	14	4:29	4:58	5:24					
14	0138	945856	14	4:36	5:10	5:28					

Location: _____

By: Joe Sennel



ECS Carolinas, LLP
 7211 Ogden Business Park, Suite 201
 Wilmington, NC 28411
 (910) 686-9114 Phone
 (910) 686-9666 Fax

CONCRETE SUMMARY REPORT

Project: CID Landfill
 Location: Wayville
 Contractor: Quadrat
 Supplier: DPD

Project No: 20747
 Day/Date: 6/3/14
 Project: _____
 Weather/Temp: Sunny 57°

NO.	TRUCK NO.	TICKET NO.	CY CONCRETE	TRUCK CHG	BATCH TIME	TRUCK TIME		SLUMP	% AIR	CONCRETE TEMP	WATER ADDED	LOCATION & REMARKS
						ARRIVE	FINISH					
15	0154	945857	14	165	4:43	5:55	5:41					
16	0124	945858	14	176	4:50	5:20	5:48					
17	0142	945859	14	187	5:02	5:36	5:55					
18	0136	945860	14	198	5:08	5:41	6:03					
19	0143	945861	14	209	5:17	5:49	6:14					
20	0135	945862	14	220	5:27	6:01	6:22					
21	0115	945863	14	231	5:42	6:14	6:37					
22	0145	945864	14	242	5:50	6:20	6:45					
23	0138	945865	14	253	5:57	6:27	6:56	6.75"	5.0%	78°		57°
24	0154	945866	14	264	6:05	6:34	7:05					60°
25	0124	945867	14	275	6:17	6:50	7:10					
26	0142	945868	14	286	6:25	6:59	7:29					
27	0136	945869	14	297	6:32	7:03	7:43					
28	0135	945870	14	308	6:52	7:27	7:54					

Location: _____

By: Joe Sanner



ECS Carolinas, LLP
 7211 Ogden Business Park, Suite 201
 Wilmington, NC 28411
 (910) 686-9114 Phone
 (910) 686-9666 Fax

DYNAMIC CONE PENETROMETER TEST REPORT

Project:	Fill or Native Material:		Average Criteria:		blows for	
	Project #:	Weather Temperature:	Design Bearing For Column:	Design Bearing For Wall:		psf
Technician:	Elevation Provided By:		Design Bearing For Other:		psf	
Date:	Bearing Pressure Provided By:		Design Bearing For Other:		psf	
Test Location	Water Table Depth	Test Depth	Penetrometer Blow Counts			Remarks/Soil Descriptions
			1 3/4"	1 3/4"	Average	
①		-1	5	7	7	Light brown sand "
		-2	4	7	7	"
		-3	5	7	8	Gray clay "
		-4	4	8	8	"
		-5	4	7	8	"
②		-1	5	6	7	Light brown sand "
		-2	5	7	7	"
		-3	3	3	3	Light brown sand turning to gray clay
		-4	4	7	7	Gray clay
		-5	4	6	7	Gray clay
③		-1	5	6	7	Light brown sand "
		-2	3	5	5	"
		-3	4	6	7	Gray clay
		-4	3	4	5	"
		-5	4	5	5	"

Concrete Summary Report

Project: C & D Landfill
 Location: Hwy 17
 Contractor: Maysville, NC 28555
 Supplier: Quadrant Construction, Inc.
 Client: Quadrant Construction,
 Weather / Temp: Sunny / 57
 Design Strength: 5000 psi

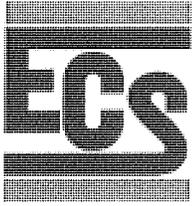
Mix Designation: 5030AE Mix Strength: 5000 psi

No.	Truck No.	Ticket No.	CY Concrete		Batch Time	Truck Time		Slump	% Air	Concrete Temp.	Water Added	Location and Remarks
			Truck	Cum		Arrive	Finish					
1	0143	945843	11.0	11.0	02:42	03:15	03:32	5.00	5.60()	65		*
2	0115	945854	11.0	22.0	04:21	04:52	05:18	6.25	5.20()	77		*
3	0138	945865	11.0	33.0	05:57	06:27	06:56	6.75	5.00()	78		*

* Location: Southern slab

By: Joe M. Sonnier

ECS Carolinas, LLP

**ECS Carolinas, LLP**

6714 Netherlands Drive
 Wilmington, NC 28405
 (910) 686-9114 [Phone]
 (910) 686-9666 [Fax]

NC Registered Engineering Firm # F-1078

LETTER OF TRANSMITTAL

June 6, 2014

Quadrant Construction, Inc.
 166 Center Sreet
 Jacksonville, NC 28546

ATTN: Mr. Steven Kellum

RE: **C & D Landfill**

ECS Job # **22:20747**

Permits:

Location: **Hwy 17**
Maysville, NC

We are enclosing:

- Materials Engineering Division Reports
- For your use
- As requested

CC: **Quadrant Construction, Inc. - Brad Hartsfield**

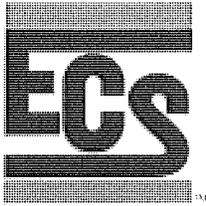
ENCL:

Field Report # 8 06/05/2014



Winslow E. Goins, P.E. **JUN 6 2014**
 Geotechnical Department Manager

Harry Slater, Jr.
 Project Manager

**ECS Carolinas, LLP**

6714 Netherlands Drive
 Wilmington, NC 28405
 (910) 686-9114 [Phone]
 (910) 686-9666 [Fax]

FIELD REPORT

Project **C & D Landfill**
 Location **Maysville, NC**
 Client **Quadrant Construction, Inc. - Steven Kellum**
 Contractor **Quadrant Construction, Inc. - Steven Kellum**

Project No. **22:20747**
 Report No. **8**
 Day & Date **Thursday 06/05/2014**
 Weather **90°/ Sunny**
 On-Site Time **5.50**
 Lab Time **0.50**
 Travel Time* **1.83**
 Total **7.83**
 Re Obs. Time **0.00**

Remarks

Trip Charges*	Tolls/Parking*	Mileage*	50	Times of Arrival	Departure
Chargeable Items				09:00A	09:15A
				10:00A	03:15P

* Travel time and mileage will be billed in accordance with the contract.

Summary of Services Performed (field test data, locations, elevations & depths are estimates) & Individuals Contacted.

The undersigned arrived on site, as requested, to observe the placement of 17 cubic yards of 3,000 psi concrete for the scales footings, and 24 cubic yards of 3,000 psi concrete with fiber for the slab of the scale house. Please see the attached sketch for the approximate concrete placement locations.

The concrete observed on this date appeared to be placed in accordance with the project specifications with regard to mix temperature, slump, air content, and batch to placement time.

The following samples were obtained for compressive strength testing in our laboratory:

Set A: 1 set of 4 lab cylinders were cast for the footings.

Set B: 1 set of 4 lab cylinders were cast for the slab of the scale house.

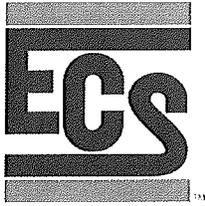
The undersigned also, as requested, performed hand auger borings with Dynamic Cone Penetrometer testing to check the bearing capacity of the underlying foundation soils at center area between 2 large slabs. Please see the attached sketch for the approximate DCP test locations.

Utilizing the Dynamic Cone Penetrometer test equipment (ASTM STP-399) to check the bearing capacity of the soil, test results indicate that the material, at the areas and depths tested, is capable of supporting a foundation designed for a net allowable bearing capacity of 2,000 psf with the exception of test locations 2 and 3.

The subgrade in the area of test location #2 should be undercut by at least 4 feet below the bottom of the footing subgrade and the subgrade in the area of test locations #3 should be

By **Melissa L. Getman**

1700

**ECS Carolinas, LLP**

6714 Netherlands Drive
Wilmington, NC 28405
(910) 686-9114 [Phone]
(910) 686-9666 [Fax]

FIELD REPORTProject No. **22:20747**Report No. **8**Day & Date **Thursday 06/05/2014**Project **C & D Landfill**

undercut by at least 5 feet below the bottom of the footing subgrade. The undercut area should be backfilled with clean stone. The clean stone should be placed in 12 inch loose lifts and repeatedly tamped with the backhoe bucket to set the stone in the bottom and sidewalls of excavation. The depth and lateral extent of the undercut should be determined in the field during undercutting operation. The project superintendent was notified of the test results. An ECS representative must be on site during the undercut and backfill of the areas in order to provide a report stating that the repairs were in accordance with our recommendations.

06/05/2014 17:28 FAX

001



PROJECT: C&D LANDFILL

SHEET NO: 96938

TITLE: CONCRETE & DCPs

PROJ. NO: 20747

SCALE: NTS

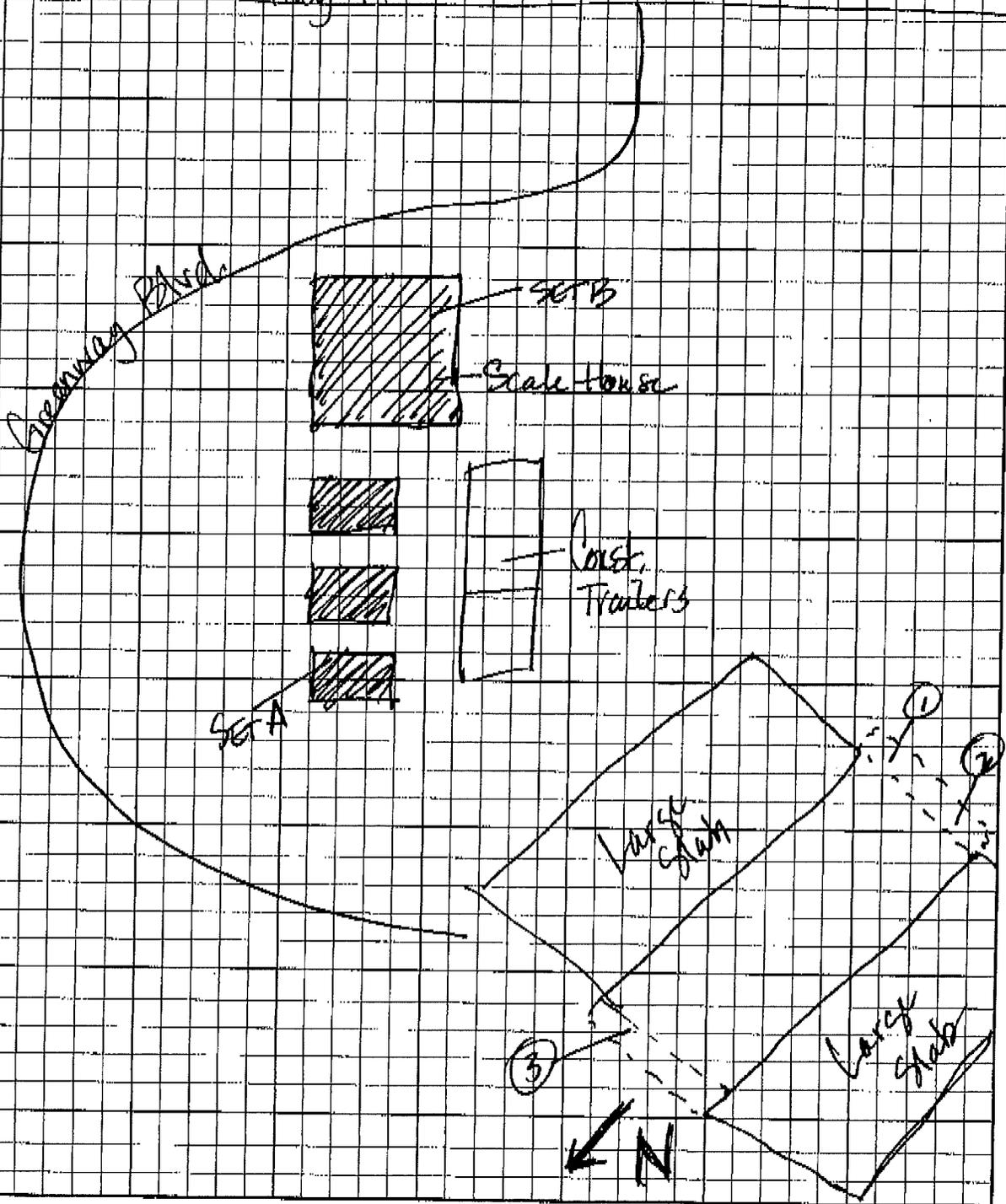
BY: M. GERMAN

DATE: 6/5/14

APPROVED:

DATE:

May 17



No: 96938

DYNAMIC CONE PENETROMETER TEST REPORT

ECS Carolinas, LLP
 7211 Ogden Business Park, Suite 201
 Wilmington, NC 28411
 (910) 686-9114 Phone
 (910) 686-9666 Fax



Project #:	CAD Number	Fill or Native Material:	Weather/Temperature:		Footing Dimensions	Test Depth	Water Table Depth	Penetrometer Blow Counts			Average	Remarks/Soil Descriptions
			90°	WINDY				1 3/4"	1 3/4"	1 3/4"		
Technician:	M. CARROLL		Elevation Provided By:					Bearing Pressure Provided By:				
Date:	6/15/14											
Test Location			1 3/4"	1 3/4"	1 3/4"							
			psf	psf	psf							
#1			15+	-	-	0	DNF	15+	-	-	-	ABC
			15+	-	-	-1		15+	-	-	-	ABC
			5	7	6	-2		5	7	6	6.5	1/2 ABC 1/2 BROWN BLACK ORGANIC
			4	5	4	-3		4	5	4	4.5	BROWN CLAYEY SOIL
			5	5	4	-4		5	5	4	4.5	BROWN CLAYEY SOIL
			4	6	5	-5		4	6	5	5.5	BROWN GRAY CLAY
#2			15+	-	-	0	DNF	15+	-	-	-	ABC
			15+	-	-	-1		15+	-	-	-	ABC
			5	4	4	-2		5	4	4	5	1/2 ABC 1/2 ORGANIC
			3	2	4	-3		3	2	4	3	BROWN CLAYEY ORGANIC
			5	4	5	-4		5	4	5	4.5	BROWN BLACK CLAYEY SOIL
			4	4	5	-5		4	4	5	4.5	BROWN GRAY CLAY
#3			15+	-	-	0	DNF	15+	-	-	-	ABC
			15+	-	-	-1		15+	-	-	-	ABC
			2	4	3	-2		2	4	3	3.5	BROWN CLAYEY ORGANIC
			3	4	3	-3		3	4	3	3.5	BROWN CLAYEY ORGANIC
			3	4	4	-4		3	4	4	4	WET BROWN GRAY CLAY
			4	2	3	-5		4	2	3	2.5	WET BLACK GRAY CLAY

Concrete Summary Report

Project: C & D Landfill
 Location: Hwy 17
 Contractor: Maysville, NC 28555
 Supplier: Quadrant Construction, Inc.
 Supplier: DPD
 Project No. 20747
 Day/Date: 06/05/14
 Client: Quadrant Construction,
 Weather / Temp: Sunny / 90
 Mix Designation: 3000BL
 Mix Strength: 3000 psi
 Design Strength: 3000 psi

No.	Truck No.	Ticket No.	CY Concrete		Batch Time	Truck Time		Slump	% Air	Concrete Temp.	Water Added	Location and Remarks
			Truck	Cum		Arrive	Finish					
1	142	945958	11.0	11.0	11:54	12:15	12:55	6.00		80		*
2	136	945959	11.0	22.0	12:09	12:30	01:10					
3	142	945966	2.0	24.0	01:46	02:15	02:25					

* Location: scale house slab

By: Melissa L. Getman

ECS Carolinas, LLP

Concrete Summary Report

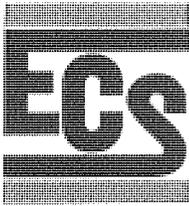
Project: C & D Landfill
 Location: Hwy 17
 Contractor: Maysville, NC 28555
 Supplier: Ready Mixed Concrete
 Client: Quadrant Construction,
 Weather / Temp: Sunny / 90
 Designation: 30SAF343
 Mix Strength: 3000 psi
 Design Strength: 3000 psi

No.	Truck No.	Ticket No.	CY Concrete		Batch Time	Truck Time		Slump	% Air	Concrete Temp.	Water Added	Location and Remarks
			Truck	Cum		Arrive	Finish					
4	142	945952	10.0	10.0	09:32	10:15	10:50	4.50	2.80(P)	79		*
5	154	945953	7.0	17.0	09:43	10:20	11:15					

* Location: scale footings

By: Melissa L. Getman

ECS Carolinas, LLP



ECS Carolinas, LLP

6714 Netherlands Drive
Wilmington, NC 28405
(910) 686-9114 [Phone]
(910) 686-9666 [Fax]
NC Registered Engineering Firm # F-1078

LETTER OF TRANSMITTAL

June 6, 2014

Quadrant Construction, Inc.
166 Center Sreet
Jacksonville, NC 28546

ATTN: Mr. Steven Kellum

RE: **C & D Landfill**

ECS Job # **22:20747**

Permits:

Location: **Hwy 17**
Maysville, NC

We are enclosing:

- Materials Engineering Division Reports
- For your use
- As requested

CC: **Quadrant Construction, Inc. - Brad Hartsfield**

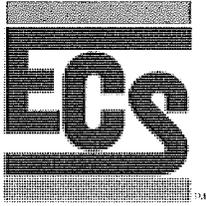
ENCL:

Field Report # 9 06/06/2014



Winslow E. Goins, P.E. **JUN 6 2014**
Geotechnical Department Manager

Harry Slater, Jr.
Project Manager

**ECS Carolinas, LLP**

6714 Netherlands Drive
 Wilmington, NC 28405
 (910) 686-9114 [Phone]
 (910) 686-9666 [Fax]

FIELD REPORT

Project **C & D Landfill**
 Location **Maysville, NC**
 Client **Quadrant Construction, Inc. - Steven Kellum**
 Contractor **Quadrant Construction, Inc. - Steven Kellum**

Project No. **22:20747**
 Report No. **9**
 Day & Date **Friday 06/06/2014**
 Weather **82°/ Sunny**
 On-Site Time **5.75**
 Lab Time **0.50**
 Travel Time* **1.00**
 Total **7.25**
 Re Obs. Time **0.00**

Remarks

Trip Charges*	Tolls/Parking*	Mileage*	50	Time of Arrival	08:00A	Departure	01:45P
Chargeable Items							

* Travel time and mileage will be billed in accordance with the contract.

Summary of Services Performed (field test data, locations, elevations & depths are estimates) & Individuals Contacted.

The undersigned arrived on site, as requested, to perform hand auger borings with Dynamic Cone Penetrometer testing to check the bearing capacity of the underlying foundation soils. Please see the attached sketch for the approximate DCP test locations.

Utilizing the Dynamic Cone Penetrometer test equipment (ASTM STP-399) to check the bearing capacity of the soil, test results indicate that the material, at the areas and depths tested, are capable of supporting a foundation designed for a net allowable bearing capacity of 2,000 psf.

The undersigned also observed the undercutting of the failing footing locations from the previous day. The subgrade in the area of the perimeter of Southeast side of slab was undercut by at least 4 feet below the bottom of the footing subgrade. The undercut area was backfilled with clean stone. The clean stone was placed in 12 inch loose lifts and repeatedly tamped with the backhoe bucket to set the stone in the bottom and sidewalls of excavation.

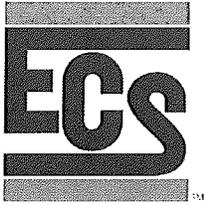
The subgrade in the area of the perimeter of Northwest side of slab was undercut by at least 5 feet below the bottom of the footing subgrade. The undercut area was backfilled with clean stone. The clean stone was placed in 12 inch loose lifts and repeatedly tamped with the backhoe bucket to set the stone in the bottom and sidewalls of excavation.

The approximate total of undercut performed today was 16.7 cubic yards.

The undersigned also, as requested, picked up 1 set of 4 cylinders cast on 6/5/14. The samples were returned to the ECS laboratory for curing and compressive strength testing. The samples were found to be undisturbed.

By **Jordan R. Peacock**, — Technician

1700



ECS Carolinas, LLP

6714 Netherlands Drive
Wilmington, NC 28405
(910) 686-9114 [Phone]
(910) 686-9666 [Fax]

FIELD REPORT

Project No. **22:20747**

Report No. **9**

Day & Date **Friday 06/06/2014**

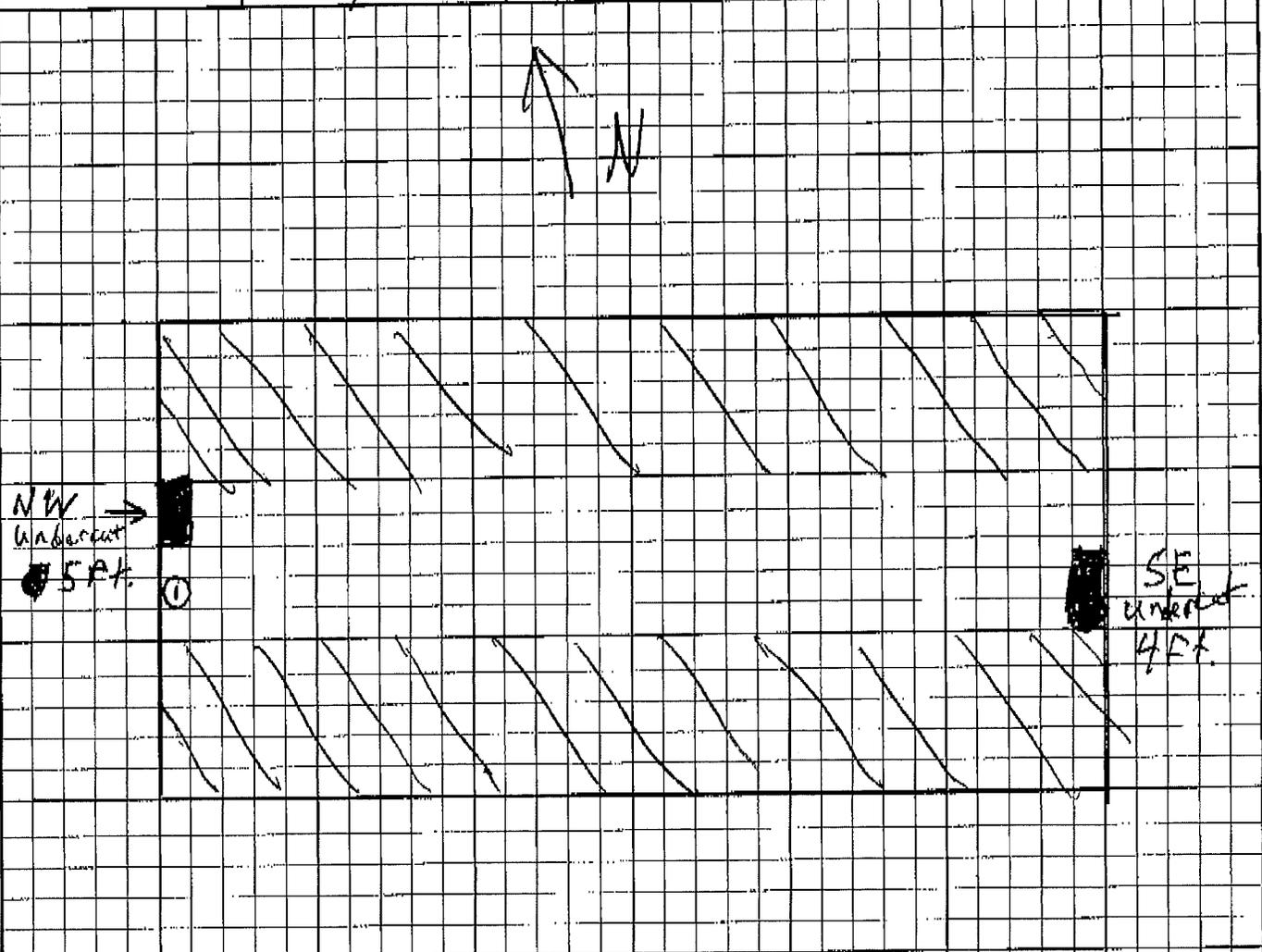
Project **C & D Landfill**

06/06/2014 16:13 FAX

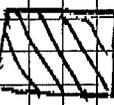
001



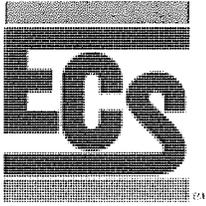
PROJECT: Ctd Landfill		SHEET NO:	
TITLE: Dcp's + undercut		PROJ. NO: 20747	SCALE: NTS
BY: Jordy P	DATE: 6/6/14	APPROVED:	DATE:



Legend

-  area of undercut
-  Road existing Pad
-  area of DCP

96999

**ECS Carolinas, LLP**

6714 Netherlands Drive
 Wilmington, NC 28405
 (910) 686-9114 [Phone]
 (910) 686-9666 [Fax]
 NC Registered Engineering Firm # F-1078

LETTER OF TRANSMITTAL

June 11, 2014

Quadrant Construction, Inc.
 166 Center Sreet
 Jacksonville, NC 28546

ATTN: Mr. Steven Kellum

RE: **C & D Landfill**ECS Job # **22:20747**

Permits:

Location: **Hwy 17**
Maysville, NC

We are enclosing:

- Materials Engineering Division Reports
- For your use
- As requested

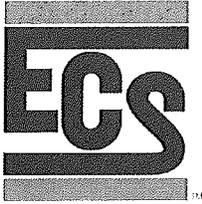
CC: **Quadrant Construction, Inc. - Brad Hartsfield**

ENCL:

Field Report # 10 06/10/2014

Kris J. Stamm
 Branch Manager/Principal

Harry Slater, Jr.
 Project Manager

**ECS Carolinas, LLP**

6714 Netherlands Drive
 Wilmington, NC 28405
 (910) 686-9114 [Phone]
 (910) 686-9666 [Fax]

FIELD REPORT

Project **C & D Landfill**
 Location **Maysville, NC**
 Client **Quadrant Construction, Inc. - Steven Kellum**
 Contractor **Quadrant Construction, Inc. - Steven Kellum**

Project No. **22:20747**
 Report No. **10**
 Day & Date **Tuesday 06/10/2014**
 Weather **80°/ Rain**
 On-Site Time **5.75**
 Lab Time **0.50**
 Travel Time* **1.08**
 Total **7.33**
 Re Obs. Time **0.00**

Remarks

Trip Charges*	Tolls/Parking*	Mileage*	50	Time of Arrival	Departure
Chargeable Items				03:15A	09:00A

* Travel time and mileage will be billed in accordance with the contract.

Summary of Services Performed (field test data, locations, elevations & depths are estimates) & Individuals Contacted.

The undersigned arrived on site, as requested, to observe the placement of 22 cubic yards of 5,000 psi concrete for the slab on grade 3. Please see the attached sketch for the approximate concrete placement location.

The concrete observed on this date appeared to be placed in compliance with the project specifications with regard to mix temperature, slump, air content, and batch to placement time.

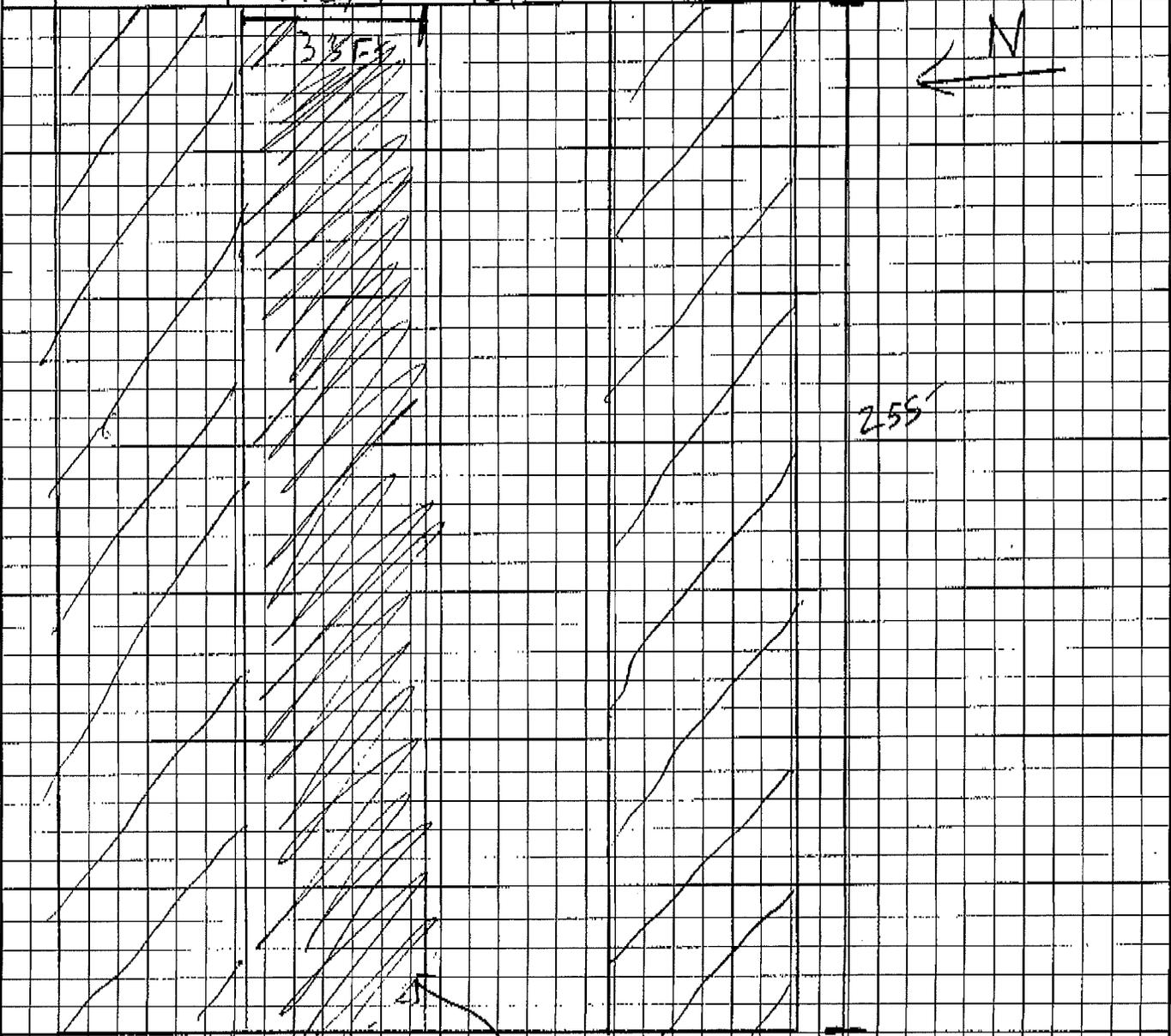
The following samples were obtained for compressive strength testing in our laboratory:

2 sets of 4 lab cylinders (5,000 psi) for Slab on grade

06/10/2014 17:42 FAX

001

	PROJECT: C+D Landfill		SHEET NO:
	TITLE: 3rd Slab on grade Bur		PROJ. NO:
	BY: Jordy P.	DATE: 6/10/13	SCALE: NTS
	APPROVED:		DATE:



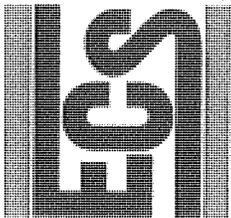
Legend

 area previously poured

 area poured today

concrete 8" deep

97097



Concrete Summary Report

Project: C & D Landfill

Project No. 20747

Location: Hwy 17
Maysville, NC 28555

Day/Date: 06/10/14

Contractor : Quadrant Construction, Inc.

Client: Quadrant Construction,

Supplier: DPD

Weather / Temp: Rain / 80

Mix Designation: 5030AE

Mix Strength: 5000 psi

Design Strength: Multiple (see remarks)

No.	Truck No.	Ticket No.	CY Concrete		Batch Time	Truck Time		Slump	% Air	Concrete Temp.	Water Added	Location and Remarks
			Truck	Cum		Arrive	Finish					
1	0145	946008	11.0	11.0	02:54	03:27	03:45	6.25	6.00()	82	*	Des. Str.: 5000 psi
2	0142	946023	11.0	22.0	06:26	07:01	07:24	6.50	5.00()	80	*	Des. Str.:

* Location: slab on grade 3

By: Jordan R. Peacock

ECS Carolinas, LLP

W01D 97090



Concrete Summary Report

Project: CD: Landfill
 Location: Maysville, NC
 Contractor: Quantum
 Supplier: DPD

Project No: 20747
 Day/Date: 6/10/14
 Client: Closey/Rainy 82

Project: CD: Landfill
 Location: Maysville, NC
 Contractor: Quantum
 Supplier: DPD

No.	Truck No.	Ticket No.	CY Concrete Truck	Cum	Batch Time	Truck Time		Blump	% Air	Concrete Temp	Water Added	Location and Remarks
						Arrive	Finish					
1	0143	946007			245	316	332					
2	0145	946008			254	327	345	64	6	82		
3	0122	946009			301	333	347					
4	0154	946010			307	338	353					
5	0138	946011			314	346	358					
6	0136	946012			322	357	412					
7	0135	946013			329	401	416					
8	0142	946014			336	415	427					
9	0143	946015			406	438	447					
10	0145	946016			413	444	458					
11	0122	946017			419	449	506					
12	0154	946018			432	503	519					
13	0139	946019			442	515	528					
14	0135	946021			457	530	546					

By: Jacob

Location:



ECS Carolinas, LLP
6714 Netherlands Drive
Wilmington, NC 28405
(910) 686-9114 [Phone]
(910) 686-9666 [Fax]

NC Registered Engineering Firm # F-1078

CONCRETE, GROUT, AND MORTAR TESTS
LETTER OF TRANSMITTAL

TO: Quadrant Construction, Inc.
166 Center Sreet

Jacksonville, NC 28546

ATTN: Mr. Steven Kellum

JOB NO.: 020747

DATE: 06/11/2014
RE: C & D Landfill
PERMIT #:

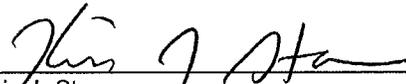
LOCATION:
Hwy 17, Maysville, NC

We are enclosing:

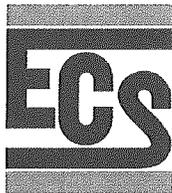
<input checked="" type="checkbox"/>	Attached	<input checked="" type="checkbox"/>	For Your Use
<input checked="" type="checkbox"/>	Materials Engineering Division Concrete Reports:	<input checked="" type="checkbox"/>	As Requested
	5		

CC: Quadrant Construction, Inc. - Brad Hartsfield

By:


Kris J. Stamm
Branch Manager/Principal


Harry Slater, Jr.
Project Manager



ECS Carolinas, LLP
6714 Netherlands Drive
Wilmington, NC 28405
(910) 686-9114 [Phone]
(910) 686-9666 [Fax]

NC Registered Engineering Firm # F-1078

CONCRETE, GROUT, AND MORTAR TESTS
LETTER OF TRANSMITTAL

TO: Quadrant Construction, Inc.
166 Center Sreet

Jacksonville, NC 28546

ATTN: Mr. Steven Kellum

JOB NO.: 020747

DATE: 06/11/2014
RE: C & D Landfill
PERMIT #:

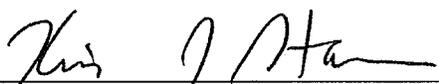
LOCATION:
Hwy 17, Maysville, NC

We are enclosing:

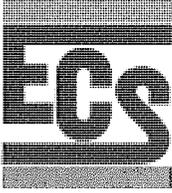
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<input checked="" type="checkbox"/>	Materials Engineering Division Concrete Reports: 6	<input checked="" type="checkbox"/>	As Requested

CC: Quadrant Construction, Inc. - Brad Hartsfield

By:


Kris J. Stamm
Branch Manager/Principal


Harry Slater, Jr.
Project Manager



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6714 Netherlands Drive
Wilmington, NC 28405
(910) 686-9114 [Phone]
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NC Registered Engineering Firm # F-1078

CONCRETE, GROUT, AND MORTAR TESTS
LETTER OF TRANSMITTAL

TO: Quadrant Construction, Inc.
166 Center Sreet

Jacksonville, NC 28546

ATTN: Mr. Steven Kellum

JOB NO.: 020747

DATE: 06/11/2014
RE: C & D Landfill
PERMIT #:

LOCATION:
Hwy 17, Maysville, NC

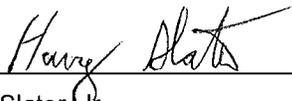
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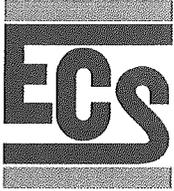
<input checked="" type="checkbox"/>	Attached	<input checked="" type="checkbox"/>	For Your Use
<input checked="" type="checkbox"/>	Materials Engineering Division Concrete Reports: 7	<input checked="" type="checkbox"/>	As Requested

CC: Quadrant Construction, Inc. - Brad Hartsfield

By:


Kris J. Stamm
Branch Manager/Principal


Harry Slater, Jr.
Project Manager



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Wilmington, NC 28405
(910) 686-9114 [Phone]
(910) 686-9666 [Fax]

NC Registered Engineering Firm # F-1078

CONCRETE, GROUT, AND MORTAR TESTS
LETTER OF TRANSMITTAL

TO: Quadrant Construction, Inc.
166 Center Sreet

Jacksonville, NC 28546

ATTN: Mr. Steven Kellum

JOB NO.: 020747

DATE: 06/11/2014
RE: C & D Landfill
PERMIT #:

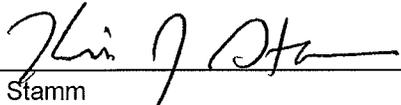
LOCATION:
Hwy 17, Maysville, NC

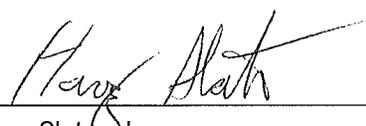
We are enclosing:

<input checked="" type="checkbox"/>	Attached	<input checked="" type="checkbox"/>	For Your Use
<input checked="" type="checkbox"/>	Materials Engineering Division Concrete Reports:	<input checked="" type="checkbox"/>	As Requested
	1		

CC: Quadrant Construction, Inc. - Brad Hartsfield

By:


Kris J. Stamm
Branch Manager/Principal


Harry Slater, Jr.
Project Manager



ECS Carolinas, LLP
6714 Netherlands Drive
Wilmington, NC 28405
(910) 686-9114 [Phone]
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NC Registered Engineering Firm # F-1078

CONCRETE, GROUT, AND MORTAR TESTS
LETTER OF TRANSMITTAL

TO: Quadrant Construction, Inc.
166 Center Sreet

Jacksonville, NC 28546

ATTN: Mr. Steven Kellum

JOB NO.: 020747

DATE: 06/12/2014
RE: C & D Landfill
PERMIT #:

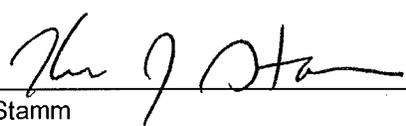
LOCATION:
Hwy 17, Maysville, NC

We are enclosing:

<input checked="" type="checkbox"/>	Attached	<input checked="" type="checkbox"/>	For Your Use
<input checked="" type="checkbox"/>	Materials Engineering Division Concrete Reports:	<input checked="" type="checkbox"/>	As Requested
	2		

CC: Quadrant Construction, Inc. - Brad Hartsfield

By:


Kris J. Stamm
Branch Manager/Principal


Harry Slater, Jr.
Project Manager



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6714 Netherlands Drive
Wilmington, NC 28405
(910) 686-9114 [Phone]
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NC Registered Engineering Firm # F-1078

CONCRETE, GROUT, AND MORTAR TESTS
LETTER OF TRANSMITTAL

TO: Quadrant Construction, Inc.
166 Center Sreet

Jacksonville, NC 28546

ATTN: Mr. Steven Kellum

JOB NO.: 020747

DATE: 06/12/2014
RE: C & D Landfill
PERMIT #:

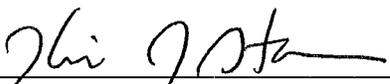
LOCATION:
Hwy 17, Maysville, NC

We are enclosing:

<input checked="" type="checkbox"/>	Attached	<input checked="" type="checkbox"/>	For Your Use
<input checked="" type="checkbox"/>	Materials Engineering Division Concrete Reports:	<input checked="" type="checkbox"/>	As Requested
	3		

CC: Quadrant Construction, Inc. - Brad Hartsfield

By:


Kris J. Stamm
Branch Manager/Principal


Harry Slater, Jr.
Project Manager



ECS Carolinas, LLP
6714 Netherlands Drive
Wilmington, NC 28405
(910) 686-9114 [Phone]
(910) 686-9666 [Fax]

NC Registered Engineering Firm # F-1078

CONCRETE, GROUT, AND MORTAR TESTS
LETTER OF TRANSMITTAL

TO: Quadrant Construction, Inc.
166 Center Sreet

Jacksonville, NC 28546

ATTN: Mr. Steven Kellum

JOB NO.: 020747

DATE: 06/12/2014
RE: C & D Landfill
PERMIT #:

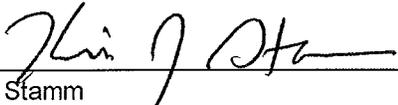
LOCATION:
Hwy 17, Maysville, NC

We are enclosing:

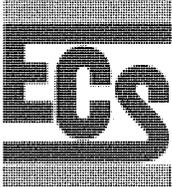
<u>X</u>	Attached	<u>X</u>	For Your Use
<u>X</u>	Materials Engineering Division Concrete Reports:	<u>X</u>	As Requested
	4		

CC: Quadrant Construction, Inc. - Brad Hartsfield

By:


Kris J. Stamm
Branch Manager/Principal


Harry Slater, Jr.
Project Manager



ECS Carolinas, LLP
6714 Netherlands Drive
Wilmington, NC 28405
(910) 686-9114 [Phone]
(910) 686-9666 [Fax]

CONCRETE, GROUT, AND MORTAR TESTS
LETTER OF TRANSMITTAL

NC Registered Engineering Firm # F-1078

TO: Quadrant Construction, Inc.
166 Center Sreet

Jacksonville, NC 28546

ATTN: Mr. Steven Kellum

JOB NO.: 020747

DATE: 06/13/2014
RE: C & D Landfill
PERMIT #:

LOCATION:
Hwy 17, Maysville, NC

We are enclosing:

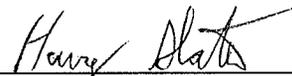
<input checked="" type="checkbox"/>	Attached	<input checked="" type="checkbox"/>	For Your Use
<input checked="" type="checkbox"/>	Materials Engineering Division Concrete Reports:	<input checked="" type="checkbox"/>	As Requested
	8		

CC: Quadrant Construction, Inc. - Brad Hartsfield

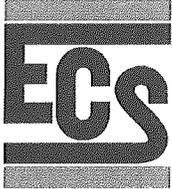


By:

Nathan Nallathathan, P.E.
Principal Engineer
JUN 13 2014



Harry Slater, Jr.
Project Manager



ECS Carolinas, LLP
6714 Netherlands Drive
Wilmington, NC 28405
(910) 686-9114 [Phone]
(910) 686-9666 [Fax]

NC Registered Engineering Firm # F-1078

CONCRETE, GROUT, AND MORTAR TESTS
LETTER OF TRANSMITTAL

TO: Quadrant Construction, Inc.
166 Center Sreet

Jacksonville, NC 28546

ATTN: Mr. Steven Kellum

JOB NO.: 020747

DATE: 06/13/2014
RE: C & D Landfill
PERMIT #:

LOCATION:
Hwy 17, Maysville, NC

We are enclosing:

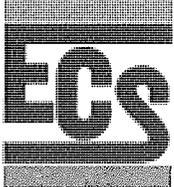
<u>X</u>	Attached	<u>X</u>	For Your Use
<u>X</u>	Materials Engineering Division Concrete Reports:	<u>X</u>	As Requested
	9		

CC: Quadrant Construction, Inc. - Brad Hartsfield



By: Nathan Nallainathan, P.E.
Principal Engineer

Harry Slater, Jr.
Project Manager



ECS Carolinas, LLP
6714 Netherlands Drive
Wilmington, NC 28405
(910) 686-9114 [Phone]
(910) 686-9666 [Fax]

NC Registered Engineering Firm # F-1078

CONCRETE, GROUT, AND MORTAR TESTS
LETTER OF TRANSMITTAL

TO: Quadrant Construction, Inc.
166 Center Sreet

Jacksonville, NC 28546

ATTN: Mr. Steven Kellum

JOB NO.: 020747

DATE: 06/19/2014
RE: C & D Landfill
PERMIT #:

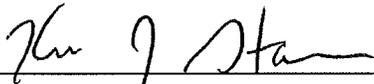
LOCATION:
Hwy 17, Maysville, NC

We are enclosing:

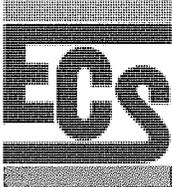
<input checked="" type="checkbox"/>	Attached	<input checked="" type="checkbox"/>	For Your Use
<input checked="" type="checkbox"/>	Materials Engineering Division Concrete Reports: 10	<input checked="" type="checkbox"/>	As Requested

CC: Quadrant Construction, Inc. - Brad Hartsfield

By:


Kris J. Stamm
Branch Manager/Principal


Harry Slater, Jr.
Project Manager



ECS Carolinas, LLP
6714 Netherlands Drive
Wilmington, NC 28405
(910) 686-9114 [Phone]
(910) 686-9666 [Fax]

NC Registered Engineering Firm # F-1078

CONCRETE, GROUT, AND MORTAR TESTS
LETTER OF TRANSMITTAL

TO: Quadrant Construction, Inc.
166 Center Sreet

Jacksonville, NC 28546

ATTN: Mr. Steven Kellum

JOB NO.: 020747

DATE: 06/19/2014
RE: C & D Landfill
PERMIT #:

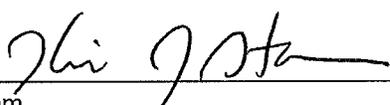
LOCATION:
Hwy 17, Maysville, NC

We are enclosing:

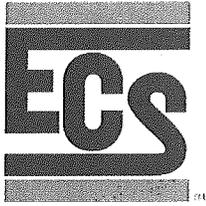
<input checked="" type="checkbox"/>	Attached	<input checked="" type="checkbox"/>	For Your Use
<input checked="" type="checkbox"/>	Materials Engineering Division Concrete Reports:	<input checked="" type="checkbox"/>	As Requested
	11		

CC: Quadrant Construction, Inc. - Brad Hartsfield

By:


Kris J. Stamm
Branch Manager/Principal


Harry Slater, Jr.
Project Manager

**ECS Carolinas, LLP**

6714 Netherlands Drive
 Wilmington, NC 28405
 (910) 686-9114 [Phone]
 (910) 686-9666 [Fax]
 NC Registered Engineering Firm # F-1078

LETTER OF TRANSMITTAL

June 20, 2014

Quadrant Construction, Inc.
 166 Center Sreet
 Jacksonville, NC 28546

ATTN: Mr. Steven Kellum

RE: **C & D Landfill**ECS Job # **22:20747**

Permits:

Location: **Hwy 17**
Maysville, NC

We are enclosing:

- Materials Engineering Division Reports
 For your use
 As requested

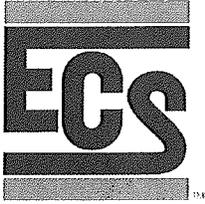
CC: **Quadrant Construction, Inc. - Brad Hartsfield**

ENCL:

Field Report # 12 06/19/2014

Kris J. Stamm
 Branch Manager/Principal

Harry Slater, Jr.
 Project Manager

**ECS Carolinas, LLP**

6714 Netherlands Drive
 Wilmington, NC 28405
 (910) 686-9114 [Phone]
 (910) 686-9666 [Fax]

FIELD REPORT

Project **C & D Landfill**
 Location **Maysville, NC**
 Client **Quadrant Construction, Inc. - Steven Kellum**
 Contractor **Quadrant Construction, Inc. - Steven Kellum**

Project No. **22:20747**
 Report No. **12**
 Day & Date **Thursday 06/19/2014**
 Weather **71°/ Sunny**
 On-Site Time **4.00**
 Lab Time **0.50**
 Travel Time* **1.08**
 Total **5.58**
 Re Obs. Time **0.00**

Remarks

Trip Charges*	Tolls/Parking*	Mileage*	50	Time of Arrival	Departure
Chargeable Items				03:15A	07:15A

* Travel time and mileage will be billed in accordance with the contract.

Summary of Services Performed (field test data, locations, elevations & depths are estimates) & Individuals Contacted.

The undersigned arrived on site, as requested, to observe the placement of 186 cubic yards of 5,000 psi concrete for the 4th slab on grade. Please see the attached sketch for the approximate concrete placement locations.

The concrete observed on this date appeared to be placed in accordance with the project specifications with regard to mix temperature, air content, and batch to placement time, but not slump.

The following samples were obtained for compressive strength testing in our laboratory:

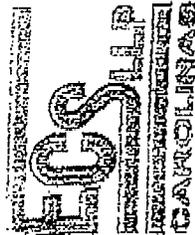
Set A: 1 set of 4 lab cylinders were cast for 4th slab on grade.

Set B: 1 set of 4 lab cylinders were cast for 4th slab on grade.

By **Jordan R. Peacock, — Technician**

1700

92426 : 010M



Concrete Summary Report

Project: CTD Page: 1 of 2
 Location: 4th Center Slab on Grade Project No: 20747
 Contractor: Quantan Day: 6/19/14
 Supplier: OPD Client: TN Clear
 Weather/Temp: TN Clear

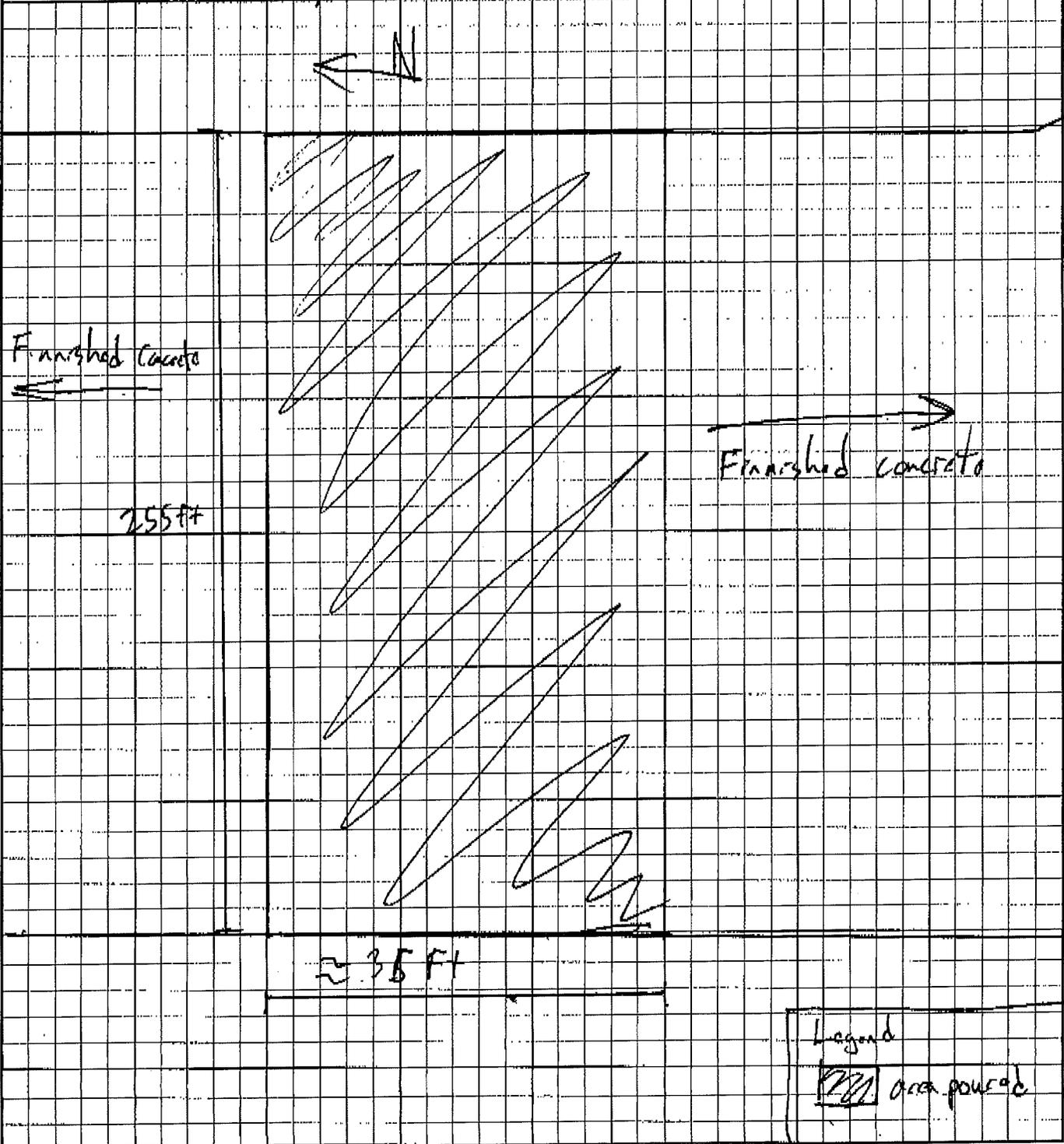
No.	Truck No.	Ticket No.	CY Concrete		Batch Time	Truck Time		Slump	% Air	Concrete Temp	Water Added	Location and Remarks
			Truck	Cham		Arrive	Finish					
1	0115	946184	11		2:48	3:50	3:45					#4 Slab
2	0145	946185			2:56	3:40	3:50					
3	0138	946186			3:02	3:46	3:53					
4	0145	946187			3:09	3:52	4:04	5.34	7.3	81		test
5	0124	946188			3:16	3:58	4:09					
6	0122	946189			3:23	4:06	4:14					
7	0154	946190			3:30	4:12	4:20					
8	0142	946192			3:46	4:18	4:26					
9	0115	946193			4:10	4:33	4:40					
10	0143	946194			4:19	4:50	4:58					
11	0138	946195			4:27	5:01	5:09					
12	0145	946196			4:33	5:05	5:13					
13	0124	946197			4:40	5:16	5:23					
14	0122	946198			4:46	5:22	5:30	7	7	78		test

Location: Dr. Jody P.

06/19/2014 17:10 FAX

001

	PROJECT: C+D Landfill		SHEET NO:	
	TITLE: 4ft Slab on grade		PROJ. NO: 20747	
			SCALE: NTS	
	BY: Jordy P	DATE: 6/19/14	APPROVED:	DATE:



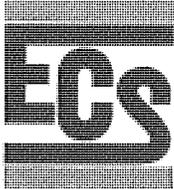
W/OTD: 9747 /

Concrete Summary Report

Project: C & D Landfill
 Location: Hwy 17
 Contractor: Maysville, NC 28555
 Supplier: Quadrant Construction, Inc.
 Supplier: DPD
 Mix Designation: 5030AE
 Mix Strength: 5000 psi
 Weather / Temp: Sunny / 71
 Design Strength: 5000 psi

No.	Truck No.	Ticket No.	CY Concrete		Batch Time	Truck Time		Slump	% Air	Concrete Temp.	Water Added	Location and Remarks
			Truck	Cum		Arrive	Finish					
1	0145	947187	11.0	11.0	03:09	03:52	04:04	5.75	7.30()	81		*
2	0122	946198	11.0	22.0	04:46	05:22	05:30	7.00	7.00()	78		*

* Location: 4th slab on grade
 By: Jordan R. Peacock
 ECS Carolinas, LLP



ECS Carolinas, LLP
6714 Netherlands Drive
Wilmington, NC 28405
(910) 686-9114 [Phone]
(910) 686-9666 [Fax]

NC Registered Engineering Firm # F-1078

CONCRETE, GROUT, AND MORTAR TESTS
LETTER OF TRANSMITTAL

TO: Quadrant Construction, Inc.
166 Center Sreet

Jacksonville, NC 28546

ATTN: Mr. Steven Kellum

JOB NO.: 020747

DATE: 06/29/2014
RE: C & D Landfill
PERMIT #:

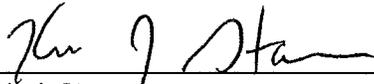
LOCATION:
Hwy 17, Maysville, NC

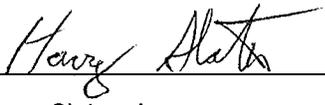
We are enclosing:

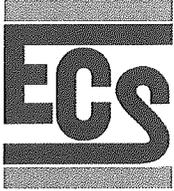
<u> X </u>	Attached	<u> X </u>	For Your Use
<u> X </u>	Materials Engineering Division Concrete Reports:	<u> X </u>	As Requested
	12		

CC: Quadrant Construction, Inc. - Brad Hartsfield

By:


Kris J. Stamm
Branch Manager/Principal


Harry Slater, Jr.
Project Manager



ECS Carolinas, LLP
6714 Netherlands Drive
Wilmington, NC 28405
(910) 686-9114 [Phone]
(910) 686-9666 [Fax]

NC Registered Engineering Firm # F-1078

CONCRETE, GROUT, AND MORTAR TESTS
LETTER OF TRANSMITTAL

TO: Quadrant Construction, Inc.
166 Center Sreet

Jacksonville, NC 28546

ATTN: Mr. Steven Kellum

JOB NO.: 020747

DATE: 06/29/2014
RE: C & D Landfill
PERMIT #:

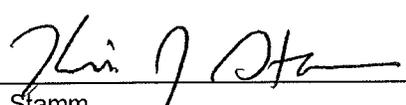
LOCATION:
Hwy 17, Maysville, NC

We are enclosing:

<input checked="" type="checkbox"/>	Attached	<input checked="" type="checkbox"/>	For Your Use
<input checked="" type="checkbox"/>	Materials Engineering Division Concrete Reports:	<input checked="" type="checkbox"/>	As Requested
	13		

CC: Quadrant Construction, Inc. - Brad Hartsfield

By:


Kris J. Stamm
Branch Manager/Principal


Harry Slater, Jr.
Project Manager



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6714 Netherlands Drive
Wilmington, NC 28405
(910) 686-9114 [Phone]
(910) 686-9666 [Fax]

NC Registered Engineering Firm # F-1078

CONCRETE, GROUT, AND MORTAR TESTS
LETTER OF TRANSMITTAL

TO: Quadrant Construction, Inc.
166 Center Sreet

Jacksonville, NC 28546

ATTN: Mr. Steven Kellum

JOB NO.: 020747

DATE: 07/03/2014
RE: C & D Landfill
PERMIT #:

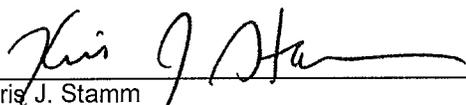
LOCATION:
Hwy 17, Maysville, NC

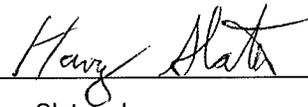
We are enclosing:

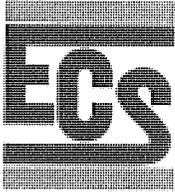
<input checked="" type="checkbox"/> Attached	<input checked="" type="checkbox"/> For Your Use
<input checked="" type="checkbox"/> Materials Engineering Division Concrete Reports: 5, 6, 7	<input checked="" type="checkbox"/> As Requested

CC: Quadrant Construction, Inc. - Brad Hartsfield

By:


Kris J. Stamm
Branch Manager/Principal


Harry Slater, Jr.
Project Manager



ECS Carolinas, LLP
6714 Netherlands Drive
Wilmington, NC 28405
(910) 686-9114 [Phone]
(910) 686-9666 [Fax]

NC Registered Engineering Firm # F-1078

CONCRETE, GROUT, AND MORTAR TESTS
LETTER OF TRANSMITTAL

TO: Quadrant Construction, Inc.
166 Center Sreet

Jacksonville, NC 28546

ATTN: Mr. Steven Kellum

JOB NO.: 020747

DATE: 07/08/2014
RE: C & D Landfill
PERMIT #:

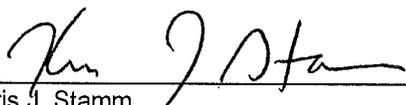
LOCATION:
Hwy 17, Maysville, NC

We are enclosing:

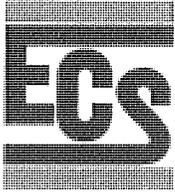
<input checked="" type="checkbox"/>	Attached	<input checked="" type="checkbox"/>	For Your Use
<input checked="" type="checkbox"/>	Materials Engineering Division Concrete Reports: 9, 8	<input checked="" type="checkbox"/>	As Requested

CC: Quadrant Construction, Inc. - Brad Hartsfield

By:


Kris J. Stamm
Branch Manager/Principal


Harry Slater, Jr.
Project Manager



ECS Carolinas, LLP
6714 Netherlands Drive
Wilmington, NC 28405
(910) 686-9114 [Phone]
(910) 686-9666 [Fax]

NC Registered Engineering Firm # F-1078

CONCRETE, GROUT, AND MORTAR TESTS
LETTER OF TRANSMITTAL

TO: Quadrant Construction, Inc.
166 Center Sreet

Jacksonville, NC 28546

ATTN: Mr. Steven Kellum

JOB NO.: 020747

DATE: 07/10/2014
RE: C & D Landfill
PERMIT #:

LOCATION:
Hwy 17, Maysville, NC

We are enclosing:

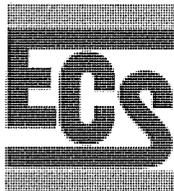
<input checked="" type="checkbox"/>	Attached	<input checked="" type="checkbox"/>	For Your Use
<input checked="" type="checkbox"/>	Materials Engineering Division Concrete Reports: 10, 11	<input checked="" type="checkbox"/>	As Requested

CC: Quadrant Construction, Inc. - Brad Hartsfield

By:


Kris J. Stamm
Branch Manager/Principal


Harry Slater, Jr.
Project Manager



ECS Carolinas, LLP
6714 Netherlands Drive
Wilmington, NC 28405
(910) 686-9114 [Phone]
(910) 686-9666 [Fax]

NC Registered Engineering Firm # F-1078

CONCRETE, GROUT, AND MORTAR TESTS
LETTER OF TRANSMITTAL

TO: Quadrant Construction, Inc.
166 Center Sreet

Jacksonville, NC 28546

ATTN: Mr. Steven Kellum

JOB NO.: 020747

DATE: 07/18/2014
RE: C & D Landfill
PERMIT #:

LOCATION:
Hwy 17, Maysville, NC

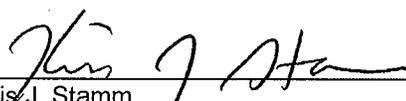
We are enclosing:

- | | |
|--|--|
| <input checked="" type="checkbox"/> Attached | <input checked="" type="checkbox"/> For Your Use |
| <input checked="" type="checkbox"/> Materials Engineering Division Concrete Reports:
12, 13 | <input checked="" type="checkbox"/> As Requested |

NOTE: LOW TEST RESULTS REPORTS 13

CC: Quadrant Construction, Inc. - Brad Hartsfield

By:


Kris J. Stamm
Branch Manager/Principal


Jonathan W. Motes
Field Services Manager



ECS Carolinas, LLP
6714 Netherlands Drive
Wilmington, NC 28405
(910) 686-9114 [Phone]
(910) 686-9666 [Fax]

CONCRETE, GROUT, AND MORTAR TESTS
LETTER OF TRANSMITTAL

NC Registered Engineering Firm # F-1078

TO: Quadrant Construction, Inc.
166 Center Sreet

Jacksonville, NC 28546

ATTN: Mr. Steven Kellum

JOB NO.: 020747

DATE: 07/25/2014
RE: C & D Landfill
PERMIT #:

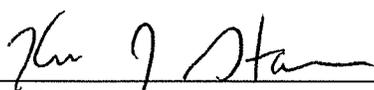
LOCATION:
Hwy 17, Maysville, NC

We are enclosing:

<input checked="" type="checkbox"/>	Attached	<input checked="" type="checkbox"/>	For Your Use
<input checked="" type="checkbox"/>	Materials Engineering Division Concrete Reports:	<input checked="" type="checkbox"/>	As Requested
	14		

CC: Quadrant Construction, Inc. - Brad Hartsfield

By:


Kris J. Stamm
Branch Manager/Principal


Harry Slater, Jr.
Project Manager



ECS Carolinas, LLP
 6714 Netherlands Drive
 Wilmington, NC 28405
 (910) 686-9114 [Phone]
 (910) 686-9666 [Fax]

Concrete Cylinders Strength Report

Project: C & D Landfill
 Location: Hwy 17, Maysville, NC

Project : 20747 Set Designation: A
 Cast Date: 07/17/2014
 Design Strength: 5000 psi
 Report No.: 14

Owner: Client: Quadrant Construction, Inc. - Steven
 Arch.: Gen. Contr.: Quadrant Construction, Inc. -
 Struc. Eng.: Conc. Contr.:

Placement Location: Slab on grade Recycling Building bathroom slab

Concrete Supplier: Ready Mixed Concrete Truck No: 2835 Ticket No: 4973105
 Mix Designation: 50CAF543 Mix Strength: 5000 psi Batch Time: 07:06AM
 Added Water: 20 Gals. Time Added: 08:00AM

FIELD TEST DATA: Tested by: Robert E. de la Cour Time Sampled: 07:41AM Slump: 7.00 in.
 Temperature - Air: 70° F Concrete: 81° F Air Content: 4.50 % (P)

Sample No	Test Date	Test Age	Type Cure	Average Measured Diameter in.	Avg. Measured Cross-Sectional Area in.-sq	Breaking Load, lbs	Compr. Str., psi	Brk Typ	Review by
147603	07/24/2014	7	Lab	4.01	12.62	67830	5370		HS01
147604	08/14/2014	28	Lab						
147605	08/14/2014	28	Lab						
147606	08/14/2014	28	Lab						

Sampling in accordance with (iaw) ASTM C172, except that samples may have been taken from the beginning of the load after a minimum discharge of approximately one cubic yard. Cylinder molding and laboratory curing iaw ASTM C31, compressive strength test and break type iaw ASTM C39, slump iaw C143, air content iaw ASTM C173 (V) or C231 (P), temperature iaw ASTM C1064, and unit weight iaw ASTM C138. Cylinders are tested using unbonded caps iaw ASTM C1231 or bonded caps iaw C617. Break Types are classified as: Type 1, 2, 3, 4, 5, or 6 iaw C39.

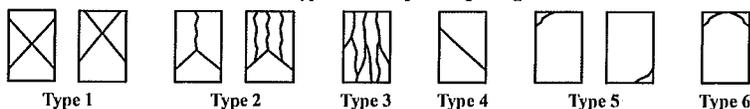
FIELD CURING CONDITIONS:

Curing Box Insulated Cooled Ice
X No Curing Box Heated Caps Other

Remarks:

Final Review By: Kevin J. Starn

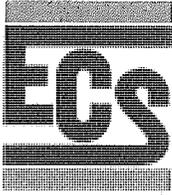
Schematic of Break Type Fracture pattern per Fig 2 of C39



HS01

Print Date: 07/25/2014

BR01



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6714 Netherlands Drive
Wilmington, NC 28405
(910) 686-9114 [Phone]
(910) 686-9666 [Fax]

CONCRETE, GROUT, AND MORTAR TESTS
LETTER OF TRANSMITTAL

NC Registered Engineering Firm # F-1078

TO: Quadrant Construction, Inc.
166 Center Sreet

Jacksonville, NC 28546

ATTN: Mr. Steven Kellum

JOB NO.: 020747

DATE: 08/18/2014
RE: C & D Landfill
PERMIT #:

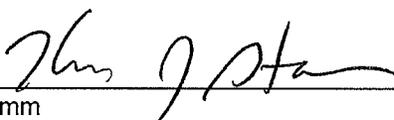
LOCATION:
Hwy 17, Maysville, NC

We are enclosing:

<input checked="" type="checkbox"/>	Attached	<input checked="" type="checkbox"/>	For Your Use
<input checked="" type="checkbox"/>	Materials Engineering Division Concrete Reports:	<input checked="" type="checkbox"/>	As Requested
	14		

CC: Quadrant Construction, Inc. - Brad Hartsfield

By:


Kris J. Stamm
Branch Manager/Principal


Harry Slater, Jr.
Project Manager

