

August 4, 2014

Mr. Geoffrey Little, PE  
Environmental Engineer II  
Division of Waste Management, NC DENR  
16461 Mail Service Center  
Raleigh, NC 27699-1646

Re: Application for 5-Year Permit to Operate Amendment  
Coble's C&D Landfill  
Alamance County, North Carolina  
Permit No. 0105-CDLF-1998  
Doc ID No. Doc Id. No.

Dear Mr. Little:

On behalf of the Coble's C&D LF, Joyce Engineering, Inc. (JOYCE) has prepared this response to your comments of a letter date June 11, 2014. In the referenced letter you provided comments to be addressed before issuance of the amended Permit to Operate.

Below are the comments as they appeared on the June 11, 2014 letter. *JOYCE responses are prepared in italic print and provided below each comment. The requested documents are attached.*

1. Please revise the cost estimates for Financial Assurance. The closure cost estimates in the submittals dated 8/20/13 and 1/16/14 do not include [i] estimates for testing the clay barrier for permeability, [ii] surveying prior to and following construction of the cap and [iii] a contingency line item.

*Response:*

[i] *Clayey soil laboratory and field testing have been included in the closure cost estimate.*

[ii] *Surveying cost per acre has been included in the closure cost estimate.*

[iii] *Contingency line item has been included in the closure cost estimate.*

2. Please provide a certified drawing of the current active and closed areas with including acreage totals. The drawing is needed to verify total current open acreage of less than 4 acres.

*Response:*

*A certified drawing by surveyor has be prepared and submitted with this letter. The drawing shows the current active and closed areas.*

3. On the drawing requested in Item 2, please include the requested excluded areas.

*Response:*

*The requested areas to be excluded from limits of waste are indicated on the attached drawing.*

4. Submittal of the above is necessary to determine the amount of Financial Assurance needed, Documentation that Financial Assurance is secured will need to be satisfied before the Permit to

Mr. Geoffrey Little, PE  
August 4, 2014  
Page 2 of 2

Operate can be issued. The Financial Assurance requirements include closure, post-closure and PACA costs as stipulated under NCGS 130A-295.2.

*Response:*

*A revised Closure & Post-Closure Care Plan is attached. The plan includes both Closure Cost and Post-Closure Cost estimates.*

We hope these responses and attachments will provide the information the Section is requesting and will help in finalizing the five-year permit renewal for the Coble's C&D landfill.

Please do not hesitate to contact me if there are any comments or concerns related to the above. You can reach me by phone 336-323-0092 or e-mail at [hannu@joyceengineering.com](mailto:hannu@joyceengineering.com)

Sincerely,  
**JOYCE ENGINEERING, INC.**



Hannu Kemppinen  
Senior project Consultant

Cc: Brenda and Kent Coble, Coble's Sandrock C&D Landfill  
Ed Mussler, Michael Scott, Sarah Rice, Elizabeth Werner, and John Patrone, DWM

Enclosure: Record Final Cover Drawing  
Closure & Post-Closure Care Plan (Revised August 2014)



North Carolina Department of Environment and Natural Resources

Pat McCrory  
Governor

John E. Skvarla, III  
Secretary

June 11, 2014

Kent and Brenda Coble  
Coble's Sandrock, Inc.  
5833 Foster Store Road  
Liberty, NC 27298

Re: Application for 5-Year Permit to Operate Amendment  
Coble's C&D Landfill  
Alamance County, North Carolina  
Permit No. 0105-CDLF-1998  
Doc ID No. Doc Id. No.

Dear Mr. and Ms. Coble:

Below are comments we need to address before issuance of the amended Permit to Operate the above referenced facility.

1. Please revise the cost estimates for Financial Assurance. The cost closure estimates in the submittals dated 8/20/13 and 1/16/14 do not include [i] estimates for testing the clay barrier for permeability, [ii] surveying prior to and following construction of the cap and [iii] a contingency line item.
2. Please provide a certified drawing of the current active and closed areas with including acreage totals. The drawing is needed to verify total current open acreage of less than 4 acres.
3. On the drawing requested in Item 2, please include the requested excluded areas.
4. Submittal of the above is necessary to determine the amount of Financial Assurance needed. Documentation that Financial Assurance is secured will need to be satisfied before the Permit to Operate can be issued. The Financial Assurance requirements include closure, post-closure and PACA costs as stipulated under NCGS 130A-295.2.

Following submittal of your responses to the above comments, we will be in position to continue the permit amendment process.

Thank you for your cooperation in this process. If you have questions about the permit conditions or have questions regarding operation of the facility, please contact either me at 919.707.8252 or John Patrone, Environmental Senior Specialist for the facility, at 336.771.5095.

Sincerely,

Geoffrey H. Little, Environmental Engineer II  
Division of Waste Management, NC-DENR

c: Michael Scott, DWM  
Ed Mussler, DWM  
John Patrone, DWM

Hannu Kemppinen, P.G., Joyce Engineering  
Elizabeth Werner, DWM

## **CLOSURE & POST-CLOSURE CARE PLAN (.0543)**

### **CLOSURE**

#### 1. Description of Cap System:

The cap system to be used is designed to minimize infiltration and erosion. The cap system will consist of:

- A low-permeability infiltration layer of at least 18 inches with a permeability not greater than  $1.0 \times 10^{-5}$  cm/sec;
- An erosion layer that contains a minimum of 18 inches of earthen material that is capable of sustaining native plant growth.

Construction of the cap system will conform to the plans prepared in accordance with Rule .0540 of this Section and the following requirements:

- (A) Post-settlement surface slopes will be a minimum of five percent and a maximum of 33 percent or as shown on the closure plan drawings; and
- (B) A gas venting or collection system will be installed below the low-permeability barrier to minimize pressures exerted on the barrier.

The construction of the closure cap will be in accordance with the Volume 2 Application for Permit to Construct Phase 3 and the specifications provided in Appendix IV; the Application to Construct Phase 3 was approved by the SWS on 2/19/2009.

#### 2. Closure Area

The maximum closure area for the landfill permitted in 2009 for the Phase 3 expansion was 24.9 acres. Following the partial closure of the 9.8 acres in the fall of 2013 the remaining open landfill area will be 15.1 acres. The proposed permit modification would exclude 0.8 acres on west side of Phase 1 and 2 from the permitted limits of waste and the requirement of closure. By subtracting the proposed excluded are, the remaining open landfill area will be 14.3 acres. The Cobles plan to limit active landfill area to no more than 4 acres at any one time.

#### 3. Waste Inventory

The projected total tonnage in place at the end of Phase 3 is approximately 865,280 tons. This amount includes the tonnages from Phase 1 and Phase 2 in addition to the tonnage from Phase 3, which is estimated to be 440,131 tons.

#### 4. Schedule

As of this permit renewal, Phase 3 has a projected operating life of approximately 17 years. Thus, closure of the entire landfill is not anticipated until 2030, assuming waste disposal in Phase 3 continues at the current annual tonnage. As noted above in 2. Closure Area, the Cobles plan to limit active landfill area to no more than 4 acres at any one time, thus each closure event will be limited to maximum of four acres in area. Prior to beginning final closure, Coble's Sandrock

will notify the Division that a Notice of Intent to close the facility has been placed in the operating record.

Closure activities are proposed to begin within 30 days of final receipt of waste. Construction of the closure cap is to be completed within 180 days following the initiation of closure activities. The total length of the proposed closure period is 210 days following the final receipt of waste. Approximate closure milestones are shown below.

Proposed Closure Milestones and Schedule

<b>Milestone</b>	<b>Proposed Schedule from the Date of Final Receipt of Waste</b>
Testing of borrow sources	Within 6 months prior to closure
Grading of intermediate cover	Within 30 to 60 days
Placement of soil cap	30 to 150 days
Final inspection of cap by P.E.	150 to 180 days
Construction of stormwater controls	90 to 180 days
Seeding and mulching	150 to 180 days
Preparation of survey plat	180 to 210 days
Submittal of closure certification	180 to 210 days

5. Cost Estimate for Closure

Closure Cost Estimate for Each Four Acre Event

<b>Component</b>	<b>Quantity</b>	<b>Unit</b>	<b>Unit Cost</b>	<b>Total</b>
Mobilization	1	LS	\$5,000	\$5,000
18" Clay (10E-5 cm/sec)	9,680	CY	\$3.50	\$33,880
18" Clay Field & Lab Testing	4	AC	1,905	\$7,620
18" Vegetative Soil	9,680	CY	\$3.50	\$33,880
Seeding/Re-vegetation	4	ACRE	\$1,500	\$6,000
Survey	4	LS	\$1,250	\$5,000
			Subtotal:	\$91,380
Engineering/CQA (~5%)		1		\$4,569
Contingency (~5%)		1		\$4,569
			<b>TOTAL</b>	<b>\$100,518</b>

6. Closure Certification

A Professional Engineer, registered in the State of North Carolina, will verify that the closure has been completed in accordance with the Closure Plan. The contents of the signed Certification Report will be as described below.

Certification Reports:

The Construction Quality Assurance (CQA) report will contain the results of all the construction quality assurance and construction quality control testing, including documentation of any failed test results, descriptions of procedures used to correct the improperly installed material, and results of all retesting performed. The CQA report will contain record drawings noting any deviation from the approved engineering plans and will also contain a comprehensive narrative including, but not limited to, daily reports from the project engineer, a series of color photographs of major project features, and documentation of proceedings of all progress and troubleshooting meetings. The CQA report will be submitted after completion of construction of the cap system in accordance with the requirements of Rule .0543. The CQA report must bear the seal of the project engineer and a certification that construction was completed in accordance with the CQA Plan and acceptable engineering practices.

7. Deed Recordation

Following closure, the owner or operator will record a notation on the deed to the landfill facility property at the local County Register of Deeds office, or some other instrument that is normally examined during title search, and notify the Division that the notation has been recorded and a copy has been placed in the operating record. The notation on the deed shall in perpetuity notify any potential purchaser of the property that the land has been used as a Construction and Demolition (C&D) landfill unit or facility and its use is restricted under the closure plan approved by the Division.

**POST CLOSURE**

Post-Closure activities will be conducted at the landfill for a period of 30 years following closure of the landfill. The length of the period can be increased or decreased in accordance with Division directives.

1. Contact

Coble’s Sandrock, Inc. will handle questions and/or problems which might occur during the Post-Closure care period.

CONTACT PERSON:	Mr. Kent Coble
OWNER:	Mr. Kent Coble
ADDRESS:	5833 Foster Store Road Liberty, North Carolina 27298
PHONE NUMBER:	(336) 565-4750
FAX:	(336) 565-4752

## 2. Security

Access to the site will be controlled by the use of barriers and gates at roadway entrances. These control devices will be maintained throughout the post-closure care period, and inspected as part of the monthly inspection program. All barriers and gates will be clearly marked with signs stating the name and nature of the facility and the person to contact in case of emergency or breach of security.

## 3. Post-Closure Maintenance

Post-closure maintenance and monitoring will be conducted at the landfill for a period of 30 years after final closure. The Division may decrease the length of the post-closure period if the owner or operator demonstrates that the reduced period is sufficient to protect human health and the environment, and the Division approves this demonstration. The period might be increased by the Division if the Division determines that the lengthened period is necessary to protect human health and the environment. Monitoring will include semi-annual sampling of groundwater and surface water, quarterly gas monitoring, and quarterly inspection of the final cover and monitoring and control systems. Maintenance needs identified through the monitoring program will be initiated no later than 60 days after the discovery, and within 24 hours if a danger or eminent threat to human health or the environment is indicated. Minor cap maintenance may be deferred until there is a sufficient amount of work to justify the mobilization of equipment and personnel.

Soil will be added to the cap as necessary to correct the effects of settlement and subsidence of the soil cap and to prevent run-on and run-off from eroding the final cap.

Stormwater control devices, surveyed benchmarks, groundwater monitoring wells, surface water monitoring/sampling gauges and Landfill Gas (LFG) wells will be protected and maintained.

Vegetation will be mowed twice per year, fertilized once every three years and re-seeded (as necessary) once every three years.

The security fencing, gates, and access roads will be maintained and repaired, as necessary.

## 4. Inspection Plan

Routine inspections will be conducted throughout the post-closure care period. These inspections will be carried out quarterly unless problems are detected that indicate that more frequent visits are warranted. Potential impacts to the public and environment will be considered in determining the inspection frequency. Items to be included in the quarterly inspection will be as follows:

- Access and security control,
- Stormwater management,
- Erosion and sediment control,
- Gas management,

- Groundwater and landfill gas monitoring systems, and
- Vector control.

The quarterly inspections will be carried out by someone properly trained and knowledgeable about landfills, such as the landfill owner, operator or engineering consultant. The results of the inspections will be documented. Please see Appendix IX of the Volume 2 of Application for Permit to Construct Phase3 for an example Post Closure Inspection Form. If inspections indicate that repairs are necessary, repairs will be initiated as soon as practical.

In addition to the routine quarterly inspections, special inspections will be performed and documented after events that may likely cause damage to the integrity of the landfill cover, such as heavy rainfall events. Inspection may also be necessary following written or verbal complaints, vandalism or fires. Following special inspections, any necessary repairs will be initiated as soon as practical.

Records of all inspections will be kept in the operating record.

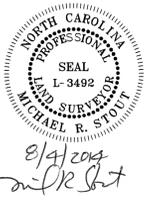
#### 5. Post-Closure Land Use

The primary land use for the site after closure of the landfill will be open dormant green space.

**Post-Closure Cost Estimate**

An estimate of Post-Closure Care Costs is provided on the following page. All costs are given in 2013 dollars.

ITEM	UNIT	QUANTITY	UNIT COST	ANNUAL COST
<b>INSPECTIONS/ RECORD KEEPING</b>	per trip	4	\$ 500.00	<b>\$ 2,000.00</b>
<b>MONITORING</b>				
Explosive gases (quarterly)	per trip	4	\$ 400.00	\$ 1,600.00
Groundwater/Surfacewater (semi-annually)				
Sampling	per trip	2	\$1,800.00	\$ 3,600.00
Analysis	per trip	2	\$2,000.00	\$ 4,000.00
Reporting	per trip	2	\$2,900.00	\$ 5,800.00
<b>Subtotal</b>				<b>\$ 15,000.00</b>
<b>ROUTINE MAINTENANCE</b>				
Mowing	acre	14.3	\$ 100.00	\$ 1,430.00
Fertilizing	acre	1.4	\$ 100.00	\$ 140.00
Reseeding	acre	1.4	\$1,500.00	\$ 2,100.00
Vector and Rodent Control	acre	14.3	\$ 25.00	\$ 357.50
<b>Subtotal</b>				<b>\$ 4,027.50</b>
<b>WELL MAINTENANCE</b>				
Groundwater Wells	lump sum	1	\$ 500.00	\$ 500.00
Gas Detection Probes	lump sum	1	\$ 250.00	\$ 250.00
<b>Subtotal</b>				<b>\$ 750.00</b>
<b>CAP REPAIR</b>	lump sum	1	\$5,000.00	<b>\$ 5,000.00</b>
<b>TOTAL OF ABOVE ITEMS</b>				<b>\$ 26,777.50</b>
<b>ENGINEERING</b>	-	-	3%	\$ 803.33
<b>CONTINGENCY</b>	-	-	5%	\$ 1,338.88
<b>TOTAL ANNUAL POST-CLOSURE COST (IN 2013 DOLLARS)</b>				<b>\$ 28,919.70</b>
<b>TOTAL 30 YEAR POST-CLOSURE COST (IN 2013 DOLLARS)</b>				<b>\$ 867,591.00</b>



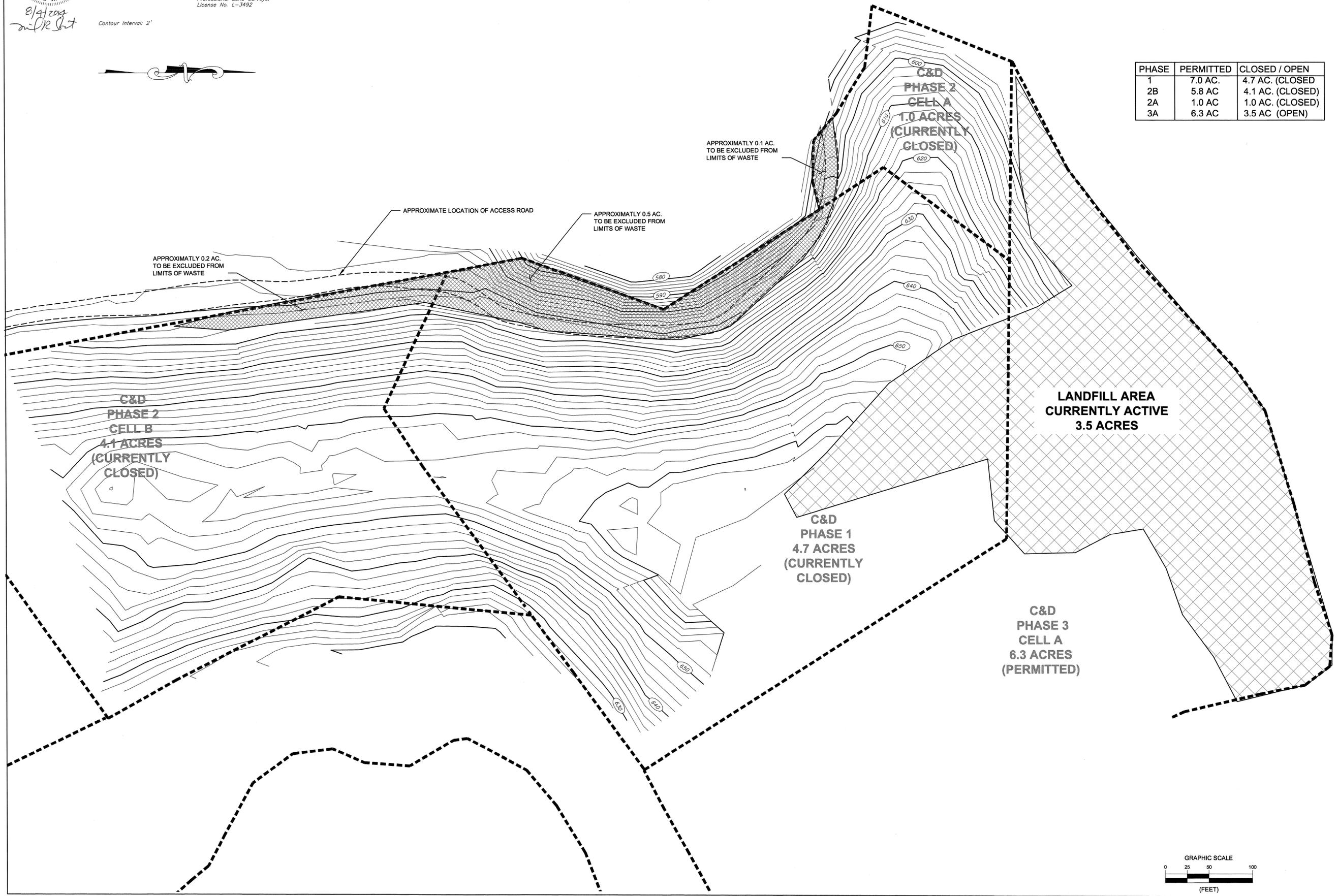
ALAMANCE COUNTY,  
NORTH CAROLINA:  
I, Michael R. Stout, certify that the contours shown on this plan were obtained by field surveys conducted under my supervision, on the dates listed. This is not a Boundary Survey. Witness my original signature, license number and seal this 4th Day of August, 2014.

*M. R. Stout*  
Professional Land Surveyor  
License No. L-3492

Contour Interval: 2'



PHASE	PERMITTED	CLOSED / OPEN
1	7.0 AC.	4.7 AC. (CLOSED)
2B	5.8 AC	4.1 AC. (CLOSED)
2A	1.0 AC	1.0 AC. (CLOSED)
3A	6.3 AC	3.5 AC (OPEN)



RECORD FINAL COVER

