

December 5, 2014

Permit No.	Date	DIN
06-03	December 8, 2014	22437

Mr. Allen Gaither, P.E.
North Carolina Dept. of Environment and Natural Resources
Asheville Regional Office
Division of Waste Management - Solid Waste Section
2090 U.S. 70 Highway
Swannanoa, NC 28778

RECEIVED
December 5, 2014
Solid Waste Section
Asheville Regional Office

**RE: Financial Assurance Update
Avery County CGD Landfill
NC Solid Waste Permit No. 06-03**

Dear Allen:

On behalf of Avery County, Smith Gardner, Inc. (S+G) is pleased to submit revised financial assurance estimates for the referenced permitted solid waste disposal facility. Please find the engineering estimates **ATTACHED**.

We appreciate your consideration and if there are any questions, please contact us at (919) 828-0577 or by email below.

Sincerely,

SMITH GARDNER, INC.



John R. Fearrington, E.I.
Staff Engineer, ext. 125
johnf@smithgardnerinc.com



Stacey A. Smith, P.E.
Senior Engineer, ext. 127
stacey@smithgardnerinc.com

sas/sas

Attachment

Cc: Buddy Norris, Avery County
Tim Greene, Avery County
File

**Avery County C&D Landfill (NC SW Permit No. 06-03)
Engineer's Financial Assurance Summary**

Item No.	Item Description	Estimate
1.0	Landfill Closure Estimate	\$ 269,375
2.0	Transfer Station Closure Estimate	\$ 127,380
3.0	Landfill Post Closure Estimate	\$ 607,722
4.0	Corrective Action Statutory Amount	\$ 1,000,000
5.0	Total Financial Assurance Estimate	\$ 2,004,477

Notes:

1. All costs are presented in current dollars and should be increased at an inflation rate prescribed by the NCDENR Division of Waste Management per <http://portal.ncdenr.org/web/wm/sw/financialassurance> if additional review is not performed annually.
2. This ESTIMATE has been prepared for financial assurance purposes only and shall not be considered a replacement for an actual bid from a licensed contractor. The ESTIMATE is intended to be accurate to within +/- 10% of the Total Estimated Cost.

Avery County C&D Landfill (NC SW Permit No. 06-03) Engineer's Post Closure Estimate

Item	Quantity or Cost	Unit	Comments
A. Groundwater Monitoring			
Monitoring wells	4	wells	Reference 1
Surface water point	2	points	Reference 1
Sampling frequency	2	events	Reference 1
Field sampling, collection, and shipping.	\$ 800	per event	S+G estimate
Laboratory Analysis	\$ 325	per well	S+G estimate
Data review, statistics, and reporting	\$ 2,000	per event	S+G estimate
Maintenance and repair	\$ 1,000	per well	S+G historical estimate
Subtotal Cost	\$ 11,900	per year	
B. Landfill Gas Management			
Control System Vents	7	vents	Per Ref. 1 (pro-rated @ one (1) per acre)
Sub-Surface Perimeter Monitoring Probes	4	probes	Per Ref. 1
Control system monitoring, maintenance and repair	\$ 50	per vent per year	S+G estimate
Semi-Annual Perimeter Monitoring	\$ 50	per probe per year	S+G estimate
Subtotal Cost	\$ 550	per year	Averaged over post-closure period
C. Final Cover Management			
Area of maintenance	7	acres	Extends to area immediately around landfill.
Mowing	\$ 100	per acre	Site historical estimate
Erosion and sediment control maintenance	\$ 200	per acre	Site historical estimate
Topdressing (seed & fertilizer)	\$ 150	per acre	Site historical estimate
Vector and rodent control	\$ 10	per acre	Site historical estimate
Maintenance Mobilization	\$ 1,000	per year	Site historical estimate
Subtotal Cost	\$ 4,307	per year	
D. Administration, Inspections, and Reporting			
Administration and record keeping	\$ 1,000	per year	Site historical estimate
Inspection	\$ 1,000	per year	Site historical estimate
Miscellaneous engineering	\$ 1,500	per year	Site historical estimate
Subtotal Cost	\$ 3,500	per year	
E. Subtotal Post-Closure Costs			
Number of Years for Post-Closure	30	years (See Note 1)	
Estimated Average Annual Costs	\$ 20,257	per year	
Cost per Acre	\$ 2,817.44	per year	
Subtotal Post Closure Costs	\$ 607,722	(See Note 2)	
Subtotal Post Closure Costs	\$ 607,722	(See Note 2)	
F. Potential Assessment and Corrective (Remedial) Action			
Minimum amount required by NCDENR Division of Waste Management	\$ 1,000,000	lump sum	Regulatory requirement (2014-SB 734)
Subtotal Remedial Cost	\$ 1,000,000	lump sum	
Total Post Closure Costs	\$ 607,722		
Total Post Closure and Remedial Costs	\$ 1,607,722	(2014\$) (See Note 2)	

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References:

- Avery County Construction and Demolition Landfill Phase III Permit to Construct Application by Richardson Smith Gardner & Associates, Inc. dated February 2009 with revisions through August 2009.

Avery County C&D Landfill (NC SW Permit No. 06-03) Engineer's Closure Construction Cost Estimate

Item No.	Item Description	Unit	Contractor			Comments
			Quantity	Unit Price	Total Price	
Closure Area (Horizontal Plan) ---->		AC	3.75			
1.0	Pre-Construction		Pre-Construction Subtotal:		\$ 13,875	
1.1	Construction Documents & Bidding	AC	3.75	\$12k + \$500/AC	\$ 13,875	S+G Estimate
2.0	Construction		Construction Subtotal:		\$ 223,875	References 1 & 2
2.1	Surveys and Layout	AC	3.75	\$ 2,000	\$ 7,500	Based on Closure Event No. 2 Bids (2013) & S+G
2.2	Mobilization	AC	3.75	\$ 2,500	\$ 9,375	Based on Closure Event No. 2 Bids (2013) & S+G
2.3	Site Preparation (repairs to intermediate cover layer)	AC	3.75	\$ 5,000	\$ 18,750	Based on Closure Event No. 2 Bids (2013) & S+G
2.4	18" On-site Low Permeability Soil	CY	9,075	\$ 9	\$ 81,675	Based on Closure Event No. 2 Bids (2013) & S+G
2.5	18" Vegetative Support Layer	CY	9,075	\$ 6	\$ 54,450	Based on Closure Event No. 2 Bids (2013) & S+G
2.6	Landfill Gas Venting System	AC	3.75	\$ 2,400	\$ 9,000	Based on Closure Event No. 2 Bids (2013) & S+G
2.7	Cap Drainage Structures (berms, piping, etc.)	AC	3.75	\$ 7,500	\$ 28,125	Based on Closure Event No. 2 Bids (2013) & S+G
2.8	Erosion & Sediment Control (grading, silt fence, maintenance, etc.)	AC	3.75	\$ 2,000	\$ 7,500	Based on Closure Event No. 2 Bids (2013) & S+G
2.9	Revegetation	AC	3.75	\$ 2,000	\$ 7,500	Based on Closure Event No. 2 Bids (2013) & S+G
3.0	Quality Assurance, Certification, & Deed Notation		CQA Subtotal:		\$ 26,938	
3.1	Field Monitoring	AC	3.75	\$ 3,000	\$ 11,250	S+G Estimate
3.2	Laboratory Testing	AC	3.75	\$ 2,500	\$ 9,375	S+G Estimate
3.3	Surveying and Deed Notation	AC	3.75	\$ 100	\$ 375	S+G Estimate
3.4	Engineering Certification	AC	3.75	\$5k + \$250/AC	\$ 5,938	S+G Estimate
4.0	Miscellaneous Costs to Close		Misc. Costs Subtotal:		\$ 4,688	
4.1	Erosion and Stormwater Control (outside landfill footprint)	AC	3.75	\$ 1,000	\$ 3,750	S+G Estimate
4.2	Engineering and Reporting	AC	3.75	\$ 250	\$ 938	S+G Estimate
5.0	Total Closure Costs					
				Construction Estimate ---->	\$ 269,375	
				Cost per Acre ---->	\$ 71,833	
				Total Estimate ---->	\$ 269,375 (2014\$) (See Note 1)	

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- This ESTIMATE has been prepared for financial assurance purposes only and shall not be considered a replacement for an actual bid from a licensed contractor. The ESTIMATE is intended to be accurate to within +/- 10% of the Total Estimated Cost.

References:

- Avery County Construction and Demolition Landfill Phase III Permit to Construct Application by Richardson Smith Gardner & Associates, Inc. dated February 2009 with revisions through August 2009.
- Correspondence dated March 17, 2010 regarding approval of the site suitability including lateral expansion of Phase 2 following purchase of the Lechler parcel to Mr. Buddy Norris, Avery County from Mr. Zinith Barbee, NCDENR.

**Financial Assurance
Avery County Transfer Station
Engineer's Remedial Cost Estimate**

Item No.	Item Description	Unit	Contractor			Comments
			Quantity	Unit Price	Total Price	
Facility Area (Horizontal Plan) ----->		AC	5			
1.0	Pre-Remedial Response			Subtotal	\$2,500.00	
1.1	Coordination, Contracts, and Management	AC	5	\$500.00	\$2,500.00	
2.0	Remedial Response Activities				\$110,300.00	Ref.1
2.1	Surveys and Layout	AC	5	\$500.00	\$2,500.00	S+G Estimate
2.2	Mobilization, Demobilization, and Project Closeout	AC	5	\$500.00	\$2,500.00	S+G Estimate
2.3	Wash Down & Cleanup of the Transfer Station	DY	2	\$1,500.00	\$3,000.00	Assume single work crew per day.
2.4	Fencing & Concrete Barrier Protection	LS	1	\$5,000.00	\$5,000.00	Assume close transfer station and place concrete barriers across access road.
2.5	Excess Waste Disposal (MSW)	TN	100	\$60.00	\$6,000.00	Two (2) days. Hauling and loading included. Disposal locations: Bristol City, VA; or Foothills landfills [-\$40/Ton]
	Excess Hazardous Materials Disposal	DRUM	2	\$1,500.00	\$3,000.00	Assumes cost of waste characterization, sampling, removal, treatment or disposal.
2.6	Excess Recycling & Processing Material	CY	2,450	\$30.00	\$73,500.00	Assume cost of loading, transportation, and disposal.
2.7	Leachate Disposal	GAL	3,000	\$0.10	\$300.00	Assume cost of loading and Transport.
2.8	Erosion & Sediment Control (grading, silt fence, maintenance, etc.)	AC	5	\$500.00	\$2,500.00	S+G Estimate
2.9	Revegetation	AC	8	\$1,500.00	\$12,000.00	S+G Estimate
2.10	Fuel Storage Removal	GAL	2,000.0	\$0.00	\$0.00	Usable product to be sold.
3.0	Quality Assurance, Certification, & Deed Notation				\$3,000.00	
3.1	Engineering and Reporting	LS	1	\$2,500.00	\$2,500.00	S+G Estimate
3.2	Surveying and Deed Notation	LS	1	\$500.00	\$500.00	S+G Estimate
Remedial Response Estimate ----->					\$115,800	
10% Contingency ----->					\$11,580	
Total Estimate ----->					\$127,380	(2014\$) (See Note 1)

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- This ESTIMATE has been prepared for financial assurance purposes only and shall not be considered a replacement for an actual bid from a licensed contractor and is considered acceptable within a +/- 10% of the Total Estimate value.

References:

- Avery County Waste Disposal and Recycling Permit Application by Richardson Smith Gardner & Associates, Inc dated January 2011.

■ Denotes values calculated in spreadsheet.