

Scanned By	Date	DOC ID	Permit
Backus	09/19/2012	17267	9231-CDLF-

September 13, 2012

Ms. Patricia Backus, P.E.
Environmental Engineer
NCDENR Division of Waste Management
217 West Jones Street
Raleigh, North Carolina 27603

**RE: Financial Assurance Estimates
Brownfield Road C&D Landfill
NC Solid Waste Permit No. 92-31**

Dear Pat:

Smith Gardner, Inc. (S+G) is pleased to submit this revised closure and post-closure estimate in response to Mr. Allen Gaither's request dated August 31, 2012 (**attached**). Based on our discussions, some of the Section's concern included the assured area, landfill gas venting, and document referencing listed in the estimates. Therefore, I have reviewed the facility and have prepared an updated estimate based on our experience in the industry from other ongoing and current projects. A copy of the updated Closure and Post-Closure estimate is **attached**.

Constructed Area

As you are aware, it is common practice to update financial assurance following construction events and that the estimate would reflect the constructed area. Based on our review of the current site conditions and construction of Phase 2 Cell 1, the constructed area is 24.1 acres as shown in **Figure 1** (attached). The revised estimate is based on this area.

Landfill Gas Venting

The previous estimate excluded gas venting and has been added back to the estimate.

Referenced Documents

As previously stated, this estimate included an independent review of anticipated closure and post-closure costs from our experience in this area. Therefore, the previous references have been removed and based in our opinion within current industry practice.

Remedial Cost Requirements

As demonstrated in the estimate, the actual financial assurance total has been reduced predominantly due to deductions from the Potential Assessment and Corrective Action (Remedial) costs. As you are aware, it has been common practice to reduce the Remedial cost by the post closure activities such as groundwater and landfill gas monitoring.

Ms. Patricia Backus, P.E.
September 13, 2012
Page 2 of 2

We appreciate the opportunity to provide this information and assume that this response addresses the concerns of the Section. Please feel free to contact us with any questions or concerns at (919) 828-0577 or by email below.

Sincerely,
SMITH GARDNER, INC.

Stacey A. Smith, P.E.
Project Manager ext. 127
stacey@smithgardnerinc.com



sas/sas

Att.

Cc: Mr. Don Plessinger, Waste Industries
Mr. David Pepper, Waste Industries
Mr. Allen Gaither, P.E., NCDENR
Mr. Jim Poole, INSURE
Ms. Shawn McKee, NCDENR
File



North Carolina Department of Environment and Natural Resources
Division of Waste Management

Dexter R. Matthews	Beverly Eaves Perdue	Dee Freeman
Director	Governor	Secretary

August 31, 2012

Mr. David Pepper
Waste Industries USA
3301 Benson Drive, Suite 601
Raleigh, North Carolina 27609

Subject: Replacement Financial Assurance Bond
Brownfield Road C&D Landfill
Wake County, Permit #92-31, Document ID No. 17155

Mr. Pepper:

The Division of Waste Management, Solid Waste Section (Section) has received the Financial Assurance replacement bond submitted as part of the Change of Ownership permitting activity for the Brownfield Road C&D Landfill. The bond was submitted on behalf of Wake Reclamation, LLC by Mr. James Poole and received in the Asheville Regional Office on August 29, 2012.

This letter is being written to inform you the Section will accept the Financial Assurance replacement bond as submitted. However, the bond is assuring cost estimates, developed by Smith Gardner Inc., that have not been approved by the Section. In addition, a cursory review of the cost estimates, submitted with the bond, has raised some concerns. Therefore, within 30 days of receipt of this letter, please submit a revised Closure/Post-closure Plan, with cost estimates, to Ms. Pat Backus, Permitting Engineer, for review. Any revisions to the cost estimates as a result of this review will be addressed during the next annual adjustment to the cost estimates and Financial Assurance mechanism.

If you should have any questions regarding this matter please contact me at (828) 296-4703, or by email at allen.gaither@ncdenr.gov.

Sincerely,

Allen Gaither
Environmental Engineer

Cc: Mr. Stacey Smith – Smith Gardner Inc.
Mr. James Poole – Insure
Ms. Pat Backus – SWS/RCO

Brownfield Road C&D Landfill (NC Solid Waste Permit No. 92-31)
Engineer's Closure Construction Cost Estimate

Item No.	Item Description	Unit	Contractor			Comments
			Quantity	Unit Price	Total Price	
Closure Area (Horizontal Plan) ---->		AC	24.1			
1.0	Pre-Construction			Subtotal	\$27,050.00	
1.1	Construction Documents & Bidding	AC	24	\$10k + \$500/AC	\$27,050.00	S+G Estimate
2.0	Construction				\$1,011,597.50	Reference 1
2.1	Surveys and Layout	AC	24	\$250.00	\$6,025.00	S+G Historical Estimate
2.2	Mobilization	AC	24	\$2,000.00	\$48,200.00	-4% of Construction Cost
2.3	Site Preparation (repairs to intermediate cover layer)	AC	24	\$1,000.00	\$24,100.00	Assumed estimate for repair of erosion rills.
2.4	18" On-site Low Permeability Soil	CY	58,322	\$8.00	\$466,576.00	S+G Historical Estimate
2.5	18" Vegetative Support Layer	CY	58,322	\$3.25	\$189,546.50	S+G Historical Estimate
2.6	Landfill Gas Venting System	AC	24	\$1,200.00	\$28,920.00	S+G Historical Estimate
2.7	Cap Drainage Structures (berms, piping, etc.)	AC	24	\$7,500.00	\$180,750.00	S+G Historical Estimate
2.8	Erosion & Sediment Control (grading, silt fence, maintenance, etc.)	AC	24	\$800.00	\$19,280.00	S+G Historical Estimate
2.9	Revegetation	AC	24	\$2,000.00	\$48,200.00	S+G Historical Estimate
3.0	Quality Assurance, Certification, & Deed Notation				\$145,985.00	
3.1	Field Monitoring	AC	24	\$3,000.00	\$72,300.00	S+G Estimate
3.2	Laboratory Testing	AC	24	\$2,500.00	\$60,250.00	S+G Estimate
3.3	Engineering Certification	AC	24	\$5k + \$250/AC	\$11,025.00	S+G Estimate
3.4	Surveying and Deed Notation	AC	24	\$100.00	\$2,410.00	S+G Historical Estimate
4.0	Miscellaneous Costs to Close				\$30,125.00	
4.1	Erosion and Stormwater Control (outside landfill footprint)	AC	24	\$1,000.00	\$24,100.00	S+G Historical Estimate
4.2	Engineering and Reporting	AC	24	\$250.00	\$6,025.00	S+G Historical Estimate
5.0	Total Closure Costs					
Construction Estimate ---->					\$1,214,758	(2012\$)
Cost per Acre ---->					\$50,405	
Total Estimate ---->					\$1,214,758	(2012\$) (See Notes 1 & 2)

Notes:

- 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.
- 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:

- Material Recovery, LLC, Brownfield Road C&D Landfill, Phase 2 Permit Modifications, June 2008, Revised and Updated June 2010, prepared by David Garrett & Associates, Inc.

Denotes values calculated in spreadsheet.

Brownfield Road C&D Landfill (NC Solid Waste Permit No. 92-31)
Engineer's Post Closure Cost Estimate

Item	Quantity	Unit	Comments
Groundwater Monitoring			
Monitoring wells	9	wells	Reference 1
Surface water point	3	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	\$100	per well	S+G estimate
Subtotal Cost	\$14,300	per year	Compares to current pricing by Golder
Landfill Gas Management			
Control System Vents	13	vents	Pro-rated @ one (1) per two (2) acres
Sub-Surface Perimeter Monitoring Probes	10	probes	Per Ref. 1
Control system monitoring, maintenance and repair	\$50	per vent per year	S+G estimate
Semi-Annual Perimeter Monitoring	\$100	per probe per year	S+G estimate
Subtotal Cost	\$1,625	per year	Averaged over post-closure period
Final Cover Management			
Area of maintenance	25	acres	Extends to area immediately around landfill.
Mowing	\$100	per acre	S+G estimate
Erosion and sediment control maintenance	\$200	per acre	S+G estimate
Topdressing (seed & fertilizer)	\$150	per acre	S+G estimate
Vector and rodent control	\$10	per acre	S+G estimate
Maintenance Mobilization	\$1,000	per year	S+G estimate
Subtotal Cost	\$12,500	per year	
Administration, Inspections, and Reporting			
Administration and record keeping	\$1,000	per year	S+G estimate
Inspection	\$1,000	per year	S+G estimate
Miscellaneous engineering	\$1,500	per year	S+G estimate
Subtotal Cost	\$3,500	per year	
Subtotal Post-Closure Costs			
Estimated Average Annual Costs	\$31,925	per year (2012\$)	
Number of Years for Post-Closure	30	years	
Cost per Acre	\$1,277.00	per year	
Subtotal Post Closure Costs	\$957,750	(2012\$)(See Notes 1 & 2)	
Potential Assessment and Corrective (Remedial) Action			
Minimum amount required by NCDENR Division of Waste Management	\$2,000,000	lump sum	Regulatory requirement (Session Law 2011-262)
Deduct Groundwater Monitoring	\$429,000	see above	Includes full post closure period, 30 years.
Deduct Landfill Gas Management	\$48,750	see above	Includes full post closure period, 30 years.
Deduct Administration, Inspections, and Reporting	\$105,000	see above	Includes full post closure period, 30 years.
Subtotal Remedial Cost	\$1,417,250	lump sum	
Total Post Closure and Remedial Costs	\$2,375,000	(2012\$)(See Notes 1 & 2)	
Total Closure, Post Closure, and Remedial Costs	\$3,589,750	(2012\$)(See Notes 1 & 2)	

Notes:

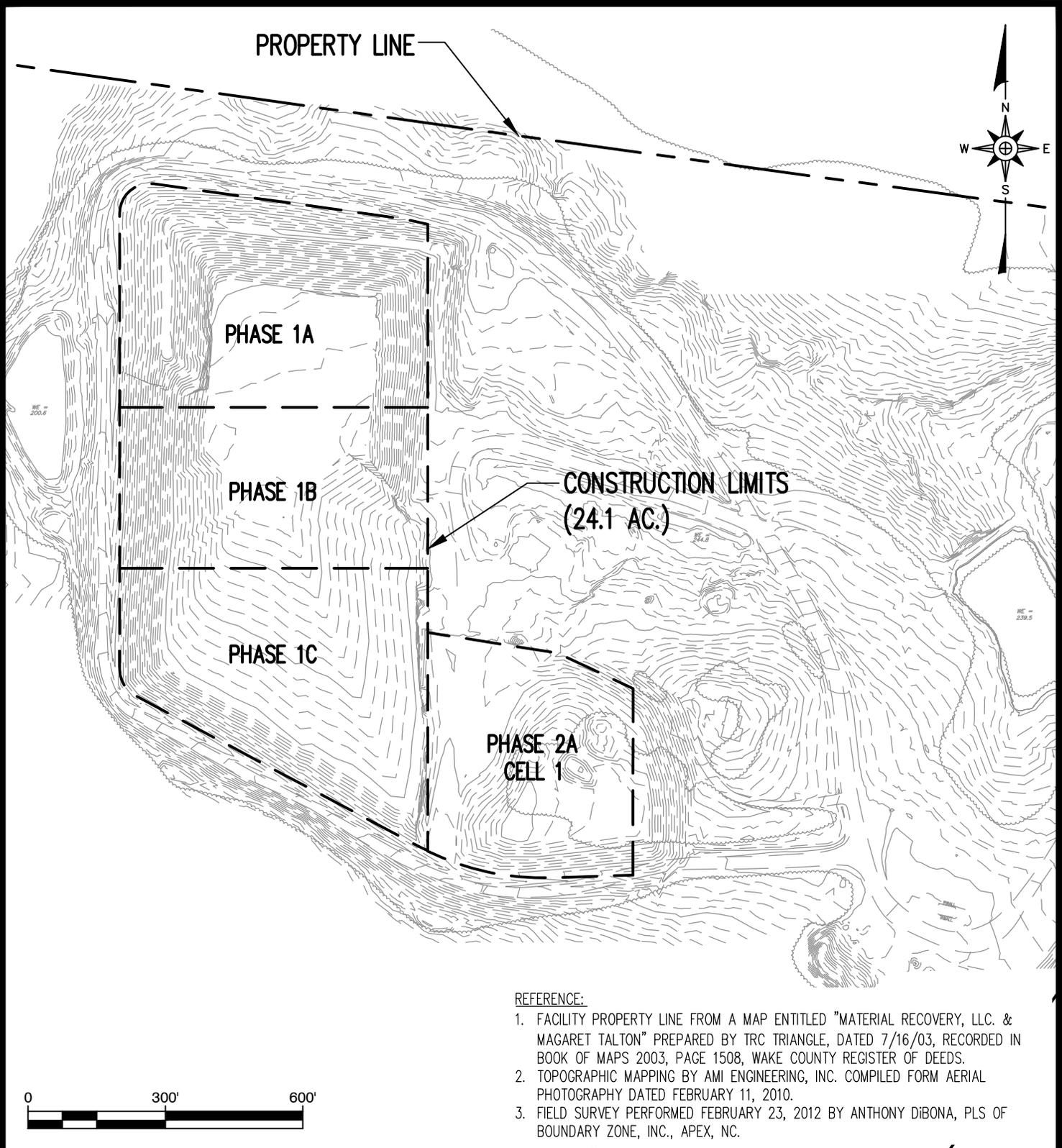
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Denotes values calculated in spreadsheet.

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REFERENCE:

1. FACILITY PROPERTY LINE FROM A MAP ENTITLED "MATERIAL RECOVERY, LLC. & MAGARET TALTON" PREPARED BY TRC TRIANGLE, DATED 7/16/03, RECORDED IN BOOK OF MAPS 2003, PAGE 1508, WAKE COUNTY REGISTER OF DEEDS.
2. TOPOGRAPHIC MAPPING BY AMI ENGINEERING, INC. COMPILED FROM AERIAL PHOTOGRAPHY DATED FEBRUARY 11, 2010.
3. FIELD SURVEY PERFORMED FEBRUARY 23, 2012 BY ANTHONY DiBONA, PLS OF BOUNDARY ZONE, INC., APEX, NC.

PREPARED FOR:

**BROWNFIELD ROAD C&D LANDFILL
EXISTING CONDITIONS**

PREPARED BY:

NC LIC. NO. C-0828 [ENGINEERING]

SMITH+GARDNER

14 N. Boylan Avenue, Raleigh NC 27603 | 919.828.0577

DRAWN:

C.T.J.

APPROVED:

S.A.S.

SCALE:

AS SHOWN

DATE:

Sep 2012

PROJECT NO.:

WCA-FAS 12-1

FIGURE NO.:

1

FILE NAME:

WCA-A0798