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WILLIAM F. HODGES, P.E.
W. MICHAEL STUBBS, P.E.
R. BRANT LANE, P.E.
CLINT L. COURSON, CHMM



DANIEL E. CHEEK, P.E.
K. MATTHEW CHEEK, P.E.
SCOTT D. MATTOX, P.E.

October 6, 2011

Ms. Shawn McKee
Environmental Specialist
North Carolina Dept. of Env. & Natural Resources
1646 Mail Service Center
Raleigh, NC 27699

**Re: City of Albemarle MSW and C&D Landfills
Closure/Post-Closure Costs
Permit #84-01
HHNT Project Nos. 1011-010-05 & 1011-011-05**

Dear Ms. McKee:

During a recent internal review by the City of Albemarle, it was discovered that there were discrepancies between the Closure / Post-Closure cost estimates in the facility permit applications and the most recent cost updates. Therefore, we have recalculated the costs for each landfill based on the cost estimates in the permit application and each subsequent year inflation factor. Attached are all spreadsheets showing the original itemized cost breakdown and the corresponding inflation factors.

MSW Landfill Permit #84-01		C&D Landfill Permit #84-01	
Closure Costs	\$3,521,600.15	Closure Costs	\$1,975,709.51
Post Closure Costs	\$536,927.81	Post Closure Costs	\$310,724.48
Corrective Action		Corrective Action	\$3,000,000.00
Total	\$4,058,527.96	Total	\$5,286,433.99
Total Assured Costs	\$9,344,961.95		

Once these costs are approved by the Department, the amended Financial Assurance Mechanism will be submitted under separate cover.

Should you have any questions, please call.

Sincerely,

HODGES, HARBIN, NEWBERRY & TRIBBLE, INC.

R. Brant Lane, P.E.
Principal

Ms. Shawn McKee

October 6, 2011

Page 2

RBL/cw

Enclosure

cc: John Murray, P.E. (w/ enclosure)
Nina Underwood (w/ enclosure)
Kenneth Anderson (w/ enclosure)

Mike Lambert (w/ enclosure)
Colleen Conroy (w/ enclosure)
Darren Preslar (w/ enclosure)

CITY OF ALBEMARLE MSW LANDFILL - PERMIT # 84-01

CLOSURE COSTS FOR FINANCIAL ASSURANCE

UPDATED SEPTEMBER 2011

<u>Item No.</u>	<u>Item</u>	<u>Qty</u>	<u>Unit</u>	<u>Unit Price</u>	<u>Cost</u>
1	18" of 1×10^{-5} cm/sec soil cover ³	88,221	cy	\$6.90	\$608,724.90
2	40 Mil LLDPE Liner and Drainage net ⁴	1,587,980	sf	\$0.85	\$1,349,783.00
3	Erosion Control Devices	1	L.S.	\$75,000.00	\$75,000.00
4	24" Erosion Layer ⁵	117,628	cy	\$4.05	\$476,393.40
5	Seeding and Mulching	31.7	Acre	\$2,000.00	\$63,400.00
6	Mobilization/Demobilization	1	L.S.	\$175,000.00	\$175,000.00
7	Labor Costs	1	L.S.	\$200,000.00	\$200,000.00
8	Stone for Methane Gas Collection ⁶	600	tons	\$25.00	\$15,000.00
9	Geotextile for Methane Gas Collection ⁷	15,600	sf	\$0.20	\$3,120.00
10	Vent Pipes for Methane Gas Collection	8	Each	\$600.00	\$4,800.00
11	Engineering Costs and QA/QC of the Composite Liner and Certification of Closure	1	L.S.	\$400,000.00	\$400,000.00
TOTAL CLOSURE COSTS (2008)²					\$3,371,221.30
Inflation Factor (2009)					1.022
Inflation Factor (2010)					1.012
Inflation Factory (2011)					1.010
TOTAL CLOSURE COSTS (2011)					\$3,521,600.15

Notes: ¹ The largest area to be closed within the permitted life will be Phase 1, and 2 (31.7 Ac). The estimated costs shown below are only for Phase 1 & 2. Post Closure will be 30 years after closure.

² All cost are pulled from Section 6.8 "Closure Costs" of the Permit to Construct Phase 2 Application, last revised July 7, 2007, prepared by Municipal Engineering Services. A math error was found in the calculation and corrected which increased the 2008 Closure Costs to \$3,371,221.30.

³ 88,221 cy is the sum of total yardage plus 15%

⁴ 1,587, 980 cf is the sum of total footage plus 15%

⁵ 117, 628 yd³ is the sum of total yardage plus 15%

⁶ 600 tons is based on a total estimate of 5,000 linear feet times a total estimated volume for a 2' x 1' trench (10,000) cf with a density of 120 lbs/cf, which gives a total weight of 600 tons.

⁷ 15,600 feet² is based on the total estimated perimeter for a 2' x 1' trench (2,600 ft x 6ft)= 15,600 feet.

CITY OF ALBEMARLE MSW LANDFILL - PERMIT # 84-01

POST-CLOSURE CARE COSTS FOR FINANCIAL ASSURANCE

UPDATED SEPTEMBER 2011

Item No.	Item	Qty.	Unit	Unit Price	Cost
1.	Cap monitoring and repairing any problems	1	L.S	\$100,000.00	\$100,000.00
2.	Closure of sedimentation and erosion control devices	1	L.S	\$24,000.00	\$24,000.00
3.	Leachate management	1	L.S	\$300,000.00	\$300,000.00
4.	Closure of leachate lagoon	1	L.S	\$30,000.00	\$30,000.00
5.	Maintenance of gas vents, monitoring wells, etc.	1	L.S	\$60,000.00	\$60,000.00
TOTAL POST-CLOSURE COST (2008)					\$514,000.00
Inflation Factor (2009)					1.022
Inflation Factor (2010)					1.012
Inflation Factor (2011)					1.010
TOTAL 30 YEAR COST (2011)					\$536,927.81

- Notes:
- ¹ The largest closed area to be monitored within the post closure life will be Phase 1 and 2 (31.7 Ac.). The estimated costs shown are only for Phase 1 & 2. Post closure will be 30 years after closure.
 - ² All cost are pulled from Section 7.2 "Post Closure Costs" of the Permit to Construct Phase 2 Application, last revised July 7, 2007, prepared by Municipal Engineering Services.
 - ³ In accordance with direction from DENR, the groundwater, surface water and methane monitoring costs are now included in the \$3,000,000 corrective action number and therefore not included as a separate line item cost.

CITY OF ALBEMARLE C&D LANDFILL - PERMIT # 84-01

CLOSURE COSTS FOR FINANCIAL ASSURANCE

UPDATED SEPTEMBER 2011

Item No.	Item	Qty	Unit	Unit Price	Cost
1	18" of 1×10^{-5} cm/sec cohesive soil cap ³	91,839	cy	\$9.00	\$826,551.00
2	Erosion control devices	1	L.S.	\$75,000.00	\$75,000.00
3	18" erosion layer ⁴	91,839	cy	\$4.00	\$367,356.00
4	Seeding and mulching	33	Acre	\$2,000.00	\$66,000.00
5	Mobilization/Demobilization	1	L.S.	\$175,000.00	\$175,000.00
6	Labor costs	1	L.S.	\$200,000.00	\$200,000.00
7	Stone for methane Gas collection ⁵	470	tons	\$25.00	\$11,750.00
8	Geotextile for methane gas collection ⁶	23,478	sf	\$0.20	\$4,695.60
9	Vent pipes for methane gas collection	11	Each	\$600.00	\$6,600.00
10	Engineering costs and QA/QC of the composite liner and certification of closure	1	L.S.	\$200,000.00	\$200,000.00
TOTAL CLOSURE COSTS (2009)					\$1,932,952.60
Inflation Factor (2010)					1.012
Inflation Factor (2011)					1.010
TOTAL CLOSURE COSTS (2011)					\$1,975,709.51

Notes:

¹ The largest area to be closed within the permitted life will be 33.0 Ac. Post Closure will be 30 years after closure.

² All cost are pulled from Section 2.6 "Closure Costs" of the Permit Application for Continued Operation of the City of Albemarle Construction and Demolition Landfill Facility, prepared by Municipal Engineering Services. A math error was found in the original calculation and corrected which increased the 2009 closure cost to \$1,932,952.60.

³ 91,839 cy is the sum of total yardage plus 15%

⁴ 91,839 cf is the sum of total yardage plus 15%

⁵ 470 tons is based on a total estimate of 3,913 linear feet times a total estimated volume for a 2' x 1' trench (7,826 cf) with a density of 120 lb/cf, which gives a total weight of 470 tons

⁶ 23,478 sf is based on the total estimated perimeter for a 2' x 1' trench (3,913 ft x 6ft) = 23, 478 ft

CITY OF ALBEMARLE C&D LANDFILL - PERMIT #84-01

POST-CLOSURE CARE COSTS FOR FINANCIAL ASSURANCE

UPDATED SEPTEMBER 2011

Item No.	Item	Qty.	Unit	Unit Price	Cost
1.	Cap monitoring and repairing	1	L.S	\$100,000.00	\$100,000.00
2.	Closure of sedimentation and erosion control devices	1	L.S	\$24,000.00	\$24,000.00
3.	Maintenance of gas vents, monitoring wells, etc.	1	L.S	\$60,000.00	\$60,000.00
4.	Administration/record keeping	30	L.S.	\$4,000.00	\$120,000.00
TOTAL POST-CLOSURE COST (2009)					\$304,000.00
Inflation Factor (2010)					1.012
Inflation Factor (2011)					1.010
TOTAL 30 YEAR COST (2011)					\$310,724.48

- Notes:
- ¹ The largest closed area to be monitored within the post closure life will be 33.0 Ac. Post closure will be 30 years after closure.
 - ² All cost are pulled from Section 3.2 "Post Closure Costs" of the Permit Application for Continued Operation of the City of Albemarle Construction and Demolition Landfill, prepared by Municipal Engineering Services.
 - ³ In accordance with direction from DENR, the groundwater, surface water and methane monitoring costs are now included in the \$3,000,000 corrective action number and therefore not included as a separate line item cost.