

VIA E-MAIL ONLY

December 30, 2011

993-3928.107

Mr. J. Scott Herring, PE  
 Public Works Director  
 West Nassau Landfill  
 46026 Landfill Road  
 Callahan, FL 32011

**RE: PROPOSAL TO PROVIDE ENGINEERING SERVICES  
 LANDFILL GAS COLLECTION AND CONTROL SYSTEM  
 ADJUSTMENTS AND MONITORING, REPORT PREPARATION AND  
 CONTINUING O&M  
 WEST NASSAU LANDFILL  
 NASSAU COUNTY, FLORIDA**

Dear Mr. Herring:

Golder Associates Inc. (Golder) is pleased to submit this cost proposal to the Nassau County Board of County Commissioners (Board) for continuing to provide professional services associated with landfill gas collection and control system (GCCS) monitoring and adjustments, preparation of the semi-annual reports as required under 40 CFR 60, Subpart WWW – New Source Performance Standards for MSW Landfills (NSPS), and continuing operation and maintenance (O&M) of the LFG system at the West Nassau Landfill (WNL). This work is required to meet the NSPS regulations associated with the expansion of the LFG system; these regulations for the site were effective March 1, 2007. This cost proposal provides an overview of the regulatory requirements and site background, Golder's proposed scope of services, schedule, cost estimate, and terms and conditions. Golder has prepared this cost proposal for review by the Board at one of the January 2012 meetings.

## **BACKGROUND AND REGULATORY REQUIREMENTS**

The GCCS at the WNL currently utilizes an open candlestick flare as the permitted air pollutant control device. This device is associated with the operation of the GCCS. The flare was installed in February 2002, ahead of the NSPS (40 CFR 60, Subpart WWW) regulatory timeline. In late 2006 and early 2007, the GCCS underwent a major expansion in order to comply with 40 CFR 60, Subpart WWW - NSPS. Since March 1, 2007, the site has been required to comply with NSPS regulations, including monitoring and reporting. Golder currently has a task order to provide these services, which is approved through the end of 2011.

## **SCOPE OF SERVICES**

### **Task 0001: Monitoring and Adjustment Services under NSPS and GHG Reporting Rule**

Golder was contracted by the County to provide monitoring and balancing services for the initial GCCS for the 2006 calendar year and we have continued providing this service for the expanded GCCS for 2007 through 2010. The current (2011) work order covers these services through the end of December 2011. Therefore, the scope of work under this task is to continue to provide the required monitoring and balancing services for the GCCS; this task is proposed to begin on January 1, 2011 and will run through the end of 2011. Note that Golder will continue monitoring to meet regulatory requirements in January prior to approval of this cost proposal in order to ensure compliance is maintained.

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The monitoring and balancing services to be provided will be similar to those provided in 2011. The well field consists of 50 gas extraction wells (48 under NSPS requirements) and 12 connections (tie-ins) to the leachate collection system cleanout risers; each of these will be monitored and adjusted on a monthly basis. During the monthly monitoring events, the flare station will also be monitored and adjusted as needed.

Based on the results of the wellfield monitoring, there may be the need for follow-up work, generally including re-checks of the data collected and any adjustments or corrections made. For planning and costs estimation purposes, Golder assumes that one day per month will be spent remonitoring the gas extraction wells or tie-ins that were out of compliance during the initial monthly monitoring event. Note that this task does not include any repairs or modifications made to the gas extraction wells or header pipe resulting from landfill operations such as mowing the grass and maintaining the cover. Additionally, this task does not take into account additional monitoring which may be required during the start-up of a landfill gas beneficial use project. The non-routine O&M functions will be covered under Task 0003.

Additionally, weekly greenhouse gas (GHG) monitoring is included to meet the requirements of the GHG Monitoring Regulations.

### **Task 0002: Quarterly Surface Methane Monitoring**

NSPS regulations require the surface of the landfill that is covered by the GCCS to be monitored quarterly for methane concentrations. Procedures from US EPA Method 21 and the NSPS will be followed. Generally, the monitoring will be performed along the surface of the landfill at 30-meter spacing. The monitoring probe will be kept within 2-4 inches of the landfill surface while continuous sampling is performed. The standard of performance is the limit of 500 ppmv methane above background. Results from the surface methane monitoring will be included in the semi-annual NSPS reports submitted to the FDEP (see Task 0006).

In the event of an exceedance, landfill personnel will be notified and corrective actions must be implemented. Corrective actions may include, but are not limited to the following: the adjustment of gas extraction wells in the vicinity of the exceedance, the placement of additional cover soil, and the repair of GCCS components. Remonitoring will be conducted in accordance with NSPS (10-day and one month). During any quarter, if an area has three failures, the GCCS must be expanded within 120 days of the initial exceedance. An alternative timeline or remedy may be submitted to the FDEP for approval.

For purposes of planning and estimating the associated costs for this task, Golder assumes that for each quarter, one 10-day and one 1-month remonitoring event will be required. Any corrective actions beyond adjustments to the gas extraction wells or any repairs to GCCS components will be covered under Task 0003, as would any request for alternate timeline or remedy to FDEP.

### **Task 0003: Non-routine O&M and Repair Services**

The scope of services to be provided under this task includes inspections and maintenance of various components of the system on a regular basis as well as minor repair and maintenance work. The following provides a list of the inspections and checks that are considered a necessary part of the operation and maintenance of the system:

- Quarterly check of the blower shaft couplers, alarms, and actuator valves for proper operation and signs of wear and damage;
- Annual preventative maintenance of the flame arrestor, demister pad, and flare thermocouples;
- Follow-up visits required as a result of exceedances at an extraction well(s) or flare, in addition to the one follow-up visit that is included under Task 0001; and
- Follow-up visits required as a result of exceedances during surface methane monitoring, in addition to the 10-day and one month remonitoring events that are included under Task 0002.

Additionally, minor repair or maintenance work identified during the routine inspections or as identified by site personnel will be performed under this task. Golder assumes this work to be of a non-emergency nature, and can be performed in a planned fashion or as it is encountered during the inspections. This work could include items such as header or lateral pipe realignment or relocation; resetting of pipe supports; replacement of torn, damaged or worn flex hoses; the pumping of water from gas extraction wells that do not have permanently installed pumps; or replacement of worn or clogged sample ports.

Also, on a case by case basis, Golder (and, as needed, subcontractors) can provide small construction/repair services such as:

- Short runs of vacuum header lateral line piping fabrication and installation;
- Adjusting well head height;
- Repairing vacuum line or well casing breaks;
- Replacing/repairing well heads;
- Changing out blowers, air compressors, etc; and
- Performing electrical troubleshooting/repair on flare/blower systems and controls.

Generally, the small construction/repairs that are anticipated will be items that are discovered during the routine monitoring and balancing and/or inspections/checks described under Task 0001, or during an emergency response visit, but that cannot be repaired using the spare parts and/or tools available to the technician performing the visit. Additionally, this task could include moving header and/or lateral lines if the work requires construction equipment and/or materials that could not be provided by the landfill or materials that are not available on site. Because some of the work under this task is based on operational needs, replacement of worn or damaged material, and/or field conditions that can vary from month to month, the estimated effort is difficult to predict. We have based the required effort for this task based on the effort required over the past 4 years of activity, experience at similar facilities, and the improvements being made on the GCCS associated with the Final Closure Construction at the facility.

#### **Task 0004: Emergency Response Services**

Unscheduled emergency services include events that require immediate response. These could include, but are not limited to:

- Emergency call-out by County personnel;
- Main header line breaks (resulting in no gas flow to the blower/flare station or excessive atmospheric infiltration);
- Odor complaints;
- Loss of flare ignition;
- Cleaning/pumping of sumps;
- Significantly reduced flow rates; and
- Surging vacuum.

Based on our recent task orders, Golder assumes that County personnel will first respond to system upsets such as flare outages or system damage. In the event that site personnel cannot effect repairs or re-start the flare, Golder will be contacted and dispatched to the site at that time. Golder will respond within twenty-four (24) hours of such a call and will be available for emergency services twenty-four hours per day, seven days per week, for the duration of the contract schedule. If the emergency response results in the need for additional repairs or replacement of equipment or significant amounts of material, the necessary work would be conducted under Task 0003, Non-routine O&M and Repair Services. Again, the effort necessary is difficult to predict and we've used our previous experience at this site and elsewhere to estimate the effort required.

### **Task 0005: NSPS Semi-Annual Reports**

In accordance with 40 CFR 60.757(f), an affected facility must submit semi-annual reports to the FDEP. Under this task, Golder will prepare the semi-annual reports that will include the following items:

- Value and length of time for exceedance of applicable parameters monitored under §60.756(a), (b), (c), and (d);
- Description and duration of all periods when the gas stream was diverted from the control device through a bypass line or the indication of bypass flow as specified under §60.756;
- Description and duration of all periods when the control device was not operating for a period exceeding 1 hour and length of time the control device was not operating;
- All periods when the collection system was not operating in excess of 5 days;
- The location of each surface methane exceedance of the 500 ppmv concentration as provided in §60.753(d) and the concentration recorded at each location for which an exceedance was recorded in the previous month; and
- The date of installation and the location of each well or collection system expansion added pursuant to paragraphs (a)(3), (b), and (c)(4) of §60.755.

In addition to the NSPS semi-annual report, a semi-annual Startup, Shutdown, and Malfunction (SSM) Report must be submitted to the FDEP. This report will be prepared by Golder and submitted with the NSPS Semi-Annual Report. This report will include the number of SSM events and whether or not the SSM Plan procedures were followed during the SSM event. In the event an applicable emission limit was exceeded and SSM Plan procedures were not followed, the SSM Plan will need to be revised to address this issue. Revisions to the SSM Plan (if required) will be covered under a separate cost proposal.

### **Task 0006: GHG Reporting**

Under this task, Golder will prepare and submit the report associated with the calendar year 2011 GHG monitoring. Golder has provided these services last year during the initial reporting year and has experience with the Electronic GHG Reporting Tool (e-GGRT) website and the associated spreadsheets and data requests. This report is anticipated to include the GHG monitoring results from 2011. Once any changes have been issued (by USEPA, if needed), Golder will prepare and submit the report, along with any required certifications. This report will be due by March 31, 2012.

### **SCHEDULE**

Work under this task order will begin upon approval of this proposal. The semi-annual reports are due to the FDEP by January 30 and July 30, covering the previous six-month period. The monitoring and maintenance will be conducted as required.

### **COST ESTIMATE**

Golder's cost estimate to complete the work as described in the above scope of services is \$109,401. Note that this estimated budget has been reduced from last year. A detailed breakdown of the costs for each task and the labor and expenses estimated are included in the attached Table 1. We are aware that closure construction activities are being conducted and may result in damage to the system, but have assumed that the contractor will be held responsible for any damage/repairs during its operations at the site (as is currently being done).. Generally, we have estimated the effort and costs required based on the previous 4 years at the site and on our experience at similar sites, though we have taken into account the recent and future improvements to the GCCS associated with the Final Closure Construction at the facility. We will track these costs closely and notify the Board when these budgets are nearing their limits. Additionally, it should be noted that if the effort is less than estimated, the County is only invoiced for the work performed.

Golder proposes to perform this work on a cost reimbursable not to-exceed basis in accordance with labor and unit rates shown on the attached table. We will be using Golder (Jacksonville Office) standard rates for 2011. Also, because the majority of the work under this task order is field-oriented, we will not include the Office Services Fee for this task order. Therefore, there will be individual charges for items such as photocopies, AutoCAD use, etc.; it is expected that most of these charges will be incurred under Task 0005 and Task 0006. The Board will only be billed actual hours and expenses incurred on the project for work within the agreed scope of services. Direct expenses, such as shipping costs, will be marked-up 12 percent for administrative purposes. Travel and communications costs (except for specific field activities, as estimated in Table 1) will not be billed to Nassau County as stated in our August 1998 proposal. The cost estimate will not be exceeded without prior authorization from the Board.

## TERMS AND CONDITIONS

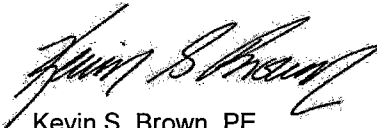
This work will be performed under the Agreement for Consulting Services between Golder and the County, dated February 22, 1999.

Golder appreciates this opportunity to provide our services to Nassau County. If you have any questions regarding this cost proposal, please do not hesitate to call.

Sincerely,

**GOLDER ASSOCIATES INC.**

  
Don E. Grigg  
Senior Project Engineer

  
Kevin S. Brown, PE  
Senior Consultant and Principal

DEG/KSB/veh

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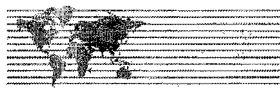
TABLE 1

**Cost Estimate  
2012 GCCS Adjustments, Monitoring, O&M, and Reporting  
West Nassau Landfill  
Callahan, Nassau County, Florida**

LABOR		LABOR CATEGORY AND RATE										TOTAL HOURS	SUBTOTAL LABOR
		Practice Leader \$195	Senior Consultant \$175	Senior Engineer \$150	Sen. Proj. Engineer \$130	Staff Engineer \$95	Engineer I \$80	Drafting \$90	Senior Technician \$90	Staff Technician \$80	Senior Admin \$65		
TASK	DESCRIPTION												
1	GCCS Adjustment and Monitoring	12	0	0	52	0	0	0	0	356	18	438	\$38,750
2	Quarterly Surface Methane Monitoring	0	0	0	8	0	0	0	0	40	4	52	\$4,500
3	Non-routine O&M & Repair Services	8	0	0	40	0	0	0	56	56	10	170	\$16,930
4	Emergency Response	4	0	0	8	0	0	0	8	16	2	38	\$3,950
5	NSPS Semi-Annual Reports	6	0	0	48	8	0	0	0	0	8	70	\$8,690
6	GHG Reporting	4	0	0	16	16	0	0	0	0	2	38	\$4,510
<b>TOTALS:</b>		<b>34</b>	<b>0</b>	<b>0</b>	<b>172</b>	<b>24</b>	<b>0</b>	<b>0</b>	<b>64</b>	<b>468</b>	<b>44</b>	<b>806</b>	<b>\$77,330</b>

EXPENSES		Field Vehicle (day) \$90	Rental Car Site Visits (day) \$60	Field Equipment and Materials (est.)	Mileage (mile) \$0.550	Shipping Costs (est.)	AutoCAD Charges (hr) \$20	Photocopies (pg.) \$0.15	Color Copies (pg.) \$2	Drawing Reproduction (est.)	Office Services Fee (7% of Labor)	Subcontractors	SUBTOTAL EXPENSES
1	GCCS Adjustment and Monitoring	76		\$2,000	500	\$500	0	200	0	\$0	\$0	\$0	\$9,645
2	Quarterly Surface Methane Monitoring	8		\$840		\$200	0	0	0	\$0	\$0	\$0	\$1,760
3	Non-routine O&M & Repair Services	18		\$4,000		\$2,000	0	200	0	\$0	\$0	\$10,000	\$17,650
4	Emergency Response	6		\$1,000		\$200	0	100	0	\$0	\$0	\$0	\$1,755
5	NSPS Semi-Annual Reports	0		\$0	150	\$300	0	1,600	24	\$200	\$0	\$0	\$871
6	GHG Reporting	0		\$0	0	\$75	0	500	20	\$200	\$0	\$0	\$390
<b>TOTALS:</b>		<b>\$9,720</b>	<b>\$0</b>	<b>\$7,840</b>	<b>\$358</b>	<b>\$3,275</b>	<b>\$0</b>	<b>\$390</b>	<b>\$88</b>	<b>\$400</b>	<b>\$0</b>	<b>\$10,000</b>	<b>\$32,071</b>

COST SUMMARY				
TASK	DESCRIPTION	SUBTOTAL LABOR	SUBTOTAL EXPENSES	TASK TOTAL
1	GCCS Adjustment and Monitoring	\$38,750	\$9,645	\$48,395
2	Quarterly Surface Methane Monitoring	\$4,500	\$1,760	\$6,260
3	Non-routine O&M & Repair Services	\$16,930	\$17,650	\$34,580
4	Emergency Response	\$3,950	\$1,755	\$5,705
5	NSPS Semi-Annual Reports	\$8,690	\$871	\$9,561
6	GHG Reporting	\$4,510	\$390	\$4,900
<b>TOTALS</b>		<b>\$77,330</b>	<b>\$32,071</b>	<b>\$109,401</b>



**GOLDER ASSOCIATES INC.**  
**JACKSONVILLE, FLORIDA**  
**PROFESSIONAL RATE SCHEDULE FOR CALENDAR YEAR 2011**

Invoices from Golder Associates Inc. include all labor charges, other direct costs, and costs associated with in-house services. Charges include only those services directly attributable to the execution of the work. Time spent when traveling in the interest of the work will be charged in accordance with the hourly rates. Rates for Professional services related to expert testimony, including time spent in depositions and the preparation and presentations of testimony, are available upon request.

Labor charges are based upon standard hourly billing rates for each category of staff. The billing rates include costs for salary, payroll taxes, insurance associated with employment, benefits (including holiday, sick leave, and vacation), administrative overheads, and profit. Rates by labor category are as follows:

<b>Billing Level</b>	<b>Personnel Category</b>	<b>Hourly Rate (U.S.\$)</b>
LA1	Staff Admin Support	\$60
LA2	Staff Admin Support	\$60
LA3	Senior Admin Support	\$65
LT1	Technician	\$70
LT2	Staff Technician	\$80
LT3	Senior Technician	\$90
LD1	Staff CADD Technician	\$90
LD2	Project CADD Technician	\$90
LD3	Senior CADD Technician	\$95
LV1	Engineer/Scientist	\$80
LV2	Staff Engineer/Scientist	\$95
LV3	Project Engineer/Scientist	\$110
LV4	Senior Project Engineer/Scientist	\$130
LV5	Senior Engineer/Scientist	\$150
LV6	Senior Consultant	\$175
LV7	Practice/Program Leader	\$195

Other direct costs, including materials, travel, subsistence, and subcontractor costs, will be invoiced at cost plus a minimum general and administrative fee of 12%.

An Office Service Fee for direct project non-labor office costs including mail, telephone, fax transmissions, personal computers as well as reasonable and customary in-house photocopying will be billed at a minimum of 7% of the total labor fees. This Office Service Fee does not include CAD/GIS computers, color photocopies, outsourced photocopies/reproductions or drawing reproduction. These services will be billed at the following rates:

<b>SERVICE</b>	<b>RATE</b>
Color Photocopies	\$2.00/page
Black & White Plotter (D&E size)	\$5/plot
Color Plotter (D&E size)	\$10/plot

Rates for laboratory services and use of equipment owned by Golder Associates Inc. will be provided upon request.