

**BOCC Agenda Item**  
**2011 Landfill Gas Collection & Control System Adjustments & Monitoring, Report Preparation & Continuing O&M**

**Agenda Request For:** January ~~10~~<sup>12</sup>, 2011

**Department:** Solid Waste

**Background:**

Staff received the attached "Proposal to Provide Engineering Services Landfill Gas (LFG) Collection and Control System Adjustments and Monitoring, Report Preparation and Continuing Operation and Maintenance West Nassau Landfill." This work is required to meet the New Source Performance Standards (NSPS) regulations associated with the expansion of the LFG system; these regulations for the site were effective March 1, 2007. Since March 1, 2007, the site has been required to comply with NSPS regulations, including monitoring and reporting. Golder Associates currently has a task order to provide these services, which is approved through the end of 2010.

New GHG (Green House Gas) regulations require additional monitoring (initiated in 2010), calibration of monitoring devices, as well as reporting to be performed at the facility. These requirements are in addition to the existing NSPS and Title V Permit requirements. Golder has added an additional scope, including a new task, to this year's proposal to account for these recent changes.

The attached Proposal consists of the following: Task 0001 Monitoring and Adjustment Services under NSPS and GHG Reporting Rule \$50,000. Task 0002 Quarterly Surface Methane Monitoring \$6,220. Task 0003 Non-routine O&M Services \$11,455. Task 0004 Small Construction/Repair Services \$27,965. Task 0005 Emergency Response Services \$5,825. Task 0006 NSPS Semi-Annual Reports \$11,423 and Task 0007 GHG Reporting \$5,550. Golder's cost estimate to complete the work as described in the scope of services is \$118,438. This work will be performed under the Agreement for Consulting Services between Golder and the County, dated February 22, 1999.

**Financial/Economic Impact to Future Years Budgeting Process or Effect on Citizens:**

Will be considered in future budgets as required

**Action requested and recommendation:**

Request the Board authorize the Chairman to approve Golder Associates Proposal to Provide Engineering Services Landfill Gas Collection and Control System Adjustments and Monitoring, Report Preparation and Continuing O&M West Nassau Landfill in the amount of \$118,438 for period of (1/1/2011-12/31/2011).

**Is this action consistent with the Nassau County Comprehensive Land Use Plan?**

Yes - Public Facility Element Section 4

**APPROVED BOCC**  
 DATE 1/12/11 BLS

**BOCC Agenda Item  
2011 Landfill Gas Collection & Control System Adjustments & Monitoring, Report  
Preparation & Continuing O&M**

**Funding Source:** 9490 on \$78,020 (new wN)  
670362534-531325 PS-Golder- O&M LFG \$83,000 FY10/11  
(Remaining \$35,438 will be considered in FY11/12 budget  
covering period of 10/1/11 - 12/31/11).

69270361534-531325 on \$4,980  
(Old wN)  
*specifically budgeted for + funds available 2/10/10*

Reviewed by:	<u>Print Name:</u>	<u>Signature &amp; Date:</u>
Department Head	<u>J.Scott Herring</u>	<i>[Signature]</i> 12/10/10
County Manager	<u>Ted Selby</u>	<i>[Signature]</i> 12/17/10
Office of Management and Budget	<u>Shanea Jones</u>	<i>[Signature]</i> 12-15-10
Legal	<u>David Hallman</u>	_____
Clerk/Comptroller	<u>John A. Crawford</u>	_____

Revised 07/10

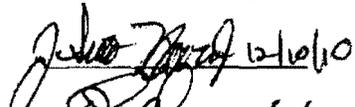
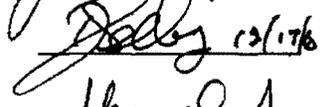
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**BOCC Agenda Item  
2011 Landfill Gas Collection & Control System Adjustments & Monitoring, Report  
Preparation & Continuing O&M**

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 670362534-531325 PS-Golder- O&M LFG \$83,000 FY10/11  
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Legal	<u>David Hallman</u>	 12/20/10
Clerk/Comptroller	<u>John A. Crawford</u>	

Revised 07/10

10 DEC 13 AM 11:34  
 COUNTY SOLUTIONS GROUPS  
 CHIEF

**BOCC Agenda Item  
2011 Landfill Gas Collection & Control System Adjustments & Monitoring, Report  
Preparation & Continuing O&M**

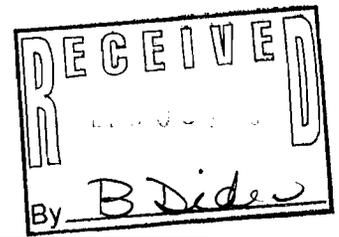
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Reviewed by:	<u>Print Name:</u>	<u>Signature &amp; Date:</u>
Department Head	<u>J.Scott Herring</u>	<i>J. Scott Herring</i> 12/10/10
County Manager	<u>Ted Selby</u>	<i>Ted Selby</i> 12/17/10
Office of Management and Budget	<u>Shanea Jones</u>	<i>Shanea Jones</i> 12-15-10
Legal	<u>David Hallman</u>	
Clerk/Comptroller	<u>John A. Crawford</u>	<i>John A. Crawford</i> <i>12/22/10</i>

Revised 07/10

10 DEC 13 AM 11:34  
 COUNTY SOLUTIONS  
 CHIEF



VIA E-MAIL ONLY

December 2, 2010

993-3928.101

Mr. J. Scott Herring, P.E.  
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 providing professional services associated with performing 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 December 2010 meeting.

## **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 2010.

The U.S. Environmental Protection Agency (USEPA) recently issued new regulations regarding the monitoring and reporting of greenhouse gas (GHG) emissions. These recent changes will affect the reporting components currently being performed for the facility. This new regulation requires additional monitoring (initiated in 2010), calibration of monitoring devices, as well as reporting to be performed at the facility. The initial GHG emissions report will be due March 30, 2011. These requirements are in addition to the existing NSPS and Title V Permit requirements. We have added additional scope, including a new task, to this year's proposal to account for these recent changes.

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Golder Associates: Operations in Africa, Asia, Australasia, Europe, North America and South America



## 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 2009. The current (2010) work order covers these services through the end of December 2010. 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.

The monitoring and balancing services to be provided will be similar to those provided in 2010. 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, it has been assumed 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. It should be noted that this task does not include any repairs or adjustments 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.

Additional scope was added to this task last year to include the weekly GHG readings to meet the requirements of the GHG Monitoring Regulations and this scope is included for 2011 as well. New this year is the associated reporting requirements, which require submittal of a document that conveys the 2010 GHG monitoring results to the United States Environmental Protection Agency by March 30, 2011. This reporting work scope is covered under Task 0007 – GHG Reporting.

### **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, it has been assumed that 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 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 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. This work is assumed 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. 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 3 years of activity.

### **Task 0004: Small Construction/Repair Services**

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. Another item that would be covered under this task is the chemical treatment of a gas well and/or sump/leachate line for biological or bacterial growth, as has been experienced at the site. Even more so than with Task 0003, the effort required under this task is unknown and we've based the estimate on the activities over the past 3 years and our experience on similar projects.

### **Task 0005: 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 0004, Small Construction/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 0006: 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 0007: GHG Reporting

Under this task, Golder will prepare and submit the report associated with the calendar year 2010 GHG monitoring. Golder understands that USEPA will require the reporting to be completely electronic, via a web-based reporting program. This report is anticipated to include the GHG monitoring results from 2010. Once the procedures have been finalized, Golder will prepare and submit the report, along with any required certifications. This report will be due by March 31, 2011.

Golder will also assist the County in preparing a Certificate of Representation, which will need to be submitted to USEPA by January 30, 2011. This Certificate of Representation will assign the role of Designated Representative associated with GHG reporting to USEPA. The Designated Representative will be the sole individual who can sign, certify, and submit the GHG emissions report. Golder presumes that the Chair of the County Commissioners will fill this role, similar to their role of filling the Responsible Official regarding air permitting and reporting to FDEP. The Certificate of Representation is anticipated to be submitted electronically (with a hard-copy signature form to follow) and should be available to enroll for access in late 2010.

## SCHEDULE

Work under this task order will begin upon approval of this proposal, as the GHG emissions reporting will require work to be completed by January 30, 2011 and will require the signature of the Chair of the County Commissioners. The semi-annual reports are due to the FDEP by January 30 and July 30, covering the previous six-month period (July-December 2010 and January-June 2011, respectively). 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 ~~\$118,438~~. A detailed breakdown of the costs for each task and the labor and expenses estimated are included in the attached Table 1. Because the landfill is no longer accepting waste and activities on the landfill are greatly reduced, the anticipated costs for several of the tasks (non-routine O&M, small construction/repair services, and emergency response) have been reduced. We are aware that closure construction activities will be conducted in 2011 and may result in damage to the system, but we assume that the contractor will be held responsible for any damage/repairs during its operations at the site. Generally, we have estimated the effort and costs required based on the previous 3 years at the site and on our experience at similar sites. 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. It should be noted that Golder has not increased our labor rates for this proposal and that the rates for 2010 were also held at the 2009 rates. Therefore, our rates for this 2011 proposal remain at the 2009 rates. 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 0006 and Task 0007. 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.

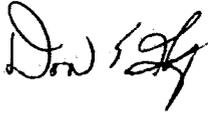
## TERMS AND CONDITIONS

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

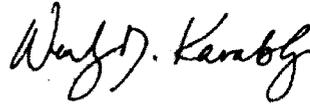
Golder appreciates this opportunity to provide our services to Nassau County. If you have any questions regarding this cost proposal, please do not hesitate to call.

Sincerely,

**GOLDER ASSOCIATES INC.**



Don E. Grigg, P.E.  
Senior Project Engineer



Wendy D. Karably  
Senior Consultant and Principal

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TABLE 1

**Cost Estimate  
2011 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	Senior Consultant	Senior Engineer	Sen. Proj. Engineer	Staff Engineer	Engineer I	Drafting	Senior Technician	Staff Technician	Senior Admin		
TASK	DESCRIPTION	\$190	\$170	\$145	\$125	\$95	\$80	\$90	\$90	\$75	\$65		
1	GCCS Adjustment and Monitoring	0	24	0	78	0	0	0	12	324	18	456	\$40,380
2	Quarterly Surface Methane Monitoring	0	0	0	8	0	0	0	0	40	4	52	\$4,260
3	Non-routine O&M Services	0	8	0	24	0	8	0	0	48	4	92	\$8,860
4	Small Construction/Repair Services	0	8	0	18	0	32	0	12	32	4	106	\$9,910
5	Emergency Response	0	6	0	8	0	0	0	8	16	2	40	\$4,070
6	NSPS Semi-Annual Reports	0	6	0	60	16	0	0	0	0	8	90	\$10,560
7	GHG Reporting	0	4	0	12	30	0	0	0	0	2	48	\$5,160
<b>TOTALS:</b>		<b>0</b>	<b>56</b>	<b>0</b>	<b>208</b>	<b>46</b>	<b>40</b>	<b>0</b>	<b>32</b>	<b>460</b>	<b>42</b>	<b>884</b>	<b>\$83,200</b>

EXPENSES		Field Vehicle	Rental Car	Field Equipment	Mileage	Shipping	AutoCAD	Photocopies	Color	Drawing	Office	Subcon-	SUBTOTAL EXPENSES
TASK	DESCRIPTION	(day)	Site Visits	and Materials	(mile)	Costs	Charges	(pg.)	Copies	Reproduction	Services	tractors	
		\$90	(day)	(est.)	\$0.500	(est.)	(hr)	(pg.)	(pg.)	(est.)	(7% of Labor)		
1	GCCS Adjustment and Monitoring	76		\$2,000	500	\$500	0	200	0	\$0	\$0	\$0	\$9,620
2	Quarterly Surface Methane Monitoring	8		\$840		\$400	0	0	0	\$0	\$0	\$0	\$1,960
3	Non-routine O&M Services	12		\$1,000		\$500	0	100	0	\$0	\$0	\$0	\$2,595
4	Small Construction/Repair Services	6		\$5,000		\$1,500	0	100	0	\$0	\$0	\$11,000	\$18,055
5	Emergency Response	6		\$1,000		\$200	0	100	0	\$0	\$0	\$0	\$1,755
6	NSPS Semi-Annual Reports	0		\$0	150	\$300	0	1,600	24	\$200	\$0	\$0	\$863
7	GHG Reporting	0		\$0	0	\$75	0	500	20	\$200	\$0	\$0	\$390
<b>TOTALS:</b>		<b>\$9,720</b>	<b>\$0</b>	<b>\$9,840</b>	<b>\$325</b>	<b>\$3,475</b>	<b>\$0</b>	<b>\$390</b>	<b>\$88</b>	<b>\$400</b>	<b>\$0</b>	<b>\$11,000</b>	<b>\$35,238</b>

COST SUMMARY				
TASK	DESCRIPTION	SUBTOTAL LABOR	SUBTOTAL EXPENSES	TASK TOTAL
1	GCCS Adjustment and Monitoring	\$40,380	\$9,620	\$50,000
2	Quarterly Surface Methane Monitoring	\$4,260	\$1,960	\$6,220
3	Non-routine O&M Services	\$8,860	\$2,595	\$11,455
4	Small Construction/Repair Services	\$9,910	\$18,055	\$27,965
5	Emergency Response	\$4,070	\$1,755	\$5,825
6	NSPS Semi-Annual Reports	\$10,560	\$863	\$11,423
7	GHG Reporting	\$5,160	\$390	\$5,550
<b>TOTALS</b>		<b>\$83,200</b>	<b>\$35,238</b>	<b>\$118,438</b>