

**Golder Associates Inc.**

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**Golder  
Associates**

**RECEIVED**  
2/12/99 5M

VIA FACSIMILE AND U.S. MAIL

**FAXED**  
2/11/99

February 11, 1999

P99-3924

Nassau County Board of County Commissioners  
3163 Bailey Road  
P.O. Box 1010  
Fernandina Beach, Florida 32035

Attn: Mr. Walter D. Gossett  
County Coordinator

RE: PROPOSAL FOR ALTERNATE LINER SYSTEM ANALYSIS  
PHASE IV OF WEST NASSAU CLASS I LANDFILL  
NASSAU COUNTY, FLORIDA

Dear Mr. Gossett:

Golder Associates Inc. (Golder) is pleased to submit this proposal and cost estimate to Nassau County for professional services to perform an analysis of alternative liner systems for Phase IV of the West Nassau Class I Landfill in Nassau County. This proposal is submitted following a request by the County negotiating committee for solid waste engineering services during a meeting with Golder representatives on January 19, 1999.

Golder proposes a phased approach to this analysis to allow the County to decide if additional tasks should be performed based on the results of previous tasks. This phased approach is discussed in detail below.

**SCOPE OF SERVICES**

**Task 1 - Review Existing Plans and Permit Documents**

Task 1 will cover an initial review of the current engineering plans and permit documents to become familiar with the permitted design. This review will form the basis of identifying potential liner system alternatives to be evaluated in Task 2. Golder anticipates that Task 1 will require one week to complete following receipt of all relevant drawings and permit documents from the County.

**APPROVED**

DATE 2/22/99 *JML*

### **Task 2 - Liner System Cost Analysis**

Task 2 will consist of the preparation of construction cost estimates for up to three alternative liner systems. These liner systems will consist of cross sections previously permitted by the Florida Department of Environmental Protection (FDEP) elsewhere in the state. The cost estimate will utilize actual unit rates, as applicable, from the current construction contract for Phase IV, as well as unit prices for alternative components, such as a geosynthetic clay liner (GCL), from manufacturers and suppliers.

The cost estimates will also take into account the potential benefit of increased landfill airspace for alternative liner systems which decrease the total cross sectional thickness from that of the current design. Relative costs of construction quality assurance (CQA) will also be included for each alternative. In addition, Golder Associates will prepare a list of advantages and disadvantages of each alternative, such as potential difficulty in obtaining a permit modification from the FDEP, based on previous experience. Golder will prepare a brief letter report to the County, with cross section details and cost estimate summary tables for each alternative liner system.

Golder will utilize the services of S2L, Incorporated (S2Li) to assist with this analysis. We estimate that Task 2 will be completed within two weeks following receipt of the information needed for Task 1.

### **Task 3 - Detailed Analyses of Selected Alternative**

Following completion of Task 2, Golder proposes to meet with the County to discuss the results of the liner system cost analysis and to select the best alternative for potential pursuit of a permit modification from the FDEP. At this point, the County may decide not to proceed with a possible permit modification application based on several factors, including anticipated time needed for obtaining FDEP approval and the airspace needs of the County. Should the County wish to continue, Golder proposes to perform a more detailed analyses of the selected alternative. This analysis would include leakage rate modeling using the United States Environmental Protection Agency (USEPA) Hydrologic Evaluation of Landfill Performance (HELP) Model, as well as slope stability. The results of these analyses will be compared to the currently permitted liner system and will be summarized in a brief letter report to the County. This report would form the basis of a meeting with the FDEP (see Task 4) to discuss the permit modification application. Golder estimates that two weeks will be required to complete Task 3 following the meeting with the County and approval to proceed.

### **Task 4 - Meeting with the FDEP**

Golder Associates proposes to meet with the FDEP to present the report prepared under Task 3 and to discuss the requirements of a permit modification application and a schedule for review and approval of the modification.

It should be noted that this scope of services does not include the preparation of the permit modification application. Golder will prepare a scope of services and cost estimate for this should the County decide to pursue this option.

### **SCHEDULE**

Golder will complete the work in Tasks 1 through 4 within approximately one month of written authorization to proceed and of receipt of the plans and permit documents needed for Task 1.

### **COST ESTIMATE**

Golder Associates' cost estimate to complete all phases of this work is \$18,707.00 based on the scope of services as outlined above. A detailed breakdown of this cost estimate is presented in Table 1, which is attached to this letter.

Golder Associates proposes to perform this work on a cost reimbursable not-to-exceed basis in accordance with the labor and unit rates listed in Table 1. The County will only be billed actual hours and expenses incurred on the project for work within the agreed scope of work. The work could be terminated at the completion of any of the phases, as directed by the County. Direct expenses will be marked-up 10 percent for administrative purposes. Photocopies, computer and CADD time will be billed at the unit rates listed in Table 1. Travel and communications costs 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 Nassau County.

### **TERMS AND CONDITIONS**

This work will be performed under the agreement for solid waste engineering services which is currently being negotiated between Golder Associates and the County.

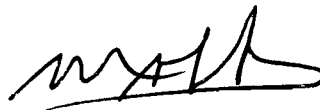
Golder Associates appreciates this opportunity to provide engineering services to Nassau County. If you have any questions regarding this proposal, please do not hesitate to call.

Very truly yours,

GOLDER ASSOCIATES INC.



Francis T. Adams, P.E.  
Senior Project Manager



Mark A. Swallow, P.E.  
Engineering Group Leader/Associate

MAS/FTA:

Attachment

FN: G:\COMMON\ADAMS\PROPOSAL\NASSAUCO\p99-3924.doc

**TABLE 1**  
**Cost Estimate**  
**Alternative Liner System Analysis**  
**West Nassau Landfill**  
**Callahan, Nassau County, Florida**

LABOR		LABOR CATEGORY AND RATE										TOTAL HOURS	SUBTOTAL LABOR
		Principal \$130	Associate \$110	Senior Proj. Mgr. \$105	Senior Engineer \$95	Project Engineer \$75	Staff Engineer I \$60	Staff Engineer II \$55	Drafting \$45	Technician \$40	Clerical \$40		
TASK	DESCRIPTION												
1	Review Plans and Permit Docum.	0	0	4	0	0	2	0	0	0	0	6	\$540
2	Liner System Cost Analysis	0	0	12	0	16	8	0	8	0	2	46	\$3,380
3	Detailed Anal. of Selected Alter.	0	0	20	0	24	0	16	6	0	12	78	\$5,530
4	Meeting with FDEP	0	0	8	0	0	0	0	0	0	2	10	\$920
<b>TOTALS:</b>		<b>0</b>	<b>0</b>	<b>44</b>	<b>0</b>	<b>40</b>	<b>10</b>	<b>16</b>	<b>14</b>	<b>0</b>	<b>16</b>	<b>140</b>	<b>\$10,370</b>

EXPENSES		Field Vehicle (day) \$75	Per Diem (day) \$25	Communi- cations (est.)	Mileage (mile) \$0.31	Shipping/ Postage (est.)	Lab Testing (est.)	Office Computer (hr) \$10	AutoCAD Computer (hr) \$20	Photo- copying (each) \$0.15	Field Equipment (est.)	Subcon- tractors (est.)	SUBTOTAL EXPENSES
TASK	DESCRIPTION												
1	Review Plans and Permit Docum.	0	0	\$0	0	\$25	\$0	0	0	250	\$0	\$525	\$588
2	Liner System Cost Analysis	0	0	\$0	0	\$40	\$0	2	4	500	\$0	\$2,625	\$2,840
3	Detailed Anal. of Selected Alter.	0	0	\$0	0	\$75	\$0	12	8	1,000	\$0	\$3,150	\$3,655
4	Meeting with FDEP	0	0	\$0	0	\$10	\$0	2	0	40	\$0	\$1,218	\$1,254
<b>TOTALS:</b>		<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$150</b>	<b>\$0</b>	<b>\$160</b>	<b>\$240</b>	<b>\$269</b>	<b>\$0</b>	<b>\$7,518</b>	<b>\$8,337</b>

COST SUMMARY				
TASK	DESCRIPTION	SUBTOTAL LABOR	SUBTOTAL EXPENSES	TASK TOTAL
1	Review Plans and Permit Docum.	\$540	\$588	\$1,128
2	Liner System Cost Analysis	\$3,380	\$2,840	\$6,220
3	Detailed Anal. of Selected Alter.	\$5,530	\$3,655	\$9,185
4	Meeting with FDEP	\$920	\$1,254	\$2,174
<b>TOTALS</b>		<b>\$10,370</b>	<b>\$8,337</b>	<b>\$18,707</b>