

**Golder Associates Inc.**

8933 Western Way, Suite 12  
Jacksonville, FL USA 32256  
Telephone (904) 363-3430  
Fax (904) 363-3445



**VIA FACSIMILE (total 9 pages) AND FED EX**

May 19, 1999

993-3928.9

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

Attn: Mr. Walter D. Gossett  
County Coordinator

RE: COST PROPOSAL FOR  
PREPARATION OF PERMIT RENEWAL APPLICATION AND  
ALTERNATIVE LINER APPLICATION FOR PHASE IV  
WEST NASSAU CLASS I LANDFILL  
NASSAU COUNTY, FLORIDA

Dear Mr. Gossett:

As requested by the Nassau County Board of County Commissioners (Board) at its May 10, 1999 meeting, Golder Associates Inc. (Golder) has prepared this scope of services and cost estimate for preparing a Permit Renewal Application for the West Nassau Class I Landfill and an Alternative Liner Application for Phase IV of the West Nassau Landfill. The preparation of these applications at this time serves several purposes, including revision of the design of the bottom liner in Phase IV of the landfill, and to potentially reduce costs for Nassau County associated with eliminating the corrective action fee and gaining additional airspace within the existing landfill footprint. As noted, in the May 10, 1999 meeting, the regular permit renewal process (which is a significant part of the work included in this proposal) would be required to be started 12 to 18 months prior to the expiration of the current permit in May of 2001.

This proposal details the scope of services required to prepare and submit these applications along with a proposed schedule and cost estimate to complete the scope of services as presented. This proposal also includes assumptions regarding information or assistance that will need to be provided by the County for Golder to complete the applications. Also, there are assumptions that some of the current operations or activities have not been revised since the last application renewal and therefore, will not be revised for this application. Some of the assumptions presented herein relating to geological testing and analyses are estimated based on Golder's knowledge of the site and technical information available at the time of preparation of this proposal, and are provided in an effort to establish the cost estimate for this work. Actual field conditions, regulatory agency actions, or other unanticipated circumstances beyond the control of Golder may result in the need to modify the estimated activities.

**APPROVED**

DATE 5/24/99 JML

For simplicity, the scope of services has been divided into four tasks, as listed below. The description of each task provides more detail on the work required under each task.

- Task 1 - Project Meetings
- Task 2 - Alternative Liner Application
- Task 3 - Permit Renewal Application
- Task 4 - Responses to Requests for Additional Information (RAI) from FDEP

## **SCOPE OF SERVICES**

### **Task 1 – Project Meetings**

Golder proposes that an initial meeting be held with representatives of the Board for the purpose of establishing County objectives. Golder would like to discuss several items, as listed below, to determine the County's goals for re-permitting of the facility:

- Redesign of bottom liner (Phase IV);
- Selection/preference of geosynthetic clay liner (GCL) material;
- Vertical expansion;
- Changes in the closure cap design;
- Revision of existing specific condition requirements; and
- Any other issues the County may consider appropriate.

Also under this task, and as discussed in previous meetings with solid waste representatives of the Board, Golder will provide a monthly update on the progress of this and other solid waste related projects or issues to the full Board. This will occur at the first regular Board meeting of the month (on the second Monday of each month). As shown in the schedule for this project, the project duration is eleven (11) months, so eleven Board meetings are planned to be attended by Golder. In addition, Golder has allotted time for one additional meeting with solid waste representatives of the Board during the preparation of the applications, either during the process if issues arise that need to be discussed, or at the time of the submittal of the draft applications to the County for review purposes.

### **Task 2 - Alternative Liner Application**

Golder will prepare an alternative liner request application in accordance with Chapter 62-701.310, F.A.C. for the purposes of gaining approval for the alternative bottom liner system for Phase IV of the landfill. The application will include the basis for the alternative system and support/information that the alternative liner provides an equal degree of protection for the public and the environment. Testing required to show equivalency is anticipated to include compatibility testing of the GCL with groundwater and the actual leachate from the landfill. It is assumed that only one type of GCL will be tested, for a total of two tests. These tests will be conducted at Golder's Atlanta geosynthetics laboratory following USEPA Method 9100 from SW-846 utilizing laboratory procedures as described in ASTM Method D5887. These tests typically run for a minimum of 25 days. Also, support for equivalency will require analysis of the expected leakage rate through the proposed liner system and comparison to the currently designed liner system. A revised liner CQA Plan will be required for the different liner

system. However, the CQA Plan will be prepared under Task 3 and the appropriate portions included in this application as well.

In accordance with Chapter 62-701.310 FAC, the application will be submitted to the Director of the Division of Waste Management for FDEP in Tallahassee. Our cost estimate does not include the \$2,000.00 application fee, which we have assumed the County will provide.

### **Task 3 - Permit Renewal Application**

Golder will prepare the permit renewal application for the West Nassau Landfill pursuant to regulatory criteria requirements in effect at the time this proposal is accepted. Golder will prepare the permit application in accordance with Rule 62-701, F.A.C., dated 4-23-97. If regulations affecting this application are implemented or changed during this project, Golder will advise Nassau County if any corrected and/or additional investigations, analyses, testing, design, or research will be required, and these additional work efforts will be performed by Golder only after approval of by Nassau County. After submittal of a draft (three copies assumed) to the County for review, and incorporation of any comments, six (6) copies of the permit renewal application will be submitted to the Northeast District office of the FDEP and three (3) copies will be provided for the County. It is assumed that Nassau County will pay all permit application fees to the appropriate regulatory agencies; these fees are not expected to exceed \$25,000.

As previously discussed with the County, one of the purposes for going forward at this time with the re-permitting is to eliminate the \$2.25 per ton fee that was imposed on the County by FDEP to obtain the original permit for the landfill. Golder will provide supporting data and information (with assistance from the County) to justify elimination of this fee and present it in this application package.

The application will be prepared on FDEP forms as outlined in Chapter 62-701.900 FAC, with supporting documents and calculations (as necessary), as described in more detail below. The permit application will be signed and sealed by a Florida Registered Professional Engineer and will include the appropriate letter of transmittal, completed forms, and fees (from the County), and will be formatted as required in Chapter 62-701.320. In general, an engineering report that addresses the requirements of the rule will be prepared and include supporting documents, calculations, and drawings. The following outlines specific submittals required by the regulations, along with information and assumptions on what will be submitted for this permit renewal.

1. An aerial photograph for the landfill property and surrounding area (within one (1) mile of the landfill) no more than one (1) year old for illustrating land use and zoning will be prepared. The scale of this photograph will be 1 inch equals 400 feet and is assumed to be provided by Nassau County<sup>1</sup>. The photograph should be on mylar film and 24 inches by 36 inches in size, including room for a title block. Golder will coordinate with the County's zoning department to obtain current zoning maps to update the zoning information. We

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<sup>1</sup> We understand that a bid proposal for aerial photographs and topographic mapping is being sent out by the Solid Waste Department and will require completion by July 1, 1999. We have assumed that the photographs and topographic maps produced by this effort will be sufficient for use in the permit renewal application and therefore have not included these costs in our estimate.

will confirm with the zoning department that there are no new airports in the vicinity (within 5 miles) of the landfill.

2. A Site Plan with a scale no greater than 1 inch to 200 feet will be prepared that illustrates the property boundary and dimensions of the landfill site, location of soil borings and monitoring points (groundwater and gas), existing topography, existing disposal areas, existing structures and roads, proposed finished topography for the proposed disposal areas, and fencing plan (see footnote 1). It is assumed that Nassau County will provide property boundary survey and description. Cross-sections will be prepared from this and previous information showing both the original and proposed fill elevations.
3. An aerial topographic map of the proposed landfill property with a scale no greater than 1 inch to 200 feet is assumed to be provided by Nassau County (see footnote 1). The map should illustrate minimum 2-foot contour intervals, referenced to National Geodetic Vertical Datum (NGVD). The map should be produced on mylar film of 24 by 36 inches, including room for a title block. It is also assumed that this map will be provided to Golder in AutoCAD Release 14 format. Golder will include the fill areas, borrow areas (as appropriate), access roads, grades for drainage, cross-sections of lifts, fencing, and equipment facilities on this topographic map, as required. For preparation of this item, Golder has assumed that Nassau County will obtain electronic versions of the design/permit drawings in AutoCAD format and provide them to Golder at no cost.
4. Golder, with assistance from the County, will prepare a report on the following:
  - Current and projected population and area to be served by the landfill;
  - Anticipated type, annual quantity, and source of solid waste;
  - Anticipated life of the facility; and
  - Source and type of cover material.
5. It is assumed that the existing hydrogeological information on file with FDEP is sufficient and will be marked as "No Substantial Change" on the permit application. However, the hydrogeological investigation will be updated with any additional public or private water wells within a one-mile radius of the site. Also, Golder will prepare a technical report in accordance to Chapter 62-701.510(9)(b) summarizing and interpreting the water quality data and water level measurements collected since the last permit renewal submittal. Information will include results from groundwater, stormwater, and leachate sampling. It is assumed that this data is available in an electronic format (e.g., excel spreadsheets or database format) for use in interpreting the information. It is also assumed that this data has not indicated the presence of contamination at any well, leachate, or surface water monitoring point that would require corrective action.
6. It is assumed that the geotechnical investigation on file with FDEP is sufficient and will be marked as "No Substantial Change" on the permit application. However, based on the planned re-design of Phase IV and the potential vertical expansion, there will need to be updates of the foundation and stability analyses for the landfill, which Golder will perform and submit in this portion of the application. It is assumed that the geotechnical investigation report on file with FDEP contains the appropriate information for performing these analyses and that no additional field work would be required.

7. Because of the design changes to be included in this renewal application, the landfill development and closure construction cost estimates and annual post-closure long-term care cost estimate will need to be revised based on the new design. Cost estimates will be prepared based on material quantity estimates developed from the plans and unit cost rates estimated by Golder.
8. An Operational/Development Plan for the landfill that provides detailed written instructions for the daily operation of the landfill. It is assumed that the majority of the Operation Plan that was submitted with the initial or last permit application is still valid. However, because we are including design modifications in this renewal application, changes in the Operational Plan will be necessary. Golder will prepare this section in accordance with Chapter 62-701.500, F.A.C., including plan preparation incorporating a description of operational procedures and preparation of fill sequencing drawings through closure. All other required information and procedures will be marked in the renewal application as "No Substantial Change", unless modified by recommendations of the Golder's Landfill Operational Review Report (expected June 1999).
9. The design modification for the Phase IV portion of the landfill will require changes in the leachate management system. Golder will prepare the design for the necessary leachate pumping system to interconnect the leachate collection systems for the existing disposal units and Phase IV. The modification will be required due to the lower elevation of the leachate piping within the new cell and the addition of a collection sump. No additional leachate management improvements are assumed necessary for the storage tanks, truck loading facility, and/or disposal. This information will be marked as "No Substantial Change" on the permit application.
10. Golder will prepare a landfill gas management plan for the expansion consisting of design details for passive venting, documentation that the gas control system will not affect the liner or leachate control system, proposed methods of odor control, and a routine gas monitoring program to ensure that the gas system is operating properly.
11. Golder will modify the existing surface water management system design for the landfill expansion during operation and after closure. Golder will prepare a conceptual design for the project in conformance with regulatory criteria in effect at the time this proposal is executed. The conceptual design will include: (a) modification to the on-site drainage conveyance systems for the operation and closure phases; (b) stormwater management facilities for the operation and closure phases; and (c) permanent erosion control measures for the operation and closure phases.

In addition to the above items as required by the regulations, the re-design of Phase IV and the cover system for the West Nassau Class I Landfill, including a vertical expansion, will require the submittal of an engineering report and plans. The following engineering plans are anticipated for the application to address these proposed changes in the design:

- Cover Sheet
- Liner Grading Plans
- Final Cover Grading Plans (to include Gas Vent Locations)
- Construction Staging and Landfill Development Plans

- Surface Water Management Plan
- Landfill Development Cross-Section Sheets
- Surface Water Management Detail Sheets
- Leachate Management Detail Sheets
- Miscellaneous Detail Sheets

#### **Task 4 - Responses to Requests for Additional Information (RAI)**

Under this task, Golder will assist the County with preparation of responses to FDEP's RAIs that may arise following their review of the submittals. These responses are for both the Alternative Liner Application and the Permit Renewal Application. If additional investigations, analyses, testing, design, or research are required to provide satisfactory responses to regulatory agencies, Golder will perform the additional work effort only after receipt of written approval by Nassau County. We have scheduled (see below) time for three rounds of RAIs/responses, but we cannot be sure of the number of times FDEP will choose to provide comments. Additionally, because we do not know the exact scope of the work required to address the RAIs, for cost estimating purposes we have allocated an amount which equates to approximately 10% of the total project estimated costs. Actual cost to respond to RAIs will be billed at the contract rates, but we will not exceed the total estimated project amount without the County's prior approval.

#### **SCHEDULE**

As presented to the Board in its meeting on May 10, 1999 (see Figure 1), the application process for both the alternative liner and the permit renewal (which will be prepared concurrently) is anticipated to take approximately 120 calendar days to complete. This includes completion of Tasks 1, 2, and 3 above, submittal of draft documents to the County for review, incorporation of County's comments, and submittal to FDEP. After submittal, FDEP has 30 calendar days to issue RAIs. We have estimated that Golder will respond within 30 days of receipt of each RAI. As indicated above, the schedule reflects a total of three RAI/response periods.

#### **COST ESTIMATE**

Golder's cost estimate to complete this work is \$192,320 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 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. We are anticipating that our subconsultant, S2L, Incorporated (S2Li) will assist on various aspects of this project and the costs for S2Li will be passed through to the County with no mark-up. Direct expenses will be marked-up 10 percent for administrative purposes. Photocopies, computer and AutoCAD 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 total estimated cost will not be exceeded without prior authorization from Nassau County.

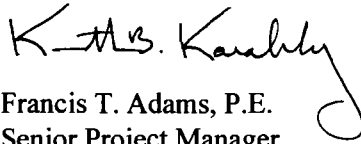
**TERMS AND CONDITIONS**

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

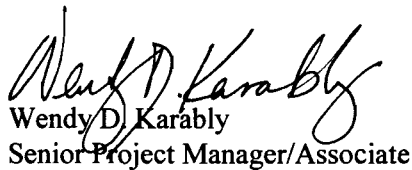
Golder appreciates this opportunity to provide engineering services to Nassau County. We look forward to presenting this proposal to the Board and will answer any questions you or the Board may have at that time. If you have any questions prior to the Board meeting, please do not hesitate to call.

Very truly yours,

GOLDER ASSOCIATES INC.



(for) Francis T. Adams, P.E.  
Senior Project Manager

  
Wendy D. Karably  
Senior Project Manager/Associate

Attachments

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**TABLE 1  
COST ESTIMATE  
WEST NASSAU CLASS I PERMIT RENEWAL APPLICATION  
AND ALTERNATIVE LINER MODIFICATION  
NASSAU COUNTY, FLORIDA**

| LABOR          |                                | LABOR CATEGORY AND RATE |                    |                            |                         |                          |                          |                           |                  |                    |                  | TOTAL HOURS | SUBTOTAL LABOR   |
|----------------|--------------------------------|-------------------------|--------------------|----------------------------|-------------------------|--------------------------|--------------------------|---------------------------|------------------|--------------------|------------------|-------------|------------------|
|                |                                | Principal<br>\$120      | Associate<br>\$110 | Senior Proj. Mgr.<br>\$105 | Senior Engineer<br>\$95 | Project Engineer<br>\$75 | Staff Engineer I<br>\$65 | Staff Engineer II<br>\$55 | Drafting<br>\$45 | Technician<br>\$40 | Clerical<br>\$40 |             |                  |
| TASK           | DESCRIPTION                    |                         |                    |                            |                         |                          |                          |                           |                  |                    |                  |             |                  |
| 1              | Meetings                       | 0                       | 40                 | 40                         | 8                       | 8                        | 0                        | 0                         | 8                | 0                  | 10               | 114         | \$10,720         |
| 2              | Alternative Liner Modification | 0                       | 12                 | 20                         | 0                       | 0                        | 25                       | 8                         | 10               | 0                  | 12               | 87          | \$6,290          |
| 3              | Permit Application Preparation | 0                       | 150                | 175                        | 40                      | 120                      | 200                      | 150                       | 150              | 16                 | 120              | 1121        | \$80,115         |
| 4              | Response to FDEP Comments      | 0                       | 30                 | 55                         | 4                       | 12                       | 20                       | 16                        | 16               | 0                  | 24               | 177         | \$14,115         |
| <b>TOTALS:</b> |                                | <b>0</b>                | <b>232</b>         | <b>290</b>                 | <b>52</b>               | <b>140</b>               | <b>245</b>               | <b>174</b>                | <b>184</b>       | <b>16</b>          | <b>166</b>       | <b>1499</b> | <b>\$111,240</b> |

| EXPENSES       |                                | Field Vehicle<br>(day)<br>\$75 | Per Diem<br>(day)<br>\$75 | Communi-<br>cations<br>(est.) | Mileage<br>(mile)<br>\$6.31 | Shipping/<br>Postage<br>(est.) | Lab<br>Testing<br>(est.) | Office<br>Computer<br>(hr)<br>\$18 | AutoCAD<br>Computer<br>(hr)<br>\$18 | Photo-<br>copying<br>(each)<br>\$6.15 | Misc.<br>Expenses<br>(est.) | Subcon-<br>tractors<br>(est.) | SUBTOTAL<br>EXPENSES |
|----------------|--------------------------------|--------------------------------|---------------------------|-------------------------------|-----------------------------|--------------------------------|--------------------------|------------------------------------|-------------------------------------|---------------------------------------|-----------------------------|-------------------------------|----------------------|
| TASK           | DESCRIPTION                    |                                |                           |                               |                             |                                |                          |                                    |                                     |                                       |                             |                               |                      |
| 1              | Meetings                       | 0                              | 0                         | \$0                           | 0                           | \$50                           | \$0                      | 4                                  | 8                                   | 200                                   | \$50                        | \$3,500                       | \$3,750              |
| 2              | Alternative Liner Modification | 0                              | 0                         | \$0                           | 0                           | \$250                          | \$1,750                  | 24                                 | 10                                  | 800                                   | \$0                         | \$2,000                       | \$4,460              |
| 3              | Permit Application Preparation | 0                              | 0                         | \$0                           | 0                           | \$500                          | \$0                      | 200                                | 150                                 | 20,000                                | \$500                       | \$60,000                      | \$67,500             |
| 4              | Response to FDEP Comments      | 0                              | 0                         | \$0                           | 0                           | \$100                          | \$0                      | 40                                 | 16                                  | 400                                   | \$150                       | \$4,500                       | \$5,370              |
| <b>TOTALS:</b> |                                | <b>\$0</b>                     | <b>\$0</b>                | <b>\$0</b>                    | <b>\$0</b>                  | <b>\$900</b>                   | <b>\$1,750</b>           | <b>\$2,680</b>                     | <b>\$1,840</b>                      | <b>\$3,210</b>                        | <b>\$700</b>                | <b>\$70,000</b>               | <b>\$81,080</b>      |

| COST SUMMARY  |                                |                  |                   |                  |
|---------------|--------------------------------|------------------|-------------------|------------------|
| TASK          | DESCRIPTION                    | SUBTOTAL LABOR   | SUBTOTAL EXPENSES | TASK TOTAL       |
| 1             | Meetings                       | \$10,720         | \$3,750           | \$14,470         |
| 2             | Alternative Liner Modification | \$6,290          | \$4,460           | \$10,750         |
| 3             | Permit Application Preparation | \$80,115         | \$67,500          | \$147,615        |
| 4             | Response to FDEP Comments      | \$14,115         | \$5,370           | \$19,485         |
| <b>TOTALS</b> |                                | <b>\$111,240</b> | <b>\$81,080</b>   | <b>\$192,320</b> |



## RE-PERMITTING SCHEDULE

| Task   | Duration | 1999 |     |     |     |     |     |     |     |     |     |     |     |
|--|----------|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|  |          | May  | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Jan | Feb | Mar | Apr |
| <b>RE-PERMITTING</b>                                 | 300d     |      |     |     |     |     |     |     |     |     |     |     |     |
| Obtain Task Order from County                        | 0d       |      |     |     |     |     |     |     |     |     |     |     |     |
| Prepare Alternate Liner Approval Application         | 120d     |      |     |     |     |     |     |     |     |     |     |     |     |
| Prepare Permit Renewal Application                   | 120d     |      |     |     |     |     |     |     |     |     |     |     |     |
| Request for Additional Information Process (w/ FDEP) | 180d     |      |     |     |     |     |     |     |     |     |     |     |     |
| Issuance of Intent to Permit                         | 0d       |      |     |     |     |     |     |     |     |     |     |     |     |

**GOLDER ASSOCIATES INC.**

**Task Timeline**

**Not Under Our Control**

**Summary**

**Milestone**

**FIGURE 1**