

**REQUEST FOR BOARD ACTION**

**HENDERSON COUNTY  
BOARD OF COMMISSIONERS**

**MEETING DATE: February 16, 2005**

**SUBJECT: SOLID WASTE TRANSFER STATION 2<sup>ND</sup> BAY  
CONTRACTS FOR ENGINEERING SERVICES**

**ATTACHMENTS: COPY OF ENGINEERING SERVICES CONTRACT  
COPY OF PRELIMINARY ENGINEERING COST ESTIMATE**

**SUMMARY OF REQUEST:** As previously discussed with the Board, it has been planned to improve the Solid Waste Transfer Station by adding a second bay and make repairs to worn concrete surfaces in the first bay. The Board authorized the preparation of contracts for engineering services with Camp Dresser & McKee in Raleigh, North Carolina. CDM provided the engineering services for the Transfer Station first bay constructed in 1997-1998. Attached is a copy of the proposed contract and preliminary engineering cost estimate of the project.

A summary of the preliminary costs is as follows:

|                                      |             |
|--------------------------------------|-------------|
| Transfer Station 2 <sup>nd</sup> Bay | \$1,195,888 |
| 1 <sup>st</sup> Bay Restoration      | \$ 250,321  |
| Engineering Services                 | \$ 116,600  |
| Total Project Estimate               | \$1,562,809 |

Construction administration services will be provided by the County Engineer at an estimated savings of \$50,000 to \$75,000.

The County Engineer will be present to discuss this matter with the Board of Commissioners.

**COUNTY MANAGER'S RECOMMENDATION/ACTION REQUIRED:**

**I recommend that the Board approve the contract with CDM for the design of the 2<sup>nd</sup> bay.**

**PROBABLE CONSTRUCTION COST ESTIMATE**

|  |                    |
|--|--------------------|
| Labor, Material and Equipment (Phase 2 Construction) | \$866,585          |
| Labor, Material and Equipment (Phase 1 Restoration)  | \$181,392          |
| Overhead & Profit (Phase 2 Construction)             | \$129,988          |
| Overhead & Profit (Phase 1 Restoration)              | \$27,209           |
| Contingency (Phase 2 Construction)                   | \$199,315          |
| Contingency (Phase 1 Restoration)                    | \$41,720           |
| <b>Total</b>   | <b>\$1,446,208</b> |

**STANDARD FORM OF AGREEMENT  
BETWEEN  
OWNER AND ENGINEER FOR  
PROFESSIONAL DESIGN, BIDDING AND CONSTRUCTION SERVICES**

THIS IS AN AGREEMENT made as of \_\_\_\_\_, 2005 between Henderson County ("OWNER") and Camp Dresser & McKee ("ENGINEER").

OWNER intends to design and permit an additional bay for the transfer station and repairs to the 1<sup>st</sup> bay (the "Project").

OWNER and ENGINEER in consideration of their mutual covenants herein agree in respect of the performance or furnishing of professional engineering services by ENGINEER with respect to the Project and the payment for those services by OWNER as set forth below. Execution of this Agreement by ENGINEER and OWNER constitutes OWNER's written authorization to ENGINEER to proceed on the date first above written with the Basic Services described in Article 2 below and as further set forth in Exhibit A, "Further Description of Engineering Services and Related Matters" ("Exhibit A") and in the other exhibits listed in Article 9 below. This Agreement will become effective on the date first above written.

**ARTICLE 1 - GENERAL**

1.1. Standard of Care

ENGINEER shall perform for or furnish to OWNER professional engineering and related services in all phases of the Project to which this Agreement applies as hereinafter provided. ENGINEER shall serve as OWNER's prime design professional and engineering representative for the Project providing professional engineering consultation and advice with respect thereto. ENGINEER may employ such ENGINEER's Subcontractors as ENGINEER deems necessary to assist in the performance or furnishing of professional engineering and related services hereunder. ENGINEER shall not be required to employ any OWNER's Subcontractors unacceptable to ENGINEER.

The standard of care for all professional engineering and related services performed or furnished by ENGINEER under this Agreement will be the care and skill ordinarily used by members of ENGINEER's profession practicing under similar conditions at the same time and in the same locality.

1.2. Coordination with Other Documents

It is the intention of the parties that the Standard General Conditions will be used as the General Conditions for the Project and that all amendments thereof and supplements thereto will be generally consistent therewith. Except as otherwise defined herein, the terms which have an initial capital letter in this Agreement and are defined in the Standard General Conditions will be used in this Agreement as defined in the Standard General Conditions. The term "*defective*" will be used in this Agreement as defined in the Standard General Conditions.

1.3. Definitions

Wherever used in this Agreement the following terms have the meanings indicated which are applicable to both the singular and plural thereof:

1.3.1. *Special Services*

*Special Services* means the services to be performed for or furnished to OWNER by ENGINEER described in Article 3 of this Agreement.

- 1.3.2. *Agreement*  
Agreement means this Standard Form of Agreement between OWNER and ENGINEER for Professional Services including those exhibits listed in Article 9 of this Agreement.
- 1.3.3. *Basic Services*  
Basic Services means the services to be performed for or furnished to OWNER by ENGINEER described in Article 2 of this Agreement.
- 1.3.4. *Construction Cost*  
Construction Cost means the total cost to OWNER of those portions of the entire Project designed or specified by ENGINEER. Construction Cost does not include ENGINEER's compensation and expenses, the cost of land, rights-of-way, or compensation for or damages to properties, or OWNER's legal accounting, insurance counseling or auditing services, or interest and financing charges incurred in connection with the Project or the cost of other services to be provided by others to OWNER pursuant to Article 4 of this Agreement. Construction Cost is one of the items comprising Total Project Costs.
- 1.3.5. *Contractor*  
Contractor means the person or entity with whom OWNER enters into a written agreement covering construction work to be performed or furnished with respect to the Project.
- 1.3.6. *ENGINEER's Subcontractor*  
ENGINEER's Subcontractor means a person or entity having a contract with ENGINEER to perform or furnish Basic or Special Services as ENGINEER's independent professional associate or subcontractor engaged directly on the Project.
- 1.3.7. *Reimbursable Expenses.*  
Reimbursable Expenses means the expenses incurred directly in connection with the performance or furnishing of Basic and Special Services for the Project for which OWNER shall pay ENGINEER as indicated in Exhibit A.
- 1.3.8. *Resident Project Representative*  
Resident Project Representative means the authorized representative of ENGINEER who will be assigned to assist ENGINEER at the site during the Construction Phase. The Resident Project Representative will be ENGINEER's agent or employee and under ENGINEER's supervision. As used herein, the term Resident Project Representative includes any assistants of Resident Project Representative agreed to by OWNER. The duties and responsibilities of the Resident Project Representative are set forth in Exhibit B, "Duties, Responsibilities and Limitations of Authority of Resident Project Representative" ("Exhibit B").
- 1.3.9. *Standard General Conditions.*  
Standard General Conditions means the Standard General Conditions of the Construction Contract (No. 1910-8) (1996 Edition) of the Engineers Joint Contract Documents Committee.
- 1.3.10. *Total Project Costs*  
Total Project Costs means the sum of the Construction Cost, allowances for contingencies, the total costs of design professional and related services provided by ENGINEER and (on the basis of information furnished by OWNER) allowances for such other items as charges of all other professionals and consultants, for the cost of land and rights-of-way, for compensation for or damages to properties, for interest and financing charges and for other services to be provided by others to OWNER under Article 4.

## ARTICLE 2 - BASIC SERVICES OF ENGINEER

### 2.1. Design Phase

- 2.1.1. Prepare for incorporation in the Contract Documents final Drawings showing the scope, extent and character of the work to be performed and furnished by Contractor and Specifications (which will be prepared, where appropriate, in general conformance with the sixteen division format of the Construction Specifications Institute).
- 2.1.2. Provide technical criteria, written descriptions and design data for OWNER's use in filing applications for permits with or obtaining approvals of such governmental authorities as have jurisdiction to review or approve the final design of the Project, and assist OWNER in consultations with appropriate authorities.
- 2.1.3. Advise OWNER of any adjustments to the opinion of probable Construction Cost and any adjustments to Total Project Costs known to ENGINEER as a result of changes in scope, extent or character or design requirements of the Project.
- 2.1.4. Prepare for review and approval by OWNER, its legal counsel and other advisors, contract agreement forms, general conditions and supplementary conditions, and (where appropriate) bid forms, invitations to bid and instructions to bidders, and assist in the preparation of other related documents.
- 2.1.5. Furnish five copies of the above documents, Drawings and Specifications to and review them with OWNER.
- 2.1.6. ENGINEER's services under the Design Phase will be considered complete at the earlier of (1) the date when the submittals have been accepted by OWNER or (2) thirty (30) days after the date when such submittals are delivered to OWNER for final acceptance, plus in each case such additional time as may be considered reasonable for obtaining approval of governmental authorities having jurisdiction to approve the portions of the Project designed or specified by ENGINEER, if such approval is to be obtained during the Design Phase.

The duties and responsibilities of ENGINEER during the Design Phase are amended and supplemented as indicated in Exhibit A.

### 2.2. Bidding or Negotiating Phase

After acceptance by OWNER of the ENGINEER's Drawings, Specifications and other Design Phase documentation (including the most recent opinion of probable Construction Cost), and upon written authorization to proceed, ENGINEER shall:

- 2.2.1. Assist OWNER in advertising for and obtaining bids or negotiating proposals for the contract for construction, materials, equipment and services; and, where applicable, maintain a record of prospective bidders to whom Bidding Documents have been issued, attend pre-bid conferences, if any, and receive and process deposits for Bidding Documents.
- 2.2.2. Issue Addenda as appropriate to clarify, correct or change the Bidding Documents.
- 2.2.3. Consult with OWNER as to the acceptability of subcontractors, suppliers and other persons and entities proposed by Contractor for those portions of the work as to which such acceptability is required by the Bidding Documents.
- 2.2.4. Attend the bid opening, prepare bid tabulation sheets and assist OWNER in evaluating bids or proposals and in assembling and awarding contracts for construction, materials, equipment and services.

- 2.2.5. The Bidding or Negotiating Phase will terminate and the services to be performed or furnished thereunder will be considered complete upon commencement of the Construction Phase or upon cessation of negotiations with prospective Contractors.

The duties and responsibilities of ENGINEER during the Bidding or Negotiating Phase as set forth in this paragraph 2.2 are amended and supplemented as indicated in Exhibit A.

2.3. Construction Phase

During the Construction Phase:

2.3.1. *General Administration of Construction Contract*

ENGINEER shall consult with and advise OWNER and act as OWNER's representative as provided in the Standard General Conditions. The extent and limitations of the duties, responsibilities and authority of ENGINEER as assigned in said Standard General Conditions shall not be modified, except to the extent provided in Exhibit A and except as ENGINEER may otherwise agree in writing. All of OWNER's instructions to Contractor will be issued through ENGINEER who shall have authority to act on behalf of OWNER in dealings with Contractor to the extent provided in this Agreement and said Standard General Conditions except as otherwise provided in writing.

2.3.2. *Visits to Site and Observation of Construction*

In connection with observations of the work of Contractor while in progress:

2.3.2.1. ENGINEER shall make visits to the site at intervals appropriate to the various stages of construction as ENGINEER deems necessary in order to observe as an experienced and qualified design professional the progress and quality of the various aspects of Contractor's work. In addition, ENGINEER shall provide the services of a Resident Project Representative at the site to assist ENGINEER and to provide more continuous observations of such work. The furnishing of such Resident Project Representative services will not extend ENGINEER's responsibilities or authority beyond the specific limits set forth elsewhere in this paragraph 2.3. Such visits and observations by ENGINEER and the Resident Project Representative are not intended to be exhaustive or to extend to every aspect of the work in progress, or to involve detailed inspections of the work beyond the responsibilities specifically assigned to ENGINEER in this Agreement and the Contract Documents, but rather are to be limited to spot checking, selective sampling and similar methods of general observation of the work based on ENGINEER's exercise of professional judgment as assisted by the Resident Project Representative. Based on information obtained during such visits and such observations, ENGINEER shall endeavor to determine in general if such work is proceeding in accordance with the Contract Documents and ENGINEER shall keep OWNER informed of the progress of the work. The responsibilities of ENGINEER contained in this paragraph are expressly subject to the limitations set forth in paragraph 2.3.2.2 and other express or general limitations in this Agreement and elsewhere.

2.3.2.2. The purpose of ENGINEER's visits to and representation by the Resident Project Representative at the site will be to enable ENGINEER to better carry out the duties and responsibilities assigned to and undertaken by ENGINEER during the Construction Phase, and, in addition, by the exercise of ENGINEER's efforts as an experienced and qualified design professional, to provide for OWNER a greater degree of confidence that the completed work of Contractor will conform in general to the Contract Documents and that the integrity of the design concept of the completed Project as a functioning whole as indicated in the Contract Documents has been implemented and preserved by Contractor. On the other hand, ENGINEER shall not, during such visits or as a result of such observations of Contractor's work in progress, supervise, direct or have control over Contractor's work nor shall ENGINEER have authority over or responsibility for the means, methods, techniques, sequences or procedures of construction selected by Contractor, for safety precautions and programs incident to the work of Contractor or for any failure of Contractor to comply with laws, rules, regulations, ordinances,

codes or orders applicable to Contractor's furnishing and performing the work. Accordingly, ENGINEER neither guarantees the performance of any Contractor nor assumes responsibility for any Contractor's failure to furnish and perform its work in accordance with the Contract Documents.

2.3.3. *Defective Work*

During such visits and on the basis of such observations, ENGINEER shall have authority to disapprove of or reject Contractor's work while it is in progress if ENGINEER believes that such work will not produce a completed Project that conforms generally to the Contract Documents or that it will prejudice the integrity of the design concept of the completed Project as a functioning whole as indicated in the Contract Documents.

2.3.4. *Clarifications and Interpretations; Field Orders*

ENGINEER shall issue necessary clarifications and interpretations of the Contract Documents as appropriate to the orderly completion of the work. Such clarifications and interpretations will be consistent with the intent of and reasonably inferable from the Contract Documents. ENGINEER may issue Field Orders authorizing minor variations from the requirements of the Contract Documents.

2.3.5. *Change Orders and Work Change Directives*

ENGINEER shall recommend Change Orders and Work Change Directives to OWNER as appropriate, and shall prepare Change Orders and Work Change Directives as required.

2.3.6. *Shop Drawings*

ENGINEER shall review and approve (or take other appropriate action in respect of) Shop Drawings and Samples and other data which Contractor is required to submit, but only for conformance with the information given in the Contract Documents and compatibility with the design concept of the completed Project as a functioning whole as indicated in the Contract Documents. Such reviews and approvals or other action will not extend to means, methods, techniques, sequences or procedures of construction or to safety precautions and programs incident thereto.

2.3.7. *Substitutes*

ENGINEER shall evaluate and determine the acceptability of substitute or "or-equal" materials and equipment proposed by Contractor, but subject to the provisions of paragraph 3.2.2.

2.3.8. *Inspections and Tests*

ENGINEER may require special inspections or tests of the work, and shall receive and review all certificates of inspections, tests and approvals required by laws, rules, regulations, ordinances, codes, orders or the Contract Documents. ENGINEER's review of such certificates will be for the purpose of determining that the results certified indicate compliance with the Contract Documents and will not constitute an independent evaluation that the content or procedures of such inspections, tests or approvals comply with the requirements of the Contract Documents. ENGINEER shall be entitled to rely on the results of such tests.

2.3.9. *Disagreements between OWNER and Contractor*

ENGINEER shall render the initial decisions on all claims of OWNER and Contractor relating to the acceptability of the work or the interpretation of the requirements of the Contract Documents pertaining to the execution and progress of the work. In rendering such decisions, ENGINEER shall be fair and not show partiality to OWNER or Contractor and shall not be liable in connection with any decision rendered in good faith in such capacity.

2.3.10. *Applications for Payment*

Based on ENGINEER's on-site observations as an experienced and qualified design professional and on review of Applications for Payment and the accompanying data and schedules:

2.3.10.1. ENGINEER shall determine the amounts that ENGINEER recommends Contractor be paid. Such recommendations of payment will be in writing and will constitute ENGINEER's representation to OWNER, based on such observations and review, that, to the best of ENGINEER's knowledge, information and belief, the work has progressed to the point indicated, the quality of such work is generally in accordance with the Contract Documents (subject to an evaluation of such work as a functioning whole prior to or upon Substantial Completion, to the results of any subsequent tests called for in the Contract Documents and to any other qualifications stated in the recommendation), and the conditions precedent to Contractor's being entitled to such payment appear to have been fulfilled in so far as it is ENGINEER's responsibility to observe the work. In the case of unit price work, ENGINEER's recommendations of payment will include final determinations of quantities and classifications of such work (subject to any subsequent adjustments allowed by the Contract Documents). The responsibilities of ENGINEER contained in paragraph 2.3.10.1 are expressly subject to the limitations set forth in paragraph 2.3.10.2 and other express or general limitations in this Agreement and elsewhere.

2.3.10.2. By recommending any payment ENGINEER shall not thereby be deemed to have represented that on-site observations made by ENGINEER to check the quality or quantity of Contractor's work as it is performed and furnished have been exhaustive, extended to every aspect of the work in progress, or involved detailed inspections of the work beyond the responsibilities specifically assigned to ENGINEER in this Agreement and the Contract Documents. Neither ENGINEER's review of Contractor's work for the purposes of recommending payments nor ENGINEER's recommendation of any payment (including final payment) will impose on ENGINEER responsibility to supervise, direct or control such work or for the means, methods, techniques, sequences or procedures of construction or safety precautions or programs incident thereto, or Contractor's compliance with laws, rules, regulations, ordinances, codes or orders applicable to Contractor's furnishing and performing the work. It will also not impose responsibility on ENGINEER to make any examination to ascertain how or for what purposes Contractor has used the moneys paid on account of the Contract Price, or to determine that title to any of the work, materials or equipment has passed to OWNER free and clear of any liens, claims, security interests or encumbrances, or that there may not be other matters at issue between OWNER and Contractor that might affect the amount that should be paid.

2.3.11. *Contractor's Completion Documents*

ENGINEER shall receive, review and transmit to OWNER with written comments maintenance and operating instructions, schedules, guarantees, Bonds, certificates or other evidence of insurance required by the Contract Documents, certificates of inspection, tests and approvals, and marked-up record documents (including Shop Drawings, Samples and other data approved as provided under paragraph 2.3.6 and marked-up record Drawings) which are to be assembled by Contractor in accordance with the Contract Documents to obtain final payment. ENGINEER's review of such documents will only be to determine generally that their content complies with the requirements of, and in the case of certificates of inspections, tests and approvals that the results certified indicate compliance with, the Contract Documents.

2.3.12. *Substantial Completion*

Following notice from Contractor that Contractor considers the entire work ready for its intended use, ENGINEER and OWNER, accompanied by Contractor, shall conduct an inspection to determine if the work is substantially complete. If after considering any objections of OWNER, ENGINEER considers the work substantially complete, ENGINEER shall deliver a certificate of Substantial Completion to OWNER and Contractor.

2.3.13. *Final Notice of Acceptability of the Work*

ENGINEER shall conduct a final inspection to determine if the completed work of Contractor is acceptable so that ENGINEER may recommend, in writing, final payment to Contractor. Accompanying the recommendation for final payment, ENGINEER shall indicate that the work is acceptable (subject to the provisions of paragraph 2.3.10.2) to the best of ENGINEER's knowledge, information and belief and based on the extent of the services performed and furnished by ENGINEER under this Agreement.

2.3.14. *Limitation of Responsibilities*

ENGINEER shall not be responsible for the acts or omissions of any Contractor, or of any subcontractor, any supplier, or of any other person or organization performing or furnishing any of the work, except for its own subcontractor under ENGINEER's direct control. ENGINEER shall not, in the performance of its services hereunder, supervise, direct or have control over Contractor(s) work nor shall ENGINEER have authority over or responsibility for the means, methods, techniques, sequences or procedures of construction selected by Contractor(s), for safety precautions and programs incident to the work of Contractor(s) or for any failure of Contractor(s) to comply with laws, rules, regulations, ordinances, codes or orders applicable to Contractor(s) furnishing and performing their work. Accordingly, ENGINEER shall not be responsible for Contractor's failure to perform or furnish the work in accordance with the Contract Documents.

2.3.15. *Duration of Construction Phase*

The Construction Phase will commence with the execution of the construction contract for the Project or any part thereof and will terminate upon written recommendation by ENGINEER of final payment. The duties and responsibilities of ENGINEER during the Construction Phase as set forth in this paragraph 2.3 are amended and supplemented as indicated in Exhibit A.

2.4. Operational Phase

During the Operational Phase, ENGINEER shall, when requested by OWNER:

- 2.4.1. Provide assistance in connection with the refining and adjusting of any equipment or system.
- 2.4.2. Assist OWNER in training OWNER's staff to operate and maintain the Project.
- 2.4.3. Assist OWNER in developing systems and procedures for control of the operation and maintenance of and record keeping for the Project.
- 2.4.4. Prepare a set of reproducible record drawings showing record information which ENGINEER considers significant based on the Drawings, Shop Drawings, and other record documents furnished by Contractor to ENGINEER which were annotated by Contractor to show all changes made during construction. ENGINEER will not be responsible for any errors in or omissions in the information provided by Contractor that is incorporated in the record drawings or other record documents.
- 2.4.5. In company with OWNER, visit the Project to observe any apparent defects in the completed work, assist OWNER in consultations and discussions with Contractor concerning correction of such defects, and make recommendations as to replacement or correction of defective work.
- 2.4.6. The Operational Phase may commence during the Construction Phase and will terminate one year after the date of Substantial Completion.

The duties and responsibilities of ENGINEER during the Operational Phase as set forth in this paragraph 2.4 are amended and supplemented as indicated in Exhibit A.

**ARTICLE 3 - SPECIAL SERVICES OF ENGINEER**

3.1. Services Requiring Authorization in Advance

If authorized in writing by OWNER, ENGINEER shall furnish or obtain from others Special Services of the types listed in paragraphs 3.1.1 through 3.1.16, inclusive, as amended and supplemented as indicated in Exhibit A. These services are not included as part of Basic Services except to the extent otherwise provided in Exhibit A. These services will be paid for by OWNER as indicated in Article 6.

- 3.1.1. Preparation of applications and supporting documents (in addition to those furnished under Basic Services) for private or governmental grants, loans or advances in connection with the Project; preparation or review of environmental assessments and impact statements; review and evaluation of the effect on the design requirements of the Project of any such statements and documents prepared by others; and assistance in obtaining approvals of authorities having jurisdiction over the anticipated environmental impact of the Project.
- 3.1.2. Services to make measured drawings of or to investigate existing conditions or facilities, or to verify the accuracy of drawings or other information furnished by OWNER.
- 3.1.3. Services resulting from significant changes in the scope, extent or character of the portions of the Project designed or specified by ENGINEER or its design requirements including, but not limited to, changes in size, complexity, OWNER's schedule, character of construction or method of financing; and revising previously accepted studies, reports, Drawings, Specifications or Contract Documents when such revisions are required by changes in laws, rules, regulations, ordinances, codes or orders enacted subsequent to the effective date of this Agreement, or are due to any other causes beyond ENGINEER's control.
- 3.1.4. Providing renderings or models for OWNER's use.
- 3.1.5. Preparing documents for alternate bids requested by OWNER for Contractor's work which is not executed or documents for out-of-sequence work.
- 3.1.6. Undertaking investigations and studies including, but not limited to, detailed consideration of operations, maintenance and overhead expenses; the preparation of feasibility studies, cash flow and economic evaluations, rate schedules and appraisals; assistance in obtaining financing for the Project; evaluating processes available for licensing and assisting OWNER in obtaining process licensing; detailed quantity surveys of materials, equipment and labor; and audits or inventories required in connection with construction performed by OWNER.
- 3.1.7. Furnishing services of ENGINEER's Subcontractors for other than Basic Services; and furnishing data or services of the types described in paragraph 4.4 when OWNER employs ENGINEER to provide such data or services in lieu of furnishing the same under paragraph 4.4.
- 3.1.8. Services during out-of-town travel required of ENGINEER other than visits to the site or OWNER's office as required by Article 2.
- 3.1.9. Preparing for coordinating with, participating in and responding to structured independent review processes, including, but not limited to, Construction Management, Cost Estimating, Project Peer Review, Value Engineering and Constructability Review requested by OWNER; and performing or furnishing services required to revise studies, reports, Drawings, Specifications or Contract Documents as a result of such review processes.
- 3.1.10. Determining the acceptability of substitute materials and equipment proposed during the Bidding or Negotiating Phase when substitution prior to the award of contracts is allowed by the Bidding Documents.
- 3.1.11. Assistance in connection with bid protests, rebidding or renegotiating contracts for construction, materials, equipment or services.

- 3.1.12. Providing field surveys for design purposes, engineering surveys and staking to enable Contractor to proceed with its work, and any type of property surveys or related engineering services needed for the transfer of interests in real property; and providing other special field surveys.
- 3.1.13. Preparation of operating, maintenance and staffing manuals to supplement Basic Services under paragraph 2.4.3.
- 3.1.14. Providing more extensive services required to enable ENGINEER to issue notices or certifications requested by OWNER under paragraph 4.12.
- 3.1.15. Preparing to serve or serving as a consultant or witness for OWNER in any litigation, arbitration or other legal or administrative proceeding involving the Project (except for assistance in consultations which is included as part of Basic Services under paragraph 2.1.2.).
- 3.1.16. Other Special Services performed or furnished by ENGINEER in connection with the Project, including services which are to be furnished by OWNER under Article 4, and services not otherwise provided for in this Agreement.

### 3.2. Required Special Services

When required by the Contract Documents in connection with the performance or furnishing of ENGINEER's services during the Construction Phase, ENGINEER shall perform or furnish, without waiting for specific authorization from OWNER, Special Services of the types listed in paragraphs 3.2.1 through 3.2.7, inclusive. These services are not included as part of Basic Services except to the extent provided in Exhibit A. Required Special Services will be paid for by OWNER as indicated in Article 6. ENGINEER shall advise OWNER in writing promptly after starting any such Special Services.

- 3.2.1. Services in connection with Work Change Directives and Change Orders to reflect changes requested by OWNER if, because of the method of compensation agreed upon by OWNER and ENGINEER, the resulting change in compensation for Basic Services is not commensurate with the extent of the Special Services rendered.
- 3.2.2. Services in making revisions to Drawings and Specifications occasioned by the acceptance of substitute materials or equipment other than "or-equal" items; and services after the award of the construction contract in evaluating and determining the acceptability of a substitution which is inappropriate for the Project or an excessive number of substitutions.
- 3.2.3. Services resulting from significant delays, changes or price increases occurring as a direct or indirect result of materials, equipment or energy shortages.
- 3.2.4. Special or extended services during construction made necessary by (1) work damaged by fire or other cause during construction, (2) a significant amount of *defective*, neglected or delayed work of Contractor, (3) acceleration of the progress schedule involving services beyond normal working hours, or (4) default by Contractor.
- 3.2.5. Services (other than Basic Services during the Operational Phase) in connection with any partial utilization of any part of the Project by OWNER prior to its Substantial Completion.
- 3.2.6. Evaluating an unreasonable claim or an excessive number of claims submitted by Contractor or others in connection with the work.
- 3.2.7. Services to review each shop drawing or other submittal more than two times.

## **ARTICLE 4 - OWNER'S RESPONSIBILITIES**

Except as otherwise provided in Exhibit A, OWNER shall do the following in a timely manner so as not to delay the services of ENGINEER and shall bear all costs incident thereto:

- 4.1. Designate in writing a person to act as OWNER's representative with respect to the services to be performed or furnished by ENGINEER under this Agreement. Such person will have complete authority to transmit instructions, receive information, interpret and define OWNER's policies and decisions with respect to ENGINEER's services for the Project.
- 4.2. Provide all criteria and full information as to OWNER's requirements for the Project, including design objectives and constraints, space, capacity and performance requirements, flexibility and expandability, and furnish copies of all design and construction standards which OWNER will require to be included in the Drawings and Specifications.
- 4.3. Assist ENGINEER by placing at ENGINEER's disposal all available information pertinent to the Project including previous reports and any other data relative to design or construction of the Project.
- 4.4. Furnish to ENGINEER, as requested by ENGINEER, for performance of Basic Services or as required by the Contract Documents, the following:
  - 4.4.1. services provided or data prepared by others, including, without limitation, explorations and tests of subsurface conditions at or contiguous to the site, drawings of physical conditions in or relating to existing surface or subsurface structures at or contiguous to the site, or hydrographic surveys;
  - 4.4.2. the services of an independent testing laboratory to perform all inspections, tests and approvals of samples, materials and equipment;
  - 4.4.3. appropriate professional interpretation of all of the foregoing;
  - 4.4.4. environmental assessments, audits, investigations and impact statements, and other relevant environmental or cultural studies as to the Project, the site and adjacent areas;
  - 4.4.5. field surveys for design purposes and property, boundary, easement, right-of-way, topographic and utility surveys or data, including relevant reference points;
  - 4.4.6. property descriptions;
  - 4.4.7. zoning, deed and other land use restrictions; and
  - 4.4.8. other special data or consultations not covered in Article 2.

OWNER shall be responsible for, and ENGINEER may rely upon, the accuracy and completeness of all reports, data and other information furnished pursuant to this paragraph. ENGINEER may use such reports, data and information in performing or furnishing services under this Agreement.

- 4.5. Provide, as required by the Contract Documents, engineering surveys and staking (except as otherwise provided in Exhibit A) to enable Contractor to proceed with the layout of the work, and other special field surveys.
- 4.6. Arrange for access to and make all provisions for ENGINEER to enter upon public and private property as required for ENGINEER to perform services under this Agreement.
- 4.7. Examine all alternate solutions, studies, reports, sketches, Drawings, Specifications, proposals and other documents presented by ENGINEER (including obtaining advice of an attorney, insurance counselor and other consultants as OWNER deems appropriate with respect to such examination) and render in writing decisions pertaining thereto.

- 4.8. Provide approvals and permits from all governmental authorities having jurisdiction to approve the portions of the Project designed or specified by ENGINEER and such approvals and consents from others as may be necessary for completion of such portions of the Project.
- 4.9. Provide, as may be required, for the Project:
  - 4.9.1. accounting, bond and financial advise, independent cost estimating and insurance counseling services;
  - 4.9.2. such legal services as OWNER may require or ENGINEER may reasonably request with regard to legal issues pertaining to the Project, including any that may be raised by Contractor; and
  - 4.9.3. such auditing services as OWNER may require to ascertain how or for what purpose Contractor has used the moneys paid on account of the Contract Price.
- 4.10. Provide such inspection or monitoring services by an individual or entity other than ENGINEER as OWNER may desire to verify:
  - 4.10.1. that Contractor is complying with any law, rule, regulation, ordinance, code or order applicable to Contractor's performing and furnishing the work; or
  - 4.10.2. that Contractor is taking all necessary precautions for safety of persons or property and complying with any special provisions of the Contract Documents applicable to safety.

ENGINEER does not undertake in this Agreement to perform the services referred to in 4.10.1 and 4.10.2 above. The identity of any individual or entity employed to perform such services and the scope of such services will be disclosed to ENGINEER.

- 4.11. Advise ENGINEER of the identity and scope of services of any independent consultants employed by OWNER to perform or furnish services in regard to the Project, including, but not limited to, Construction Management, Cost Estimating, Project Peer Review, Value Engineering and Constructability Review. If OWNER designates a person or entity other than, or in addition to, ENGINEER to represent OWNER at the site, OWNER shall define and set forth in an exhibit that is to be mutually agreed upon and attached to and made a part of this Agreement before such services begin, the duties, responsibilities and limitations of authority of such other party and the relation thereof to the duties, responsibilities and authority of ENGINEER.
- 4.12. Prior to the commencement of the Construction Phase, notify ENGINEER of any variations in the language of the Notice of Acceptability of Work, or of any notice or certification other than such Notice that ENGINEER will be requested to provide to OWNER or third parties in connection with the financing or completion of the Project. OWNER and ENGINEER shall reach agreement on the terms of any such requested notice or certification and OWNER shall authorize such Special Services as are necessary to enable ENGINEER to provide the notice or certification requested under this paragraph.
- 4.13. If more than one prime contract is to be awarded for work designed or specified by ENGINEER, designate a person or entity to have authority and responsibility for coordinating the activities among the various prime contractors, and define and set forth the duties, responsibilities and limitations of authority of such person or entity and the relation thereof to the duties, responsibilities and authority of ENGINEER in an exhibit that is to be mutually agreed upon and attached to and made a part of this Agreement before such services begin.
- 4.14. Furnish to ENGINEER data or estimated figures as to OWNER's anticipated costs for services to be provided by others for OWNER (such as services pursuant to paragraphs 4.4, 4.5 and 4.7 through 4.14, inclusive) and other costs so that ENGINEER may make the necessary calculations to develop and periodically adjust ENGINEER's opinion of Total Project Costs.
- 4.15. Attend the pre-bid conference, bid opening, pre-construction conferences, construction progress and other job related meetings and Substantial Completion and final payment inspections.

- 4.16. Give prompt written notice to ENGINEER whenever OWNER observes or otherwise becomes aware of any development that affects the scope or time of performance or furnishing of ENGINEER's services, or any defect or nonconformance in ENGINEER's services or in the work of any Contractor.
- 4.17. Furnish or direct ENGINEER to provide, Special Services as stipulated in paragraph 3.1 of this Agreement or other services as required.
- 4.18. Provide labor and safety equipment to open and protect manholes and/or to operate valves and hydrants as required by the ENGINEER.
- 4.19. Bear all costs incident to compliance with the requirements of this Article 4.

#### **ARTICLE 5 - TIMES FOR RENDERING SERVICES**

- 5.1. If in this Agreement specific periods of time for rendering services are set forth or specific dates by which services are to be completed are provided and if such periods of time or dates are changed through no fault of ENGINEER, the rates and amounts of compensation provided for herein shall be subject to equitable adjustment. If OWNER has requested changes in the scope, extent or character of the Project, the time of performance and compensation for ENGINEER's services shall be adjusted equitably.
- 5.2. If ENGINEER's services are delayed or suspended in whole or in part by OWNER:
  - 5.2.1. for more than three months through no fault of ENGINEER, ENGINEER shall be entitled to equitable adjustment of rates and amounts of compensation provided for elsewhere in this Agreement to reflect, among other things, reasonable costs incurred by ENGINEER in connection with such delay or suspension and reactivation and the fact that the time for performance under this Agreement has been revised; or
  - 5.2.2. for more than one year through no fault of ENGINEER, the rates and amounts of compensation provided for elsewhere in this Agreement will be subject to equitable adjustment to reflect, among other things, changes in the various elements that comprise such rates of compensation.
- 5.3. In the event that the work designed or specified by ENGINEER is to be performed or furnished under more than one prime contract, or if ENGINEER's services are to be separately sequenced with the work of one or more prime contractors (such as in the case of fast-tracking), OWNER and ENGINEER shall, develop a schedule for performance of ENGINEER's services in order to sequence and coordinate properly such services as are applicable to the work under such separate prime contracts. This schedule is to be prepared and included in Exhibit A whether or not the work under such contracts is to proceed concurrently.

#### **ARTICLE 6 - PAYMENTS TO ENGINEER FOR SERVICES AND REIMBURSABLE EXPENSES**

- 6.1. Methods of Payment for Services and Expenses of ENGINEER
  - 6.1.1. *For Basic Services*  
OWNER shall pay ENGINEER for Basic Services performed or furnished under Article 2 on the basis set forth in Exhibit A.
  - 6.1.2. *For Special Services*  
OWNER shall pay ENGINEER for Special Services performed or furnished under Article 3 on the basis set forth in Exhibit A.
  - 6.1.3. *For Reimbursable Expenses*  
In addition to payments provided for in paragraphs 6.1.1 and 6.1.2, OWNER shall pay ENGINEER for Reimbursable Expenses incurred by ENGINEER and ENGINEER's Subcontractors as set forth in Exhibit A. The amount payable for Reimbursable Expenses will include a factor to the extent so indicated in Exhibit A.

6.1.4. *Tax on Service*

The amount of any excise, VAT or gross receipts tax that may be imposed shall be added to the compensation as determined above.

6.2. Other Provisions Concerning Payments

6.2.1. *Preparation of Invoices*

Invoices for Basic and Special Services and Reimbursable Expenses will be prepared in accordance with ENGINEER's standard invoicing practices and will be submitted to OWNER by ENGINEER at least monthly. The amount billed for Basic Services and Special Services in each invoice will be calculated on the basis set forth in Exhibit A. Invoices are due and payable on receipt.

6.2.2. *Unpaid Invoices*

If OWNER, for any reason fails to make any payment due ENGINEER for services and expenses within thirty (30) days after receipt of ENGINEER's invoice therefor, the amounts due ENGINEER will be increased at the rate of 1.0% per month (or the maximum rate of interest permitted by law, if less) from said thirtieth day; and, in addition, ENGINEER may, after giving seven days' written notice to OWNER, suspend services under this Agreement until ENGINEER has been paid in full all amounts due for services, expenses and charges. Payments will be credited first to interest and then to principal. In the event of a disputed or contested billing, only that portion so contested may be withheld from payment, and the undisputed portion will be paid.

OWNER agrees to pay ENGINEER all costs of collection including but not limited to reasonable attorneys' fees, collection fees and court costs incurred by ENGINEER to collect properly due payments.

**ARTICLE 7 - OPINIONS OF COST**

7.1. Opinions of Probable Construction Cost

ENGINEER's opinions of probable Construction Cost provided for herein are to be made on the basis of ENGINEER's experience and qualifications and represent ENGINEER's best judgment as an experienced and qualified professional engineer generally familiar with the construction industry. However, since ENGINEER has no control over the cost of labor, materials, equipment or services furnished by others, or over the Contractor's methods of determining prices, or over competitive bidding or market conditions, ENGINEER cannot and does not guarantee that proposals, bids or actual Construction Cost will not vary from opinions of probable Construction Cost prepared by ENGINEER. If OWNER wishes greater assurance as to probable Construction Cost, OWNER shall employ an independent cost estimator as provided in paragraph 4.9.

**ARTICLE 8 - GENERAL CONSIDERATIONS**

8.1. Termination

The obligation to provide further services under this Agreement may be terminated by either party upon thirty (30) days' written notice in the event of substantial failure by the other party to perform in accordance with the terms thereof through no fault of the terminating party. In the event of any termination, ENGINEER will be paid for all services rendered and reimbursable expenses incurred to the date of termination and, in addition, all reimbursable expenses directly attributable to termination.

8.2. Reuse of Documents

All documents including Drawings and Specifications provided or furnished by ENGINEER (or ENGINEER's Subcontractors) pursuant to this Agreement are instruments of service in respect of the Project, and ENGINEER and ENGINEER's Subcontractors, as appropriate, shall retain an ownership and property interest therein (including the right of reuse by and at the discretion of ENGINEER and ENGINEER's Subcontractors, as appropriate) whether or not the Project is completed. OWNER may make and retain copies for information and reference in connection with the use and occupancy of the Project by OWNER and others; however, such documents are not

intended or represented to be suitable for reuse by OWNER or others on extensions of the Project or on any other project. Any such reuse without written verification or adaptation by ENGINEER and ENGINEER'S Subcontractors, as appropriate, for the specific purpose intended will be at OWNER's sole risk and without liability or legal exposure to ENGINEER, or to ENGINEER's Subcontractors, and OWNER shall indemnify and hold harmless ENGINEER and ENGINEER's Subcontractors from all claims, damages, losses and expenses including attorneys' fees arising out of or resulting therefrom. Any such verification or adaptation will entitle ENGINEER to further compensation at rates to be agreed upon by OWNER and ENGINEER.

8.3. Mutual Waiver of Consequential Damages

Notwithstanding any other provision of this Agreement to the contrary, neither party including their officers, agents, servants and employees shall be liable to the other for lost profits or any special, indirect, incidental, or consequential damages in any way arising out of this Agreement however caused under a claim of any type or nature based on any theory of liability (including, but not limited to: contract, tort, or warranty) even if the possibility of such damages has been communicated.

8.4. Force Majeure

Any delays in or failure of performance by ENGINEER shall not constitute a default under this Agreement if such delays or failures of performance are caused by occurrences beyond the reasonable control of ENGINEER including but not limited to: acts of God or the public enemy; expropriation or confiscation; compliance with any order of any governmental authority; changes in law; act of war, rebellion, terrorism or sabotage or damage resulting therefrom; fires, floods, explosions, accidents, riots; strikes or other concerted acts of workmen, whether direct or indirect; delays in permitting; OWNER's failure to provide data in OWNER's possession or provide necessary comments in connection with any required reports prepared by ENGINEER, or any other causes which are beyond the reasonable control of ENGINEER. ENGINEER's scheduled completion date shall be adjusted to account for any force majeure delay and ENGINEER shall be reimbursed by OWNER for all costs incurred in connection with or arising from a force majeure event, including but not limited to those costs incurred in the exercise of reasonable diligence to avoid or mitigate a force majeure event.

8.5. Controlling Law

This Agreement is to be governed by the law of the principal place of business of ENGINEER.

8.6. Successors and Assigns

8.6.1. OWNER and ENGINEER each is hereby bound and the partners, successors, executors, administrators and legal representatives of OWNER and ENGINEER (and to the extent permitted by paragraph 8.6.2 the assigns of OWNER and ENGINEER) are hereby bound to the other party to this Agreement and to the partners, successors, executors, administrators and legal representatives (and said assigns) of such other party, in respect of all covenants, agreements and obligations of this Agreement.

8.6.2. Neither OWNER nor ENGINEER may assign, sublet or transfer any rights under or interest (including, but without limitation, moneys that may become due or moneys that are due) in this Agreement without the written consent of the other, except to the extent that any assignment, subletting or transfer is mandated by law or the effect of this limitation may be restricted by law. Unless specifically stated to the contrary in any written consent to an assignment, no assignment will release or discharge the assignor from any duty or responsibility under this Agreement.

8.6.3. Unless expressly provided otherwise in this Agreement:

8.6.3.1. Nothing in this Agreement shall be construed to create, impose or give rise to any duty owed by ENGINEER to any Contractor, Subcontractor, Supplier, other person or entity, or to any surety for or employee of any of them, or give any rights in or benefits under this Agreement to anyone other than OWNER and ENGINEER.

8.6.3.2. All duties and responsibilities undertaken pursuant to this Agreement will be for the sole and exclusive benefit of OWNER and ENGINEER and not for the benefit of any other party.

8.7. Notices

Any notice required under this Agreement will be in writing, addressed to the appropriate party at the address which appears on the signature page of this Agreement (as modified in writing from time to time by such party) and given personally, by registered or certified mail, return receipt requested, by facsimile, or by a nationally recognized overnight courier service. All notices shall be effective upon the date of receipt.

8.8. Severability

Any provision or part of the Agreement held to be void or unenforceable under any law or regulation shall be deemed stricken, and all remaining provisions shall continue to be valid and binding upon OWNER and ENGINEER, who agree that the Agreement shall be reformed to replace such stricken provision or part thereof with a valid and enforceable provision that comes as close as possible to expressing the intention of the stricken provision.

8.9. Change Orders

8.9.1. Any work not contained in Exhibit A, Scope of Work, shall be a change and shall be performed by ENGINEER only pursuant to a written Change Order to this Agreement signed by OWNER and ENGINEER. Such a Change Order may increase or decrease the Work within the general scope of this Agreement. If this Change Order causes an increase in the cost of the work, or of the time required for the performance of the work, ENGINEER shall be paid additional compensation acceptable to both parties in accordance with Exhibit A or granted an extension of the schedule, or both.

8.9.2. In the event OWNER requests ENGINEER to develop information necessary for the consideration of a change in the Project, and such a change is not adopted, OWNER shall reimburse ENGINEER for the costs which it incurs in connection with such efforts.

8.10. Insurance

ENGINEER shall procure and maintain insurance for protection from claims under workers' compensation acts, claims for damages because of bodily injury including personal injury, sickness or disease or death of any and all employees or of any person other than such employees, and from claims or damages because of injury to or destruction of property including loss of use resulting therefrom.

8.11. Discovery

ENGINEER shall be entitled to compensation on a time and materials basis when responding to all requests for discovery relating to this Project and to extent that ENGINEER is not a party to the lawsuit.

8.12. Nondiscrimination and Affirmative Action

In connection with its performance under this Agreement, ENGINEER shall not discriminate against any employee or applicant for employment because of race, color, creed, religion, age, sex, marital status, sexual orientation or affection preference, national origin, ancestry, citizenship, physical or mental handicap or because he or she is a disabled veteran or veteran of the Vietnam era. ENGINEER shall take affirmative action to ensure that qualified applicants are employed and that employees are treated during employment without regard to their race, color, creed, religion, age, sex, marital status, sexual orientation or affectional preference, national origin, ancestry, citizenship, physical or mental handicap or because he or she is a disabled veteran or veteran of the Vietnam era. Such actions shall include recruiting and hiring, selection for training, promotion, fixing rates or other compensation, benefits, transfers and layoff or termination.

8.13. Limitation of Liability

In no event shall ENGINEER's total liability to OWNER and/or any of the OWNER's officers, employees, agents, contractors or subcontractors for any and all injuries, claims, losses, expenses or damages whatsoever arising out of or in any way related to this agreement from cause or causes, including, but not limited to, ENGINEER's wrongful act, omission, negligence, errors, strict liability, breach of contract, breach of warranty, express or implied, exceed the total amount of fee paid to ENGINEER under this agreement or \$50,000, whichever is greater.

#### **ARTICLE 9 - EXHIBITS AND SPECIAL PROVISIONS**

- 9.1. This Agreement is subject to the provisions of the following Exhibits which are attached to and made a part of the Agreement:
  - 9.1.1. Exhibit A, "Further Description of Engineering Services and Related Matters," consisting of    pages.
  - 9.1.2. Exhibit B, "Duties, Responsibilities and Limitations of Authority of Resident Project Representative," consisting of    pages.
  - 9.1.3. This Agreement (consisting of Pages 1 to 17 inclusive) and the Exhibits identified above constitute the entire agreement between OWNER and ENGINEER and supersede all prior written or oral understandings. This Agreement may only be amended, supplemented, modified or canceled by a duly executed written instrument.
  - 9.1.4. Additional Exhibits

**THIS AREA WAS INTENTIONALLY LEFT BLANK**

IN WITNESS WHEREOF, the parties hereto have executed this Agreement to be effective as of the date first above written.

OWNER:

ENGINEER:

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By:

---

By: Joseph F. Wiseman, Jr., P.E.

Title:

Title: Senior Associate

Address for giving notices:

Address for giving notices:  
5400 Glenwood Avenue  
Suite 300  
Raleigh, North Carolina 27612

**EXHIBIT A TO AGREEMENT  
BETWEEN  
OWNER AND ENGINEER  
FOR  
PROFESSIONAL DESIGN, BIDDING AND CONSTRUCTION SERVICES**

**FURTHER DESCRIPTION OF ENGINEERING SERVICES AND RELATED MATTERS**

This is an exhibit attached to and made a part of the Agreement dated \_\_\_\_\_, 2005, between Henderson County (OWNER) and Camp Dresser & McKee (ENGINEER) for professional services.

1. The Basic Services of ENGINEER as described in Article 2 of said Agreement are amended and supplemented as follows:

**SOLID WASTE TRANSFER STATION DESIGN, PERMITTING AND BIDDING SERVICES**

This Exhibit addresses the design, permitting, and bidding services required for Phase 2 of the Henderson County Solid Waste Transfer Station and renovation of the existing Phase 1 transfer station. Phase 2 consists of construction of a second transfer station bay west of the existing facility. Phase 1 renovation includes miscellaneous repairs and improvements to the existing facility. As requested, this Exhibit does not include services during construction such as shop drawing review, contract administration, and site visits. CDM can provide an amendment for construction services if these are desired at a later date.

Based on conversations with County staff, the following design criteria will be incorporated into the Phase 2 design:

- Phase 2 construction will be similar to Phase 1 construction (i.e. pre-engineered metal building open on the entrance side);
- the design details of Phase 2 will be similar to those for Phase 1 except as noted below;
- the dimensions of the Phase 2 building will be approximately 71' wide by 91.5' deep;
- Phase 2 will be structurally independent from Phase 1;
- Phase 2 will be operated independently from Phase 1 with no gaps in the push walls to allow for vehicle traffic between the two buildings;
- the Phase 2 floor will span over the Phase 1 drive through lane and the Phase 2 pit will be placed over the current bypass lane;
- the Phase 2 pit dimensions will be 45' by 6';
- the Phase 2 floor will be high strength concrete similar to what was specified for the Phase 1 floor;
- the metal plating armor along the lip of the Phase 2 pit will be redesigned for better longevity;
- the trench drain at the entrance to Phase 2 will be designed with a continuous slope to the west where there will be a single high capacity drain (minimum 6" diameter) tying into the existing sewer service for Phase 1;
- the Phase 2 trench drain will have a solid steel plate covering;
- the existing crushed stone bypass lane will be replaced with asphalt paving to match the Phase 1 paving;
- the chain link fencing used on the outer tunnel wall for Phase 1 will be replaced with a solid concrete wall with an inside slot for recessed lighting;
- all lighting in tunnel will be recessed into concrete walls;
- inside tunnel walls and curbing will include a concrete fillet on the bottom to allow trash to slide into travel lane;
- provide only 2 hose stations: one on the tip floor located near the front corner of the push wall and one at the tunnel;
- reduce tunnel clearance from 14' 0" used in Phase 1 to 13' 6";
- redesign push walls for Phase 2 such that they are incorporated into exterior walls if structurally possible to increase size of tipping area, increase height from what was used in Phase 1, and eliminate openings for water hoses;
- provide barrier between Phase 1 and Phase 2 to control trash from getting between the buildings;

- locate vent fans to west side of building if possible;
- reduce number of lights from what was used in Phase 1 but include strong lights directly above pit;
- the floor of the Phase 2 drive-through will be designed with trench drains at the entrances to the tunnels that will tie into the sanitary sewer system; and,
- a loading sensor system and trash guides on the bottom of the Phase 2 pit will not be included.

### **TASK 1 - GEOTECHNICAL EXPLORATION**

CDM understands that foundation conditions within the proposed Phase 2 construction area may be questionable due to the former presence of a sedimentation pond and stump pit in the area. Due to the large quantity of undercutting required during Phase 1 construction, CDM recommends that a limited geotechnical exploration be performed to assess foundation conditions in order to determine impacts on foundation design and to preliminarily estimate the amount of undercutting that will be performed. This exploration will reduce the potential for delays and claims during construction.

In order to reduce costs, CDM assumes that this exploration will coincide with the field activities that will be performed as part of the C&D landfill closure project. It is also assumed that Henderson County will provide a trackhoe for a period of approximately one day to perform test pits within the Phase 2 area. A CDM engineer will be onsite to log the test pit excavation and to perform field tests and to collect samples for laboratory testing, if needed. CDM will provide a brief geotechnical report describing the findings of the exploration and potential impacts on the Phase 2 transfer station construction.

The geotechnical report will be provided to CDM's structural engineers to incorporate into their design. CDM may request additional compensation for design if the results of the exploration indicate that the special provisions, such as deep foundations or ground modification beyond undercutting and backfilling, may be required.

### **TASK 2 - PERMIT TO CONSTRUCT APPLICATION**

The North Carolina Department of Environment and Natural Resources (NCDENR) Solid Waste Section requires each proposed solid waste transfer facility to submit a Permit to Construct Application. Under this task, CDM will submit the required information in order to ensure NCDENR will approve Phase 2 prior to expending resources on detailed design.

CDM will develop a Phase 2 Site Plan for inclusion within the Permit Application. NCDENR requires that the Site Plan show the location of the facility, distances to waste, wells, buildings, property lines, streams, topographic features, contours, driveways, gates, fencing, and scales. CDM assumes that Henderson County will supply CDM with a recent topographic survey in digital format that will show these features. CDM will add the footprint of the Phase 2 building as well as related site modifications. This information should be sufficient for NCDENR to complete their review of the Site Plan.

NCDENR also requires the submittal of an Operation Plan with the Permit Application. Information to be provided within the Operation Plan includes a discussion of the facility's proposed policy regarding the acceptance of special wastes, site clean-up and policing, management of wash down water, and site security. CDM assumes that the existing Phase 1 Operation Plan will be made available for our review so that appropriate modifications can be made. The revised document will be submitted with the Permit Application.

The regulations require that an approval letter be submitted from the unit of local government having zoning authority over the area where the facility is to be located, stating that the proposed facility meets all of the requirements of the local zoning ordinance, or that the site is not zoned. CDM assumes that Henderson County will provide a suitable letter for inclusion within the Permit Application.

It is assumed that the disturbed area for Phase 2 construction will be less than 1 acre and therefore submittal of a sedimentation and erosion control permit application will not be required.

CDM will submit three draft copies of the Permit to Construct Application to the County for review. CDM will address comments as needed and submit the final application to the Solid Waste Section.

### **TASK 3 - PREPARATION OF CONSTRUCTION DOCUMENTS**

Once the Permit to Construct Application has been submitted, CDM will meet with the Solid Waste Section to assess the probability that there will not be any significant modifications to the proposed site layout plan. As soon as appropriate, CDM will initiate the preparation of the final construction drawings and specifications while the permit application is being reviewed. This will allow the project to be advertised and bid as soon as the permit is received. CDM will provide civil, structural, architectural, electrical, and mechanical (HVAC, and plumbing) design for the Phase 2 transfer station based upon the preliminary layout developed under Task 1. It is assumed that Henderson County will provide CDM with electronic versions of any front end documents that the County requires to be included within the specifications.

#### Subtask 3.1 - Civil

CDM's Civil design services will include preparation of site and grading plans for the Phase 2 area including road improvements, site works, drainage, erosion control, and location of facilities. It is assumed that sedimentation pond modifications will not be required for this project.

#### Subtask 3.2 - Structural

The Structural design will include the design of the Phase 2 foundations and tipping building. The building shall be a pre-engineered metal building. It will be open on the entrance side. The Phase 2 design will be similar to the Phase 1 design except for the features previously noted in this Exhibit. CDM will prepare contract documents including drawings and technical specifications relating to structural work as well as coordinate work with other functions including civil, architectural, electrical, and mechanical.

#### Subtask 3.3 - Electrical

CDM will evaluate the existing electrical service at the Phase 1 Transfer Station and determine whether it is suitable for servicing the Phase 2 facility. CDM will design any modifications to the service as necessary. It is assumed that site lighting will be limited to lights mounted to the transfer station building. CDM will prepare contract documents for electrical lighting and power needs for the transfer station facility.

#### Subtask 3.4 - Architectural

For the Architectural design services, CDM will provide a preliminary design including layout on various views of the facility. The design of the facility will incorporate a pre-engineered metal building. It is assumed that landscaping will be limited to grassing over disturbed areas. CDM will provide final design of architectural aspects of the building and coordinate closely with structural and other functions. The design will comply with the State building code.

#### Subtask 3.5 - Plumbing

CDM will provide Plumbing design services for the transfer station. Work will include drainage design of the floor and roof and preparation of specifications for plumbing. CDM will design Washdown facilities on the tipping floor and the transfer vehicle tunnel. It is assumed that the water and sewer line connections will be made to the same services that accommodate the Phase 1 facility. As with Phase 1, Phase 2 will not have a fire protection system included with the design.

#### Subtask 3.6 - HVAC

CDM will provide HVAC design services to include the preparation of plans and specifications for the transfer station facility. In general, ventilation will be provided by wall-mounted exhaust fans and wall inlet louvers with manual control of ventilation systems. The general area of the transfer station and the truck loading facility will be provided with ventilation for removal of heat and engine exhaust products. This area will not be heated.

#### Subtask 3.7 - Henderson County Review

CDM will hold formal review/progress meetings with Henderson County staff when the Construction Documents reach the 50% and 95% completion points. For the purposes of this exhibit, it is assumed that two CDM employees will attend each meeting and the meetings will be held in Henderson County. If you prefer, the meetings can be held at CDM's Raleigh office to reduce costs and our fee can be adjusted accordingly. At the 95% completion meeting, County staff will be given two sets of plans and specifications for final review. CDM will address comments by the County as appropriate and prepare the final Construction Documents accordingly. CDM will maintain close communication with the County throughout preparation of the Construction Documents.

Provided below is a preliminary index of sheets that will be provided in the final construction documents:

Cover Sheet

|       |  |
|-------|--|
| G-1   | Symbols and Legends  |
| C-1   | Existing Site Plan   |
| C-2   | Final Grading Plan   |
| CD-1  | Miscellaneous Details  |
| CD-2  | Miscellaneous Details  |
| S/BD1 | Abbreviations, Symbols and Transfer Station Floor and Roof Plans     |
| S/BD2 | Transfer Station Elevations, Door & Louver Types and Details         |
| E-1   | Electrical Symbols, Abbreviations and Site Plan                      |
| E-2   | Single Line Power Diagram, Elementary Control Diagrams and Schedules |
| E-3   | Transfer Station Power Plan  |
| E-4   | Transfer Station Lighting Plan                                       |
| E-5   | Electrical Details   |
| H-1   | HVAC Symbols and Abbreviations                                       |
| H-2   | Transfer Station HVAC Plan, Schedules and Details                    |
| P-1   | Plumbing Symbols and Abbreviations                                   |
| P-2   | Transfer Station Upper Level Plumbing Plan, Schedules and Details    |
| P-3   | Transfer Station Lower level Plumbing Plan, Schedules and Details    |
| S-1   | Transfer Station Foundation Plan, Details and Sections               |
| S-2   | Transfer Station Slab Plan, Details and Sections                     |
| S-3   | Transfer Station Sections and Details                                |

#### **TASK 4 - PHASE 1 RENOVATION**

CDM will prepare design drawings and specifications for the renovation of the existing Phase 1 transfer station. These drawings will be included in the construction documents.

Based on conversations with County staff, the following design criteria will be incorporated into the Phase 1 renovation design:

- resurface push walls and raise height of push wall if possible;
- redesign steel protective plate at pit;
- remove and replace surface pavement on tipping floor;
- connect Phase 1 trench drain at tipping floor to Phase 2 trench drain;
- remove chain link fence from outer tunnel wall and replace with solid concrete wall with openings for recessed lighting at top and install concrete fillets at bottom of wall to eliminate flat space on top of curb;
- pour 6 to 8 inch concrete slab in tunnel to reduce clearance with slab sloped on both ends;
- relocate vent fans and louvers to east side of building if possible; and,
- provide new covers for openings in push wall.

#### **TASK 5 - BIDDING SERVICES**

Henderson County has requested that CDM provide bidding services for the Phase 2 transfer station project. The services to be provided by CDM for this phase of the project include the following:

- reproduce sets of the construction drawings and specifications, distribute them to interested contractors as well as AGC and Dodge offices as desired by the County, and maintain a distribution list;
- contact prospective bidders to improve interest in the project and act as the lead engineer during the bidding process answering Contractor questions;
- coordinate with the appropriate Henderson County department to advertise the project in the newspapers desired by the County (costs for advertisement are assumed to be the responsibility of the County);
- prepare addenda to the project drawings and specifications to answer Contractor questions (assumes maximum of 20 hours of engineering time); and,
- preside at the pre-bid meeting, attend and conduct the bid opening, evaluate the bids and prepare the bid tabulation, review the bids for accuracy, review the required contractor qualification information, and prepare a recommendation for award of the contract to the Henderson County Board of Commissioners (assumes one (1) CDM attendee per meeting).

## TASK 6 - SERVICES DURING CONSTRUCTION

Henderson County has indicated that at this time, CDM's services will not be required during the construction phase of the project. For this task, CDM has included hours for consultation during construction of up to 4 hours per week for the duration of the project. Construction is estimated to take up to 26 weeks. If desired at a later date, CDM can provide the following construction services, as needed, through a separate amendment:

- prepare conformed construction drawings and specifications;
- act as the County's representative during construction handling all communication with the Contractor and the County. Carry out the duties and responsibilities as stated in the General Conditions and Supplemental Conditions of the construction contract;
- maintain a complete document file for the project including correspondence, Quality control procedures, inspection records, shop drawing schedule, change orders, etc.;
- hold a pre-construction meeting and monthly progress meetings, and distribute minutes to attendees;
- have a project engineer make periodic site visits to inspect the construction;
- review and approve pay requests;
- preside at the final inspection;
- administer all change orders and time extensions;
- prepare record drawings;
- handle execution of the construction contract;
- respond to Contractor's questions;
- provide inspection services;
- review and approve all of the quality assurance documentation submitted by the Contractor;
- attend the pre-construction conference;
- review and approve all shop drawings; and,
- prepare the Permit to Operate application and attend the pre-operational meeting with the North Carolina Solid Waste Section.

2. The responsibilities of OWNER as described in Article 4 of said Agreement are amended and supplemented as follows:

- provide electronic copies of required front end specifications;
- provide as electronic copy of a recent as-built topographic survey of the Phase 2 construction area showing the surveyed location of the existing transfer station, existing grading, and pertinent structures and facilities;
- review deliverables in a timely manner;
- provide information to CDM as requested in a timely manner;
- pay all permitting and other fees that may arise from the work; and,
- provide earthmoving equipment at the required time to conduct geotechnical exploration.

3. The time periods for the performance of ENGINEER's services as set forth in Article 5 of said Agreement are amended and supplemented as follows:

CDM will complete the services described under Tasks 1 through 4 within 150 days of receiving an authorized agreement. CDM will provide services under Tasks 5 and 6 on an as needed basis.

4. The method of payment for services rendered by ENGINEER shall be as set forth below:

For the Basic Services performed by the Engineer under Section 1 of this Amendment, OWNER agrees to pay Engineer the lump sum fee of \$116,600. Partial payment for all services are to be made monthly by OWNER in accordance with the percentage of work completed that month. The cost breakdown is as follows:

| <u>TASK</u>                                    | <u>CDM</u> |                  |
|--|------------|------------------|
| TASK 1 - Geotechnical Exploration              | \$ 5,000   |                  |
| TASK 2 - Permit to Construct Application       | \$ 3,400   |                  |
| TASK 3 - Preparation of Construction Documents | \$ 72,000  |                  |
| TASK 4 - Phase I Renovation                    | \$ 11,000  |                  |
| TASK 4 - Bidding Services                      | \$ 12,900  |                  |
| TASK 5 - Services During Construction          |            | <u>\$ 12,300</u> |
| TOTAL  | \$116,600  |                  |

5. OWNER has established the following special provisions and/or other considerations or requirements in respect of the Assignment:

N/A