

AMENDMENT NUMBER

2

WORK ORDER NUMBER

1

**Segment 3 Cell 2 Expansion, Segment 2 Partial Closure And Landfill Gas Collection
System Expansion**

Phase III - Engineering Services During Construction

This Amendment **2** to Indian River County (IRC) Landfill Work Order Number **1** is entered into as of this ____ day of _____, 201_, in accordance with FS 287.055, Consultant's Competitive Negotiation Act per the Request for Qualification #2017048 for Engineering Consulting Services for Landfill Closure, Landfill Gas System Expansion, and Cell Construction, dated July 18, 2017 (referred to as the "Agreement"), by and between INDIAN RIVER COUNTY, a political subdivision of the State of Florida ("COUNTY") and CDM Smith Inc. ("Consultant").

1. The COUNTY has selected the Consultant to perform the professional services set forth in existing Work Order Number 1, Effective Date 7/18/2017.
2. The COUNTY and the Consultant desire to amend this Work Order as set forth on Exhibit A (Scope of Work) attached to this Amendment and made part hereof by this reference. The professional services will be performed by the Consultant for the fee schedule set forth in Exhibit B (Fee Schedule), and within the timeframe more particularly set forth in Exhibit A (Time Schedule), all in accordance with the terms and provisions set forth in the Agreement.
3. From and after the Effective Date of this Amendment, the above-referenced Work Order is amended as set forth in this Amendment. Pursuant to Section 1 of the Agreement, nothing contained in any Work Order shall conflict with the terms of the Agreement and the terms of the Agreement shall be deemed to be incorporated in each individual Work Order as if fully set forth herein.

IN WITNESS WHEREOF, the parties hereto have executed this Work Order as of the date first written above.

CONSULTANT:
CDM Smith Inc.

**BOARD OF COUNTY COMMISSIONERS
OF INDIAN RIVER COUNTY**

By:



By: _____

, Chairman

Title:

Vice President

BCC Approved Date: _____

Attest: Jeffrey R. Smith, Clerk of Court and Comptroller

By: _____

Deputy Clerk

Approved: _____

Jason E. Brown, County Administrator

Approved as to form and legal sufficiency: _____

Dylan T. Reingold, County Attorney

EXHIBIT A

WORK ORDER NO. 1 - AMENDMENT 2

INDIAN RIVER COUNTY LANDFILL SEGMENT 3 CELL 2 EXPANSION, SEGMENT 2 PARTIAL CLOSURE, AND LANDFILL GAS COLLECTION SYSTEM EXPANSION PHASE III - ENGINEERING SERVICES DURING CONSTRUCTION

This Amendment 2 to Work Order No. 1, when executed, shall be incorporated in and become part of the Agreement for Consulting Services between Indian River County Solid Waste Disposal District (SWDD) and CDM Smith Inc., (CONSULTANT), dated July 18, 2017 hereafter referred to as the AGREEMENT.

BACKGROUND

The SWDD, the OWNER, has requested that CONSULTANT prepare this Work Order to provide professional engineering services during construction for the proposed Class I Landfill Segment 3 Cell 2 expansion, Segment 2 Partial Closure, and expansion of the landfill gas (LFG) collection system. The proposed new cell is Cell 2 of Segment 3 (approximately 10.6 acres in size), as shown on Drawing No. 5 of the 20-Year Permit Drawings dated September 2015. Segment 3 Cell 2 will be located immediately to the east of the existing Segment 3 Cell 1. The proposed Segment 2 Partial Closure (approximately 25 acres in size) includes closure of the Segment 1/Infill vertical expansion area and the final elevations of Segment 2, which has historically been referred to as the Segment 2C area. Expansion of the LFG collection system within Segment 2 is proposed to be constructed concurrently with the Segment 2 Partial Closure and landfill gas collection system so that the final components can be installed prior to the closure cap being constructed. This project consists of the above three main elements.

Phase II of this project was completed and included design, permitting and bidding phase. CONSULTANT was retained for the design, permitting, and bidding of the Class I Landfill Segment 3 Cell 2 expansion, Segment 2 Partial Closure, and LFG collection system expansion located at the Indian River County Landfill. The design included the Segment 3 Cell 2 bottom liner system, leachate collection and conveyance systems, Segment 2 Partial Closure cap liner system and stormwater management facilities, and the Segment 2 LFG collection system expansion. Construction also includes an access roadway, leachate pump station and force main design services as requested by SWDD to support future cell expansion. The Scope of Services for Phase III, Engineering Services During Construction, of this project is described below:

SCOPE OF SERVICES

CONSULTANT will provide engineering services during construction to act as the OWNER's representative during the construction of the project. Based on recent discussions with SWDD staff and our familiarity with the landfill site design of the project, the proposed Scope of Services includes the following tasks as a continuation of the previously approved tasks:

TASK 2.0 - PROJECT QUALITY MANAGEMENT

Activities performed under this task consist of those generally administrative functions required to maintain the project on schedule, within budget, and that the quality of the work products defined

within this scope is consistent with CONSULTANT's standards, SWDD's requirements, and FDEPs permit requirements.

Task 2.0 is amended to include the specific activities identified below:

Subtask 2.4 Construction Quality Management – CONSULTANT's project manager will manage the independent review of CONSULTANT's deliverables, monthly project status reviews, and project close-out activities. CONSULTANT will meet with SWDD staff for project planning and coordination, as needed. CONSULTANT will perform quality technical reviews on the construction phase CONSULTANT deliverables such as record drawings and the Florida Department of Environmental Protection Certifications of Construction Completion. Preparation of invoices and project administration will also be performed under this task.

TASK 7.0 - GENERAL ENGINEERING SERVICES DURING CONSTRUCTION

These services shall include the following subtasks:

Subtask 7.1 After issuance of a Notice of Award by SWDD, CONSULTANT will prepare for and attend a preconstruction meeting with the Contractor.

Subtask 7.2 CONSULTANT will consult with and advise SWDD and act as its representative as provided in the General Conditions of the construction contract. Consult with and advise SWDD as to the acceptability of substitute materials and equipment proposed by the Contractor when substitution is permitted by the Contract Documents.

Subtask 7.3 CONSULTANT will maintain an on-site presence to observe the progress and quality of the executed work of the Contractor and to determine in general if such work is proceeding in accordance with the Contract Documents. This presence and on-site observations, CONSULTANT shall keep SWDD informed of the progress of the work and shall endeavor to determine in general if such work is proceeding in accordance with the Contract Documents. Additionally, during such visits and on the basis of such observations, CONSULTANT shall disapprove or reject Contractor's work while it is in progress if CONSULTANT 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.

Subtask 7.4 CONSULTANT will review and approve shop drawings (estimated at 60) and samples, the results of laboratory tests and other data, which the contractor is required to submit by the contract documents. The CONSULTANT will inspect deliveries of the materials to confirm compliance with the shop drawings and the project specifications.

Subtask 7.5 CONSULTANT will issue instructions to the Contractor and issue necessary interpretations and clarifications of the Contract Documents. CONSULTANT will respond to requests for information (estimated at 10). Act as SWDD's representative to require special inspection or testing of the work. Act as initial

interpreter of the requirements of the Contract Documents regarding the execution and progress of the work.

- Subtask 7.6** Based on CONSULTANT's on-site observations and on review of applications for payment and the accompanying data and schedules, CONSULTANT will determine the amounts owing to the Contractor and recommend in writing, payments to the Contractor in such amounts.
- Subtask 7.7** For each portion of the work (Milestone 1 and Milestone 2), CONSULTANT will perform an initial walkthrough to develop a preliminary checklist of items to be performed by the Contractor, based upon observations made jointly between the Contractor, SWDD, and CONSULTANT. For each portion of the work (Milestone 1 and Milestone 2), CONSULTANT will perform a second walkthrough to identify which items remain to be performed from the initial checklist and to supplement that list as necessary and for the purpose of developing a joint single final punch list. CONSULTANT will perform a final walk-through on both portions of the work (Milestone 1 and Milestone 2), to determine if the all of the work has been completed in accordance with the final punch list and Contract Documents. CONSULTANT reserves the right to request additional compensation should additional walkthroughs be required.
- Subtask 7.8** CONSULTANT will assist the SWDD with project related correspondence to SWDD, Contractor, regulatory agencies, and other parties; provide monthly project status reports; prepare monthly progress meeting minutes; and maintain comprehensive project records and documentation on file. CONSULTANT will maintain document log and documentation on site during the project.
- Subtask 7.9** CONSULTANT will complete and file daily reports to document the progress of the work.
- Subtask 7.10** CONSULTANT will monitor/check performance tests and review field test reports for conformance with project contract documents.
- Subtask 7.11** CONSULTANT will arrange for monthly progress meetings to be attended by the Contractor, SWDD, and CONSULTANT's representatives. The purpose of these meetings is to review the Contractor's work performed, discuss Contractor's schedule and any construction/field problems.

The level of work estimated for this project is based on a 390-calendar day (278 working days) construction period from the Notice to Proceed to Final Completion. CONSULTANT reserves the right to request additional compensation, should Final Completion of construction extend beyond the 390-calendar day (278 working days) period.

TASK 8.0 - SPECIAL ENGINEERING SERVICES DURING CONSTRUCTION

Activities performed under this task consist of supplementary and special engineering services required during the construction and implementation of the project:

- Subtask 8.1** Prepare for SWDD a set of reproducible record drawings, digital copy in AUTOCAD and two Record Drawing prints showing those significant changes made during the

construction process based on information furnished to CONSULTANT by the Contractor.

- Subtask 8.2** Provide services in connection with preparing work change directives, change orders to reflect changes to the construction project. A maximum of three change orders are budgeted incorporating an estimated three items per change order.
- Subtask 8.3** Provide services in connection with preparing final certifications of completion of construction to the regulatory agencies. Final certification document is required to close the permits for the cell expansion as well as the partial closure cap. The documentation requirements include detailed drawings of all the liner panel locations, destructive liner test locations and document test weld results, material conformance testing, record drawings, etc. Final certification of completion will also be necessary for the Water Main Extension permit with FDEP.

TASK 9.0 - RESIDENT SERVICES DURING CONSTRUCTION

The activities performed under this task consist of providing resident project representative (RPR), which will be subcontracted to Schulke, Bittle and Stoddard, LLC (SUBCONSULTANT) during the construction and implementation of the project:

- Subtask 9.1** Activities performed under this task consist of furnishing a full-time RPR during the project construction (278 working day period from Notice to Proceed to Final Completion) to observe the performance of the work of the contractor.
- Subtask 9.2** The RPR as CONSULTANT's agent will act as directed by and under the supervision of the CONSULTANT, and will confer with CONSULTANT regarding his actions. The RPR's dealings in matters regarding the on-site work shall in general be only with CONSULTANT and the Contractor, and dealings with subcontractors shall only be through or with the full knowledge of the Contractor. Written communication with SWDD will be only through or as directed by CONSULTANT.
- Subtask 9.3** The RPR will prepare daily reports, describing the general working conditions, areas of construction activity, tests performed and special and document unusual events.

CONSULTANT will provide support to the RPR for observation of the work performed by the contractor, direct and supervise the RPR, prepare supporting documentation in dealings with the contractor, and manage the documentation, daily reports, and test reports.

The level of work estimated for RPR SUBCONSULTANT labor under this task is 2,224 labor-hours (278 working days X 8 hours/day) and 1,390 labor-hours (278 working days X 5 hours/day) of CONSULTANT staff support for project representative time. CONSULTANT reserves the right to request additional compensation, should construction extend beyond the 2,224 labor-hour period for the RPR and 1,390 labor-hour period for CONSULTANT staff support for all of Task 9.

TASK 10.0 - LINER SYSTEM CONSTRUCTION QA/QC

Activities performed under this phase consist of furnishing a full-time quality assurance/quality control (QA/QC) field representative during landfill cell liner/leachate system construction. The cell lining/leachate system includes the following components:

- Subbase
- Geosynthetic clay liner
- HDPE liner
- Geocomposite
- HDPE liner
- Geocomposite drainage net
- Leachate collection pipe system
- Protective layer

CONSULTANT's Field QA/QC Representative will be responsible for observing and documenting activities related to the quality assurance of the production, handling, storage, and installation of the geosynthetic liner system. CONSULTANT's Field QA/QC Representative will also be responsible for implementation of the Construction Quality Assurance (CQA) Manual approved by FDEP as part of the permit to construct the landfill expansion, landfill closure, and for coordination with the quality assurance laboratory. An independent Quality Control laboratory is to be retained by the Contractor. CONSULTANT's Field QA/QC Representative shall record all field activities in the appropriate forms included in the contract technical specifications.

The specific duties of the CONSULTANT's liner system construction QA/QC Field Representative are as follows:

- a. Reviews design drawings and specifications.
- b. Reviews site-specific documentation, including proposed layouts, and manufacturer's and installer's literature.
- c. Develops a site-specific addendum for quality assurance of geosynthetics (if necessary) with the assistance of the Owner's Representative.
- d. Administers the geosynthetic portions of the CQA Manual, e.g., assigns and manages all geosynthetic quality assurance personnel, reviews field reports, and provides engineering review of quality assurance related issues.
- e. Reviews changes to design drawings and specifications as issued by CONSULTANT.
- f. Acts as the on-site (resident) representative of the SWDD.
- g. Attends quality assurance related meetings, e.g., pre-liner, pre-construction, daily, weekly.
- h. Reviews Manufacturer and Installer certifications and documentation and makes appropriate recommendations.
- i. Reviews the Installer's personnel qualifications for conformance with the CQA manual and the Contract Documents.

- j. Manages the preparation of the as-built drawing(s).
- k. Reviews the calibration certification of the on-site tensiometer, if applicable.
- l. Reviews daily reports, logs and photographs.
- m. Notes any on-site activities that could result in damage to the liner system.
- n. Reports to the Owner's Representatives, and logs in the daily report, and any relevant observations.
- o. Prepares his own daily report.
- p. Prepares a daily summary of the quantities of geosynthetics installed that day.
- q. Prepares the weekly summary of the geosynthetic cap system quality assurance activities.
- r. Oversees the marking, packaging, and shipping of laboratory test samples.
- s. Reviews the result of laboratory testing and makes appropriate recommendations.
- t. Reports any unapproved deviations from the CQA Manual to the Owner's Representative.
- u. Prepares the final certification report.
- v. Monitors, logs, photographs and/or documents geosynthetic installation operations. Photographs shall be taken routinely and in critical areas of the installation sequence.
- w. Monitors the following operations for the lining system materials:
 - 1. Material delivery
 - 2. Unloading and on-site transport and storage
 - 3. Sampling for conformance testing
 - 4. Deployment operations
 - 5. Joining and/or seaming operations
 - 6. Condition of panels as placed
 - 7. Visual inspection by walkover
 - 8. Repair operations
- x. Monitors and documents the geomembrane seaming operations, including:
 - 1. Trial seams
 - 2. Seam preparation
 - 3. Seaming
 - 4. Nondestructive seam testing
 - 5. Sampling for destructive seam testing
 - 6. Photographs of destruction seam testing with clear identification mark
 - 7. Appropriate log for seaming and patching destructive testing
 - 8. Field tensiometer testing
 - 9. Laboratory sample marking

10. Repair operations

- y. Documents any on-site activities that could result in damage to the lining system. Any problems noted shall be reported as soon as possible to the SWDD's Representative.
- z. Observes the liner leak location survey.

CONSULTANT will furnish one QA/QC representative during the installation of the geosynthetic liner system, which is estimated at 140 working days. This proposal is based on furnishing the QA/QC representative for 1,556 labor hours (140 working days X 8 hrs/day + 54 days of support staff) based on a 196-calendar day construction period for liner systems. CONSULTANT reserves the right to request additional compensation, should the Task 10, Liner System QA/QC hours exceed the total 1,556 hours budgeted.

ASSUMPTIONS

- SWDD will be responsible for all permit application fees.
- An independent Quality Control laboratory is to be retained by the Contractor.
- Contractor will be responsible for reimbursing CONSULTANT for all overtime incurred by CONSULTANT for work performed outside normal working hours, which are defined as Monday through Friday, 7:00 am to 5:00 pm, in accordance with the Contract Documents.
- This Scope of Services does not include a National Pollutant Discharge Elimination System (NPDES) Notice of Intent, a St. Johns River Water Management District Dewatering Permit, or any construction/building permits, which shall be obtained by the Contractor constructing the project, if required.
- CONSULTANT reserves the right to seek additional compensation for work performed beyond the described in this Scope of Services.
- CONSULTANT reserves the right to request additional compensation, should Final Completion of construction extend beyond 390-days (278 working days) after Notice to Proceed.

PROJECT SCHEDULE

The following preliminary project schedule has been developed based on authorization to provide engineering services during construction which follows the award of the contract to the selected Contractor. A final schedule will be prepared based on Contractor's actual Notice to Proceed.

Milestone	Date
Bid Opening	March 1, 2018
Award of Contract	April 10, 2018
Contract Documents Executed	April 22, 2018
Contractor's Notice to Proceed	May 22, 2018
Mobilization / Shop Drawing Reviews Start	June 6, 2018
Substantial Completion Milestone 1, Bid Items 2 & 4	November 18, 2018
Substantial Completion Milestone 2, Bid Items 1, 4, 5, & 6	May 17, 2019
Final Completion	June 16, 2019
Final Certifications of Construction Completion	July 20, 2019
Project Closeout	September 6, 2019

PAYMENT AND COMPENSATION

Compensation for this Amendment No. 2 to Work Order No. 1 described herein shall be made in accordance with the Contract between SWDD and CONSULTANT. The lump sum amount of this Amendment No. 2, for Tasks 2, 7, and 8, is \$744,675. The not-to-exceed amount of this Amendment No. 2, for Tasks 9 and 10, is \$577,475. The new not to exceed Grand Total Amount of Work Order No. 1 is **\$2,012,649**. CONSULTANT will submit monthly invoices for services rendered based on the percentage of work for each task completed for Tasks 1 thru 5 and 7 thru 8, Task 6 will be invoiced based on a percentage of work complete as authorized by SWDD, and Tasks 9 and 10 will be invoiced based on the time incurred and the labor billing rates, plus outside professionals and direct costs, in accordance with the AGREEMENT.

For invoice purposes only, the value of each task in this Amendment No. 2 is as shown in **Table 1**.

Table 1

TASK VALUE FOR INVOICE PURPOSE – AMENDMENT NO. 2 TO WORK ORDER NO. 1		
TASK	DESCRIPTION	VALUE
2.0	Project Quality Management	\$108,970
7.0	General Engineering Services During Construction	\$551,125
8.0	Special Engineering Services During Construction	\$84,580
	Lump Sum =	\$744,675
9.0	Resident Services During Construction	\$403,105
10.0	Liner System Construction QA/QC	\$174,370
	Not-To-Exceed (NTE) =	\$577,475
TOTAL AMENDMENT NO. 2 TO WORK ORDER NO. 1 (NTE) =		\$1,322,150
ORIGINAL WORK ORDER NO. 1 AND AMENDMENT NO.1 (NTE) =		\$690,499
NEW GRAND TOTAL AMOUNT FOR WORK ORDER NO. 1 (NTE) =		\$2,012,649
AMENDMENT NO. 2 WORK BREAKDOWN FOR FUNDING PURPOSES		
Segment 3 Cell 2 Expansion Lump Sum =		\$314,228
Segment 3 Cell 2 Expansion Not-To-Exceed =		\$256,399
Segment 2 Partial Closure and LFG Collection System Expansion Lump Sum		\$430,447
Segment 2 Partial Closure and LFG Collection System Expansion Not-To-Exceed =		\$321,076

EXHIBIT B-1

WORK ORDER NO. 1 – AMENDMENT 2

INDIAN RIVER COUNTY LANDFILL
SEGMENT 3 CELL 2 EXPANSION, SEGMENT 2 PARTIAL CLOSURE, AND LANDFILL GAS COLLECTION SYSTEM EXPANSION
PHASE III – ENGINEERING SERVICES DURING CONSTRUCTION

	Sr. Officer	Officer	Associate	Principal	Senior Prof	Prof II	Prof I	Sr. Technical Expert	Senior Support Services	Staff Support Services (Drafting)	Document Control Specialist	Sr. Prof (Field)	Prof (Field)	Hours By Task
TASK 2.0 - Project Quality Management	20	0	336	10	10	0	0	16	104	0	45	0	0	541
TASK 7.0 - General Engineering Services During Construction	25	18	72	412	796	706	466	98	0	20	624	145	145	3,527
TASK 8.0 - Special Engineering Services During Construction	0	0	8	42	82	110	60	16	28	160	34	0	0	540
TASK 9.0 - Resident Services During Construction	0	0	11	250	258	212	32	88	0	0	163	188	188	1,390
TASK 10.0 - Liner System Construction QA/QC	0	0	0	0	60	60	0	0	36	0	280	560	560	1,556
Total	45	18	427	714	1,206	1,088	558	218	168	180	1,146	893	893	7,554

EXHIBIT B-2

BUDGET

PROJECT: INDIAN RIVER COUNTY LANDFILL
SEGMENT 3 CELL 2 EXPANSION, SEGMENT 2 PARTIAL CLOSURE, AND LANDFILL
GAS COLLECTION SYSTEM EXPANSION
PHASE III – ENGINEERING SERVICES DURING CONSTRUCTION
TASKS 2, 7, AND 8 – LUMP SUM

DESCRIPTION: As Outlined in the Scope of Services, Exhibit A

REFERENCE: Agreement between Indian River County Solid Waste Disposal District and CDM
Smith Inc.

<u>Labor Category</u>	<u>Hours</u>	<u>Rate</u>	<u>Labor</u>
Sr. Officer	45	\$240	\$10,800
Officer	18	\$230	\$4,140
Associate	416	\$215	\$89,440
Principal	464	\$210	\$97,440
Senior Professional	888	\$175	\$155,400
Professional II	816	\$140	\$114,240
Professional I	526	\$120	\$63,120
Senior Technical Expert	130	\$235	\$30,550
Senior Support Services	132	\$130	\$17,160
Staff Support Services (Drafting)	180	\$95	\$17,100
Document Control Specialist	703	\$90	\$63,270
Sr. Professional (Field)	145	\$115	\$16,675
Professional (Field)	145	\$90	\$13,050
TOTAL HOURS	4,608		

TOTAL LABOR COST \$692,385

Outside Professionals (Beeson Consulting) \$6,600

OTHER DIRECT COSTS (6.6 Percent of Labor) \$45,690
(Field vehicle, field supplies, field safety equipment, etc.)

TOTAL LUMP SUM AMOUNT AMENDMENT NO. 2 \$744,675

EXHIBIT B-3

BUDGET

PROJECT: INDIAN RIVER COUNTY LANDFILL
SEGMENT 3 CELL 2 EXPANSION, SEGMENT 2 PARTIAL CLOSURE, AND LANDFILL
GAS COLLECTION SYSTEM EXPANSION
PHASE III – ENGINEERING SERVICES DURING CONSTRUCTION
TASKS 9 AND 10 – NOT-TO-EXCEED

DESCRIPTION: As Outlined in the Scope of Services, Exhibit A

REFERENCE: Agreement between Indian River County Solid Waste Disposal District and CDM
Smith Inc.

<u>Labor Category</u>	<u>Hours</u>	<u>Rate</u>	<u>Labor</u>
Associate	11	\$215	\$2,365
Principal	250	\$210	\$52,500
Senior Professional	318	\$175	\$55,650
Professional II	272	\$140	\$38,080
Professional I	32	\$120	\$3,840
Senior Technical Expert	88	\$235	\$20,680
Senior Support Services	36	\$130	\$4,680
Document Control Specialist	443	\$90	\$39,870
Sr. Professional (Field)	748	\$115	\$86,020
Professional (Field)	748	\$90	\$67,320
TOTAL HOURS	2,946		

TOTAL LABOR COST \$371,005

Outside Professionals (Schulke, Biddle, & Stoddard) \$182,000

OTHER DIRECT COSTS (6.6 Percent of Labor) \$24,470
(Hotels, field vehicle, field supplies, field safety equipment, etc.)

TOTAL NOT TO EXCEED AMOUNT AMENDMENT NO. 2 \$577,475