

6354-13
Amd 5

**AMENDMENT NUMBER FIVE TO AGREEMENT
BETWEEN
THE CITY OF JACKSONVILLE
AND
CDM SMITH INC.
FOR
LANDFILL PERMITTING AND DESIGN**

THIS AMENDMENT NUMBER FIVE to Agreement is made and entered into in duplicate this 6 day of February, 2014, by and between the CITY OF JACKSONVILLE (hereinafter the "CITY"), a municipal corporation in Duval County, Florida, and CDM SMITH INC. (hereinafter the "CONSULTANT"), a foreign profit corporation authorized to do business in the State of Florida with its principal place of business at One Cambridge Place, 50 Hampshire Street, Cambridge, Massachusetts 02139, for Landfill Permitting and Design (hereinafter the "Project").

RECITALS:

WHEREAS, on February 9, 2011, the parties made and entered into City Contract # 6354-13 (hereinafter the "Agreement") for the Project; and

WHEREAS, said Agreement has been amended four (4) times previously; and

WHEREAS, said Agreement should be amended further by revising the Scope of Services by adding, attaching, and incorporating **Exhibit "I"**, attached hereto and by this reference made a part hereof; by adding, attaching, and incorporating a new Contract Fee Summary, identified as **Exhibit "J"**, attached hereto and by this reference made a part hereof; by making other conforming amendments; and, by increasing the CITY's maximum indebtedness by an amount not-to-exceed \$716,462.00 to a new maximum not-to-exceed \$5,081,332.00, with all other provisions, terms, and conditions of said Agreement remaining unchanged; now therefore

IN CONSIDERATION of the Agreement and of the mutual covenants and agreements hereinafter contained, the parties agree to amend said Agreement as follows:

1. The above stated recitals are accurate, true, and correct and, by this reference, are incorporated herein and made a part hereof.

2. Section 1.01 entitled "STATEMENT OF CONSULTANT SERVICES" in said Agreement is amended, in part, by adding, attaching, and incorporating **Exhibit "I"** and, as amended, shall read as follows:

"1.01 STATEMENT OF CONSULTANT SERVICE

"The CONSULTANT shall furnish all services, documents, drawings and other matters called for in this Agreement, as well as those contained in the "Scope of Services" attached hereto as **Exhibits 'A', 'C', 'E', 'G' and 'I'** and, by this reference, made a part hereof and incorporated herein. If any services, functions, or responsibilities not specifically described in this Agreement and/or the Scope of Services are necessary for the proper performance and provision of the Services, they shall be deemed to be implied by and included within the Scope of Services to the same extent and in the same manner as if specifically described in this Agreement. The Contractor shall be responsible for providing the equipment, supplies, personnel (including management, employees, and training), and other resources as necessary to provide the Services. The CONSULTANT accepts the special relationship established between itself and the CITY by this Agreement. The CONSULTANT covenants with the CITY that it is an expert in the design of the Project and will cooperate with Program Managers, Construction Managers, CITY representatives, and others in fostering the interests of the CITY. The CONSULTANT shall employ sound business administration and superintendence to complete the Project in a manner consistent with the best interests of the CITY."

3. Section 3.03 in said Agreement is amended, in part, by making conforming revisions to cite new **Exhibit "J"** and, as amended, shall read as follows

“3.03. The CONSULTANT shall submit invoices for payment or reimbursement under this subsection on an “as incurred” basis. Such invoices shall be combined with the CONSULTANT’s regular invoices as set forth in Subsection 3.04 hereof. The cost of services provided by the CONSULTANT shall be paid at the rates (including direct labor, indirect costs, and profit) shown in the “Contract Fee Summary Format” attached hereto as **Exhibits ‘B’, ‘D’, ‘F’, ‘H’ and ‘J’**. The cost of services provided to the CONSULTANT by others shall be reimbursed at the invoiced amount without markup by CONSULTANT. Travel expenses, if provided for as a reimbursable expense in **Exhibits ‘B’, ‘D’, ‘F’, ‘H’ and ‘J’** shall be reimbursed only to the extent provided by Chapter 106, Part 7 of the Ordinance Code of the CITY. Travel expenses not specifically covered by said chapter shall be reimbursed only to the extent provided by the uniform policies and practices of the CITY.”

4. Section 3.06 in said Agreement is amended, in part, by increasing the CITY’s maximum indebtedness by an amount not-to-exceed \$716,462.00 to a new maximum not-to-exceed \$5,081,332.00 and, as amended, shall read as follows:

“3.06. The maximum indebtedness of the CITY for all Services to be performed pursuant to this Agreement shall not exceed the sum of FIVE MILLION EIGHTY-ONE THOUSAND THREE HUNDRED THIRTY-TWO AND 00/100 USD (\$5,081,332.00).”

5. Attach **Exhibits “I” and “J”**.

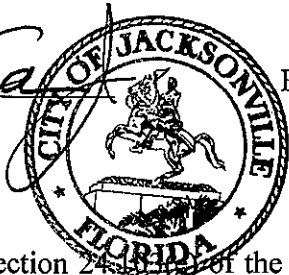
SAVE AND EXCEPT as expressly amended in and by this instrument, the provisions, terms, and conditions of the Agreement of February 9, 2011, as previously amended, shall remain unchanged and shall continue in full force and effect.

IN WITNESS WHEREOF, the parties hereto have duly executed this Agreement the day and year first above written.

ATTEST:

CITY OF JACKSONVILLE

By James R. McCain, Jr.
Corporation Secretary



By Alvin Brown
Mayor

In compliance with Section 24.11.01 of the City of Jacksonville *Ordinance Code* I do certify that there is an unexpended, unencumbered, and unimpounded balance in the appropriation sufficient to cover the foregoing Agreement and that provision has been made for the payment of the monies provided therein to be paid.

C. Ronald Belton
Director of Finance
City Contract # 6354-13
Amendment Number 5

Form Approved:

James R. McCain
Office of General Counsel

Karen Bowling
Chief Administrative Officer
For: Mayor Alvin Brown
Under Authority of:
Executive Order No. 2013-04

ATTEST:

CDM SMITH INC.

By Mario J. Maraccio
Signature
MARIO J MARCACCIO
Type/Print Name
ASSISTANT SECRETARY
Title

By Patrick R. Victor
Signature
Patrick R. Victor
Type/Print Name
Vice President
Title

EXHIBIT I
AMENDMENT 5 to TASK AUTHORIZATION 6354-13

FOR
TRAIL RIDGE LANDFILL CLASS I CELL EXPANSION PROJECT

**WETLAND MITIGATION, PSD AIR PERMITTING, OPERATING PERMITTING, & WESTERN ACCESS
ROAD DESIGN**

This Authorization, when executed, shall be incorporated in and become part of the Agreement for Professional Services between the City of Jacksonville (OWNER), and CDM Smith Inc. (CONSULTANT), dated February 9, 2011 hereafter referred to as the Agreement.

PROJECT BACKGROUND

CONSULTANT will assist the OWNER with the design and permitting of a new Class 1 landfill facility (Phases 6-14) at the Trail Ridge Landfill (TRLF) site. The existing landfill has been developed via 5 stages of cell construction (Phases 1-5) over 20 years and is within 5-7 years of reaching capacity.

The TRLF is currently classified as a major Prevention of Significant Deterioration (PSD) source of air pollution. The TRLF's current PSD Preconstruction Air Permit (No. 0310358-012-AC/PSD-FL-374C) covers emission units associated with the existing 176-acre landfill. The PSD Permit is required to be modified to include the new air emissions sources associated with the proposed 300-acre expansion. The Florida Department of Environmental Protection (FDEP) preconstruction air permitting procedure (Chapter 62-212, F.A.C.) is to issue air permits for stationary "point" sources of air pollutants – air emissions that would exhaust through a vent or stack. FDEP would issue the PSD permit modification for the landfill gas (LFG) collection and control system equipment air emissions point sources, such as any new flares and/or engines treating LFG from the proposed expansion. Fugitive emissions are those emitted through landfill surfaces rather than point sources like stacks or flares. FDEP would not normally consider the fugitive emissions in determining permit applicability. (Chapter 62-212.400(3)(b), F.A.C.) Therefore, an FDEP preconstruction PSD Permit modification would not typically be required until the LFG collection and control system for Phases 6 through 14 is proposed for construction.

However, in response to a legal challenge, the U.S. Environmental Protection Agency (EPA) issued a stay in March 2011 to a section of the PSD regulations governing fugitive emissions (40 CFR 52.21(b)(2)(v)). This means that for pollutants regulated directly by the EPA, fugitive emissions must be considered for PSD major modification applicability. Greenhouse gas (GHG) emissions are regulated directly by the EPA, because the FDEP has not yet accepted delegated authority for implementation of the PSD/Title V Tailoring Rule (75 FR 31514, June 3, 2010). Methane is a powerful GHG, with a global warming potential 21 times that of carbon dioxide (40 CFR 98, Table A-1). So, moderate amounts of fugitive methane emissions from a landfill surface can result in large amounts of carbon-dioxide-equivalent (CO₂e) GHG emissions. Preliminary LANDGEM modeling shows that even for the initial expansion Phases 6 through 14, the maximum potential fugitive methane emission rate (at design capacity and with a collection and control system in place) would exceed the 75,000-ton CO₂e/year PSD Major Modification threshold. So, a PSD major modification air permit application is required to be submitted to EPA Region 4 prior to commencement of construction of the fugitive emissions source – the proposed landfill expansion itself.

CONSULTANT has completed the following work related to the TRLF Class I Cell Expansion Project.

Initial Authorization – Develop a Master Plan for the build out of the TRLF site. The Master Plan recommended three phases, Phases 6 through 8 (now numbered 6 through 14), for full site buildout and evaluated various options for the next cell construction, Phase 6 expansion. The initial authorization also initiated field data collection for design of the TRLF Expansion Project.

Amendment 1 – Developed permit application and supporting documentation for the TRLF Expansion Environmental Resource Permit (ERP).

Amendment 2 – Continued data collection and developed permitting plans and specifications for Phase 6A through 6E TRLF Expansion FDEP Solid Waste Permit. Amendment 2 included conceptual stormwater modeling, development of methane gas management plan, geotechnical stability analysis, and ongoing hydro-geological modeling.

Amendment 3 – Authorized investigation of expansion of the onsite borrow pit for use in future landfill activities. This amendment was a partial authorization of the Amendment 3 activities at TRLF. The remaining activities are authorized under Amendment 4.

Amendment 4 – Authorized funding for the remaining work described and approved in Amendment 3 including continued design and permitting activities for Phases 6 through 14 including development of solid waste construction permit application and Phase 6 construction documents. This amendment also includes bidding services.

SCOPE OF WORK

This scope of work for Amendment 5 is a continuation of the work begun under the previous four amendments to obtain the ERP and FDEP Solid Waste Construction Permits needed to construct Phases 6-14 of the Trail Ridge Landfill Expansion. Additionally, this scope includes activities to apply for a major modification of the site's existing Prevention of Significant Deterioration (PSD) permit as previously discussed, renew the site's solid waste operating permit, and design a new access road for operational traffic. The following is a description of the services to be provided under this Task Authorization. The non-sequential order of some tasks and subtasks listed below is a result of tasks either being authorized under previous amendments or the work is to be authorized as part of future amendments.

TASK 1 - KICKOFF MEETING

There is no change to Task 1. All work has been completed for this task.

TASK 2 - DATA COLLECTION AND REVIEW

There is no change to Task 2. All work has been completed for this task.

TASK 3 - TRLF EXPANSION LANDFILL CELL ALTERNATIVES DEVELOPMENT

There is no change to Task 3. All work has been completed for this task.

TASK 4 - ANALYSIS OF PHASE 6 CELL ALTERNATIVE LOCATIONS

There is no change to Task 4. All work has been completed for this task.

TASK 5 - INITIATE FIELD SITE INVESTIGATION

There is no change to Task 5. All work has been completed for this task.

TASK 6 - STORMWATER MODELING

There is no change to Task 6.

TASK 7 - PROJECT MANAGEMENT

Task 7 is amended as follows:

CONSULTANT will perform project management duties for the additional permitting and design tasks described in Amendment 5.

TASK 8 - WETLAND LONG TERM HYDRATION EVALUATION

There is no change to Task 8.

TASK 9 - FLOOD ELEVATION DETERMINATION

There is no change to Task 9.

TASK 10 - ENVIRONMENTAL RESOURCE PERMITTING

Task 10 is amended to include the following subtasks:

Subtask 10.10 - Stormwater Pond Berm Analysis for National Inventory of Dams (NID)

The FDEP requested that the stormwater pond berm for the TRLF wet detention ponds be added to the Florida NID. To accomplish this, the pond berm's hazard classification must be determined. The tasks below outline the necessary analyses to classify the stormwater pond berm's potential to cause economic loss, irreversible environmental damage, and/or loss of life.

Subtask 10.10.1 - Develop Failure Scenarios

CONSULTANT will review available design drawings, survey data, and LIDAR data in preparation for development of dam failure scenarios for each of the stormwater berms (SMF-A and SMF-B). Breach parameters will be determined in accordance with FERC Engineering Guidelines, Chapter 2, "Selection and Accommodating Inflow Design Floods for Dams." Appropriate components of each development will be considered.

Physical parameters and material properties controlling the dam failure process will be adopted for use in dam breach analyses after CONSULTANT's review of the available project records. Geotechnical and structural engineers will develop a list of potential dam failure modes for evaluation/analysis. These failure modes will be based on physical parameters and material properties of the project structures. Analyses will be completed for the various failure scenarios to evaluate the likelihood of occurrence for each sunny-day and rainy-day event.

Subtask 10.10.2 - Perform Dam Breach Analysis

CONSULTANT will review previously developed hydrology from the ERP permitting for incorporation into the analysis. CONSULTANT's proposed scope and pricing assumes that the previously developed hydrologic analyses will be used to define the probable maximum precipitation (PMP) and probable

maximum flood (PMF) flows for development of the Inflow Design Flood (IDF) values as part of this study. CONSULTANT will develop a HEC-RAS model starting upstream of the berms and then extending downstream of the berms through the area that would be impacted by the dam breach. The dam breach parameters developed under Task 10.11.1 will be incorporated into the model.

CONSULTANT will use existing topographic information, LIDAR, permitting drawings and HEC-GeoRAS to develop a HEC-RAS hydraulic model beginning just upstream of TRLF stormwater management facilities and extending through the adjacent wetlands and uplands to the east of the project site.

CONSULTANT will conduct the non-breach and sunny-day breach runs and stabilize the model. Once the model is stabilized and producing reasonable results, CONSULTANT will enter the breach parameters developed in Task 10.11.1 into the model, and conduct initial dam breach simulations.

Following these simulations, CONSULTANT will conduct an incremental flow analysis to develop the IDF for each of the developments. Both breach and non-breach runs will be made so that incremental impacts can be determined.

Subtask 10.10.3 - Assess Hazard Rating and Recommend Hazard Potential Classification

CONSULTANT will conduct a desktop review of the downstream area using readily accessible data such as USGS quadrangle maps, recent orthoimagery, and similar tools to determine potential downstream features that may be impacted by the berm's failure flood wave. CONSULTANT will also review proposed downstream development which may impact the dam's future hazard classification. CONSULTANT will review results of the above investigation, the dam break analysis and the inundation study to assess the appropriate Hazard Classification under the FERC Guidelines for each berm and provide an opinion memo to FDEP summarizing the results of the assessment. The opinion memo will delineate relevant facts to substantiate the assessment, including the classification of the berm in relation to likelihood for loss of human life, serious damage to homes, industrial or commercial buildings; and potential impacts to public transportation and utilities.

Subtask 10.10.4 - Response to Requests for Additional Information

CONSULTANT will prepare and discuss responses to requests for additional information (RAI) for the dam hazard classification recommendation pursuant to this Scope of Work. This Scope assumes that FDEP will issue one RAI, requiring CONSULTANT to prepare up to one response.

TASK 11 - DESIGN AND PERMITTING

Task 11 is amended to include the following subtasks:

Subtask 11.16 - Prevention of Significant Deterioration (PSD) Air Permitting – Major Modification

The TRLF is currently classified as a major PSD source of air pollution. The TRLF's current PSD Preconstruction Air Permit (No. 0310358-012-AC/PSD-FL-374C) covers emission units associated with the existing 176-acre landfill:

- MSW Landfill collection system (two 2,500 scfm blowers)
- 5,000-scfm open flare
- 1,600-scfm open flare

- Fugitive dust emissions from unpaved roads and landfill work areas
- 10 Caterpillar Model No. G3520C landfill-gas-fired engine generators

A pre-permitting conference call was held with EPA Region 4 and FDEP representatives on August 16, 2013. EPA Region 4 required that the PSD major modification air permit application be for full build-out of the Phases 6 through 14 expansion. However, EPA Region 4 and FDEP agreed to a two-step approach. For this initial application to Region 4, only fugitive GHG emissions and fugitive dust emissions from the full expansion will be considered. Because the OWNER's preferred approach is to collect and treat the landfill gas for offsite use as a fuel in the OWNER's fleet vehicles, emissions of combustion-related pollutants would occur away from the landfill, and can be excluded. The existing on-site 5,000-cfm and 1,600-cfm flares would remain unchanged, and would provide back-up control for the proposed Expansion. Step 2 would occur if the OWNER decided to include on-site emissions sources (e.g., additional engine generators) when the gas collection and control system plan for Phases 6 through 14 is developed. At this point, the OWNER could apply to the FDEP for a permit modification to include these sources and the additional pollutants.

The tasks below detail the development of the PSD major modification application.

Subtask 11.16.1 - Meetings and Communication

CONSULTANT will coordinate with EPA Region 4 during the application development and approval process. CONSULTANT will work to expedite the approval process and keep EPA Region 4 apprised of the status and content of the first-of-its-kind Best Available Control Technology (BACT) analysis and incorporate appropriate EPA Region 4 feedback. CONSULTANT anticipates this analysis will be consistent with the EPA, Region 4, pre-permitting teleconference, August 16, 2013. If EPA requirements differ, a scope amendment will be required. CONSULTANT will prepare for and attend up to four teleconference calls with Region 4 representatives to review application contents, discuss requests for information, or to negotiate permit conditions. CONSULTANT will also prepare for and attend up to four progress meetings / teleconference calls with the OWNER.

Subtask 11.16.2 - PSD Permit Application Forms

EPA Region 4 directed, on the pre-permitting teleconference call, that the PSD major modification application be prepared on hard copy (not the ELSA electronic system) versions of the FDEP's air permit application forms. CONSULTANT will complete the FDEP Air Application Long Form (FAC 62-210.900(1)) for the landfill expansion.

Subtask 11.16.3 - PSD Permit Application Text

The list of analyses required by the federal PSD regulations (40 CFR 52.21) for the PSD permit Modification is shown below, modified as directed by the EPA Region 4 at the pre-permitting meeting for the fugitive GHG and dust analyses. This scope is also based on EPA, March 2011, PSD and Title V Permitting Guidance for Greenhouse Gases, Report No. EPA-457.B-11-001.

The outline for the PSD Permit Application is presented below:

- 1.0 Project Overview and Summary of Best Available Control Technology (BACT)
 - 1.1 Introduction and Site Location
 - 1.2 Description of Proposed Landfill Expansion
 - 1.3 Air Quality and BACT Assessment Summaries
- 2.0 Regulatory Review
 - 2.1 Introduction
 - 2.2 Applicable Regulations – including the PSD/Title V Tailoring Rule (75 FR 31514, June 3, 2010)
 - 2.3 EPA Region 4 and Florida State Program Authority –discussion of delegated authority for the PSD program (this section pending FDEP authority to administer GHG rule for PSD permitting)
 - 2.4 PSD and Title V Applicability
 - 2.5 New Source Performance Standards (NSPS) – including the NSPS for Municipal Solid Waste Landfills (40 CFR 60 Subpart WWW), and the draft revisions to this Rule (71 FR 53272, Sept. 8, 2006)
 - 2.6 National Emissions Standards for Hazardous Air Pollutants (NESHAP) – including the NESHAP for Municipal Solid Waste Landfills (40 CFR 63 Subpart AAAAA)
 - 2.7 Conclusions
- 3.0 Air Pollutant Emissions
 - 3.1 Fugitive Dust Emissions – modeled for operational activities at full build-out, such as placement of MSW at working face, daily cover, interim and final cover, and vehicle travel on paved and unpaved on-site roads. Equations in EPA’s Compilation Air Pollutant Emission Factors, Report No. AP-42, will be used.
 - 3.2 Uncontrolled Methane Emissions from Phase 6-14 Expansion – modeled using EPA’s LANDGEM model and forecasted MSW placement rates to full build-out
 - 3.3 Controlled Methane Emissions – estimated collection efficiency (currently assumed to be 75 percent) for a base-case NSPS-compliant collection system at full build-out. Collected landfill gas (LFG) would be compressed, filtered, and sent offsite for use. Uncollected LFG and methane would be counted as fugitive emissions from the proposed Expansion.
- 4.0 Best Available Control Technology (BACT) Review –BACT analyses for methane collection efficiency for the proposed Expansion. It is assumed that a formal BACT analysis is not required for fugitive dust control.
 - 4.1 Description of BACT Review

4.2 Regulatory Basis of BACT Analysis

4.3 BACT Analysis – following the procedure in EPA, 1990, Draft New Source Review Manual

4.3.1 Identify all available control technologies – based on guidance from EPA Region 4, and from Appendix G in the PSD and Title V Permitting Guidance, the collection technologies to be considered would include:

- Well spacing
- Installation of collection system earlier than required by NSPS

It is assumed that control/destruction technologies, such as flares, engines and use as vehicle fuel, will not be included in the analysis, since the gas will be sent offsite after collection.

4.3.2 Eliminate technically infeasible options

4.3.3 Rank remaining collection technologies by collection effectiveness, with the most effective alternative at the top – The ranked technologies will include:

- Top case (to be determined), possibly including early installation
- Design Scenario – two layers of horizontal wells with vertical wells on closure slopes
- Base Case – BACT “floor” of minimum required to meet NSPS, with assumed 75 percent collection efficiency

4.3.4 Evaluate economic feasibility (\$ per ton of methane collected), if “top” case is not selected – this will include development of preliminary designs and layouts for the candidate collection systems to support cost estimates and estimated collection efficiencies. This task will include soliciting vendor quotes for collection system components; estimating installation, capital, and operating costs associated with each candidate system, calculating the net present value of the annualized costs, and developing a basis for estimating the in-place collection efficiency of each candidate system.

4.3.5 Consider environmental and energy impacts – comparison of the relative energy usage and environmental impact (such as hydrogen sulfide and odor issues) of each candidate collection option

4.3.6 Select BACT – recommendation based on the results of the “top-down” assessment.

5.0 Air Quality Analysis

Dispersion modeling is not required for GHGs because no National Ambient Air Quality Standards (NAAQS) have been established for them (EPA, Region 4, pre-permitting teleconference, August 16, 2013; and EPA, March 2011). However, dispersion modeling could be required for fugitive dust if the fugitive dust emission rate calculations show the potential for controlled emissions to exceed the PSD Significant Increase threshold. This scope includes an assumption that screening-level dispersion modeling for fugitive dust would be required. Results would be compared with the NAAQS and PSD Class II Increments for particulate matter less than 10 microns in diameter (PM₁₀).

6.0 Additional Impact Analysis

EPA Region 4 stated that PSD Additional Impact Analyses for Visibility Impacts, Growth Analysis, Class I and Pristine Area Air Quality Analysis, and Soils and Vegetation Impact Analysis would not be required for GHGs. (EPA, Region 4, pre-permitting teleconference, August 16, 2013; and EPA, March 2011). CONSULTANT assumes that these analyses also would not be required for fugitive dust, but will confirm with EPA Region 4 after completing the fugitive dust emission rate calculations.

7.0 Additional Federal Environmental Act Applicability and Assessments

EPA Region 4's issuance of a PSD permit modification is a federal action that triggers requirements for review and/or consultation with other agencies, for each of the Acts listed below. CONSULTANT will identify the requirement, discuss whether or not it pertains to this proposed Expansion project, present any resulting required analyses or consultation findings. It is assumed that existing ERP documentation will be used or a finding of no impact will be determined for these Acts. Should additional analysis be required a separate scope of work will be submitted.

7.1 Endangered Species Act

7.2 Essential Fish Habitat of Magnuson-Stevens Act

7.3 National Historic Preservation Act

7.4 Coastal Zone Management Act

7.5 Environmental Justice

7.6 Tribal Consultation

8.0 References

Subtask 11.16.4 - PSD Permit Application Attachments and Supporting Documentation

CONSULTANT will prepare required permit application attachments, including:

- GHG Emission Rate Calculations – LANDGEM model input information and output files

- Area Map; Site Plan
- BACT Analysis Supporting Documentation – landfill gas collection and control system alternative design assumptions; equipment vendor cost estimates

Subtask 11.16.5 - Final PSD Permit Application

Under Subtasks 11.16.2 through 11.16.4, the draft permit application package will be prepared and submitted to the OWNER for review and comment. In this subtask, CONSULTANT will respond to OWNER comments, revise the draft permit application package, and submit the final PSD major modification application to EPA Region 4 for review and permit issuance.

Subtask 11.16.6 - Post Permit Submittal Activities

After submittal of the final Major Modification PSD Permit Application to EPA Region 4, CONSULTANT will provide the following services (not including routine calls and meetings, which are in Subtask 11.16.1):

- Written responses to up to one Request for Additional Information from EPA Region 4
- Review of pre-draft and draft permit conditions, and submittal of written comments to EPA Region 4
- Attendance at a PSD public hearing, if one is held (costs for arranging and conducting the public hearing would be additional)

Costs associated with this subtask have been assumed to be \$20,000 which will not be exceeded without prior authorization from the OWNER.

TASK 12 - SOLID WASTE LANDFILL CONSTRUCTION PERMITTING

Task 12 was authorized under previous amendments but did not include the renewal of the site's Solid Waste Operating Permit. The OWNER now wishes to include the necessary documentation to apply for the Solid Waste Operating Permit. The following tasks are added to develop the necessary operating permit application.

Subtask 12.1 - FDEP Application for Permit to Construct/Operate a Solid Waste Resource Recovery and Management Facility – Class I Processing and Disposal Facilities

CONSULTANT will prepare and submit a FDEP permit application for a construction permit for Phases 6 through 14 and operation permit for Phases 1 through 14 of the TRLF. The FDEP Operations Permit Application includes the following components:

Subtask 12.1.5 - Operations Permit

The operations plan for Phase 6 will be amended to include the Operations plan for the entire site (Phases 1-14). The operating plan will include information to meet the requirements of Chapter 62-701.500(2), FAC. The revised groundwater monitoring program will be included as Appendix G of the solid waste permit application. The revised operations plan will be included in Appendix A of the solid waste permit application. Additionally the proposed groundwater monitoring program for Phases 6-14 will be amended to include the existing monitoring sites for Phases 1-5. CONSULTANT will coordinate with the landfill operator (WMI) and FDEP to combine monitoring requirements for Phases 1-14. The

revised groundwater monitoring program will be included in Appendix G of the solid waste permit application.

Subtask 12.5 - Construction Contract Documents-Drawings & Specifications

Task 12.8 will be amended to include a new access road for Phases 1-5 and Phases 6-7. The initial site plan designated a temporary road to the north of proposed Phase 6, which would be relocated and rebuilt for each successive phase of the landfill expansion. To reduce long-term construction costs, the operations access road will be designed on the western slope of Phases 1-5. This road will require a geotechnical analysis to determine the stability of the existing slope to support the new road construction. A maintenance road will be provided to the north of Phase 6 for WMI maintenance staff use.

Subtask 12.5.1 - Access Roadway Design

The access roadway will traverse the western slope of the existing landfill cell. The preliminary design is for the roadway to be limerock on a stabilized subgrade. Roadway turning radii shall be designed to accommodate a 53-foot long tractor trailer. Roadway shall be designed to collect and convey stormwater in a cobblestone ditch located against the hillside. The overall width for the Western Access Road is 40 feet plus a 6-foot cobblestone ditch. The 40-foot dimension shall consist of two 5-foot shoulders and two 15-foot travel lanes plus the 6-foot wide cobblestone ditch. The roadway cross slope shall be between 3 percent (%) and 4% and shall slope in the direction of the landfill. The outfall for collected stormwater will be the existing perimeter ditch.

A short length of Connector Roadway shall be designed across the existing perimeter ditch to connect the new Western Access Road with the new By-Pass Roadway. This Connector Roadway will be limerock on a stabilized subgrade and will be 40 feet wide consisting of two 5-foot shoulders and two 15-foot travel lanes. The road will be crowned in the middle and cross slope shall be 3%.

A By-Pass Road will be designed as a replacement for a section of the existing perimeter road which will be displaced by the new Western Access Road. This design will consist of a 20-foot roadway constructed of limerock on stabilized subgrade. However, design, will be limited to a horizontal plan only and will be configured to cross the existing perimeter ditch where a roadway crossing currently exists. (The goal is to utilize the existing 36-inch diameter culvert at the existing crossing.) Should utilization of the existing culvert not be possible, a minor modification to the site ERP will be necessary. Additional permitting costs are not included in this scope of work.

CONSULTANT will prepare final engineering plans based upon the preliminary roadway plan and will provide engineering design for roadway typical section, horizontal geometry, roadway drainage, grading and cross sections. The grading plan will include spot elevations. This Task includes connections to existing roadways and drainage systems (downcomer pipes) as required.

CONSULTANT will prepare final engineering plans for the Connector Roadway based upon the preliminary roadway plan including a culvert crossing within the existing perimeter ditch. This culvert design will provide the outfall for the cobblestone drainage system associated with the Western Access Road. This Connector Roadway will be designed with turning radii of sufficient size to accommodate large trucks. COJ Standard Specifications will be utilized (referenced) for paving and drainage requirements where required.

CONSULTANT will prepare a very abbreviated set of plans for the By-Pass Road consisting primarily of a layout plan and typical section. As previously noted, the tie-in between the new By-Pass Road and the existing Perimeter Road will occur at an existing culvert. The geometry of the new By-Pass Road shall be configured to utilize this existing culvert without the need to extend or modify it.

A budget of \$10,000 is included in this task for supplementary survey as needed for the access roadway design.

Subtask 12.5.2 - Access Roadway Geotechnical Analysis

The following tasks will be performed during the proposed geotechnical investigation and evaluation:

CONSULTANT will review existing information in the area of the proposed access road to include: subsurface data, design requirements, records of existing waste placement, records of cap design and installation, and aerial and photo documentation.

CONSULTANT will perform a field survey and documentation of soil conditions at base and along entire length of road. To verify the soil conditions in the access road area it is recommended that a small backhoe be used to excavate several shallow test pits. It is assumed that this equipment and operator will be provided by the OWNER or WMI. The CONSULTANT will direct this activity and log the pits. This activity should require no more than 4 to 6 hours. The pits can be backfilled with the excavated soils upon completion.

CONSULTANT will perform a visual inspection and determination of the condition of cover material cap and waste condition where not capped and evaluate the likely extent of cap removal before embankment fill placement.

CONSULTANT will establish models and perform a slope stability analysis. Based on the results of the stability analysis, viable alternatives for stabilizing fill and waste will be determined as necessary.

In coordination with the roadway design, CONSULTANT will verify adequacy of proposed method to protect exterior slope of embankment against erosion, verify adequacy of access road limerock base course thickness and recommended gradation.

Subtask 12.6 - Stormwater Infrastructure Construction Drawings and Specifications

The stormwater infrastructure design completed for ERP permitting provided 30% design drawings. This task will complete the stormwater infrastructure design for the ponds, stormwater conveyance ditches, perimeter road, and stormwater re-hydration pump stations to produce a biddable set of contract documents.

The work during this stage will focus on the development of construction documents and will be based on the Conceptual (30%) Design and changes identified as a result of permitting requirements. This task provides for the preparation of drawings and specifications and conducting formal reviews of the contract documents at certain design milestones. The contract documents shall include detailed drawings, tables, charts, schedules, and other documentation as may be necessary for the bidding and construction of the project. The plan and profile sheets will be developed at a plan view scale of 1" = 40'. This project will utilize COJ Standard Specifications.

Subtask 12.6.1 - Verification of 30% Design

The design concept used as the basis of the 30% drawings will be reviewed and verified as required by Chapter 61G15-27.001 F.A.C.: Procedures for a Successor Professional Engineer Adopting As His Own the Work of Another Engineer. CONSULTANT will verify calculations and assumptions performed in the development of the Conceptual 30% drawings, thereby assuming professional and legal responsibility for the future iterations of the Contract Drawings to be produced by CONSULTANT under subtasks 12.9.2 and 12.9.3.

Subtask 12.6.2 - 90% Contract Documents

CONSULTANT will provide OWNER with a PDF as well as 4 hard copies of 11-inch x 17-inch 90% Contract Drawings for their review and consideration. CONSULTANT will meet with OWNER to review the 90% Design and discuss comments. Revisions will be incorporated as necessary. The drawing estimated sheet count associated with this task is listed below.

Description	No. Sheets
Horizontal Control Master Site Plan Buildout	2
Post Development Master Drainage Plan (Phase 6)	3
Removal, Abandonment and Demolition Plan	1
Roadway and Ditch Plan and Profiles (1"= 40' scale)	10
Stormwater Management Facility (SMF) Plans	3
Landfill Sections	4
Roadway and Ditch Cross Sections (1"= 30' scale)	15
Paving and Drainage Details	3
Control Structure Details	7
Wetland Irrigation Details	2
Erosion and Sediment Control Plan	4
Erosion and Sediment Control Details	1
Stormwater Pollution Prevention Plan	1
Stormwater Pollution Prevention Plan-Contractors Cert.	1
Pump Station 1 Mechanical Details	1
Pump Station 2 Mechanical Details	1
Pump Station 1 and 2 Inlet Pipe Profiles	1
Stockpile Plan	2
TOTAL	62

Subtask 12.6.3 - Final Design (BID Set)

CONSULTANT will prepare final construction drawings incorporating mutually agreed upon comments for the installation of the proposed stormwater infrastructure elements based on comments at the 90% design review. CONSULTANT will incorporate OWNER and Permitting comments for a final QAQC of the Contract Drawings. Electronic versions of the 2D drawings will be provided to OWNER for bidding purposes. CONSULTANT will provide a PDF of the design drawings and specifications as well as four hard copies of 11-inch x 17-inch final design drawings and one 24-inch x 36-inch set of full-size certified

design drawings. CONSULTANT will utilize OWNER's front end documents and bid and contracting forms as applicable and in coordination with the solid waste design drawings and specifications being provided for Phase 6 Class I Cell Expansion.

TASK 13 - QUALITY ASSURANCE AND QUALITY CONTROL

There is no change to Task 13.

TASK 14 - ECONOMIC EVALUATION

There is no change to Task 14.

TASK 15 - PUBLIC INFORMATION PROGRAM ASSISTANCE

There is no change to Task 15.

TASK 16 - BIDDING SERVICES

There is no change to Task 16.

TASK 17 - GENERAL CONSTRUCTION SERVICES (NOT BUDGETED AT THIS TIME)

This task is currently not funded. If required in the future, funding will be pursued under a separate Amendment.

TASK 18 - SPECIAL ENGINEERING SERVICES (NOT BUDGETED AT THIS TIME)

This task is currently not funded. If required in the future, funding will be pursued under a separate Amendment.

TASK 19 - RESIDENT SERVICES DURING CONSTRUCTION (NOT BUDGETED AT THIS TIME)

This task is currently not funded. If required in the future, funding will be pursued under a separate Amendment.

TASK 20 - NEW CELL GEOSYNTHETIC INSTALLATION QA/QC CONSTRUCTION SERVICES (NOT BUDGETED AT THIS TIME)

This task is currently not funded. If required in the future, funding will be pursued under a separate amendment.

TASK 21 - BORROW PIT EVALUATION AND EXPANSION

There is no change to Task 21.

TASK 22 - MEETINGS, PROJECT MANAGEMENT AND QUALITY CONTROL

Activities performed under this task consist of those general 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 and OWNER's expectations. Specific activities included are identified below:

Project Kick-Off and Progress Meetings

CONSULTANT will prepare for and conduct the following project meetings as previously outlined in the tasks above:

- Task 11 TRLF PSD Major Modification – CONSULTANT will attend up to four teleconferences with FDEP and EPA staff to discuss permitting strategy, emissions calculations, and best available control technology.
- Task 12 TRLF Solid Waste Permitting – CONSULTANT will attend up to four teleconferences with FDEP staff to discuss groundwater monitoring requirements for the TRLF site and operations related special conditions for draft permit language.
- The CONSULTANT will prepare and distribute meeting minutes of each meeting as appropriate. This task also includes monthly project status review management meetings, and periodic progress internal team meetings.

Project Quality Control (QC) Technical Review

CONSULTANT maintains an ongoing QC program. An internal project quality management planning session will be conducted at the start of the project. This action is required by CONSULTANT's quality management system (QMS) guidelines. Technical Review Committee (TRC) meetings are budgeted for and will be performed to review various percent complete submittals. OWNER's representatives are invited to attend and participate at the TRC meetings. Additional QA/QC activities are outlined in Task 13 of the initial task authorization.

Project Status Reports

CONSULTANT's project manager will prepare and submit monthly written status reports for an anticipated project life of 18 months to accompany monthly invoices.

ASSUMPTIONS

The following assumptions are included in this Task Authorization.

1. The OWNER will advertise for bids, supply drawings and specifications to contractors, and coordinate addenda distribution. The OWNER will be responsible for the cost of copying the plans and specification that are made available to prospective bidders.
2. Dam Breach Analysis and Summary Report assumes one RAI from FDEP.
3. Local permitting activities do not include off site activities such as offsite stormwater permitting.
4. The OWNER will be responsible for all permit application fees.
5. This scope includes an assumption that screening-level dispersion modeling for fugitive dust emissions will be required. Results will be compared with the NAAQS and PSD Class II Increments for particulate matter less than 10 microns in diameter (PM₁₀).

6. PSD Additional Impact Analyses for Visibility Impacts, Growth Analysis, Class I and Pristine Area Air Quality Analysis, and Soils and Vegetation Impact Analysis would not be required for fugitive dust.
7. Existing ERP documentation will be used or a finding of no impact will be determined for coordination with federal Acts required for PSD Major Modification. Should additional analysis be required a separate scope of work will be submitted.
8. PSD major modification assumes one RAI from the permitting agency.
9. It is assumed that a small backhoe and operator to excavate several shallow test pits will be provided by the OWNER or WMI. This equipment will be used to perform a field survey and document soil conditions at base and along entire length of new western access road in order to verify the soil conditions in the access road area.

DELIVERABLES

The following deliverables will be provided:

- Task 10 – CONSULTANT will provide a letter report outlining the NID dam breach analysis and classification for the TRLF Stormwater Pond Berms. CONSULTANT will provide hard copies and electronic copies as necessary to be distributed to regulatory agencies.
- Task 11 – CONSULTANT will develop a long form PSD Major Modification Permit Package. CONSULTANT will provide hard copies and electronic copies as necessary to be included in the PSD Application submittal.
- Task 12 – CONSULTANT will submit 3 full-size and 5 half-size copies of Stormwater and Access Roadway drawings and specifications within the construction package developed for Phase 6. CONSULTANT will also provide a reproducible electronic copy of the Contract Documents to the OWNER for bidding purposes.
- Task 12 – CONSULTANT will provide up to 2 hard copies and 10 electronic copies of the FDEP Application to Construct and Operate a Solid Waste Landfill and supporting documentation to the FDEP and OWNER.
- CONSULTANT will provide electronic copies of minutes of meetings as described above.

TIME OF COMPLETION/SCHEDULE

CONSULTANT will begin work within 5 calendar days of receiving Notice to Proceed (NTP) from the OWNER. The FDEP Application for Solid Waste Construction and Operation Permit for the TRLF Project will be submitted within 200 days of receiving NTP. The PSD Modification Application will be submitted within 100 days of NTP. Contract Documents suitable for BID will be delivered by October 1, 2014.

COMPENSATION AND PAYMENT

CONSULTANT will complete the services listed in Tasks for a lump sum fee of \$675,062 as shown in Exhibit J. CONSULTANT will invoice monthly as a percentage of the lump sum based on the percentage of work completed during the billing period. Lump sum compensation shall be for all labor, sub-consultants, and other direct costs associated with the performance of the work.

EXHIBIT J				
CONTRACT FEE SUMMARY FORMAT FOR ENGINEERING DIVISION				
CITY OF JACKSONVILLE, FLORIDA				
CLASS I LANDFILL PERMITTING AND DESIGN - AMENDMENT 4				
11/20/2013				
PART I - GENERAL				
1. Project		Proposal Number		
CLASS I LANDFILL PERMITTING AND DESIGN AMENDMENT #5- Wetland Mitigation, PSD Air Permitting, Dam Breach Analysis, and Stormwater Design		RFP #P-07-10		
3. Name of Consultant		Date of Proposal		
CDM Smith Inc.		11/20/2013		
PART II - LABOR RELATED COSTS				
5. Direct Labor	Hourly Rate	Estimated Hours		TOTAL
Officer/Technical Expert	74.32	600	\$ 44,592.00	
Principal / Associate / Project Manager	63.06	526	\$ 33,169.56	
Senior Professional	50.11	720	\$ 36,079.20	
Project Engineer II / GIS Specialist III	41.10	750	\$ 30,825.00	
Project Engineer I / GIS Specialist II	34.34	960	\$ 32,966.40	
Sr. GIS Specialist/Designer	40.54	638	\$ 25,864.52	
GIS Specialist I / Drafter/Technician	29.28	1,025	\$ 30,012.00	
Clerical	20.83	400	\$ 8,332.00	
Field Staff Support Services	28.15	-	\$ -	
TOTAL DIRECT LABOR	43.04	5,619	\$ 241,841	
6. Overhead (Combined Fringe Benefit & Administrative)				
Overhead Rate	150.0% x Total Direct Labor		\$ 362,761	
7. SUBTOTAL: Labor + Overhead (Items 5 & 6)			\$ 604,602	
8. PROFIT: Labor Related Costs (Item 7)	x 10%		\$ 60,460	
PART III - OTHER COSTS				
9. Miscellaneous Direct Costs				
Transportation, Per Diem and Equipment				
Presentation Boards				
Reproduction				
MISCELLANEOUS DIRECT COSTS SUB-TOTAL				\$ -
10. SUBCONTRACTS (Lump Sum)				
Civil / Site Plan				\$ -
Forestry/ Timber Management				\$ -
Survey				\$ -
Laboratory				\$ -
Program Outreach - Amendment 4 (Part 2)				\$ (30,000)
Geotechnical and Drilling - Amendment 3 (Part 1)				\$ (11,400)
TRLF Design and Permitting Support - Outside Professionals				\$ 51,400
SUB-CONTRACT SUB-TOTAL				\$ 10,000
TOTAL LUMP SUM AMOUNT (Items 5, 6, 8, 9 and 10)				\$ 675,062
11. REIMBURSABLE COSTS (Limiting Amount)				
SUB-TOTAL REIMBURSABLES				\$ -
PART IV - SUMMARY				
TOTAL AMOUNT OF AM 5 CONTRACT (Lump Sum Plus Reimbursables)				\$ 675,062
TOTAL AMOUNT TO ADDED FROM AM 3				\$ 11,400
TOTAL AMOUNT TO ADDED FROM AM 4				\$ 30,000
TOTAL AMOUNT OF AM5 CONTRACT (Items 5, 6, 8, 9, 10 and 11)				\$ 716,462