



INDIAN RIVER COUNTY
SOLID WASTE DISPOSAL DISTRICT
BOARD MEMORANDUM



Date: April 2, 2018
To: Jason E. Brown, County Administrator
From: Vincent Burke, Director of Utility Services
Prepared By: Himanshu H. Mehta, P.E., Managing Director, Solid Waste Disposal District
Subject: Indian River County Landfill Amendment No. 2 to Work Order No. 1 to CDM Smith, Inc.

DESCRIPTIONS AND CONDITIONS:

On July 18, 2017, the Solid Waste Disposal District (SWDD) Board approved the Indian River County (IRC) Landfill contract agreement with CDM Smith, Inc. (CDM Smith), 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.

Staff requested a proposal from CDM Smith to provide professional engineering services for the proposed Class I Landfill, Segment 3, Cell 2 expansion; the partial closure of Segment 2; and expansion of the landfill gas collection system (Project). The proposed new cell is Cell 2 of Segment 3 (approximately 10.6 acres in size), which will be located immediately to the east of the existing Segment 3, Cell 1. The proposed partial closure of Segment 2 (approximately 25 acres in size) includes closure of the Segment 1, infill vertical expansion area and the final elevations of Segment 2. Expansion of the landfill gas system within Segment 2 is proposed to be constructed concurrently with the partial closure of Segment 2 so that the final components can be installed prior to the closure cap being constructed. Staff has also requested an evaluation of an alternative cover design as well as preliminary planning for a new lift station.

This project will be completed in multiple engineering phases. Phase I includes evaluation of available information and developing sufficient information to update/revise existing permit design drawings and complete the final design and specifications that will be used for procurement. On July 18, 2017, the SWDD Board approved the IRC Landfill Work Order No. 1 to CDM Smith in the amount of \$131,820 for this initial phase. Phase II Engineering Services include the preparation of the final design and bid package, permitting/regulatory agency support, opinion of probable construction cost, and bidding assistance. On October 3, 2017, the SWDD Board approved IRC Landfill Amendment No. 1 to Work Order No. 1 to CDM Smith in the amount of \$558,679, increasing the overall total cost for Work Order No. 1 to \$690,499.

On March 1, 2018, the IRC Purchasing Division received three bids for the Segment 3 Cell 2 Expansion, Segment 2 Partial Closure and the Landfill Gas System Expansion for Bid No. 2018025. Per review by staff and CDM Smith, a separate agenda item is being presented to the SWDD Board for the award of the bid to Thalle Construction Company, Inc. in the amount of the base bid of \$14,576,600, with a 10% contingency of \$1,457,660, for a grand total of \$16,034,260.

Staff has received a proposal from CDM Smith for Phase III of the work, which includes Engineering Services during Construction.

This agenda item requests authorization for CDM Smith to initiate Phase III of the Project under IRC Landfill Amendment No. 2 to Work Order No. 1.

ANALYSIS:

CDM Smith has prepared IRC Landfill Amendment No. 2 to Work Order No. 1, provided in Attachment 1, for engineering construction services detailing the scope of work, budget, and schedule for the project. The fees to be paid by SWDD for the execution of this work authorization are in accordance with the engineer's continuing consulting services master agreement. The table below shows the expected completion date and their estimated fees.

TASK	DESCRIPTION	AMOUNT	
Phase III	Task 2 – Project Quality Management	\$ 108,970	Lump Sum
	Task 7 – General Engineering Services During Construction	\$ 551,125	Lump Sum
	Task 8 – Specialty Engineering Services During Construction	\$ 84,580	Lump Sum
	Task 9 – Resident Services During Construction	\$ 403,105	Not To Exceed
	Task 10 – Liner System QA/QC	\$ 174,370	Not To Exceed
	Total	\$1,322,150	

The construction of a new landfill cell or a closure of a landfill cell is a highly sophisticated process wherein rolls of high density polyethylene (HDPE) liners or low-density polyethylene (LDPE) geomembranes are sewn together to cover acres of the site. The proper installation of these liners is critical to the long-term integrity of our landfill as well as the protection of the underlying groundwater system. In addition, this project involves the installation of imported fill worth over \$5,000,000 that must meet certain delivery and installation specifications. Also included in this project is the expansion of the landfill gas system, which will add over 40 new gas wells, header piping, pumps, etc. that need to be installed to precision. Finally, a leachate collection system, stormwater management facilities, a new lift station, a water main extension, and a proper access road to support future expansion are included in this project. All these activities require field inspections, liner quality assurance/quality control, review of shop drawings and laboratory tests, documentations of installed work, review of field change requests, and proper tracking of invoices throughout a 390-day project period.

Between 2009 and 2013, the SWDD had various closure and new cell construction projects wherein the total engineering fee vs. the total construction was approximately 10%. During the past 5 years, we have seen both a tremendous increase in material costs as well as an increase in engineering fees. Upon approval by the Board, the total cost for Work Order No. 1 would increase to \$2,012,649, which is approximately 14% of the total estimated base construction cost of \$14,576,600.

FUNDING:

The Segment 3 Cell 2 Expansion and Segment 2 Partial Closure projects are funded from separate revenue sources; specifically, the closure cost is paid from an escrow account long established per FDEP requirements. Annually, CDM Smith prepares a Financial Assurance Report in which they recommend amounts that the SWDD should collect and place in the closure escrow account.

The Segment 2 Partial Closure project has been given a substantial completion time of 180 calendar days, and the Segment 3 Cell 2 expansion project has been given a substantial completion time of 360 calendar days. Therefore, both projects will include work/invoicing in the current fiscal year and next fiscal year.

Please note, the award for Bid No. 2018025 to Thalle Construction Company, Inc. as the lowest responsive responsible bidder is provided in more detail in a separate agenda item for SWDD Board approval. However, a summary of these costs is included below to provide an overall budgetary impact from these projects.

SUMMARY OF CONSTRUCTION COSTS			
DESCRIPTION	EXPANSION	CLOSURE	AMOUNT
Total Base Bid – Thalle Construction Company	\$6,467,800.00	\$8,108,800.00	\$14,576,600.00
Construction Contingency (10%)	\$ 646,780.00	\$ 810,880.00	\$ 1,457,660.00
Grand Total Base Bid Item Nos. 1 -7	\$7,114,580.00	\$8,919,680.00	\$16,034,260.00

Below is a summary of both the engineering and construction costs in terms of the two revenue funding sources.

SUMMARY OF ENGINEERING AND CONSTRUCTION COSTS BY FUNDING SOURCE			
DESCRIPTION	EXPANSION	CLOSURE	TOTAL
Phase I – CDM Smith	\$ 43,334.00	\$ 88,486.00	\$ 131,820.00
Phase II – CDM Smith	\$330,964.00	\$227,715.00	\$ 558,679.00
Phase III – CDM Smith	\$570,627.00	\$751,523.00	\$1,322,150.00
Total Engineering Costs	\$944,925.00	\$1,067,724.00	\$2,012,649.00
Total Base Bid – Thalle Construction Company	\$6,467,800.00	\$8,108,800.00	\$14,576,600.00
Construction Contingency (10%)	\$ 646,780.00	\$ 810,880.00	\$ 1,457,660.00
Total Construction Costs	\$7,114,580.00	\$8,919,680.00	\$16,034,260.00
Total Engineering and Construction Costs	\$8,059,505.00	\$9,987,404.00	\$18,046,909.00

EXPANSION:

In the current Fiscal Year 2017/18, we have budgeted \$2,252,500 for the Segment 3 Cell 2 Expansion with a projected Capital Improvement Plan of \$2,252,500 for Fiscal Year 2018/19. This will not be sufficient to cover the estimated construction cost of \$6,467,800 plus the 10% contingency in the amount of \$646,780 for a total estimated amount of \$7,114,580 for Thalle Construction Company, Inc. When combining the engineering services for Segment 3 Cell 2 Expansion in the amount of \$944,925, the total overall expansion project cost is \$8,059,505. Therefore, a total of \$5,807,005 will need to be budgeted in the Fiscal Year 2018/19, which includes an additional \$3,554,505 to the \$2,252,500 already planned.

CLOSURE:

Based on the previous recommendations from CDM Smith, we have approximately \$12,300,000.00 in the escrow account for the Segment 2 Partial Closure project, which is sufficient to cover the estimated construction cost of \$8,108,800 plus the 10% contingency in the amount of \$810,880 for a total estimated amount of \$8,919,680 for Thalle Construction Company, Inc. The escrow account is also sufficient to cover the engineering construction services for closure in the amount of \$1,067,724 which brings the total overall closure cost to \$9,987,404.

DESCRIPTION	EXPANSION	CLOSURE
Total Needed Budget	\$8,059,505.00	\$ 9,987,404.00
Total Available Budget (as of FY17-18)	\$2,252,500.00	\$ 12,300,000.00*
Total Projected Budget (for FY18-19)	\$5,807,005.00	\$ 0.00
* Please note, per FDEP, funding in the escrow account is strictly to be used for closure purposes only.		

SUMMARY:

As with any construction project, there is a possibility of delays due to weather and other unforeseen circumstances that may impact the overall schedule and budget of both the engineering and/or construction costs.

DESCRIPTION	ACCOUNT	AMOUNT
Construction Services – Segment 3 Cell 2 Expansion	411-169000-17025	\$ 570,627.00
Construction Services – Segment 2 Closure	411-239006 (Escrow)	\$ 751,523.00
Total Construction Services =		\$1,322,150.00

RECOMMENDATION:

SWDD staff recommends that its Board approve the following:

- a) Approve Indian River County Landfill Amendment No. 2 to Work Order No. 1 with CDM Smith Inc. in the amount of \$1,322,150 to provide Phase III engineering services related to the Class I Landfill Segment 3 Cell 2 expansion, Segment 2 Partial Closure and Landfill Gas System Expansion.
- b) Authorize the Chairman to execute the same, as presented.

ATTACHMENT:

- 1) IRC Landfill Amendment No. 2 to Work Order No. 1