

11 May 2020

Mr. Himanshu H. Mehta, P.E.
Managing Director
Solid Waste Disposal District
Indian River County
1325 74th Avenue SW
Vero Beach, Florida 32968

**Subject: Project Management Completion Report and Transmittal of Invoice No. 401011
IRC – Evaluation of Landfill Liquids Management Options
Amendment 1 to IRC Work Authorization No. CCNA-2018 Work Order No. 4
Indian River County Landfill Facility, Vero Beach, Florida**

Dear Mr. Mehta:

INTRODUCTION

Geosyntec Consultants, Inc. (Geosyntec) is pleased to present to you this project completion report for Geosyntec Project No. FL3551A – Evaluation of a Pilot Study of Using Evaporation Technology for Leachate Management for the Indian River County Landfill Facility. This project was completed under Amendment 1 to IRC Work Order No. CCNA2018 Work Order No. 4 authorized on November 19, 2019, pursuant to that certain Continuing Contract Agreement for Professional Services, dated April 17, 2018 (collectively referred to as the “Agreement”), by and between INDIAN RIVER COUNTY, a political subdivision of the State of Florida (“COUNTY”) and Geosyntec (“Consultant”). This report has been prepared as a supplement to our final invoice No. 401011, dated 11 May 2020.

SCOPE OF WORK

The scope of work authorized under Amendment 1 to Work Order No. CCNA2018 Work Order No. 4 was divided into four phases: (i) general consulting/meeting support/project management; (ii) pilot study coordination and site visit; (iii) evaluation of pilot study results; and (iv) preparation of a technical memorandum. The following is a phase by phase summary of the work that Geosyntec performed under this Work Order.

Phase 1 – General Consulting/Meeting Support/Project Management

Under this phase, Geosyntec performed project planning and management responsibilities, such as meetings and correspondences with SWDD and IRC Department of Utility Services (IRCDUS); invoice review and preparation; project coordination; and project administration.

Phase 2 – Pilot Study Coordination and Site Visit

Under this phase, Geosyntec coordinated with SWDD, IRCDUS, Indian River Eco-District, LLC (IREDD), and Heartland Water Technology, Inc. (Heartland) to conduct the pilot study on the IRC Landfill property. Geosyntec also contacted the Florida Department of Environmental Protection (FDEP) Solid Waste Section and Division of Air Resource Management (DARM) to obtain the permits (or approvals) to conduct the pilot study. Geosyntec also coordinated with SWDD and/or IREDD/Heartland for the sampling of leachate and final (concentrated and stabilized) residuals from the evaporation for testing by an approved testing laboratory.

Geosyntec, represented by Drs. Kwasi Badu-Tweneboah, P.E., and Herwig Goldemund, conducted a site visit at the beginning of the pilot trial during the afternoon of 27 January and the morning of 28 January 2020.

Phase 3 – Evaluation of Pilot Study Results

Under this phase, Geosyntec evaluated the results of the pilot study to: (i) assess the LFG or heat energy requirements to evaporate the Landfill leachate; (ii) effectiveness of the evaporation system to confirm the percent volume reduction; (iii) the need to further process the residuals to pass the Paint Filter Liquids Test and TCLP requirements for disposal at the IRCL facility or another off-site facility and its cost implications; and (iv) re-evaluate final system costs. Geosyntec participated in two teleconferences: (i) one with SWDD and IRCDUS; and (ii) the other with SWDD, IRCDUS, IREDD, and Heartland to discuss the results and their implications.

Phase 4 – Response to Regulatory Comments

Under this phase, Geosyntec prepared a technical memorandum as the deliverable for the above scope of work. A draft memorandum was first issued to SWDD and IRCDUS for review. Geosyntec subsequently addressed comments from SWDD and IRCDUS in a final report submitted to SWDD on 5 May 2020.

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BUDGET

The approved budget for Amendment 1 to Work Order No. CCNA2014 Work Order No. 4 was for a lump sum amount of \$19,975.00. The total invoiced amount, including the final invoice is \$19,975.00. Therefore, Geosyntec completed this project within the approved budget.

CLOSURE

Geosyntec appreciates the opportunity to provide services to Indian River County. If you have any question regarding this correspondence, please feel free to contact the undersigned at (904) 450-4259.

Sincerely



Kwasi Badu-Tweneboah, Ph.D., P.E.
Principal Engineer

Enclosure: Invoice No. 441011

11 May 2020

Mr. Himanshu H. Mehta, P.E.
Managing Director
Solid Waste Disposal District
Indian River County
1325 74th Avenue Southwest
Vero Beach, Florida 32968

**Subject: Project Management Report and Transmittal of Invoice No. 401011
IRC – Evaluation of a Pilot Study of Using Evaporation
Technology for Leachate Management
Indian River County Landfill Facility**

Dear Mr. Mehta:

Geosyntec Consultants, Inc. (Geosyntec) prepared this project management report to address the professional services for the Evaluation of a Pilot Study of Using Evaporation Technology for Leachate Management at the Indian River County (IRC) landfill facility. This report presents: (i) a budget overview for this project; (ii) a summary of activities completed to date; (iii) a discussion of the work reflected on the enclosed invoice; (iv) a discussion of ongoing work; and (v) recommended actions for the site. The enclosed invoice reflects work that was performed through 30 April 2020. Table 1 provides invoicing detail for the project.

PROJECT MANAGEMENT SUMMARIES

Geosyntec’s Project No. FL3551A: Evaluation of a Pilot Study of Using Evaporation Technology for Leachate Management – Indian River County Landfill Facility (Amendment 1 to IRC Work Authorization No. CCNA-2018 Work Order No. 4)

Budget Overview

Invoice No. 401011 (enclosed) dated 11 May 2020 for \$1,824.18 is the 5th and final invoice for Project No. FL3551A. Listed below is a summary of the budget, including invoiced amount and remaining budget.

Approved Budget:	\$19,975.00
Invoiced Amount:	\$19,975.00
Remaining Budget	\$0.00

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Geosyntec is within the budget appropriated for this project.

WORK COMPLETED TO DATE

The tasks performed under this invoice include review of draft comments and preparation of final third-party evaluation report (i.e., memo) and transmittal of summary letter; correspondence with SWDD/IRCUD; and project administration, including project management.

WORK REFLECTED ON ENCLOSED INVOICE

Labor reflected on the enclosed invoice is mainly attributed to the following:

- Labor indicated as professional services (\$1,824.18) is associated with review of draft comments and preparation of final 3rd-party evaluation report; and project management including invoicing.
- Other expenses are associated with communications fee are built into the lump sum amount above.

ONGOING WORK

Geosyntec provided a final technical memorandum (memo) and transmittal letter to SWDD on 5 May 2020. Geosyntec has completed work under this Work Order and is awaiting to hear from SWDD on the next steps.

RECOMMENDED ACTIONS

None

Mr. Himanshu H. Mehta, P.E.
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CLOSURE

Geosyntec appreciates the opportunity to provide services to Indian River County. If you have any questions regarding this correspondence, please feel free to contact me at 904.450.4259.

Sincerely,



Kwasi Badu-Tweneboah, Ph.D., P.E.
Principal Engineer

Enclosure – Invoice No. 401011

Table 1

**Summary of Invoices Submitted for Geosyntec's Project Number 3551A
IRC – Evaluation of a Pilot Study of Using Evaporation Technology for Leachate Management**

Geosyntec Project Number/IRC Work Authorization Number	Invoice No.	Invoice Date	Amount
FL3551A/Amendment 1 to CCNA2018-WORK ORDER No. 4	390503	01/15/2020	\$265.30
	392561	02/07/2020	\$4,238.48
	395456	03/11/2020	\$606.18
	399090	04/17/2020	\$13,040.86
	401011	05/11/2020	\$1,824.18
	TOTAL		



PLEASE REMIT PAYMENT TO:
Geosyntec Consultants
900 Broken Sound Parkway NW, Suite 200
Boca Raton, Florida 33487-2775 USA
Tel (561) 995-0900 Fax (561) 995-0925

INDIAN RIVER COUNTY SWDD
1325 74TH AVENUE SW
VERO BEACH, FL 32968

Invoice # : 401011
Project : FL3551A

Invoice Date : 5/11/2020

Attention: HIMANSHU MEHTA, P.E.

For Professional Services Rendered through transaction date: 4/30/2020

Project Name : PILOT STUDY EVALUATION

IF YOU HAVE QUESTIONS ABOUT THIS INVOICE, PLEASE
CONTACT DR. KWASI BADU-TWENEBOAH AT 904-858-1818
CCNA2018 AMENDMENT 1 TO WO #4

	Phase Fee	% Complete	Previously Billed	Amount Due This Invoice	Total Invoiced To Date
01) PROJECT MGMT/MEETINGS	2,653.00	100.00	1,989.75	663.25	2,653.00
	Phase Fee	% Complete	Previously Billed		Total Invoiced To Date
02) PILOT STUDY COORD & SITE VISIT	4,261.00	100.00	4,261.00		4,261.00
	Phase Fee	% Complete	Previously Billed		Total Invoiced To Date
03) EVALUATION OF PILOT STUDY RESUL	6,232.00	100.00	6,232.00		6,232.00
	Phase Fee	% Complete	Previously Billed	Amount Due This Invoice	Total Invoiced To Date
04) TECHNICAL MEMORANDUM	6,829.00	100.00	5,668.07	1,160.93	6,829.00

Total Contract Fee	\$19,975.00
Total % Complete To Date	100.00 %
Total Fee Earned To Date	\$19,975.00
Less Previous Billings	\$18,150.82
Total This Invoice	\$1,824.18
Amount Due this Invoice	\$1,824.18

Statement

Prior Billings	\$18,150.82	Project Budget	\$19,975.00
Current Invoice	\$1,824.18	Billed to Date	\$19,975.00
Billed To Date (Includes Retainage)	\$19,975.00	Contract Balance	\$0.00
Paid To Date	\$5,109.96	**Amount Due This Invoice**	\$1,824.18