



## Interoffice Memorandum

March 5, 2018

**TO:** Mayor Teresa Jacobs  
and Board of County Commissioners

**FROM:** Raymond E. Hanson, P. E., Director  
Utilities Department

A handwritten signature in black ink, appearing to read "Raymond E. Hanson", written over the "FROM:" field.

**SUBJECT: BCC AGENDA ITEM – Consent Agenda**  
**March 20, 2018 BCC Meeting**  
**Eighth Amendment to Contract Y8-827 Engineering Services for**  
**Eastern Water Reclamation Facility Expansion Phase V**  
**Contact Person: Andres Salcedo, P. E.**  
**Assistant Director, Utilities Department**  
**407-254-9719**

On September 9, 2008, the Board awarded a contract for a not-to-exceed amount of \$6,000,000 for the above referenced project. The design is for a 5 million gallon per day (mgd) expansion of the facility from 19 mgd to 24 mgd. It also includes a number of needed improvements at the facility to replace aging equipment.

This amendment provides for additional construction phase services required by the County. The additional services are required for AECOM to review and approve construction shop drawing submittals that were above the amount originally budgeted. In addition, the project has been delayed by Hurricane Irma in 2017 and Hurricane Matthew in 2016. This has extended the duration of construction which requires more construction meetings and additional technical assistance during the extended duration of the project.

This project was negotiated in phases. The original scope was for \$746,339.57. Amendment 1 was \$15,882.93; Amendment 2 was \$449,309.57; Amendment 3 was \$4,788,466.43; Amendment 4 was \$0; Amendment 5 was \$140,135.97; Amendment 6 was -\$1,081.42; Amendment 7 was \$140,073.83. The current amendment is for \$145,913.04 which brings the total contract amount to \$6,425,039.92.

The original contract fee structure applies to this amendment. Utilities Department staff has reviewed the amendment and recommends approval.

**Action Requested: Approval of Contract Y8-827 Eastern Water Reclamation Facility Phase V Expansion Amendment 8 Additional Construction Phase Engineering Services Scope of Work with AECOM, Inc. in the amount of \$145,913.04, for a revised total contract amount of \$6,425,039.92.**

**District 4.**

**CONTRACT Y8-827  
EASTERN WATER RECLAMATION FACILITY  
PHASE V EXPANSION**

**AMENDMENT 8  
ADDITIONAL CONSTRUCTION PHASE ENGINEERING SERVICES  
SCOPE OF WORK**

**November 13, 2017**

**BACKGROUND**

Under a contract with Orange County (COUNTY) dated October 9, 2009, AECOM Technical Services, Inc. (CONSULTANT) has prepared plans and specifications for the Phase V improvements to the COUNTY's Eastern Water Reclamation Facility (EWRf). The EWRf is an advanced wastewater treatment plant with a permitted capacity of 19 million gallons per day (mgd). The EWRf provides advanced treatment utilizing a five-stage Bardenpho process (Phases I, II, and III) and Modified Step Feed (Phase IV-C) for biological removal of nitrogen. Within the Phase V expansion, Orange County (COUNTY) is seeking to increase the permitted wastewater treatment capacity to 24 mgd in order to accommodate future wastewater flows.

The Phase V improvements include upgrades to existing processes and completion of the Phase IV-C process train. The Phase V improvements consist of new preliminary treatment facilities, a new clarifier, new filters, a new chlorine contact basin, new secondary effluent reject diversion structures and pump station; new effluent pumps, modifications to existing return and waste sludge pumping stations at Clarifiers 1 – 4, and other miscellaneous improvements.

The COUNTY previously authorized CONSULTANT to provide construction phase services for the EWRf Phase V expansion under Amendment 3. The scope of services for Amendment 3 was revised under Amendment 7, which determined multiple substantial completion milestones and extended the estimated overall construction schedule to 36 months.

This Amendment 8 to the Phase V Improvements is intended to amend the authorized Construction Phase Engineering Services (Task Group 200) and Additional Project Management – CA Services (Task Group 400). The additional services performed to date as well as the estimate-to-complete for services required to complete construction of the project have been accounted. The remaining task groups will remain unchanged.

**SCOPE OF SERVICES**

**Task 200 Additional Construction Phase Engineering Services**

CONSULTANT has furnished and proposes to furnish the following additional services:

I. Shop Drawing Review

- a. Authorized – A budget of 1,570 hours for a total of 413 submittals and resubmittals have been authorized (3.8 hours per submittal) between the original Contract Y8-827-PH dated October 9, 2009, and Amendment No.7 issued July 10, 2013.
- b. Completed to Date - A total of 568 submittals and resubmittals have been reviewed to date (Table 1). A total of 155 additional submittals beyond the authorized amount (568- 413 = 155) have been reviewed. AECOM is requesting an additional 589 hours (155 x 3.8 hrs/SD).

**Table 1 - Number of Submittals and their Distribution**

Submittal Type	Logged in CM	AECOM	CDM	ET	MPR	Milan	Borrelli	EDA
A	299	148	100	57	25	19	13	6
B	117	59	54	19	14	2	0	1
C	30	13	13	7	5	0	0	0
D	10	4	6	3	0	0	0	0
<b>Totals</b>	<b>456</b>	224	173	86	44	21	13	7
		<b>568</b>						
A = original submittal B/C/D = resubmittals								

Table 1 reflects the contractor’s practice of bundling several disciplines into one submittal. As a result, the number of submittals actually reviewed is greater than the number of submittals logged in “Contract Manager”. This required AECOM to distribute several submittals to multiple team members (disciplines), address issues (if any) with each piece, coordinate, review and respond. Typically these various submittals would have been submitted separately.

- c. Estimate to Complete - The average shop drawing submittal processing rate since the construction NTP was issued on May 28, 2015, has been approximately 20 SD/month (568/29 mths = 20). Based upon a projected substantial completion date for Phase V of August 31, 2018, approximately 10 months remain until project completion. Anticipating that the pace of shop drawing submittals will decrease as the project approaches completion, 100 submittals and resubmittals has been estimated to complete the project using a reduced average monthly processing rate of 10 SD/month over the remaining 10 months. AECOM is requesting an additional 380 hours (100 x 3.8 hours/SD).

**Task 400 Additional Project Management – CA Services**

CONSULTANT has furnished and proposes to furnish the following additional services:

I. Extended Construction Contract Time

- a. Authorized – Budget for project management during construction was extended by 12 months in Amendment No.7, issued July 10, 2013, to achieve an overall final completion of 36 months. Project Management was budgeted at 10 hours per month.

- b. Estimate to Complete – Based upon a construction NTP of May 28, 2015, and a projected substantial completion of August 31, 2018, plus two more months to final completion, the actual period of construction will be 41 months or an additional 5 months. Accordingly, AECOM is requesting an additional 50 hours (5 mths x 10 hrs/mth)

## **DELIVERABLES AND SCHEDULE**

There is no change to the deliverables described in CONSULTANT's original contract dated June 11, 2012.

## **COMPENSATION**

Compensation to the CONSULTANT for services performed under this authorization will be in accordance with the lump sum method in accordance with paragraph II-A of the contract. The lump sum fee for AECOM is \$143,413. The lump sum fee for CDM is \$2,500 (updated scope to be provided). The total lump sum amount authorized for this scope of work is \$145,913 (Exhibit A).

The associated AECOM personnel hours and budget for the additional Scope of Work for construction phase services are detailed in Exhibit B.

CONSULTANT will invoice monthly for services performed based on the percent completion of the overall scope of work, as determined by CONSULTANT.

## **ADDITIONAL PROVISIONS**

All provisions contained in the Agreement not specifically modified herein shall remain in full force and effect and are incorporated by reference herein.

**Exhibit A - FEE QUOTATION AND PROPOSAL**

Project Name: Contract Y8-827: EWRP Phase V Expansion  
 Amendment 8 - Additional Construction Phase Services  
 November 13, 2017

Name of Firm: AECOM Technical Services, Inc.

ACTIVITY-TASK DESCRIPTION		Program Manager I		Project Manager III		Project Engineer II		Project Engineer I		Engineer IV		Engineer II	
		Hours	Hrly Rate	Hours	Hrly Rate	Hours	Hrly Rate	Hours	Hrly Rate	Hours	Hrly Rate	Hours	Hrly R
TASK 200	ADDITIONAL CONSTRUCTION SERVICES	0	\$82.90	260	\$73.79	130	\$50.38	130	\$47.02	0	\$42.71	384	\$33.4
TASK 400	ADDITIONAL PROJECT MANAGEMENT - CA SERVICES	0	\$82.90	5	\$73.79	20	\$73.79	0	\$47.02	0	\$42.71	0	\$33.4
Total		0		265		150		130		0		384	

**FEE BREAKDOWN**

PRIME CONSULTANT	AECOM	\$143,413.04
SUBCONSULTANTS	CDM	\$2,500.00
	M/WBE %	0.00%
SUBCONSULTANT TOTAL:		\$2,500.00
SUBCONSULTANT % of Total Fee		1.71%
	Total Fee	\$145,913.04

**Exhibit B**

Contract Y8-827: EWRP Phase V Expansion  
 Amendment 8: Additional Construction Phase Services  
 AECOM Technical Services, Inc.  
 November 13, 2017

Task	Task Description	Personnel Hours									Budget
		Program Manager I	Project Manager III	Project Engineer II	Project Engineer I	Engineer IV	Engineer II	Designer I	Sr Admin Assistant	Total Hours	Labor
	<b>Raw Hourly Rate</b>	\$82.90	\$73.79	\$50.38	\$47.02	\$42.71	\$33.42	\$34.75	\$26.90		
<b>Estimated Fee</b>											
Task 200	<b>ADDITIONAL CONSTRUCTION SERVICES</b>										
1.b	Additional Shop Drawings to Date (155)		160	80	80		229		40	589	28,327.58
1.c	Additional Shop Drawings to Completion (100)		100	50	50		155		25	380	18,101.60
	<b>Estimated Fee Subtotal</b>	-	260	130	130	-	384	-	65	969	46,429.18
Task 400	<b>ADDITIONAL PROJECT MANAGEMENT - CA SERVICES</b>										
1.b	Additional Project Management Time (5 months)		5	20					25	50	2,049.05
	<b>Estimated Fee Subtotal</b>	-	5	20	-	-	-	-	25	50	2,049.05

<u>Personnel Category</u>	<u>\$/HR</u>
Program Manager I	\$82.90
Project Manager III	\$73.79
Project Engineer II	\$50.38
Project Engineer I	\$47.02
Engineer IV	\$42.71
Engineer II	\$33.42
Designer I	\$34.75
Sr Admin Assistant	\$26.90