

ENGINEERING SERVICES AGREEMENT SERVICES AUTHORIZATION #18404(2)

THIS SERVICES AUTHORIZATION is made and entered into this _____ day of _____, 20____, by and between the **City of Orlando, Florida**, a municipal corporation existing under the laws of the State of Florida (CITY), and **Carollo Engineers, Inc.**, doing business locally at 1089 W. Morse Boulevard, Suite A, Winter Park, Florida 32789 (ENGINEER).

WHEREAS, the CITY and the ENGINEER have previously entered into an agreement for the ENGINEER's professional services (Agreement) on February 10, 2016, concerning the Iron Bridge Water Reclamation Facility – Biosolids Dewatering System Improvements Project (Project); and

WHEREAS, the CITY and the ENGINEER previously amended the Agreement on June 7, 2016; and

WHEREAS, the CITY and the ENGINEER wish to further amend the Agreement as set forth herein; and

WHEREAS, the CITY and the ENGINEER now wish to memorialize their understanding for the ENGINEER's additional professional services for the Project.

NOW, THEREFORE, in consideration of the mutual promises and covenants contained herein and given one to the other, the sufficiency of which is hereby acknowledged, the parties agree as follows:

I. SCOPE OF SERVICES

The scope of services has been agreed to by the parties, and is attached hereto and incorporated herein, by reference, as APPENDIX I.

II. FEE

The not-to-exceed fee of \$301,051.60, has been agreed to by the parties as is more fully set forth on APPENDIX I.

III. TERM

ENGINEER shall complete all work in accordance with the timeframes set forth on APPENDIX I, if any, provided, however, that all work and the term of the Services Authorization shall be completed by the end of business (5:00 p.m.) on January 31, 2019. It is also agreed that the CITY shall have an option for extension of this Services Authorization as necessary to complete the present scope of Services (Appendix I) or to provide additional services.

IV. ENTIRE AGREEMENT

This Services Authorization supersedes all previous services authorizations, amendments, agreements, or representations, either verbal or written, heretofore in effect between the CITY and the ENGINEER that may have concerned the matters covered herein, except that this Services Authorization shall in no way supersede or amend the Agreement or other services authorizations or amendments except as specifically provided herein. No additions, alterations, or variations to the terms of this Services Authorization shall be valid, nor can the provisions of this Services Authorization be waived by either party, unless such additions, alterations, or waivers are expressly set forth in writing in a document duly executed by both parties. ENGINEER acknowledges and agrees that any proposals or proposed agreements from subconsultants attached to this SERVICES AUTHORIZATION are attached solely to reflect the scopes of work to be performed and the fees to be charged by such subconsultants. By executing this SERVICES AUTHORIZATION, the CITY does not become a party thereto or bound by the terms thereof.

IN WITNESS WHEREOF, the parties hereto have executed this Services Authorization on the day and year first written above.

City of Orlando, Florida

By: _____
David Billingsley, CPSM, C.P.M.
Chief Procurement Officer

APPROVED AS TO FORM AND LEGALITY
for the use and reliance of the
City of Orlando, Florida, only.

_____, 20

Michael S. O'Dowd
Assistant City Attorney
Orlando, Florida

Carollo Engineers, Inc.

By: _____

(Print Name)

Title: _____

STATE OF FLORIDA }

COUNTY OF _____ }

PERSONALLY APPEARED before me, the undersigned authority, _____, [] well known to me or [] who has produced _____ as identification, and known by me to be the _____ of the corporation named above, and acknowledged before me that he/she executed the foregoing instrument on behalf of said corporation as its true act and deed, and that he/she was duly authorized to do so.

WITNESS my hand and official seal this ____ day of _____, 20____.

NOTARY PUBLIC

Print Name: _____

My Commission Expires: _____

October 24, 2016

City of Orlando Public Works Department
Capital Improvement & Infrastructure Division
400 South Orange Avenue
Orlando, Florida 32801-3302

Attention: Robert Rutter, P.E.
Project Manager

Subject: City of Orlando RQS15-0312
Iron Bridge Water Reclamation Facility – Biosolids Dewatering System Improvements
PO 0000006534 - Amendment No. 2 - Final Design, Bidding and Construction Phase
Services for Sludge Conditioning Bay Improvements

Dear Mr. Rutter:

Attached for your consideration are the proposed scope, schedule, and budget for Amendment No. 2 for PO 0000006534 to assist with preliminary design services for the sludge conditioning bay improvements at the Iron Bridge Regional Water Reclamation Facility.

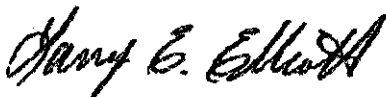
The Carollo team is the same for the PO 0000006534 and comprises of one MBE subconsultant, namely Hillers Electrical Engineering Inc., and two WBE subconsultants, namely TKW Consulting Engineers Inc. and CPW Construction Inc. on this assignment. Compensation for services for this amendment shall be based on a not-to-exceed cost of \$301,051.60. This fee estimate was developed from the quantities for labor and other direct costs presented in Exhibit II (Table A). The estimated share of work for Hillers Electrical Engineering (MBE subconsultant) is 17%, TKW Consulting Engineering Inc. (WBE subconsultant) is 13% and CPW Construction Inc. (WBE subconsultant) is 26% of the budget estimate for this amendment.

The scope of services outlined in this Amendment No. 2 will begin upon receipt of a Purchase Order and a Notice to Proceed (NTP) from the City of Orlando. The final design will be completed by April 30, 2017 as noted in the attached Exhibit III, assuming receiving a receipt of an NTP from the City by end of October 2016.

If you have any questions, please feel free to call us.

Sincerely,

CAROLLO ENGINEERS, Inc.



Larry Elliott, P.E.
Senior Vice President

Exhibit No. I - Scope of Services

City of Orlando

**Iron Bridge Water Reclamation Facility – Biosolids Dewatering
System Improvements (RQS15-0312) CIP 0107**

Service Authorization PO-0000006534

**Amendment No. 2 – Sludge Conditioning Bay Improvements
Final Design, Bidding and Construction Phase Services**

EXHIBIT I – SCOPE OF SERVICES

A. Project Understanding

The City of Orlando's Iron Bridge Water Reclamation Facility (IBWRF), located at 601 Iron Bridge Circle, provides service to Cities of Orlando, Winter Park, Maitland, Casselberry and unincorporated portions of Orange and Seminole Counties. The WRF is currently permitted to treat 40 mgd annual average daily flow (AADF).

The City plans to replace the three (3), 2-belt BFPs and the three (3) GBTs with two (2) new 3-belt BFPs to supplement the existing three (3) 3-belt dewatering BFPs. The existing BFPs are manufactured by Alfa-Laval Inc. (formerly Ashbrook Simon Hartley). The City plans to sole source the new BFPs to Alfa-Laval Inc. for standardization of dewatering equipment for ease of operation and maintenance of the equipment. Upon completion, the facility would have five (5) 3-belt BFPs (three existing and two new).

During the initial stages of the design, the Wastewater Division requested a proposal for several improvements to the existing sludge conditioning bays. These improvements are discussed below:

- Connect the existing sludge conditioning bay no. 1 to the filtrate bay by making an opening in the wall connecting the two. Add a larger drain line from the filtrate (sized for ~ 2,000 gpm), with a new sludge grinder to feed to the dewatering room.
- Demolish all existing equipment and piping in the "East Pump House" at the sludge conditioning bays. Relocate two large constant speed 250 HP centrifugal blowers that supply the air to the sludge conditioning bays, currently located in the blower building next to the equalization tanks, to the "East Pump House". Add new air piping from the blowers to feed to the existing air piping on top of the covered sludge conditioning bays. Feed the relocated blowers from the "West Electrical Room" located inside the existing dewatering building. Add coarse bubble diffusers and air piping to the filtrate bay to keep the contents mixed.
- Demolish all existing equipment and piping in the "West Pump House" at the sludge conditioning bays. Add two new self-priming type centrifugal pumps to provide the ability to transfer sludge to and from any of the 4 existing sludge conditioning bays. Use existing piping to tie-in to for transferring sludge. Feed the new pumps from the "West Electrical Room" located inside the existing dewatering building.
- Demolish all piping, pumps, and other existing equipment related to the Digesters No. 1 and No. 2 inside the Digester Building. Demolish all existing sludge decant lines in these two digesters. Add new piping for filling and emptying the Digesters No. 1 and No. 2. The existing Digesters No. 1 and No. 2 are used to store thickened waste activated sludge. Install a new centrifugal pump to transfer the sludge from either of the two Digesters No. 1 and No. 2 back to the dewatering building for dewatering via a new larger diameter pipe. Install a new centrifugal pump for mixing the contents of each digester. Digesters No. 1 and No. 2 will be

denoted as Thickened Sludge Holding Tanks No. 1 and No. 2 in the rest of this scope document.

Carollo Engineers Inc. (CONSULTANT) prepared a preliminary design report for the above improvements. Upon approval of the PDR, CONSULTANT will provide engineering services for Final Design, Bidding and Construction Phase Services.

CONSULTANT shall provide the services described herein to the City of Orlando under the terms of IBRWRF Biosolids Dewatering System Improvements, RQS15-0312 contract.

The design of the above described improvements will be done as part of this Amendment No. 2 to the Service Authorization PO-0000006534.

B. Scope of Work

The scope of services to be provided as part of this project is summarized by the following tasks:

- Task 1 – Project Management and Quality Assurance/Control
- Task 2 – Final Design Phase Services
- Task 3 – Bidding Phase Services
- Task 4 – Construction Phase Services
- Task 5 – Assist with Start-up, Testing and Training

Task 1 – Project Management and Quality Assurance/Control

Task 1.1 - Progress Reports

No additional scope under this task. Work under this task has been defined in the Service Authorization PO-0000006534.

Task 1.2 - Maintain Schedule, Action Item Logs, and Decision Logs

No additional scope under this task. Work under this task has been defined in the Service Authorization PO-0000006534.

Task 1.3 – Subconsultant Work Coordination

CONSULTANT will coordinate with the subconsultants as necessary, to manage and implement this project. This subtask includes up to two (2) additional internal project collaboration meetings between the CONSULTANT and its subconsultants to coordinate and implement work efforts.

Task 2 – Final Design Phase Services

Upon CITY approval of the "updated" Basis of Design TM (30% design), CONSULTANT will perform the following tasks as part of the final design services. The design for the

components discussed in this scope will be combined with the design of the dewatering system improvements as part of Service Authorization PO-0000006534.

Task 2.1 – 75% Design Documents

Based on the review comments received from the CITY for the Basis of Design TM (30% design), the CONSULTANT will prepare 75-percent level plans and specifications (Divisions 1 through 16). The 75-percent level plans budgeted under this amendment no. 2 will be for the design of the improvements discussed above. The plans and specifications will be combined with the design of the dewatering system improvements as part of Service Authorization PO-0000006534.

Deliverables: 75% Design Documents –

1. As defined in the scope of services for the Service Authorization PO-0000006534.

Task 2.2 – Issued for Permitting Set

Based on the review comments received from the CITY for the 75-percent design submittals, the CONSULTANT will prepare revised plans, specifications (Divisions 1 through 16). This set will be submitted to the City Public Works staff for review and comments. Work under this task will be associated to the additional drawings and specifications related to the scope discussed above and combined with the design of the dewatering system improvements as part of Service Authorization PO-0000006534.

Following the review by the City of Public Works, CONSULTANT will revise the documents and prepare the "Issued for Permitting" set to be used for application to City Permits.

Deliverables: Issued for Permitting Documents –

1. As defined in the scope of services for the Service Authorization PO-0000006534.

Task 2.3 – Preparation of Project Permits

Work budgeted under this task will be related to adding the preparation of the permits to include the scope discussed herein.

Deliverables -

1. As defined in the scope of services for the Service Authorization PO-0000006534

Task 2.4 –Issued for Bid Set

Based on the review comments received from the CITY and the Permitting Department, the CONSULTANT will prepare the "Issued for Bid" (100-percent level) plans, specifications (Divisions 1 through 16).

Deliverables: Issued for Bid Documents –

1. No additional scope under this task. Work under this task has been defined in the Service Authorization PO-0000006534.

Task 3 – Bid Phase Services

Work under this task has been defined in the Service Authorization PO-0000006534. Level of effort budgeted under this task will include additional effort to support the bid phase services for the scope of work discussed above.

Task 4 – Construction Phase Services

Work under this task has been defined in the Service Authorization PO-0000006534. Level of effort budgeted under this task will include additional effort to support the construction phase services for the scope of work discussed above.

Task 4.1 – Prepare Conformed Documents

No additional scope under this task. Work under this task has been defined in the Service Authorization PO-0000006534.

Deliverables: Prepare Conformed Documents –

As defined in the scope of services for the Service Authorization PO-0000006534.

Task 4.2 –Review Shop drawings

The CONSULTANT will receive, review, evaluate, and distribute additional shop drawings as submitted by the CONTRACTOR for the scope of work discussed above. An estimated 25 additional shop-drawing submittals are anticipated at this time. This includes about 10 shop-drawing submittals for the electrical scope of work, and 15 additional shop-drawings including submittals for the mechanical equipment such as blowers, pumps, valves, piping, flowmeters, and structural items such as concrete, rebar, supports, miscellaneous metals, etc.

Task 4.3 - Request for Information and Field Change Directives

The CONSULTANT will receive, review, evaluate, and distribute Requests for Information (RFIs) from the CONTRACTOR. The CONSULTANT shall also issue Field change directive (FCD) for those changes that are identified as conflicts in the field by the contractor. The CONSULTANT shall respond to the CONTRACTOR to clarify or interpret technical or design related questions. The CONSULTANT shall issue necessary interpretations and clarifications of the design documents. Responses to an additional 10 RFIs are budgeted as part of this task, 3 hours per RFI. Similarly a total of 5 additional FCDs are budgeted as part of this task, 5 hours per FCD.

Task 4.4 – Attend Construction Progress Meetings, Construction Material Testing and Periodic Site Inspections, Inspections during Substantial and Final Completion and Preparation of Record Drawings

With the addition of the above scope, we anticipate that the total construction will be completed in 16 months. The scope of work is already defined under the Service Authorization PO-0000006534. The level of effort budgeted under this task is for additional work related to additional project progress meetings, substantial and final completion items and preparing the record drawings for the scope of work discussed above.

Task 4.5 - Schedule Review

Carollo team (primarily staff from CPW Construction Inc.) will assist with this task. Carollo team will review the Contractor's initial and updated construction schedule.

Task 4.6 - SRF Davis Bacon Act Compliance Monitoring

Carollo team (primarily staff from CPW Construction Inc.) will assist with this task. The Carollo team will perform the following subtasks. For detail scope refer to the subconsultant's (CPW Construction Inc.) scope of work:

Task 4.6.1 - Labor Interviews

Task 4.6.2 - Payroll and Fringe Benefit Reviews

Task 5 – Assist with Start-up, Testing and Training and Amending Existing Plant O&M Manuals

The CONSULTANT will assist in the start-up, testing, and training services. Additionally, CONSULTANT will provide standard operating procedures (SOPs) for transferring sludge between the sludge conditioning bays, between the sludge conditioning bays and the dewatering building and also between the dewatering building and the thickened sludge holding tanks no. 1 and no. 2. CONSULTANT will update the O&M manual for the facility for these components. The CITY will provide the CONSULTANT a copy of the existing SOPs to update and develop further as necessary. Training will consist of a one 8-hour classroom training session conducted by the CONSULTANT. The training will cover the major elements of the SOP and maintenance requirements for major equipment.

C. Schedule

The overall project schedule will be modified as below.

75% Submittal - December 31, 2016

75% Review - January 27, 2016

Issued for Permitting Set - March 3, 2016

Preparation of Project Permits - March 3, 2016

Permit Set Review - March 30, 2016

Issued for Bid Set - April 30, 2016

Bidding Services - Per City established schedule

Construction Services - 16 months to final completion (anticipated)

**PRELIMINARY LIST OF DRAWINGS (THESE ARE ADDITIONAL DRAWINGS TO LIST OF
DRAWINGS LISTED UNDER THE PO 0000006534)**

- Drawing D – 8 Sludge Conditioning Bays – Demolition Plan (East Pump House)
- Drawing D – 9 Sludge Conditioning Bays – Demolition Plan (West Pump House)
- Drawing D – 10 Digester Building – Demolition Partial Plan 1
- Drawing D – 11 Digester Building – Demolition Partial Plan 2
- Drawing D – 12 Digester No. 1 – Demolition Plan
- Drawing D – 13 Digester No. 2 – Demolition Plan
- Drawing D – 14 Sludge Yard Piping - Demolition Plan and profile 1
- Drawing D – 15 Sludge Yard Piping - Demolition Plan and profile 2

- Drawing C – 1 Yard Piping Partial Plan 1
- Drawing C – 2 Yard Piping Partial Plan 2
- Drawing C – 3 Yard Piping Partial Profile
- Drawing C – 4 Yard Piping Sludge Grinder Enlarged Plan, Section and Details

- Drawing S – 5 Blower and Pump Pad details

- Drawing M – 12 Sludge Conditioning Bays – Relocated Blowers Plan (East Pump House)
- Drawing M – 13 Sludge Conditioning Bays – Relocated Blowers Section and Details (East Pump House)
- Drawing M – 14 Sludge Conditioning Bays – Aeration Piping Modifications Plan
- Drawing M – 15 Sludge Conditioning Bays – Aeration Piping Modifications Sections and Details
- Drawing M – 16 Sludge Conditioning Bays – Filtrate Bay Diffuser Plan
- Drawing M – 17 Sludge Conditioning Bays – Filtrate Bay Diffuser Details and Section Views
- Drawing M – 18 Sludge Conditioning Bays – Sludge Transfer Pumps Plan (West Pump House)
- Drawing M – 19 Sludge Conditioning Bays – Sludge Transfer Pumps Section and Details (West Pump House)
- Drawing M – 20 Digester Building – Transfer and Mixing Pumps Plan
- Drawing M – 21 Digester Building – Transfer Pumps Sections and Details
- Drawing M – 22 Digester Building – Mixing Pumps Sections and Details

- Drawing E – 36 Sludge Conditioning Bay – Electrical Demolition Plan (East Pump House)
- Drawing E – 37 Sludge Conditioning Bay – East and West Pump House - Lighting and Power Plan
- Drawing E – 38 Sludge Conditioning Bay – East and West Pump House - Electrical Plan
- Drawing E – 39 Dewatering Building – 480 V One Line Diagram
- Drawing E – 40 Dewatering Building – West Electrical Room Layout Plan
- Drawing E – 41 Dewatering Building West Electrical Room - MCC X One Line Diagram
- Drawing E – 42 Sludge Conditioning Bay – Relocated Blower SSRVS Wiring Diagram Sheet 1 (East Pump House)
- Drawing E – 42 Sludge Conditioning Bay – Relocated Blower SSRVS Wiring Diagram Sheet 2 (East Pump House)

- Drawing E – 43 Sludge Conditioning Bay – NEMA Starter for Transfer Pump Wiring Diagram Sheet 1 (East Pump House)
- Drawing E – 44 Sludge Conditioning Bay – NEMA Starter for Transfer Pump Wiring Diagram Sheet 2 (East Pump House)
- Drawing E – 45 Digester Building – NEMA Starter for Transfer Pump Wiring Diagram Sheet 1
- Drawing E – 46 Digester Building – NEMA Starter for Transfer Pump Wiring Diagram Sheet 2
- Drawing E – 47 Digester Building – NEMA Starter for Mixing Pump Wiring Diagram Sheet 1
- Drawing E – 48 Digester Building – NEMA Starter for Mixing Pump Wiring Diagram Sheet 2
- Drawing E – 49 Digester No. 1 and No 2 - Electrical Plan
- Drawing E – 50 Digester Building – Electrical Room Plan
- Drawing E – 51 Digester Building – One Line Diagram Existing
- Drawing E – 52 Digester Building – One Line Diagram Proposed
- Drawing E – 53 Digester Building – MCC Elevation

- Drawing I – 13 Process and Instrumentation Diagram - Sludge Conditioning Bay
- Drawing I – 14 Process and Instrumentation Diagram - Digester No. 1 and No. 2
- Drawing I – 15 New RIO Panel Detail - Sheet 1
- Drawing I – 15 New RIO Panel Detail - Sheet 2

EXHIBIT II - TABLE A

CAROLLO ENGINEERS INC. - Overall Engineering Services Fee Final Design,Bidding and Construction Phase Services - Amendment No. 2 Sludge Conditioning Bay Improvements - Iron Bridge WRF								
TASK	TASK DESCRIPTION	Carollo Engineers Inc.	TKW Consulting Engineers Inc.	Hilliers Electrical Engineering Inc.	Southeastern Surveying Inc.	CPW Construction Inc.	Terracon Inc.	Total Project Not-to-Exceed Costs
1	PROJECT MANAGEMENT AND QUALITY ASSURANCE/CONTROL							
1.1	Progress Reports	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
1.2	Maintain Schedule, Action Item Logs, and Decision Logs	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
1.3	Subconsultant Work Coordination	\$2,532.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$2,532.00
	Subtotal Task 1	\$2,532.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$2,532.00
2	FINAL DESIGN PHASE SERVICES							
2.1	75% Design Documents	\$43,410.02	\$17,385.00	\$16,189.00	\$5,244.00	\$0.00	\$557.50	\$82,228.02
2.2	Issued for Permitting Set	\$13,173.00	\$6,770.00	\$10,921.00	\$0.00	\$2,340.00	\$0.00	\$33,204.00
2.3	Preparation of Project Permits	\$2,897.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$2,897.00
2.4	Issued for Bid Set	\$6,568.00	\$3,240.00	\$2,482.00	\$0.00	\$0.00	\$0.00	\$12,290.00
	Subtotal Task 2	\$66,048.03	\$27,395.00	\$29,592.00	\$5,244.00	\$2,340.00	\$557.50	\$130,619.03
3	BID PHASE SERVICES							
	Subtotal Task 3	\$4,900.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$4,900.00
4	CONSTRUCTION PHASE SERVICES							
4.1	Prepare Conform Documents	\$5,718.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$5,718.00
4.2	Review Shop Drawings	\$14,283.01	\$1,430.00	\$10,058.00	\$0.00	\$0.00	\$0.00	\$25,771.01
4.3	Request for Information and Field Change Directives	\$4,244.50	\$3,050.00	\$2,540.00	\$0.00	\$0.00	\$0.00	\$9,834.50
	Attend Construction Progress Meetings, Construction Material Testing Periodic Site Inspections, 4.4 Inspections during Substantial and Final Completion and Prepare Record Drawings	\$7,356.00	\$3,670.00	\$4,880.00	\$0.00	\$27,440.00	\$3,000.00	\$43,346.00
4.5	Schedule Review	\$409.50	\$0.00	\$0.00	\$0.00	\$8,320.00	\$0.00	\$8,729.50
4.6	Davis Bacon Act Compliance Monitoring							
4.6.1	Labor Interviews	\$0.00	\$0.00	\$0.00	\$0.00	\$15,360.00	\$0.00	\$15,360.00
4.6.2	Payroll and Fringe Benefit Reviews	\$0.00	\$0.00	\$0.00	\$0.00	\$20,480.00	\$0.00	\$20,480.00
	Subtotal Task 4	\$32,071.02	\$8,150.00	\$17,478.00	\$0.00	\$71,600.00	\$3,000.00	\$129,239.02
5	ASSIST WITH START-UP TESTING AND TRAINING AND AMENDING O&M MANUALS			\$2,274.00				
	Subtotal Task 5	\$2,667.00	\$0.00	\$2,274.00	\$0.00	\$0.00	\$0.00	\$10,941.00
	Total Project Hours and Labor Costs	\$114,158.05	\$35,545.00	\$49,344.00	\$5,244.00	\$93,940.00	\$53,557.50	\$278,231.05
	Total Project Direct Costs (Printing)	\$2,500.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$2,500.00
	Subtotal (Labor and Expenses)	\$116,658.05	\$35,545.00	\$49,344.00	\$5,244.00	\$93,940.00	\$53,557.50	\$284,288.55
	Share of Work	41%	13%	17%	2%	26%	1%	
	10% For Administration of Subconsultant Labor		\$3,534.50	\$4,934.40	\$520.40	\$7,396.00	\$355.95	\$16,763.05
	Subtotal							\$301,051.60
	TOTAL NOT-TO-EXCEED COSTS							\$301,051.60

EXHIBIT II - TABLE B
CAROLLO ENGINEERS INC. COSTS ONLY

CAROLLO ENGINEERS INC. - Engineering Services Fee									
Final Design, Bidding and Construction Phase Services - Amendment No. 2									
Sludge Conditioning Bay Improvements - Iron Bridge WRF									
TASK	Raw Rate	Assistant Professional	Lead Project Professional	Senior Project Professional	CAD Technician	Document Processing/Graphic Arts	Total Hours	Total Labor Cost (Not-to-Exceed)	Reimbursables (Printing)
	Multiplier	3.00	3.00	3.00	3.00	3.00			
TASK DESCRIPTION									
1 PROJECT MANAGEMENT AND QUALITY ASSURANCE/CONTROL									
1.1	Progress Reports	0	0	0	0	0	0	\$0.00	
1.2	Maintain Schedule, Action Item Logs, and Decision Logs	0	0	0	0	0	0	\$0.00	
1.3	Subconsultant Work Coordination	0	8	0	8	0	16	\$2,532.00	
	Subtotal Task 1	0	8	0	8	0	16	\$2,532.00	
2 FINAL DESIGN PHASE SERVICES									
2.1	75% Design Documents	120	24	24	120	24	312	\$43,410.02	\$1,000.00
2.2	Issued for Permitting Set	24	16	12	24	12	88	\$13,173.00	\$500.00
2.3	Preparation of Project Permits	8	4	0	8	0	20	\$2,897.00	
2.4	Issued for Bid Set	16	8	2	16	4	46	\$6,568.00	\$1,000.00
	Subtotal Task 2	168	52	38	168	40	466	\$66,048.03	\$2,500.00
3 BID PHASE SERVICES									
	Subtotal Task 3	16	8	0	8	0	32	\$4,900.00	
4 CONSTRUCTION PHASE SERVICES									
4.1	Prepare Conform Documents	0	16	0	16	8	40	\$5,718.00	
4.2	Review Shop Drawings	60	20	0	0	16	96	\$14,283.01	
4.3	Request for Information and Field Change Directives	16	4	0	8	2	30	\$4,244.50	
	Attend Construction Progress Meetings, Construction Material Testing Periodic Site Inspections, Inspections during Substantial and Final Completion and Prepare Record Drawings								
4.4	Schedule Review	0	24	8	0	8	40	\$7,356.00	
4.5	Davis Bacon Act Compliance Monitoring	0	2	0	0	0	2	\$409.50	
4.6	Labor Interviews	0	0	0	0	0	0	\$0.00	
4.6.1	Payroll and Fringe Benefits Review	0	0	0	0	0	0	\$0.00	
	Subtotal Task 4	76	66	8	24	34	208	\$32,011.02	
5 ASSIST WITH START-UP TESTING AND TRAINING AND AMENDING O&M MANUALS									
	Subtotal Task 5	0	32	8	0	4	44	\$8,667.00	
Total Project Hours and Labor Costs									
		260	166	54	208	78	766	\$114,581.05	
Total Project Direct Expenses (Printing)									
								\$12,500.00	
TOTAL PROJECT COSTS (CAROLLO ENGINEERS INC.)									
								\$126,081.05	

EXHIBIT III

Project Schedule

Iron Bridge Regional WRF - Biosolids System Improvements RFQ15-0312

The overall project schedule will be modified as below. It is assumed the Consultant will receive an NTP by end of October 2016.

75% Submittal - December 31, 2016

75% Review - January 27, 2017

Issued for Permitting Set - March 3, 2017

Preparation of Project Permits - March 3, 2017

Permit Set Review - March 30, 2017

Issued for Bid Set - April 30, 2017

Bidding Services - Per City established schedule

Construction Services - 16 months to final completion (anticipated)



October 11, 2016

Sudhan Paranjape, P.E.
Carollo Engineers, Inc.
1089 W. Morse Blvd., Suite A
Winter Park, FL 32789

Re: Proposal for The City of Orlando Iron Bridge Water Reclamation Facility
Biosolids Dewatering System Improvements Project RQS15-0312
Amendment No. 2 Service Authorization PO-0000006534

Dear Sudhan,

CPW Construction, Inc. is pleased to submit this proposal, dated October 11, 2016, to perform construction administration services for The City of Orlando Iron Bridge Water Reclamation Facility Biosolids Dewatering System Improvements Project RQS15-0312 - Amendment No. 2 Service Authorization PO-0000006534. Construction administration services will be on an hourly basis, for a total not-to-exceed amount of \$73,940.

I look forward to working with you and providing these services to The City of Orlando. Please call me at 321-436-0822 or e-mail me at cwatts@cpwconstruction.com at your convenience should you require additional information.

Regards,

A handwritten signature in black ink, appearing to read 'Charlyn P. Watts', is written over a light blue horizontal line.

Charlyn P. Watts
President

Enclosures



**Construction Administration Services
The City of Orlando Iron Bridge Water Reclamation Facility
Biosolids Dewatering System Improvements Project RQS15-0312
Amendment No. 2 Service Authorization PO - 0000006534**

Scope of Services

Carollo Engineering has requested CPW Construction Inc. (CPWC) to provide construction administration services during the construction phase of The City of Orlando Biosolids Dewatering Project RQS15-0312 Amendment No. 2, sludge conditioning bay, at Iron Bridge. The fee breakdown for services to be performed by CPWC is provided in Table A.

Task 3.2 – Design Document Review

Upon receipt of the “Issued for Permitting” set of design documents for the above project, CPWC will perform provide a memorandum of comments on a tabulated spreadsheet. In developing costs for this task, it is assumed that CPWC will review up to 50 sheets of the 90% design documents at (1.0) hour per sheet for the sludge conditioning bay improvements. For the purpose of Amendment 1 assumes 18 additional sheets. The review excludes the electric and instrumentation portion of the design documents; others will perform these review.

Task 5.4 – Construction Phase Services

5.4b Construction Progress Meetings

CPWC will attend, record and distribute summaries, for fourteen (14) additional bi-monthly progress meetings and (1) specialty meeting during construction of the above project.

5.4c Site Inspection Visits

CPWC will periodically visit the project site to observe the progress and content of the work and site condition maintained by the contractor, and to assess whether the work is proceeding in general accordance with the Contract Documents. Observation of work at the Project site shall not make CPWC responsible for the work performed by another party; the means, methods, techniques, sequences, or procedures selected by another party; nor the safety precautions or programs of another party. Identified construction concerns will be discussed with the City and Carollo Engineering, Inc. representatives. Hours allotted for this task will include a total of twenty-three (23) additional site visits to the construction site to observe construction of the project bi-weekly.

5.4e Schedule Review

CPWC will review and comment on the Contractor’s initial and updated construction schedule and advise as to acceptability. CPWC’s review shall not include an analysis of Contractor’s approach, means or methods of construction to perform the work specified in the construction contract documents.

P.O. Box 121084

10/11/2016

Clermont, FL 34712

Phone (321)436-0822

Page 1 of 2

Task 5.5 SRF – Davis Bacon Act Compliance Monitoring

5-5a Labor Interviews

During construction, CPWC will conduct periodic interviews of selected contractor and sub-contractor laborers at the construction site during normal business hours. CPWC will interview a sufficient number of employees entitled to Davis-Bacon prevailing wages (covered employees) to verify that contractors are paying the appropriate wage rates for the job classifications. As provided in 29 CFR 5.6(a)(6), all interviews will be conducted in confidence and documented using Standard Form 1445. CPWC will perform monthly interviews based on interviewing 25% of the workforce (estimated to be 50 employees) to ensure compliance with the Davis Bacon Act. CPWC will note any compliance violations identified during interviews and provide immediate notification of the violation to the contractor and City staff. While on site CPWC will take digital photographs of the project site, equipment in use to corroborate the assigned laborer's work classification where appropriate, and the contractor's Davis-Bacon information poster and wage sheets and note its location on site.

5-5b Payroll and Fringe Benefit Reviews

CPWC will coordinate with the City to collect payroll and fringe benefit data within two weeks of contractor's submission of its initial payroll, as needed as the contractor's team changes, and again two weeks prior to the completion date of the project. CPWC will subsequently review weekly payrolls submitted by the prime contractor for his/her employees and his/her sub-contractors. All irregularities will be called to the attention of the prime contractor and the City staff by CPWC. When confirmed, CPWC will provide a letter of compliance to the City, upon request, at time of the Contractor's pay applications, which will include a tracking tool, interviews, field reports and enforcement correspondence as backup documentation.

CPWC will not be responsible for any delays of payroll submittal by the contractor.

In the event there are labor rate issues or disputes during a project, CPWC will be available to assist City staff in addressing them. This support will be available as needed and could include tracking issues to resolution with the contractor's staff, researching resolution of similar issues, documenting the corrections made and posting them to the project file. CPWC will not be tasked to provide legal advice to the City of Orlando.

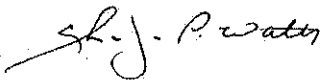
Schedule

For the purposes of assessing compensation, it has been assumed construction for City of Orlando Biosolids Dewatering Project RQS15-0312 will be completed within sixteen (16) months. If additional services are required from CPWC beyond those described herein, additional funding will be requested and authorized via contract amendment.

Compensation

CPWC will be compensated for the services described above at the billing rate shown in Table A. Work performed will be paid on an Hourly Not-to-Exceed basis. Payment for services rendered shall be in accordance with approved monthly invoices. CPWC shall receive payment within 60 days of invoicing to Carollo Engineering, Inc. The additional Not-to-Exceed fee for the tasks described in Amendment No. 2 is \$73,940.

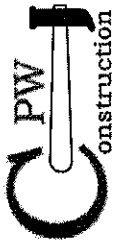
Thank you,



Charlyn Watts
CPW Construction, Inc.
P.O. Box 121084
Clermont, FL 34712

10/11/2016

Page 2 of 2



10/11/2016

ATTACHMENT A

FEE BREAKDOWN

Construction Administration Services
for City of Orlando Iron Bridge Water Reclamation Facility
Biosolids Dewatering Improvements Project RQS15-0312
Amendment No. 2 Service Authorization PO-00000006534

Task (16 months)	Labor					
	Project Manager		Assistant Manager		Totals	
	Hours	Rate	Hours	Rate	Hours	Cost
		\$130.00		\$80.00		
Task 3.2 - Design Documents Review						
3.2a - QA/QC for "Issued for Permitting" document with memorandum	18	\$ 2,340.00	0	\$ -	18	\$ 2,340.00
	18	\$ 2,340.00	0	\$ -	18	\$ 2,340.00
Task 5.4 - Construction Progress Meetings, Site Inspection, Schedule Review, Substantial & Final Completion						
5.4b - Attend, record and distribute summaries for project progress meetings (14) and specialty meetings (1)	216	\$ 28,080.00	96	\$ 7,680.00	248	\$ 35,760.00
5.4c - Site visits (23)	60	\$ 7,800.00	96	\$ 7,680.00	156	\$ 15,480.00
5.4e - Review initial schedule (1) and monthly schedule updates (15)	92	\$ 11,960.00	0	\$ -	92	\$ 11,960.00
	64	\$ 8,320.00	0	\$ -	64	\$ 8,320.00
Task 5.5 - SRF - Davis Bacon Act Compliance Monitoring						
5.5a - Conduct labor interviews monthly	0	\$ -	448	\$ 35,840.00	448	\$ 35,840.00
5.5b - Review weekly payrolls and fringe benefits (16 months)	0	\$ -	192	\$ 15,360.00	192	\$ 15,360.00
	0	\$ -	256	\$ 20,480.00	256	\$ 20,480.00
Totals - Labor Hours and Dollars	234	\$ 30,420.00	544	\$ 43,520.00	714	\$ 73,940.00
Total Not to Exceed, Including Labor and Reimbursable Expenses						\$ 73,940.00

Signed Charlyn P. Watts
Charlyn P. Watts, President

P.O. Box 121084

Clermont, FL 34712

Phone (321) 436-0822



HILLERS ELECTRICAL ENGINEERING, INC.

September 29, 2016

Sudhan Paranjape, P.E.
Carollo Engineers, Inc.
1089 W. Morse Blvd., Suite A
Winter Park, FL 32789

Subject: City of Orlando Iron Bridge WRF - Biosolids Dewatering System Improvements –
Amendment No.2 – Sludge Conditioning Bay Improvements Proposal

Dear Sudhan,

Hilliers Electrical Engineering, Inc. (HEE) is pleased to provide Carollo Engineers, Inc. a proposal for the electrical and instrumentation engineering services associated with the above referenced project – Amendment No.2 (Sludge Conditioning Bay and Digesters Improvements Final Design and Construction Services). Our scope will follow Carollo's latest Scope of Work /Task Authorization between the City of Orlando (Owner) and Carollo Engineers, Inc. (Consultant). The amendment scope will consist of the following:

- Electrical and Instrumentation design for two relocated blowers to the East Pump Room under the sludge conditioning bays, two new pumps in the West Pump Room under the sludge conditioning bays and associated instrumentation and controls. Design new LED lighting for both the East Pump Room and the West Pump Room. Design a new 480V panel, step-down transformer, and a 120V panel for remaining electrical loads at the sludge conditioning bays. Design a new RIO panel. Design new Solid State Reduced Voltage Starters (SSRVS's), other starters, MCC and distribution equipment for relocated blowers and new pumps and locate them in the South West Electrical Room of the Dewatering Building.
- Electrical and Instrumentation design for new pumps for Digesters No.1 and No.2. Design new ATS (Automatic Transfer Switch) to replace the existing ATS and new MCC sections or buckets. Design new RIO panel for Digester Building and new fiber optic to nearest source. Design new LED lighting for the Digester Electrical Room. Add new LED wall mounted light fixtures near the new pumps. Existing Hi-Bay lighting system will remain.
- Construction services include review and response to shop drawings, response to RFI and Field Change Directives, attend 2 additional progress meetings and 2 additional site visits, substantial and final inspections, assist with start-up and testing.

Our proposed electrical and instrumentation design and construction services not-to-exceed fee for this amendment is \$ 49,344.00, as shown in the attached spreadsheet.

HEE wishes to thank Carollo Engineers, Inc. for the opportunity to provide this proposal. Please do not hesitate to call me if you have any questions regarding this proposal or any other matter.

Sincerely,

Thein Win, P.E., LEED AP
CE23IBBioSolid-amendment2

City of Orlando Iron Bridge WRF - Biosolids Dewatering System Improvements- Amendment No.1 PDR Design Fees HILLERS ELECTRICAL ENGINEERING, INC.									
Design and Construction Services Fee Breakdown (Amendment No.2 - Sludge Conditioning Bay Improvements)									
9/28/2016	Raw Rate	\$55.91	\$45.84	\$38.89	\$36.46	\$29.52	\$19.10		
	Multiplier	2.88	2.88	2.88	2.88	2.88	2.88		
	Loaded Rate	\$161.00	\$132.00	\$112.00	\$105.00	\$85.00	\$55.00		
75% Electrical Design		2	30		32		64		\$16,189.00
75% I&C Design		2	28		24		54		\$7,642.00
75% Specification			8				8		\$6,538.00
75% Cost Opinion		1	6				7		\$1,056.00
									\$953.00
100% Design									
100% Electrical Design		2	24		20		46		\$10,921.00
100% I&C Design		2	16		16		34		\$5,590.00
100% Specification			4		4		4		\$4,114.00
100% Cost Opinion		1	4				5		\$528.00
									\$889.00
Bid Set Design									
Bid Set Electrical Design		1	4		4		9		\$2,482.00
Bid Set I&C Design		1	4		4		9		\$1,109.00
Bid Set Specification			2				2		\$1,109.00
									\$264.00
Total Hours		238.79	356.72	153.77	288.34	117.4	76.88	1212	Total:
Total Not-to-Exceed Fee		\$38,445.19	\$47,087.04	\$17,222.24	\$28,175.70	\$9,973.00	\$4,233.90	\$145,143.07	\$29,592.00
Construction Fee Breakdown									
Bidding Services									
Construction Services									
shop drawing review		8	48				56		\$19,752.00
Review IAG shop drawings comments		2	16				18		\$7,624.00
RFI and Field Change Directives		4	8		8		20		\$2,434.00
Construction Progress Meetings (add.)			8	8			16		\$2,540.00
Periodic site visits (addition)			8	8			16		\$1,952.00
Substantial and Final Inspections			4	4	4		8		\$1,952.00
Assist with start-up, testing		2	8	8			18		\$976.00
									\$2,274.00
Total Hours		16	100	28	8		152		\$19,752.00
Total Not-to-Exceed Fee		\$2,576.00	\$13,200.00	\$3,136.00	\$840.00			\$19,752.00	Total Eng. + Const.
									\$49,344.00

Steven L. Anderson, Jr., PSM, PLS
 Charles M. Arnett, PSM
 Michael L. Dougherty, PSM
 Bruce C. Ducker, PSM
 James M. Dunn, II, PSM
 Thomas F. Ferguson, PSM
 Ronnie A. Figueroa, PSM, GISP
 Tate B. Flowers, PLS
 Robert W. Gardner, PSM
 Brian R. Garvey, PE, GISP
 Daniel J. Henry, PSM, PLS
 Matthew G. Jennings, RLS
 Gary B. Krick, PSM
 Brad J. Lashley, PSM, PLS
 Myron F. Lucas, PSM
 Bruce M. Mason, PSM
 James E. Mazurak, PSM
 Thomas K. Mead, PSM, PLS



Southeastern Surveying and Mapping Corporation
Serving the Southeast Since 1972
www.southeasternsurveying.com
info@southeasternsurveying.com

Timothy O. Mosby, PSM
 James L. Petersen, PSM
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 Tony G. Syfrett, PSM, PLS
 John S. Thomas, PSM
 Edward W. Wackerman, PSM
 Thomas P. Young, Jr., PSM, GISP
 Kirk R. Hall, EI, GISP
 Brad A. Stroppel, EI, GISP
 Cheryl A. Isenberg, GISP
 Brian E. Latchaw, GISP
 Patrick J. Phillips, GISP
 Donna L. Hendrix, CST IV
 Frank B. Henry, CST IV
 Mark W. Klaers, CST IV
 David M. Rentfrow, CST IV
 Steve D. Smith, CST IV
 Celeste B. van Gelder, CST IV

Land Surveying & Mapping Services • Sub-Surface Utility Designation & Location Services • Geographic Information Systems • GPS Asset Inventories

October 12, 2016

VIA E-MAIL: sparanjape@carollo.com

Mr. Sudhan Paranjape, P.E.
 Carollo Engineers, Inc.
 1089 W. Morse Boulevard, Suite A
 Winter Park, FL 32789

RE: Iron Bridge Water Reclamation Facility–Pipe Replacement
601 Iron Bridge Circle, Orlando, FL
Section 33, Township 21 South, Range 31 East, Orange County, City of Orlando, Florida

Dear Mr. Paranjape,

We are pleased to submit **Amendment No. 2 revised** proposal for Subsurface Utility Verification and Surveying Services on the above referenced project.

SCOPE OF WORK:

1. Coordinate Sunshine 811 and utility locates to include supplemental calls to each locator to expedite the field marking of each subsurface utility as required by law.
2. Use nondestructive vacuum excavation methods, dig five (5) trenches (5' long, 3' wide, to a depth of 5' or to water table, whichever comes first) specific locations indicated on plan sheet provided or marked by client in the field.
3. Confirm/determine the vertical and horizontal position of any utilities exposed within said trenches, and record the information.
4. Locate utilities exposed using conventional survey methodologies and add to the previous Survey.

The final product will be field sketches of the project area reflecting all pertinent data for your use and a digital file.

6500 All American Blvd Orlando, FL 32810 407.292.8580 407.292.0141 Fax	1130 Highway 90 Chipley, FL 32428 850.638.0790 850.638.8069 Fax	Cypress Business Center 8301 Cypress Plaza Drive Suite 104 Jacksonville, FL 32256 904.737.5990 904.737.5995 Fax	119 West Main Street Tavares, FL 32778 352.343.4880 352.343.4914 Fax	10 East Lake Street Kissimmee, FL 34744 407.944.4880 407.944.0424 Fax	University Corporate Park 10770 North 46 th Street Suite C-300 Tampa, FL 33617 813.898.2711 813.898.2712 Fax
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Licenses: PSM: Florida Professional Surveyor & Mapper • PLS: Alabama Professional Land Surveyor • RLS: Georgia Registered Land Surveyor • PE: Professional Engineer
 Certifications: EI: Engineering Intern • GISP: Geographic Information Systems Professional • CST: Certified Survey Technician

Terms and Conditions

It is understood that the construction contractor is responsible to abide by Sunshine 811, Florida State Statutes Chapter 556.106 and all applicable laws, and regulations that pertain to the services provided.

Carollo Engineers, Inc. will make available all plans and utility records that have been obtained for this site. However, the information provided by Carollo Engineers, Inc. is also dependent upon a Sunshine 811 request for utility owners and/or their representatives to mark their buried underground plant at the project site as required by law. Southeastern Surveying and Mapping Corporation (SSMC) has a right to rely on the accuracy of such plans and utility records and will notify Carollo Engineers, Inc. if there are any patently or reasonably identifiable defects in the documents.

Carollo Engineers, Inc. is aware that due to the inherent uncertain nature of subsurface utilities, including but not limited to deficient or misrepresentation of prints, SSMC cannot guarantee that all subsurface utility lines will be accounted for. SSMC will ensure that all reasonable efforts are made to identify the location of said underground utilities and provide the best available information within the project area with the use of Ground Penetrating Radar and Electronic Line Locating Equipment. Additional research will only be conducted by SSMC if requested in writing by Carollo Engineers, Inc.

In accordance with the Underground Facility Damage Prevention and Safety Act, the Design Engineer shall perform sufficient Utility Coordination with the Utility providers in this location to affirm the information from SSMC's efforts and confirm that no other subsurface utility is possibly undetected by these efforts.

SSMC shall not be held liable for any latent or unreasonably discoverable utilities in the project area. Furthermore in the event of a claim regarding the services provided in the proposal, SSMC shall have liability for reasonable and necessary defense costs to the extent caused by SSMC's negligence.

Note: All utility sizes given are outside diameter unless otherwise specified and are approximate only due to uncontrollable field conditions that may be encountered during excavation.

Our fee for this project will be as follows:

Trenches/Day Rate:

\$862.40 Dirt/Each (anticipate 5) \$ 4,312.00

Survey Collection & Drafting: \$ 932.00

Not to Exceed Fee Total: \$ 5,244.00

We anticipate completion of the above described work within **six (6)** weeks after receipt of approved permit and written notice to proceed. Payment is expected within thirty (30) days from date of invoice.

Page 3

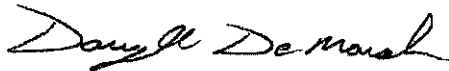
Mr. Sudhan Paranjape, P.E.

Iron Bridge Water Reclamation Facility–Pipe Replacement

October 12, 2016

We look forward to the opportunity to work with you on this project.

Sincerely,



Darryll DeMarsh

Utility Division Manager

DED:gac

If the above scope, period of service and method of compensation meets with your approval, please execute below and fax to SSMC as notice to proceed along with the notice of commencement.

If your firm prefers using your own standard PROFESSIONAL SERVICES AGREEMENT in lieu of this proposal letter, this document MUST BE furnished to SSMC, negotiated, and executed prior to the commencement of any service.

Send all Agreements to:

Orlando Corporate Office

6500 All American Boulevard

Orlando, FL 32810.

Fax: 407-292-0141

Email: info@southeasternsurveying.com

Your firm agrees that by (1) signing and returning this Proposal, or (2) partial or complete performance under this Proposal and SSMC has not received, negotiated and/or executed a PROFESSIONAL SERVICES AGREEMENT, then it is agreed that THE TERMS AND CONDITIONS IN THIS PROPOSAL SHALL GOVERN THE SERVICES RENDERED.

Furthermore, if requested, your firm acknowledges that by accepting this Proposal, SSMC will provide your firm with an insurance certificate that (1) contains the project name and (2) lists your firm as the certificate holder.

The person executing this document must indicate that he/she is a Principal and/or Corporate Officer.

If the signatory is not a Principal and/or Corporate Officer, a Letter of Authorization on company letterhead signed by a Principal and/or Corporate Officer, MUST be provided that specifically states that signatory has the authority to bind the parties by entering into this agreement.

ACCEPTED BY:

Principal / or Corporate Officer

TITLE

Printed Name

Date



October 11, 2016

Carollo Engineers, Inc.
1089 W. Morse Boulevard, Suite A
Winter Park, Florida 32789

Attn: Mr. Sudhan Paranjape, P.E.
P: [407] 478 4642
E: sparanjape@carolla.com

Re: Proposal for Geotechnical Engineering Services
Iron Bridge RWRf – Biosolids System Improvements – Amendment No. 2
Oviedo, Seminole County, Florida
Terracon Proposal No. PH1165300

Dear Mr. Paranjape:

Terracon Consultants, Inc. (Terracon) appreciates the opportunity to submit this proposal to provide geotechnical engineering services for the above-referenced project. The purpose of the geotechnical study will be to evaluate the pertinent geotechnical conditions at the site and to develop geotechnical parameters, which will assist in the design and construction of silo foundations. This proposal outlines our understanding of the project and scope of services and provides a lump sum fee for our services.

1.0 PROJECT INFORMATION

1.1. Site Location

ITEM	DESCRIPTION
Location	West side of the Sludge Handling Building at the Iron Bridge Water Treatment facility in Oviedo, Florida.
Existing improvements	Three existing silos to be removed and replaced.
Current ground cover	Paved.
Existing topography	Relatively flat.

1.2 Project Description

ITEM	DESCRIPTION
Structure	Three silos adjacent to existing building
Building construction	Steel

Terracon Consultants, Inc. 1675 Lee Road Winter Park, Florida 32789
P [407] 740 6110 F [407] 740 6112 terracon.com

ITEM	DESCRIPTION
Maximum loads	26 tons each silo
Grading	None anticipated.
Pavements	No improvements.
Stormwater Management System	No improvements.

Should any of the above information or assumptions be inconsistent with the planned construction, please let us know so that we may make any necessary modifications to this proposal.

2.0 SCOPE OF SERVICES

The project will consist of field exploration and laboratory testing under the guidance of a geotechnical engineer to characterize the subsurface conditions and geotechnical engineering to develop geotechnical design and construction recommendations. The following sections provide an overview of the work scope for each of these aspects of the project.

2.1 Field Exploration

Our field exploration work includes the drilling and sampling of one additional exploratory soil borings. The following boring schedule is planned:

Number of Borings	Boring Depth	Planned Location
1	15	Dewatering Area

2.1.1 Procedures

We will locate the soil borings by field measurements with the assistance of hand-held GPS devices which are capable of locating the exploration points with an accuracy of about 20 feet. Elevations will be estimated from local USGS topographic maps.

The borings will be sampled using split spoon sampling devices consistent with ASTM D1586. Sampling will be in general accordance with industry standard procedures wherein split-barrel samples are obtained. Five samples will be obtained in the upper 10 feet of each boring and at intervals of 5 feet thereafter.

The field exploration will also include observations for groundwater. This will occur during the exploration program while the borehole is being advanced. No provisions have been made to collect water level data other than the observations made during the advancement of the borings.

2.1.2 Site Access

Based upon our communications with you we expect that the site is accessible to our truck-mounted drilling equipment and no site clearing, wet ground conditions, tree or shrub clearing, repair of landscape damage or location of underground utilities beyond contacting Sunshine State One Call of Florida (SSOCOF) locate service is required. If such conditions are known to exist on the site, Terracon should be notified so that we may adjust our scope of services and fee, if necessary.

In order to conduct our exploration of the project site, we must be granted access by the property owner. By acceptance of this proposal without information to the contrary, we consider that you have provided access to our exploration equipment for the conduct of our work consistent with the agreed work scope.

2.1.3 Property Disturbance

We will take reasonable efforts to reduce damage to the property as a result of our exploration activities, such as rutting of the ground surface. However, in the normal course of our work some such disturbance will occur. We have not budgeted to restore the site beyond backfilling our boreholes. If there are any restrictions or special requirements regarding this site or exploration, please provide them with your acceptance of this proposal.

All borings will be backfilled immediately after their completion with site soil. Excess drilling spoil will be disposed of on the site by spreading in the area of each exploration point. Because backfill material often settles below the surface after a period of time, you should observe the exploration points periodically for signs of depressions and backfill them if necessary. We could provide this service at your request, but this would involve additional costs.

2.1.4 Safety

We are committed to the conduct of our work safely. Our field exploration work on this project will be conducted under the guidance of a site-specific safety plan that takes into account the information that we know about this site as it relates to safety and potential safety hazards.

Our field crews will make excavations to sample the soils. Such excavations could encounter subsurface utilities and/or environmental hazards. We will file appropriate notification to the local and/or state mandated excavation permit office(s), as required by state law, and we will not perform excavations without an understanding of the subsurface utilities present based upon markings made by the various responsible parties. However, such utility location services only delineate subsurface utilities in public easements, and the potential to encounter other, unknown underground hazards remains. Also, we are not aware of environmental concerns at this project site that would create health or safety hazards associated with our exploration program. Our scope considers that standard Type D Personal Protection Equipment (PPE) is appropriate.

In order to more completely address the potential for underground utilities or environmental hazards, and, in order to more completely understand other potential safety hazards associated with our field exploration program, we will interview you or a representative that you suggest to obtain information about these concerns. The results of our interview will be included in the site-specific safety plan. We are not responsible for damage to private utilities that are not made aware to us.

2.2 Laboratory Testing

Representative soil samples will be tested in our laboratory to determine pertinent engineering characteristics. Testing will include visual classification, moisture content, organic content determination, Atterberg limits and strength testing, as appropriate. Our laboratory procedures will follow ASTM standards.

The project engineer will review the field data from the exploration, and then assign the types and numbers of tests. Our fees have been developed with an assumption of typical types and numbers of tests for a project of this nature in this location. In the event additional testing is necessary we will notify you of this need prior to initiating the additional testing.

2.3 Geotechnical Engineering Analysis and Report

The results of our field and laboratory program for this additional boring will be performed with the boring identified in the original proposal and together evaluated by a professional geotechnical engineer. The engineer will develop an analysis of subsurface conditions, perform the engineering calculations necessary to evaluate foundation alternatives and develop appropriate geotechnical engineering design criteria for earth connected phases of the project. At the completion of our engineering analyses, we will prepare a combined (original proposal and Addendum No. 2) geotechnical engineering report that provides the following:

1. Soil boring logs with field and laboratory data, soil stratification based on visual soil classification
2. Groundwater levels observed during drilling
3. Site and Boring location plans
4. Subsurface exploration procedures
5. Description of subsurface conditions
6. Recommended foundation options and engineering design parameters
7. Estimated settlement of foundations
8. Subgrade preparation/earthwork recommendations

2.4 Additional Services

The activities described in Sections 2.1 through 2.3 above provide our proposed work scope to address the basic aspects of the work necessary to render our geotechnical engineering report. The fees described in Section 4.1 are related to the work scope described in Sections 2.1 through 2.3.

In addition to the basic services noted above, the following, additional services are often associated with the geotechnical engineering services. The fees for the basic services noted in Section 4.1 do not include the following services.

2.4.1 Observation and Testing of Pertinent Construction Materials

Development of our geotechnical engineering recommendations and report relies on an interpretation of soil conditions based upon widely spaced exploration locations and assumptions that construction methods will be performed in a manner sufficient to meet our expectations and consistent with recommendations made at the time the geotechnical engineering report is issued. We should be retained to conduct construction observations, perform associated materials testing and documentation associated with site preparation, foundation and pavement construction. This allows a more comprehensive understanding of the subsurface conditions as well as necessary documentation of construction to confirm and/or modify (when necessary) the assumptions and recommendations made by our engineers. The scope of services for this project does not include, either specifically or by implication, any environmental assessment of the site intended to identify or quantify potential site contaminants, radon or other naturally occurring substances of this nature. For budgetary purposes, we have increased our materials testing and inspections budget by an additional \$3000.

3.0 SCHEDULE

We have developed a schedule to complete the scope of work stated in Sections 2.1 through 2.3 based upon our existing availability at the date of this proposal. We anticipate starting the field work within about three to five working days of receiving written notice to proceed and written authorization, and the field exploration will take about two to three days to complete. We estimate the final Geotechnical Engineering Report can be completed within two weeks after the soil borings are completed.

The schedule above is predicated upon our current availability and our understanding of your schedule needs. In the event the schedule provided is inconsistent with your needs, please contact us, and we will consider alternatives.

Because the schedule suggested above is tentative and dependent upon receipt of your notice to proceed, we will provide you with a specific schedule for the conduct of the project at the time of your issuance of notice to proceed.

4.0 COMPENSATION

Using our estimate of the work scope as outlined in Section 2, and our unit rates for the various work items, we have developed an estimate of fees for this project.

4.1 Basic Geotechnical Engineering Services

We will provide the basic geotechnical services work scope as stated in Section 2.1 through 2.3 for a fee of \$557.50. Unless instructed otherwise, we will submit our invoice(s) to the address shown at the beginning of this proposal. We have provided a cost breakdown on the attached Fee Estimate Sheet.

In the event that we encounter unanticipated conditions that would require variation in the work scopes as noted in Section 2.1 through 2.3, we will notify you of this variation, and we will send a supplemental proposal stating the modified work scope as well as its impact on our fee. We will not proceed without your authorization, as evidenced by your signature on the Supplemental Agreement form.

4.2 Basic Construction Materials Testing Services

We have been asked to increase our estimate for construction materials testing services by \$3000. Unit costs for typical services are provided in the original Fee Estimate Sheet.

The total not to exceed fees for the services described in this addendum are \$3,557.50.

5.0 AUTHORIZATION

Work will be performed under the provisions of our original agreement and we assume that you will issue an addendum to the original Task Order.

We appreciate the opportunity to provide this proposal and look forward to the opportunity of working with you.

Sincerely,
Terracon Consultants, Inc.

Bruce H. Woloshin, P.E.
Principal

cc: email



■ Fort Myers
■ Orlando
■ Tallahassee

September 29, 2016
(Revised 10/7/16)

Mr. Sudhan Paranjape, P.E.
Carollo Engineers, Inc.
1089 W. Morse Blvd., Suite A
Winter Park, FL 32789

RE: Scope of Services – Additional Structural for Sludge Conditioning Bay Improvements
City of Orlando Continuing Professional Consulting
Iron Bridge Water Reclamation Facility – Biosolids Dewatering System Improvements
(RQS-15-0312) CIP 0107
TKW Job No. 15204.00
Amendment No. 2 – Sludge Conditioning Bay Improvements (Final Design)

Mr. Paranjape:

This proposal is for additional structural design services related to the Iron Bridge Biosolids Dewatering System Improvements. The additional services are preparation of the structural design for additional work to be done under Amendment 2 to the scope of services for the Biosolids Dewatering System Improvements, referred to as Sludge Conditioning Bay Improvements. Additional design work anticipated by Amendment No. 2 includes: (1) design of concrete bases for relocated 250 hp blowers; (2) design details for aluminum air piping supports, with stainless steel fasteners and anchors; (3) design concrete pads for new sludge transfer pumps in the West Pump House; (4) design concrete pad for new digester sludge transfer pump; (5) design concrete pad for new sludge mixing pump; (6) design of a 3 ft by 3 ft sump in the floor of Sludge Conditioning Tank No. 1; and detailing wall modifications in the new blower room. Also, after our meeting on October 4, 2016, we see the need for structural support systems for new large diameter conduit runs within and outside the Sludge Handling Building. We have added this scope and fee for your consideration.

See the attached spreadsheet for TKW hours and fee budget for this additional design work in the amount of \$35,545. If all task are accepted, this will increase our not-to-exceed fee previously authorized from \$48,340 (Authorization plus Amendment No. 1) to \$83,885.

Please contact me or Jim Lange if you have questions.

Sincerely,
TKW CONSULTING ENGINEERS, INC.

Douglas H. Eckmann, P.E.
Engineering Manager
Attachment (resource based fee proposal)

City of Orlando

10/10/2016

Iron Bridge Water Reclamation Facility - Biosolids Dewatering System Improvements

Project task fee budget based on estimated level of effort (Amendment No. 2 to Agreement)

Carollo Engineers, Inc.



Task	Description - Structural Engineering Additional Services for Sludge Holding Basins	Principal Engineer	Senior Engineer	Project Engineer	CAD Technician	Admin. Assistant	Total Hours	Total Task Labor	Task Expenses	Total NTE Fee
TKW Task Order 3										
		\$71.67	\$58.33	\$48.33	\$28.33	\$25.00				
	Multiplier	3.00	3.00	3.00	3.00	3.00				
	Billing Rate	\$215	\$175	\$145	\$85	\$75				
1 Project Management and Quality Assurance / Control										
	No changes						0	\$0		\$0
							0	\$0		\$0
							0	\$0		\$0
		0	0	0	0	0	0	\$0	\$0	\$0
	Subtotal									
2 Preliminary Design Phase Services										
	No changes						0	\$0		\$0
							0	\$0		\$0
							0	\$0		\$0
							0	\$0		\$0
	Subtotal		0	0	0	0	0	\$0	\$0	\$0
3 Final Design Phase Services										
	75% Submittal									
	Concrete 250 hp blower bases, air piping support details, various concrete pump pads, sump addition, blower room wall modifications		10	16	16	2	44	\$5,580		\$5,580
	Support beams between Main Electrical Room and North Electrical Room, North Electrical Room and block wall, perimeter of block wall, exterior free standing cantilever frames on south wall of Sludge Handling Building	2	14	20	40	4	80	\$9,480		\$9,480
	Field Verify Support Layout (prior to completion of 75%), one day site visit and follow-up.		12				12	\$2,100	\$225	\$2,325
	Issued for Permitting (Draft) Submittal									
	Review 75% Submittal and coordinate with Electrical Engineer - update drawings and details	1	4	4	12	2	23	\$2,665		\$2,665
	Incorporate client and design team comments on 75% submittal	1	2	2	8	2	15	\$1,685		\$1,685
	Specifications, QA/QC		8	6		2	16	\$2,420		\$2,420
	Issued for Permitting (Final) Submittal									
	Incorporate client and design team comments on Draft submittal		2	2	6	2	12	\$1,300		\$1,300

City of Orlando

Iron Bridge Water Reclamation Facility - Biosolids Dewatering System Improvements

Project task fee budget based on estimated level of effort (Amendment No. 2 to Agreement)

Carollo Engineers, Inc.

10/10/2016



Task	Description - Structural Engineering Additional Services for Sludge Holding Basins	Principal Engineer	Senior Engineer	Project Engineer	CAD Technician	Admin. Assistant	Total Hours	Total Task Labor	Task Expenses	Total NTE Fee
TKW Task Order 3										
		\$71.67	\$58.33	\$48.33	\$28.33	\$25.00				
	Multiplier	3.00	3.00	3.00	3.00	3.00				
	Billing Rate	\$215	\$175	\$145	\$85	\$75				
	Final Bid Submittal									
	Incorporate client and design team comments, updates and final revisions		4	4	6	2	16	\$1,940		\$1,940
	Subtotal	4	56	54	88	16	218	\$27,170	\$225	\$27,395
4	Bid Phase Services									
	No changes						0	\$0		\$0
							0	\$0		\$0
							0	\$0		\$0
	Subtotal	0	0	0	0	0	0	\$0	\$0	\$0
5	Construction Phase Services									
	Additional Construction Phase Services for Electrical Supports						0	\$0		\$0
	Shop Drawing Review		4	4		2	10	\$1,430		\$1,430
	Respond to Contractor RFI on Electrical Supports		4	4		2	10	\$1,430		\$1,430
	Address field conditions uncovered during construction		4	4	4		12	\$1,620		\$1,620
	Additional site visit during construction, one day site visit and designer site visit report.		12				12	\$2,100	\$225	\$2,325
	Preparation of Record Drawings	1	2	2	4	2	11	\$1,345		\$1,345
							0	\$0		\$0
							0	\$0		\$0
	Subtotal	1	26	14	8	6	55	\$7,925	\$225	\$8,150
6	Post Construction Phase Services									
	No changes						0	\$0		\$0
							0	\$0		\$0
	Subtotal	0	0	0	0	0	0	\$0	\$0	\$0
	TOTAL Not to Exceed Fee TO3	5	82	68	96	22	273	\$35,095	\$450	\$35,545