Tetra Tech, Inc.

SUPPLEMENTAL WORK ORDER INITIATION FORM for the CITY OF CLEARWATER

Date: **February 6, 2018**

Consultant Project Number: _____

City Project Number: **16-0001-UT**

City Plan Set Number: _____

1. PROJECT TITLE:

Reclaimed Water Booster Pump Stations Chlorine Feed System Improvements – Construction Engineering and Inspection (CEI) Services

2. SCOPE OF SERVICES:

The city of Clearwater (city) is constructing improvements to the chlorination systems at the city's three (3) reclaimed water pumping stations (Skycrest, Union and Drew Street). The work includes modifying piping at the facilities, adding a new inline static mixer and replacing the existing sodium hypochlorite storage, injection and residual monitoring facilities to improve the automated operational reliability at the stations. The improvements will allow the city to institute automated operation of supplemental chlorine feed systems at each facility.

The city has requested Tetra Tech, Inc. (Engineer) to provide a scope of services for construction engineering and inspection (CEI) services for this work. Tetra Tech's scope for CEI is as follows:

CEI Resident Project Representative

In order to better ensure that the Project is constructed in accordance with the Contract Documents, the Engineer will provide the services of a CEI Resident Project Representative (RPR) throughout the duration of construction. It is anticipated that such services will be provided over a ten (10) month period. The total active onsite construction observation hours are estimated to be 560 hours and are calculated as follows:

- The project construction period is 10 months to final completion. Active onsite construction will occur at Skycrest, Union and Drew Street Reclaimed Water Booster Pump Stations and is

estimated to be 6 months (26 weeks) with an estimated 3 months of equipment lead time and 1 month buffer. The time provided herein is estimated based on an assumed active onsite construction oversight of 5 months (22 weeks) and 24 hours per week (528 hours). For the remaining 1 month (4 weeks) of onsite construction, the active onsite construction services are estimated at 8 hours per week (32 hours).

- The Contractor will only be allowed to have one (1) reclaimed water pump station off-line at a time, unless otherwise directed by the city.

The role of the RPR, and limitations of the RPR's responsibilities, are set forth below:

1. The RPR will be the Engineer's agent or employee and under the Engineer's supervision and may act on the Engineer's behalf as directed by the Engineer and may carry out any activities designated herewith for Construction Phase engineering services. Accordingly, the Engineer will provide the services of a RPR at the site to assist the Engineer and to provide more continuous observation of such work and observe the project as a whole.

2. The purpose of representation by the RPR at the site will be to enable the Engineer to better carry out the scope and the duties and responsibilities assigned to and undertaken by the Engineer during the Construction Phase, and, in addition, by exercise of the Engineer's efforts as an experienced and qualified design professional, to provide the city with a greater degree of confidence that the completed work of the Contractor will conform generally to the Contract Documents and that the integrity of the design concept as reflected in the Contract Documents has been implemented and preserved by the Contractor. On the other hand, the Engineer or RPR shall not, during such visits or as a result of such observations of the Contractor's work in progress, supervise, direct or have control over the Contractor's work nor shall the Engineer have authority over or responsibility for the means, methods, techniques, sequences or procedures of construction selected by the Contractor, for safety precautions and programs incident to the work of the Contractor or for any failure of the Contractor to comply with laws, rules, regulations, ordinances, codes or orders applicable to the Contractor furnishing and performing work.

3. The RPR shall keep the city informed of the progress of the Project as a whole and shall file a daily construction report.

4. The RPR may disapprove of or reject Contractor's work while it is in progress if the Engineer believes that such work will not produce a completed Project that conforms generally to the Contract Documents or that it will prejudice the integrity of the design concept of the Project as reflected in the Contract Documents.

5. The RPR shall consult with the Engineer and shall issue necessary interpretations and clarifications to the Contract Documents and prepare work directive changes and change orders as required.

6. The RPR shall act on the Engineer's behalf and shall observe testing and inspections as the Engineer deems necessary. Inspections, testing, and approvals shall be as required by laws, rules, regulations, ordinances, codes, orders or the Contract Documents (but only to determine generally that their content complies with the requirements of, and the results certified indicate compliance with the Contract Documents)

7. The RPR shall review work daily and shall inform the Engineer of percent complete based on the project Schedule of Values or appropriate unit prices, and the Contract Documents for review of payment applications. The Engineer shall as a qualified design professional, provide final written recommendation of payment for each pay period. The RPR shall assist the Engineer to assure that the quality of such work is generally in accordance with the intent established in the Contract Documents. By recommending any payment, the Engineer will not thereby be deemed to have represented that exhaustive, continuous or detailed reviews or examinations have been made by the Engineer to check the quality or quantity of Contractor's work as it is furnished and performed beyond the responsibilities specifically assigned to the Engineer in the Contract Documents. The Engineer's review of Contractor's work for the purposes of recommending payments will not impose on the Engineer's responsibility to supervise, direct or control such work or for the means, methods, techniques, sequences, or procedures of construction or safety precautions or programs or Contractor's compliance with laws, rules, regulations, ordinances, codes or orders applicable to furnishing and performing the work. It will also not impose responsibility on the Engineer to make any examination to ascertain how or for what purposes the Contractor has used the moneys paid on account of the Contract Price, or to determine that title to any of the work, materials or equipment has passed to the city free and clear of any lien, claims, security interests or encumbrances, or that there may not be other matters at issue between the city and the Contractor that might affect the amount that should be paid.

8. The RPR shall conduct inspections to assist the Engineer in determining if the work is substantially complete and a final inspection to determine if the completed work is acceptable so that the Engineer may recommend, in writing, final payment to Contractor and may give written notice to the city and the Contractor that the work is acceptable, but any such recommendation and notice will be subject to the limitations expressed above and the General Conditions of the Contract Documents.

9. The RPR and/or the Engineer shall not be responsible for the acts or omissions of the Contractor, or of any subcontractor or supplier, or any of the Contractor's subcontractor's or supplier's agents or employees or any other persons (except the Engineer's own employees and agents) at the site or otherwise furnishing or performing any of the Contractor's work; however, nothing contained in paragraphs above inclusive, shall be construed to release the Engineer from liability for failure to properly perform duties and responsibilities assumed by the Engineer in the Contract Documents.

10. The RPR shall facilitate the exchange of documents and other necessary information between the city, the Engineer, and the Contractor.

CONSTRUCTION PHASE SERVICES

During the construction phase, Tetra Tech (Engineer) will complete the following tasks:

1. A health and safety plan will be prepared, submitted, and approved by the City Project Manager prior to mobilizing to each site.

2. Prepare for and attend one (1) preconstruction conference. Tetra Tech will record and distribute the meeting minutes.

3. Attend 10 monthly progress meetings for the contracted construction period of 10 months. Tetra Tech will record and distribute the meeting minutes.

4. Provide CEI Resident Project Representative (RPR) as described above to observe construction of the project, coordinate construction activities with the Contractor, document project progress and conduct progress meetings. The contracted construction period is 10 months. The total active onsite construction observation hours are estimated to be 560 hours.

5. Provide interpretation or clarification of the design documents when requested.

6. Review shop drawings and other submittals, including operation and maintenance (O&M) manuals, up to two (2) times per submittal for general conformance with the Contract Documents. The Contract Documents will require the Contractor to pay for additional reviews, if necessary.

7. Review test reports for soils, concrete and other materials.

8. Review applications for payment and the accompanying data and schedule, determine the amounts owed to the Contractor and advise the city of the recommended payments.

9. Evaluate any claims made by the Contractor and prepare change orders as required.

10. Conduct one (1) substantial completion site visit at each reclaimed water pump station (Skycrest, Union and Drew Street) to determine if the project has been completed in accordance with the Contract Documents and develop a punch list of items to be corrected by the Contractor. Conduct one (1) final completion inspection at each site to determine if the punch list items have been completed. Hours are estimated based on each site being inspected when completed.

11. Observe start-up testing of major equipment.

12. Attend the city's Planning and Development Department's building inspection of each site for Certificate of Occupancy (CO) issuance.

13. Prepare record drawings, incorporating changes made during construction based on record information furnished by the Contractor and provide one (1) compact disk with an electronic version in PDF-format of the documents to the city and in ACAD format.

14. Preparation of a project dossier that includes all of the construction documentation, including files of correspondence, meeting minutes, Contract Documents, Change Orders, Field Orders, RFIs, Work Change Directives, Addenda, additional Drawings issued subsequent to the execution of the Contract, progress reports, Shop Drawing and Progress submittals, regulatory correspondence and other Project-related documents. At the conclusion of the project, ENGINEER will combine this information into a project dossier and submit to the City for review and comment. The project dossier will be submitted electronically on CD/DVD ROM. We have budgeted for up to one round of City review and comment.

3. PROJECT GOALS:

The following work products will be delivered to the city as part of this project:

- Project Dossier
- Project completion certification
- Record Drawings

4. BUDGET:

See Attachment "B"

This price includes all labor and expenses anticipated to be incurred by Tetra Tech, Inc. for the completion of these tasks in accordance with Professional Services Method "A" – Cost Times Multiplier Basis, **for a fee not to exceed One Hundred Forty-Three Thousand Five Hundred Sixty-Five Dollars ($143,565.00).**

5. SCHEDULE:

Project construction is scheduled to be completed within 10 months from issuance of notice-to-proceed. The record drawings are scheduled to be completed within two (2) months of construction completion.

6. STAFF ASSIGNMENT:

City's Staff:

Jeff Walker, PE - Project Manager

Jason Jennings - Public Utilities Liaison
Mike Flanagan - Public Utilities Site Representative
Jeremy J. Brown, PE - Utilities Engineering Manager
Richard G. Gardner, PE - Public Utilities Assistant Director

Consultant:

Emilie Moore, PE – Project Manager
Phil Walker, PE – Project Engineer
Matt Azarian, EI – Project Engineer
Amal Yelkur, EI – Electrical/I&C Engineer

7. CORRESPONDENCE/REPORTING PROCEDURES:

ENGINEER's project correspondence shall be directed to Emilie Moore, PE.

All City project correspondence shall be directed to Jeff Walker, PE, with copies to the Utilities Engineering Manager and Public Utilities Assistant Director.

ENGINEER shall provide a minimum of forty-eight (48) hours' notice prior to conducting fieldwork/site visits. ENGINEER shall provide a minimum of seven (7) days notification for site visits requiring the assistance of City personnel.

ENGINEER acknowledges that all City directives shall be provided by the City Project Manager.

A health and safety plan must be submitted and approved by the Project Manager prior to conducting any fieldwork/site visits.

In addition to the original copies delivered as stated in the scope of work, all project deliverables will be submitted in electronic format on CD or other City approved device prior to approval of final invoice.

8. INVOICING/FUNDING PROCEDURES:

For work performed, invoices shall be submitted monthly to the City of Clearwater, Engineering Department, Attn.: Veronica Josef, Senior Staff Assistant, PO Box 4748, Clearwater, Florida 33758-4748.

City Invoicing Code: 0382-96654-561300-535-000-0000

9. INVOICING PROCEEDURES

At a minimum, in addition to the invoice amount(s) the following information shall be provided on all invoices submitted on the Work Order:

A. Project Number, Purchase Order Number and Contract Amount.
B. The time period (begin and end date) covered by the invoice.
C. A short narrative summary of activities completed in the time period
D. Contract billing method – Lump Sum or Cost Times Multiplier

E. If Lump Sum, the percent completion, amount due, previous amount earned and total earned to date for all tasks (direct costs, if any, shall be included in lump sum amount).
F. If Cost Times Multiplier, hours, hourly rates, names of individuals being billed, amount due, previous amount earned, total earned to date for each task and other direct costs (receipts will be required for any single item with a cost of $50 or greater or cumulative monthly expenses greater than $100).
G. If the Work Order is funded by multiple funding codes, an itemization of tasks and invoice amounts by funding code.

10. SPECIAL CONSIDERATIONS:

The consultant named above is required to comply with Section 119.0701, Florida Statutes (2013) where applicable.

PREPARED BY:

_____
Emilie A. Moore, PE, PMP
Sr. Project Manager
Tetra Tech, Inc.

_____
Date

APPROVED BY:

_____
D. Scott Rice, PE
City Engineer
City of Clearwater

_____
Date

CITY OF CLEARWATER
ENGINEERING DEPARTMENT

WORK ORDER INITIATION FORM
CITY DELIVERABLES

1. FORMAT

The design plans shall be compiled utilizing the following methods:

1. City of Clearwater CAD standards.
2. Datum: Horizontal and Vertical datum shall be referenced to North American Vertical Datum of 1988 (vertical) and North American Datum of 1983/90 (horizontal). The unit of measurement shall be the United States Foot. Any deviation from this datum will not be accepted unless reviewed by City of Clearwater Engineering/Geographic Technology Division.

2. DELIVERABLES

The design plans shall be produced on bond material, 24" x 36" at a scale of 1" = 20’ unless approved otherwise. Upon completion the consultant shall deliver all drawing files in digital format with all project data in Autodesk Civil 3D file format. If not available Land Desktop files are still acceptable, however the City or Clearwater is currently phasing out Land Desktop.

NOTE: If approved deviation from Clearwater CAD standards are used the Consultant shall include all necessary information to aid in manipulating the drawings including either PCP, CTB file or pen schedule for plotting. The drawing file shall include only authorized fonts, shapes, line types or other attributes contained in the standard release of Autodesk, Inc. software. All block references and references contained within the drawing file shall be included. Please address any questions regarding format to Mr. Tom Mahony, at (727) 562 4762 or email address Tom.Mahony@myClearwater.com.

All electronic files (CAD and Specification files) must be delivered upon completion of project or with 100% plan submittal to City of Clearwater.

Supplemental Work Order
Reclaimed Water Booster Pumping Stations
Construction Engineering and Inspection (CEI) Services

Tetra Tech, Inc.

WORK ORDER INITIATION FORM
PROJECT BUDGET

Task	Description	Subconsultant Services	Labor	Total
1.0	**Construction Phase Services (T&M, NTE)**			
1.1	Health and Safety Plan		$2,834	$2,834
1.2	Preconstruction Conference (1) / Prepare Summary		$2,182	$2,182
1.3	Monthly Progress Meetings (10) / Prepare Summary		$9,286	$9,286
1.4	Construction Observation (560 hours total)		$66,934	$66,934
1.5	Design Documents Clarification		$9,398	$9,398
1.6	Shop Drawings / Submittals Reviews		$11,917	$11,917
1.7	Review Test Reports		$3,690	$3,690
1.8	Review Applications for Payment		$4,622	$4,622
1.9	Evaluate Contractor Claims		$3,314	$3,314
1.10	Conduct Substantial and Final Completion Inspections		$6,210	$6,210
1.11	Observe Major Equipment Start Up		$5,526	$5,526
1.12	Building Inspection Certification		$2,026	$2,026
1.13	Prepare Record Drawings		$7,628	$7,628
1.14	Prepare Project Dossier		$7,998	$7,998
Grand Total				**$143,565**