



TETRA TECH

Tetra Tech, Inc.

SUPPLEMENTAL WORK ORDER INITIATION FORM for the CITY OF CLEARWATER

Date: October 20, 2020

Consultant Project Number: _____

City Project Number: 18-0060-UT

City Plan Set Number: _____

1. PROJECT TITLE:

Marshall Street WRF Chlorine Contact Chamber Repair – Construction Engineering and Inspection (CEI) Services

2. SCOPE OF SERVICES:

The City of Clearwater (city) operates two (2) chlorine contact chambers (CCCs) at the Marshall Street Water Reclamation Facility (WRF). The inner CCC needs repair at the eastern end of the chamber upstream of the de-chlorination tank. Tetra Tech provided design and bidding services for the repairs of the inner CCC (Tasks 1 through 5). For this Work Order, Tetra Tech will provide construction engineering and inspection (CEI) services for the CCC as outlined below. CEI Services are designated as Task 6 of this Work Order.

CEI Resident Project Representative

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. The project's existing Health and Safety Plan will be updated to incorporate on-site construction services safety measures. The project construction period for Phases 1, 2 and 3 is expected to be up to 18 months from initiation to final completion. Phase 1 includes repairs to the inner CCC crack injections and waterproofing expansion joints at the inner CCC weir wall. Phase 2 includes application of an inner CCC coating along the south wall adjacent to the filter building. Phase 3 includes waterproofing the outer CCC expansion joints at the weir

wall. Total active onsite construction observation hours for Phases 1, 2 and 3 are estimated as follows:

- Phase 1 Repairs - Inner CCC Crack Injections and Waterproofing Expansion Joints at Weir Wall
(Estimated RPR Hours = 350 Hours)
 - Phase 1 Repairs are anticipated to be conducted over a nine (9) month period. Active onsite RPR time is estimated to be 6 months (26 weeks) and calculated as follows: three (3) months (13 weeks) at 16 hours per week (208 hours); 3 months (13 weeks) at 10 hours per week (130 hours). Twelve (12) hours buffer are included in this Phase 1 estimate.

- Phase 2 Repairs - Inner CCC Coating Application Along South Wall Adjacent to Filter Building
(Estimated RPR Hours = 150 Hours)
 - Phase 2 Repairs are anticipated to be conducted over a four (4) month period. Active onsite RPR time is estimated to be 2 months (9 weeks) at 16 hours per week (144 hours). Six (6) hours buffer are included in this Phase 2 estimate.

- Phase 3 Repairs – Additive Alternate (Outer CCC Waterproofing Expansion Joints at Weir Wall)
(Estimated RPR Hours = 150 Hours)
 - Phase 3 Repairs are anticipated to be conducted over a four (4) month period. Active onsite RPR time is estimated to be 2 months (9 weeks) at 16 hours per week (144 hours). Six (6) hours buffer are included in this Phase 3 estimate.

Additionally, a NACE CIP Level III Certified Coatings Inspector will assist with conducting construction inspections. The estimated total hours for the NACE inspections are 130 hours and estimated hours per phase are as follows:

- Phase 1 Repairs = 40 hours
- Phase 2 Repairs = 70 hours
- Phase 3 Repairs = 20 hours

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.

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

Attachment "A"

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 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 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 work as part of Task 6 (CEI Services) of this Work Order:

1. Phase 1 - Inner CCC Crack Injections and Waterproofing Expansion Joints at Weir Wall
 - Prepare for and attend one (1) preconstruction conference. Engineer will prepare the agenda for the preconstruction conference and will record and distribute the meeting minutes.
 - Attend up to nine (9) progress meetings for the contracted construction period of 9 months. Engineer will prepare each meeting's agenda and will record and distribute the meeting minutes.
 - 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.
 - Provide NACE Certified Inspector as described above to observe crack injection and waterproofing work.
 - Provide interpretation or clarification of the design documents when requested.
 - Review shop drawings and other submittals 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.
 - Review test reports for concrete, crack injections and coatings, and other materials.

- Review applications for payment, quantities and the accompanying data and schedule, determine the amounts owed to the Contractor and advise the city of the recommended payments.
- Evaluate any claims made by the Contractor and prepare change orders as required.
- 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.

2. Phase 2 - Inner CCC Coating Application Along South Wall Adjacent to Filter Building

- Attend up to four (4) progress meetings for the contracted construction period of 4 months. Engineer will prepare each meeting's agenda and record and distribute the meeting minutes.
- 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.
- Provide NACE Certified Inspector as described above to observe coating application work.
- Provide interpretation or clarification of the design documents when requested.
- Review shop drawings and other submittals 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.
- Review test reports for concrete, crack injections and coatings, and other materials.
- 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.
- Evaluate any claims made by the Contractor and prepare change orders as required.
- Conduct one (1) substantial completion site visit for Phase 2 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 to determine if the punch list items have been completed.
- 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.

3. Phase 3 - Additive Alternate (Outer CCC Waterproofing Expansion Joints at Weir Wall)

- Prepare for and attend one (1) preconstruction conference. Engineer will prepare the agenda for the preconstruction conference and will record and distribute the meeting minutes.
- Attend up to four (4) progress meetings for the contracted construction period of 4 months. Engineer will prepare each meeting's agenda and record and distribute the meeting minutes.

- 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.
- Provide NACE Certified Inspector as described above to observe waterproofing work.
- Provide interpretation or clarification of the design documents when requested.
- Review shop drawings and other submittals 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.
- Review test reports for concrete, crack injections and coatings, and other materials.
- 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.
- Evaluate any claims made by the Contractor and prepare change orders as required.
- Conduct one (1) substantial completion site visit for Phase 3 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 to determine if the punch list items have been completed.
- 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.

4. CEI Contingency

A Time and Materials, Not-to-Exceed (T&M, NTE) CEI contingency of 10% is included to support the implementation of the CEI phase of this project.

5. NACE Inspections

A NACE CIP Level III Certified Coatings Inspector will assist with conducting construction inspections. The estimated total hours for the NACE inspections are 130 hours and estimated hours per phase are as follows:

- i. Phase 1 Repairs = 40 hours
- ii. Phase 2 Repairs = 70 hours
- iii. Phase 3 Repairs = 20 hours

3. PROJECT GOALS:

- Tetra Tech will provide RPR services for Marshall Street Chlorine Contact Chamber Repair Phases 1, 2 and 3 (as needed).
- Tetra Tech will provide a NACE Certified Inspector as needed for crack injection, waterproofing and coating inspections.
- Tetra Tech will provide Record Drawings of the CCC repairs.
- Tetra Tech will provide the NACE Certified Inspector's report summarizing inspections.

4. BUDGET:

See Attachment "B".

This price includes all labor and expenses anticipated to be incurred by Tetra Tech 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 sixty-eight thousand one hundred fifty-seven dollars (**\$168,157.00**).

5. SCHEDULE:

It is anticipated that the overall project schedule will be up to 18 months to accommodate the potential for all three (3) phases of the project being constructed, with anticipated time period for each phase as follows:

- Phase 1 – 9 months
- Phase 2 – 4 months
- Phase 3 – 4 months

6. STAFF ASSIGNMENT:

City's staff assignments include:

Project Manager	Kaylynn Price
Utilities Engineering Manager	Jeremy Brown, PE
Public Utilities Assistance Director	Richard Gardner, PE
Public Utilities Manager	Jason Jennings
Public Utilities Liaison	Mike Flanigan
Public Utilities Site Representative (MS WRF)	Ryan Alexander

Tetra Tech's staff assignments include:

Project Manager	Michael Saxton, PE
Senior Project Engineer	Michael Schmidt, PE
Resident Project Representative	Stephen Rousseau
Resident Project Representative	Matt Azarian
NACE Certified Inspector	Protective Coating Solutions

7. CORRESPONDENCE/REPORTING PROCEDURES:

ENGINEER's project correspondence shall be directed to Michael Saxton and Michael Schmidt.

All City project correspondence shall be directed to the Project Manager (Kaylynn Price), 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 Operations and Maintenance personnel.

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

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
Att. Veronica Josef, Senior Staff Assistant
PO Box 4748
Clearwater, Florida 33758-4748.**

Contingency services will be billed as incurred only after written authorization provided by the City to proceed with those services.

City Invoicing Code: 3277327-530100-M1905_for \$168,157

9. INVOICING PROCEEDURES

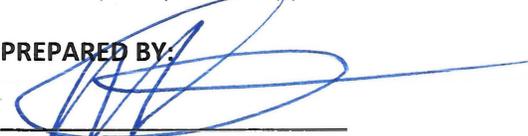
At a minimum, in addition to the invoice amount(s) the following information shall be provided on all invoices submitted on the Work Order:

- A. Purchase Order, Project and Invoice Numbers 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:



**Michael Saxton, P.E.
Senior Project Manager
Tetra Tech**

Date

12/4/20

APPROVED BY:

**Tara Kivett, P.E.
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 (including CAD and Specification files) must be delivered upon completion of project or with 100% plan submittal to City of Clearwater.

**Marshall Street WRF Chlorine Contact Chamber Repair –
Construction Engineering and Inspection (CEI) Services**

Tetra Tech, Inc.

**WORK ORDER INITIATION FORM
PROJECT BUDGET**

Task	Description	Subconsultant Services	Labor	Total
6.0	Construction Engineering and Inspection (CEI)			
6.1	Phase 1 CEI			
6.1.1	Preconstruction Conference			\$1,135
6.1.2	Progress Meetings (9)			\$6,615
6.1.3	Construction Observation (350 hours)			\$38,000
6.1.4	Design Documents Clarification			\$3,430
6.1.5	Shop Drawings/Submittals Reviews			\$4,630
6.1.6	Review Test Reports			\$3,430
6.1.7	Review Applications for Payment			\$3,860
6.1.8	Evaluate Contractor Claims			\$2,030
6.1.9	Prepare Record Drawings			\$4,265
	Phase 1 CEI Subtotal			\$67,395
6.2	Phase 2 CEI			
6.2.1	Progress Meetings (4)			\$3,210
6.2.2	Construction Observation (150 hours)			\$17,000
6.2.3	Design Documents Clarification			\$1,215
6.2.4	Shop Drawings/Submittals Reviews			\$1,815
6.2.5	Review Test Reports			\$1,015
6.2.6	Review Applications for Payment			\$1,415
6.2.7	Evaluate Contractor Claims			\$1,415
6.2.8	Conduct Substantial Completion Inspection			\$1,415
6.2.9	Conduct Final Completion Inspection			\$1,215
6.2.10	Prepare Record Drawings			\$2,455
	Phase 2 CEI Subtotal			\$32,170
6.3	Phase 3 CEI			
6.3.1	Preconstruction Conference			\$1,135
6.3.2	Progress Meetings (4)			\$3,210
6.3.3	Construction Observation (150 hours)			\$17,000
6.3.4	Design Documents Clarification			\$1,215
6.3.5	Shop Drawings/Submittals Reviews			\$1,815
6.3.6	Review Test Reports			\$1,015
6.3.7	Review Applications for Payment			\$1,415
6.3.8	Evaluate Contractor Claims			\$1,415
6.3.9	Conduct Substantial Completion Inspection			\$1,415

Attachment "A"

6.3.10	Conduct Final Completion Inspection			\$1,215
6.3.11	Prepare Record Drawings			\$2,455
	Phase 3 CEI Subtotal			\$33,305
	Phases 1, 2 and 3 CEI Subtotal			\$132,870
6.4	NACE Inspections (T&M, NTE)	\$20,000		\$20,000
6.5	Contingency (10%)			\$15,287
			Grand Total	\$168,157