THIRD AMENDMENT TO AGREEMENT

THIS THIRD AMENDMENT TO AGREEMENT ("Amendment") made and entered into as of this ____ day of _____, 2015, amends the Agreement heretofore entered into between the CITY OF FRESNO, a California municipal corporation ("CITY"), and Parsons Water and Infrastructure, Inc., a Delaware corporation ("CONSULTANT").

RECITALS

WHEREAS, the CITY and CONSULTANT entered into an agreement, dated August 26, 2010 as amended April 30, 2012, and August 30, 2013, for professional engineering services for the design of the Tertiary Treatment and Disinfection Facility at the Fresno/Clovis Regional Wastewater Reclamation Facility ("Agreement"); and

WHEREAS, the CITY and CONSULTANT desire to expand the scope of services to provide engineering services for the design of a Recycled Water Pump Station for the Tertiary Treatment and Disinfection Facility at the Regional Wastewater Reclamation Facility; and

WHEREAS, the CITY desires CONSULTANT provide engineering support during design, bidding, and construction through completion of the Recycled Water Pump Station; and

WHEREAS, the CITY and CONSULTANT desire to memorialize their intent to establish the specific tasks in **Exhibit 4** of the Agreement; and

WHEREAS, the parties desire to modify the Agreement to revise the project schedule and extend the completion date; and

WHEREAS, due to the need for additional services, the parties desire to increase the total compensation by an additional $209,524 to complete the expanded Scope of Work; and

WHEREAS, with entry into this Amendment, CONSULTANT agrees that CONSULTANT has no claim, demands or disputes against CITY.

AGREEMENT

NOW, THEREFORE, in consideration of the foregoing and of the covenants, conditions, and premises hereinafter contained, to be kept and performed by the respective parties, the parties agree that the aforesaid Agreement be amended as follows:

1. The first paragraph of Section 1 is amended in its entirety to read as follows:

"1. Scope of Services, Completion Schedule and Liquidated Damages. CONSULTANT shall perform the services described herein and in **Exhibit 4**, and this shall include all work incidental to, or necessary to perform, such services even though not specifically described in **Exhibit 4**. The services of CONSULTANT shall consist of five Parts as described below. Separate "Notices to Proceed" will be issued for each of the Parts of the "Tertiary Treatment and Disinfection Facility", "Solar Energy System", and the "Recycled Water Pump Station". By entry into this Agreement and upon CITY'S issuance of a written "Notice to Proceed", CITY contracts for the services in Part One of the "Tertiary Treatment and Disinfection Facility" a separate written "Notice to Proceed" will be issued for the Recycled Water Pump Station. CONSULTANT shall not perform any other Part of the Agreement, and this Agreement shall not be a contract for any other Part, until further performance is authorized by CITY'S issuance of a written "Notice to Proceed." It shall, however, remain CONSULTANT'S offer to perform all remaining parts described herein. In the event CONSULTANT performs services without CITY'S prior written authorization, CONSULTANT will not be entitled to compensation for such services. It is agreed by CONSULTANT and CITY that in the event services called for under this Agreement are not completed before or upon expiration of the limits as set forth in the Parts described

herein, damage shall be sustained by CITY. Since it is and shall be impractical to determine the actual damage which CITY shall sustain in the event of and by reason of such delay, it is therefore agreed that CONSULTANT shall pay to CITY the amount of 0.25% of $40,000 per calendar day's delay in completing the services within the limits set forth herein. It is further agreed that CITY may deduct the amount thereof from any money due or that may become due CONSULTANT under this Agreement."

2. CONSULTANT shall provide additional services as described in **Exhibit 4**, attached hereto and incorporated herein by reference.

3. Effective August 26, 2010, **Exhibit A** of the Agreement is amended to expand the Scope of Work as indicated in **Exhibit 4**, attached hereto and incorporated herein by reference.

4. Section 1(a)(4) is amended in its entirety to read as follows:

"CONSULTANT shall provide a preliminary evaluation of the Tertiary Treatment and Disinfection Facility, Solar Energy Project, and Recycled Water Pump Station taking into consideration CITY'S estimate of the respective cost of construction ("Construction Budget") of $33,000,000 and $10,000,000 and $1,411,760 including alternative approaches to design and construction of the Project".

5. Section 3(a) of the Agreement is amended in its entirety to read as follows:

"(a) CONSULTANT'S sole compensation for satisfactory performance of all services required or rendered pursuant to this Agreement shall be a total fee not to exceed $2,475,522, paid on a time and materials basis in accordance with the schedule of fees contained in **Exhibit A**, and a contingency amount not to exceed $50,000 for any additional work rendered pursuant to Subsection (d) below and authorized in writing by the Director."

6. Section 3(c) of the Agreement is amended in its entirety to read as follows:

"(c) For purposes of determining the division of the total compensation to CONSULTANT as provided in Section 3(a) above, or should performance of any succeeding Part not be authorized by CITY as provided in Section 1 of this Agreement, it is agreed that the total compensation shall be allocated to the five Parts of CONSULTANT'S performance as follows: Part 1 – 21%, Part 2 – 30%, Part 3 – 34%, Part 4 – 8%, and Part 5 – 7%. Prior to the award of a general construction contract for the Project, or should such contract not be awarded, the approved Parts as provided above shall be utilized for purposes of determining the fee due to CONSULTANT."

7. In the event of any conflict between the body of this Amendment and any Exhibit or Attachment hereto, the terms and conditions of the body of this Amendment shall control and take precedence over the terms and conditions expressed within the Exhibit or Attachment. Furthermore, any terms or conditions contained within any Exhibit or Attachment hereto which purport to modify or restate any terms or conditions, or modify the allocation of risk between the parties, provided for within the body of this Amendment or the body of the Agreement, shall be null and void.

8. Except as otherwise provided herein, the Agreement as amended on April 30, 2012, and August 30, 2013, entered into by CITY and CONSULTANT, dated August 26, 2010, remains in full force and effect.

IN WITNESS WHEREOF, the parties have executed this Amendment at Fresno, California, the day and year first above written.

CITY OF FRESNO,
a California municipal corporation

By: _____
Thomas C. Esqueda, Director
Department of Public Utilities

ATTEST:
YVONNE SPENCE, CMC
City Clerk

By: _____
Deputy

APPROVED AS TO FORM:
DOUGLAS T. SLOAN
City Attorney

By: _____ 9/23/15
Brandon Collet Date
Deputy City Attorney

PARSONS WATER AND INFRASTRUCTURE, INC., a Delaware corporation

By: _____

Name: Surendra K. Thakral

Title: Senior Vice President
(If corporation or LLC, Board Chair, Pres. or Vice Pres.)

By: _____

Name: Joe A. Bollert

Title: Assistant Secretary
(If corporation or LLC, CFO, Treasurer, Secretary or Assistant Secretary)

Attachment: Exhibit 4

EXHIBIT 4

RECYCLED WATER PUMP STATION

Scope of Work

Background

The TTDF Phase 1 project that is currently under construction uses Membrane Bioreactor (MBR) and ultraviolet (UV) disinfection process for producing high quality recycled water that meets Title 22 requirements for unrestricted reuse. The treated water will be stored in an on-site recycled water storage reservoir before pumping to off-site recycled water users through the RWPS.

Under the original contract document, Parsons had only provided a concrete slab; pump cans; and some provisions for electrical and instrumentation and controls. Recently the City requested that Parsons complete the design of the RWPS. The original intent featured five (5) pumps, each with 3,500 gpm @ 100 feet TDH capacity. The City has since requested RWPS to feature two (2) pumps, each with 2,000 gpm @ 175 feet TDH and two (2) pumps, each with 1,000 gpm @ 175 feet TDH to meet TTDF's Phase 1 demands instead. To meet future 25 mgd expansion demands, provisions will be made to accommodate five (5) pumps, each with 3,500 gpm @ 175 feet TDH. Pressure surge analyses will also be performed to identify required surge protection measures with the expectancy that a surge tank will be needed.

The City is seeking for a scope of work, level of effort, and fee proposal from Parsons to prepare a bid package. Parsons anticipates the design process to be completed in three months, with the commissioning of the RWPS to be summer 2016. The City has also requested for Parsons to provide a preliminary construction cost estimate for RWPS, which is included as Attachment 3 to his proposal.

BASIS FOR SCOPE

(1) Install 2 pumps with VFD, each 2,000 gpm @ 175' TDH.
(2) Install 2 pumps with VFD, each 1,000 gpm @175' TDH.
(3) Discharge of each pump shall be sized for 3,500 gpm.
(4) The discharge header should be connected to the point of connection provided on the 54" line downstream of the RWPS. The design of the 54" pipeline is by others. (BCF). The point of connection is shown on BCF's drawing 10-E-1957-J5499.
(5) Provisions will be made for sodium hypochlorite storage and feed facilities, which will be constructed at a later date. This provision is required for maintaining residual chlorine. An injection tap will be provided on the 54" inch effluent line as a part of this project.
(6) Signal for control of pumps will come from plant PLC.
(7) Perform pressure surge analysis and install surge tank as required.
(8) Assume no analysis of surges associated with the operation of any downstream booster pump stations and the opening and closing of customer demand valves will be performed.
(9) Pressure instrument on the RW distribution system to be provided, installed, and programmed in PLC-10 by the City.

(10) VFDs for RW pumps to be interfaced via Ethernet/IP with PLC-10. Latest submittal on PLC-10 confirms 4 spare RJ45 ports on the Ethernet switch.
(11) Magnetic flowmeters will be provided at the discharge of each RW pump. Spare analog I/O is available in PLC-10.
(12) PLC-10 has sufficient spare I/O to accommodate all additional I/O associated with the new hydraulic valves (2 Discrete inputs, 1 output/valve).
(13) Control of the RW pumps will be based on pressure setpoint. All PLC/SCADA programming associated with the operation of the RW pumps is by the City.
(14) PLC based controls for the surge tank system. Communication with PLC-10 via Ethernet/IP over new fiber optic cable. New fiber optic patch panel will be required in PLC-10 (space available). No additional I/O required. Spare Ethernet port available in PLC-10.
(15) 200 HP, stand-alone, 18 pulse, normal duty VFDs will be provided to control the two (2) 60 HP RW pumps and two (2) 125 HP RW pumps. Feeder cables will be sized per 200 HP pump motors.
(16) 200 HP, stand-alone, 18 pulse, normal duty VFD and 125 HP, stand-alone, 18 pulse VFD will have the same enclosure dimensions. 200 HP, stand-alone, 18 pulse VFD will fit in the existing space allocated inside the electrical and blower room for 125 HP, standalone, 18 pulse VFD.
(17) 200 HP, stand-alone, 18 pulse VFD has provisions for bottom conduit entry and existing conduit stub-up is acceptable for the 200 HP, stand-alone, 18 pulse VFD.
(18) Contract documents (drawings and specifications) shall be prepared as a stand-alone bid package in case the City decides to advertise and award the project as a competitive bid.
(19) The level of effort provided herein includes design, bid phase and services during construction.

SCOPE OF WORK AND LEVEL OF EFFORT

Detailed scope of work and level of effort is presented below.

Task 1: Design of RWPS

The design of the RWPS will consist of management and coordination activities and design effort by the civil, structural, mechanical, electrical, and instrumentation and control disciplines.

Sub-task 1.1: Coordination and Management – This task involves coordination of the efforts of various disciplines, project team and communications with the City.

Sub task 1.2: General – Drawings and specifications will be prepared for the general section.

Sub-task 1.3: Civil – Drawings and specifications will be prepared by the civil engineering Discipline.

Sub-task 1.4: Structural Discipline – Drawings and specifications will be prepared by the structural engineering discipline.

Sub-task 1.5: Mechanical – Drawings and specifications will be prepared by the mechanical Discipline.

Sub-task 1.6: Electrical – Drawings and specifications will be prepared by the electrical Discipline.

Sub-task 1.7: Instrumentation and Control (I&C) Discipline – Drawings and specifications will be prepared by the instrumentation and control (I&C) discipline.

Sub-task 1.8: Pressure Surge Analysis – Pressure surge analyses of the RWPS system will be performed under both the initial 8.6 mgd pump capacity and expanded 25 mgd pump capacity. The following work will be performed under this sub-task:

(1) Gather data required and build a surge model of the system to include the RWPS and RW quadrant piping system.
(2) Establish initial non-transient hydraulic grade line elevations for the operation of the RWPS with initial 8.6 mgd pump capacity and expanded 25 mgd pump capacity.
(3) Perform simulations for the sudden loss of power and startup of the pumps at RWPS with initial 8.6 mgd pump capacity and expanded 25 mgd pump capacity.
(4) Review the results of the analysis and, if necessary, recommend surge protection measures to prevent adverse pressure surges in the system under both initial 8.6 mgd pump capacity and expanded 25 mgd pump capacity. This may include, but is not limited to, pressurized surge tanks, pump flywheels, vacuum relief valves, pressure/surge relief/anticipator valves or any combination thereof.
(5) Prepare a detailed report describing the results of the analysis and recommendations for the safe operation of the system with the initial and expanded capacity.

Task 2: Bid Phase Support Services

Sub-task 2.1: Response to Bidders' Questions – This sub-task includes providing assistance to the City in responding to bidders' questions during bid phase.

Sub-task 2.2: Conformed Set – This sub-task includes preparing a conformed set of drawings and specifications according to addenda issued during the bid phase.

Task 3: Engineering Services during Construction

Sub-task 3.1: Conduct Site Visits – Parsons will conduct two site visits during the construction phase to observe construction activities.

Sub-task 3.2: Review Submittals, Respond to RFIs and RFCs – Parsons will respond to Request for Information (RFIs) and Request for Clarification (RFCs) and will review submittals.

SCHEDULE AND FEE

Task 1: Design of RWPS ----------October 1, 2015 – December 1, 2015
Task 2: Bid Phase Support Services ----------January 1, 2016 – February 15, 2016
Task 3: Engineering Services during Construction ----------March 1, 2016 – July 15, 2016

The fee to complete Tasks 1, 2, and 3 is **$209,524**.