

ADDENDUM NO. 1

TO CONTRACT DOCUMENTS FOR CITY OF RITZVILLE WELL 9 PUMP STATION PROJECT

THIS ADDENDUM IS DATED April 7th, 2014

TO ALL PLANHOLDERS:

The following modifications, additions, deletions, clarifications and/or information are hereby made a part of the Contract Documents and shall be fully binding upon the Contractor and the City of Ritzville. **THIS ADDENDUM MUST BE ACKNOWLEDGED IN ARTICLE 3 ON THE BID FORM (pink sheets).**

DRAWINGS

SHEET 02 – LEGEND, ABBREVIATIONS, NOTES, INDEX

Water Main Notes

Revise Note 1 to the following:

Unless specifically called out otherwise, all new water pipe shall be ductile iron AWWA C151 pressure class 350.

SHEET 03 – SITE PLAN, SITE PIPING & DETAILS

Revise Note 13 to the following:

16” elbow(s) as required, restrained. (Paid for under bid item for elbows)

SECTION 01010 SPECIAL REQUIREMENTS/BID ITEMS

3.00 REVISIONS/ADDITIONS TO STANDARD SPECIFICATIONS

Section 15060 Piping, Plumbing and Valves

2.00 PRODUCTS

2.16 PRESSURE RELIEF VALVES:

Pressure Relief Valve Characteristics:

Revise the Table to the following:

Diameter:	6" reduced internal port valve
Style:	Angle, DI body w/bronze trim
Connection Type:	Flanged
Spring Range:	20-200 psi
Pressure Relief Setting:	65 psi
Downstream Pressure:	See piping plan to atmosphere
Cla-Val Model Number: (or approved equal)	650A-01B w/X105 LCW

2.29 BOOSTER PUMP CONTROL VALVE:

Booster Pump Control Valve Characteristics:

Revise the Table to the following:

Diameter:	8" full port valve
Style	Globe, DI body w/bronze trim
Connection Type	150# flange
Cla-Val Model Number: (or approved equal)	60G-11BY
Micro Switch Assembly	X105

ELECTRICAL DRAWINGS

SHEET – E2.1

- Add the following to note N1: Provide an adjustable current sensing relay on one leg of feeder conductors wired to a PLC input to detect operation of each air conditioner run status.
- Revise “stand-by generator connection box description to read: UL Listed, 1200A, 480/277V, 3 phase, 4 wire, NEMA 3R, with Cam-Lock connections, phase rotation monitoring, painted to match building color, Gus Berthold Electric Company, Catalog Number W12-5S-M with rotation monitoring Crompton 077-12PA-P4C6, or equal.

SHEET – E2.4

- Revise the conductors in conduits P-15, P-16, and P-17 from “(4) 500 KCMIL and 2/0 AWG ground” to “(3) 600 KCMIL and 3/0 AWG ground”.
- Change the number of 14AWG conductors in conduit C-44 to 16.
- Add a ¾” conduit C-52 between the Harmonic Filter and the Well Pump Variable Frequency Controller with (4) 14 AWG conductors and a 12 AWG ground.

SHEET – E3.0

- Provide a ground bus per 16060.2.01.D adjacent to the main disconnect, bond ground bus to ground ring at the Southwest and Northeast corners of the Wellhouse with 4/0 AWG bare copper conductor. In addition to other bonds indicated, bond main disconnect, variable frequency controller, MCC-9, automatic transfer switch, well casing, and harmonic filter to bus bar with 4/0 AWG bare copper.

SHEET – E4.1

- Provide a dry contact running status to the harmonic filter to open/close the capacitor contactor when the drive is not running.
- Delete the time delay on power up relay (TDR-PU) and associated wiring.
- Revise vibration switch reset wiring to provide a momentary alarm reset push button wired to the vibration switch.

SECTION 16140 WIRING DEVICES

- Add the following to paragraph 16140.2.03.C

C. *Duplex WR (Weather Rated) GFCI Convenience Receptacles, 125 V, 20 A:*

1. **Products: Subject to compliance with requirements, provide one of the following:**
 - a. Cooper; WRVGF20.
 - b. Pass & Seymour; 2095TRWRW.

SECTION 16150 MOTORS

- Add the following to paragraph 16150.2.05.B

B. *Bearing protection shall consist the following systems:*

1. **Upper Bearing: (1) 120 phm nickel resistance-type temperature detector (RTD) for the upper bearing. Detector leads shall be wired to an auxiliary terminal box.**
2. **Lower Bearing: (1) 120 phm nickel resistance-type temperature detector (RTD) for the lower bearing. Detector leads shall be wired to an auxiliary terminal box.**

- Add the following paragraph 16150.2.05.C

C. *VIBRATION SWITCH*

1. **Provide motor vibration switch with reset coil for pump motor.**
2. **UL listed.**

3. **Ratings:**
 - a. NEMA 4
 - b. Output SPDT: 120 VAC @ 7 Amps
 - c. Reset Coil: 120 VAC @ .3 Amps

4. **Manufacture and Model**
 - a. Robertshaw, Virbaswitch Model 366-A8 or approved equal.

SECTION 16269 VARIABLE FREQUENCY CONTROLLER

- Add the following to paragraph 16269.2.05.M

M. MOTOR RTD MODULES (IF NOT PROVIDED INTEGRAL TO VARIABLE FREQUENCY CONTROLLER)

1. **UL Listed.**
2. **Individual RTD Inputs:**
 - a. 3 motor stator RTD's per phase
 - b. 1 upper bearing RTD
 - c. 1 lower bearing RTD
3. **Individual Discrete Outputs:**
 - a. 3 motor stator RTD's per phase
 - b. 1 upper bearing RTD
 - c. 1 lower bearing RTD
4. **Manufacturer and model: Absolute Process Instruments, APD 1400 or equal.**

- Add the following Acceptable Manufacture to paragraph 16269.2.14.A:

6. **DANFOSS**

SECTION 16410 ENCLOSED SWITCHES AND CIRCUIT BREAKERS

- Add the following to paragraph 16410.1.01.A.1:

1. **Division 16 Section 16921, “Control System”**

SECTION 16415 TRANSFER SWITCHES

- Add the following to paragraph 16415.1.01.A.1:

1. **Division 16 Section 16921, “Control System”.**

- Add the following to paragraph 16415.2.03.G.14:

2. **Communications: Modbus.**

SECTION 16443 MOTOR CONTROL CENTERS

- **Replace paragraph 16443.2.01.A.1 with the following:**

1. **Manufacturers: In order to match existing system, Square D, no equal.**

SECTION 16473 HARMONIC MITIGATION EQUIPMENT

- Add the following to paragraph 16473.1.01.A.1:

1. **Division 16 Section 16921, “Control System”.**

- Delete the word “active” from paragraph 16473.1.04.B.
- Delete the word “active” from paragraph 16473.1.09.A.
- Delete the word “active” from paragraph 16473.1.10.A.
- Add the following paragraph 16473.2.04.R:

R. *Communications: Provide Ethernet/IP connection for SCADA system monitoring.*

SECTION 16921 CONTROL SYSTEM

- Add the following to paragraph 16921.2.02.A.3

3. **Communication: Modbus for the Automatic Transfer Switch.**

- Add the following to paragraph 16921.2.07.B.2:

2. **Grounding of antenna system shall be per Motorola Standard R56.**

- Change the following paragraph 16921.2.12.A.6:

6. **Manufacturer and Model: Siemens Sitrans FM Magflow 5100W or approved equal. Reference specification 15060.2.19.**

- Add the following paragraph 16921.2.15:

2.15 **ETHERNET SWITCH**

A. ***Industrial 8 port Ethernet managed switch. Sixnet #SLX-8MS-4ST, or equal.***

- Add the following paragraph 16921.2.16:

2.16 **Level Instruments and Devices**

A. ***Hydrostatic Head Pressure Transmitter***

1. **The level pressure transmitter shall be UL listed, Stainless Steel, Aneroid Bellows, 4-20mA output, Polyurethane cable jacket, integral lightning protection, Keller America, or approved equal.**

- Add the following paragraph 16921.2.17:

2.17 **ALARM BEACON**

A. ***Outdoor, rotating, incandescent strobe warning light, Lexan lens, 120VAC with mounting bracket, UL Listed for wet locations. Unit shall be Federal Signal Corp, ELECTRARAY Series, Model 225-120VAC, or equal.***

- Add the following paragraph 16921.2.18:

2.18 **Heat detector**

A. ***Rate of Rise and Fixed Temperature Heat Detector***

B. ***UL Listed***

C. ***Ratings:***

- a. **N.O. contact rated at 3-6 Amps, 125 VAC; 1-6 Amps, 28 VDC.**
- b. **Maximum coverage: 2500 sq. ft.**

D. Manufacturer and Model

- a. **Edwards Signaling, 281B-PL, or approved Equal.**

- Add the following paragraph 16921.2.19:

2.19 DOOR intrusion SWITCHES

A. *Provide door security switches at locations indicated on the plan drawings.*

B. ***Ratings:***

- 1. **UL listed.**
- 2. **Armored or jacketed cable**
- 3. **Weather resistant aluminum housing**

C. ***Manufacturer and model***

- 1. **GRI, 4400 or equal.**

- Add the following paragraph 16921.2.20:

2.20 PRESSURE GAUGES

A. *Unless already provided in other sections, pressure gauges shall be provided for each pressure switch and transmitter. Mount gauge near sensor. Pressure gauges shall be provided with a range and working rating for the application. Gauges shall be stainless steel with 1.5" face and minimum 2.5% accuracy. Noshok 400/500 series or approved equal.*

- Add the following paragraph 16921.2.21:

2.21 Pre-lube level switch

- A. ***UL listed.***
- B. **316 Stainless Steel Body**
- C. **316 Stainless Steel float**

D. Ratings:

a. Input: 120 VAC @ 15 Amp

b. Output: Form C contact.

E. Manufacturer and model: Gems, Type 9, #164870 or equal.

SECTION 16927 APPLICATION SOFTWARE

- Replace paragraph 16927.3.16 with the following:

3.16 VFD VENTILATION DAMPER CONTROL (LOOP LV-4, LV-5)

- A. General: Control of VFD waste heat.
 - B. SCADA Manual Control: Set direction of waste heat flow by selecting which damper is open (LV-4 or LV-5).
 - C. SCADA Automatic Control:
 - a. If the room temperature is below and operator adjustable setpoint, the waste heat will be directed into the room.
 - b. If the room temperature is above and operator adjustable setpoint, the waste heat will be directed outside.
- Replace paragraph 16927.3.24.A with the following:
 - A. SCADA Manual Control: Provide manual start/stop capability via the OIU screen.
 - Add the following paragraph 16927.3.24.B.3:
 - 3. Operator shall set room temperature setpoint via the OIU. If temperature is above the setpoint by an Operator adjustable deadband, the intake louver shall open and the ventilation blower shall operate in a PID loop mode to maintain the room temperature setpoint. If the ventilation blower is operating at a minimum speed for an Operator adjustable time, it shall stop.
 - Add the following paragraph 16927.3.24.B.4:
 - 4. The room temperature setpoint shall be coordinated with the thermostats for HVAC-1 and HVAC-2 such that if either HVAC unit is operating in the cooling mode the ventilation blower will stop and the intake louver will close.
 - Replace paragraph 16927.3.26.B with the following:
 - B. SCADA Manual Control: Provide manual start/stop capability via the OIU screen.
 - Replace paragraph 16927.3.27.B with the following:
 - B. SCADA Manual Control: Provide manual start/stop capability via the OIU screen.
 - Replace paragraph 16927.3.29 with the following:

3.17 WELL PUMP 9 (LOOP W9)

- A. Local Control: The pump has an HOA switch and digital speed adjustment at the VFD. The pump is equipped with winding temperature RTD's, upper and lower bearing RTD's, vibration sensor, and high discharge pressure switch. The winding temperature RTD's, upper or lower bearing RTD, vibration switch, and high discharge pressure switch shall shutdown the pump and/or prevent the unit from starting until RESET, and initiate a SCADA alarm. If the HOA switch is in HAND, the VFD will run provided the above required run conditions are satisfied. The HOA switch is required to be in AUTO for SCADA Automatic control.
- B. SCADA Manual Control: In "MANUAL" mode the operator starts/stops the pump and adjusts speed via the process graphic display(s) on the OIU System.
- C. SCADA Automatic Control: Pumping system shall consist of (1) new 600 HP Well Pump at Well No. 9 and two additional existing wells, Well No. 8 and Koch Well. Changes to pumping scheme can be made via the new Well No. 9 OIU or via the city shop OIU. All changes to set points shall be password protected.
 - 1. The operator shall operate the well pumps in a Lead/Lag/Lag-Lag set up. The operator shall have the option to select which pump shall be the Lead, Lag, or the Lag-Lag pump via the OIU at Well No. 9, the City Shop or the Booster Station.
 - 2. The operator shall select the stand pipe water level ON and OFF set point for each well via the OUI at Well No. 9, the City Shop or the Booster Station.
 - 3. The pump will be operated using the variable frequency drive (VFD) which will adjust pump RPM to maintain a user defined discharge flow in a pump up mode measured via a flow meter located on the discharge manifold.
 - 4. If Well 9 is selected as the lead pump:
 - a. The pump will be called to run at a selected flow rate (Operator adjustable) in a pump up mode when the water level reaches the ON set-point.
 - b. If the level in the stand-pipe is dropping at a greater than 1500gpm (Operator adjustable) for an Operator adjustable period of time, the pump will be called to run prior to reaching the ON setpoint and will pump at full speed until the OFF setpoint, then match the water usage rate until a minimum flow rate is required. At this time the pump will shut down and revert back to a normal pump up mode of operation.
 - 5. The Operator will be able to view the water system from the OUI at Well No. 9, the City Shop or the Booster Station. From the OUI, the Operator will adjust setpoints, select pump operation sequence, view and acknowledge alarms, view and export system trends.
 - 6. VFD ramp up/down time setting during pump on/off shall be set to provide smooth transition (i.e. no pressure drops/spikes) when pumps are turned on/off.
 - 7. Route all variables, alarms and condition status to the OIU for display, logging and report generation.

- Add the following paragraph 16927.3.30:

3.18 BOOSTER STATION MODIFICATION (LOOP BOOSTER MOD)

- A. Modify the existing OIU screens and PLC program to incorporate the addition of the telemetry radio system.
- B. Modify the existing OIU screens and PLC program to facilitate the operations described in LOOP 29.

* * * **END ADDENDUM 1** * * *