

CARSON CITY PURCHASING AND CONTRACTS

201 North Carson Street, Suite 3

Carson City, NV 89701

775-283-7137/FAX 887-2107

<http://www.carson.org/index.aspx?page=998>

NOTICE TO CONTRACTORS

BID #1415-061

Sodium Hypochlorite Tank Replacement Project

PWP # CC-2014-330

Addendum No. 2

Please make the following additions/changes/clarifications to the above referenced project:

1. 2-3/4" Connections for a sight level gauge shall also be included on the tank. These two connections were not shown in the information provided in addendum 1.
2. The 2" bolted double flange outlet is to be located 9" above the tank base with a siphon tube.
3. Additional PLC drawings program and notes are available via the Carson City Engineering FTP site for download by authorized integrators only. Please contact Darren Anderson at 775-283-7584 for access to the information.
4. Control Description:

The hypo-chlorite dosing system consists of two storage tanks and 3 peristaltic pumps. The plumbing allows maximum flexibility by allowing any pump to feed from either tank and supply any one of three destinations (Dynamic Filter Influent, Chlorine Contact Basin, RAS). Each pump shall be independently controlled. The control modes and functions vary dependent upon the assigned task. The tasks are specific to the assigned destinations. Dynamic Filter Influent shall have an Auto mode and a Manual mode; auto mode shall have a setpoint in liters per hour(lph) per 1000 GPM through the chlorine contact basin parshall flume, the dosing shall be flow paced. The manual mode shall be static setpoint in lph. Chlorine Contact Basin task shall have an auto mode and a manual mode; the auto mode shall have a setpoint in lph per 1000 GPM through the chlorine contact basin parshall flume. This setpoint is independent of the Dynamic Filter Influent auto mode. The Manual mode shall be a static setpoint in lph. The RAS task shall have a manual mode with a static setpoint in lph. The OIT and HMI shall have the option to select the task of a given pump for display, mode control, and historization. (For example pump number one's task could be "CL2 Contact", pump number two's task could be RAS, etc. this status shall be displayed on the OIT and HMI so that the task as well as the flow rate may be displayed on the HMI. The peristaltic pump inputs and outputs shall be wired to the PLC per the plans. Alarms shall be displayed as a graphic but not acknowledged at the OIT

interface. Alarms shall be non-latching. Pump set-points shall be configurable through OIT and SCADA HMI interchangeably. Statuses shall be viewable on the OIT and HMI.

Storage tank emergency shutoff valve shall be Normally Closed Held Open. The valves shall close automatically upon activation of the Hypochlorite E-Stop or upon receipt of the chlorine drain float signal.

Storage tank level shall be displayed in Feet with precision to the hundredths on all digital displays.

Pump Flow Totals and Elapsed Time Meters (ETM's) shall be calculated in the PLC and displayed on the OIT and HMI including daily and monthly totals.

5. Additional Information:

- a. Level transducers shall be Siemens SITRANS Probe LU 7ML5221-2BA11 ½" NPT cable inlet, 20ft ETFE, 2" NPT Taper Process Connection, 4-20mA, HART. Contractor shall supply one handheld programmer.
- b. PTZ Camera-Coordinate mounting location with project manager prior to installation. Programming by owner.
- c. Chlorine Containment Float-Float shall be impervious to sodium hypochlorite. Float shall alarm when more than 1" of fluid is within containment.
- d. PLC-Contractor shall replace existing Allen Bradley SLC500 PLC with Schneider M340 series PLC. Existing IO shall be replaced utilizing Schneider Quick Wiring Adapters for SLC 500. Program shall be converted using SLC 500 Migration and software conversion services provided by Schneider. Additional IO blocks shall be added to incorporate new IO while maintaining spare IO equivalent to 10% of the occupied IO. Contractor shall furnish 1 spare module of each type utilized. PLC shall connect to existing SCADA network via Ethernet and Modbus/TCP communications. Contractor shall work with owner to interface existing Wonderware HMI. Programming of HMI to be performed by City. Contractor shall provide full list of data locations and scaling for interface with HMI. Contractor shall program local OIT to display all information that was displayed by the Panalarm annunciator system.
- e. OIT shall be Schneider Magelis HMIGTO2300 5.7" programmed via Vijeo designer. Contractor shall furnish a licensed copy of Vijeo designer for programming the OIT.
- f. Garrettcom managed switch shall be programmed by City.
- g. Digital Power meter shall be connected via Ethernet to the Garrettcom switch for communication via Modbus/TCP.
- h. Tank level displays shall be Siemens Sitrans RD100 Loop powered display or equivalent as approved by project manager. Displays shall be labeled via phenolic engraved plastic. "Tank 1" "Tank 2"

The following is based on questions received prior to October 3rd, 2014:

6. *Is the intent of the spec to coat the exposed PVC piping?*

The exposed pvc piping will not need to be coated. The intent of the coating specification is to provide direction for coating the containment basin with a vinyl ester coating in order to provide a waterproof seal within the basin.

7. *Page E3 shows an Emergency Hypochlorite shutoff and references note 3 on the same page. Note 3 states that it is a 480 volt shut off. What is this switch to shut off, the pumps, the emergency valves, the building? The pumps and valves are 120 volt. I see no indication as to how and where this shut off needs to be interconnected*

The Emergency Hypochlorite shutoff refers to the automatic shutoff valve shown on Sheet E3 and Sheet C6. This valve is to be located at the outflow location of the tank in order to start or stop flow.

The emergency stop will signal at 24V to the new RTU which will then initiate an alarm condition. Resultant alarm action shall be coordinated with Carson City personnel.