



S&B inc. 13200 SE 30th St., Bellevue, Washington 98005 (425) 644-1700 FAX (425) 746-9312

February 20, 2019

City of Camas
1620 SE 8th Avenue
Camas, Washington 98607
Via email: [sadams@cityofcamas.us]

Attn: Mr. Sam Adams

Subject: Well 6 Motor Control and RTU Upgrade

Dear Sam,

The motor control system at Well 6 is obsolete and was identified by Carollo Engineers as a high priority replacement. The main breaker disconnect is undersized for the connected load and the methods of power disconnect require multiple breaker to be switched which is not intuitive during an emergency condition. We therefore included this electrical equipment in the quotation using the City's current standard approach with a digitally controlled motor control center (MCC). New MCCs offer a much higher level of operator safety with a single point of electrical disconnect, seismically compliant construction techniques and the ability to remotely analyze the electrical parameters. The MCC design offers significant safety and operational improvements as compared to the existing system. The change also provides power factor correction, to mitigate charges imposed by Clark PUD for large, uncorrected motor loads. The MCC proposed for Well 6 is a modern and fully integrated design. The MCC contains a 300A main breaker located to match the incoming service entrance with the intent to minimize installation efforts. The MCC should be positioned in the same area as the existing electrical apparatus.

As we considered the design approach for the control system for Well 6, we quote a functional replacement RTU using new technology equipment with backward compatibility to meet current as well as future connected field sensors. The RTU will connect to the MCC with using an industrial ethernet cable and provide control as well as a complete picture of motor operation. The scope of our services include a new RTU enclosure with control hardware and improved software features. The work includes on-site commissioning and training. Our pricing does not include installation.

Communication Options:

The RTUs is quoted for direct replacement with the existing leased line, however it may be substituted with a cellular modem for wireless communication, matching the latest unit at Round Lake.

Implementation of Upgrades:

The Well 6 RTU and MCC site will require Clark PUD to disconnect power at the site to facilitate the removal and installation of the new MCC unit. Your installing electrician will schedule this work once the MCC and RTU are ready and onsite. The MCC design is customized to site conditions and accommodates existing major conduit entry pathways. The MCC lead time is currently estimated at 19

Solution Partner

Automation

SIEMENS

weeks from order entry. MCC deliveries stretched to more than 22 weeks over the past nine months and are slowly decreasing, however from our conversations this week, it is likely that the quoted ship date will not improve this month. The only good news from this long lead is that I asked the sales group at Siemens to hold last year pricing on this MCC as a concession and incentive and they agreed. The new equipment should be installed with seismic fasteners into the floor and include a 2" concrete pad if possible to bring the station into current standards. The site work requires both mechanical and electrical work. We understand that the City plans to perform the mechanical work to assist the electrical installation so the installation may require only a week.

Startup and Commissioning:

The SCADA graphic computer system shall be aligned and tested with the new RTU to incorporate new alarms and settings available. We anticipate four hours of advance testing prior to startup and then the well system startup to require less than one day.

Training:

Training is provided concurrent with the upgrade. Our field engineer will instruct the assigned operator(s) with the use of the new systems with specific focus on updated troubleshooting methods and control features as part of the station commissioning. This provides the City with hands on training and self-sufficiency in maintaining the SCADA system as we change technology.

O&M Manual:

S&B will provide a conformed O&M for the Water SCADA Master System. Two copies will be provided to the City. The Binders include schematic drawings on 11x17 and a DVD with hardware manuals and operation description.

Warranty Support:

The system integration and software development required for this project is included with full support for a time period not less than one (1) year. During this time period, we will receive requests for assistance and respond using a high speed network connection (where available) to the control system via VPN within one business day. The initial response will identify problem areas, determining if the system requires software modifications, hardware replacement or both in order to maintain automatic operation of the system. The technologies available to us for troubleshooting the new system allow our engineers to remotely access the MTU system, assess current and historical conditions, and make assessments quickly.

We will support the City in the diagnosis and resolution of hardware failures to equipment provided under this scope of work during the warranty period without additional fees.

Scope of Work Pricing:

Following our previous agreement with the City our work is broken into Professional services / software engineering and System integration / hardware. Professional services / software engineering include design, CAD drawings, and application development for the Siemens S7 PLC and graphic computer software environments. Professional services identified in the table below are not taxed, and they will be separately identified in the invoice. System integration of hardware is work performed at our facility and includes basic services to receive hardware, inspect, assemble, test, and document the system.

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Professional Services and Materials Pricing

Professional Services**	\$ 14,535.00
Well 6 RTU	\$ 14,634.09
Aquifer level probe	\$ 1,048.98
Discharge Pressure	\$ 1,279.12
Flowmeter, remote	\$ 4,490.93
Pump Room smoke, intrusion, flood	\$ 298.10
Well 6 MCC	\$ 40,580.62
Total	\$ 76,866.85

pricing includes WSST where applicable calculated at 8.4%

** professional services do not include WSST.

Scheduling:

Our project cycle is 8 weeks for RTU delivery and current MCC lead time is 19 weeks. It would be best to coordinate the delivery as this will keep the existing system functional up to the changeover date. Scheduling will be coordinated with the City to minimize disruption to the water system operations, however Well 6 will be offline for 4 – 5 days during MCC installation.

Our quotation is based on a progress payment schedule based on completed work. Our payment requests will be submitted electronically, 7 calendar days prior to the monthly closing date for inclusion in your financial payment cycles. We assume the terms of our recent work for the Crown Road Pump Station will be used for this work and these terms are acceptable to S&B.

We look forward to the opportunity to work on this important project and will contribute to making this successful by delivering the highest quality of materials and startup services according to the agreed schedule. Please feel free to contact us regarding any questions that you may have regarding our quotation.

Yours truly,



Randall T. Stead
President
S&B Inc.

Accepted by the City of Camas:

Name

Title

Signature

Date