



RESOLUTION 2013 - 31

**A RESOLUTION OF THE CITY COUNCIL OF THE
CITY OF SUNNYSIDE, WASHINGTON, APPROVING THE CONTRACT
WITH S&B INC. FOR WATER SCADA UPGRADE**

WHEREAS, the Sunnyside Water Department operates and maintains the municipal water supply for the residences and businesses of Sunnyside; and

WHEREAS, S&B has been the City of Sunnyside's telemetry (SCADA) provider for many years, and due to the unique and specialized nature of the software / hardware within the current system, the City of Sunnyside will continue to use S&B for it's current and future telemetry needs; and

WHEREAS, the City of Sunnyside received a quote from S&B to relocate and upgrade the SCADA system at the new water facility in the amount of \$136,151.05; and

WHEREAS, the City Council finds and determines that the upgrade of the SCADA system is in the best interests of residents of the City of Sunnyside and will promote the general health, safety and welfare.

NOW, THEREFORE, IT IS HEREBY RESOLVED BY THE CITY COUNCIL OF THE CITY OF SUNNYSIDE, WASHINGTON, as follows:

SECTION 1. That the Sunnyside City Council hereby approves the relocation and upgrade of the water SCADA system as set forth in the quote attached hereto as Exhibit "A", and the City Manager is hereby authorized to execute such purchase for and on behalf of the City of Sunnyside and to take all actions reasonable and necessary to administer performance of such purchase.

SECTION 2. This Resolution shall be effective upon passage, approval and signatures hereon in accordance with law.

PASSED this 8th day of April, 2013.



JAMES A. RESTUCCI, MAYOR

ATTEST:



DELILAH SAENZ, CMC, CITY CLERK

APPROVED AS TO FORM:



KERR LAW GROUP, LLP
Attorneys for the City of Sunnyside

PROFESSIONAL SERVICES AGREEMENT

FOR

City of Sunnyside, WA Water SCADA System Upgrade

THIS AGREEMENT, entered into this ____ day of April, 2013, is between City of Sunnyside, Sunnyside, WA, hereinafter referred to as the "Owner", and **Stead & Associates/S&B Inc.**, hereinafter referred to as the "Consultant".

WHEREAS, the Owner desires to retain the services of a consultant to perform the services set forth in *Attachment "A"* to this Agreement; and

WHEREAS, the Consultant is qualified, willing and able to provide such services described in this Agreement; and

WHEREAS, the services to be performed by the Consultant are temporary in duration;

NOW, THEREFORE, in consideration of the mutual promises and covenants herein contained, to be kept, performed and fulfilled by the respective parties hereto, it is agreed as follows:

1. SERVICES BY CONSULTANT

- A. The Consultant shall perform the services described in *Attachment "A"* hereto, which by this reference is incorporated herein.
- B. Such services, and all duties incidental or necessary thereto, shall be performed diligently and competently in accordance with professional standards of performance.
- C. If during the course of the Agreement, the services rendered do not meet the requirements set forth in *Attachment "A"*, the Consultant will correct, modify, and/or remodel the required work.
- D. Services to be performed by the Consultant:
 - Control System Design
 - System Integration Services

The services listed above shall be performed as detailed in the Scope of Work for the proposed project marked *Attachment "A"*, attached hereto and fully incorporated herein.

EXHIBIT "A"

Professional Services Agreement (cont'd)

2. TIME OF PERFORMANCE

- A. The Consultant will make every reasonable effort to complete the services under Section 1.D within the times and schedules stated on *Attachment "A"*. The Consultant shall not be held responsible for delays occasioned by factors beyond its control which could not reasonably have been foreseen at the time of the execution of this Agreement.

3. COMPENSATION

- A. Payment to the Consultant for services in Sections I and II, as set forth in Paragraph 1-D above, will be as shown on *Attachment "A"*. Payment schedule for services are provided in *Attachment "C"*.
- B. The Owner shall pay the Consultant in the amounts specified above for the services performed under this Agreement. Such payment shall constitute full and complete payment by the Owner under this Agreement and shall include payment for costs, expenses and profit.
- C. Consultant's records shall be maintained and reported so as to enable the determination of project costs.
- D. The Consultant shall submit invoices to the Owner not more than monthly and by the 25th of each month during the progress of work for payment for work completed to the date of the invoice. Such invoices for work shall be based upon costs actually incurred in performing work under the Agreement to the date of the invoice. Invoices shall be in a format acceptable to the Owner and contain a progress report by major work element.
- E. The Owner will notify the Consultant in writing within thirty (30) days of receipt of the work alleged to be unsatisfactory and provide sufficient detail to enable the Consultant to correct such work that is not in compliance with this Agreement.
- F. The Owner shall have the right to withhold payment to Consultant for any work which is not completed in accordance with *Attachment "A"* until such time as Consultant modifies such work so that it is in accordance with *Attachment "A"*.
- G. The Owner shall pay all invoices from the Consultant by mailing a check within thirty (30) days of actual receipt of a properly completed invoice. Interest will be paid by the Owner on past due amounts at the rate permitted by law, but not to exceed 1 1/2% per month.

Professional Services Agreement (cont'd)

4. INDEPENDENT CONTRACTOR

- A. The Consultant is and shall be at all times during the term of this Agreement an independent contractor.
- B. The Consultant will provide management, establish compensation of personnel, maintain payroll records, and provide payment for all of its personnel, including withholding of income taxes, payment of social security taxes, unemployment compensation (where applicable), and fringe benefits. The Consultant will maintain Accountability Records for a period of three years.
- C. Any and all employees of the Consultant, or other persons while engaged in the performance of any work or services required by the Consultant under this Agreement, shall be considered employees of the Consultant only and not of the Owner. Any and all claims that may or might arise under the Workmen's Compensation Act, on behalf of said employee or other persons while so engaged in any of the work or service rendered hereunder, shall be the sole obligation and responsibility of the Consultant.

5. PROJECT ADMINISTRATION

- A. The Consultant shall designate and assign personnel to the project and appoint a Service Director who shall be approved by the Owner and whose responsibility it will be to schedule, coordinate and manage the on-going work.
- B. The project will be performed under the direction and supervision of the Owner's operations staff.

6. INSURANCE

The Consultant will maintain throughout this Agreement the following insurance:

- A. Worker's compensation and employer's liability/stopgap insurance as required by the State of Washington.
- B. Comprehensive automobile and vehicle liability insurance covering claims for injuries to members of the public and/or damages to property of others arising from use of motor vehicles, including on-site and off-site operations, and owned, non-owned or hired vehicles, with \$1,000,000 combined single limits.

EXHIBIT "A"

Professional Services Agreement (cont'd)

6. INSURANCE (cont'd)

- C. Commercial general liability insurance covering claims for injuries to members of the public or damage to property of others arising out of any covered negligent act or omission of Consultant or of any of its employees, agents, or subcontractors, with \$1,000,000 combined single limits.
- D. Owner will be named as an additional insured with respect to Consultant's liabilities hereunder in insurance coverage's identified in Items B and C.
- E. Consultant shall provide Owner with Certificates of Insurance showing compliance with these insurance requirements prior to commencing work.

7. INDEMNITY

- A. Consultant agrees to indemnify and defend Owner from any loss, cost or expense claimed by third parties for property damage and bodily injury, including death, caused solely by the negligence or willful misconduct of Consultant, its employees or agents in connection with the project.
- B. Owner agrees to indemnify and defend Consultant from any loss, cost or expense claimed by third parties for property damage and bodily injury, including death, caused solely by the negligence or willful misconduct of Owner, its employees or agents in connection with the project.
- C. If the negligence or willful misconduct of both the Consultant and Owner (or a person identified above for whom each is liable) is a cause of such damage or injury, the loss, cost or expense shall be shared between Consultant and Owner in proportion to their relative degrees of negligence or willful misconduct and the right of indemnify shall apply for such proportion.
- D. This indemnity agreement shall include any claim made against the Owner or Consultant or their officials, agents, or employees by an employee of the other party, even if such employer is thus or otherwise immune from liability pursuant to workers' compensation statutes.
- E. The provisions contained in this paragraph have been mutually negotiated by the parties and it is the intent of the parties that the paragraph provide the broadest scope of indemnify permitted by law.

Professional Services Agreement (cont'd)

8. OWNERSHIP OF DOCUMENTS

- A. Any records, reports, information, data or other documents or materials given to or prepared or assembled by the Consultant under this Agreement, which the Owner requests to be kept as confidential, shall not be made available to any individual or organization by the Consultant without prior written approval of the Owner.
- B. The Owner agrees to "Software License Agreement" (*Attachment "B"*) for the software and documentation provided by the Consultant as part of this work.

9. CHANGES OF SCOPE

- A. All parties may request changes in the scope of services, performance or reporting standards to be performed or provided under this Agreement. Such changes, including any increase or decrease in the amount of the Consultant's compensation, which are mutually agreed upon by the Consultant and the Owner, shall be incorporated in written Amendments to this Agreement.

10. COMPLIANCE WITH LAWS

- A. The Consultant will comply with all applicable state, federal and Owner laws and safety regulations.

11. ASSIGNMENT OF AGREEMENT

- A. The Consultant shall not assign any of its rights or obligations under this Agreement or subcontract the same, unless such assignment or subcontract shall be specifically approved in writing by the Owner and made an Addendum of this Agreement. Any such approved assignment or subcontract shall be subject to each provision of this Agreement. In the event of any approved assignment or subcontract, the Owner shall continue to hold the Consultant responsible for proper performance of the Consultant's obligations under this Agreement.

12. FUTURE SUPPORT

- A. The Owner makes no commitment and assumes no obligations for the support of the Consultant's activities, except as set forth in this Agreement.

Professional Services Agreement (cont'd)

13. RESERVATION OF RIGHTS

- A. Payment by the Owner or performance and acceptance of payment by the Consultant shall be not construed as waiver of any party's rights or remedies against the either. Failure to require full and timely performance of any provisions at any time shall not waive or reduce the right to insist upon complete and timely performance of such provision thereafter.

14. SEVERABILITY

- A. If any provisions of this Agreement are held invalid, the remainder of this Agreement shall not be affected thereby if such remainder would then continue to serve the purposes and objectives of the contemplated project as determined by the Owner.

15. TERMINATION OR SUSPENSION OF AGREEMENT

- A. The right is reserved by the Owner to terminate or suspend this Agreement at any time by giving ten days written notice to the Consultant. In that event, all finished or unfinished documents, data, studies, surveys, drawings, maps, models, photographs and reports, or other material prepared by the Consultant pursuant to this Agreement, shall be submitted to the Owner, and the Consultant shall be entitled to receive just and equitable compensation for any work satisfactorily completed on the project in accordance with all terms of the Agreement and scope of work prior to the date of suspension or termination, and for any work completed after the date of suspension or termination at the request of the Owner.
- B. In the event that the Owner requests termination of the work prior to the completion, Consultant reserves the right to complete such analyses and records as may be necessary to place its files in order.

16. APPROVALS AND NOTICES

- A. Whenever under this Agreement, Owner approval, authorization, waiver, instructions or determination are required, they shall be effective only when given by the Owner's Project Manager.

17. AVAILABILITY OF INFORMATION

- A. The Owner should make available to the Consultant at its request, all pertinent technical and project data in the Owner's possession, unless the Owner is prohibited by law or by contractual agreement from disclosing such information.

EXHIBIT "A"

Professional Services Agreement (cont'd)

18. ADDITIONAL WORK COST ESTIMATES

- A. Cost estimates for work requested beyond the scope are outlined in *Attachment "A"*.

19. INTEGRATED DOCUMENT

- A. This Agreement embodies the entire Agreement between the Owner and the Consultant. No verbal agreements or conversation with any officer, agent or employee of the Owner prior to the execution of this Agreement shall affect or modify any of the terms or obligations contained in any documents comprising this Agreement. Any such verbal contract shall be considered as unofficial information and in no way binding upon the Owner.

EXECUTED THE DATE AND YEAR JUST ABOVE MENTIONED.

CONSULTANT - S&B INC.
13200 SE 30th Street
Bellevue, WA 98005
Phone 425-644-1700
Fax 425-746-9312

OWNER – City of Sunnyside
818 E. Edison Ave
Sunnyside, WA 98944
Phone 509-837-3782
Fax 509-837-3268

BY: _____
James E Swanson II, P.E.
Vice President

BY: _____
John Darrington
Interim City Manager

EXHIBIT "A"

ATTACHMENT "A"

SCOPE OF WORK

EXHIBIT "A"



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

December 20, 2012

City of Sunnyside
Public Works, Water Department
via email: sfisher@ci.sunnyside.wa.us

Attention: Mr. Shane Fisher

Subject: Water SCADA System Upgrade

Gentlemen:

In response to our conversations regarding upgrades to your Water Supervisory Control And Data Acquisition (SCADA) System and the move to the new operations building, we are pleased to provide the following formal quote and detailed information for your consideration.

Key performance factors identified for this upgrade includes:

- Improved System Reliability
- Elimination of obsolete PLC technology at the MTU
- Water Distribution Master System PLC upgrade for improved speed and distributed access
- Enhanced Operator Display and viewing options
- Ability of operation personnel to configure alarm and trends for enhanced troubleshooting.
- Ability to build custom reports with Excel®

Water SCADA Master Telemetry Unit (MTU) PLC Upgrade

The existing PLC and within the Water SCADA panel must be upgraded to new technology in order to support the expanded functionality of the SCADA system, improve system response time and to maintain high reliability. The existing unit was supplied in 1997 as part of the original Water SCADA System and has served the City well throughout this time. PLC units are highly reliable, with typical mean time before failure (MTBF) rates of 18 to 25 years. A high quality PLC system therefore is changed due to obsolescence rather than failure. In the case of the existing system, the Siemens 505 series PLC was designed in 1988 before the internet and high speed communication became standards for technology. To address this need, Ethernet and serial coprocessor cards were manufactured in the mid-nineties as aftermarket solutions to accommodate the industry demand. With the age of the existing processor, and the limitations it has due to technology, we recommend upgrading the PLC system. The proposed replacement PLC system will also be a Siemens. This is a Siemens S7 series system, selected due to its tight integration with the Siemens SCADA software and compatibility with existing Siemens PLC based remote telemetry units (RTUs) located in the water system. One S7-317 CPU will be installed to replace the Siemens 545 CPU. This series processor will accommodate 30 simultaneous Ethernet data exchanges and sufficient memory to allow for 275% expansion of the system.

The PLC architecture is designed around open communication standards and high speed TCP/IP networks making it the appropriate solution for linking the Graphical User Interface (GUI) and the

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City of Sunnyside
Attention: Mr. Shane Fisher
Subject: Water SCADA System Upgrade
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master system. The new PLC will provide a significant speed improvement to the SCADA system operation. This will be visually apparent when working on the SCADA computer system. The operator will typically notice the latency time between screen changes, and data entry updates to virtually disappear. We calculated CPU execution time with the predicted logic and communication tasks for the new PLC and determined scan cycles will range from 15 - 25 msec. This is about twelve times faster than the existing CPU. Data communication speed between the SCADA computer and PLC system will be set at 100Mb. The WinCC SCADA Server machine will be located locally with a direct Ethernet connection to the PLC, in the new operations building instead of off-site in the current configuration. This will eliminate loss of data, by removing vulnerability to power outages and multiple access point. The speed of the modem linking remote sites to the master system will remain at 1200 baud, selected for compatibility with the City's existing leased line system. There will not be a noticeable change in data collected via the telephone communication link.

The City is responsible to install the new MTU enclosure, servers, UPS, network rack, and 42" monitor at the new operations building. The City will also provide a wide area network (DSL or cable or similar) connection dedicated for the SCADA system. This provides connectivity for the future Well 12 & 13 site, future upgrades to the existing water stations and remote access via secure VPN connection for warrantee support.

Water Distribution System Remote Telemetry Unit (RTU) PLC / Software Upgrade

To comply with the new PLC at the MTU, each of the existing RTU's will require communication software modifications with the exception of Well 9 and the Main booster station / Reservoir site.

- **Main Booster / Reservoir:**
The existing Motor Control Panel and abandoned telemetry panels were installed in 1987 and need to be upgraded and removed. This requires a separate scope of work and will be addressed in a separate proposal. The existing PLC at this site is a TI525 CPU and will be replaced with the TI545 CPU from the existing MTU to support the new communication card and driver software for compatibility with the new MTU upgrade.
- **Well 9:**
The PLC and IO at this site was supplied in 1998 and will require new communication card and driver software for compatibility with the MTU upgrade.
- **Communication Upgrades:**
The remaining RTUs require software communication driver updates. These sites are: Well 5, Well 6, Well 7, Well 8, Well 11, and Skyline Reservoir

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SCADA Server and workstation

The existing SCADA computer system consists of one server application with four client licenses and one DataMonitor license for historical data reporting. The existing Graphical User Interface (GUI) is Siemens WinCC version 6.2, updated in 2007. We recommended replacement of desktop computer hardware every three to four years and server machines every five to six years in order to maintain high reliability of the system. The age of the existing computer system requires replacement at this time.

The SCADA design adds a second server for historical data management and brings WinCC to the current supported version, WinCC 7.0 SP3. The existing server / standard client configuration for the Graphical User Interface remains intact, with the added feature of up to 3-thin client connections (via a standard Microsoft Internet Explorer web browser interface). The new server computer system operates on Windows Server 2008R2 and is supplied with Raid-1 configured hot swappable drives, redundant power supplies and SCADA software for operation of the system and client hosting. The server machine will provide historical archiving of analog and discrete data points for access by the SCADA trend windows, alarm windows, and MS excel® for reporting needs. Two new SCADA client workstation computers, running on Windows 7 x64, will have two 23" monitors and SCADA software for operation of the system.

The expansion to a dual monitor system from a single monitor is recommended to provide enhanced operational management of the SCADA system. The Siemens solution offers several advantages, including the implementation of a SQL database for historical archiving of analog and digital data points, true object oriented programming and native communication with the Siemens PLC unit. The addition of the second screen provides needed visibility for control of more than one station or WTP process at a time. Features provided on the SCADA system will include, but not limited, on screen control selectors for Hand-Off-Auto pump control, Open-Auto-Close-Hold selectors for valve control, detailed alarm summaries for all stations and processes, status/event summaries for all stations / processes, and expanded reporting for runtime hours and flow total summaries.

One 42" LCD display will be supplied to provide operations overview display of the system. Reservoir levels, Well running and flow will be graphically displayed along with a reservoir level trending.

Win911 / Pro Addition:

The existing Win911 software based auto-dialer will be upgraded to be compatible on Windows 7 x64 OS. Win 911 will be loaded on one of the new thick client computers.

Startup and Commissioning:

The SCADA system requires a complete test on site following installation. The GUI and new PLC CPU system will be completely tested. Our quote includes six (6) man days. four (4) man days are designated for startup and commissioning cycle for the GUI and PLC CPU, with 1 man day for follow-up visit approximately two weeks later to address any screen and control feature problems.

Training:

Following startup and commissioning, we will provide two (2) 4-hour training sessions. A training outline will be submitted one week prior to the schedule training for City approval.

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DataMonitor and Excel Reports:

In addition to the training mentioned above, additional two (2) 4-hour training sessions will be provided for DataMonitor Server webpage. This training will cover building web pages using DataMonitor to display trends and tabular data with a html interface, viewing SCADA screens with a web browser, querying data using Excel®, and how to configure Excel® workbooks for automated reports. In addition to the training, forty-eight (48) hours are reserved to collaborate with the City in creating up to 6 reports.

O&M Manual:

S&B will provide a conformed O&M for the City that will cover all the remote sites related to the Water SCADA System. Two copies will be proved to the City. The Binders will 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 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 :

Our work is itemized into two separate components:

- (1) Professional services / software engineering and
- (2) System integration / hardware / packaged software

Professional services / software engineering include design, CAD drawings, and application development for the Siemens S7 PLC and WinCC graphic computer software environments. System integration, of hardware, / and packaged software are work performed at our facilities. This work includes basic services to receive hardware, inspect, test, document and startup the system.

Engineering Time Line:

- Week 1: Notice to proceed
- Week 3: Submit Engineering drawings
- Week 4: Answer questions regarding drawings and installation requirements.
- Week 11: Complete PLC software engineering
- Week 12: Complete WinCC software engineering

System Integration Time Line (estimate):

- Week 5: Receive and Load SCADA Computers and Software
- Week 8: Assembly of MTU and network rack
- Week 13: Factory Test and Simulation
- Week 14: Implement Owner comments
- Week 15: Delivery and Startup

EXHIBIT "A"

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Price Summary Information for Scope of Work

Our scope of work includes the supply of the SCADA Graphical User Interface software and hardware, PLC equipment and all application software. The pricing information is rounded to the nearest dollar. See attached block diagrams that provide detailed information related to the SCADA MTU upgrade and move to the City acquired PP&I building.

<i>Description</i>	<i>SCADA Professional</i>	<i>SCADA System Integration</i>	<i>non Professional Tax at 7.9%</i>	<i>Total</i>
1. Telemetry System Additions and Engineering	\$ 32,263.07	\$ 36,626.93	\$ 2,893.53	\$ 71,783.53
2. SCADA Server and Multi-Client System	\$ 14,677.00	\$ 28,323.00	\$ 2,237.52	\$ 45,237.52
3. Design	\$ 19,130.00			\$ 19,130.00
Automation and Control Deliverables Total:	\$ 66,070.07	\$ 64,949.93	\$ 5,131.05	\$ 136,151.05

As a comparison, the cost for the initial supply of the MTU and RTU SCADA system in 1997 was \$148,000.00.

Prices quoted are valid for sixty (60) days and subject to the terms and conditions cited in our Form 977 attached to this document. We are receptive to using the City's standard contract forms if preferred. Please feel free to use the text in this scope of work for your Contract attachment.

We thank you for the opportunity to provide this proposal and will be happy to answer any questions you may have regarding technical or administrative issues.

Yours truly,



James E. Swanson II
Vice President
S&B Inc