



PROPOSAL # QN20052901-01

To: City of Princeton
705 2nd Street N
Princeton, MN 55371

Date: May 29, 2020
From: Troy Neurauter
Valid: 60 days
Page: 1 of 6

Attn: Bob Gerold

Re: Sanitary Lift Station Telemetry Improvements

In Control is pleased to provide this proposal for materials and services to improve the reliability, diagnostics and alarm management of the existing sanitary lift station monitoring system. This system monitors lift station pumping operations and currently provides minimal alarming to City staff. The isolated system is based on a typical 900 MHz frequency that is not integrated to the wastewater plant SCADA system. Operators have reported that many locations are not providing reliable communication. Finally, the current radio modules are obsolete and replacements are no longer available making it nearly impossible to support the system.

The telemetry improvements project will integrate lift station alarming and add monitoring into the existing wastewater treatment SCADA system providing a single system for operator interactions. Informational data values will be added and integrated directly into the SCADA system with historical recording. In Control will integrate the lift station alarms into a single alarm and notification system with the wastewater treatment plant. The SCADA system will be modified to provide group security policies for operators limiting authorized interactions based on unique user logins.

New cellular gateways and antennas will provide increased data throughput capacities, enhanced security, new communication status alarming, new remote support capabilities and offers future capabilities for remote lift station control or coordination. The new system will operate on a 4G cellular network provided by AT&T or Verizon Wireless. Cellular connectivity provides the advantage of utilizing a robust network that is deployed and maintained by the service provider. Secure data exchange with the cellular network is provided over the Internet through VPN tunnel technology with secure private keys. Cellular network and communications data are available via a Persistent Data Network (PDN) website hosted by the equipment provider.

To facilitate the cellular networking, the City shall furnish 9 cellular data plans, 10MB/month, with SIM cards from their cellular service provider (AT&T). The plan information and SIM cards must be in In Control's possession for equipment setup and testing prior to installation. The Persistent Data Network hosting is a per-connection paid subscription service. In Control has included 3 years of PDN service for each of the 10 gateways. After the 3 years, the City will need to renew the service on an annual basis (other terms may be available). The current plan annual rate is approximately \$200 per connection.



Materials and Services Proposed

1. Wastewater Treatment Plant SCADA

- a. Communication between the SCADA and the cellular network is achieved via a common Internet connection over the existing Ethernet network and a secure Persistent Data Network device. A master radio and repeater station are not required.
- b. SCADA and controller modifications will allow alarms to be logged and called out on the WIN-911 alarm annunciator.
 - i. Lift station alarms will be created in the WWTP SCADA alarm system with new alarms for communication status, high level and power loss for each lift station.
- c. Existing controller and display for lift station alarms will be removed. A new hardware alarm dialer will be provided and installed in its place.
 - i. The existing alarm dialer is an obsolete model. The dialer will be removed and the associated wiring will be re-used for the new dialer. The dialer will act as a backup to the SCADA WIN911 notifications and can be configured for separate plant staff and public works staff notifications.

2. Lift Stations

- a. (8) Lift station telemetry enclosures, locations shown on Exhibit A, will be replaced with new enclosures. The new enclosures will be UL labeled and include the following:
 - i. Cellular gateway, configured for AT&T service
 - ii. PLC controller for physical I/O communication through the gateway.
 - iii. Ethernet switch for controller to gateway connection, plus open connection for a local programming terminal if required
 - iv. DC power UPS for gateway and controller
 - v. Panel heater with thermostat
 - vi. Main power circuit breaker, interposing relays for I/O and terminals as required
- b. Cellular omni-directional antennas will be pre-mounted directly to the enclosures at 7 locations. At the North lift station, an omni-directional antenna will replace the existing antenna on the mast. The South lift station cellular gateway will be installed into the existing control panel and an omni-directional antenna will replace the existing antenna on the mast. New antennas, cable and connectors will be provided. In Control will perform the antenna cable terminations within the enclosures.
 - i. Field installation of external antenna cabling and antennas at the South and North stations to be provided by City or others.
- c. Configuration and testing of cellular gateways will occur prior to field installation.
- d. Validation of system diagnostics and each alarm will be performed at each location during installation.
- e. In Control engineers will perform the demolition of the existing communication enclosures and installation and wiring of the new cellular gateway enclosures.

3. Drawings

- a. New drawings will be provided for the lift station cellular gateway control panels.
- b. Drawings for the new hardware dialer will be provided.
- c. All drawings to be provided electronically.



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10350 Jamestown Street NE
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Phone: (763) 783-9500

4. Engineering

- a. Each cellular gateway will be configured for operation on one common wireless network (AT&T).
- b. The existing WWTP controller will be configured to communicate to each remote lift. The controller will communicate this information to the SCADA system and WIN-911 alarm annunciator.
- c. The SCADA system and Alarm system will be configured to annunciate lift station status and alarms in a similar fashion to the previous display panel.

5. Training

- a. In Control will provide up to 2 hours of training with the new cellular system and new alarms created. Training shall occur in coordination with field startup site visits.

6. Warranty

- a. As stated in standard In Control Terms and Conditions.

The price for the services and materials detailed is **\$ 86,400.00** USD net total excluding sales and use taxes. Freight is included, FOB shipping point.

Our proposal does not include the following:

- o Cellular Data Plans and SIM cards
- o Persistent Data Network subscriptions after 3 years
- o Repair, replacement or diagnosis of pre-existing conditions
- o Field installation of equipment, enclosures, instrumentation or other products provided unless otherwise stated
- o Wiring, raceway or fittings required for field installed products
- o Termination of any field wiring such as line power, control signals, instrumentation, etc.
- o Normal and customary items provided by a general or electrical contractor
- o Disposal of existing materials removed or replaced

Optional Items available at time of proposal acceptance:

1. Recommended Spare Parts can be added at time of system purchase or later if desired.
 - a. (1) cellular gateway
 - b. (1) WAN gateway
 - c. (1) controller with memory module
 - d. (1) DC UPS/Power supply
 - e. (4) interposing relays
2. Eight of the lift station telemetry enclosures are battery-backed via a DC UPS system which contains an AGM battery. In Control recommends replacement of UPS batteries every 3 years as part of your preventative maintenance program.



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Thank you in advance for the consideration of our offer and for the opportunity to work together. Should you have any questions regarding this proposal, please contact me directly at your convenience. I look forward to hearing from you soon to secure and coordinate this project.

Best Regards,

Troy Neurauter

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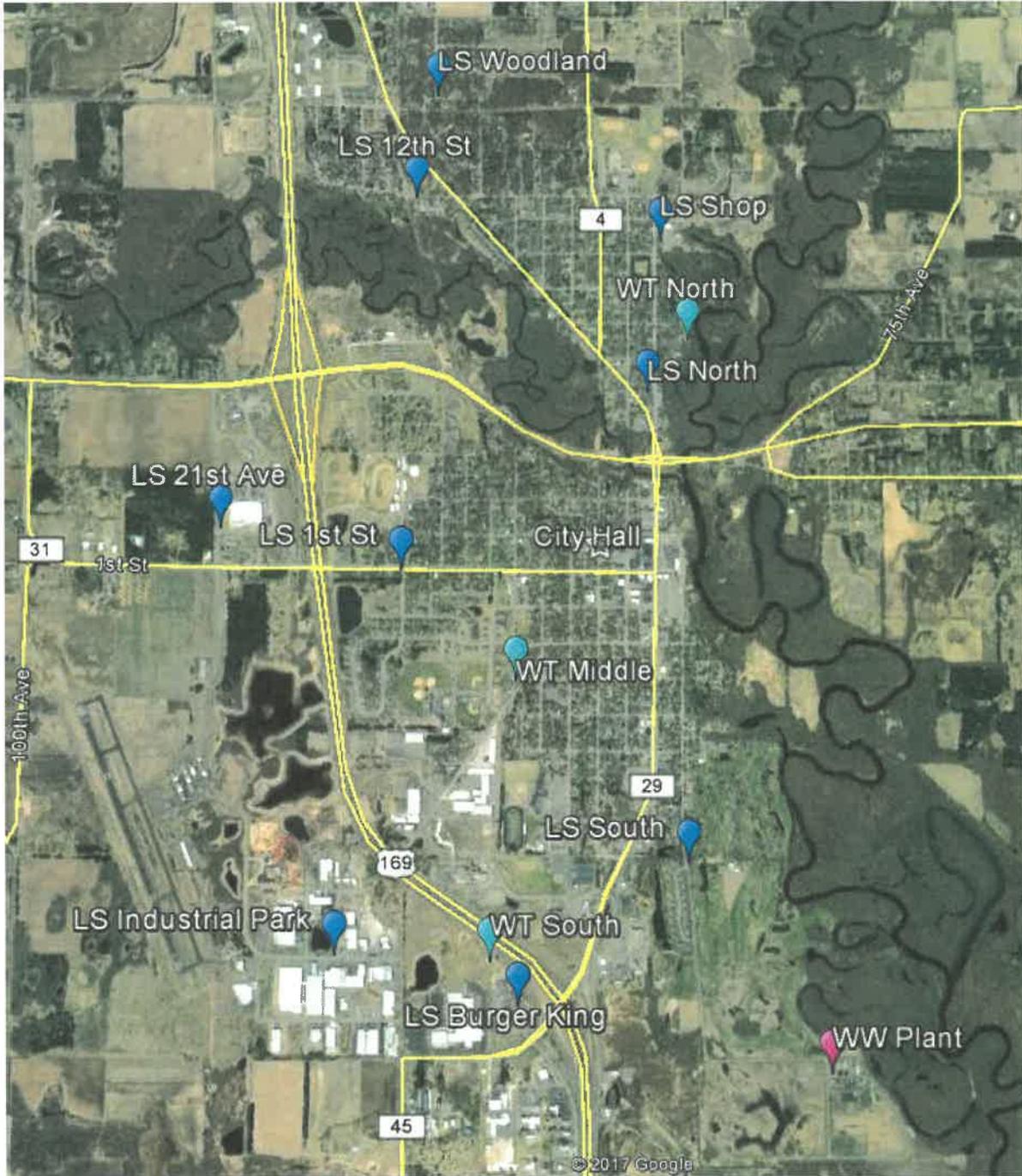
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EXHIBIT A

City of Princeton, MN
SCADA Telemetry Locations





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Standard Terms and Conditions of Sale

These terms and conditions are in effect between the party ("Purchaser") issuing the purchase order ("Order") and IN CONTROL, INC. ("IN CONTROL").

1. **ACCEPTANCE** – Acceptance of this Order will be in writing within thirty (30) days of Order receipt. Acceptance will be based on compliance with the acceptance criteria set forth herein. Upon acceptance, this Order will constitute the entire agreement between IN CONTROL and Purchaser, supersede all prior negotiations, discussions and dealings and may not be modified or rescinded except by a writing signed by both Purchaser and IN CONTROL.
2. **TERMINATION** – If the Purchaser chooses to terminate this Order, the Purchaser will pay to IN CONTROL reasonable and proper cancellation charges, which may include a reasonable and customary profit only on Goods and Services accepted to date of receipt of the notice of cancellation.
3. **ATTORNEY FEES** - If either party commences or is made a party to an action or proceeding to enforce or interpret this Order, the prevailing party in such action or proceeding will be entitled to recover from the other party all reasonable attorneys' fees, costs and expenses incurred in connection with such action or proceeding or any appeal or enforcement of any judgment obtained in any such action or proceeding.
4. **COUNTERPARTS** - This Order may be executed in any number of counterparts, and each such counterpart will be deemed to be an original instrument.
5. **INDEMNIFICATION** - Purchaser will indemnify IN CONTROL and its customers and hold them harmless from and against any and all claims, actions, proceedings, costs, expenses, losses and liability, including all reasonable attorneys' fees, costs and expenses, arising out of or in connection with or relating to any Goods or Services furnished by Seller pursuant to this Order, including without limitation all product liability claims and any claims involving personal injury, death or property damage. The obligations set forth in this Section will survive the termination or fulfillment of this Order.
6. **LIMITATIONS OF LIABILITY** - In no event will IN CONTROL be liable in contract, tort, strict liability, warranty or otherwise, for any special, incidental or consequential damages, such as, but not limited to, delay, disruption, loss of product, loss of anticipated profits or revenue, loss of use of the equipment or system, non-operation or increased expense of operation of other equipment or systems, cost of capital, or cost of purchase or replacement equipment systems or power.
7. **LIQUIDATED DAMAGES** – Unless otherwise agreed to in writing between the Purchaser and IN CONTROL, IN CONTROL will not accept liquidated damages.
8. **NONWAIVER** - The failure by IN CONTROL to enforce at any time, or for any period of time, any of the provisions hereof will not be a waiver of such provisions nor the right of IN CONTROL thereafter to enforce each and every such provision.
9. **PAYMENT TERMS** - The payment terms are net thirty (30) days after invoice date. If an invoice dispute arises, the Purchaser will notify IN CONTROL within ten (10) days of receipt of invoice. The undisputed amount of the invoice will be paid within the payment terms. All reasonable attempts will be made between both parties to resolve the disputed portions of the invoice within the payment terms.
10. **REMEDIES** - Remedies herein reserved to IN CONTROL will be cumulative, and in addition to any other or further remedies provided in law or equity.
11. **TRANSPORTATION** - Unless otherwise specified, all deliveries from IN CONTROL will be F.O.B. factory, freight prepaid.
12. **WARRANTY** - IN CONTROL warrants that the Goods and Services furnished will be of good quality, free from defects in material, design and workmanship will conform to the specifications, drawings, or samples and are suitable for their intended purpose(s). The warranty from IN CONTROL will be in force for eighteen (18) months after shipment or twelve (12) months from startup, whichever is shorter. IN CONTROL reserves the right to terminate warranty should the Purchaser's account be in arrears.