



Mr. Edward Leafdale
General Foreman
Water and Sewer Dept.

November 18, 2010

City of Rochester Hills
511 Auburn Road
Rochester Hills, MI 48309

Subject: Quote #8 SCADA System Data Re-Mapping Q090410ALK Rev 3

Mr. Leafdale,

Perceptive Controls is pleased to provide this quotation to provide the hardware, programming and engineering to be used in re-mapping all of the SCADA (Supervisory Controls and Data Acquisition) System Data into a structured format. Re-mapping all of the system data will allow for more efficient communications between the various remote SCADA nodes, while also allowing for easier additions or modifications to the SCADA system in the future.

There are several major tasks required for this system enhancement. The first task of this enhancement is to replace the existing head end Programmable Logic Controller (PLC) located at the DPS facility with a newer processor with enhanced communications and data management capabilities. This would include replacing the existing SLC-5/05 processor hardware with a new CompactLogix processor utilizing comparable components.

The second task is to modify the data collection software that is used to poll data from each respective remote site. The polling and data storage would be re-written using the enhanced communication and database management features of the new CompactLogix processor. Re-mapping the data in the CompactLogix processor will not only allow for more efficient data management, but will also allow for a structured data map that will include room for growth at each remote SCADA site, and room for growth for the system as a whole.

The third component would be to modify the Intellution SCADA application to re-align the existing SCADA system tag database with the new CompactLogix database. This step is essential to insure that the installed Intellution application running at the Rochester Hills DPS will reliably read and interpret the field data appropriately.

All of the database work, inclusive of the CompactLogix tag database and the Intellution tag database, will be tested and validated within all practical limits prior to implementation in the field in Rochester Hills. All of this work will be accomplished at the Perceptive Controls offices in Plainwell Michigan.

Finally we will install and debug the new hardware and software in Rochester Hills. This will involve installing the new CompactLogix processor and installing the new Intellution SCADA application in the existing SCADA terminals at the DPS. We will also have to visit each respective remote site and make minor modifications to the existing ladder logic while also validating communications to the head end CompactLogix processor, and ultimately through to the revised SCADA application.

The total cost for this system modification is as follows:

<i>Purchased Materials</i>	\$ 8,400.00
<i>Labor Cost</i>	\$ 44,500.00
<i>Total Project Cost</i>	\$ <u>52,900.00</u>

We understand that the City of Rochester Hills wishes to proceed with this work in multiple phases, in order to manage the work at hand and the associated funding. This work can be orchestrated into two distinct segments that will allow Rochester Hills to better manage the project.

The initial phase would involve the hardware procurement, the software development, and the internal testing of the revised database structures in the new CompactLogix controller and the revised Intellution application.

The second phase of the work would involve the physical implementation of the new hardware and software and system validation to confirm that the system PLCs and the Intellution SCADA application are all functioning fully, without errors.

The project costs could be broken down as follows:

<i>Phase 1 Cost (Procurement and Development)</i>	\$ 21,855.00
<i>Phase 2 Cost (Implementation, Testing and Validation)</i>	\$ 31,045.00
Total Project Cost	<u>\$ 52,900.00</u>

All Terms and Conditions as previously agreed upon in the Maintenance Agreement will apply for this and any following quotations.

Please feel free to contact me if you have any questions or concerns regarding this proposal.

Respectfully,
For Perceptive Controls, Inc.



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