Minutes of the Proceedings of the City Council of the City of Champlin in the County of Hennepin and the State of Minnesota Pursuant to Due Call and Notice Thereof

Worksession I
November 24, 2014
Municipal Center

Call to Order

The Champlin City Council met in Worksession and was called to order by Mayor ArMand Nelson at 6:00 p.m.

Roll Call

Present were Mayor ArMand Nelson and Councilmembers Eric Johnson, Kara Terry, Ryan Karasek, and Bruce Miller.

Absent: none.

Staff Present: City Administrator Bret Heitkamp, Community Development Director John Cox, City Planner Scott Schulte, City Clerk Roberta Colotti, City Engineer Tim Hanson, Utility Superintendent Mike Bramwell, and City Attorney Scott Lepak.

Approval of Agenda (November 24, 2014) Motion

Motion by Councilmember Karasek and seconded by Councilmember Johnson to approve the agenda for the November 24, 2014 Worksession as presented. Voting in favor were Mayor Nelson, Councilmembers Johnson, Karasek, Terry and Miller. Voting against: none. Motion carried.

SCADA Upgrade at Water Treatment Plant

The City Engineer and Utility Superintendent reported that the Supervisory Control and Data Acquisition (SCADA) system for the City's water supply and sanitary sewer system operates with two major components, communication and logic or control. Both components of the SCADA system need upgrading. The SCADA system controls the functions of the water system and sanitary sewer lift stations by notifying the operators when functions are not occurring properly. This is particularly important when facilities are unmanned or when issues occur after hours.

The existing controls, Programmable Logic Controller (PLC) and related equipment are out dated, no longer supported by manufacturers in some instances, and are increasingly unreliable. Repairs to the system are patchwork at best, which can cause significant issues such as the day the City's water supply was depleted.

The current communication system is by radios, which are outdated and unreliable partially due to the amount of data that is being transmitted to operate the system.

Although maintenance and repairs are increasing, and becoming more costly, the most significant issue with the current system is its unreliability in both notification of system failures and false alarms due to communication failures or other factors.

The Utility Superintendent presented a Preliminary Feasibility Study of the City's existing SCADA System and recommended improvements. The study identifies the existing hardware and software utilized to monitor, control, and store data. The study also identifies the functions/operations that are monitored at each site.

The second aspect of SCADA is communication. The Feasibility Study discusses immediate needs of the system and recommended improvements. Included in the recommendations, is the establishment of a fiber Local Area Network (LAN). The primary need is to construct fiber between Water Treatment Plant No. 1 and Water Treatment Plant No. 2. A network could be established over time by installing conduits with street reconstruction projects wherever the network is identified. In addition to providing for the Utility SCADA System, the LAN could connect to park facilities for security, credit card processing, lighting, temperature, door locks, and other communication needs.

The Utility Superintendent presented a conceptual LAN map.

The City Engineer reported that the 2014 CIP identifies $90,000 for SCADA and the 2015 CIP identifies $1,000,000 for SCADA system and communications upgrade.

The Draft Feasibility indicates:

		Estimated Cost
SCADA System Upgrade		$ 738,400
Fiber Communication WT 1 – WT 2		300,000
	Total	$1,038,400

Future Maintenance and Upgrades are also indicated in the report. These are future funding allocations for emergency and maintenance, such as repairs due to lightning strikes, software upgrades, compatibility, hardware failures, and programming:

2016	$100,000
2017	$100,000
2018	$125,000
2019	$75,000

The City Engineer stated that tonight's Worksession is intended to introduce the Council to the SCADA System, its operating deficiencies, and proposed improvements. The summary recommendations of the Feasibility Study are:

1. Upgrade the communication system utilizing fiber optic between Water Treatment Plant 1 and Water Treatment Plant 2.

2. Update the radio communication system for all locations.

3. Replace the existing obsolete SCADA hardware and software.

Council Discussion
Councilmember Karasek questioned if fiber optic cable was the best solution.

Mr. Paul Kaeding, Barr Engineering, who prepared the SCADA Preliminary Feasibility Study, stated that there are two radio options, a licensed frequency and an unlicensed frequency. He stated that the City does have a licensed frequency and he would recommend the City hold on to that as there are no more frequencies available. However, the issue with the radio frequency is it is subject to interruption by storms, etc. A fiber optic line can be buried deep away from possible disruption. It is incredibly fast. He noted that cost is a factor so he would recommend that the City build the line when we do other projects. He noted that the fiber cable itself is inexpensive.

The City Engineer stated that his firm, WSB, recently completed a fiber optic line project for the City of St. Anthony. He stated there were six bidders and the project came in under the estimated cost, so the price for fiber optic cable is coming down.

Councilmember Johnson asked if the School District had fiber optic cable that we could use.

The City Engineer stated that he was not familiar with their system, however, that would be an option to explore. He noted that the City could lease space from commercial vendors such as Comcast, however, that option is becoming cost prohibitive.

The City Engineer stated that the priority line is between Water Treatment Plant 1 and Water Treatment Plant 2.

The City Administrator asked the Council to provide direction on the 2014/2015 CIP Budget, SCADA project.

Councilmember Miller stated that he would be in favor of the project. He noted that in the City of Brooklyn Center they switched to a fiber optic line, seven years ago. He noted that the cost focused on laying the line. He was in favor of adding line as we construct other future projects.

The City Engineer stated that he would propose constructing the line from Plant 1 to Plant 2 at this time

and then adding line as we do other construction projects. A looped system would provide redundancy if a line were cut. A looped network would be developed over time with select construction projects.

Mayor Nelson asked if the City would maintain a wireless system for backup in the event the line was cut.

The City Engineer stated that if the line was cut before it was looped, then we would go to manual operations.

Councilmember Johnson stated that he was in favor of proceeding with the project but not in favor of the full project cost as presented. He provided the examples of the $16,000 cost per lift station and the overhead costs as possible areas for savings. He suggested that savings opportunities be reviewed.

Councilmember Miller questioned why the City would need to upgrade the radios if they are moving to the fiber optic line.

Councilmember Johnson expanded on that question, asking if there was a hybrid system that would work for the City.

Mr. Keading, Barr Engineering, stated that most other cities have the same issue of having to install new lines and are doing so when they do other projects. He stated that it is likely the new system would be a hybrid system as some areas are hard to service with fiber optics and therefor the radios would be used. He noted that the City's current radios are becoming obsolete. So we would want to replace these and do so with a higher capacity radio. He noted that one issue with upgrading is the PLC would then need to be changed as the new radios use Ethernet not Mod Bus.

Mayor Nelson discussed options for the fiber optic line and questioned the options/costs for the radios.

Councilmember Terry questioned the ongoing costs associated with the proposed system.

The City Engineer highlighted the costs as presented in the report related to future software upgrades, and potential system damage from lighting, etc.

Mavericks Wood Grill – Conditional Use Permit

The City Planner stated that on December 8th the City Council will be considering an amendment to the Maverick's Wood Grill conditional use permit (CUP). The amendment, requiring a public hearing, supports a 2 a.m. closing time for the business. He stated that the purpose of this evening's discussion is to determine if there is additional information the Council would like available for consideration at the public hearing.

The Council requested information on any police calls related to the subject property.

Adjournment

The Champlin City Council adjourned the Worksession at 6:55 p.m.

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ArMand Nelson, Mayor

Attest:

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Roberta Colotti, CMC, City Clerk