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TO:	CHAIR AND MEMBERS CIVIC WORKS COMMITTEE MEETING ON JUNE 17, 2013
FROM:	JOHN BRAAM, P.ENG. MANAGING DIRECTOR – ENVIRONMENTAL & ENGINEERING SERVICES & CITY ENGINEER
SUBJECT:	SINGLE SOURCE SUPPLY AND IMPLEMENTATION OF A COMPUTERIZED MAINTENANCE MANAGEMENT SYSTEM

RECOMMENDATION

That, on the recommendation of the Managing Director, Environmental & Engineering Services & City Engineer, the following actions **BE TAKEN** with respect to the purchase and implementation of a computerized maintenance management system (the project) to support EES Operations:

- a) approval **BE GIVEN** to enter into negotiations with ESRI Canada Limited, 148 York Street, Suite 313, London, Ontario, N6A 1A9, for the project;
- b) the Chief Technology Officer of the Corporation's Information Technology Services (ITS) Division **BE DIRECTED** to perform a comprehensive technology review of the solutions proposed by ESRI Canada to ensure;
 - a. the proposed solution is aligned with the IT strategy presented to Council in January 2012; and
 - b. the proposed solution meets IT security and other technical requirements noting that the ESRI platform is currently utilized at the City of London.
- c) the Civic Administration **BE DIRECTED** to report back at a future meeting of the Civic Works Committee to confirm the project, including: total estimated project costs, Source of Financing and concurrence from the Chief Technology Officer with regards to implementation.

PREVIOUS REPORTS PERTINENT TO THIS MATTER

BACKGROUND

Purpose:

The purpose of this report is to recommend the initiation of negotiations with the only vendor who successfully met the prescribed mandatory and functional requirements of a Request for Qualifications (RFQUAL) issued on December 5th, 2012.

Context:

The City's critical infrastructure continues to grow in magnitude and complexity. High expectations are placed on the gatekeepers of these complex systems in order to comply with stringent legislative requirements. Accurate data management relating to assigned and completed work, full cost accounting, tangible capital asset reporting, strategic asset management planning and budget challenges are just a few elements that have added to the complexity of ownership and maintenance management. It is evident that current practices are unsustainable and that the demands associated with infrastructure ownership must be managed through a formal work order system that enables staff to develop sound, strategic work plans, and to implement, record and store data effectively, efficiently and economically.

Fortunately, for those that own and/or manage utilities, the technology to manage complex infrastructures is available, and has been in use for many years. In Canada, most larger municipalities already utilize a Computerized Maintenance Management System (CMMS). Within a three hour drive of London there are 11 municipalities that currently use CMMS,

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including Kitchener, Waterloo, Hamilton, and the Regions of York, Durham and Niagara. In the United States, where many water and wastewater systems are privatized, the use of CMMS systems are much more prevalent.

This CMMS initiative has been long considered by a cross section of working groups across a number of the Corporation's service areas, primarily within its Operating Divisions.

In 2006, the Water Operations Division, in cooperation with the Technology Services Division, started the development and implementation of a number of maintenance management modules to address operational requirements specific to hydrant maintenance, water valves, main breaks, hydrant flushing and water quality complaints. Forestry and Sewer Operations had also developed modules specific to tree inventory and catchbasin cleaning programs respectively.

In 2010, Water Operations issued a comprehensive Request For Information (RFI) package in order to get a sense for what the market had to offer with respect to formal computerized maintenance management. Elements within the RFI required respondents to consider their capabilities with respect to functionality, maintenance management, integration, reliability and asset management. Further, City Operations divisions engaged in a number of independent, third party business process redesigns which focused on present or "as is" service delivery methods. At the conclusion of each study, recommendations were made on how to deliver a more efficient, effective and economical service to customers. The common thread noted amongst all of the independent studies was the real need to purchase a CMMS. While the business consultant found staff to be engaged and effective given the available tools and technology utilized, the current practice was deemed unsustainable and the purchase of a CMMS warranted in the shortest possible timeframe.

Benefits of a CMMS include:

- Improved citizen response:
 - All complaints and requests for service are recorded in real time.
 - Staff members receiving calls have access to complete information.
 - Work requirements for customer complaints/requests are tracked, ensuring that customer follow-up (if required) is provided prior to closing out the work order.
- Improve efficiency in the use of available resources:
 - CMMS provides a means of developing more strategic plans with consideration for time, labour, equipment and material requirements.
 - Outstanding work can be prioritized.
 - Original work schedules can be amended easily to accommodate unplanned events.
 - Duplication of work can be avoided.
- Improved focus for maintenance activities:
 - The ability to track maintenance requests, production, history, and specific information.
 - The ability to track problems through regular inspections, resulting in an efficient ratio of proactive to reactive work and determining the appropriate balance of risk.
 - Correlating completed work with asset type, specific structures, and geographical areas leads to optimization of maintenance programs for minor, major and rehabilitation projects.
- Improved response to government/ legal and MFIPPA requests:
 - A CMMS can generate accurate information required to satisfy government/ legal information requests and MFIPPA requests.
- Improve information sharing with other departments and/or divisions:
 - Provide legislated Tangible Capital Asset (TCA) information regarding asset condition increase life (betterment) or decreased life (write-down).
 - Feeding accurate information up to the Corporate level to support an overall Asset Management Plan and a State of the Infrastructure Report – it being noted that Provincial Funding Programs for infrastructure are requiring Municipalities to have an Asset Management Plan.

Discussion:

Given the current, inefficient methods and practices applied to adequately manage the complexities of the City's critical infrastructure, Council and public expectations relating to

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service levels, stringent legislative requirements, and third party recommendations to purchase a maintenance management system, a steering committee was formed to advance the CMMS initiative.

On December 5, 2012, the City issued a RFQUAL seeking interested, qualified vendors who could offer a CMMS that would successfully meet the prescribed mandatory and functional requirements established by a cross section of stakeholders across the Corporation.

On December 13, 2012, the Purchasing & Supply Division held a pre-submission meeting, (optional attendance), to provide vendors with an opportunity to meet the CMMS steering committee and to have questions or concerns addressed. Three Addendums were issued throughout the process. On January 15, 2013, the RFQUAL closed and 7 submissions were received.

The Purchasing & Supply Division provided copies of the submissions received to the project managers for review and scoring. The initial review of the submissions noted that two of the seven did not provide all of the information asked for and were rejected. A subsequent in-depth review and analysis of the remaining submissions by the project managers determined that four of the five submissions received were unable to meet all seven of the Mandatory Requirements specified in the RFQUAL document.

Of the five submissions that were given a comprehensive review by the City's consultant, one vendor met the RFQUAL's prescribed Mandatory Requirements. These Mandatory Requirements provided Administration with a level of confidence that, at a minimum, qualified vendors were capable of providing:

- a product that was compatible with our current ITS platforms,
- alignment with the City's ITS strategy,
- utilization of the City's current GIS Geodata base,
- a map based interface as the main screen of the CMMS for ease of use and efficiency (similar to the existing Hydrant Maintenance Application, Tree Inventory, and Sidewalk Maintenance Application that was developed internally by ITS several years ago).

Financial Impact:

The capital, licensing, and implementation costs of the CMMS solution will be negotiated with ESRI Canada Limited. This will be accomplished through a Technical Road Map Session between Civic Administration and ESRI Canada Limited. This session will enable the development of a full statement of work, project plan, and total project cost, including capital, implementation and annual operating costs. Civic Administration will provide a follow up Information Report outlining the outcome of the Technical Road Map Session, including project costs. It is worth noting that our consultant, CH2M Hill, has provided a budget estimate, which we are protecting at this time in an attempt to preserve a competitive advantage during the negotiation phase. Between the various EES Service Areas, there is sufficient pre-approved 2013 budget to financially support this estimate.

A CMMS implementation of this size, spanning four distinct Operations areas, may result in a need for additional staff resources in order to maintain, operate, provide troubleshooting support, and to coordinate the CMMS system with the end users. However, this potential overhead will be offset by efficiencies gained over the longer term. Through discussions with the vendor, staff will be able to determine short and long term resource commitments to manage the system appropriately. Changes in staffing brought about by the new CMMS will be included in future budget submissions.

Conclusion:

The concept of a formal computerized maintenance management system is not new, in fact, the notion of managing the City's water distribution system originated in 1989 with the former Public Utility Commission (PUC). In 1991, CMMS software was purchased and implemented by the PUC, however subsequent replacement software was designed for fixed address facilities as opposed to management of linear assets that span thousands of kilometres. A computerized maintenance management system (CMMS) is warranted now. Third party recommendations reflect staff's continued realization that in order to manage the City's ever growing and complex infrastructure efficiently and effectively, a significant shift is required from its current "as is" paper based business practices to a more sound and sustainable solution through available

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technology. The proposed system will be supportive of the City’s Corporate Asset Management program.

The intent of the Corporate Asset Management program is to manage the City’s assets in a strategic, comprehensive and organization-wide manner. It requires the commitment of staff to plan, construct, acquire, operate, maintain, renew, replace and dispose of the City’s assets in a way that ensures sound stewardship of public resources while delivering valued customer service. A CMMS will become a critical support to the Corporate Asset Management program with information being fed directly into its system via front line Operations staff as work is undertaken and completed.

While it’s difficult to accurately quantify the financial impact at this time, there is every indication and confidence that a savings will be realized through efficiencies gained. Operational studies undertaken independently of this project suggest approximately 5% annual operating cost savings once fully implemented.

The proposed CMMS system will become the nucleus of the City’s day-to-day operations, enabling staff to deliver a strategic, timely, effective, efficient and economical service to its valued customers. Further, a computerized maintenance management system will have the capability of providing critical information to support the Corporate Asset Management program. Effectively managing the City’s ever growing, complex infrastructure and meeting the associated legislative requirements and becoming eligible for future infrastructure funding programs are the primary drivers behind this project. The purchase of a CMMS will bring the City of London up to par with most of the City’s surrounding municipalities in the application of this technology.

Acknowledgements:

This report has been prepared with input from John Simon, P. Eng., Division Manager, Scott Koshowski, P. Eng. Environmental Services Engineer, Rick Pedlow, C.E.T. Division Manager and John Freeman, Manager, Purchasing and Supply.

PREPARED BY:	RECOMMENDED BY:
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c.c Cathy Saunders, City Clerk