SUBJECT: Fire Alarm Capital Renewal Program: Downtown Hamilton Facilities (PW05118) - (Ward 2 with City Wide Implications)

RECOMMENDATION:

(a) That staff be authorized to enter into detailed negotiations with Honeywell Ltd. through a single source process to replace the obsolete components of the fire alarm system in five downtown Hamilton facilities; (Copps Coliseum, Hamilton Convention Centre, Hamilton Place, Hamilton Parking Garage, Central Utilities Plant).

(b) That the total cost for the project, an upset limit of $770,000, (including all relevant taxes) be funded from the 2004 approved Capital Budget, “Capital Renewal - Fire Alarm at Various Facilities”, Project 3540441498.

(c) That subject to a favourable conclusion of the above noted negotiations, and approval by the General Manager of Finance & Corporate Services, the Mayor and the City Clerk be authorized to execute an agreement in a form satisfactory to Corporate Counsel.

Beth Goodger
Acting General Manager
Public Works
EXECUTIVE SUMMARY:

In 2002, the current maintenance vendor, Honeywell was asked to review the state of the Fire Alarm Systems in five Hamilton Downtown Facilities and to propose a capital renewal project to replace major components of the Fire Alarm Systems. Honeywell proposed to deliver the capital renewal project, which would generally consist of replacing the aging and nearly obsolete equipment but retaining the end devices and wiring.

In 2004, City Council approved the Capital submission, recommending acceptance of $870,000 to carry out the capital renewal project of the Fire Alarm Systems in five Downtown Hamilton Facilities which are:

1. Central Utilities Plant
2. Copps Coliseum
3. Hamilton Convention Centre
4. Hamilton Parking Garage
5. Hamilton Place

A formal proposal was submitted by the current vendor, dated November 3, 2004, to the Facilities Section to carry out the replacement of the Fire Alarm Systems at the five facilities as a capital renewal project. Currently, Honeywell provides the maintenance work for the Building Automation System (BAS) and the Fire Alarm System. The Facilities Section, in turn, carried out a due diligence study and assessed the risks attached to a single sourcing process.

The possibility of Single Sourcing was reviewed at different levels as follows:

- Detailed Analysis of the Single Sourcing Considerations and the risks involved.
- Review and analysis of the technical aspects of the consideration for Single Sourcing by Fire Protection Specialist, retained by the Facilities Section to assist in this exercise.
- Consultation with authorities having jurisdiction (Building and Licensing Division, Fire Prevention Bureau and with the City of Hamilton officials to discuss the various due diligence items.

City staff requires authorization from City Council to enter into negotiations to single source this project to Honeywell based on the following analysis and arguments.

Single Source Analysis Information:

The analysis of considerations for single sourcing is attached as Appendix “A”. The Appendix provides an assessment of each argument. The risk shown in the table is the risk faced through exposure to third party challenges as a result of the Single Sourcing decision. A high risk rating would mean that the decision for single sourcing based on that argument could be severely challenged by an alternate vendor with counter arguments. A medium risk rating suggests that the single sourcing decision based on that argument has some merit, but a counter argument to challenge the decision may be a possibility. A low risk rating would mean that an alternate vendor is very unlikely to have any counter arguments to challenge the single sourcing decision.

Single sourcing this project to Honeywell has many advantages. The major advantages are that the approach would:
• Provide faster delivery.
• Be a more cost effective process.

Further Considerations

At this stage of their life cycle, the systems discussed in this report are considered beyond their useful life. This would mean that they can function for an indeterminate length of time or they can fail at any time, the main difficulty being identifying the risk of failure. Providing a timeline for this occurrence is simply not possible.

Should a failure occur, it would trigger an emergency response resulting in costs that may not be fully controlled.

This report recommends that City Council approve and authorize staff to enter into detailed negotiations with Honeywell Ltd to replace the obsolete components of the Fire Alarm Systems in five Downtown Hamilton Facilities based on their proposal dated November 3, 2004.

BACKGROUND:

The information/recommendation contained within this report primarily affects Ward 2 and has City Wide Implications.

The City of Hamilton operates eight buildings in the downtown core including; Hamilton Place, Hamilton Convention Centre, Hamilton Central Library, Copps Coliseum, Hamilton City Hall, Central Utilities Plant, Art Gallery (energy supply systems only), and the Hamilton Parking Garage. The eight buildings are distributed over three City blocks in the core of the City.

In 1977, the City completed construction of the Central Utilities Plant (CUP) complete with its centralized electrical, heating, cooling and monitoring and control systems to supply the eight facilities noted above. The original Building Automation System (BAS) was comprised of a microcomputer located at the CUP with remote data acquisition. Since the inception, the BAS has been expanded several times, and in 2001 the BAS was converted to a digital control system, which offers far more precise control of energy consuming systems and requires less “hands-on” intervention by staff. The total project cost for the BAS upgrade was $1.9 million and was implemented by Honeywell Ltd.

Honeywell Ltd has been servicing Hamilton’s Downtown Facilities for more than forty-five (45) years, the first maintenance contract being Hamilton City Hall (circa 1960) and followed with the maintenance contract to the Central Utilities Plant (circa 1977). The contract is an all inclusive maintenance program of the Building Automation Systems and Fire Alarm Systems. In 2001, Honeywell was awarded, on a single source basis, a ten year service agreement (2002 - 2011): Eight facilities were included in this contract.

1. Central Utilities Plant
2. Copps Coliseum
3. Hamilton Convention Centre
4. Hamilton Parking Garage
5. Hamilton Place
6. Hamilton Central Library
7. Hamilton City Hall
8. Hamilton Art Gallery
Honeywell Ltd. submitted a formal proposal dated November 3, 2004, to the Facilities Section to carry out the replacement of the Fire Alarm Systems at the five facilities through Single Sourcing as a capital renewal project. They are the current vendor carrying out the maintenance work for the Building Automation System (BAS) and the Fire Alarm System. The Facilities Section, in turn, carried out a due diligence study and assessed the risks attached to a single sourcing process.

Honeywell proposes the XLS 140 Fire Alarm Controller and the Enterprise Building Integrator (EBI) for this project. The EBI is already in place for the five buildings attending to Heating, Ventilation and Air Conditioning (HVAC) functions and the proposed EBI will be able to communicate with the HVAC EBI.

The scope of work of this capital renewal project is as follows:

**Scope:**

Some of the critical components of the fire alarm systems in five City buildings are nearing the end of their service life and are in need of replacement. In order to avoid risk to life and property, replacement of the fire alarm equipment, at these five City buildings is imperative.

The capital renewal project consists of: (from Honeywell’s proposal dated November 3, 2004)

1. Obtaining a building permit for the project.
2. Replacing obsolete, existing fire alarm panels.
3. Removing existing XBS (Excel Building Supervisor) front ends, the application software acting as an operator interface.
4. Providing new front ends consisting of PCs with EBI Life Safety Manager Software.
5. Replacing the Electrovox Emergency Voice Communications control panels.
6. Deleting hand sets pending Hamilton Fire Dept. approval.
7. Replacing data communication links between front end components.
8. Reusing all existing fire alarm end devices, except where otherwise noted.
9. Reusing all existing field wiring, except where otherwise noted.
10. Providing XP6 module intelligent loop controllers for all existing loops; the loops will then be wired to new fire alarm panels as intelligent loops; the devices on the loops will remain as they currently are, non-intelligent devices.
11. Rectifying functional deficiencies discovered during the course of the work.
12. Removing the risk presented by equipment that is becoming more difficult to maintain and service.
13. Keeping the fire alarm systems functioning at their current level of performance in all of the buildings.
14. Performing verification on all of the fire alarm systems in this project.
15. Maintaining coverage at all times during the course of the project.
16. Maintaining protection at all times during the course of the project.
17. A Local Area Network (LAN) provided by the City of Hamilton for connecting the ancillary PC-based Server/OWS and Operator Work Station (OWS).

**Timelines:**

The time frame required to complete the upgrades is fifteen months as per the proposal.
Analysis of Single Sourcing Consideration:

In order to assess the risk of Single Sourcing, The City retained the services of V2PM through the City’s Project Management roster. The resulting study covered a number of risk considerations and provided a rating process. V2PM worked with engineers to define the technical parameters that would be part of the risk assessment. The latter was based on the Purchasing requirements versus current market conditions.

The Single Sourcing Considerations listed in the body of the report and their assessments lead to the conclusion that the advantages of single sourcing are many, in particular faster delivery, a more cost effective process and from a risk viewpoint deliver the renewed systems as soon as possible avoiding potential catastrophic failures.

Analysis of Alternatives:

The detailed identification of the required list of terminals and systems to be replaced is exhaustive and requires a fairly extensive knowledge of current technology as well as the specific items in their respective locations in the facilities. The current vendor has already produced a detailed scope of work on which they based their quote. If accepted, they can mobilize fairly rapidly. Should it be decided to select an open tender process then the following would be required:

- A clearly outlined Scope of Work that would have to be engineered as City staff may not have the qualifications nor the resources to dedicate to this project. This work when outsourced may cost around $100,000 in engineering fees for design and contract administration.

- The procurement process may take 4 – 6 months to produce the scope and retain a Contractor.

As previously indicated the risk of imminent failure is unknown at this time due to the age of the systems in place.

Financial/Staffing/Legal Implications:

Financial:

As part of the 2004 Capital Budget, City Council approved $870,000 to carry out the capital renewal project of the Fire Alarm Systems in five Downtown Hamilton facilities. Pricing in the chart below reflects Honeywell’s formal proposal submitted in late 2004.

<table>
<thead>
<tr>
<th>NO.</th>
<th>ITEM</th>
<th>PRICE - $ CANADIAN</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Copps Coliseum</td>
<td>$336,750</td>
</tr>
<tr>
<td>2</td>
<td>Central Utilities Plant</td>
<td>$32,825</td>
</tr>
<tr>
<td>3</td>
<td>Hamilton Convention Centre</td>
<td>$119,475</td>
</tr>
<tr>
<td>4</td>
<td>Hamilton Parking Garage</td>
<td>$112,950</td>
</tr>
<tr>
<td>5</td>
<td>Hamilton Place</td>
<td>$131,000</td>
</tr>
<tr>
<td>6</td>
<td>Telephone</td>
<td>$8,750</td>
</tr>
<tr>
<td>7</td>
<td>Contingency (lump-sum)</td>
<td>$35,250</td>
</tr>
<tr>
<td>8</td>
<td>Total price for the five buildings</td>
<td>$770,000</td>
</tr>
</tbody>
</table>
To date $67,000 has been spent on this capital project leaving $803,000 to fund the installation of the new Fire Alarm Equipment (including all applicable taxes).

**Staffing:**
There are no identified staffing implications arising out of these recommendations.

**Legal:**
Pending approval from City Council the Purchasing Manager in conjunction with staff from the Fleet & Facilities Division will enter into detailed negotiations with Honeywell to replace the obsolete components of the fire alarm systems in five downtown Hamilton facilities.

Subject to a favourable conclusion of the negotiations, the Mayor and City Clerk will be required to execute an Agreement in a form satisfactory to Corporate Council.

**Policies Affecting Proposals**

N/A

**Consultation with Relevant Departments/Agencies:**
The following offices were involved in the preparation of this report.

Fleet & Facilities Division, Public Works Department  
Financial Services Division, Purchasing Section, Corporate Services  
Budgets & Finance Division, Corporate Services  
Risk Management, Corporate Services  
Building and Licensing Division, Planning and Economic Development Department, Fire Prevention Bureau, Hamilton Emergency Services  
Hine Reichard Tomlin Inc. (Fire Protection Specialist)  
V2PM - Project Advisors

**City Strategic Commitment:**
Support for the recommendations in this report will ensure that the City gets the best value in its purchases and therefore is in a competitive position with respect to the delivery of services to the community.

This is consistent with Council’s goal of being “A City that spends wisely and invests strategically.”
## Analysis of considerations for single sourcing

<table>
<thead>
<tr>
<th>No.</th>
<th>Single Sourcing Consideration</th>
<th>City of Hamilton Comments &amp; Assessment</th>
<th>Risk</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>The current vendor has an excellent track record with the City of Hamilton delivering fast track, crucial projects. (Reference to the recent Chiller replacement performed for the City).</td>
<td>Argument noted and of interest.</td>
<td>Low</td>
</tr>
<tr>
<td>2</td>
<td>The current vendor has been servicing the fire alarm systems in the five buildings for 20 years. They know these fire alarm systems in a manner that no other company can match.</td>
<td>This position would be strengthened if current Vendor maintained the same technician that has serviced referenced buildings for the past 5-10 years</td>
<td>Low</td>
</tr>
<tr>
<td>3</td>
<td>Through the maintenance contract that the current vendor is currently providing, they will use the &quot;grandfather clause&quot; so that the fire alarm systems do not have to be replaced completely but can be modified by means of a capital renewal project that has already been approved by the City of Hamilton's Fire Marshall. A total replacement of the fire alarm systems would cost in the order of $2,500,000.00.</td>
<td>Fire Department does not necessarily endorse this assertion.</td>
<td>High</td>
</tr>
<tr>
<td>4</td>
<td>In Copps, the current vendor will not have to run new conduits and wires. Conduits and wires are presently in concrete under the ice in runs known to them and They know how to, and can, reuse this conduit and wire.</td>
<td>If construction documents exist that show conduit routes they remain the property of the Owner and should be turned over. In any case wire runs can be verified with modern technology.</td>
<td>High</td>
</tr>
<tr>
<td>5</td>
<td>The updated fire alarm systems are immediately compatible with the EBIs installed in the same five buildings doing HVAC control and the two EBI systems share many features. At the very least, this will save training costs, and will make operating staff more productive because they can use the same knowledge to operate both the fire alarm systems and the HVAC control systems.</td>
<td>Argument is of interest. Other Vendors may absorb training costs, but not cost of Owner's time.</td>
<td>Low</td>
</tr>
<tr>
<td>6</td>
<td>Because of the common elements shared by the EBI, HVAC, BAS and the proposed EBI. Fire Alarm system, the building operations will be greatly simplified.</td>
<td>Alternate Vendors could challenge this argument with integrator software of their own.</td>
<td>Medium</td>
</tr>
<tr>
<td>7</td>
<td>The City of Hamilton has already paid for most of the EBI software as a part of the upgrade of the HVAC controls to EBI/DDC control. This saving is included in the price for the fire alarm capital renewal project.</td>
<td>Additional software cost for alternate Vendor may not be realized depending on Vendors pricing strategy.</td>
<td>Medium</td>
</tr>
<tr>
<td>8</td>
<td>Alarms from the EBI HVAC BAS and from the EBI Fire Alarm system can be directed to appear at just one or the other of the EBIs on a scheduled basis. This will allow an operator to cover both the HVAC and fire alarm systems during off-hours when staffing levels are reduced.</td>
<td>Alternate Vendors through an integrator may also claim to achieve this operator convenience feature.</td>
<td>Medium</td>
</tr>
<tr>
<td>9</td>
<td>The current vendor will use its intimate and Alternate Vendors knowledge of existing</td>
<td>Low</td>
<td></td>
</tr>
<tr>
<td>No:</td>
<td>Single Sourcing Consideration</td>
<td>City of Hamilton Comments &amp; Assessment</td>
<td>Risk</td>
</tr>
<tr>
<td>-----</td>
<td>-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
<td>--------------------------------------------------------------------------------------------------------</td>
<td>------</td>
</tr>
<tr>
<td>10</td>
<td>extensive knowledge of the fire alarm systems in the five buildings to make a capital renewal project possible. Honeywell knows exactly what devices and wiring has to be replaced and what can be reused.</td>
<td>systems would approach current Vendors upon completion of a necessary detailed assessment.</td>
<td>Medium</td>
</tr>
<tr>
<td>11</td>
<td>Most of the fire alarm systems consist of significant amounts of current vendor’s equipment. They know best how to deal with this equipment in terms of a capital renewal project.</td>
<td>Upon completion of detailed assessment, alternate Vendor’s could determine how to deal with existing equipment (re-use or replace). The current Vendor’s position would be strengthened if alternate Vendor system were not compatible with existing equipment (i.e. requiring replacement of wiring and/or field devices).</td>
<td>Low</td>
</tr>
<tr>
<td>12</td>
<td>The current vendor is best suited to perform the switchover fast and reliably. The old fire alarm systems will be kept running until the last possible instance; the updated portions will be brought online gradually. The current vendor completed a successful switchover for the HVAC EBI.</td>
<td>Alternate Vendors may make same claim.</td>
<td>Medium</td>
</tr>
<tr>
<td>13</td>
<td>Because of its extensive knowledge of the existing fire alarm systems, the current vendor can offer the most firm price for the capital renewal project and can assure that there will be no overruns.</td>
<td>Alternate Vendor’s should be required to complete a detailed assessment of existing system at their cost such that they could provide fixed price without overruns.</td>
<td>Medium</td>
</tr>
<tr>
<td>14</td>
<td>Because the current vendor performs the yearly inspection on the fire alarm systems, they offer the most accurate means of converting the existing control sequences and system interlocks to the updated fire alarm systems.</td>
<td>Construction documents should be available to assist in this function.</td>
<td>Medium</td>
</tr>
<tr>
<td>15</td>
<td>From financial, technical, operational and performance points of view, The current vendor presents the lowest risk in executing the capital renewal project for the fire alarm systems in the five buildings of the City of Hamilton.</td>
<td>The existing building management system could access data from alternate Vendor’s through an integrator, however, may not be seamless.</td>
<td>High</td>
</tr>
<tr>
<td></td>
<td>The City has purchased and has licences for an Enterprise Building Integration (EBI) system that links all sites and provides data management and system reporting for their operations department. There are two fire alarm systems that are compatible with the EBI - Honeywell XLS140 (used in this proposal) or Edwards EST-3. Any other fire alarm system would not be able to utilize the EBI that has already been purchased at considerable expense to the City.</td>
<td></td>
<td>Medium</td>
</tr>
<tr>
<td>No:</td>
<td>Single Sourcing Consideration</td>
<td>City of Hamilton Comments &amp; Assessment</td>
<td>Risk</td>
</tr>
<tr>
<td>-----</td>
<td>-------------------------------</td>
<td>---------------------------------------</td>
<td>------</td>
</tr>
<tr>
<td>16</td>
<td>The City is familiar with the Honeywell EBI, and Project Management Team. There would be lower costs for the City with regard to training and implementation, as The current vendor has detailed knowledge of the existing fire alarm systems and buildings. There is also less risk for the City as maintaining existing systems and implementing new systems all belonging to one Company; therefore there is no finger pointing in case of questions and problems (such as, unclear scope, misunderstood details, etc).</td>
<td>Alternate Vendors may challenge this item. The one shop responsibility counterbalances.</td>
<td>Medium</td>
</tr>
<tr>
<td>17</td>
<td>The current vendor has included in its proposal all necessary demolition, removal of old equipment, and temporary reprogramming of the existing fire alarm systems to facilitate the switchover. Should another company undertake the work, this consideration would have to be involved to help resolve de-installation issues of existing Honeywell equipment.</td>
<td>We would expect current Vendor to be professional enough to work with alternate Vendor as required to facilitate switchover. A cash allowance could be required.</td>
<td>Medium</td>
</tr>
<tr>
<td>18</td>
<td>The City has an existing service contract with the current vendor for the fire alarm systems which can simply be renegotiated to compensate for new equipment and additional sites. With a new vendor these contracts will have to overlap with the new installation and subsequently cancelled (assuming the consideration cannot support the new vendor). This would result in additional administration for the City and possible cancellation fees.</td>
<td>Item noted and could be construed as threatening.</td>
<td>Medium</td>
</tr>
<tr>
<td>19</td>
<td>The existing HVAC EBI interacts with the fire alarm systems for smoke control and shutdown. These functions will be more easily maintained at lower cost when the fire alarm systems are also based on EBI.</td>
<td>Functions are assumed operational now without an EBI fire alarm system.</td>
<td>Medium</td>
</tr>
<tr>
<td>20</td>
<td>A contractor other than the current vendor will have to provide more fire watches because of less familiarity with the fire alarm systems and longer switchover times because of incompatibilities between fire alarm systems and HVAC control systems.</td>
<td>Alternate Vendors could challenge this item.</td>
<td>High</td>
</tr>
<tr>
<td>21</td>
<td>The current vendor includes all necessary consultants' fees in its proposal and has submitted a ready-to-go proposal. The costs for the City to retain design consultants to create the tender documents and to pay for a lengthy tendering process and all extra costs that the city does not have to incur. This approach would also lengthen the time to implement the project.</td>
<td>Item has more of an impact if project deemed a total replacement.</td>
<td>Medium</td>
</tr>
<tr>
<td>No:</td>
<td>Single Sourcing Consideration</td>
<td>City of Hamilton Comments &amp; Assessment</td>
<td>Risk</td>
</tr>
<tr>
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<td>-------------------------------------------------------------------------------------------------------</td>
<td>------</td>
</tr>
<tr>
<td>22</td>
<td>The current vendor has already invested many hours and dollars to pre-engineer the capital renewal project for the fire alarm systems. Much of the design of the altered</td>
<td>Although Alternate Vendor pricing may absorb pre-engineering cost.</td>
<td>Low</td>
</tr>
<tr>
<td>23</td>
<td>The city has an existing service contract with the current vendor which runs through to 2011. This has allowed the current vendor to use a grandfather clause to allow the capital renewal project for the fire alarm systems. They are in the midst of changing old devices such as smoke detectors.</td>
<td>The current Vendors position would be strengthened if another Vendor could not implement a capital renewal upgrade of the existing Fire Alarm Systems.</td>
<td>Low</td>
</tr>
</tbody>
</table>

**NOTES:**

EBI - Enterprise Building Integrator. It is an online application platform developed by Honeywell for building systems management (security, HVAC controls etc).

For risk ratings details, they are extracted from the full “Risk Assessment Report”

- **High:** The City could be severely challenged by a contender and the City may not have any arguments to support single sourcing.
- **Medium:** The City could be challenged by a contender, but City may have some arguments to support single sourcing.
- **Low:** The City could not be challenged by a contender and the City have arguments to support single sourcing.