SUBJECT: Mobile Data Terminals for Hamilton Emergency Services - Fire (HES09007) (City Wide)

RECOMMENDATION:

(a) That Intergraph’s Suite of software for Computer Aided Dispatch (CAD) is approved, as the City of Hamilton’s standard to provide an end-to-end integrated dispatch solution for Fire Services, for a period of five (5) years (2009 through to 2014).

(b) That Motorola’s line of rugged mobile computers is approved, as the City of Hamilton’s standard for mobile data terminals (MDT) hardware in all Fire Service vehicles and for handheld operation, for a period of five (5) years (2009 through to 2014).

EXECUTIVE SUMMARY:

This report proposes and seeks approval for fixed term “manufacturer’s standard” for the purpose of providing an end-to-end dispatch solution that integrates with the City of Hamilton’s (City) current investment in dispatch / communication related hardware and software technologies.
The proposed manufacturer's standardization is in accordance with Purchasing Policy #14 and will provide the Department with a solid solution for capturing and providing critical information to first responders in a timely manner.

Implementing an end-to-end single sourced dispatch solution allows for a more comprehensive solution and reduces support and downtime during version upgrades of these systems.

Equally important is the selection and implementation of the hardware solution which forms the critical foundation for the CAD / MDT environment. Deploying MDT in the Fire Service presents many challenges; the selected hardware must be able to function in a harsh environment.

**BACKGROUND:**

The Hamilton Emergency Services, Fire Division started utilizing Intergraph’s Computer Aided Dispatch System (CAD) approximately nine (9) years ago. The implementation of this system was a joint venture between Hamilton Police Services and Fire. In the Fire Service, CAD manages a complex dispatch matrix that matches the closest available unit that contains the required resources to deal with the incident. The implementation of CAD streamlined the dispatch process but is still limited by the amount of information that can be effectively relayed to responding crews at the time of dispatch. To overcome this limitation, Fire Services is implementing MDTs in all fire emergency response vehicles. Implementation of an integrated mobile data solution allows for timely delivery of information to first responders in conjunction with minimizing the workload to maintain this information. Timely delivery or push of information allows for improved service to our citizens as well as increased health and safety for our first responders.

The implementation of additional Intergraph CAD modules will allow for the following enhancements over the current CAD environment:

a) Standardized electronic mapping in both the vehicle and CAD system, thereby minimizing any confusion that could occur while trying to locate route to scene of the incident;

b) Real-time tracking of all fire response vehicle locations to ensure that the closest equipped vehicle is selected to respond to the scene;

c) Ability to provide routing information to scene of incident based on available data;

d) Provides for a secure medium to relay information to and from dispatch via CAD messaging interface so that responding crews can be updated while on route to the scene;
e) Improved accuracy in recording response times, combined with a reduced risk of repetitive moment injuries for Communications Staff through the implementation of onboard status head functionality, thereby allowing responding crews to identify their own vehicle status (i.e. on route, arrived, available on-scene, in-station) vs. giving a verbal update on the radio and then having Communications Staff update CAD;

f) Ability to push relevant information to responding crews regardless of whether they are in the station or on the road. Currently this is accomplished through a Fire Station Printing Interface which prints out a response report for each apparatus before they leave the station. Accomplishing this task through the use of a MDT allows for crews to be sent information while on the road and updated on route to the call if more information becomes available;

g) Allows for responding crews to have seamless access to fire pre-plan and property access information while on route to and at the scene of an incident. Intergraph’s “I/Informer” interface allows for real-time inquiries into the department’s records management system (RMS) during the dispatch process. If hazard and/or pre-plan information exist on a specific property, this interface will allow for this information to be pushed to responding crews so they are alerted that this information exists prior to their arrival.

Standardization to Motorola fixed mounted rugged computer platform is preferred because these devices are targeted specifically at the public safety market and are engineered to withstand the demands of this environment. More specifically Fire Services is looking at the implementing the MW810 fixed-mounted mobile computer and the MC75 Handheld Computer. Motorola has a long history of working with and supporting the public sector and designing products that are durable and perform reliably over time.

Utilizing Motorola’s fixed mounted rugged computer platform in conjunction with the upgraded Corporate Radio System (Astro P25 Trunking System with HPD data overlay) allows for an end-to-end engineered mobile computing environment to support the CAD/MDT software. This once again simplifies support of the overall system of this mission critical application.

Additional benefit of standardizing on the Motorola platform is being able to leverage our purchasing power when these units are purchased during the upgrade of our Corporate Trunk Radio System. Motorola has recognized the investment that has been made in their technology and thus will provide an appropriate discount that reflects the overall investment that the City has made as whole.
ANALYSIS/RATIONALE:

Purchasing Policy #14 – Policy for Standardization states that standardization is a management decision-making process that examines a specific common need or requirement and allows the Client Department(s) to select a good and/or service that best fills that need to become a standard.

Purchasing and maintaining one (1) software suite of CAD software and one (1) make and model of mobile fixed computer simplifies and lowers the long-term operating costs of the system. This will allow for continuity and consistency of training and interoperability. It will also minimize support requirements and lower requirements for sparing which is required to provide continuity of service should an equipment failure occur.

ALTERNATIVES FOR CONSIDERATION:

While other software solutions are available that can provide a baseline of similar functionality, integration of disparate systems can prove to be problematic and costly to support during overtime due to incompatibilities that can arise during regular version upgrades.

Similarly, the same is true for the hardware. Staying on a single vendor platform end-to-end allows for tighter integration and single sourced support for this mission critical application.

FINANCIAL/STAFFING/LEGAL IMPLICATIONS:

Financial:
The acquisition will be funded from the previously approved Record Management Module / Computer Aided Dispatch (CAD) Project #7400757700 and Mobile Data Terminals and Training Project #7400951904.

The implementation of the goods and services looking to be standardized will be funded out of allocated capital projects.

Annual software maintenance fees cover all bug fixes, system upgrades and 24/7 phone/remote/on-site support (depending on severity of problem) for the Intergraph CAD system.

As a result of the implementation of additional modules/systems noted above, it is expected that there will be an increase of approximately $50,000 for annual software maintenance fees commencing in 2012. This will be brought forward in the 2011 budget deliberations.

Staffing:
None.
Legal: None.

**POLICIES AFFECTING PROPOSAL:**

Purchasing Policy #14 – Policy for Standardization states that standardization is a management decision-making process that examines a specific common need or requirement and allows the Client Department(s) to select a good and/or service that best fills that need to become a standard.

The establishment of the Intergraph Suite of CAD Software and the Motorola line of Rugged Computers will result in a single source purchase, and this purchase shall be approved by the Manager of Purchasing and Council.

**RELEVANT CONSULTATION:**

Corporate Services Department, Financial Services Division, Purchasing Section

**CITY STRATEGIC COMMITMENT:**

By evaluating the “Triple Bottom Line”, (community, environment, and economic implications) we can make choices that create value across all three bottom lines, moving us closer to our vision for a sustainable community, and Provincial interests.

**Community Well-Being is enhanced.** ☑ Yes ☐ No
Public services and programs are delivered in an equitable manner, coordinated, efficient, effective and easily accessible to all citizens.

**Environmental Well-Being is enhanced.** ☑ Yes ☐ No
Human health and safety are protected.

**Economic Well-Being is enhanced.** ☑ Yes ☐ No
Hamilton's high-quality environmental amenities are maintained and enhanced.

Does the option you are recommending create value across all three bottom lines?  ☑ Yes ☐ No

Do the options you are recommending make Hamilton a City of choice for high performance public servants? ☑ Yes ☐ No