






Hamilton

INFORMATION REPORT

TO:	Mayor and Members General Issues Committee
COMMITTEE DATE:	December 5, 2022
SUBJECT/REPORT NO:	Upgrade of 911 System to the Next Generation 911 Messaging Service Delivery (FCS20082(a)/HSC20045(a)/PW22087) (City Wide)
WARD(S) AFFECTED:	City Wide
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COUNCIL DIRECTION

N/A

INFORMATION

On June 1, 2017 the Canadian Radio-television and Telecommunications Commission (CRTC) mandated that all telephone companies update the network to provide Next Generation 911 Service (NG911) to all Canadians. The original deadline of March 2022 was subsequently extended to March 2025. At that time, the current 911 systems will

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become legacy and are scheduled to be decommissioned. Failure to replace the systems will result in disruption (failure) of 911 services provided by the City of Hamilton (City). Bell (NG911 service provider) and the Emergency Service Working Group (ESWG) recommend all municipalities have their Call Handling System (CHS) fully operational by March 2024, to allow for Bell's cutover timeline. Bell requires 9 months to complete their cutover.

In 2021, Hamilton Police Service, as the Public Safety Answering Point (PSAP) and the Hamilton Fire Department, engaged an external consultant through a competitive process. As the successful consultant, Federal Engineering (FE) is part of a multi-phase project engagement to study the current environment, monitor CRTC and other legislative requirements and provide guidance and recommendations to implement NG911. The engagement is currently ongoing and is scoped to include staffing/resource and gap analysis assessments for NG911.

The Information Technology capital budget for the technology solution was approved by Council in 2020 for \$6M with an operating budget impact estimate of \$312K. This was to cover hardware and software costs, implementation, training, as well as for an external Project Manager with the appropriate subject matter expertise. The 2023 Tax Capital Budget proposes to increase this budget by \$1.76M to \$7.76M as further discussed below.

To mitigate the risks of supply chain issues, rising costs and to meet the CRTC deadline, Hamilton Police Service, as the Public Safety Answering Point (PSAP) along with the Hamilton Fire Department reviewed the Toronto Police Service Request for Proposal for NG911 and the response from the winning vendor Solacom. Solacom is acknowledged by multiple municipalities (NG911 service providers) as one of the leaders in the field. Based on the review and analysis done by both Hamilton Police Service and the Hamilton Fire Department, it was determined that if the City were to engage in a full-blown Request for Proposal (RFP) process to procure a Call Handling System, it would negatively impact their ability to meet the CRTC mandated deadline, and further decided that a 'piggyback' on the Toronto Police Service RFP would ease time pressures. Work is currently underway to leverage the "piggyback" clause in the Toronto Police Service RFP and engage in negotiations with Solacom for the Call Handling System. Hamilton Police Service and the Hamilton Fire Department have confirmation from the City's Manager of Procurement that the "piggyback" clause and the contract can be executed under Policy 12 of the procurement By-law.

Authorization to negotiate with Solacom was obtained from the City Manager. Hamilton Police Service and the Hamilton Fire Department will negotiate the terms and conditions, confirm the functional capability of the system, develop a contract with

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Solacom to the satisfaction of the City Solicitor and issue a Recommendation Report for Council approval prior to contract award.

The planned implementation model for the Call Handling System was originally a 2-site model with datacentres and PSAP's for both Hamilton Police Service and the Hamilton Fire Department co-located at 2 different physical sites that serve as backup to each other. The 2-site model reduces Call Handling System capital and operating costs. Due to time and space constraints the project is moving forward with a temporary 3-site model while planning for an eventual 2-site model. The NG911 project implementation success is dependent on having facilities that are appropriately suitable for PSAP and datacentres that are designated as 24/7/365 critical ("No Fail") environments.

Hamilton Police Service, the Hamilton Fire Department and Facilities are in the process of estimating the budget required to fully implement NG911 including Facilities Requirements and potential staffing enhancements.

Facilities Requirements:

In July of 2022, the Energy, Fleet & Facilities Management division was engaged to review facilities requirements and associated budgets. Working with all the stakeholders, the facilities requirements list (see below) was developed. Subsequently, numerous site locations and configuration options were investigated to determine the best solution.

Predetermined list of requirements:

- a) A minimum of two fully equipped live locations to ensure redundancy;
- b) Geographically distant locations to mitigate potential environmental disaster risks;
- c) Ability to meet growth requirements for both Hamilton Police Service and the Hamilton Fire Department;
- d) Enough space to co-locate Hamilton Police Service and the Hamilton Fire Department is preferred with future potential for Paramedic services;
- e) Location infrastructure suitability, availability and stability particularly for communication services, as well as, power and fuel supply;
- f) City managed facilities are preferred in order to control building climate and emergency power systems and mitigate other risks;

SUBJECT: Upgrade of 911 System to the Next Generation 911 Messaging Service Delivery (FCS20082(a)/ HSC20045(a)/PW22087) (City Wide)

- g) Specific mechanical and other technical requirements to house 24/7/365 critical environment PSAP /datacentres at each location;
- h) Phasing and timing required for the various components of the project including the implementation of the technology solution, Bell’s cut-over period and go live testing period;
- i) The Call Handling System for NG911 must be in datacentres that are at the same location as the dispatch staff;
- j) Enhanced building security systems; and,
- k) Ability to meet a fully project completion of March 2025.

After reviewing all potential location options and criteria, staff determined that a 3-site model is required as an interim solution to be able to meet all the requirements. The 3-site model is more economical than the 2-site model due to space constraints and requires less extensive renovations in the interim. The 3-site model also meets the timeline and provides redundancy during the phasing of the project (downtime required for Bell), so as, to mitigate operational risk during transition. Extensive renovation/construction work is required at Stoney Creek Municipal Centre and the Central Police Station.

The table below identifies the site locations and preliminary high-level budget estimates. These capital budget estimates are being validated and are subject to further adjustment.

Site Location New Space Requirements	Square Feet	Estimated Facilities Capital Budget
Stoney Creek Municipal Centre (777 Highway #8)	11,950	\$16,000,000
Central Police Station (155 King William Street)	3,000	\$4,200,000
Additional Technology stack required for 155 King William Street	NA	\$3,000,000
Multi Agency Training Centre (MATC) - Administration for 1227 Stone Church Road East (No new space required)	0	\$800,000
Total Square	14,950	\$24,000,000

SUBJECT: Upgrade of 911 System to the Next Generation 911 Messaging Service Delivery (FCS20082(a)/ HSC20045(a)/PW22087) (City Wide)

*Estimated Facilities Capital Budget does not include the technology solution except for at 155 King William line item (\$3M)

The facilities renovation estimates include the following components as applicable for each location:

- Design, consulting & engineering fees & administration
- Environmental due diligence
- Permitting, Project Management fees & other soft costs
- New Generator, UPS, Roof Antennas & Fibre -including redundancy at each site
- Enhanced Mechanical (HVAC) and electrical systems
- Office furniture, Dispatch Consoles & Lockers
- Demolition & Construction
- Security Features
- Moving expenses
- Signage

The previously approved capital budget of \$6M for the technology solution was validated against expected implementation costs and the high-level estimate provided by Federal Engineering for the Call Handling System. The revised budget is estimated at \$7.76M, an increase of \$1.76M and was included in the proposed 2023 Tax Capital Budget presented to General Issues Committee on November 25, 2022 through Report FCS22081.

The total high-level capital project budget estimate (including facilities renovations and technology) are shown below:

#	Item	Previously approved amount	2023 Budget	Total amount
1	Technology	\$6,000,000	\$1,760,000	\$7,760,000
2	Facilities	\$0	\$24,000,000	\$24,000,000
Grand Total		\$6,000,000	\$25,760,000	\$31,760,000

Funding sources for the Capital Facility portion of \$24M will be included in the follow-up reporting in January.

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Hamilton Police Services and Hamilton Fire Department will each submit their own operating impacts (possible staffing enhancements) related to the NG911 program in the applicable year of program commencement.

The operating impacts related to facilities and technology will come into effect on project completion (March 2024) and the following estimated operating impacts will be referred to the 2024 operating budget process:

#	Item	Previously approved amount	Top up Required	Total amount
1	Technology	\$312,000	\$738,000	\$1,050,000
2	Facilities	\$0	\$143,400	\$143,400
3	Additional Op Costs for Technology at King William	\$0	\$300,000	\$300,000
Grand Total		\$312,000	\$1,181,400	\$1,493,400

The operating costs impacts are subject to further validation and may change closer to the 2024 budget process.

The City has been informed that provincial funding may become available in the coming months to assist municipalities across the province with NG911 projects. Funding source announcements will be monitored and applied for, as applicable.

Hamilton Police Service, the Hamilton Fire Department and Hamilton Paramedic Services envision a future state permanent solution where all three service providers come together in an Emergency Services Campus style (2-site) model that will leverage expertise, shared technology resources and training to provide Hamilton city residents with ongoing excellent services that can evolve more quickly with anticipated future changes in technologies and legislation (CRTC). The future Phase 2 project envisioned in 5 to 10 years could possibly include a new Campus Facility that will bring the three service providers together.

Service level agreements will be negotiated, as required with the groups to establish facilities management services and responsibilities at the three locations.

The three facilities identified (Stoney Creek Municipal Centre, Police Central Station and the Multi-Agency Training Centre) were selected for the project because they meet the facilities requirements for the project specifically with regard to feasibility for communications infrastructure (fibre, communications tower), geographical risks, construction timeline and financial impacts.

Site selection for this project was subject to various constraints including but not limited to an extremely tight project completion deadline of March 2025, the availability of the required square footage unit in city owned space, the suitability for a critical environment operation, geographical and other risk mitigation requirements related to site infrastructure services and financial impacts.

The following alternative locations were considered and deemed not suitable for various reasons:

- 1) New Waterdown Fire/Police currently in planning stages for construction – timeline not feasible
- 2) Multi-Agency Training Centre – Expansion on various floors -insufficient space
- 3) Third Party leased locations – No suitable location was found, and other risks were identified with 3rd party leasing scenarios
- 4) 155 King William Street (Central Police Station) - Expansion within building -not advisable due to future considerations for this building however, it will work as an interim site
- 5) 282 Fennell Avenue West - Provincial authorisation was not feasible to meet timeline
- 6) Other City-owned buildings - None met all the criteria

This report has been prepared in consultation with Hamilton Police Services, the Hamilton Fire Department, Hamilton Paramedic Services and the Procurement Division.

A similar confidential report (Report #22-106) was presented to the Hamilton Police Services Board at the November 17, 2022 meeting.

APPENDICES AND SCHEDULES ATTACHED

N/A