



**City of Kingston  
Report to Council  
Report Number 18-218**

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<b>To:</b>	<b>Mayor and Members of Council</b>
<b>From:</b>	<b>Desirée Kennedy, Chief Financial Officer and City Treasurer</b>
<b>Resource Staff:</b>	<b>Jeff Bumstead, Chief Information Officer</b>
<b>Date of Meeting:</b>	<b>July 10, 2018</b>
<b>Subject:</b>	<b>Partnership with CFB Kingston – Digital Imagery Project</b>

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**Executive Summary:**

The purpose of this report is to recommend that the City enter into a cost share agreement with Canadian Forces Base (CFB) Kingston to participate in a high-level digital imagery project initiated by the Department of National Defense (DND). DND is moving forward with a major transformational effort to change the way in which it manages and reports on its assets and facilities. A pilot project has been approved to use Light Detection and Ranging (LiDAR) technology to capture high level imagery and asset information at CFB Kingston and the Royal Military College (RMC) starting in summer 2018.

The CFB Kingston project team has engaged the City's Information Systems and Technology (IS&T) Department to explore the mutual benefits of a cost sharing initiative to extend the project to capture 3D imagery for the entire City, including the urban and rural areas, and the 401 corridor. This would result in a high-definition, three-dimensional map and related data showing precise measurements for distances, clearances, elevations, and other aspects of critical infrastructure, which would be available for use by all City departments.

The approved IS&T capital budget has funding in place to start similar digital imagery work in 2018 with a goal to complete the initiative over the next two to three years. This cost sharing proposal from CFB Kingston provides the opportunity to complete this work in a much shorter time-frame and at a lower cost to the City.

The City's share of the total project cost will be \$170K. The approved IS&T capital budget includes \$70K that can be reallocated to this initiative. Staff is recommending that the remaining \$100K be funded from the Municipal Capital Reserve Fund.

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**Recommendation:**

**That** Council approve entering into a partnership with Canadian Forces Base Kingston to participate in a digital imagery project initiated by the Department of National Defense; and

**That** Council approve a budget amendment in the amount of \$170,000 for the digital imagery project, to be funded \$100,000 from the Municipal Capital Reserve Fund and \$70,000 from existing IS&T approved capital budgets; and

**That** Council authorize the Chief Information Officer or his/her delegate to review and approve all documents and agreements related to the cost sharing proposal with Canadian Forces Base Kingston which are in a form satisfactory to the Director of Legal Services; and

**That** Council direct the Mayor and City Clerk to execute all documents and agreements related to the cost sharing proposal with Canadian Forces Base Kingston, as approved by the Chief Information Officer or his/her delegate.

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**Authorizing Signatures:**

ORIGINAL SIGNED BY CHIEF FINANCIAL OFFICER AND CITY TREASURER

**Desirée Kennedy, Chief Financial Officer and  
City Treasurer**

ORIGINAL SIGNED BY CHIEF ADMINISTRATIVE OFFICER

**Gerard Hunt, Chief Administrative Officer**

**Consultation with the following Members of the Corporate Management Team:**

Lanie Hurdle, Commissioner, Community Services	Not required
Jim Keech, President & CEO, Utilities Kingston	Not required
Denis Leger, Commissioner, Corporate & Emergency Services	Not required

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**Options/Discussion:**

The Canadian Department of National Defence (DND) is moving forward with a major transformational effort to change the way in which it manages and reports on its assets and facilities. A pilot project has been approved to use Light Detection and Ranging (LiDAR) technology to capture high level imagery and asset information at Canadian Forces Base (CFB) Kingston and the Royal Military College (RMC) starting in summer 2018.

Improving collaboration across all project stakeholders and providing situational awareness to the surrounding area is a main driver for the DND initiative. The asset information collected for CFB will be used to create an inventory for reporting, maintenance and future planning requirements. The imagery and LiDAR data can also be used downstream for activities such as making accurate and precise measurements for distances, clearances, elevations, surface areas and other aspects of critical infrastructure.

The first phase of CFB Kingston and RMC Pilot will be the use of the Mobile CycloMedia Vehicle Technology to capture asset information for the base in 3D High Accuracy Imagery / LiDAR. A key objective of this phase is the use of the imagery to visually and accurately locate street, utility and other assets, and map those assets into an industry Standard CAD / GIS (ADSK / ESRI) system. The data capture, imagery, and LiDAR accuracies as well as interoperability with industry standard CAD / GIS technology and associated applications make this an excellent solution for asset capture.

The imagery will provide a detailed 3D image model of the base, shareable amongst stakeholders, and provide a data resource that will allow DND personnel to extract and locate asset data at their convenience. Work is scheduled to capture street-level imagery and asset information for CFB Kingston and RMC starting in summer 2018. DND has some flexibility with their project timelines for acquiring LiDAR data and stated they would be willing to adjust start dates should community partners be willing to participate.

The CFB Kingston project team has engaged the City's IS&T Department to explore the mutual benefits of a cost sharing initiative to extend the project to capture 3D imagery for the entire City, including the urban and rural areas, and the 401 corridor. This would result in a high-definition, three-dimensional map and related data showing precise measurements for distances, clearances, elevations, and other aspects of critical infrastructure, which would be available for use by all City departments.

The approved IS&T capital budget has funding in place to start similar digital imagery work in 2018 with a goal to complete the initiative over the next two to three years. This cost sharing proposal from CFB Kingston provides the opportunity to complete this work in a much shorter time-frame and at a lower cost to the City.

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The City has a number of projects and strategic initiatives that could benefit from capturing high quality and accurate street level imagery including:

- Asset inventory and data collection (buildings, roads, obstructions);
- Emergency operations situational awareness;
- Improved planning and development using 3D imagery;
- Remote asset condition assessment (building faces and road surfaces);
- Improved remediation planning (accurate measurements of repair and replace operations, including volumes);
- Improved community engagement for planning, proposals and visualization; and
- Improved communication across internal and external stakeholders with common access to imagery and associated data.

This initiative will provide a single, highly accurate, authoritative source of located based data that can be utilized by all City departments.

**Existing Policy/By-Law:**

Not applicable.

**Notice Provisions:**

Not applicable.

**Accessibility Considerations:**

Not applicable.

**Financial Considerations:**

The City's share of the total project cost for mapping of the urban area, the rural area and the 401 corridor will be \$170K. IS&T has reallocated funds from existing capital budgets for related work to fund \$70K of the cost. Staff is recommending that the remaining \$100K be funded from the Municipal Capital Reserve Fund.

**Contacts:**

Jeff Bumstead, Chief Information Officer, 613-546-4291, extension 1341

**Other City of Kingston Staff Consulted:**

Phil Healey, Manager, Geographic Information Systems, IS&T

**Exhibits Attached:**

Not applicable.