

Item:



Finance, Administration and Audit Committee Report

DATE: Wednesday, June 06, 2018

WARD(S): ALL

TITLE: LED Street Light Retrofit Project – Update and Budget Amendment

FROM:

Stephen Collins, Deputy City Manager, Public Works

ACTION: DECISION

Purpose

The purpose of this report is to provide Council with a status update on the procurement of the LED Street Light Retrofit Project and seek a capital budget amendment for the project.

Recommendations

1. That Staff proceed with a competitive procurement for the installation of LED street lights and adaptive controls, as part of the City-wide LED street light retrofit project, financed internally by the City;
2. That a capital budget amendment to Capital Project RP-2058-15 LED Streetlight Conversion in the amount of \$9.98 million, inclusive of applicable taxes and administration recovery, be approved with internal financing from the City; and
3. That the inclusion of this matter on a Public Committee or Council agenda with respect to increasing the Capital Budget identified as “LED Street Light Retrofit Project – Update and Budget Amendment” be deemed sufficient notice pursuant to Section 2(1)(c) of By-Law 394-2002, as amended.

Report Highlights

- The City of Vaughan will be converting the entire street light network to Light Emitting Diode (LED) fixtures as part of this project
- Subsequent to discontinuing the previous procurement process, it has been determined that the project would be best delivered in phases to maximize energy savings and secure a grant from Alectra Utilities for the City
- Phase 1 includes the retrofit of the existing street light network to LED fixtures, as well as the installation of adaptive controllers (to integrate SMART City technologies)
- A competitive procurement process will be used to deliver the project, with financing recommended to be sourced internally as compared to the Alternative Financing Procurement (AFP) that was previously proposed
- A capital project budget amendment is required, based on current estimated costs, to ensure sufficient funds exist in the capital project to proceed with the procurement

Background

In support of the City's Energy Conservation and Demand Management Plan, an LED Street Light Retrofit Study was developed and approved

In 2014, the City's Energy and Conservation Demand Management Plan recognized the significant reduction in energy consumption and savings in operating and maintenance costs that could result from a City-wide LED street light retrofit project. A business case was developed to support the retrofit project and evaluate alternative financing arrangements; it was recommended that the City pursue an Energy Performance Contract to deliver the LED street light retrofit project.

At its meeting of June 1, 2016, Council approved the LED Street Light Retrofit Study: Business Case & Financing Alternatives. The business case outlined the benefits of the anticipated project and documented the preliminary value for money gained by the City in its implementation.

The project scope was expanded to incorporate additional capital and operational programs

During the refinement of the project scope, opportunities arose through consultation with various departments. The scope was expanded to include all parks and open space lighting, the existing City street light pole replacement program and the long-term maintenance and operation of all City lighting. Each of these programs are currently managed under separate short-term contracts and their inclusion into the overall street lighting project would take advantage of economies of scale and appropriately transfer

the risk to the private sector for coordination and delivery, in-turn taking advantage of the resulting energy savings across all external City lighting.

This comprehensive approach towards City lighting and energy savings also maximized the opportunity to integrate SMART City technologies as identified within the City's Digital Strategy. Staff from various departments worked together to ensure that, where possible, the street and park lighting used could support any services that may be developed as part of the City's Digital Strategy.

Extensive research and analysis was undertaken to determine the best delivery model for the LED street light project

Staff undertook extensive research, carried out an environmental scan and determined that the selected delivery model of an Energy Performance Contract would help achieve the key benefits identified for this initiative while minimizing the overall risk to the City.

A comprehensive review of the financing model in support of delivering the project was also undertaken. Staff conducted an additional risk assessment and quantification based upon the two key financing options available: City sourced financing (debenture financing) and externally sourced financing obtained by the preferred proponent. These financing options were analyzed and compared by developing a Value for Money (VfM) model for each to determine whether the potential for the additional cost of externally sourced financing could be offset by the appropriate allocation of risk. The results of this analysis indicated that the external financing option would deliver greater value for money for the project. The results supported the procurement proceeding as a Design, Build, Finance, Operate and Maintain (DBFOM) model for the project.

The original procurement process included the issuance of a Request for Expressions of Interest (RFEOI), Request for Pre-Qualification (RFPQ) and Request for Proposal (RFP)

Request for Expressions of Interest (RFEOI) 16-474 was issued on November 21, 2016 and closed on December 17, 2016, for a Design, Build, Finance, Operate and Maintain (DBFOM) delivery model. This model was new to the City but overall, the project was well received by various firms within the industry.

Request for Pre-Qualification (RFPQ) 17-083 was issued on February 22, 2017 and closed on March 21, 2017. The submissions were evaluated and three proponents were selected and short-listed for the Request for Proposal (RFP).

Request for Proposal (RFP) 17-189 was issued on June 5, 2017 to the three pre-qualified proponents, and all three submitted proposals on or before the October 11, 2017 RFP closing date. The submitted proposals were evaluated. On March 23, 2018 the procurement process for RFP17-189 was discontinued and the proponents were notified.

Previous Reports/Authority

[April 3, 2017, Finance, Administration and Audit Committee, \(Item 6, Report No. 4\)](#)

[June 1, 2016, Committee of the Whole \(Working Session\) \(Item 8, Report No. 26\)](#)

Analysis and Options

To ensure that the greatest cost/benefit is achieved, modifying the scope of work to include only the retrofit of street lights to LED is recommended to advance the project

The discontinuation of the RFP provided an opportunity for staff to re-evaluate the project scope and determine the best approach moving forward that would allow the project to continue to proceed while continuing to deliver value for money for the City.

Staff considered the option of re-initiating the procurement of a DBFOM based on the same project scope and determined that the time required to carry out this process would result in a significant delay in the implementation of the project, that would further delay the realization of energy savings and negatively impact the opportunity for grant funding from Alectra. Alternatives were evaluated to keep the project on schedule while also considering the cost/benefit impacts.

Staff recommend moving forward by amending the project scope and delivering the project in phases. The updated scope of work will exclude the operation and maintenance components and will only include the replacement of all existing high-pressure sodium (HPS) street lights to LED, including an adaptive control system. The project will be delivered in phases whereby the first phase will be a retrofit of the entire street light network. Phase 1 will ensure that the City maximizes the energy savings through the conversion to LED technology, as well as, securing the available grant from Alectra Utility. The completion date for Phase 1 of the retrofit remains unchanged from the December 2020 date previously communicated.

Concurrently, staff will also initiate the next Phase of the project. As part of Phase 2, a detailed review of lighting levels will be undertaken in the known communities that were constructed to an earlier standard.

The retrofit of walkway, parking lot and sports field lighting will be undertaken in Phase 3, as analysis has identified that these lights will achieve lower energy savings. Timelines for this work have not yet been determined.

Financial Impact

The business case approved for the project in 2016 estimated the total upfront capital costs for the installation of the LED fixtures at approximately \$19.1 million. This amount excluded the cost of adaptive controls.

Through the previous procurement process, updated capital cost estimates were obtained for the additional scope items based on the estimated number of fixtures to be retrofitted, updated market pricing and the inclusion of adaptive controls. Based on these updated estimates, the revised total capital cost for installation is approximately \$28.8 million (\$29.6 million inclusive of consultant costs, taxes and administration recovery).

The project currently has approved Capital Project RP-2058-15 LED Streetlight Conversion with a budget of \$19.6 million which includes consultant costs, applicable taxes and administration recovery. A capital budget amendment of \$9.98 million inclusive of taxes and administration recovery is required, financed internally by the City, to ensure the capital project budget is sufficient to deliver the project based on latest cost estimates. The total revised capital project budget required is \$29.6 million.

A grant from Alectra Utilities will be used to reduce the amount of internal financing required for the project. The City will seek to maximize other grant funding opportunities to minimize the amount of internal financing required. Future energy savings realized from reduced energy consumption will be used to repay the internally financed amounts. The previous procurement process confirmed that energy savings of approximately 60% can be achieved with the LED retrofit, resulting in approximately \$2.4M in annual energy savings.

Broader Regional Impacts/Considerations

The City operates and maintains many of the street lights on Regional roads, while the Regional Municipality of York only operates and maintains the street lights at Regional intersections. To ensure consistency in the City's road network and promote collaboration in the provision of street lighting services, the City has engaged the Regional Municipality of York and provided them with the opportunity to partner in this initiative. The Regional Municipality of York continues to review options for its own LED street lighting retrofit initiative. As a result, Regional staff has decided not to undertake this project at this time. The Regional Municipality of York staff will be advised upon project commencement.

The City also operates and maintains street lights along Steeles Avenue. As Steeles Avenue falls under the jurisdiction of the City of Toronto, staff will advise the City of Toronto upon project commencement.

Staff will co-ordinate the approvals including mitigation of traffic impacts resulting from the proposed work, with the respective jurisdictions.

Conclusion

Staff recommend proceeding with only the retrofit of the LED street lights to maximize energy reductions and cost savings. A competitive procurement process will be undertaken for the installation of the LED retrofits.

For more information, please contact: Jack Graziosi, Director of Infrastructure Delivery

Attachments

none

Prepared by

Jack Graziosi, Director of Infrastructure Delivery, ext. 8201

Rita Selvaggi, Interim Director of Financial Planning & Development Finance, ext. 8438