



**The Corporation of the City of Cornwall**  
**Regular Meeting of Council**  
**Report**

Department: Financial Services  
Division: Purchasing  
Report Number: 2020-322-Financial Services  
Prepared By: Diane Leduc, Senior Buyer  
Meeting Date: August 10, 2020  
Subject: Non-Budget and Non-Competitive Procurement of Post-Top  
Decorative LED Lighting

**Purpose**

To provide Council with costing for Phase 2 of the City's LED Roadway Lighting Conversion Program.

**Recommendation**

That Council approve the non-budgeted and non-competitive procurement for Phase 2 of the City's LED Roadway Lighting Conversion Program from EARTH Corporation for a total of \$488,410.04 (net cost to Corporation – \$439,828.36).

**Financial Implications**

The Corporation has not budgeted for this initiative in the 2020 budget and proposes to finance the project. Financing payments will be offset by savings generated from reduced electricity and maintenance costs. Annual cost savings is estimated at an average \$86,000 over the first 6 years. Repayment of borrowed funds is to be structured so that payments for principal and interest are equal to the savings generated. This will result in an estimated 6 year payback period with no change in the annual budget.

## **Strategic Priority Implications**

The project includes the conversion of existing High Pressure Sodium (HPS) Post-Top Roadway Lighting Fixtures to LED, which addresses Economic Development and Pursuing Diverse Population Growth of 50,000: (4) Continue to Invest in Infrastructure as well as Being Leaders in Sustainability and Climate Change Impact.

## **Background / Discussion**

In 2015, the City issued a Request for Proposal (RFP) for the Turn-Key LED Roadway Lighting Design and Replacement. EARTH Corporation was the successful proponent through the RFP process.

In 2016, EARTH completed the design, and replacement of 4,283 High Pressure Sodium (HPS) cobra head fixtures, which encompassed the majority of the City's roadway lighting infrastructure, and has standard LED replacement rated at 22.8 years (100,000 hours). The anticipated payback period for Phase 1 of the LED conversion project was 6 years, through savings in energy and maintenance.

The RFP did not include post-top decorative lights as the standard LED replacements were expensive, not as energy efficient and they were only rated for 11.4 years (50,000 hours). Decorative post-top LED replacements are 2 to 4 times more costly than cobra head style and only have a service life of 11.4 years (50,000 hours). As such, their use would not make financial sense in terms of the investment recovery through energy and maintenance savings.

In light of the above, EARTH Co. provided a custom made solution for the majority of the older post-top HPS fixtures. The retrofit would involve a cobra head style light fixture complete with a 1.0 m aluminum bracket mounted to the existing poles. EARTH provided various photometric scenarios on a number of roadway sections and determined the best light distribution and the most cost-effective roadway lighting solution.

Following results of the photometric exercise, in 2019 the City implemented a pilot project involving the retrofit of 21 post-top decorative 'contempo' fixtures, with the 1.0 m arm and the recommended cobra head style fixtures (Philips-Lumec brand). The pilot project allowed Administration to visually assess the performance of the new luminaires and compare them with the existing 'contempo' post-top HPS fixtures nearby. The pilot project also included the



retrofit of 5 newer decorative luminaires of the Acorn style, uniquely retrofitted with a special LED lamp made by Philip-Lumec.

Results of the pilot project were very satisfactory in terms of light distribution.

In June 2020, the City requested EARTH Corp. to submit a proposal for Phase 2 of the City's LED Roadway Lighting Conversion Program. The scope of work would involve the replacement of all residential HPS post-top roadway lighting fixtures to LED. More specifically, the replacement of 543 older 'Contempo' style HPS light fixtures with the recommended Phillips-Lumec RoadFocus series LED cobra head style light fixtures complete with a 1.0m aluminum bracket, 2 older 'Contempo' style HPS light fixtures with the recommended Phillips-Lumec MetroScape post-top decorative LED light fixture and 127 newer style HPS Acorn light fixtures with a Philips-Lumec LED lamp.

The proposed retrofit will render significant savings when compared to a replacement of the fixtures with their equivalent LED decorative version and, in addition, will provide better roadway light distribution. The City can expect this project to be paid through savings in energy and maintenance in 6 years. The estimated time to complete the project is 15 to 20 weeks.

The total initial cost for Phase 2 of the City's LED Roadway Light Conversion Program is \$439,826.36 (net cost to the Corporation).

Document Title:	Non-Budget Non-Competitive Purchase to Retrofit Post-Top LED Lighting 2020-322-Finance.docx
Attachments:	- Pictures.pdf
Final Approval Date:	Aug 5, 2020

This report and all of its attachments were approved and signed as outlined below:

**Bill de Wit - Aug 4, 2020 - 4:05 PM**

**Tracey Bailey - Aug 4, 2020 - 4:53 PM**

**Maureen Adams - Aug 5, 2020 - 8:02 AM**