

Date: 2021-05-27

Subject: **Request to Begin Procurement of Decorative Light Emitting Diode (LED) for Street Light Conversion Project**

Contact: Van Thai, Coordinator, Traffic Street Lighting, Road Maintenance Operations and Fleet, Public Works and Engineering, (905) 874-3504

Report Number: Public Works & Engineering-2021-667

Recommendations:

1. **THAT** the report titled **Request to Begin Procurement of Decorative Light Emitting Diode (LED) - Street Light Conversion Project** to the Council Meeting of June 23, 2021 be received; and
2. **THAT** the Purchasing Agent be authorized to commence the procurement to select decorative LED fixtures to be used for the next phases of the City's LED Street Light Conversion Project; and,
3. **THAT** the Purchasing Agent be authorized to enter into direct negotiations with RealTerm Energy to extend their existing contract to provide engineering design, incentive application, fixture procurement, inspection and contract administration services; and,
4. **THAT** the Purchasing Agent be authorized to commence the procurement for the installation of decorative LED street lights at various locations throughout the City of Brampton.

Overview:

- Since 2012, the City has been installing LED street lights in capital projects, new development areas and through capital refurbishment projects within older subdivisions.
- Since 2018, The City has been working collaboratively with RealTerm Energy as part of the Association of Municipalities of Ontario (AMO) and Local Authority Services (LAS) Street Light Program and have successfully converted 23,306 High Pressure Sodium (HPS) cobra style street lights to LED in the City of

Brampton. This project was authorized by Council at its meeting of June 14, 2017 (Council Report No. R_222_2017_3269).

- The 2021 capital budget has funding approved to replace existing decorative HPS street lights with decorative LED street lights.
- Continuation of the City's Street Light Conversion Project will proceed with the following procurement processes:
 1. A procurement will be conducted to select a decorative LED fixture to be installed in the next phases of the street light conversion program.
 2. The negotiations with RealTerm Energy will include engineering design, fixture procurement, incentive application, inspection and contract administration services for a one (1) year period with four (4) additional one (1) year optional renewal periods, subject to the City's budget approval.
 3. A procurement will be conducted to hire two (2) contractors for installation of the decorative LED street light fixtures for a one (1) year period with four (4) additional one (1) year optional renewal periods, subject to the City's budget approval.

Background:

Since 2018, the City has successfully completed the replacement of High Pressure Sodium (HPS) cobra style street lights to LED as part of the Association of Municipalities of Ontario (AMO) and Local Authority Services (LAS) LED Street Light Program as previously approved by Council at its meeting of June 14, 2017 (Council Report No R_222_2017_3269). A total of 23,306 HPS cobra style street lights were upgraded to LED under this program.

Due to these upgrades, our 2020 street lighting energy costs are approximately \$2M less than they were in 2017. Additionally, on behalf of the City, RealTerm Energy worked directly with The Independent Electricity System Operator (IESO) throughout the LED street light replacement program and secured over \$1.7M in incentive dollars for the City through the IESO Save on Energy Program, of which over \$1.5M has been directed to the City's Reserve 30 Energy Efficiencies Fund.

Summary of LED Program to Date

		Installed (Cobra Style Fixture)			Total
Year	2017**	2018	2019	2020	
Quantity of Fixtures Upgraded	N/A	4,815	7,021	7,847	23,306
IESO Incentive	N/A	\$646,976	\$710,560	\$375,133	\$1,732,669
Energy Savings (kWh)	N/A	4,780,710	3,881,167	2,663,723	15,125,202
Green House Gas Reduction (Tons)	N/A	266.0	120.3	82.6	468.9
Annual Energy Costs	\$6,829,450	\$6,194,680	\$5,326,237	\$4,899,237	N/A

**2017 is displayed as a baseline for pre-upgrade energy costs.

In addition to the reduction of energy costs, these upgrades have also improved our system reliability allowing for a net zero increase in our demand maintenance budget in 2021. The installation of LED street lights was implemented by two pre-qualified contractors through a competitive procurement process. In addition to the installation of LED street lights, the contractors also completed an asset condition assessment in the field. Information collected through this condition assessment data will be incorporated into our asset management plan to drive future capital programs.

Current Situation:

The 2021 capital budget has funding approved to replace existing decorative HPS street lights to decorative LED street lights.

Decorative LED Fixtures

The AMO/LAS LED Street Light Program did not include the selection of decorative street light products; therefore, a public Request for Proposal will be conducted to select decorative LED fixtures for the City's 2021 LED street light conversion project. A public procurement will be conducted annually to ensure the City's standards are met and to obtain the most current LED technology available. The annual procurement shall be subject to the City's budget approval.

RealTerm Energy

The City's existing contract with RealTerm Energy is set to expire at the end of 2022. Extending this contract will allow for the continuation of this successful program. RealTerm Energy provides contract administration, mapping/data collection, and inspection services to ensure work is completed as per the contract and that ESA requirements are met. Furthermore, RealTerm Energy collects the street light pole condition assessment during installation of LEDs and this information is amalgamated into our asset management system.

Installation of Decorative LED Fixtures

The current agreements with the installation contractors will expire at the end of 2022. A new procurement process is required in order to secure new contracts for the installation of the decorative LED fixtures for a one year period with four additional one year optional renewal periods, and subject to the City's budget approval.

Anticipated Benefits

Through the continuation of the LED Street Light conversion project, it is anticipated that by 2025, further savings will be realized as we decrease our energy usage by over 7,000,000 kWh, and reduce our green house gas emissions by 223.6 tons. These savings will continue over the 20 year life of the new LED street light fixtures.

Year	Projections					Total
	2021	2022	2023	2024	2025	
*Estimated Number of Fixtures Upgraded	5,250	4,316	3,230	3,230	3,075	19,101
*Energy Savings (kWh)	1,982,699	1,629,968	1,219,832	1,219,832	1,161,295	7,213,626
*Green House Gas Reduction (Tons)	61.5	50.5	37.8	37.8	36.0	223.6

Assuming current project funding is maintained*

Corporate Implications:

Financial Implications:

Funding for recommendation #2 is available in the 2021 Capital budget within the Public Works and Engineering Department. Funding for recommendations #3 and #4 will be requested through subsequent Capital budget submissions, subject to Council approval.

Purchasing Comments:

Decorative LED Fixtures

A public Procurement Process will be conducted and the Bid submissions shall be evaluated in accordance with the published evaluation process within the bid document.

RealTerm Energy

The City will enter into negotiations with RealTerm Energy to extend the current contract. Upon successful conclusion, purchase approval will be obtained in accordance with the Purchasing By-law.

Installation of LED Fixtures

The pre-qualified Street Lighting Contractors will be invited to submit a Bid and the two (2) lowest compliant Bids will be eligible for contract award.

Purchase approvals for each of the above noted procurements will be obtained in accordance with the Purchasing By-Law.

All communication with Bidders involved in the procurements must occur formally, through the contact person identified in the Bid Document.

Term of Council Priorities:

This report achieves the Strategic Plan priorities by keeping people and goods moving efficiently by investing in new infrastructure and maintaining a state-of-good-repair through the Move and Connect initiative.

Council Priority – Lead Environmental Innovation

This report improves energy efficiency and increases resilience to climate change and implements environmental and energy efficiency standards across the City.

Conclusion:

It is recommended that the Purchasing Agent be authorized to commence the procurements as described in this report in order to continue with the success of the City's LED Street Light Conversion Project.

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