

Subject: LED Streetlight Replacement Update and +Smart Technology Options

Recommendation:

BE IT RESOLVED THAT Council receive Report #2023-0224 – LED Streetlight Replacement Update and +Smart Technology Options, for information.

Background:

In November 2022, RealTerm began Phase 1 of the conversion program for the Town of Pelham's entire streetlight network. At the end of January 2023, RealTerm completed 90% of the project which translated to 496 fixtures installed. Once again, due to weather conditions, the project schedule was pushed to be substantially completed by the first week of February 2023.

On February 23, 2023, RealTerm arranged an Installation Review Meeting with Town Staff and the contractor. The purpose of the meeting was to address deficiencies and determine the next steps following the installation period. The LED Streetlight Replacement Project Phase 1 has officially transitioned from installation to reconciliation. This means the installation has been successfully completed and moved to the maintenance period of the contract.

On April 5, 2023, staff presented to council report #2023-00932-Public Works – Update on the LED Streetlight Replacement Project. The purpose of the report was to provide an update on Phase 1 scope and project schedule. This report is being written as a subsequent update for informational purposes.

Analysis:

On February 6, 2023, Council approved Capital Project RD-04-23 in the amount of \$700,000 to undertake Phase 2 of the project. Staff intends to move forward with Phase 2 of the project and to provide an updated contract to RealTerm Energy in the amount of \$700,000 (including applicable taxes) to complete the work. Phase 2 includes 574 Cobrahead lights and 426 Decorative fixtures which will be upgraded for a total amount of 1000 fixtures. Phase 2 of the project will commence during the 3rd week of September 2023 and will be completed by the end of the calendar year 2023.

Overall, it is estimated that the Town's total savings for the Phase 2 conversion will be approximately 77% representing a capital project cost payback of approximately 4.7 years.

Implementation of Smart Technologies

Staff have been exploring options utilizing smart technologies incorporated into the Town's streetlight network. Smart Streetlights use LED lighting for superior, efficient lighting. With the installation of the new lighting heads, there is the option to have cameras embedded in the system with video capability, traffic monitoring, neighbourhood safety monitoring, Wi-Fi, and an array of environmental sensors.

RealTerm Inc have presented products, and associated costs, for the Town to consider including in the 2024 Capital Budget. Of particular interest to staff, traffic counting/monitoring cameras could be mounted on existing street poles. These cameras can collect traffic data as well as performing neighborhood safety monitoring. In addition, they can also be upgraded to provide wi-fi capabilities and an array of environmental sensors, such as air quality. Traffic data such as turning movement counts, 24-Hour automatic traffic recorder- speed/classification and volume would provide valuable data that could support future development. This would also give the Town the ability to conduct traffic safety studies.

Ideally, these cameras could be deployed in areas of the town with high traffic volume. This could also be installed in school zones to enhance pedestrian safety.

The Regional Municipality of Niagara currently charges for the traffic data that they provide to consultants as part of the development process, which cost could potentially be avoided and subsidize purchase of these technologies. Theoretically, the Town could also realize potential revenue from these technologies.

Financial Considerations:

With respect to the phase 2 work, the Town should realize approximately 77% in cost savings for utility operating costs (hydro) and reduced maintenance costs. For 1000 fixtures this represents approximately \$126,394 per year resulting in a project payback of 4.7 years on the capital investment.

Subject to Council's commentary, staff will be requesting a 2024 capital budget investment of \$100,000 as part of a pilot program for the installation of Traffic monitoring cameras mounted on selected areas of the streetlight network.

Alternatives Reviewed:

There were no alternatives reviewed in the drafting of this report since it is an update to Council on a previously approved capital project.

Strategic Plan Relationship: Infrastructure Investment and Renewal

Providing a reliable and efficient street lighting network allows for the safe and efficient transportation of vehicles and pedestrians within the Town. In addition, an LED Streetlight Conversion program is in alignment with the implementation of the Town's Climate Change Adaption Plan helping to reduce energy usage and reduce greenhouse emissions and also provides an economic benefit to the Town through lower operation and maintenance costs.

Consultation:

Consultation was undertaken with the Manager of Engineering and RealTerm Energy in the preparation of this report.

Other Pertinent Reports/Attachments:

APPENDIX A – Phase 2 LED Conversion end of project meeting minutes.

APPENDIX B – Ubicquia H5A Dual Head Camera

APPENDIX C – Livable Cities Cameras

Council Report #2022-0231 – Update on the LED Streetlight Replacement Project

Council Report #2022-0036 – LED Streetlight Conversion Binding Letter of Engagement between the Town of Pelham and RealTerm Energy Corp

Council Report #2021-0206 - Options for Implementing an LED Streetlight Conversion Program in the Town of Pelham

Council Report #2023-0092 – Update on the LED Streetlight Replacement Project

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