

Committee of the Whole Meeting Agenda



Monday, January 13, 2020, 2:00 p.m.

Council Chambers, Guelph City Hall, 1 Carden Street

Changes to the original agenda are noted with an asterisk "*".

	Pages
1. Call to Order - Councillor Gibson	
1.1 Disclosure of Pecuniary Interest	
2. Presentations	
2.1 Future-proofing Our Buildings Through Energy Efficiency Retrofits: Report to Guelph City Council in January 2020	1
Alex Chapman, Executive Director, Our Energy Guelph	
3. Consent Agenda - Infrastructure, Development and Enterprise Services	
The following resolutions have been prepared to facilitate Council's consideration of various matters and are suggested for consideration. If Council wishes to address a specific report in isolation of the Consent Agenda, please identify the item. It will be extracted and dealt with separately as part of the Items for Discussion.	
3.1 IDE-2020-03 Non-decorative LED Streetlight Upgrade Project Update	14
Recommendation:	
1. That Council authorize an increase in the approved project funding to be drawn from the Wastewater Capital Reserve Fund for the non-decorative LED streetlight upgrade project from \$8 million to \$9 million to ensure adequate contingency is available to address the observed high rate of existing inadequate electrical infrastructure to be rectified.	
2. That Council direct Staff to provide Wastewater Capital Reserve Fund repayment details prior to completion of the 2021 budget.	

4. Items for Discussion - Infrastructure, Development and Enterprise Services

The following items have been extracted from Consent Agenda and will be considered separately. These items have been extracted either at the request of a member of Council or because they include a presentation and/or delegations.

4.1 IDE-2019-128 Solid Waste Management Master Plan Update

22

(extracted from the December 6, 2019 Items for Information as requested by Mayor Guthrie)

Mayor Guthrie will speak to this item.

5. Service Area Chair and Staff Announcements

6. Adjournment

Status update and PACE financing report

City of Guelph Committee of the Whole
January 13, 2019



Coming up...

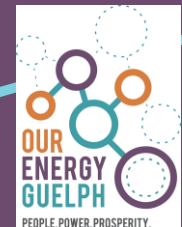
- Meet the Board of Our Energy Guelph
- Governance and general operations
- Guelph Energy Managers
- Education, Communications, Outreach, and Awareness
- PACE

Meet the Board of Our Energy Guelph

<p>Jonathan Knowles (President), Energy efficiency entrepreneur</p>	<p>Kirby Calvert (Chair), University of Guelph Dept. of Geography</p>	<p>Mark Colvin (Treasurer), eMerge Guelph Sustainability</p>
<p>Kristen Tilley (Secretary), Chamber of Commerce</p>	<p>Alex Ciccone, Attorney</p>	<p>Mike Darmon, Guelph Coalition for Active Transportation</p>
<p>Ceana Fan, Guelph Youth Council</p>	<p>Vicki Gagnon, Independent Electricity System Operator</p>	<p>Sara Ganowski, Alectra GRE&T Centre</p>
<p>Mike Kazmaier, Sub-metering entrepreneur</p>	<p>Indigo Kim, Guelph Youth Council</p>	<p>[Vacant], City of Guelph Business Development & Enterprise</p>
<p>Anne Toner Fung, Innovation Guelph</p>	<p>Brandon Raco, University of Guelph Sustainability Office</p>	<p>Dave Sabola, Energy manager</p>

Guelph Energy Managers

- Community of practice of energy and environment managers with Guelph's largest employers
- Each quarterly meeting is hosted by a member
- Owens Corning hosted in December
- Prior hosts include UofG, Polycon, Wastewater Treatment Plant, and (at the time) Guelph Hydro
- Member survey in September provided helpful guidance to improve the program
- In discussions to create a Green Economy Canada hub



Education, Communication, Outreach and Awareness

Youth Action on Climate Change

- Led survey and participatory mapping on active transportation to align with Transportation Master Plan

Random Acts of Green

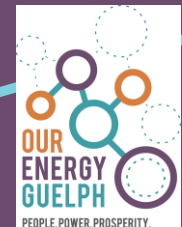
- Mobile device app that uses rewards to encourage sustainable behaviours
- Working on revenue sharing model

My World, My Choice

- UofG students mentoring high school students on sustainability
- Alectra has provided funding support

Planet Protector Academy

- Superhero-themed multimedia program with “missions” for students to complete



OEG's first order of business:

PACE (Property Assessed Clean Energy)

PACE (Property Assessed Clean Energy)

- Innovative financing method for energy efficiency retrofits
- Based on successful PACE program in the US, which has over \$6.7B in aggregate investment to date
- Attaches the “loan” to the property, rather than the property owner
- Principal and interest paid via the tax roll
- On sale of the property, the “loan” transfers to the new owner unless paid out
 - 50% transfer, 50% liquidate
- Energy bill savings offset repayment
- Effectively, the municipality acts as the billing and collections provider
 - Similar to the role that our electric utility plays for Water Services
- Removes initial capital outlay as the primary barrier to projects
- Enabler for eight of the 25 technical actions in the Pathway to Net Zero Carbon (and 67.5% of emissions reductions)

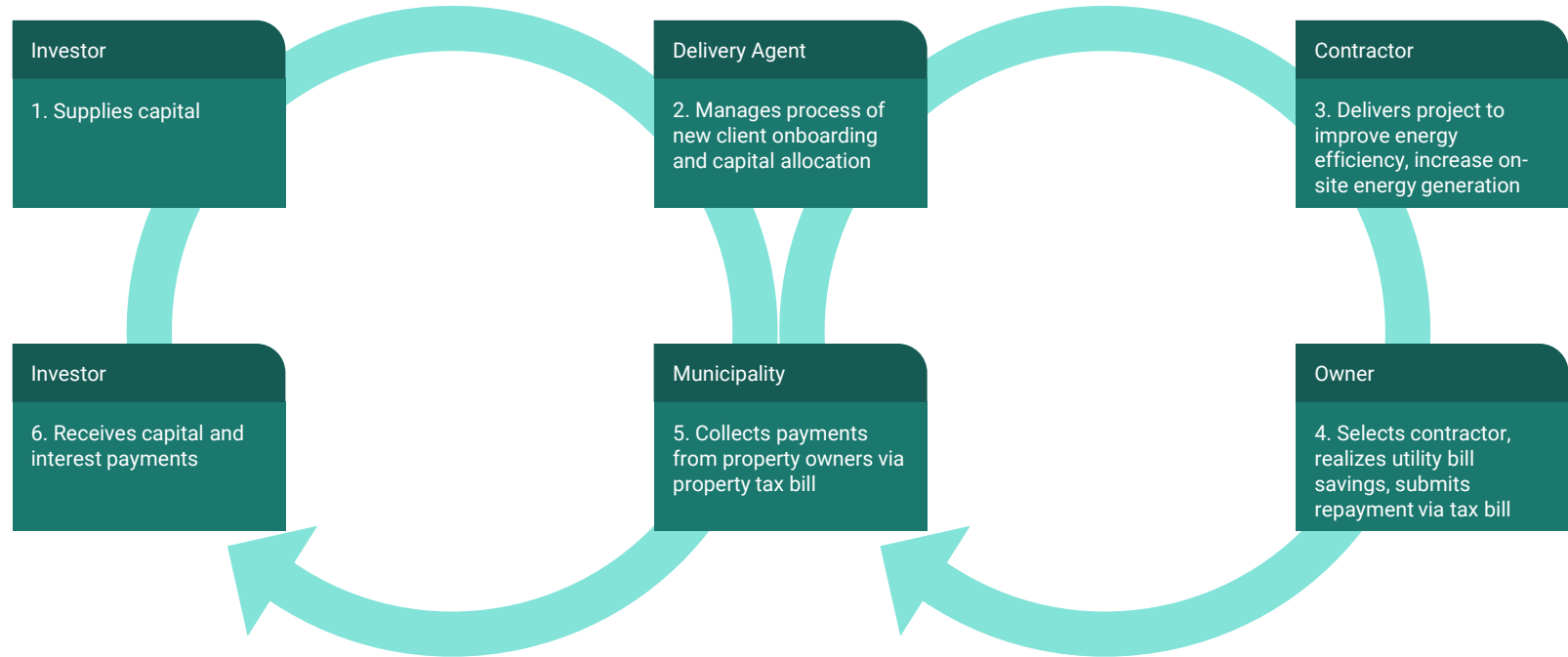
Initial focus of PACE:

Multi-Unit Residential Buildings (MURBS)

Addresses four key needs:

1. More likely to have lower-income residents vulnerable to energy poverty (Wellington County Social Housing is a prime candidate)
1. Shorter sales cycle, driven by business motivations rather than the owner-occupier debate of aesthetics vs. economics
1. Smaller number of transactions to mobilize the same amount of capital
1. Large dollar value better able to absorb “growing pains” of new City LIC administration process

PACE business process



Why PACE?

- **It works.** \$6.7B has been invested to date in the US. Other options (Home Equity Line of Credit, On-Bill Financing, EcoEnergy for Homes grant program) failed to achieve scale.
- **We are ready; other options aren't.** The IESO OBF proposal in 2014 Long-Term Energy Plan shows that we shouldn't depend on "vapourware".
- **Lower default, higher resale.** PACE homes fetch a premium above the loan value and default less frequently than the average.
- **Others are watching.** Toronto is not a realistic model to most municipalities; Guelph is.
- **To delay is to store up trouble.** The number of buildings to retrofit is fixed, but delay means less time and more expense to attain the 2050 target date.
- **We cannot move forward without it.** PACE enables eight of the 25 actions in the Pathway to Net Zero Carbon.
- **We've made it simple.** The role of the City is just billing and collections.

Next steps for OEG

- Summit: Capital finance for the Pathway to Net Zero Carbon
- Develop detailed PACE program design and approach for staged implementation
- Make “build vs. buy” decision for PACE delivery agent
- Identify suitable MURB owner(s) for initial tranche of PACE projects

The ask:

Please direct staff to proceed with developing the processes to administer the City component of a PACE program (disbursement, billing, and collections)

The Pathway to Net Zero Carbon

Building a clean, healthy,
prosperous, and resilient
city for everyone



Staff Report



To	Committee of the Whole
Service Area	Infrastructure, Development and Enterprise Services
Date	Monday, January 13, 2020
Subject	Non-decorative LED Streetlight Upgrade Project Update
Report Number	IDE-2020-03

Recommendation

1. That Council authorize an increase in the approved project funding to be drawn from the Wastewater Capital Reserve Fund for the non-decorative LED streetlight upgrade project from \$8 million to \$9 million to ensure adequate contingency is available to address the observed high rate of existing inadequate electrical infrastructure to be rectified.
 2. That Council direct Staff to provide Wastewater Capital Reserve Fund repayment details prior to completion of the 2021 budget.
-

Executive Summary

Purpose of Report

This report provides an update on the non-decorative LED streetlight upgrade project including the early identification of a potential funding gap due to observations of existing inadequate electrical infrastructure.

Key Findings

The non-decorative LED streetlight upgrade project is an initiative to convert all high pressure sodium (HPS) non-decorative streetlights to energy efficient LED streetlights. The project is funded through internal borrowing from the Wastewater Capital Reserve Fund and is to have operating savings repay the borrowed funds over time.

The project results in significant energy savings and greenhouse gas emissions reduction and supports the Corporate 100% Renewable Energy Target (100RE) and the Community Net Zero Carbon goal.

A strong foundation has been established through the initial inventory and data gathering stage. Data has been used to enable accurate photometric design, installation progress tracking, public communication, and asset management.

Monitoring indicates that nearly all of the existing electrical wiring for the “top-hat” style streetlights will require replacement. Consequently, the existing project budget contingencies may be exceeded.

Additional budget is required to ensure adequate contingency is available to address the observed high rate of existing inadequate electrical infrastructure to be rectified.

Financial Implications

The non-decorative LED streetlight upgrade project will result in significant annual energy and maintenance cost savings as follows:

- Anticipated energy cost savings - \$946,036 per year
- Anticipated maintenance cost savings - \$287,391 per year.

Project budget forecasts have been revised to address the rewiring issues and the potential of other issues that may arise. The project budget has been revised from \$8 million to \$9 million.

The revised project budget maintains a strong financial business case with a simple payback changing from 6 years to 8 years. Non-financial co-benefits include improved light quality for roadway safety, extended streetlight fixture life, electrical infrastructure upgrades and enhanced streetlight control and network communication.

Cost control measures are in place to manage cost and mitigate project risk:

- Weekly project team progress calls to proactively identify issues and develop mitigation strategies.
- Early stage request for additional contingency budget to allow for project continuity and to avoid future delays which will result in inefficient installation and escalated costs.
- Rewiring change orders to be authorized in a portioned or tranche format.
- Quality assurance checks are being conducted with third-party field investigations to ensure high quality workmanship and validate the veracity of issues and associated resolutions.
- Extend the reserve funding payback schedule to match the revised business case.

Report

The non-decorative LED streetlight upgrade project is an initiative to convert all high pressure sodium (HPS) non-decorative streetlights to energy efficient LED streetlights. The project is funded via internal borrowing from the Wastewater Capital Reserve Fund and is to have operating savings repay the borrowed funds over time.

Project Status Update

Inventory

Although only non-decorative streetlights are being upgraded, a detailed review has been completed of all streetlights (non-decorative and decorative) to develop a comprehensive database of the streetlight inventory. This was conducted in coordination with Alectra Guelph Hydro and harmonized with their records. The inventory phase involved site visits to each streetlight and the recording of relevant parameters for each streetlight such as coordinates, wattage, proximity to power

lines, roadway classification, roadway setbacks, etc. A GIS-based database was developed and will enable follow-on stages in the project (design, installation coordination and progress management, budget management, public communication, etc.). All 12,892 non-decorative streetlights and 1,161 decorative streetlights (totalling 14,053 streetlights) were inventoried.

Design – Non-Decorative LED Streetlights

Inventory information was used to establish baseline roadway lighting conditions and utilized for the non-decorative LED streetlight design. The primary design constraint was roadway lighting conditions to ensure safety by meeting or improving on the existing roadway lighting conditions and striving for best of class RP-8 roadway lighting guidelines. Other key design parameters included managing light pollution, energy efficiency and greenhouse gas emissions reduction, lifecycle cost (operating and capital cost) management, maintainability, inventory management and ease of install. Photometric designs and 3-dimensional lighting models (refer to Figure 1 and Figure 2, respectively) were completed for locations throughout the City.

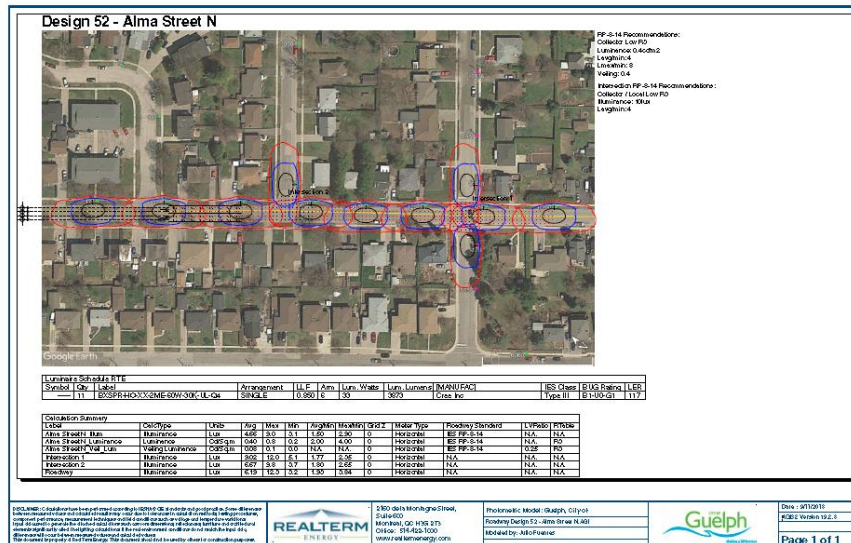


Figure 1: Sample photometric LED streetlight design

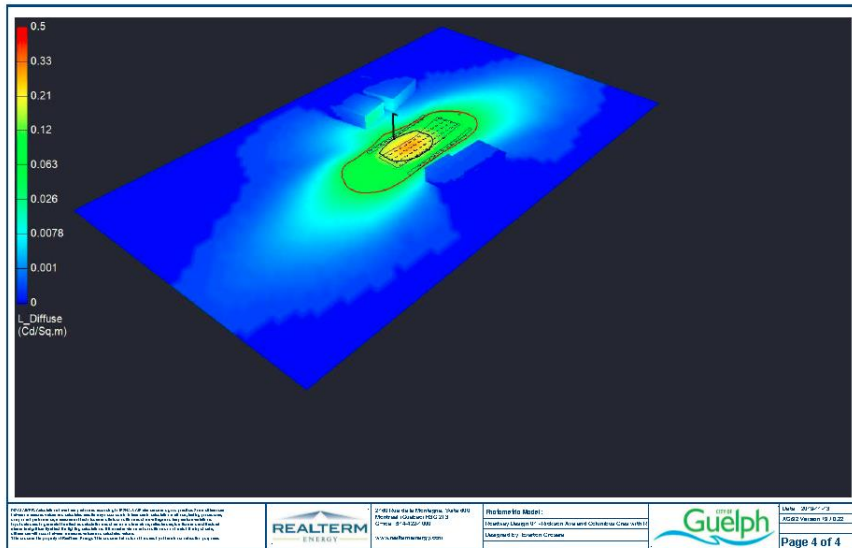


Figure 2: Sample 3D lighting model

In addition to the photometric design, electrical upgrades for the streetlight system were also designed. For over 8,000 streetlights, the existing wiring does not have an electrical demarcation that separates the Alectra Guelph Hydro owned utility grid and the City owned streetlights. The electrical designs specified new fuse holders for these locations. For all streetlights, electrical designs specified new fuses to match the new LED streetlight electrical load characteristics. The electrical upgrades are to improve the electrical infrastructure of the streetlight network, enhance safety throughout the streetlight system, and meet Electrical Safety Authority (ESA) requirements.

Designs have been loaded into the GIS database.

Non-Decorative LED Streetlight Fixtures

12,892 LED streetlight fixtures have been purchased and delivered. 3 different models are utilized to appropriately match photometric designs while keeping maintenance and spares inventory manageable.

The LED streetlight fixtures are warrantied for 10 years and have a rated life of over 100,000 hours without light output degrading to 70% of original output. City of Guelph streetlights operate approximately 4,300 hours per year, resulting in an expected life of greater than 23 years. This far exceeds the 5 year replacement schedule of the old high pressure sodium lighting.

All selected LED streetlights output light at 3000K correlated colour temperature (CCT) and are approved by the International Dark Sky Association.

Networked Photocontrols

Alectra Guelph Hydro with Silver Spring Networks (SSN), has developed a wireless communications network for Advanced Metering Infrastructure (AMI) and Smartgrid applications. Alectra Guelph Hydro uses this infrastructure for mission-critical daily business operations, including daily smart meter interrogation, and real-time monitoring and control of the electric distribution system. Through collaboration and review with Alectra Guelph Hydro, it was established that the SSN communications network had additional capacity to support the LED streetlight

networked photocontrols. By leveraging the SSN communications network, additional capital expenditure for separate communication network infrastructure is avoided.

Network access and maintenance costs, based on internal estimates, are in the range of \$150,000 to \$250,000 per year.

By investing in networked photocontrols and building on the SSN communications network, the City is investing in an asset that will improve services through greater use of technology and enable future city building initiatives.

Installation

Alectra Power Services was selected as the prime contractors for the LED streetlight upgrade project. This was to leverage existing knowledge and expertise of the City of Guelph streetlight and utility network and also experience working on other municipal LED streetlight upgrade projects. Over 5,000 streetlights are mounted on Alectra Guelph Hydro poles and are in close proximity to high voltage power lines. Streetlight upgrades at these locations require specially trained linesman to ensure worker safety and avoid damage to the utility grid.

As part of the installation, the contractors use tablets that are loaded with an application (refer to Figure 3) that is connected to the inventory/design database. The installers are informed, in real time, of the required installation work for each location. In addition, as the install work is being completed, the tablets are used to scan barcodes of the LED streetlight fixture and networked photocontrol nodes for immediate upload to the GIS database. This is for project progress tracking and quality assurance procedures. The public can follow installation progress by visiting the City website at the following [link](#). The information will also be used for future commissioning and asset management purposes.

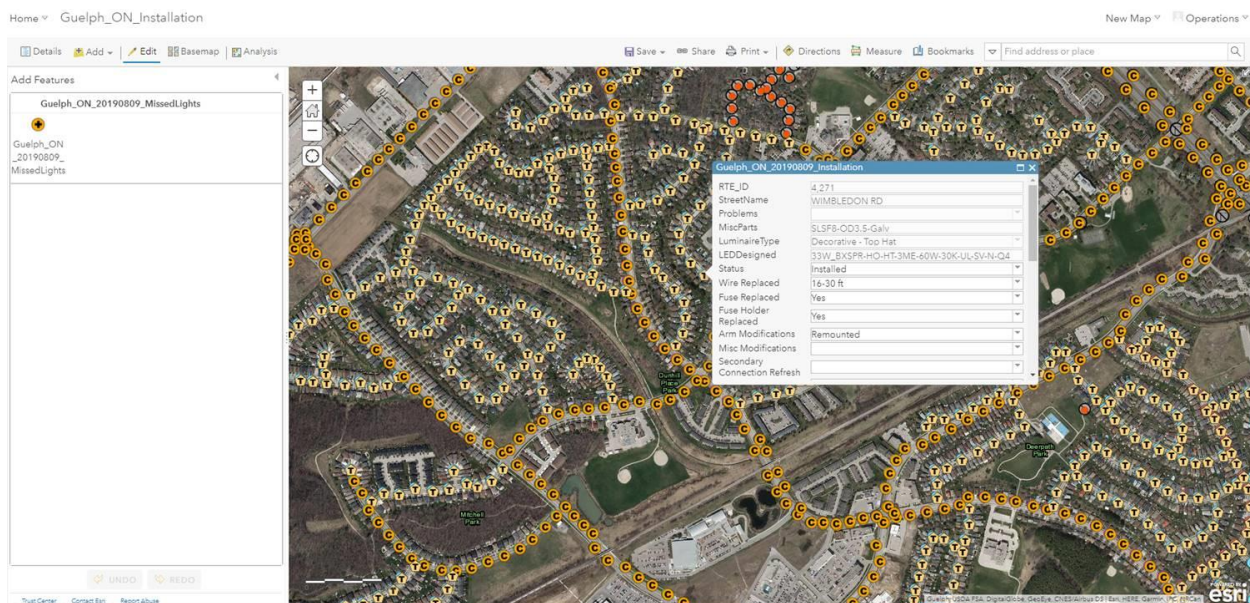


Figure 3: Installation application with design information and data gathering

The installation phase began October 15, 2019 with one crew and will grow to five crews by the end of 2019. Additional crews will be added in 2020. The progressive increase in crew numbers is to ensure proper training of the installation and data

collection process. Approximately 2,000 lights are to be installed by the end of 2019. Weekly progress calls are held and are for project team members to discuss team coordination items and report potential project issues in a proactive manner.

Rewiring

At the beginning of the installation phase, it was observed that inadequate wiring (wire-size too small and no electrical ground connection) was previously installed in the existing “top-hat” style streetlights. The wiring does not meet the streetlight installation specifications and does not meet ESA requirements, and therefore rewiring is required in these cases.

Budgeting for the installation phase of work anticipated the need for full length rewiring. A conservative approach was taken by applying a higher-than-typical estimate to include budget allowance for over 1,000, or 25%, of the “top-hat” style streetlights to be rewired. During the November 22, 2019 progress call, an update was provided that the inadequate wiring issue persisted with close to 100% of the “top-hat” installations to date. This is a strong indication that nearly all of the existing electrical wiring for these “top-hat” style streetlights will require replacement.

Financial Implications

Cost Savings Estimates

Using the existing inventory and the LED streetlight design, as well as historical electrical utility bills and maintenance records, a detailed assessment was completed to develop an accurate forecast of lifecycle cost savings, as well as energy savings and greenhouse gas emissions reductions.

The following Table 1 is a summary of the estimated non-decorative LED streetlight upgrade project savings:

	Before Upgrade	After Upgrade	Estimated Savings	Percent Savings
Annual Electricity Consumption (kWh)	9,464,874	2,749,655	6,715,219	71%
Annual Greenhouse Gas Emissions (kgCO₂e)	189,297	54,993	134,304	71%
Annual Electricity Costs	\$1,675,615	\$729,579	\$946,036	56%
Annual Streetlight Maintenance Costs	\$359,239	\$71,848	\$287,391	80%
Annual Networked Photocontrols Network Access and Maintenance	\$0	\$250,000 (based on internal estimates)	-\$250,000	n/a
Total Streetlight Operating Expenditure	\$2,034,854	\$1,051,427	\$983,427	48%
Average Annual Operating Cost per Fixture	\$157.84	\$81.56	\$76.28	48%

Table 1: Estimated project energy savings, greenhouse gas emissions reductions and cost savings

The project results in significant energy savings and greenhouse gas emissions reduction and supports the Corporate 100% Renewable Energy Target (100RE) and the Community Net Zero Carbon goal.

Save on Energy Incentive

The provincial Independent Electricity System Operator (IESO) provides energy conservation incentives under the Save on Energy program. The Non-decorative LED Streetlight Upgrade project has been pre-approved for an upper incentive amount of \$726,750. The incentive will be paid upon completion of the upgrade project with the incentive amount finalized based on the energy savings results.

Project Budget Update

In the July 4, 2017 Staff Report (IDE 17-59), a total project budget of \$8 million was requested and to be funded via internal borrowing from the Wastewater Capital Reserve Fund. At the time, this was based on a preliminary review including a relatively smaller scope of 12,655 non-decorative streetlights and limited knowledge of other project elements related to streetlighting, network photocontrols and electrical infrastructure.

Although the project budget was limited, effective coordination and design with the project stakeholders allowed for the overall project to fit within the \$8 million budget while accommodating the upgrade of all 12,892 non-decorative streetlights and without sacrificing quality. However, this left little room for contingency.

Observations of higher than expected inadequate wiring issues indicate that project costs will exceed existing budget and contingencies. Project budget forecasts have been revised to address the rewiring issues and the potential of other issues that may arise. The following Table 2 is a summary of the revised project costs, utility incentives and business case.

	Original	Revised
Project Budget	\$8,000,000	\$9,000,000
IESO Incentive	\$750,000	\$726,750
Project Cost after IESO Incentive	\$7,250,000	\$8,273,250
Annual Cost Savings	\$1,263,000	\$983,427
Simple Payback	6	8

Table 2: Revised project cost, utility incentive and business case

Cost Control Measures and Risk Mitigation

Several measures are currently in place and will be added to further manage cost and mitigate project risk:

- Weekly project team progress calls to proactively identify issues and develop mitigation strategies
- Early stage request for additional contingency budget to allow for project continuity and to avoid future delays which will result in inefficient installation and escalated costs
- Rewiring change orders to be authorized in a portioned or tranche format. This is a balanced approach to provide sufficient room for the installation team to continue working in an efficient manner while actively monitoring the rewiring issues.
- Quality assurance checks are being conducted with third-party field investigations to ensure high quality workmanship and validate the veracity of issues and associated resolutions

- Extend the reserve funding payback schedule to match the revised business case.

Consultations

Members of staff that were consulted and provided information, review and insight include:

- Patricia Zukowski – Senior Corporate Analyst Financial Strategy; Finance
- Brent Andreychuk – Corporate Analyst; Finance

Strategic Plan Alignment

This report recommends further investment into City infrastructure and assets while maintaining a strong business case and significantly reducing energy consumption and greenhouse gas emissions. The recommendations within this report align well with the “Building Our Future” and “Sustaining Our Future” priorities.

Attachments

None

Departmental Approval

- Greg Clark – Manager Financial Strategy Long Term Planning; Finance

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Information Report



Service Area	Infrastructure, Development and Enterprise Services
Date	Friday, December 6, 2019
Subject	Solid Waste Management Master Plan Update
Report Number	IDE-2019-128

Executive Summary

Purpose of Report

This report provides an overview of the work completed to date on the Solid Waste Management Master Plan (SWMMP) including responses to Council resolutions regarding the investigation into strategies to reduce or eliminate single-use plastics..

Key Findings

The current work on the initial stages of the Solid Waste Management Master Plan include the formation of the Public Advisory Committee, the development of surveys for the municipal comparator review, engagement with the Downtown Advisory Committee to solicit ideas for membership on the Downtown Stakeholder Group for the master plan and the scheduling of the first open house.

The engagement and partnership with the University of Guelph Ideas Congress (ICON) for the 2019 fall semester is nearly complete. Findings will be shared with the Public Advisory Committee for review and incorporation into the final report.

Solid Waste Resources is engaging with internal departments to investigate opportunities related to the reduction and elimination of single-use plastics, and strategies related to current agreements that may present challenges. Some progressive actions have already been taken and are underway, including:

- Adoption of a Corporate Sustainability Waste Management Policy
- Water Wagon utilized at public events and expansion of water fountains and filling stations for reusable containers
- Elimination of plastic straws and switching from plastic bags in gift shops and retail operations
- Moving to larger reusable bulk containers for some fluids related to vehicle maintenance and operation, such as windshield washer and brake fluids
- Adoption of guiding principles in the Procurement By-law for consideration of Environmental Sustainability
- Provision in the Waste Management By-law, strengthening three-stream sorting that are intended to improve the capture of, among other recyclables, single-use plastics.

Civic Accelerator – The potential application of the Civic Accelerator is currently being explored. A decision to employ the Civic Accelerator will be determined following the completion of the ICON program.

Financial Implications

Funding for the Solid Waste Management Master Plan Review is included in the Council approved Solid Waste Resources capital budget.

Any recommendations and funding requirements for implementing strategies to reduce or eliminate single-use plastics across Guelph will be brought forward for Council's consideration as part of future budgets..

Report

Details

In July 2018 Council moved the following resolution:

“That staff, through the recommendations of the Solid Waste Management Master Plan 2018/2019, in particular recommendation number five [from the business service review], ensure the scope of activity includes investigating a strategy for the elimination of single-use plastic grocery bags in Guelph and report back to Council with this strategy by the end of Q2, 2019.”

At the May 27th 2019 Meeting of Council, staff reported back and recommended that due to the complexities and rapidly evolving nature of the single use plastics discussion, that this work be expanded from plastic bags to single use plastics and included in the planned Solid Waste Management Master Plan scope of work.

At that meeting Council also moved the additional resolutions:

“That staff partner with the University of Guelph Ideas Congress (ICON) Program to explore viable solutions to reduce single-use plastics across Guelph, and report back to Council with updates or further recommendations as part of Solid Waste Management Master Plan update.

That the following be referred to and considered as part of the Solid Waste Master Plan process and scope of activity:

a) That staff investigate any required changes to the current agreements between the City and/or vendors/leaseholders resulting from the sale of single-use plastics.

b) That staff facilitate further engagement internally on reducing or eliminating single-use plastics through the Solid Waste Management Master Plan process.

c) That staff explore the issue of single-use plastics and packaging as an opportunity to leverage the Civic Accelerator, to help realize further options to reduce waste in the City of Guelph.”

In response to Council's resolutions, staff included a task in the scope of the Solid Waste Management Master Plan Review to investigate strategies to reduce or eliminate single-use plastics across the community.

The Solid Waste Management Master Plan Review is now underway, following the selection of a consultant based on a Request for Proposals that was issued in late spring, 2019. Dillon Consulting was selected to perform the work and was officially engaged by the City in August. Work related to single-use plastics elimination was prioritized and initiated in August, followed immediately with the engagement of the ICON program.

The formal launch of the engagement program will occur in December 2019, coincident with the formation of the project Public Advisory Committee.

Solid Waste Management Master Plan - Activities Taken to Date

The Solid Waste Management Master Plan Review is now underway, following the selection of a consultant based on a Request for Proposals that was issued in late spring, 2019. Dillon Consulting was selected to perform the work and officially engaged by the City in August. Work related to single-use plastics elimination was prioritized and initiated in August, followed immediately with the engagement of the ICON program.

In addition, the Review includes a number of other concurrent tasks underway.

- Council has approved the Public Advisory Committee members with meetings beginning in the new year.
- The official launch of the community engagement program will be held on the evening of December 9, 2019, with a public address by Dr. Dianne Saxe at the River Run Centre. Attendees will be engaged as part of the session to share their thoughts on what is important to them with respect to the City's solid waste management program, and also on how they would like to be engaged through the process.
- Pre-engagement calls have been made to better understand the consultation needs of several community partners. Calls are being placed to representatives of social or business associations or organizations connected to various sectors in the Guelph community.
- Research has also begun to support sub-reports outlining the City's Current State, and also to project our Future State and Growth. In addition, a survey questionnaire has been developed and will be used to obtain benchmarking information from comparator municipalities.
- Interested businesses, institutions, and individuals have also been contacted from those that expressed interest in participating on the Downtown Stakeholder Group, which will inform the development of the Downtown Service Review report. The first meeting will be organized in January, 2020.
- In support of the IC&I Collection Service Standards report, a second survey questionnaire has been developed in order to obtain policy and service information from comparator municipalities. It is expected that this survey will be forwarded in Q4 2019 with follow up to occur in Q1 2020.

ICON

In accordance with Council's direction, the City's project team and the University of Guelph's ICON program group partnered to engage with students as part of the 2019 fall semester.

The City's project team attended two ICON sessions. In the first session, held in September 2019, the City project team provided a series of research questions to be undertaken by ICON students, under the supervision of the teaching team. The project team then attended an October meeting to answer questions arising from the original research areas, allowing the students to have developed follow-up questions and clarification requests. ICON students are supporting the following areas of inquiry:

- Best practice procurement policies and programs;
- Opportunities for collaboration with private sector with respect to alternatives to single-use plastics;
- Using on-campus examples as a model for broader application in the City of Guelph;
- Local business success stories;
- Current education efforts and engagement on the issue by local Environmental Non-Governmental Organizations (ENGOS); and
- New technologies, innovations and products that may address the issue.

The project team received presentations from the ICON participants on November 22, 2019. The ICON engagement will conclude in late Fall 2019, with findings to be shared with the Public Advisory Committee, and incorporated into the Review's final report.

Required changes to current agreements resulting from the sale of products packaged in single-use plastics

Solid Waste Resources staff are collaborating with internal departments to fully understand the implications associated with current agreements resulting from the sale of products packaged in single-use plastic, and to track actions already taken to reduce or eliminate the use of single-use plastics.

The City has contractual implications related to the reduction or elimination of products packaged in single-use plastics. In particular, given the responsibilities of the City's Culture, Tourism, and Community Investment department for public facing facilities such as the Sleeman Centre and the Farmers Market, there are operational, revenue and sponsorship impacts related to single-use water bottles in particular. This department has already taken some progressive steps with respect to waste reduction and diversion, however, based on approaches taken in other municipalities, if a ban of single-use plastics is enacted, it may be prudent to provide an exemption period to allow for further development of options and actions that address contractual, revenue and sponsorship issues.

Internal engagement as part of the Solid Waste Management Master Plan

Solid Waste Resources and internal partners have developed an inventory of current activities related to single-use plastics to inform policy and operational recommendations, and to ensure the full spectrum of City corporate operations are considered and accommodated in the discussion.

The adoption of a corporate Sustainable Waste Management Policy, effective October 21, 2019, further supports efforts to promote operational and procurement efforts that minimize single-use items. On this subject, the Policy advises to:

- Give preferential consideration to reusable, recyclable, refillable, returnable and repairable products; and,
- Avoid single-use food and beverage items including coffee pods, plastic water bottles, disposable coffee cups and cutlery where possible.

The Policy provides a foundation on which individual City operations can build and considers not only single-use plastics but single-use items in general.

The reduction of single-use plastics internally has been implemented proactively. Actions are summarized below:

Infrastructure, Development and Enterprise

Environmental Services

- **Water Services:** At the direction of City Council's 2009 Public Promotion Action Plan for City Drinking Water Consumption, Water Services initiated a tap water provision service for large outdoor community events utilizing a water tanker filled with Guelph tap water. In 2013 the water tanker was replaced by the Guelph Water Wagon. The intent of these efforts help achieve the goals of promoting Guelph's safe, reliable municipal tap water and waste reduction targets of the 2008 Solid Waste Management Master Plan. Steadily growing in popularity since the start, 2019 saw the highest number of events attended by the Water Wagon – 31 community events – distributing 22,332 litres of water. This is the equivalent of 44,664 500ml water bottles in one year alone. Since 2013, the Water Wagon has provided a total of 156,204 litres of water, the equivalent of 312,408 500ml water bottles.
- Water Services has an annual budget for facility upgrades to expand access to municipal drinking water, where feasible, in public spaces through installation of tap water fountains and bottle filling stations. By doing so, the City is encouraging the "Bring, Fill, Drink" message, reducing Guelph's dependence on single-use plastics for drinking water.
- **Solid Waste Resources:** Solid Waste Resources recently updated the Waste Management By-law, strengthening provisions related to proper three-stream sorting that are intended to improve the capture of, among other recyclables, single-use plastics. Additionally, all City facilities are invited to reach out to Solid Waste staff to re-invigorate waste reduction and diversion programs at their facilities as part of the new corporate Sustainable Waste Management Policy

- The elimination of single use dishes and cutlery has been implemented across the department for in house events.

Public Services

Culture, Tourism and Community Investment

- Culture, Tourism, and Community Investment has decreased the use of plastics, where possible, for instance eliminating straws, and increased capture of plastics. They have also moved away from plastic bags in gift shops and retail operations, using paper instead, and continuously work with facility rentals to reduce single-use plastics being brought in from outside sources.

Parks and Recreation

- Parks and Recreation currently has five outdoor filling stations located at Riverside, Exhibition, Margaret Greene, Larry Pearson, and Eastview parks. Additional fountains will be installed where there is current infrastructure to support it and will be carried out through scheduled upgrades over the next three years. Recreation facilities have water filling stations located throughout their facilities and City camps have implemented a “one re-useable water bottle for each participant policy” in an attempt to eliminate plastic water bottles and aseptic drinking boxes. In addition, the Evergreen Seniors’ Centre Restaurant has taken steps to reduce and phase out single-use plastics.
- Through the Energize Guelph project, two reusable water bottle vending machines, along with floor decals marking a trail to nearby bottle filling stations, have been placed at the Victoria Road Recreation Centre and West End Community Centre. Initially funded through the Province’s Healthy Kids Community Challenge, one of the initiative’s objectives was to find meaningful ways to get kids to choose water over sugar sweetened drinks (e.g. juice, pop, energy drinks) and encourage healthy hydration. A related benefit has been the supply of over 3300 refillable bottles that now, on an ongoing basis, displace single-use plastic bottles. The program also aligns with the goals of promoting Guelph’s tap water and waste reduction.

Fire Services

- Fire Services have moved to larger reusable bulk containers for some fluids related to vehicle maintenance and operation, such as windshield washer and brake fluid.

Operations

- Operations have moved to larger reusable bulk containers for some fluids related to vehicle maintenance and operation, such as windshield washer and brake fluid.
- To reduce single use plastic bottles, Operations replaced their water fountain with one that could fill refillable water bottles.

Transit

- Transit has added two water fountains for their operators, and to date have eliminated the equivalent of 2050 disposable plastic bottles. Transit continues to work with Solid Waste Resources to improve sorting at both Transit facilities and in public-facing areas.

Corporate Services

Finance

- Finance has included guiding principles in the Procurement By-law that govern the City's procurement of Goods and Services to consider Environmental Sustainability and Environmentally Responsible Goods and/or Services, consisting of 15 characteristics, one of which is for durable and reusable products, in lieu of single-use or disposable products.

Civic Accelerator

Based on interactions with internal departments, the diverse nature of operations and services with each having very distinct business models and needs, suggests that a ban of single-use plastics represents a different assortment of packaging, products and actions for each internal group. As part of this process, departments have identified opportunities for which there is a need to find affordable and safe alternatives that meet the specific needs of the user department. Specific opportunities range from distribution of water in the field (heat waves, emergency services) to product-specific packaging applications such as parts used by Fleet, Operations and Transit. These types of requirements are also leading internal departments to seek procurement solutions that would allow them to explore options to reduce and/or eliminate single-use plastics.

The Civic Accelerator provides an opportunity for departments to explore novel solutions to their challenges, through open innovation with companies, as well as scoping of pilots that can lead to outcome-driven results. At this point, the Civic Accelerator will wait for the work of the ICON program to be completed before exploring the challenge further to ensure research efforts are not duplicated.

Outcomes from the Civic Accelerator approach could include:

- A better understanding for staff about possible alternatives and solutions to consider for future purchasing;
- Selection of a challenge that is released as a Request for Proposal that opens the door for alternative solutions emerging in the market; and
- Scoping a pilot with an emerging company.

A decision to begin exploring single-use plastics using the Civic Accelerator will be made no later than in Q1, 2020 following the completion of the ICON program.

Next Steps

The Single-use plastics issue is rapidly evolving and it is expected that there will be a need to evaluate and incorporate newer information prior to finalization of the final report.

The newly appointed Public Advisory Committee for the Solid Waste Management Master Plan will review findings from the ICON program, along with, up to date benchmarking information from leading jurisdictions to form the final recommendations for Council's consideration.

The final report will include policy from senior government in Canada and leading international jurisdictions, as well as, information from progressive municipalities and state jurisdictions throughout North America and the European Union, advanced producer reduction measures, emerging compostable single-use plastics, and plastic bag bans and fees.

Concurrently, the internal working group will continue to meet and update actions with respect to single-use plastics, as well as confirm the applicability and employment of the Civic Accelerator to further the process of reducing or eliminating single-use plastic.

Financial Implications

Funding for the Solid Waste Management Master Plan Review is included in the Council approved Solid Waste Resources capital budget.

Any recommendations and funding requirements for implementing strategies to reduce or eliminate single-use plastics across Guelph will be brought forward for Council's consideration as part of future budgets.

Consultations

Environmental Services

Culture Tourism & Investment

Parks and Recreation

Fire Services

Operations

Transit

Finance

Strategic Plan Alignment

Sustaining our future: Plan and design an increasingly sustainable city as Guelph grows.

Attachments

None

Departmental Approval

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