



**THE CORPORATION OF THE
TOWNSHIP OF CHAPPLE**

BY-LAW NO. 1717

A By-law to adopt an Energy Conservation and Demand Management Plan for the Corporation of the Township of Chapple

WHEREAS the Ministry of Energy and Ontario Regulation 397/11 *Energy Conservation and Demand Management Plans* require municipalities to adopt an Energy Management Plan

NOW, THEREFORE, THE COUNCIL OF THE CORPORATION OF THE TOWNSHIP OF CHAPPLE HEREBY ENACTS AS FOLLOWS:

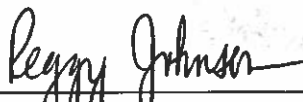
1. THAT the Township of Chapple Energy Conservation and Demand Management Plan attached as Schedule "A" to and forming part of this by-law is approved and adopted.
2. THAT the CAO/Clerk Treasurer of the Township of Chapple is authorized to effect any minor modifications or corrections solely of an administrative, numerical, grammatical, semantical or descriptive nature to this by-law or its schedules after the passage of this by-law.

Enacted and passed this 11th of June, 2019, as witnessed by the Seal of the Corporation and the hands of its proper Officers.

THE CORPORATION OF THE
TOWNSHIP OF CHAPPLE



Rilla Race - Reeve



Peggy Johnson CAO/Clerk Treasurer

The Corporation of the Township of Chapple

Electricity Act, 1998. O. Reg. 397/11

Energy Conservation and Demand Management Plan 2019-2023



Overview

The Corporation of the Township of Chapple's Energy Conservation Plan provides a brief background and summary of the requirements relating to Ontario Regulation 397/11 *Energy Conservation and Demand Management Plans*. Results from the completion of the Ministry of Energy's 2017 Energy Consumption and Greenhouse Emissions Template is included as an energy consumption benchmark (Appendix A). In addition, completed energy reductions projects from the Township's previous energy plan (2014 – 2018) can be found in Appendix B, while a list of new energy reduction projects to implement over the next 5 years (2019-2023) can be found in Appendix C.

Purpose

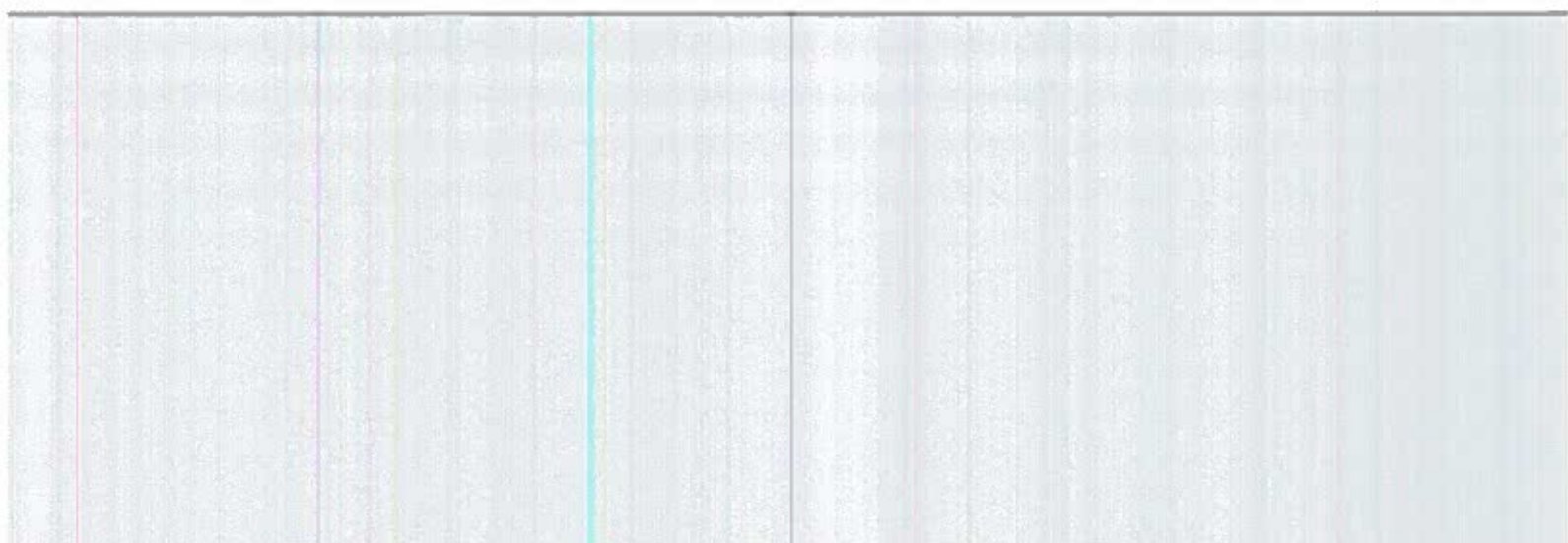
The Energy conservation and Demand Management Plan aims to provide a basis for the Township of Chapple to implement improvements to its infrastructure and operations that reduce energy and water use, their associated costs, as well as environmental affects of the Township's activities.

Background

Ontario Regulation 397/11 was established to help municipalities better understand their energy usage, develop conservation plans to guide energy savings and demonstrate leadership in conservation.

The Township of Chapple's Energy Conservation Plan was developed to meet the requirements of O. Reg 397/11. The purpose of this plan is to develop projects to formally address energy management initiatives. The Township of Chapple has been committed to energy conservation for many years in order to reduce energy consumption, decrease operating costs and to set an example for the community as to why conservation is important. It is the intention of the

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municipality to further develop the Energy Conservation Plan and enhance the municipality's commitment as projects develop through Councils approval and as the Town's aging infrastructure requires rehabilitation and/or replacement. Similar to the Township's previous 2014 Energy Conservation and Demand Management Plan, this five-year plan is valid from 2019-2023, at which time a thorough review process will be required for a subsequent five-year plan.

The Corporation of the Township of Chapple has eight facilities (in addition to street lighting) that are identified as reportable under O. Reg 397/11. These include water and wastewater facilities, recreation and fitness centre, municipal administration and public works garage, museum as well as two fire halls. A list of the required facilities that municipalities are to include in their annual energy consumption report can be found in Appendix D. The energy reduction projects found in Appendix C will be included in the annual Council budget discussions over the five-year term of this Plan in an attempt to reduce the municipality's energy consumption from the 2017 baseline values (Appendix A).

Goals and Objectives

- To improve energy efficiency within municipality facilities reduce greenhouse gas emissions and energy consumption in day-to-day operations and extend the lifecycle of Township assets, where possible;
- Ensure energy efficiency consistency across municipal facilities
- Better analyze energy costs and look for savings opportunities
- Raise staff and Council awareness around energy efficiency
- Identify and seize renewable energy generation opportunities where feasible.

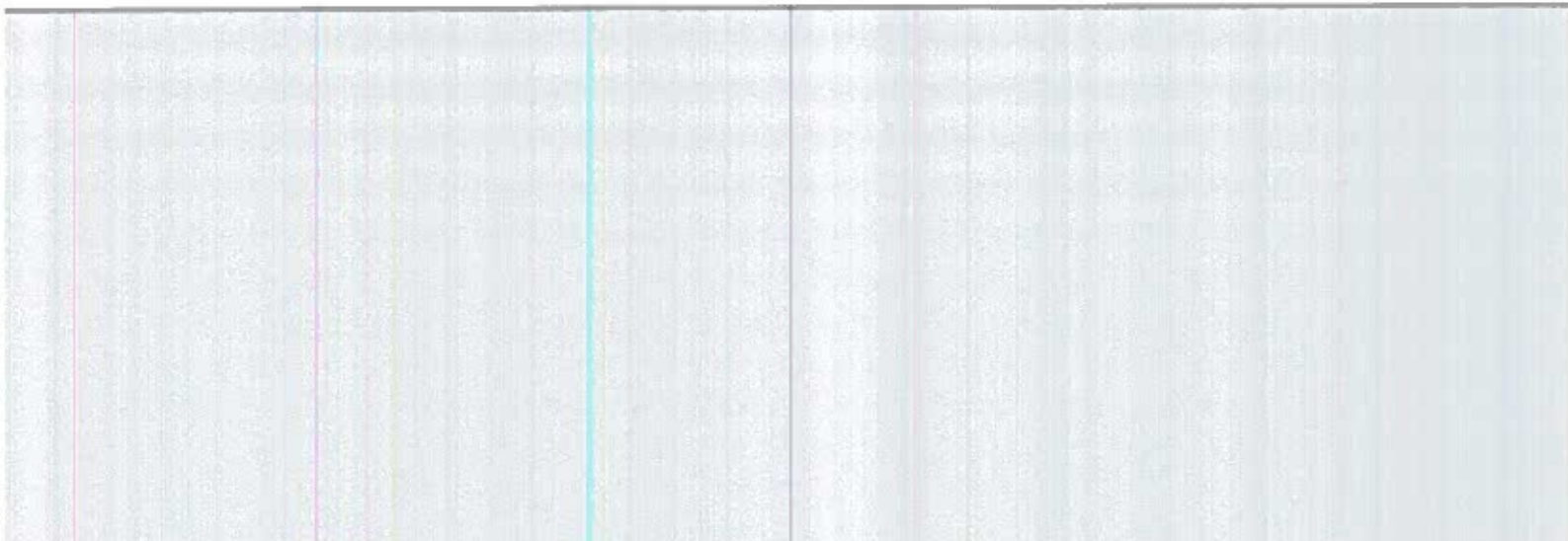
Reduction Target

The Township's energy consumption benchmark, based on 2017 electricity, natural gas and greenhouse gas emission date, can be found in Appendix A. A requirement of O. Reg 397/11 involves municipalities reporting electricity and natural gas consumption to the Ministry of Energy on an annual basis. Municipalities report energy and natural gas usage two years prior to the current year (i.e. the report for 2017 energy consumption was submitted in 2019).

The completion of the energy consumption projects from the Township's 2014 Energy Conservation and Demand Management Plan has built the foundation for successful energy management practices. The completed projects from the previous Energy Plan can be found in Appendix B.

The implementation of proposed energy conservation measures throughout Municipality owned infrastructure will continue to promote successful conservation practices. The Township of

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Chapple is aiming to reduce its energy consumption with its facilities by 1-5% between 2019 and the end of 2023. The proposed energy conservation measures to support the Township in achieving this target can be found in Appendix C.

Council will review the proposed energy conservation measures during annual budget discussions. These proposed measures may change as technology is improved, or the priorities of Council are altered.

Incentive Funding

As funding opportunities arise that are suitable for specific energy conservation projects, Municipal Staff will report to Council and clearly outline the cost savings associated with a successful application.

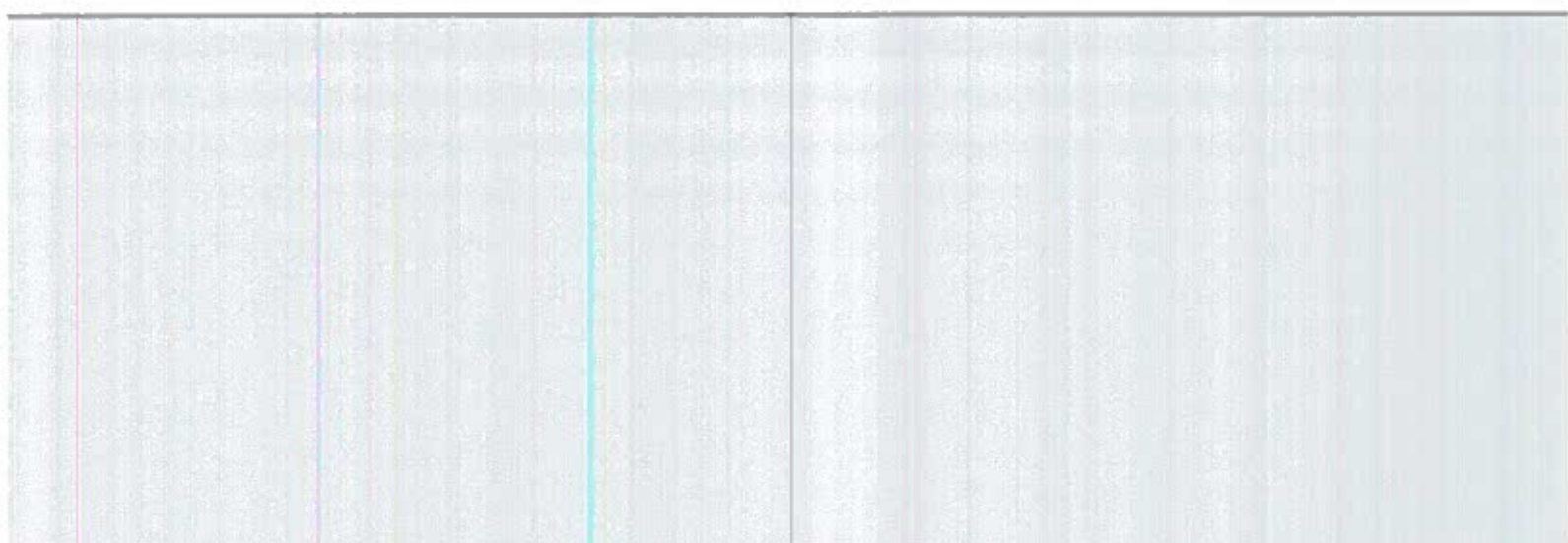
Official Plan

The Township of Chapple, in fulfilling its responsibilities under the Ontario *Planning Act*, R.S.O. 1990, Ch. 13, shall ensure that its policies are consistent with, among other matters, matters of provincial interest such as: the supply, efficient use and conservation of energy and water.

The Township of Chapple Official Plan provides guidance to the Township, residents and development proponents to create a healthy, sustainable community for future generations to enjoy. This Plan is established primarily to guide the physical development of the Township while having regard to the relevant social, cultural, economic and natural environmental matters.

Summary

The Corporation of the Township of Chapple Conservation and Demand Management Plan will assist the Municipality in meeting energy related goals. These goals will need to be established annually through Council's approval of the municipality's budget. The Township of Chapple has significant energy expenditures, this Energy Conservation Plan can help reduce energy usage and costs by implementing effective energy reduction strategies, managing energy retrofits, monitoring and tracking the Municipalities energy usage and introducing energy awareness programs to staff.



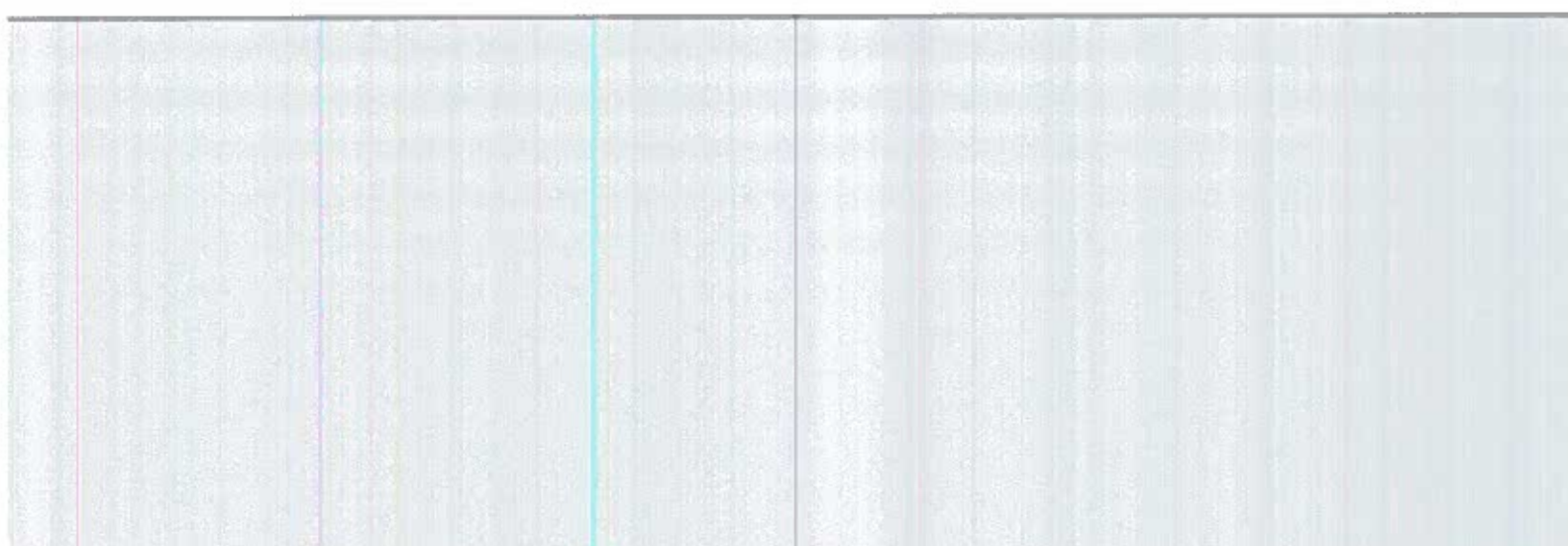
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Appendix A: Energy Consumption Benchmark (2017)

Facility	Address	Total Floor Area (m2)	Electricity (kWh)	Natural Gas (m3)	GHG Emissions (kgCO2e)	Energy Intensity (ekWh/m2)
Municipal Office	54 Barwick Rd	189.00	8,581.39	3,866.31	7,496.01	263.93
Public Works Garage	54 Barwick Rd.	531.00	24,109.61	10,918.69	21,060.21	* included with Municipal Office calculations
Recreation/Fitness Centre	20 Main Street	1,106.00	18,900.00	16,830.00	32,146.18	178.81
North Fire Hall	3562 Hwy 71	96	8,949.00	n/a	154.8	93.22
South Fire Hall	62 Queen St.	192	4,602.00	3,964.00	7,574.06	243.39
Museum	112 A Main St.	296	1,737.00	3,000.00	5,701.93	113.58
Street Lights	Multiple	1	7,744.00	n/a	133.96	7,744.00
Total		2,410.10	74,623.00	38,579.00	74,267.15	8,636.93

Facility	Address	Total Floor Area (m2)	Electricity (kWh)	Natural Gas (m3)	GHG Emissions (kgCO2e)	Energy Intensity (ekWh/ML)
Water Treatment Plan	54 Barwick Rd.	531	41,432.00	7,767.00	15,401.19	123,977.94
Lift Station	124 Queen St.	2	3,471.00	n/a	60.04	3,471.00
Total		533	44,903.00	7,767.00	15,461.23	127,448.94

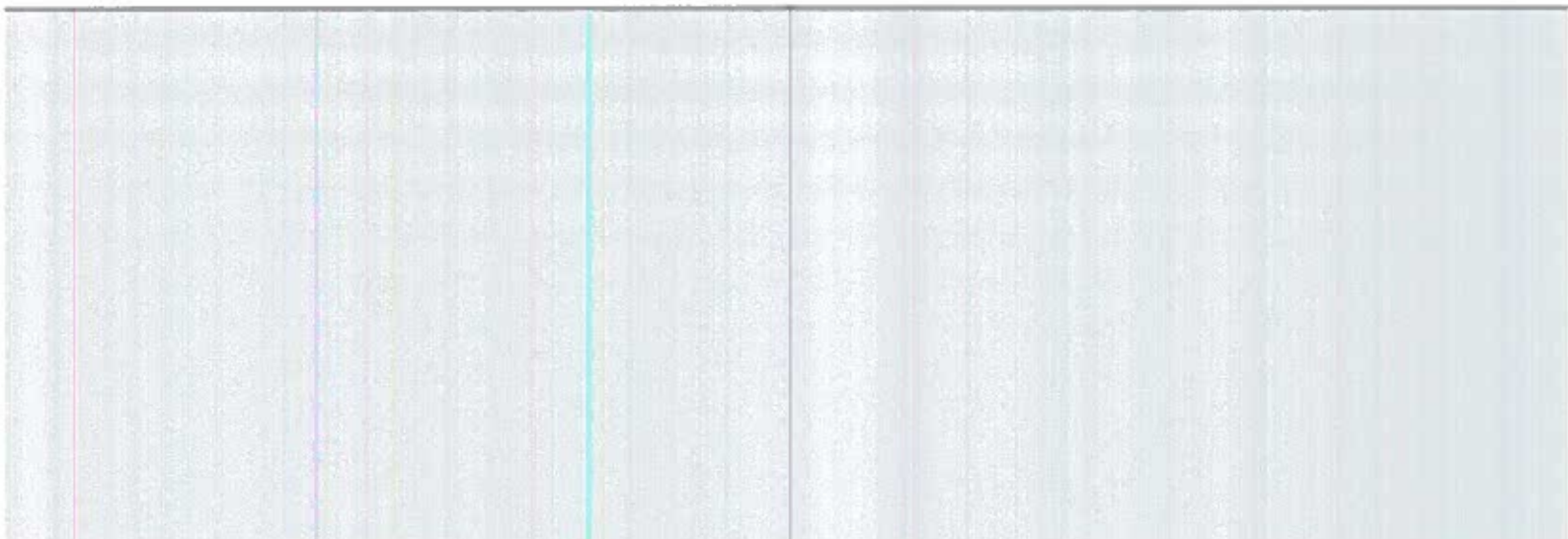
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Appendix B: Completed Energy Consumption Projects from Previous 2014 CDM Plan

Facility	Measure	Completion Date
Street Lights	Replaced 27 streetlights with LED	2015
South Fire Hall	Replaced mid efficient furnace with a high-efficient natural gas furnace	2015
Office	Replace mid efficient furnace with a high efficiency natural gas furnace	2016
Office/Garage	hot water on demand system	2016
Garage	Replace interior fluorescent lighting with LED lights	2016
St. Paul's Heritage Church	Replace wood siding with vinyl, new fascia and soffits	2017
Fitness Centre	Replaced old hot water tank	2017



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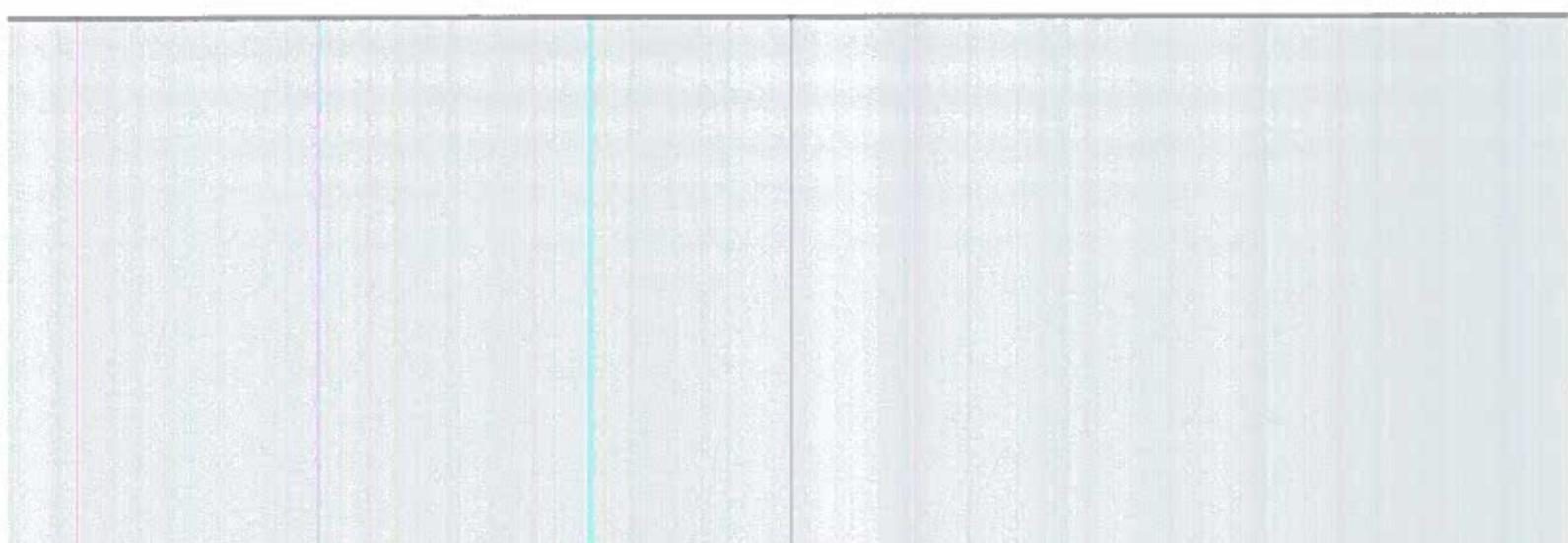
Appendix C: Proposed Energy Conservation Measures for 2019-2023

Facility	Measure	Estimated Cost	Target Date
Office	Replace all windows with Low E Argon Filled windows	cost subject to quotes requested	2020
Garage	Heat recovery ventilation	cost subject to quotes requested	**
Community Hall	Replace mid-efficient forced-air natural gas furnace upgrade to high efficiency unit	\$10,754.76 plus HST	**
Community Hall	Heat Recovery Ventilation	cost subject to quotes requested	**
Community Hall	Building envelope insulation value improvements	cost subject to quotes requested	**
Community Hall	Replace existing lights with LED	\$8,854.80 plus HST	2020
Museum	Mid-efficient forced-air furnace upgrade to high efficiency unit	\$5,278.36 plus HST	**
Museum	Building envelope insulation value improvements	cost subject to quotes requested	**

*Note: Estimated costs do not include incentive funding received from any energy management incentive opportunity that can be applied to projects in the future.

** Target dates to be determined after requested quotes are received.

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Appendix D: Table 1 from O. Reg 397/11 outlining the types of facilities included in the annual energy consumption reports.

Item	Type of Public Agency	Operation
1.	Municipality	<ol style="list-style-type: none"> 1. Administration offices and related facilities, including municipal council chambers. 2. Public Libraries 3. Cultural facilities, indoor recreational facilities and community centres, including art galleries, performing arts facilities, auditoriums, indoor sports arenas, indoor ice rinks, indoor swimming pools, gyms and indoor courts for playing tennis, basketball or other sports. 4. Ambulance stations and associated offices and facilities 5. Fire stations and associated offices and facilities 6. Police stations and associated offices and facilities 7. Storage facilities where equipment or vehicles are maintained, repaired or stored 8. Buildings or facilities related to the treatment of water or sewage 9. Parking garages
2.	Municipal Service Board	<ol style="list-style-type: none"> 1. Buildings or facilities related to the treatment of water or sewage
3.	Post-Secondary Education Institutions	<ol style="list-style-type: none"> 1. Administrative offices and related facilities 2. Classrooms and related facilities 3. Laboratories 4. Student residences that have more than three storeys or a building area of more than 600 square metres. 5. Student recreational facilities and athletic facilities 6. Libraries 7. Parking garages
4.	School Boards	<ol style="list-style-type: none"> 1. Schools 2. Administrative offices and related facilities 3. Parking garages
5.	Public hospital	<ol style="list-style-type: none"> 1. Facilities used for hospital purposes 2. Administrative offices and related facilities

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