

Energy Conservation and Demand Management Plan 2014 to 2019



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INTRODUCTION

The Township of Nipissing is located on the south shore of Lake Nipissing, in the District of Parry Sound, and has a population of approximately 1704 (2011) with an influx of approximately 1000 tourists in the summer months. Most of the Township is zoned as primarily rural with designated recreational and residential areas and hosts cottage and residential housing. It covers a geographical area of approximately 387 square kilometres.

The Township of Nipissing employs 8 full time positions and 8 part-time/seasonal positions. The Township Office, Public Works Garage, Outdoor Rink and Nipissing Township Museum are located within the hamlet area known locally as Nipissing Village. The Municipal Council is composed of a Mayor and four Councillors. The Township operates a Community Centre for hall rentals and community events which includes a Fitness Centre. There are two Fire Stations within the Township, operated by the Township of Nipissing Fire Department.

There are currently a number of formative plans in place that set the overall direction of the municipality. The Official Plan and Zoning By-Law provide guidance for future growth and development with regard to relevant social, economic and environmental matters. The Strategic Plan provides direction for the encouragement of investment and growth and a manageable rate and the Accessibility Plan provides direction for the provision of services and planning to better accommodate those with disabilities. In December 2013, Council adopted an Asset Management Plan to guide the maintenance and growth of infrastructure and Capital Assets within the Township.

This Energy Conservation and Demand Management Plan will be implemented and utilized in conjunction with all of these plans as tools for future development and provide a capital investment strategy for assets and infrastructure using the most energy efficient and environmentally responsible methods available while also keeping to an economy of scale.

FACILITY OVERVIEW

Year of Construction: 1974, RENOVATED 2010

Primary Heating Source: Electric heat through baseboard heaters.

Cooling: Air Conditioning using electrical means.

A propane powered self-activating generator has been installed at the Office to provide power during emergency situations. The unit has not required a substantial re-fueling since installation.

KEY PHYSICAL FEATURES

The Office contains a large, open space on the main floor that serves as office space/reception for the CAO-Clerk, Treasurer-Deputy Clerk and EDO/CEMC/Planning Assistant. There is a kitchen, accessible washroom and Council Chamber located on the main floor.

The basement of the facility contains two office spaces for the Operations Superintendent and the Chief Building Official. The rest of the basement is used for records and supply storage.

This building is owned by the Township of Nipissing and it does not lease any space to a third party.

KEY ENERGY CONSUMING USES

Heating and Cooling are the main energy uses of this building.

PROPOSED ENERGY SAVING MEASURES

- Programmable thermostats were installed in the office in 2013 to allow for consistent temperature control during all operating cycles.
- Upgrading all office lights to LED bulbs is in the proposed 2015 budget which will take the current 40 watt bulbs down to 16 watt bulbs.
- Installation of a new front door will improve energy conservation; this is proposed for the 2016 budget.
- Energy efficient heating units were installed to replace aging and malfunctioning base board heaters in 2013.

TOWNSHIP OFFICE

45 Beatty Street, Nipissing

Function: Administrative Offices including Municipal Council Chambers.

Total Floor Area of Indoor Space in which Operations are Conducted:

2,340 square feet

Average Number of Hours per Week:

40 Hours



FACILITY OVERVIEW

Year of Construction: 1990 Office Building, Log Church 100+ years

Primary Heating Source: This is a seasonal facility that does not operate in the winter. No heating is required during the winter months.

Cooling is provided by air conditioning units using electricity.

KEY PHYSICAL FEATURES

The Office Building contains a working area for the Curator, kitchen, bathroom, storage area and display area.

The Log Church is an original building which is used for display purposes, it is climate controlled with a window-mounted air conditioning unit.

KEY ENERGY CONSUMING USES

Cooling units in the Log Church and the Office building. A cooling unit has also been requested for the Garage building.

PROPOSED ENERGY SAVING MEASURES

- A new cooling unit was purchased and installed in the Log Church in 2013. This new unit is the most efficient available at the time of purchase.
- A new cooling unit for the Office building will be purchased as required and will be the most energy efficient model available at the time of purchase.
- A new fridge was purchased in 2014 for use in the kitchen. This is used by the staff and during events hosted at the Museum. Operating only 3 months out of the year, the facility is currently operating at an acceptable energy consumption rate.
- Replacement of lighting with LED lights and fixtures shall be included in the budget process to be completed by 2019.

TOWNSHIP MUSEUM

4363 Highway 654, Nipissing

Function: Cultural facility.
Local heritage museum.

Total Floor Area of Indoor Space in which Operations are Conducted:

1,638 square feet

3 buildings – Office, Log Church and Garage Building

Average Number of Hours Per Week:

36 Hours

Seasonal facility – Opens in June until closing the first week of September.



FACILITY OVERVIEW

Year of Construction: 1974, renovated 2011

Primary Heating Source: propane forced air furnace

KEY PHYSICAL FEATURES

5 bays for equipment storage and maintenance.
Storage space, washroom and small office

KEY ENERGY CONSUMING USES

A propane, high-efficiency forced-air boiler system furnace was installed in 2011, replacing an aging oil-fired forced-air furnace for improved efficiency and safety.

This change also included the safe removal of an aging, above-ground fuel tank for heating oil located near the garage/office/museum water source.

The garage received new bay doors, new windows, new doors and insulation during the 2011 renovation. High efficiency lighting was also installed at that time.

PROPOSED ENERGY SAVING MEASURES

The 2011 renovations improved all aspects of energy consumption.

LED light replacements are scheduled to be installed on the 2016 Capital Budget forecast, which will result in electricity consumption savings.

TOWNSHIP GARAGE

27 Beatty Street, Nipissing

Function: Public Works storage and maintenance facility for vehicles and equipment.

Total Floor Area of Indoor Space in which Operations are Conducted:

5,000 square feet

Average Number of Hours Per Week:

40 Hours



FACILITY OVERVIEW

Year of Construction: 1999

Primary Heating Source: Electric baseboard heaters

KEY PHYSICAL FEATURES

This building has a large open space provided as a warming area/changing area for hockey and ice skating. There are two washrooms and a storage area which is located in the rear of the building.

KEY ENERGY CONSUMING USES

This building has set hours but is not supervised during those scheduled hours. The lights are left on for the entire session if not turned off by those using the facility. The door to the facility can also be left open during operating hours by participants.

The heating is the largest energy consumption of this facility.

PROPOSED ENERGY SAVING MEASURES

Replace electric baseboard heaters with wall-mounted, high-efficiency electric units with a programmable thermostat to allow for consistent temperature control during all operating cycles. This will be included in the 2015 Capital Budget process.

Current light fixtures shall be updated to LED light fixtures and bulbs and will include a sensor switch to ensure maximum consumption efficiency.

This will be included in the 2016 Capital Budget process.

RINK BUILDING

14 Blake Street, Nipissing

Function: Recreational facility equipped with washrooms and a heated area to accompany the outdoor rink.

Total Floor Area of Indoor Space in which Operations are Conducted:

450 square feet

Average Number of Hours Per Week:

*56 Hours

*Seasonal facility – Opens when season permits, usually January until March.



FACILITY OVERVIEW

Year of Construction: 1982 – Community Centre, 1985 – Fire Station Addition – continued renovations with last large renovation to Fire Station in 2010.

Primary Heating Source: Propane forced air furnace in Fire Station and Community Centre with baseboard heaters in the washrooms and high-efficiency wall-mount units in the Fitness Centre.

KEY PHYSICAL FEATURES

Fire Station #1 has a large bay that contains 2 Apparatus and a vehicle as well as storage of gear and a training area. There are offices, a washroom, training room and dispatch office next to the bay. This was newly renovated and added on to in 2010-2011.

The Community Centre has a large, equipped kitchen, large open space and two washrooms.

The Fitness Centre has a newly built accessible washroom and a large open space for exercise equipment.

KEY ENERGY CONSUMING USES

Heating is the key energy consumption.

PROPOSED ENERGY SAVING MEASURES

Installation of high efficiency wall-mount units in the Community Centre washrooms will take place as the baseboard heaters fail.

Motion sensor lights were considered for the Fitness Centre as it is an un-supervised area open to members from 7 a.m. to 11 p.m. daily with a swipe card entrance; however due to safety concerns of the lights going out while someone is working out or showering this option will not be considered.

The lighting fixtures have been updated with each renovation and are being replaced with high-efficiency units as the old units require replacement. This practice will continue until all lights have been replaced.

A new door on the ramp entrance to the Community Centre has been planned for and will be reviewed during each budget year for replacement by 2019.

COMMUNITY CENTRE, FIRE STATION #1 AND FITNESS CENTRE

2381 Highway 654, Nipissing

Function:

Community Centre: recreational facility for community use.

Fire Station #1: Offices, training area, storage and maintenance area for all vehicles and equipment.

Fitness Centre: fully equipped fitness centre with paid memberships.

Total Floor Area of Indoor Space in which Operations are Conducted:

8,640 square feet

Average Number of Hours Per Week:

132 Hours



FACILITY OVERVIEW

Year of Construction: 1993

Primary Heating Source: Forced Air Oil Furnace

KEY PHYSICAL FEATURES

This space has a large bay which houses 2 fire apparatus as well as a shower/washroom, training area, storage area and a dispatch office.

KEY ENERGY CONSUMING USES

The 2002 forced air oil heat exchanger.

PROPOSED ENERGY SAVING MEASURES

- The furnace is reaching the end of its useful life and is scheduled for replacement with a propane forced air high efficiency furnace by 2019. This item will be reviewed each year to establish the best replacement year within the Capital Forecast.
*This is the last oil-burning furnace that we have in use.
- The lights were replaced with high efficiency lighting in 2013.
- The garage bay doors were replaced in 2013 which includes improved weather stripping for more efficient heat containment.

FIRE STATION #2

3509 Highway 534, Nipissing

Function: Training, dispatch, vehicle equipment maintenance and storage.

Total Floor Area of Indoor Space in which Operations are Conducted:

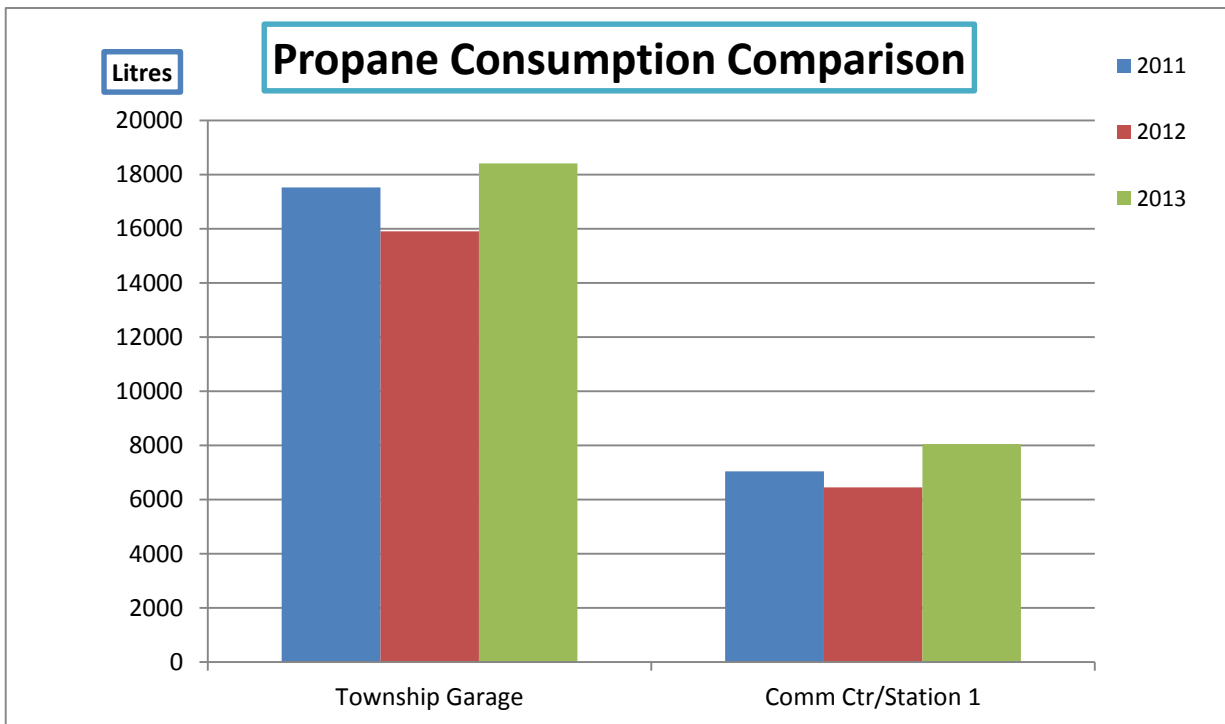
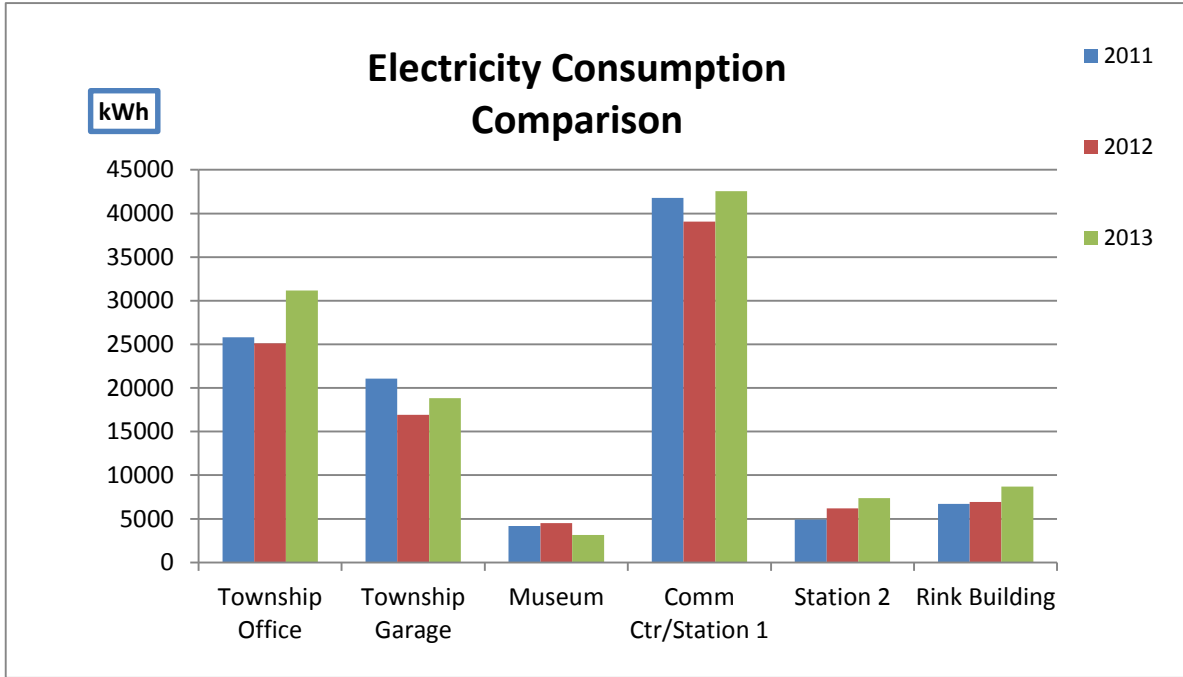
1,584 square feet

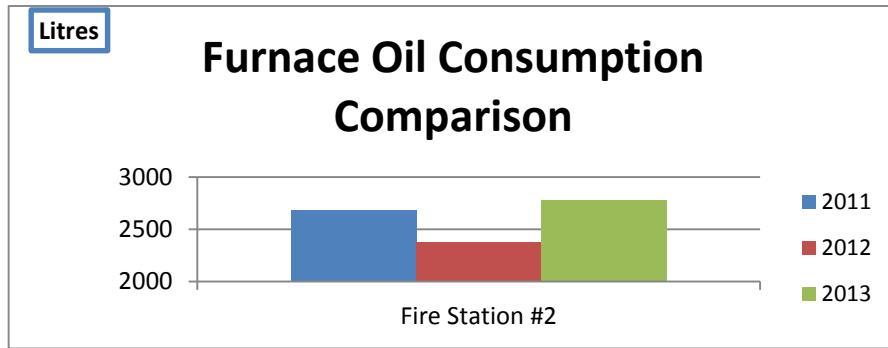
Average Number of Hours Per Week:

20 Hours



Annual Energy Consumption Comparison Information





Goals and Objectives

The Township of Nipissing is located in a rural area without access to a natural gas pipeline as a source of energy. Residents rely on heating oil, propane, electricity and wood burning appliances for heat. The Township facilities are also reliant on these sources however through continual upgrades to protect the investment in these assets, most of these heating sources are high-efficiency.

The Township recognizes that some changes can be made and will budget for those upgrades and changes in a fiscally responsible manner utilizing the Capital Forecast document which accompanies the annual budget process. The goal for energy consumption reduction is 5% over the five year plan, which results to a 1% decrease per year.

One project that the Township will be undertaking over the next term of Council will be a review of the current street lights. Utilizing current programs for a complete audit of existing services, a plan will be created to replace all street lights with the most current technology for maximum efficiency and energy savings as time permits.

For more information on this plan and energy conservation within the Township of Nipissing please contact the Township of Nipissing Office at 45 Beatty Street, 705-724-2144 or by email at admin@nipissingtownship.com.