# TOWNSHIP OF ASSIGINACK

## REGULAR MEETING OF COUNCIL

**To Be Held in the Council Chambers**

**Tuesday, February 21, 2017 at 5:00 p.m.**

**Council's Regular Meeting Agenda**

**For consideration:**

1. **OPENING**
   - **a)** Adoption of Agenda
   - **b)** Disclosure of Pecuniary Interest and General Nature Thereof

2. **ANNOUNCEMENTS**

3. **ADOPTION OF MINUTES**

   *February 7th Agenda*
   - **a)** Regular Council Meeting of January 17, 2017
   - **b)** Special Council Meeting of January 26, 2017
   - **c)** Assiginack Public Library Board Meeting of December 19, 2016

   *February 21st Agenda*
   - **d)** Manitoulin East Municipal Airport Commission Meeting of February 6, 2017 (p.3)
   - **e)** Sudbury & District Board of Health Meeting of January 19, 2017 (p.4)

4. **DELEGATIONS**

5. **REPORTS**

   *February 7th Agenda*
   - **a)** Staff Report: Automatic Greaser / Grader Repairs

   *February 21st Agenda*
   - **b)** OCWA Report: Manitowaning Lagoon Engineering Study on Aeration System (p.18)

6. **ACTION REQUIRED ITEMS**
   - **a)** Accounts of Payment: General: $344,726.49 Payroll: $36,996.04 (p.59)

*February 7th Agenda*

**b)** Donation Request: Fixing our Felines
**c)** Donation Request: Ride Manitoulin Motorcycle Rally 2017
**d)** Appointment of a Water & Wastewater Committee
**e)** Accept 2016 Financial Audit Preparation Letter

*February 21st Agenda*

**f)** Municipal Drain Registration (p.64)

## 7. INFORMATION ITEMS

*February 7th Agenda*

**a)** Ministry of Housing: Promoting Affordable Housing Act, 2016
**b)** Leask Bay Shores Lane Request Correspondence
**c)** Phoenix Emergency Management Logic
**d)** City of Owen Sound Resolution: Gas Tax Funding Formula
**e)** Sudbury & District Health Unit Resolution Correspondence
**f)** CPAA: Postal Banking Letter
**g)** Ministry of Agriculture, Food, and Rural Affairs: RED Program
**h)** Public Works Garage Energy Production Report

*February 21st Agenda*

**i)** Manitoulin Health Centre Letter (p.65)
**j)** Rick McCutcheon Letter (p.67)

## 8. BY-LAWS

*February 7th Agenda*

**a)** By-law #17-03: Authorize an Agreement with Xplornet Communications Inc.
**b)** By-law #17-04: Memorandum of Understanding: Chief Building Official

*February 21st Agenda*

**c)** By-law #17-05: Authorize an Agreement with the City of Greater Sudbury (p.69)
**d)** By-law #17-06: Authorize an Agreement with the Manitowaning Agricultural Society (p.93)

## 9. CLOSED SESSION

**a)** Litigation, potential litigation, including matters before administrative tribunals affecting the Municipality or local board (*Municipal Act*, 2001, c.25, s.239(2)(e))

## 10. ADJOURNMENT

# Manitoulin East Municipal Airport Commission Inc.
# Commission Meeting Minutes
# February 6, 2017

Present: M. Gauthier, B. Case, D. Williamson, P. Moffat , D. Orr, P. Skippen, R. Santarossa

Meeting called to order by M. Gauthier

Declaration of pecuniary interest- nil

**Motion 2017 02 07**
Moved by B. Case
Second by P. Skippen
Resolved that the Commission approves the agenda for the meeting of February 6, 2017
Carried

**Motion 2017 02 08**
Moved by P. Skippen
Second by D. Orr
Resolved that the Commission approves the minutes as amended (2017 01 05) of the meeting of January 9, 2017
Carried.

**Motion 2017 02 09**
Moved by B. Case
Second by P. Moffat
Resolved that the Commission accept the managers' report for January 2017.
Carried

**Motion 2017 02 10**
Moved by D. Orr
Second by B. Case
Resolved that the Commission accept the treasurers' report for January 2017.
Carried

**Motion 2017 02 11**
Moved by D Orr
Second by P. Skippen
Resolved that the Commission meeting of February 6, 2017 does now adjourn at 7:35 P.M.
Carried

Sudbury & District Health Unit / Service de santé publique

**UNAPPROVED MINUTES – FIRST MEETING**
**SUDBURY & DISTRICT BOARD OF HEALTH**
**SUDBURY & DISTRICT HEALTH UNIT, BOARDROOM**
**THURSDAY, JANUARY 19, 2017, AT 1:30 P.M.**

## BOARD MEMBERS PRESENT

Maigan Bailey
Robert Kirwan
Paul Myre
Mark Signoretti
Janet Bradley
René Lapierre
Ken Noland
Carolyn Thain
Jeffery Huska
Richard Lemieux
Rita Pilon

## BOARD MEMBERS REGRETS

Stewart Meikleham

## STAFF MEMBERS PRESENT

Megan Dumais
Rachel Quesnel
Nicole Frappier
Dr. P. Sutcliffe
Stacey Laforest

**R. QUESNEL PRESIDING**

## 1.0 CALL TO ORDER

The meeting was called to order at 1:30 p.m.

i) **Letter from the Sudbury & District Board of Health Chair to the Minister of Health and Long-Term Care dated December 21, 2016, Recommending Reappointment for Sudbury & District Board of Health member, J. Bradley**

The Public Appointments Secretariat has been notified of J. Bradley's interest in a reappointment as a provincial appointee on the Sudbury & District Board given her term expires February 21, 2017. A letter of support for her reappointment has been submitted by the Board Chair.

## 2.0 ROLL CALL

## 3.0 REVIEW OF AGENDA / DECLARATIONS OF CONFLICT OF INTEREST

There were no declarations of conflict of interest.

## 4.0 ELECTION OF OFFICERS

### APPOINTMENT OF CHAIR OF THE BOARD

Following a call for nominations for the position of Chair of the Board, René Lapierre was nominated.

There being no further nominations, the nomination for the Sudbury & District Board of Health Chair for 2017 was closed. R. Lapierre accepted the nomination. The following was announced:

***THAT THE Sudbury & District Board of Health appoints René Lapierre as Board for the year 2017.***

**R. LAPIERRE PRESIDING**

### APPOINTMENT OF VICE-CHAIR OF THE BOARD

Following a call for nominations for the position of Vice-Chair of the Board, Jeffery Huska was nominated.

There being no further nominations, the nomination for the Sudbury & District Board of Health Vice-Chair for 2017 was closed. Jeffery Huska accepted his nomination. The Board Chair announced:

***THAT the Sudbury & District Board of Health appoints Jeffery Huska as Vice-Chair for the year 2017.***

### APPOINTMENTS TO THE BOARD EXECUTIVE COMMITTEE

Following a call for nominations for three positions of Board Member at Large to the Board Executive Committee, Paul Myre, Janet Bradley, Mark Signoretti, and Ken Noland were nominated.

There being no further nominations, the nominations for the Board Executive Committee for the year 2017 was closed. The four nominees accepted their nominations. A paper vote was conducted and results handed to the Chair. The Chair announced:

***THAT the Sudbury & District Board of Health appoints the following individuals to the Board Executive Committee for the year 2017:***

1. ***Paul Myre, Board Member at Large***
2. ***Janet Bradley, Board Member at Large***
3. ***Ken Noland, Board Member at Large***
4. ***René Lapierre, Chair***
5. ***Jeffery Huska, Vice-Chair***
6. ***Medical Officer of Health/Chief Executive Officer***
7. ***Director, Corporate Services***
8. ***Secretary Board of Health (ex-officio)***

**APPOINTMENTS TO THE FINANCE STANDING COMMITTEE OF THE BOARD**

Following a call for nominations for three positions of Board Member at Large to the Finance Standing Committee of the Board, Carolyn Thain, Mark Signoretti, and Paul Myre were nominated.

There being no further nominations, the nominations for the Finance Standing Committee of the Board for the year 2017 was closed. The three nominees accepted their nominations. The Chair announced:

***THAT the Sudbury & District Board of Health appoints the following individuals to the Finance Standing Committee of the Board for the year 2017:***

1. ***Carolyn Thain, Board Member at Large***
2. ***Mark Signoretti, Board Member at Large***
3. ***Paul Myre, Board Member at Large***
4. ***Medical Officer of Health/Chief Executive Officer***
5. ***Director, Corporate Services***
6. ***Manager, Account Services***
7. ***Secretary Board of Health***

## 5.0 DELEGATION / PRESENTATION

### i) No Time to Wait: Healthy Kids in the Sudbury and Manitoulin Districts Report Card Progress Update

- Paula Ross, Public Health Nutritionist, Nutrition Physical Activity Action Team, Health Promotion Division

Today's presentation was to provide Board members with an update on the progress the SDHU has made over the last three years since the release of its *No Time to Wait: Healthy Kids in the Sudbury and Manitoulin Districts Report Card* in 2013 and to highlight next steps. Copies of the 2013 report card were available for the Board members next to the Boardroom display.

P. Ross began by noting that childhood obesity is a complex health issue that has major implications for society.

Board members were reminded that in 2012, the provincial government struck a Healthy Kids Panel (HKP) that consisted of multi-sectoral experts to inform the development of a strategy that would reduce childhood obesity in Ontario by 20% over five years. The SDHU was extremely proud to have Dr. Sutcliffe participate on the HKP as the only local public health representative. Following the release of the HKP recommendations in 2013 which included a comprehensive three-pronged strategy, the SDHU undertook a process of self-reflection and evaluated its efforts and actions against the HKP recommendations through a *Healthy Kids in Sudbury and Manitoulin Districts* report card with a resulting Grade B.

Key SDHU actions that have taken place since the release of this local report card were outlined. These focus on starting all kids on the path to health, changing the food environment, and creating healthy communities. In order to have the greatest positive impact on child health, concerted, coordinated and collaborative efforts across all sectors of society have been important.

Over the next 2-3 years, the SDHU will continue to work with community partners and encourage their involvement in a community wide evaluation that will be more comprehensive and inclusive.

Questions were entertained and P. Ross was thanked for her presentation.

## 6.0 CONSENT AGENDA

There were no consent agenda items identified for discussion.

**i) Minutes of Previous Meeting**

a. Eighth Meeting – November 24, 2016

**ii) Business Arising From Minutes**

None

**iii) Report of Standing Committees**

None

**iv) Report of the Medical Officer of Health / Chief Executive Officer**

a. MOH/CEO Report, January 2017

**v) Correspondence**

**a. Association of Municipalities of Ontario (AMO) and Alcohol Policy**

- Correspondence from the Northwestern Health Unit to alPHa dated November 1, 2016

**b. 2016 Ontario Public Health Standards Modernization Review**

- Letter from the Board of Health for Grey Bruce Health Unit to the Ontario Public Health Standards Modernization Committee and Executive Steering Committee dated November 25, 2016

**c. Bill 5 – Greater Access to Hepatitis C Treatment Act, 2016**

- Letter from the Board of Health for Peterborough Public Health to the Minister of Health and Long-Term Care dated November 28, 2016

**d. Oral Health Programs for Low-Income Adults and Seniors**

- Letter from the County of Lambton Board of Health to the Minister of Health and Long-Term Care dated December 8, 2016

**e. Nutritious Food Basket**

- Email from the Premier of Ontario to Dr. Sutcliffe dated November 22, 2016
- Letter from the North Bay Parry Sound District Board of Health to the Ministers of Health and Long-Term Care, Community and Social Services as well as Housing, Poverty Reduction Strategy dated November 25, 2016
- Letter from the Durham Region Health Unit to the Premier of Ontario dated December 14, 2016
- Letter from the Township of Nairn and Hyman to the Premier of Ontario dated December 16, 2016, supporting the Sudbury & District Board of Health motion 50-16

**f. Student Nutrition Programs**

- Letter from the Durham Region Health Unit to the Prime Minister dated December 14, 2016

**g. Marketing of Food and Beverages to Children, Support for Bill S-228 and Bill C-313**

- Letter from the Durham Region Health Unit to the Prime Minister dated December 14, 2016
- Letter from Huron County Board of Health to the Federal Health Minister dated December 8, 2016
- Letter from Middlesex-London Board of Health to the Federal Minister of Health dated December 13, 2016

**h. alPHa Update for 2017**

i. Email and 2017 alPHa Update from the North East regional representative on the Board of Health Executive/alPHa Board of Directors

**i. Manitoulin Drug Strategy**

i. Letter from the Municipality of Central Manitoulin to the Sudbury & District Health Unit dated November 29, 2016

**j. Health Hazards of Gambling**

i. Letter from the North Bay Parry Sound District Board of Health to the Minister of Health and Long-Term Care dated December 5, 2016

**k. Immunization Program Funding**

i. Letter from the Huron County Board of Health to the Minister of Health and Long-Term Care dated January 5, 2017

**vi) Items of Information**

| | | |
|---|---|---|
| a. | alPHa Information Break | December 8, 2016<br>January 10, 2017 |
| b. | 2016 Financial Controls Checklist | |
| c. | Report: *Board Learning and Information Session, Strengthening Indigenous Relationships* | November 9, 2016 |

**01-17 APPROVAL OF CONSENT AGENDA**

***Moved by Myre – Lemieux: THAT the Board of Health approves the consent agenda as distributed.***

***CARRIED***

It was clarified that the financial control checklist was introduced by the Ministry as part of the 2015 Program Based Grant (PBG) process and submitted with the Board Chair's signature along with our 2015 PBG request. For 2016, the checklist was requested as part of our quarterly financial reporting. New to the process is the requirement to insert on the form the date of the Board meeting at which it is shared.

The objective of the checklist per Ministry is to provide boards of health with an informative tool to be assured of key internal controls. The financial controls checklist deals mainly with the day-to-day operating financial processes of the organization. It helps provide the board assurance that the organization has adequate financial controls in place and practice. It is being shared for the Board's information and will be brought forward to the next Board Finance Standing Committee in the context of its discussion of the organization's management financial policies and practices.

Board members are pleased to see the ongoing advocacy taking place throughout the province as it relates to all aspects of the nutritious food baskets.

Dr. Sutcliffe clarified that the immunization rates referenced in the January Board report are not lower than the numbers reported at the same time last year. End of season will be also be compared with last year's end of season.

## 7.0 NEW BUSINESS

**i) Sudbury & District Board of Health Meeting Attendance**

- Summary – 2016

The Board attendance summary is shared with the Board on an annual basis for review and information and makes reference to the relevant Board policies. It was clarified that there is currently one provincial appointment vacancy.

**ii) Board Survey Results from Monthly Board Meeting Evaluations**

- 2016 Evaluation Summary Results

A roll up of the evaluation results from the regular Board meetings in 2016 is shared for information and discussion. There were no questions or discussion.

**iii) 2016 Board Annual Self-Survey Results**

- 2016 Board Self-Evaluation Summary Results

Every year, Board members are asked to complete a board self-evaluation survey which covers three components:

1. Individual Performance Compliance with Individual Roles and Responsibilities as a Board of Health member
2. Board of Health Processes Effectiveness of Policy and Process
3. Overall Performance of the Board of Health

Results are shared with the Board for information and discussion. There were no questions or discussion.

**iv) Electronic Cigarettes Act**

Dr. Sutcliffe noted that the proposed motion includes some background and has similar principles to the disclosure of tobacco-related enforcement activity.

**02-17 INCLUSION OF ELECTRONIC CIGARETTES ACT VENDOR CONVICTIONS WITHIN EXPANSION OF PROACTIVE DISCLOSURE SYSTEM**

***Moved by Lemieux – Myre: WHEREAS the Minister of Health and Long-Term Care has requested that all boards of health make transparency a priority objective in business plans and develop reporting practices to make information readily available to the public; and***

***WHEREAS the Sudbury & District Board of Health is committed to public transparency; and***

***WHEREAS the Sudbury & District Board of Health endorsed motion 36-15 (Expansion of Proactive Disclosure System) at its September 17, 2015, meeting; and***

***WHEREAS, inclusion of enforcement-related activities pertaining to the Electronic Cigarettes Act (2015), would further improve transparency by enhancing public access to inspection findings;***

***THEREFORE BE IT RESOLVED THAT the Sudbury & District Board of Health endorse the inclusion of enforcement-related activities pertaining to electronic cigarette vendors within the expanded proactive disclosure system; and***

***THAT the following be the Board policy on the release of enforcement and inspection information pertaining to the Electronic Cigarettes Act:***

1. ***Charges: Statistical information on charges (i.e. no identifying information) is released to the Sudbury & District Board of Health at its regularly scheduled meetings.***
2. ***Convictions: Convictions related to electronic cigarette vendor infractions are posted on the Sudbury & District Health Unit website as soon as possible following the conviction and for a period of 12 months from the date on which the conviction was rendered.***
3. ***Requests for information not posted on website: Requests for information not posted on the website are considered on an individual basis in accordance with Health Unit policy and the Municipal Freedom of Information and Protection of Privacy Act (MFIPPA) and the Personal Health Information Protection Act (PHIPA); and***

***FURTHER THAT Board of Health Disclosure Information Sheet F-IV-10 be correspondingly updated.***

***CARRIED with friendly amendment***

**v) Anti-Contraband Tobacco Campaign**

- Slide Deck by the Physicians for Smoke-Free Canada
- Algoma Board of Health Anti-Contraband Tobacco Campaign Resolution 2016-109 dated November 23, 2016

Dr. Sutcliffe noted that dense slides developed by the Physician for Smoke-Free Canada are being shared to inform the Board of the work that has been done in this area. The Algoma Board's resolution is also attached to today's agenda package.

Dr. Sutcliffe described the impacts of contraband tobacco campaigns and strategies from the tobacco industry.

**03-17 ANTI-CONTRABAND TOBACCO CAMPAIGN**

***Moved by Myre – Lemieux: WHEREAS the Sudbury & District Board of Health has reviewed information indicating that recent anti-tobacco contraband campaigns from the National Coalition Against Contraband Tobacco and the Ontario Convenience Store Association were supported***

***by the tobacco industry with the intention of blocking tobacco excise tax increases and regulation of tobacco products generally; and***

***WHEREAS Ontario municipalities including the City of Greater Sudbury have endorsed such campaigns without being informed of tobacco industry support; and***

***WHEREAS municipalities within the SDHU service area are longstanding advocates for measures to protect the public from exposure to environmental tobacco smoke;***

***THEREFORE BE IT RESOLVED THAT the Sudbury & District Board of Health advise area municipalities of this information and urge municipalities to not endorse tobacco industry supported campaigns; and***

***THAT the Sudbury & District Board of Health request municipalities to call on the Ontario Ministry of Finance to raise tobacco excise taxes and enhance enforcement activities designed to reduce the presence of contraband tobacco in Ontario communities; and***

***FURTHERMORE THAT this resolution be shared with municipal councils, local MPPs, the Ontario Ministry of Finance, the Association of Local Public Health Agencies, Ontario public health units, and the Ontario Campaign for Action on Tobacco.***

***CARRIED***

**vi) Cannabis Regulation and Control**

- Letter from the Simcoe Muskoka District Health Unit to the Minister of Health and Long-Term Care dated December 15, 2016

Dr. Sutcliffe noted that there is the ability within the current legislative regulations to prescribe certain substances for which regulations would be applicable. The proposed motion advocates that these would be subject to the same restrictions as tobacco. It is felt to be an important control measure to protect health.

Discussion ensued regarding the possibility of municipalities establishing municipal by-laws prior to provincial measures being put in place, similar to the municipal tobacco by-laws being put in place prior to having provincial laws.

Further questions were entertained and the Board consented to a friendly amendment to include municipalities as community partner in the last paragraph.

**04-17 CANNABIS REGULATION AND CONTROL**

***Moved by Thain – Pilon: WHEREAS the Final Report of the Task Force on Cannabis Legalization and Regulation, A Framework for the Legalization and Regulation of Cannabis, recommended to the federal government that***

***current restrictions on public smoking of tobacco products be extended to the smoking of cannabis products and to cannabis vaping products; and***

***WHEREAS the recently amended Smoke Free Ontario Act permits certain products and substances to be prohibited under the regulatory framework of the Act; and***

***WHEREAS Sudbury & District Board of Health motion #54-15 called for a public health approach to the forthcoming cannabis legalization framework, including strict health-focused regulations to reduce the health and societal harms associated with cannabis use; and***

***WHEREAS a public health approach focuses on high-risk users and includes strategies such as controlled availability, age limits, low risk use guidelines, pricing, advertising restrictions, and general and targeted prevention initiatives and allows for more control over the risk factors associated with cannabis-related health and societal harms; and***

***WHEREAS by prohibiting the smoking of all cannabis in all places where the smoking of tobacco is prohibited, children, youth and adults in our communities will result in reduced public and second-hand exposure to cannabis;***

***THEREFORE BE IT RESOLVED THAT the Sudbury & District Board of Health call for the inclusion of marijuana (medicinal and recreational) as a prescribed product or substance under the Smoke Free Ontario Act; and***

***FURTHER THAT this resolution be shared with the Honourable Prime Minister of Canada, local Members of Parliament, the Premier of Ontario, local Members of Provincial Parliament, Minister of Health and Long-Term Care, Federal Minister of Health, the Attorney General, Chief Medical Officer of Health, Association of Local Public Health Agencies, Ontario Boards of Health, Ontario Public Health Association, the Centre for Addiction and Mental Health, and local community partners, including constituent municipalities.***

***CARRIED with friendly amendment***

**vii) Sugar Sweetened Beverages and Menu Labelling**

- Position of Dietitians of Canada – Taxation and Sugar-Sweetened Beverages, February 2016

The proposed motion is a call to endorse a well researched position paper that addresses the impact of sugar-sweetened beverages on children. The motion also speaks to the effective practice of taxation and positive impacts of policies which aim

to decrease the consumption of sugar-sweetened beverages. The position statement effectively addresses potential critiques of increased taxation.

It was acknowledged that this is only one element of a comprehensive strategy that needs to be put in place to address obesity and, for today's motion, childhood obesity. Dietitians chose to develop this specific position statement knowing other strategies are as important and also being explored. It was pointed out that the Healthy Kids Community Challenge (HKCC) places a strong emphasis on the use of community water.

Dr. Sutcliffe referenced the Ontario Public Health Standards which establish the minimum requirements for fundamental public health programs and services to be delivered by Ontario's 36 boards of health. It is unknown whether the current review for the modernization of the OPHS will expand its reach to include elder programs/services.

**05-17 SUPPORT FOR THE POSITION OF DIETITIANS OF CANADA ON TAXATION AND SUGAR-SWEETENED BEVERAGES AS PART OF A COMPREHENSIVE HEALTHY EATING APPROACH**

***Moved by Pilon – Noland: WHEREAS obesity results from a complex interaction of many factors including genetic, social and environmental; and***

***WHEREAS 32% of Canadian children and youth have excess weight or obesity; and***

***WHEREAS intake of sugar-sweetened beverages is one of the dietary factors leading to increased rates of overweight and obesity; and***

***WHEREAS children with high intakes of sugar sweetened beverages are 55% more likely to have obesity or excess weight in comparison to those with low intakes; and***

***WHEREAS available evidence suggests that policy efforts which decrease the consumption of sugar sweetened beverages have the potential to positively impact the health of Canadians; and***

***WHEREAS the Dietitians of Canada position statement on Taxation and Sugar-Sweetened Beverages identifies sugar-sweetened beverage taxation as a public health intervention with potential positive health impact, especially when combined with further policy efforts; and***

***WHEREAS Dietitians of Canada recommends that an excise tax of at least 10-20% be applied to sugar sweetened beverages sold in Canada; and***

***WHEREAS a number of influential Canadian national organizations support a tax on sugar sweetened beverages including the Association of Local Public Health Agencies, the Childhood Obesity Foundation, Heart and Stroke Foundation of Canada, Chronic Disease Prevention Alliance of Canada, and the Canadian Diabetes Association;***

***THEREFORE BE IT RESOLVED THAT the Sudbury & District Board of Health endorse the Position of Dietitians of Canada on Taxation and Sugar-Sweetened Beverages, and urge the federal government to implement an excise tax on sugar-sweetened beverages; and***

***FURTHER THAT copies of this motion be shared with key provincial and national stakeholders.***

***CARRIED***

## 8.0 ADDENDUM

### 06-17 ADDENDUM

***Moved by Noland – Pilon: THAT this Board of Health deals with the items on the Addendum.***

***CARRIED***

### DECLARATION OF CONFLICT OF INTEREST

There are no declarations of conflict of interest.

i) Basic Income Pilot Survey

Board members are invited to complete the public consultation survey to reiterate the SDHU's strong support for the Ontario basic income pilot.

ii) Public Health Expert Panel

- Letter from the Minister of Health and Long-Term Care dated January 18, 2017
- Minister's Expert Panel on Public Health Mandate
- Expert Panel on Public Health: Panel Member Biographies

On January 28, 2017, the Minister of Health and Long-Term Care announced the establishment of the Public Health Expert Panel, its mandate and membership.

Dr. Sutcliffe recapped the events since the *Patients First: Action Plan for Health Care* was released in December 2015 which led to the passing of Bill 41: *The Patients First Act, 2016.*

There are 16 workstreams at the provincial level working through implementation which is expected to take place on May 1, 2017. Dr. Sutcliffe participates on the Public

Health Work Stream which is examining the Patients First Act as it relates to Boards, MOH and linkages with the LHIN.

One of four pillars of the Patients First initiative related to strengthening connections between population and public health and the rest of our health system, and establishing the expert panel on public health. The work of the Public Health Expert Panel will include a review of various operational models for the integration of public health into the broader health system and the development of options and recommendations that will best align with the principles of health system transformation, enhance relationships between public health, LHINs and other public sector entities and improve public health capacity and delivery.

The Minister has defined what will be within scope and out of scope for the Expert Panel which will be co-chaired by the Chief Medical Officer of Health.

Questions were entertained and the Board commented that it is unfortunate that the Expert Panel does not have northern Ontario representation.

## 9.0 IN CAMERA

### 07-17 IN CAMERA

***Moved by Bailey – Thain: That this Board of Health goes in camera. Time: 2:44 p.m.***

***CARRIED***

- Labour relations or employee negotiations

## 10.0 RISE AND REPORT

### 08-17 RISE AND REPORT

***Moved by Noland – Bailey: That this Board of Health rises and reports. Time: 2:59 p.m.***

***CARRIED***

The Board Vice-Chair reported that one labour relations/employee negotiations item was discussed. The follow in-camera motion was entertained upon the Rise and Report:

### 09-17 APPROVAL OF BOARD IN-CAMERA MEETING NOTES

***Moved by Bailey – Noland: THAT this Board of Health approve the meeting notes of the November 24, 2016, Board in-camera meeting and that these remain confidential and restricted from public disclosure in accordance with exemptions provided in the Municipal Freedom of Information and Protection of Privacy Act.***

***CARRIED***

## 11.0 ANNOUNCEMENTS / ENQUIRIES

Board members were encouraged to complete the Board evaluation regarding today's Board meeting.

The date of alPHa symposium is February 23 to 24, 2017, in Toronto. Board members interested in attending are asked to contact R. Quesnel.

## 12.0 ADJOURNMENT

### 10-16 ADJOURNMENT

***Moved by Myre – Lemieux: THAT we do now adjourn. Time: 2:55 p.m.***

***CARRIED***

_____ _____

(Chair) (Secretary)

Township Of Assiginack

# Manitowaning Lagoon

## Preliminary Engineering Study Report

## Aeration System

**February 2017**

**Prepared by**

**Ontario Clean Water Agency**
**Agence Ontarienne Des Eaux**

Revision V2.

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## APPENDICES



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**Disclaimer**



**Report Written by:**

Vladimir Marenich, EIT

**Report Reviewed by:**

Indra Maharjan, P.Eng., CEM, CMVP

Program Manager, Energy Conservation and Climate Change

Ontario Clean Water Agency

Abbreviation List

| | |
|---|---|
| AHU | Air Handling Unit |
| BEP | Best Efficiency Point |
| BHP | Break Horsepower Point |
| BOD | Biological Oxygen Demand |
| BPS | Booster Pumping Station |
| DO | Dissolved Oxygen |
| ECA | Environmental Compliance Approval |
| ECM | Energy Conservation Measure |
| HMI | Human Machine Interface |
| hp | Horsepower |
| HVAC | Heating Ventilation and Air Conditioning |
| IESO | Independent Electricity System Operator |
| KPI | Key Performance Indicator |
| kW | Kilowatts |
| M&V | Measurement and Verification |
| MOECC | Ministry of Environment and Climate Change |
| NEMA | National Electrical Manufacturers Association |
| O&M | Operations and Maintenance |
| OCWA | Ontario Clean Water Agency |
| PD | Positive Displacement |
| PLC | Programmable Logic Controller |
| PS | Pumping Station |
| PSUI | Process and Systems Upgrade Initiative |
| RFQ | Request for Quotation |
| SCADA | Supervisory Control and Data Acquisition |
| SCFM | Standard Cubic Feet Per Minute |
| TDH | Total Dynamic Head |
| VFD | Variable Frequency Drive |
| WAS | Waste Activated Sludge |
| WWTP | Wastewater Treatment Plant |

# 1. Executive Summary

The Manitowaning Lagoon is located in the Township of Assiginack, on Manitoulin Island's East shore – Lot 41 and 42, Concession 1. The estimated population served is 620 people (2008). It is currently owned by the Township of Assiginack and operated by the OCWA.

The Manitowaning Lagoon was constructed in 1980s and consists of a sewage lift station, and a three (3) cell lagoon. The cells are for aeration, sedimentation, and polishing respectively. The aeration is achieved with nine (9) floating mechanical aerators with baffling. Sedimentation is achieved by the addition of alum (aluminum sulphate with dosage paced to raw sewage flow) as the primary means of reducing the total phosphorus in the effluent in a flow through chamber from the aeration cell. The polishing cell increases contact time, as the lagoon is designed for continuous discharge. Its current average rated capacity is 227.1 $m^3$/day, with average daily flows of 315 $m^3$/day. The total volume of the three-celled lagoon is 43,580 $m^3$.

The aeration process at Manitowaning Lagoon is currently serviced by nine (9) Aeromix Tornado mechanical aerators, each equipped with 5 hp motors. As of beginning of 2016, typically 3 aeration mixers are running continuously and the other 6 act as standby for higher loadings.

The aerators were manufactured in 2011 and were part of an overall plant upgrade in the 2013. They have undergone routine servicing and maintenance since installation. The mixers are in an adequate state of repair, operating without any significant issues with regular maintenance. Taking into consideration that the last major repair had occurred recently, it could be stated that the mixers will not reach the end of their useful lives before another plant upgrade is required. The existing mixers do not appear to be at a high risk of failure at the moment, but replacement costs should be considered in the near future for the Lagoon.

On-site power monitoring of key equipment was conducted from April 18, 2016 to May 5, 2016 to develop a comprehensive power consumption profile.

### Measure Analysis

The primary focus of this report is to evaluate the existing aeration system and determining opportunities to save energy with the installation of high efficiency aeration equipment to replace the outdated mechanical aspirators currently operating at the plant. New high efficiency aeration equipment provides several advantages over the conventional mechanical aspirators including:

- right sizing that meets the current air demand requirement;
- a higher efficiency (and lower energy consumption);
- reduced maintenance costs/requirements due to economies of scale;
- reduced noise and vibration; and
- smaller horse power rating with smaller motor.

Based on Energy Conservation Measures (ECMs) analysis, it is recommended to proceed with either Option 2 or Option 3. Option 2 will result in greater energy savings whereas Option 3 will result in energy savings and also process efficiencies through better air transfer efficiencies and effluent.

## Recommendations

Based on Lagoon inflow quantity and characteristics (influent and effluent BOD), the Certificate of Approval (C of A) outflow limits, and some conservative assumptions, we recommend that the Township install two (2) Lagoon Master aerators in place of the existing nine (9) mechanical aerators. This set up will fully replace the aeration sequence within the lagoon and reduce the energy required to achieve the compliance limits for the lagoon effluent discharge at a lower energy volume and subsequent cost.

The summary of recommended ECMs Option 2 and Option 3 is presented below

**Table 1-1: ECM Summary**

| ECM# | ECM Description | Estimated Cost | Estimated Annual Energy Savings (MWh) | Estimated Simple Payback (Years) | Estimated Annual Energy Cost ($) | Estimated IESO/Hydro One Incentive ($) |
|---|---|---|---|---|---|---|
| **Option 2** | Supply and Installation of two (2) 4 hp Lagoon Master Aerators | $ 120,000 | 121 | 4 | 14,400 | 12,000 |
| **Option 3** | Supply and Installation of three (3) 4 hp Lagoon Master Aerators | $ 158,000 | 83 | 7.6 | 22,000 | 8,300 |

The project cost includes limited contingency costs that might be required to cover any unexpected costs incurred during design or construction. The primary risk for this project revolves around the timing of equipment delivery, which is dependent on the time to process the Environmental Compliance Approval amendment through the Ministry of Environment and Climate Change (MOECC).

## Action Plan

The project could be delivered as a turn-key project from initiation to full installation and commissioning. One entity would procure, install and commission the works, in order to expedite the implementation of various upgrades and streamline the IESO funding application process.

The primary mode of operation will have the aerators set as the duty for both of them at all times with heat-trace powered for the four (4) months of winter. Any further operational adjustments can be made during this time on an as needed basis.

The overall estimated delivery schedule for the installation of the aerators is 8-10 months from project kick-off. Some of the major tasks and milestones anticipated for the project are listed below.

- Submit and receive IESO's PSUI/ Retrofit funding pre-approval - approximately **1 month**

- Complete and submit an ECA Amendment Application to include the new equipment to be installed at the Lagoon – application approvals can take as long as **4 months** to process
- Pre-order Lagoon Masters – delivery times can be as long as **4 months**
- Prepare an Request for Quotation (RFQ) for distribution to contractors and select a contractor – **8 weeks**
- Construction Phase – De-commission the existing equipment and install new aerators – **2-4 weeks**
- Commissioning and startup of new aerators – **1 week**

The critical components in this schedule that may cause extended delays are the ECA application process and the delivery time of the equipment itself. However, in order to mitigate the potential timeline risks, each of these phases will be initiated as soon as possible in the overall schedule with other tasks occurring concurrently to minimize waiting times.

Proper Measurement and Verification (M&V) is essential to realize the estimated energy savings potential and is required to guarantee the persistence of savings. Training to operator and related personnel must be carried out to increase energy awareness. M&V will also assist on defining Key Performance Indicators (KPIs) for the plant for comparison on annual basis.

## 2. Introduction

The Township of Assiginack expressed interest in conducting an Engineering Study at the Manitowaning Wastewater Lagoon (WL). A Technical Memorandum summarizing Energy Conservation Measure (ECM) results was issued on December 3, 2014. This Preliminary Engineering Study (PES) report elaborates on the recommendation of upgrading the aeration system at Manitowaning Lagoon and presents various options. The report meets minimum requirements as set out in PSUI PES funding program.

## 3. Purpose and Scope of the PES

This PES reviews the performance of the Lagoon to understand the pattern of energy consumption in the facility as related with aeration system and provides recommendations on how the facility can reduce energy consumption with respect to its aeration system. This report also provides estimated costs and payback periods for each recommendation and can be used by the Township as support for the selection of energy efficiency upgrades. Once a specific Energy Conservation Measure (ECM) has been approved, detailed quotations from contractors can be obtained.

This report was made possible through 100% financial support of the IESO and Hydro One Networks through Process & Systems Upgrade (PSUI) Engineering Studies funding program. In addition, Hydro One can provide funding for project implementation through two funding streams: the Retrofit stream, which funds 10 ¢/kWh saved, and the PSUI stream, which funds 20 ¢/kWh saved. Potential funding is based on either the energy saved or 50% of the final implementation costs, whichever is smaller. It was assumed that the Retrofit stream will be taken and therefore all calculations that involve IESO funding 10 ¢/kWh as the incentive on verified energy savings.

OCWA recommends the Township to proceed with project implementation for the proposed ECM either Option 2 or 3 that would result in significant energy and cost savings in addition to process and operational efficiency. This would also address the sedimentation of the sludge on the lagoon floor – leading to lower BOD concentration of the lagoon discharge as well as reliable operation during winter season.

## 4. Characteristics of the Facilities

The Manitowaning Lagoon is located in the Township of Assiginack, on Manitoulin Island's East shore – Lot 41 and 42, Concession 1. The estimated population served is 620 people (2008). It is currently owned by the Township of Assiginack and operated by the OCWA.

The Manitowaning Lagoon was constructed in 1980s and consists of: a sewage lift station, and a three (3) cell lagoon. The cells are for aeration, sedimentation, and polishing respectively. The aeration is achieved with nine (9) floating mechanical aerators with baffling, sedimentation is achieved by addition of alum (aluminum sulphate with dosage paced to raw sewage flow) as primary means of reducing the total phosphorus effluent in a flow through chamber from the aeration cell, and polishing cell is increased contact time, as lagoon is designed for continuous discharge. Its current average rated capacity is 227.1 $m^3$/day, with average daily flows of 315 $m^3$/day, and a total volume of 43,580 $m^3$.

## Process Equipment

The main process equipment at the Manitowaning Lagoon is nine (9) mechanical aerators, described in **Table 4:1**.

**Table 4-1: Process Aerators**

| Parameters | Aerators No. 1-9 |
|---|---|
| Services | Aeration |
| Design Function | Duty/Standby |
| Type | Propeller |
| Controls | None |
| Motor (hp) | 5 |
| Motor NEMA Efficiency | 85% |

Additional process equipment includes:

- 1500mm diameter metering chamber near lagoon cell #1, complete with a 150 mm diameter flow meter (mag meter with digital display and totalizer), a 150 mm by-pass line, 150 mm diameter force main extension in cell #2, all valves and accessories as necessary.
- Three (3) proprietary baffle walls complete with hangers, mooring cables and anchors in the cell #2, complete with upgrades to inter-cell connection(s) between lagoon cells #1 and #2.
- 1500 mm diameter flow through chamber in lagoon cell #2, complete with an alum injection and flash mixer system, including all piping and accessories as necessary.

An aerial view of the Manitowaning Lagoon and its key components is shown in **Figure 4:1**.

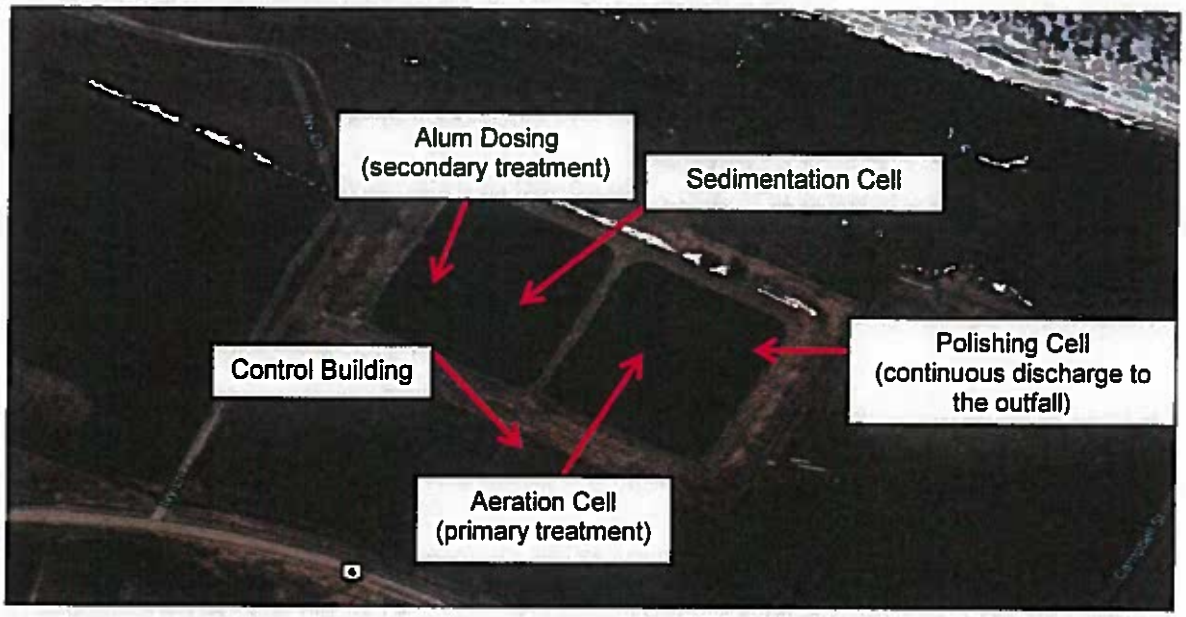



**Figure 4–1: Manitowaning Lagoon**

### Aeration System Description

The aeration process at Manitowaning Lagoon is currently serviced by nine (9) Aeromix Tornado mechanical aerators, each rated at 5 hp. Typically 5 aeration mixers are running and the other 4 acts as standby.

The aerators were manufactured in 2011 and were part of an overall plant upgrade in the 2013. They have undergone routine servicing and maintenance since installation. The mixers are in an adequate state of repair, operating without any significant issues with regular maintenance. Taking into consideration that the last major repair had occurred recently, it could be stated that the mixers will not reach the end of their useful lives before another plant upgrade is required for at least 20 years. The existing mixers do not appear to be at a high risk of failure at the moment, but replacement costs should be considered in the near future for the Lagoon.

However it should be noted that energy consumption for these aerators are significantly high and with projected energy rates increase till 2030, it is expected that energy cost needs to be addressed with energy efficient replacement sooner than later.

### Desktop Review and References

For the purpose of this PES report, the following references were reviewed and analyzed:

- Manitowaning Lagoon, Certificate of Approval Number 4826-9ALL3Q, Ontario Ministry of the Environment, 2013
- Utility Hydro bills summary (2014-2016), provided by the Township of Assiginack
- Other process data (flow and BOD), found in OCWA's database and as provided by Township of Assiginack
- Electrical single line diagram prepared by Walker Engineering
- Manitowaning Lagoon Plan Proposal, prepared by Wm. R. Walker Engineering Inc.
- Manitowaning Lagoon (Site #110001408) Inspection Report 2016
- Operations Manual

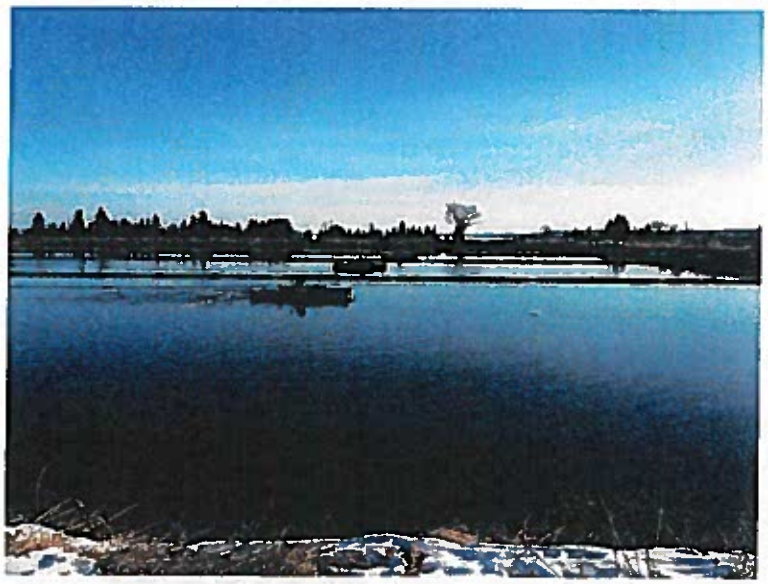


**Figure 4:2: Aeration Mixers**

## Approach

OCWA's approach to conducting this energy study follows ASHRAE (American Society of Heating, Refrigerating and Air-Conditioning Engineers) approach and complies with IESO PSUI PES funding application minimum requirements. The PES includes:

1. Review and analysis of utility bills and process data to identify overall electrical consumption and demand trends;

2. Detailed facility walkthrough to obtain an overview of the process and operational parameters, and to identify key energy consuming equipment;

3. Installation of power monitoring meters on major energy consuming equipment to monitor their performance over a production cycle of two weeks;

4. Review and analysis of monitored energy data and process data to establish baseline energy consumption;

5. Identification and Analysis of various energy conservation measures (ECMs) based on the analyzed data, industry best practices and operator interviews; and

6. Completion of an engineering study report summarizing each identified ECM including potential energy and monetary savings, capital estimates, and anticipated payback periods.

### On-Site Data Monitoring

On-site continuous interval power monitoring of key equipment was conducted from April 18, 2016 to May 5, 2016 to develop a comprehensive energy consumption profile.

Figure 4–2: Fluke 1735

The lagoon's overall energy consumption (kWh) during the same time period was measured using a Fluke 1735 meter installed on the main power line feeding the station.

The aeration system is serviced by nine (9) mechanical aerators. For the duration of the monitoring period two (2) aerators were in operation and an Onset Hobo was used to measure their power. Current transformers were installed on the rest of aerators to record and establish its operation during the monitoring period.

These aerators were chosen as the focus for the PES as they are the most energy intensive equipment at the Manitowaning Lagoon that must be studied further to determine potential energy savings opportunities.

For selected other equipment within the facility, Onset Hobo data loggers were used to measure one phase current (Amp, $I_{(A)}$) at two minute intervals. The amperage measurements were converted to kilowatt hours (kWh) based on equipment operating voltage (575 V), power factor rating (either found on the nameplate or assumed to be 1 for linear load) and the run time.

Figure 4–3: Onset Current Meter

Using the amp reading from the Onset Hobo current meters, the kilowatt (kW) power demand was calculated as follows:

$$kW = \frac{\sqrt{3} \times PF \times I_{(A)} \times V}{1{,}000}$$

$$kWh\ (monitoring\ period) = \sum_{End\ Date}^{Start\ Date} kW \times \frac{2\ min}{60\ min}$$

This calculated power demand was used to compare the demand and total electrical consumption of each piece of equipment and was extrapolated to estimate the overall yearly consumption based on the usage seen during the monitoring period.

### Measurement Boundary

The measurement boundary for the base case is illustrated in the diagram below and includes the nine (9) existing mechanical aerators used in the aeration portion of the cell #1 of the Manitowaning Lagoon.

**Figure 4:5** indicates the base case measurement boundary. This is the configuration that dictates the estimated annual energy consumption and will be compared to any recommended energy efficiency opportunities as well as all future implemented modifications made in the plant.

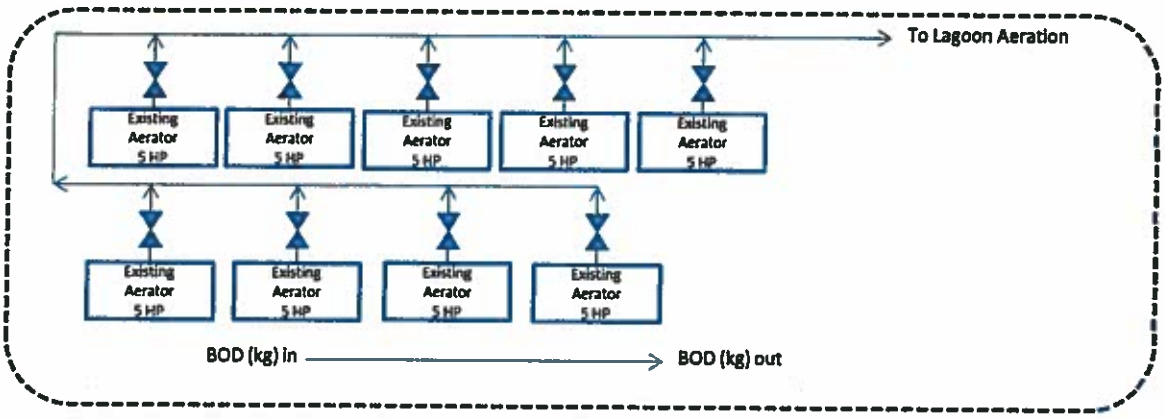



**Figure 4–4: Base Case Measurement Boundary**

As the aeration system was the focus of the study, the measurement boundary was defined around the aerators with an objective of determining significant energy requirements of this equipment. Retrofit Isolation as defined in IPMVP Vol. 1, 2012 was used as the defining approach in conducting the measurements. The measurement period represents all operating modes of the facility and spans a full operating cycle for the plant.

Influencing parameters and their effect to the air flow and pressure requirements for aeration mixers were considered in defining the measurement boundary. In this case, interactive affects are none or minimal. Variable parameters such as Biological Oxygen Demand (BOD), and influent and effluent flows were monitored and recorded for the measurement period. These process parameters are regularly recorded as required to meet the compliance under standard regulation for operation of a Wastewater Lagoon.

Routine and Non-routine adjustments should be considered once project implementation is completed to derive the verified energy savings. Routine adjustments are required for any parameter that is expected to change routinely during the reporting period such as BOD. Non-routine adjustments should be considered for parameters which are not usually expected to change, such as: the facility size, the design and operation of installed equipment, the number of weekly production shifts etc. these static factors must be monitored for change throughout the reporting period. In this case, interactive affects are none or minimal.

# 5. Hydro Bills Analysis Overview

In this report, electrical demand and consumption are discussed as they apply to the Manitowaning Lagoon. Electrical demand is the maximum amount of power used within a 15 minute period and is measured in kW. Electrical consumption is the total amount of energy used and is measured in kWh. Demand is important because it dictates the size of the power plant needed in a single instant.

The Manitowaning Lagoon is a Hydro One customer and is billed on both consumption (kWh) and demand (kW) under General Service category. Monthly energy consumption data was provided by the Township. The blended cost of energy is approximately $0.25 per kWh for the year 2016.

### Utility Costs

Utility costs are used to estimate the monetary value of energy savings and the estimated simple payback period of the proposed energy saving opportunities.

The Town provided electrical consumption and cost information. The electrical bills from 2011 – July 2016 were used to determine the current utility costs:

**Table 5-1: Blended Energy Cost**

| Year | Annual kWh | Annual Cost | Blended Energy Cost $/kWh |
|---|---|---|---|
| 2011 | 199,360 | $33,634 | $0.17 |
| 2012 | 194,978 | $35,632 | $0.20 |
| 2013 | 287,561 | $57,864 | $0.22 |
| 2014 | 301,391 | $57,205 | $0.21 |
| 2015 | 185,100 | $39,398 | $0.23 |
| 2016 | 62,393* | $15,734 | $0.25 |

* Year 2016 has not ended yet (sum of the consumed energy up to and including July 2016)

### Electrical Consumption

The annual (**Figure 5:1**) and monthly (**Figure 5:2**) electrical consumption profiles are shown below. **Figure 5:1** illustrates an increase in electrical consumption from 2013 to 2014. This increase was primarily due to operating most of the nine (9) aerators in the lagoon as part of commissioning of the aerators. Additionally, there was trials conducted aiming to reduce the effluent BOD concentration when the facility was retrofitted with the new aerators. Once the process had been normalized, a significant energy consumption reduction in 2015 ensued with several aerators being shifted from duty to standby mode. An estimated annual consumption for the last 6 months of 2016 also indicated that the energy consumption is projected to stay lower than 2013 and 2014 levels. This decrease in consumption is expected to carry on with continued operational efficiencies (such as the ECMs recommended in this report).

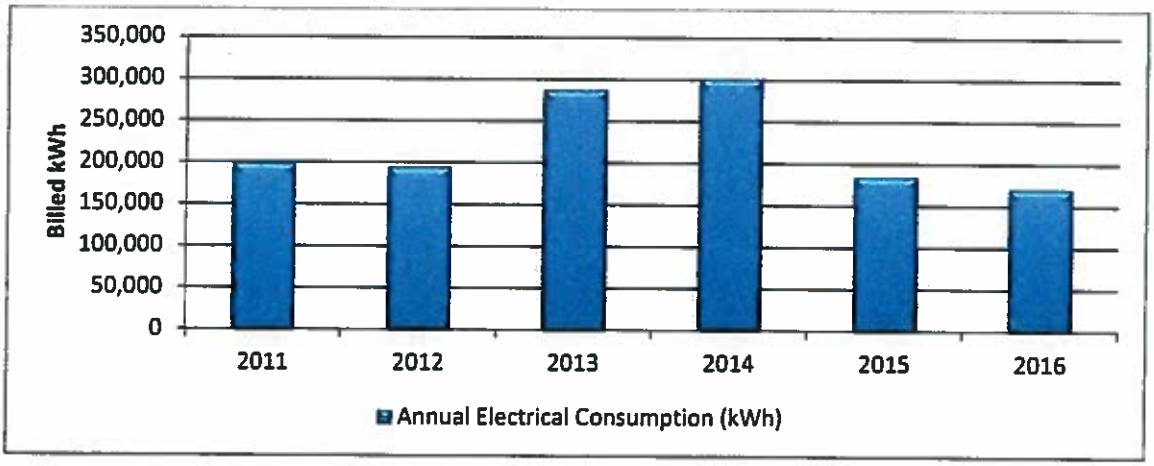



**Figure 5–1: Annual Energy Consumption (kWh/year)**

The monthly electrical consumption shows cyclical fluctuations with higher consumption occurring in the winter months. This higher consumption in the winter months is primarily due to additional costs associated with ensuring that the surface of the lagoon does not freeze over by maintaining a minimum of two (2) or three (3) aerators online per sub-cell of cell #1 of the lagoon. The consumption in May of 2011 is invalid due to lack of energy bill data for that month (it was not retroactively billed later in the year), as can be seen from the abnormally large drop and therefore has been removed from discussion in subsequent sections. As mentioned above the higher consumption in the years 2013 and 2014 are due to operating most of the nine (9) aerators in the lagoon during commissioning and reducing the effluent BOD concentration.

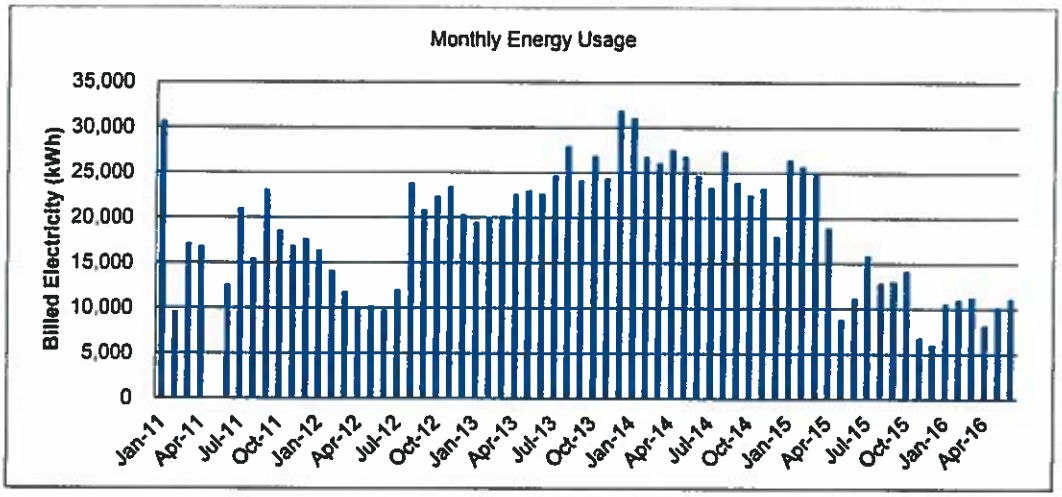



**Figure 5–2: Monthly Energy Consumption (kWh/month)**

## 6. Energy Performance Analysis

Estimated energy savings is calculated to conduct the proper technical and financial assessment of ECMs. It also assists in identifying the direct and indirect parameters that influences the aeration system requirements and thus the energy consumption. This process includes determining the current energy performance within the WWTP so that the energy and cost savings can be quantified and compared. Energy performance is discussed in the following sections that describe the facility's utility costs, facility Key Performance Indicator (KPI), historical electrical usage and the results of the two week equipment monitoring survey.

**In this report, two KPIs were identified:**

1. Biological Energy Intensity (kWh per kg biological oxygen demand (BOD) treated)
2. Volumetric Energy Intensity (kWh per volume raw sewage)

The following sections discuss each KPI and the results found from assessing their correlation to one another.

**Biological Energy Intensity (kWh per kg BOD treated)**

The amount of energy used in a wastewater treatment plant depends on the equipment installed in the plant. In turn, the size of the equipment depends highly on the treatment technology used and required system operating parameters (i.e. effluent quality, maintaining

process etc.). Oxygen required is basically proportional to organic loading: both $BOD_5$ reduction and Nitrification.

For wastewater treatment plants, the incoming sewage quantity and quality and the treatment requirements for effluent quality plays a large factor in determining how energy intense the treatment process needs to be. For WWTPs, perhaps the most important KPI is expressed as the energy used per mass of treated pollutant: kWh per kg BOD treated (referred to as biological energy intensity).

The mass loading of BOD is derived from the sewage quantity ($m^3$/day) and the BOD concentration (mg/L) according to the following equation:

$$Treated\ BOD\ \left(\frac{kg}{month}\right) = Inlet\ Flow\ \left(\frac{m^3}{day}\right) \times Treated\ BOD\ \left(\frac{mg}{L}\right) \times \frac{1{,}000\ L}{m^3} \times \frac{1\ kg}{10^6\ mg} \times \frac{X\ day}{month}$$

$$Treated\ BOD\ \left(\frac{mg}{L}\right) = BOD\ in - BOD\ out$$

The operating monthly load and biological energy intensity data for 2011, 2012, 2013, 2014, 2015 and 2016 was compiled and is shown in **Figure 6:1**.

**Figure 6:1** shows that the average kWh per kg of BOD treated is 1.16 kWh/kg BOD and fluctuates significantly between 0.44 kWh/kg BOD and 5.68 kWh/kg BOD, excluding the data from May of 2011 (as mentioned in previous sections).

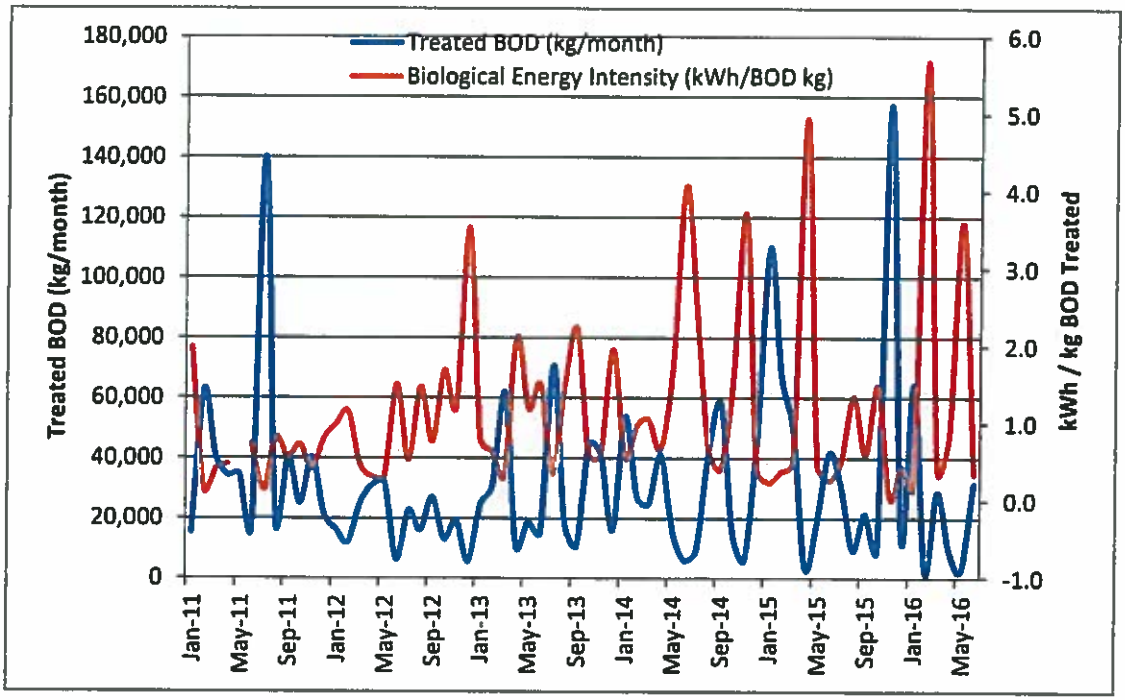



**Figure 6–1: Monthly Load (kg/month) and Biological Energy Intensity (kWh/kg BOD treated)**

The average total BOD treated per month over the 5 years is 31,500 kg with a fluctuating trend from 2011 to 2016 partially due to a retrofit in 2013 to include nine (9) mechanical aerators with baffling in cell #1, and therefore an overall improved BOD treatment capacity of lagoon the system. In addition, the biological energy intensity has varied over the years with higher averages in years 2013 and 2014 due to system retrofit (as mentioned in previous sections), as the denominator of the KPI (kg of BOD treated) varies significantly from month to month based on the influent flow to the lagoon.

**Figure 6:2** shows that the correlation coefficient ($R^2$) between the treated amount of BOD (kg/month) and biological energy consumption, which is relatively good with an $R^2$ value of approximately 65%. This indicates that the facility's biological energy intensity is exponentially proportional to total treated BOD of the facility. As can be seen by both **Figure 6:1** and **Figure 6:2**, the two values are inversely proportional to one another. As the total treated BOD increases, the biological energy intensity decreases. This is demonstrating that the process becomes more efficient as more BOD is treated by the Lagoon. Likewise, as the BOD load decreases, the amount of energy required increases exponentially by the same proportional amount since the lagoon is operating further from its design and operating capacity.

If the population grows and the BOD load at the facility increases, the biological energy intensity should decrease up until the plant reaches its design capacity. As an example, in August 2013, when the BOD treated increased from approximately 20,000 kg in July to over 35,000 kg in August, the biological energy intensity dropped significantly from 8.3 to 4.5. This correlation between the BOD treated and energy consumption will be used in the Energy Conservation Measures found later in the study report.

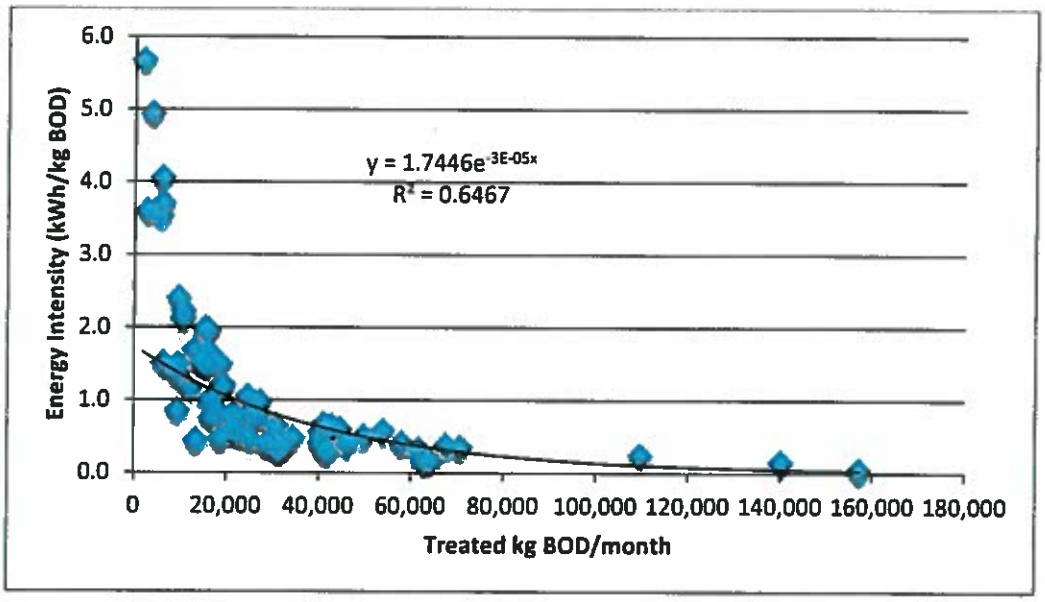



**Figure 6–2: BOD Treated (kg/Month) and Biological Energy Intensity (kWh/BOD kg treated)**

### Volumetric Energy Intensity (kWh per volume raw sewage)

A final KPI that is occasionally used at WWTPs is expressed as energy used per volume of sewage received. The volume of raw sewage is derived from historical trends and can be

graphed to show the representation between the KPI mentioned above. Raw data is presented in **Appendix E**.

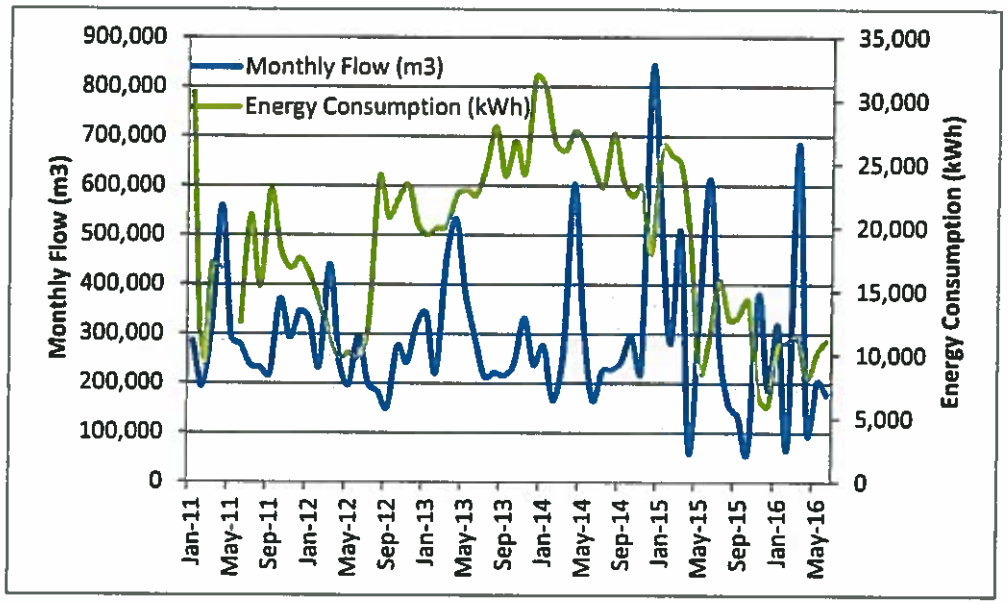



**Figure 6–3: Monthly Flow ($m^3$) and Monthly Energy Consumption (kWh)**

The operating flow data and energy use data for year 2011, 2012, 2013, 2014, 2015, and 2016 were compiled and are shown in **Figure 6:4**. Additionally, **Figure 6:5** is provided to supplement the argument shown in **Figure 6:4**. **Figure 6:4** shows that as the flows experience significant increases at the lagoon, so does the energy consumption for that month. This would be as expected since the nine (9) mechanical aerators are the largest consumers of energy at the site and they are in manual operation mode - meaning that operations are manually turning the units on and off in anticipation of higher or lower flows. In addition, **Figure 6:5** is provided to indicate the relationship between the energy intensity ($kWh/m^3$) against the monthly flow ($m^3$), showcasing low correlation coefficient ($R^2$) of 0.008, meaning that flows are currently not directly proportional to the energy consumption.

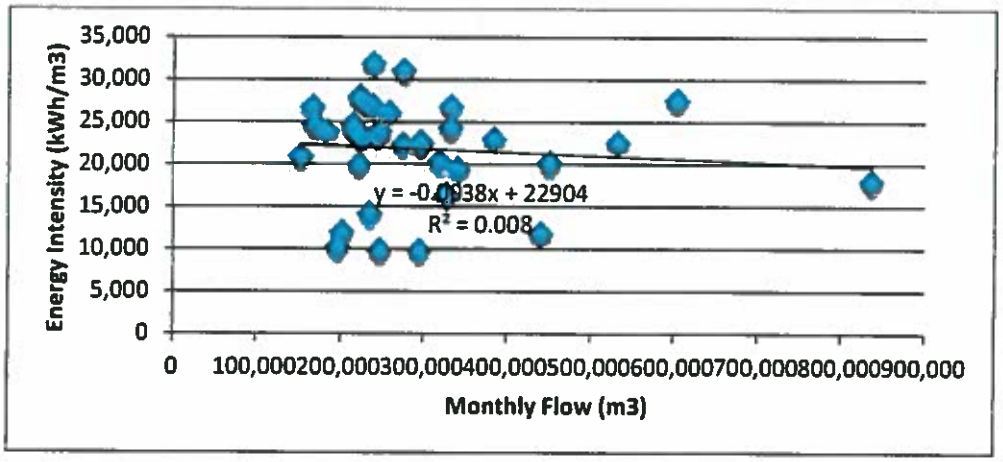



**Figure 6:5: Monthly Flow ($m^3$) and Monthly Energy Intensity ($kWh/m^3$)**

### Comparison of Energy Usage to Similar Facilities

**Table 6:1** compares the Manitowaning Lagoon with other wastewater treatment facilities in Ontario according to the final KPI discussed in section 6.3.

Furthermore, the Canadian National Water and Wastewater Benchmarking Initiative report (AECOM, 2013) included energy efficiency in terms of kWh per $m^3$ treated for secondary and BNR WWTPs. These types of lagoons have similar treatment processes to Manitowaning Lagoon. In 2011 through to 2016, the energy efficiency values in the studied facilities ranged from 0.667 kWh/$m^3$ to 4.513 with kWh/$m^3$ with an average value of 2.566. The table shows that Manitowaning Lagoon is less efficient than much larger facilities, but falls within the range seen in the benchmarking report and is higher than the median value. Overall, this shows that Manitowaning Lagoon has good opportunities for energy efficiency improvements, and improve its KPI as average values seen in Ontario for similar types of facilities.

It should be noted that the lagoons listed below have varying types of technologies incorporated for delivery air to the lagoon and should only be used as a general guide to indicate the wide range of KPI found in facilities throughout Ontario. The delivery method of aeration for a lagoon plays a large role in the energy efficiency of a WWTP. The Benchmarking Report by AECOM primarily focused on mechanical WWTPs with the values being shown to demonstrate the wide range of results found in any benchmarking activity.

**Table 6-1: Facility KPI Comparison**

| Category/Facility | KPI (kWh/$m^3$) |
|---|---|
| Benchmarking Report (AECOM) Minimum | 0.268 |
| Opasatika – Opasatika Lagoon | 0.49 |
| Central Huron – Clinton WWTP | 1.44 |
| Central Elgin – Belmont WWTP | 2.21 |
| Manitowaning Lagoon | 2.566 |
| Aylmer Lagoon | 2.811 |
| Benchmarking Report (AECOM) Median | 0.873 |
| Benchmarking Report (AECOM) Maximum | 2.143 |

## 7. Monitoring Data and Baseline Calculations

During the site visit, equipment inventory data was collected including model numbers, installed capacity (kW or hp), operating sequence/controls, etc. In addition, power data-logging equipment was installed on major equipment to monitor the pattern of energy consumption for duration of approximately two weeks from April 18, 2016 to May 5, 2016. Similarly, the main power was measured from April 18, 2016 to April 30, 2016. A list of the equipment where data-loggers were installed and the corresponding measurement interval is shown below.

**Table 7-1: Current Monitoring Equipment Installation List**

| Location | Power (hp) | Power (kW) | Voltage (V) | Type of Meter Used | Motor Power Factor | NEMA Efficiency | Measurement Interval (min) |
|---|---|---|---|---|---|---|---|
| Main Power | - | - | 575 | Fluke Meter | N/A | N/A | 1 |
| Aerator #1 | 5 | 3.5 | 575 | 5 Amp CT | 0.736 | - | 2 |
| Aerator #2 | 5 | 3.5 | 575 | 5 Amp CT | 0.736 | - | 2 |
| Aerator #3 | 5 | 3.5 | 575 | 5 Amp CT | 0.736 | - | 2 |
| Aerator #4 | 5 | 3.5 | 575 | 5 Amp CT | 0.736 | - | 2 |
| Aerator #5 | 5 | 3.5 | 575 | 5 Amp CT | 0.736 | - | 2 |
| Aerator #6 | 5 | 3.5 | 575 | 5 Amp CT | 0.736 | - | 2 |
| Aerator #7 | 5 | 3.5 | 575 | 5 Amp CT | 0.736 | - | 2 |
| Aerator #8 | 5 | 3.5 | 575 | 5 Amp CT | 0.736 | - | 2 |
| Aerator #9 | 5 | 3.5 | 575 | 5 Amp CT | 0.736 | - | 2 |

A single line diagram indicating the locations of the power meters is provided in **Appendix D.** Additional MCC and pumps were monitored to derive energy consumption in raw sewage building which is a separate building.

### Electrical Demand Profile during Monitoring Period

**Figure 7:1** shows the overall demand profile of the station during the 2-week monitoring period and for a typical day during the monitoring period. The graphs show that the largest electrical demand is from Mechanical Aerators (3&5) that provide air into the lagoon.

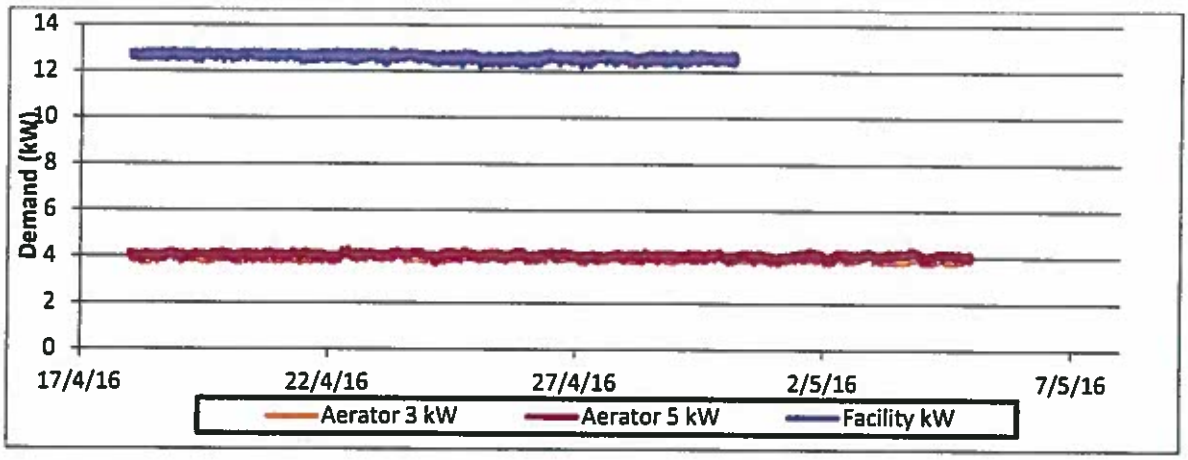



**Figure 7–1: Overall Demand Profile during the Monitoring Period**

**Figure 7:1** also shows that the overall electrical demand is relatively constant at the Manitowaning Lagoon throughout the study period, staying consistent at approximately 12.3 kW. Aside from the main process equipment (aerators), there is a base demand of 4.3 kW that accounts for the controls building, chemical pump, and other small loads. Within that building, there are smaller loads such as lighting and small electric heater (which appeared out of commission at the moment). The finding that ancillary items such as lighting and 1HP chemical pump are drawing such a large amount of power (4.3 kW) appears to be not feasible and will be discussed in subsequent sections.

**Figure 7:2** shows the same information for a typical day in the monitoring period (i.e. Wednesday, April 18, 2016). This graph shows the proportional demand of each monitored piece of equipment. The following notes and observations were made regarding the demand of the facility overall:

- The Facility demand (kW) was measured with the 1735 Fluke meter and monitored for changes with respect to other loads.
- The operating cycle for the mechanical aerators is determined by the operator as the lagoon experiences drastic flow changes, running a potential of high loading of the effluent BOD content if not enough aerators are operating at the same time. In addition, the lagoon is not manned continuously and does not have an automated control system for the aeration units.
- The remainder of the energy consumption occurs from the control panel for the aerators, an intermittent 1 hp chemical pump, lighting, and small electric heater in the control building.
- The electric heating unit was not operating during the monitoring period. This was expected as the AHU is typically only operated during the winter season.

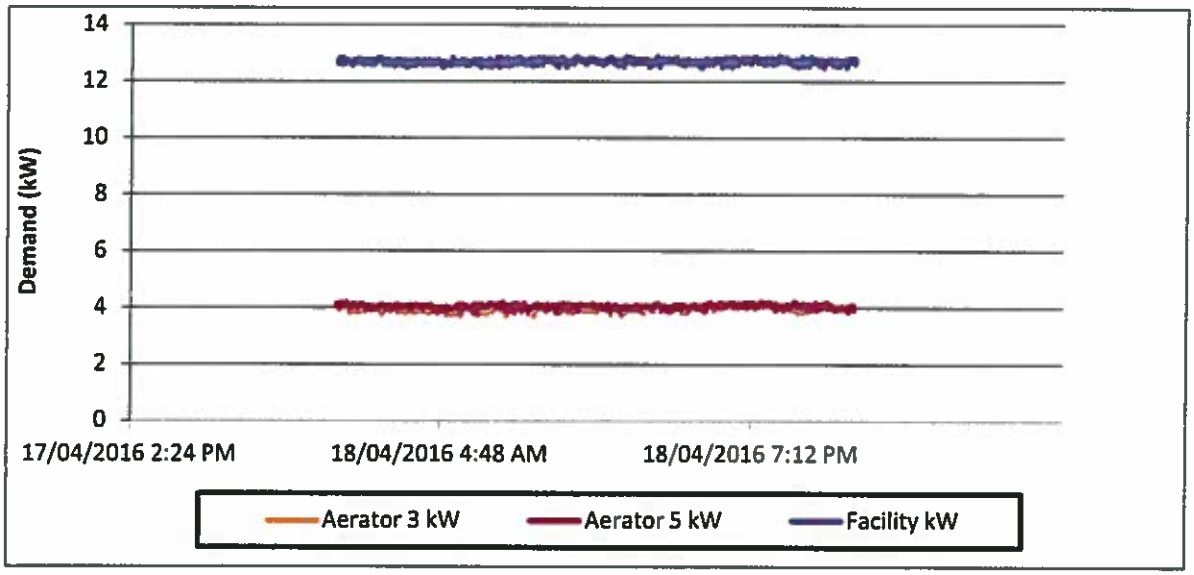



**Figure 7–2: Overall Demand Profile for a Typical Day during the Monitoring Period**

As can been seen in the figure above, two (2) 5 hp aerators ran continuously throughout the study period with additional aerators available on standby. The number of aerators required to operate simultaneously is variable as the lagoon experiences large flow variations throughout the year. Having only two aerators operating does not represent typical operation seen at the Lagoon throughout the year. Winter operation requires more units to be operating to prevent ice formation within the lagoon. Further reasoning and assumptions justifying this statement are provided in the sections below.

### Electrical Consumption Breakdown

Electrical consumption was determined for the pumping station equipment (**Table 7:1**) based on the monitored demand. Equipment was grouped according to the process and the results are shown in **Figure 7:3**.

During the measurement period, due to low level in lagoon the aerators did not contribute for the largest portion of the plant's electrical consumption (only 64% of the total power measured). The rest (36% of the total power measured) appears to be coming from the controls building. This finding is an anomaly and does not represent the typical operation of the lagoon. Based on the main incoming power readings, one of the hobo[tm] loggers attached to one (1) aerator had a malfunction, but the load was noted on the Fluke as part of the main power load.

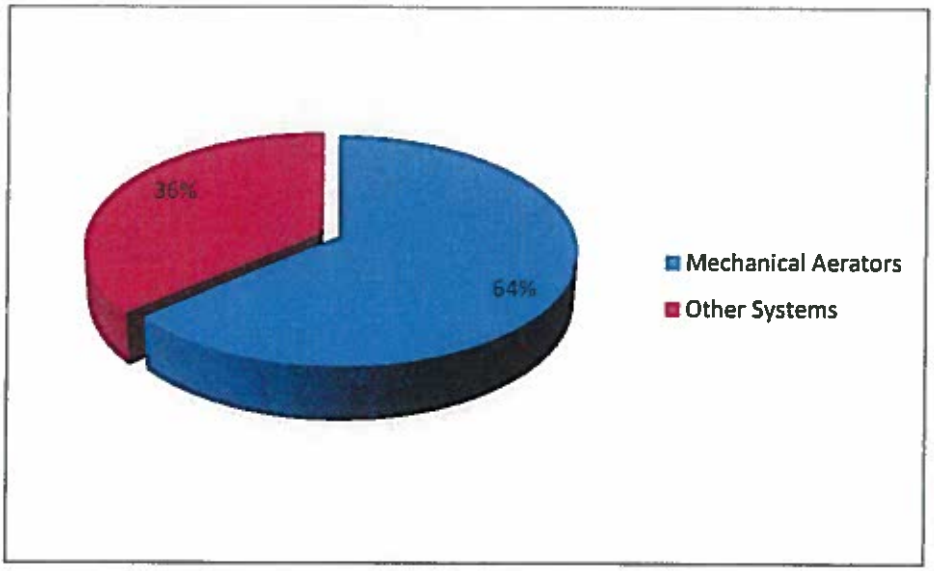



**Figure 7–3: Energy Consumption Based on Monitoring Results**

### Statistical Analysis for Energy Baseline

In order to develop an energy baseline, a low level of uncertainty in the data collected is required. As such, a correlation between the plant kWh (obtained from the Township) and process parameters (obtained from OCWA's database) were used to investigate any potential correlation. The figures below show the plot between the plant's monthly kWh and: flow ($m^3$), treated BOD (kg), and DO (mg/L). As can be seen there appears to be positive relationship between the plant's power consumption and those parameters. As such the baseline was developed by prorating the energy consumed during the monitoring period into a year.

The data sets are comprised of few outliers resulting in lesser correlation values. With the increased sample size, this relation can be improved.

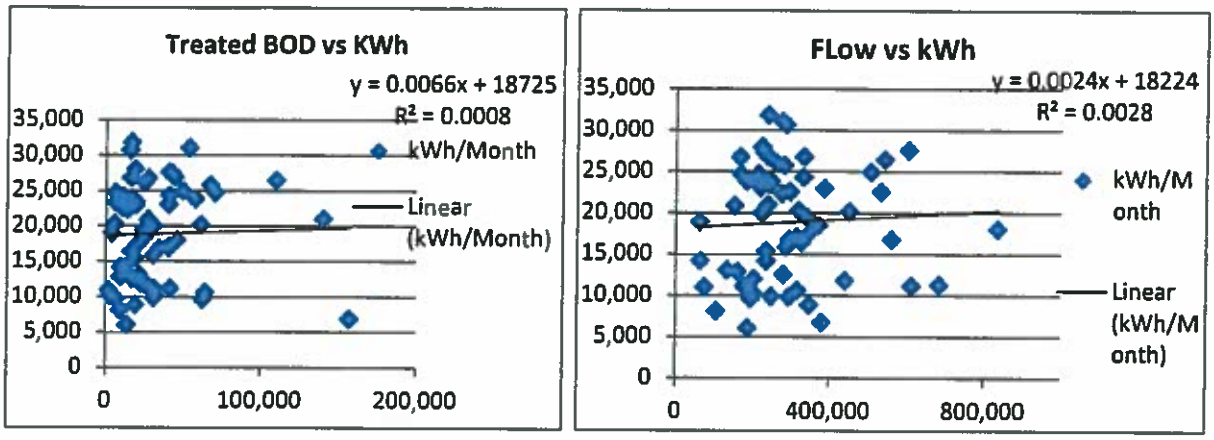



**Figure 7–4: Treated BOD and Flow vs energy consumption**

The baseline period profile does not represents typical operating profile due to the anomaly on the main power feed readings. Consideration has been made to ensure the data used represents a normal operating cycle of the lagoon including seasonal variation that might occur by analyzing the annual energy consumption patterns, and bringing the monitoring period values in line with them.

### Baseline Calculation

Based on the two-week monitoring period data, an annual energy balance was developed by annually prorating the kWh over a year. The estimated annual kWh is shown in **Table 7:2**.

**Table 7-2: Energy Balance**

| Electrical Feed Source | System | kWh Monitored | Estimated Annual kWh | Data Source |
|---|---|---|---|---|
| Sewage Lagoon (Main Feed) | Aerator #1 | 0 | 0 | CT Meter |
| | Aerator #2 | 0 | 0 | CT Meter |
| | Aerator #3 | 1,169 | 25,102 | CT Meter |
| | Aerator #4 | 0 | 0 | CT Meter |
| | Aerator #5 | 1,192 | 25,598 | CT Meter |
| | Aerator #6 | 0 | 0 | CT Meter |
| | Aerator #7 | 0 | 0 | CT Meter |
| | Aerator #8 | 0 | 0 | CT Meter |
| | Aerator #9 | 0 | 0 | CT Meter |
| | Control Building | 1,346 | 28,901 | Calculated |
| | **Main WWTP Feed** | 3,707 | 79,602 | Fluke Meter |
| **Total Estimated for 2016** | | 110,815 | 170,764 | Average consumption for the last 6 months of the |

| | | | |
|---|---|---|---|
| | | | 2015 year |
| **Jan - Dec 2015 Annual Energy** | | 185,100 | Hydro Bills |

It is readily noticeable that estimated yearly energy consumption from hydro bills is not in line with the data from the monitoring period – with an estimated 2016 consumption (110,815 kWh – prorated based on CT and Fluke$^{tm}$ meters). The prorated 2016 consumption equals approximately half of the year 2015 actual total energy consumption (185,100 kWh). Further analysis of the single line diagrams indicates that there is no equipment in the control building that can draw higher than 1 kW of power. The complete building power requirements consist of a chemical pump (~0.73 kW), an electric heater (was out of commission during the measuring period and prior year as well), lights (building is unmanned, hence rarely used), and aerator controls (panel lights – continuous load).

The observed low electrical load is because of an unplanned changed to how lagoon is operated. Due to the multiple effluent discharge limit breaches, the lagoon is currently not accepting additional septage from the residential septic tanks, which previously was delivered via tanker trucks and discharged directly into the aeration basin. This temporary process change has allowed to reduce the number of aerators required to treat the total BOD content of the influent, as lagoon is not being shocked with high loadings from time to time as a result. Since, this process change is temporary, and because Township cannot deny septage disposal for prolonged periods of time to its residents using septic tanks, the study will assume 2015 energy consumption (185,100 kWh) as the energy consumption baseline to better reflect the normal operation of the lagoon.

In addition, data from the hydro bill analysis indicates that 62,393 kWh of energy has been used during the first 6 months of 2016 operation, which leaves only (110,815 kWh - 62,393 kWh) = 48,422 kWh for the remainder of the year, making use of prorated CT and Fluke$^{TM}$ data an erroneous estimate. Furthermore, baseload of the building was estimated at 3,552 kWh from subtracting an average pro-rated load of one (1) mechanical aerator of 25,349 kWh from the pro-rated main feed data of 28,901 kWh.

The baseload value is subtracted from the 2015 totalized energy to estimate the number of mixers for lagoon aeration, and confirm the verbal conformation (from plant operator) that on average six (6) meters were running. The number of mechanical mixers in operation based on hydro data for year 2015 was calculated to be seven (7).

Seven aeration units equal to 177,443 kWh of electricity per year. This number will be used as the yearly electrical baseline measurement for the aeration system.

# 8. Energy Conservation Measures (ECMs)

The following section describes the concept of energy efficiency and how it is utilized to determine the appropriate energy conservation measures (ECM). Energy conservation measures for the Manitowaning Lagoon are then provided along with the following information (where applicable):

- Cost estimates for implementation
- Potential savings
- Associated payback periods,
- Available funding and incentive programs

The following section expands the energy conservation opportunities identified in the facility including cost estimates and potential monetary savings.

**Existing Aeration Mixers**

The Manitowaning Lagoon has nine (9) 5 hp mechanical aerators for the lagoon aeration process. The aeration cell and process equipment include:

- One (1) aeration cell with a total volume of 10,691 $m^3$; and
- Nine (9) mechanical aerators each equipped with a 5 hp motor to provide air to the aeration cell equipped with membrane baffles to increase the residence time.

The aeration process requires a certain amount of air to treat the incoming BOD and TKN, which is exponentially proportional to the raw sewage flow seen at the lagoon.

**Figure 8:1** shows the aerator operation during the study period reflecting the yearly operation of the plant. It is anticipated and will be shown below that this type of operation is not necessary and energy conservation opportunities can be realized by upgrading the aerator equipment and modifying the system controls.

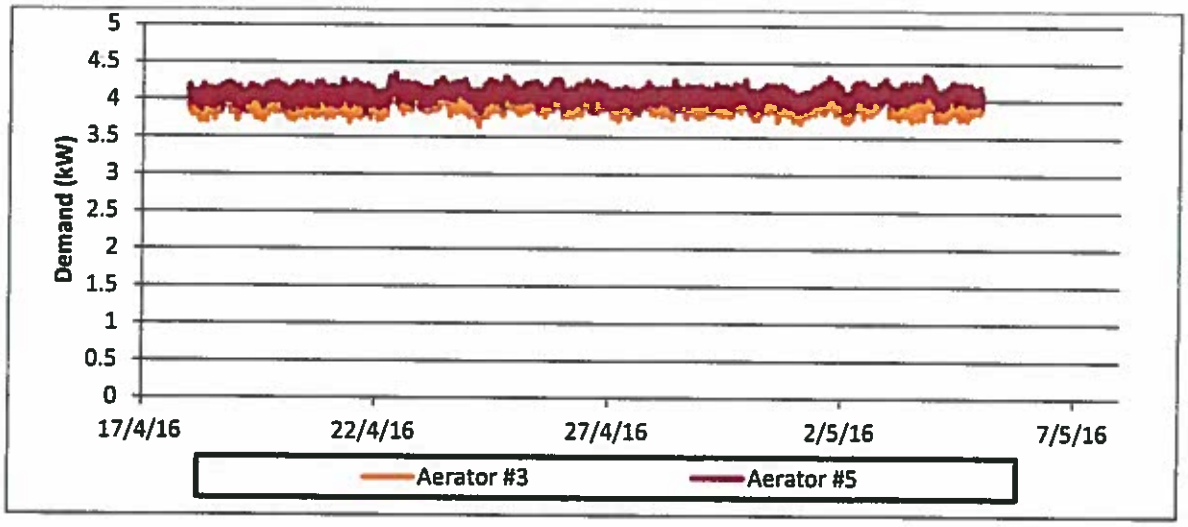



**Figure 8–1: Aeration Blowers Electrical Demand**

### Baseline Energy Consumption

The energy used by the entire aeration system in the two-week (12.21 days) monitoring period between the nine (9) aerators equated to 3,707 kWh. Extrapolating this information to predict the annual energy consumption is calculated as follows:

$$Daily\ Energy\ Consumption\ \left(\frac{kWh}{day}\right) = Total\ Energy\ Consumption(kWh) \div Number\ of\ Days$$

$$Daily\ Energy\ Consumption\ \left(\frac{kWh}{day}\right) = 3{,}707\ kWh \div 12.21\ days$$

$$Daily\ Energy\ Consumption\ \left(\frac{kWh}{day}\right) = 304\ kWh$$

Therefore, the total energy consumption extrapolated to one year is equivalent to:

$$Annual\ Energy\ Consumption\ \left(\frac{kWh}{year}\right) = 304\ kWh\ x\ 365\ \frac{days}{year}$$

$$Annual\ Energy\ Consumption\ \left(\frac{kWh}{year}\right) = 110{,}815\ kWh$$

Alternatively, the above mentioned calculations are standard for energy conservation measures; however due to the reasons stated in previous sections, this approach will not be used, and estimates from the hydro bill analysis will be used instead as means of a yearly total energy baseline, while supplementing the estimates with the data from the CT monitors installed on individual aerators.

## 8.1 Aerator Energy Saving Options

To improve the energy efficiency of the aeration system at Manitowaning Lagoon, three replacement scenarios have been developed to modify the composition and configuration of the blower system. The scenarios are developed with two main objectives; satisfy the oxygen demand of the treatment process and achieve process requirements at lowest possible cost. The three scenarios are as follows:

1) Do nothing – maintain the existing mechanical aspirators until failure.

2) Install two (2) Lagoon Master units and remove the existing nine (9) mechanical aspirators; remove the 2 baffles in the aerated portion of the cell #1.

3) Install three (3) Lagoon Master units and remove the existing nine (9) mechanical aspirators; retain the 2 baffles in the aerated portion of the cell #1.

Each scenario will briefly be discussed outlining the changes required. Two tables will be presented at the end of each scenario indicating the approximate implementation costs, estimated energy savings (kWh) and annual power costs based on 2015 blended electricity rates ($0.23/kWh). Additionally, a blower configuration diagram will be provided at the beginning of each scenario. At the end of Section 8.1, the overall recommendations will be

provided with a more detailed look at the energy savings opportunities as well as a more precise breakdown of the project costs.

### 8.1.1 Scenario 1 – Do Nothing

In Scenario 1, the existing aerators would be maintained until failure. The existing mechanical aspirators are currently a few years old. Typically, mechanical aspirators have a life cycle of approximately 10-15 years. Mechanical aspirators are usually used in remote small systems as they have minimal maintenance requirements. Due to advances in the aeration technologies, these have a considerably higher horse power to BOD treated ratio in lagoon applications.

The following chart explains the aspirator configuration for this scenario. At Manitowaning Lagoon, the existing mechanical aspirators have been well maintained and have not experienced any major failures over the years. Continuing to maintain the units in operation will maintain the status quo. In addition, based on their age and life expectancy, there is a still a low risk for major failure of one or more of the units.

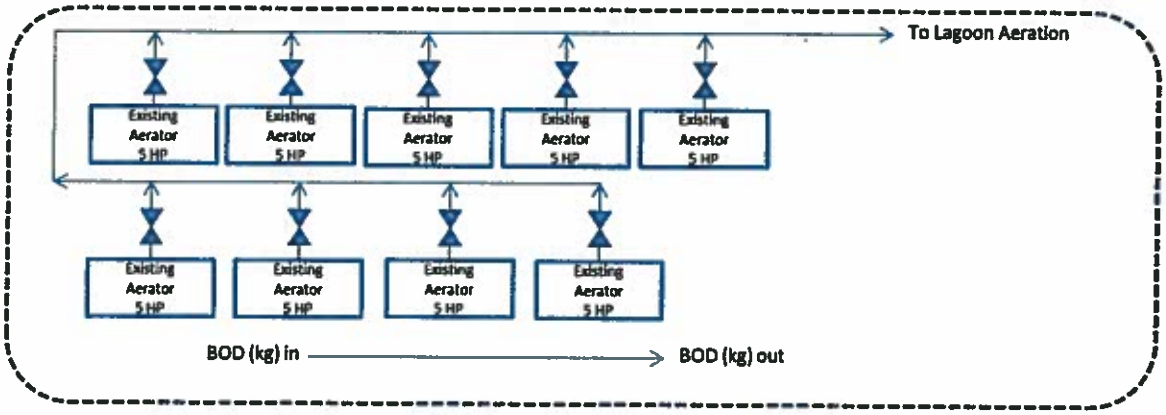



**Figure 8.1–1: Existing Aeration System**

This scenario is the base case and will not result in any power savings.

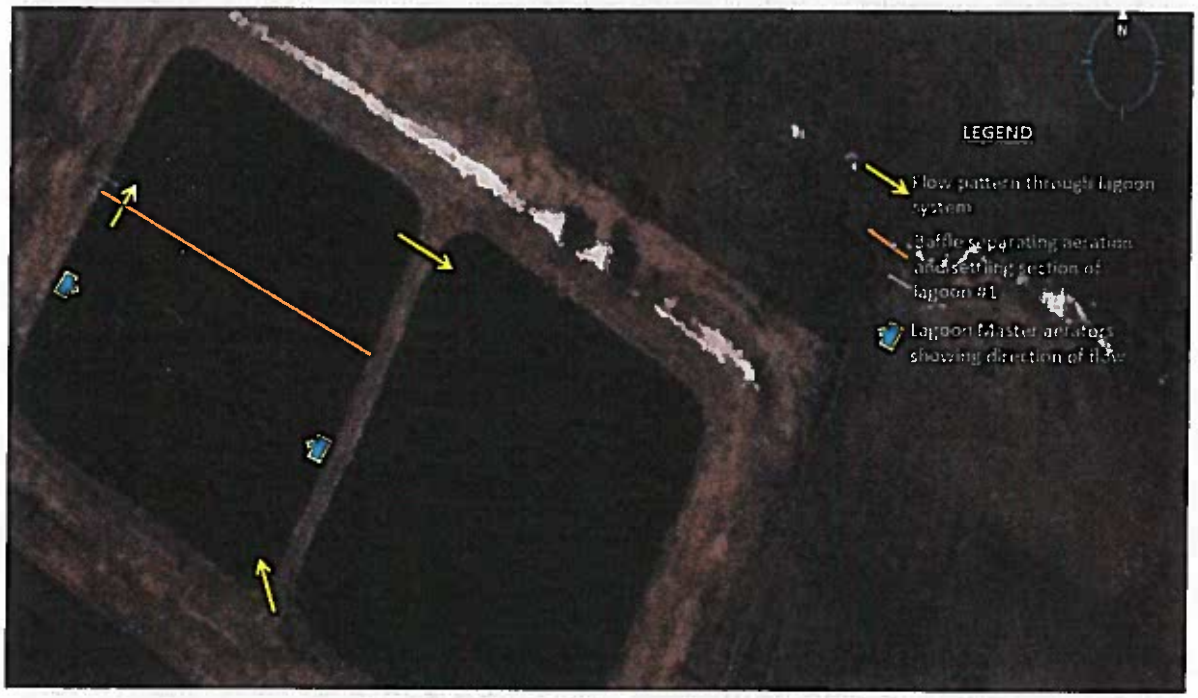
| Energy Usage and Cost of Operation | |
|---|---|
| Total Annual Power usage for blower operation | 177,443 kWh |
| Total Annual Power cost at $0.235/kWh for blower operation | $41,699 |

### 8.1.2 Scenario 2 – Install Two (2) Lagoon Masters and Remove Baffling in Cell #1

In Scenario 2, two (2) high efficiency units would be installed to achieve energy savings and increased oxygen transfer efficiency. This high efficiency technology is known as "Lagoon Master" aerators. The two aeration units would replace the nine (9) existing mechanical aspirators.

Reliant "Lagoon Master" Aerators (represented in Canada by Hydro-Logic Environmental Inc. who is their exclusive distributor in Canada) can provide the same amount of oxygen to the process using approximately 25% of the energy requirements compared to traditional lagoon aerators. A single Lagoon Master aerator is capable of maintaining a 1 to 2 mg/L level of dissolved oxygen in 22,200 $m^3$ of water. The existing lagoons have an aerated volume of approximately 11,000 $m^3$. Due to the physical layout of the lagoon and the flow from the inlet to the outlet, it is recommended to install two units. A two unit system also provides redundancy in the event of equipment failure.

The Lagoon Masters are able to achieve higher oxygen transfer efficiencies as a result of using water currents to trap the fine bubble aeration bubbles below the surface for a longer period of time to increase the overall oxygen transfer efficiency relative to the amount of horsepower. (Refer to supplemental information provided with the Application for further details). Additional information on the Lagoon Masters and their operation can be found in the appendices.




The two (2) 4 hp lagoon master units will be able to provide the same level of treatment for the incoming loadings as the existing mechanical aspirators, and meeting the effluent compliance limits.

By replacing the surface aerators with lagoon master units, the baffling in the aeration section of the lagoon can be removed. If the baffles were to remain in place, it would disrupt the natural current created by the lagoon master units, preventing it from operating at its highest efficiency and would decrease the volume that each unit is able to treat. Therefore, Option 2 includes removal of the baffling system. If the loading increases on the lagoon, more units can be added to the lagoon at a later time due to ease of installation and maintenance. The units

are expected to have a useful life from 10 to 15 years. The wastewater treatment process and final effluent quality will not be affected by this project.

For the purposes of calculating the air requirements and corresponding energy consumption, it was assumed that lagoon was operating under its historical average BOD loading and flow.

**Table 8.1-1: Energy Balance**

| Energy Usage and Cost of Operation | |
|---|---|
| Total Annual Power usage for aeration with two (2) units | 56,577 kWh |
| Total Annual Power cost at $0.235/kWh for blower operation | $13,296 |

**Table 8.1-2: Energy Balance**

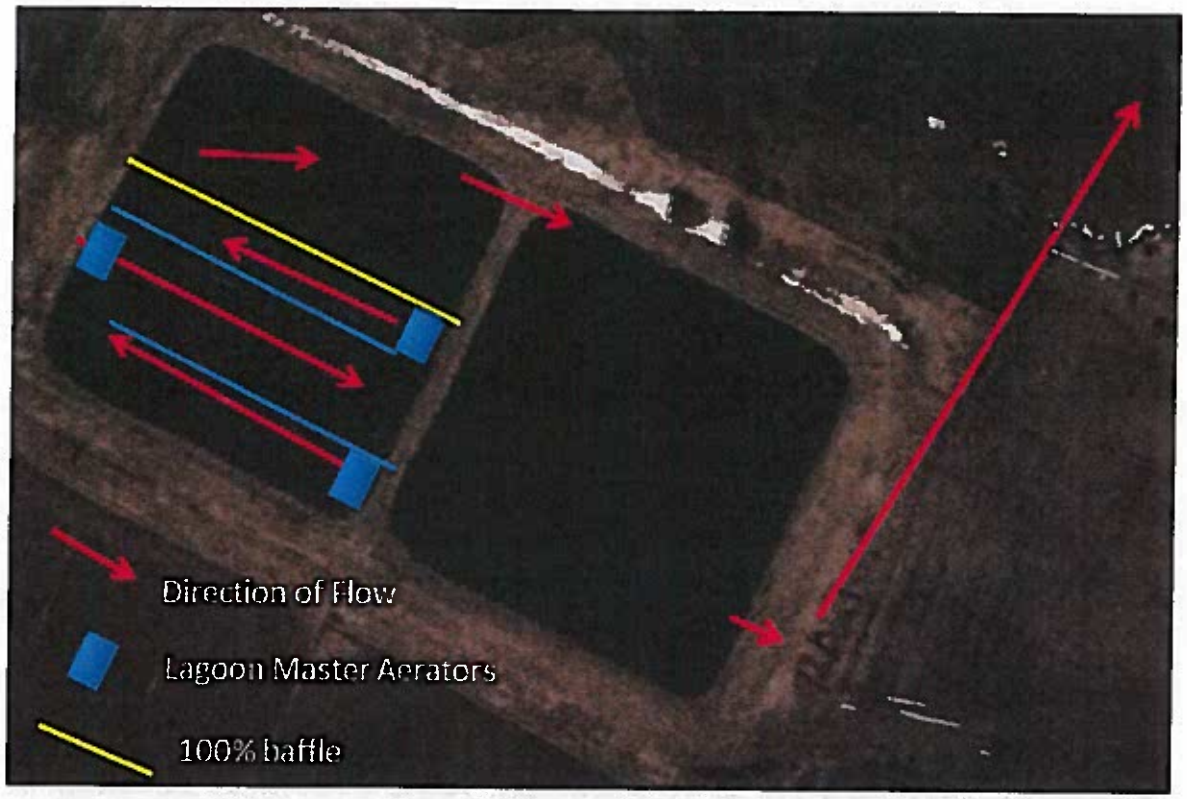
| Estimated Cost to Implement | |
|---|---|
| Two (2) Lagoon Master Aerators | $70,000 |
| Installation/Project Costs | $50,372 |
| Total Cost | $120,372 |

### 8.1.3 Scenario 3 – Replace all Nine (9) mechanical Aspirators with 3 Lagoon Master Units and Leave the Baffles in the Aeration Cell

In Scenario #3, three (3) Lagoon Master units would be installed in each baffled section of the aerated section of the lagoon. The baffles interfere with the natural flow created by the Lagoon Master Units, therefore an additional unit would have to be installed when compared to Scenario #2. Each lagoon master would provide air to each baffled section of the lagoon as shown in the figure above.

This scenario is beneficial in terms of improving the ability of the lagoon system when dealing with large volume of influent sewage in short amounts of time as well as cost savings with respect to removal of the baffling system. However, this cost is offset by the cost of purchasing one additional Lagoon Master unit. The ability to treat a greater volume can be attributed to longer residency time as a result of the baffles in combination with equipping the lagoon with an extra Lagoon Master unit. Since aerated section of the lagoon is approximately one quarter of the total lagoon volume, there would be more than adequate air provided to the system.

This approach is different than Scenario #2 primarily by not removing the baffles, purchasing and installing one additional unit and requiring more electrical retrofit work than Scenario #2 and Scenario #1.




| Energy Usage and Cost of Operation Three (3) Units | |
|---|---|
| Estimated Annual Power usage for Aeration | 84,865 kWh |
| Total Annual Power cost at $0.235/kWh for blower operation | $19,943 |
| **Estimated Cost to Implement** | |
| Three (3) Lagoon Master Units | $105,000 |
| Installation/Project Costs | $54,700 |
| Total Cost | $159,700 |
| Estimated Annual Energy Savings (kWh) | 93,000 |

# 9. Life-Cycle Cost

Life-cycle cost (LCC) analysis is management tools that can help companies realize the ECMs. The analysis takes into consideration the cost of purchasing installing, operating, maintaining, and disposing of all the system's component. Determining the LCC of a system involves a methodology to identify and quantify all of the components of the LCC equation.

$$LCC = C_{ic} + C_{in} + C_e + C_o + C_m + C_s + C_{env} + C_d \quad (1)$$

Where C is the cost element, and:

| | |
|---|---|
| ic | initial cost or purchase price (e.g., of the pump, system, pipe, auxiliary equipment |
| in | installation and commissioning |
| e | energy cost |
| o | operating cost |
| m | maintenance cost |
| s | Downtime |
| env | environmental cost |
| d | Decommissioning |

These elements should also include the costs associated with loans, depreciation, and taxes.

Due to unavailability of most of the parameters required in equation (5), LCC was not calculated within this exercise.

### Maintenance Costs

The existing mechanical aerators are located throughout the lagoon, which makes it difficult to service them – longer man hours, as well as more units to service. The new lagoon master units will be located near the shore, allowing for easier access to the units that do not require going on surface of the water in the lagoon. Approximately $3000 is spent annually to maintain and clean the system.

# 10. Conclusion and Recommendation

Manitowaning Lagoon aeration system has great opportunities to conserve energy through upgrading to new technologies of aerators. It is recommended to install two (2) Lagoon Master Units in order to achieve significant electrical savings.

As stated above, each unit (in ideal conditions) can maintain adequate DO levels for a lagoon volume of approximately 22,200 $m^3$.

Two lagoon master units will ensure that maximum oxygen demand from the sewage will still be met. These units have low maintenance and operating costs throughout their life cycle compared to other technologies as well as the existing system at the lagoon. The maintenance effort per unit would be approximately the same as the existing units in the lagoon, effectively reducing the costs on operating the unit, as there will be 7 less units that are currently connected.

For efficient BOD removal, an optimum DO level of 1.0 mg/L to 3.0 mg/L would be desired. The Lagoon Master units are able to continuously meet this DO level based on the flows that are expected at the lagoon.

Figure 10:1 demonstrates the cumulative raw sewage flow seen over the last 5 years as well as a predicted flow for the next 5 years. Although the trend shows a decreasing flow over the past decade, there remains the potential for an increase in flow and BOD loads if additional housing is ever added to the area. There may be some uncertainty with the projected population growth, but having two (2) Lagoon Master Aerators will be sufficient to address current flows seen at the facility, and any potential increases of up to 50% in BOD loadings in the coming years.

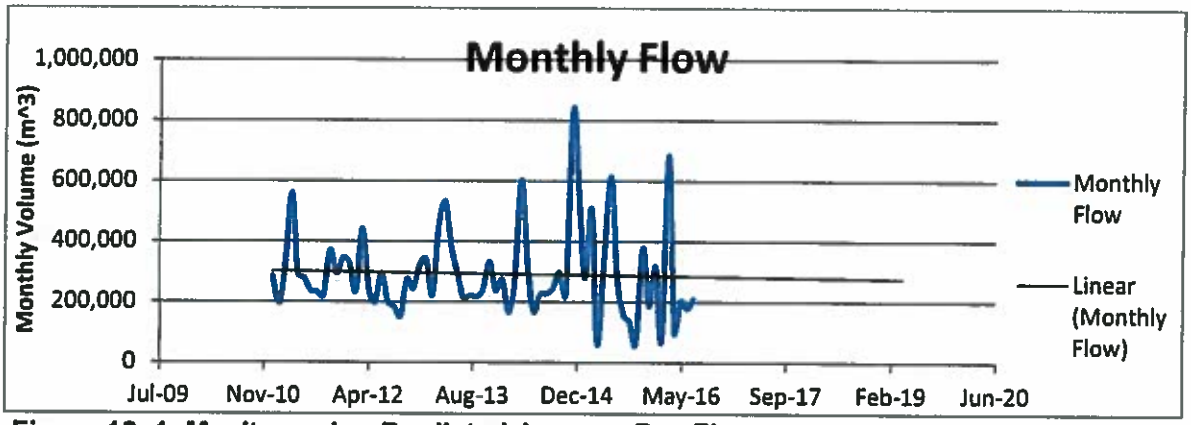



**Figure 10–1: Manitowaning Predicted Average Day Flow**

Estimated Energy Savings: Two (2) New High Efficiency Aerators

As it was outlined in Section 7, the baseline energy consumption was calculated to be 177,443 kWh based on the adjusted according to 2015 yearly hydro consumption.

Electrical and monetary savings are summarized in **Table 10-1: Energy saving calculations (two new units retrofit)**

**Table 10-1: Energy saving calculations (two new units retrofit)**

| | | |
|---|---|---|
| Base Case Annual Consumption | 177,443 | kWh |
| New Configuration Demand (hp) | 8(summer)+2(winter) | hp |
| New Configuration Demand (kW) | 7.46 | kW |
| New Configuration Annual Consumption | 56,577 | kWh |
| Annual savings (24/7 365 days/yr operation) | 120,000 | kWh |
| Electrical cost (Blended Rate) | 0.235 | $/kWh |
| Annual monetary savings | 28,404 | $ |

The estimated cost to implement the two (2) Lagoon Master units is:

**Table 10-2: Lagoon Masters Cost Estimate**

| Item | Total Cost |
|---|---|
| **Equipment:** two (2) 4 hp Lagoon Master Aerators ($35,000 each), | $ 70,000 |
| **Installation:** Aerators systems installation (Crane to get the units off the flatbed truck, and lower the units into lagoon, electrical changeover from existing mechanical aerator wiring, light mechanical assembly, change of controls, removal of intra-cell baffling) | $ 21,000 |
| **Decommissioning of old Aerators** | $ 9,000 |
| **ECA** | $ 2,000 |
| **Engineering, Contract Administration and Project Management Costs** | $ 3,840 |
| Total | $ 96,840 |
| Contingency (10%) | $ 9,684 |
| **Grand Total** | **$ 116,424** |
| IESO Funding (Estimated @ $0.10/kWh) | $ 12,000 |
| Annual Electrical Savings (kWh) | 120,000 |
| Annual Electrical Savings (@ blended rate of $0.235/kWh) | $ 28,404 |
| **Simple Payback (years) with estimated IESO Funding** | **3.9** |
| **1 Year ROI with estimated IESO Funding** | **34%** |

*All applicable taxes are not included

Estimated Energy Savings: Three (3) New High Efficiency Aerators

As it was outlined in Section 6, the baseline energy consumption was calculated to be 177,443 kWh based on the adjusted according to 2015 yearly hydro consumption.

Electrical and monetary savings is based on the assumptions presented above and is summarized in

**Table 10-3: Energy saving calculations (two new units retrofit)**

| | | |
|---|---|---|
| Base Case Annual Consumption | 177,443 | kWh |
| New Configuration Demand (hp) | 12(summer)+3(winter) | hp |
| New Configuration Demand (kW) | 11.1 | kW |
| New Configuration Annual Consumption | 94,350 | kWh |
| Annual savings (24/7 365 days/yr operation) | 83,093 | kWh |
| Electrical cost (Blended Rate) | 0.235 | $/kWh |
| Annual monetary savings | 19,527 | $ |

The estimated cost to implement the three (3) Lagoon Master units is:

**Table 10-4: Lagoon Masters Cost Estimate**

| Item | Total Cost |
|---|---|
| **Equipment:** three (3) 4 hp Lagoon Master Aerators ($35,000 each), | $ 105,000 |
| **Installation**: Aerators systems installation (Crane to get the units off the flatbed truck, and lower the units into lagoon, electrical changeover from existing mechanical aerator wiring, light mechanical assembly, change of controls, removal of intra-cell baffling) | $ 23,000 |
| **Decommissioning of old Aerators** | $ 9,000 |
| **ECA** | $ 2,000 |
| **Engineering, Contract Administration and Project Management Costs** | $ 4,220 |
| Total | $ 143,220 |
| Contingency (10%) | $ 14,322 |
| **Grand Total** | **$ 157,542** |
| IESO Funding (Estimated @ $0.10/kWh) | $ 8,309 |
| Annual Electrical Savings (kWh) | 83,093 |
| Annual Electrical Savings (@ blended rate of $0.235/kWh) | $ 19,527 |
| **Simple Payback (years) with estimated IESO Funding** | **7.6** |
| **1 Year ROI with estimated IESO Funding** | **18%** |

**Table 10-5: Table Summary of Options**, provides summary of all scenarios presented in this report with associated project implementation cost, energy and cost savings and simple payback period. OCWA can assist the Township in further discussions, selection and project implementation. Scenario 1 has the lowest payback in comparison with all other scenarios. Scenario 2 has the most amount of savings per year and highest incentive dollar amount.

**Table 10-5: Table Summary of Options**

| Scenario | Description | Estimated Energy Savings (MWh/year) | Estimated Energy Savings ($/year) | Estimated Equipment and Implementation Cost | Potential IESO saveONenergy Incentive available | Simple Payback with IESO Funding (years) |
|---|---|---|---|---|---|---|
| 1 | Do Nothing | - | - | - | - | - |
| 2 | Install two (2) Lagoon Master Units and Remove Intra-cell Baffling | 121 | $28,404 | $116,424 | $12,000 | 3.9 |
| 3 | Install three (3) Lagoon Master Units and Retain all of Baffling | 83 | $19,500 | $157,540 | $8,300 | 7.6 |

Alternative Power Sources for Consideration:

Since the new aeration equipment is to introduce significant reductions in energy, it is viable to explore the possibility of alternative power sourcing of this equipment to further reduce the electrical costs.

***Solar:***

Under the proposed system for two (2) new aeration units, peak electrical demand from the lagoon system will be 8 kW with an estimated yearly consumption of 60,000 kWh. Similarly, it is estimated that three (3) aeration units option will result in winter peak demand of 12 kW with an estimated yearly consumption of 60,000 kWh. As an option to reduce the energy bill further, option to install solar panels was explored.

Potential savings of installing a 10 kW solar panel without capacity building will allow for load shedding of approximately 10,000 - 15,545 kWh of annual electricity. Currently, 10 kW panel is the largest size (in terms of energy production) that will be allowed for fast approval from the electricity supplier (Hydro One).

The estimated complete cost of the project is $39,000 with an estimated simple payback of 17 years. The cost includes all of the equipment (solar panels, inverter(s) for converting DC current to AC, wiring), labour, engineering, design, and application/tie-in fees by Hydro One.

The 10 kW panel set-up was chosen due economical and regulatory thresholds. The 10 kW panels are the last step up prior to significant upward adjustment in price per Kw of potential power generation, resulting in prolonging the simple payback period for the project. The regulatory threshold is relying on hydro one to tie in the solar system, where the cost has the potential to rise from approximately $900 for 10 kW application to $6,000 for higher electrical power output set-up.

Estimated timeline for the solar panel installation:

- Site assessment for optimized location of the panels **(4 days)**
- Application to Hydro One for tie-in power generation **(1 week)**
- The Township will issue a purchase order (PO) to commence the work
- Project kick off meeting with the city staff and all relevant team members
- Pre-order solar panels – delivery times can be as long as **(up to 3 weeks)**
- Installation of the solar panels **(1 – 3 weeks)**
- Scheduling a visit by ESA and Hydro One **(1-2 weeks)**
- Commissioning and start-up, followed project close out **(1 week)**

Wind:

Under the proposed system for two (2) new aeration units, total electrical demand from the lagoon system will be 8 kW with an estimated yearly consumption of 60,000 kWh. As an option to reduce the energy bill further, option to install wind turbine was explored.

Wind turbines carry a significantly higher cost than the solar panels. In addition, maintenance costs are substantially higher for wind turbines, as they have mechanical components that need to be inspected on the annual basis to ensure against critical failure.

The estimated cost for installing a wind turbine capable of supplying power of 8 kW to the lagoon is $86,000 with an estimated payback period of 16 years.

# 11. Action Plan

### Implementation

This project would be delivered as a turn-key project from initiation to full installation and commissioning. One entity would procure, install and commission the works, in order to expedite the implementation of various upgrades and streamline the IESO funding application process. The proposed upgrades include:

- Decommissioning of all nine (9) 5 hp mechanical surface aerators
- Remove and dispose of existing baffling walls
- Installation of two (2) 4 hp surface aerators, including all associated electrical modifications to the control building
- Update of all electrical and I&C drawings in AutoCAD (if available)
- Engineering services, contract and construction administration
- Submit MOECC ECA application and fees
- IESO saveONenergy incentive application and liaison with the LDC and OPA for any required site visit and verification

The primary mode of operation will have the new aerators set as the duty units for the system at all times.

The units will continue to operate under manual control of the operators, with a future possibility of installing DO sensors to automatically limit the number of units in operation during low flows.

There is minimal disruption expected during the installation and testing of the new aerators. The existing aerators will continue to operate, while the electrical work for the new units is being completed. There will be some minor temporary facility shut downs during the commissioning phase of the new aerators, but with much of the work completed prior to starting up the system, many interruptions to the process will be avoided and the lagoon can continue to operate normally.

Once the testing and commissioning process is complete, the system will permanently switch over from the use of mechanical aerators to the new system. Any further operational adjustments can be made during this time on an as needed basis.

**Project Schedule**

The overall estimated delivery schedule for the installation of the surface aerators is 8-10 months from project kick-off. Below are a series of major tasks and milestones anticipated for the project and the time required for each task (where applicable).

- Submit and receive IESO's funding pre-approval - typically approximately **1 month** to complete the application and receive approvals
- The Township will issue a purchase order (PO) to commence the work
- Project kick off meeting with the city staff and all relevant team members
- Complete and submit an ECA Amendment Application to include the new equipment at the Lagoon – application approvals can take as long as **4 months** to process
- Pre-order surface aerators – delivery times can be as long as **4 months**
- Coordinate with process and electrical engineers to develop a scope of work to be included in the Request for Quotation (RFQ) process – **1-2 weeks**
- Prepare an RFQ for distribution to contractors – **2-3 weeks**
- Execute RFQ process including answering contractor questions – **2-3 weeks**
- Select a contractor based on RFQ responses – **1 week**
- Kick off construction meeting with successful contractor
- Construction Phase – Piping modifications, installation of air flow meter, valve modifications, electrical modifications, blower installation –**4 weeks**
- Commissioning and startup – **1 week**
- Project close-out – **1 week**

The critical components in this schedule that may cause extended delays primarily focus on the ECA application process and delivery time of the surface aerators.

These two phases of the project are critical as they can cause delays throughout the project. In order to mitigate the potential timeline risks, each of these phases will be initiated as soon as possible in the overall schedule with other tasks occurring concurrently to minimize waiting times.

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# The Township of Assiginack
## CHEQUE DISTRIBUTION REPORT
## Payables Management



| Ranges: | From: | To: | | From: | To: |
|---|---|---|---|---|---|
| Vendor ID | First | Last | Chequebook ID | First | Last |
| Vendor Name | First | Last | Cheque Number | 0026398 | 0026430 |
| Cheque Date | First | Last | | | |

**Sorted By:** Cheque Number

Distribution Types Included: All

| ChqNo: | 0026398 | Date: | 06/02/2017 | Vendor: | ALLEN'S AUTOMOTIVE GROUP | Amount: | $1,527.42 |
|---|---|---|---|---|---|---|---|

| InvNo: | InvDesc: | InvAmt: |
|---|---|---|
| 623334 | arena-propane | $112.98 |
| 624663 | arena-propane | $112.98 |
| 625411 | arena-propane | $112.98 |
| 623363 | fd-halogen lights | $58.22 |
| 625718 | chain&swivel(flags) | $24.48 |
| 625149 | light | $10.89 |
| 625246 | antifreeze | $13.98 |
| 625110 | winter blades #14 | $17.56 |
| 625001 | hydraulic hose #9 | $325.55 |
| 624985 | electro | $37.90 |
| 624980 | electro #9 | $13.20 |
| 624859 | transmission filter (loader) | $60.09 |
| 624283 | oil filter #14 | $27.19 |
| 624281 | air filter #14 | $53.65 |
| 623984 | booster cable clamps | $17.85 |
| 623983 | electro-mechanical | $12.63 |
| 623736 | tie straps | $21.71 |
| 623522 | rocker switch | $11.36 |
| 623249 | coffee | $41.97 |
| 623237 | bolt hook (dump) | $44.05 |
| 622702 | hydraulic #2(new truck) | $74.33 |
| 622698 | 9v battery | $6.77 |
| 622685 | fittings #2 (new truck) | $39.17 |
| 622510 | hydraulic hose #7 | $228.97 |
| 252782 | oil filter #7 | $27.29 |
| 622338 | cleaner | $19.67 |

# The Township of Assiginack
## CHEQUE DISTRIBUTION REPORT
## Payables Management



| ChqNo: | 0026399 | Date: | 06/02/2017 | Vendor: | CAMBRIAN TRUCK CENTRE INC. | Amount: | $243.99 |
|---|---|---|---|---|---|---|---|
| InvNo: | SLW70686 | InvDesc: | module #4 | InvAmt: | $243.99 | | |

| ChqNo: | 0026400 | Date: | 06/02/2017 | Vendor: | COMPUTREK | Amount: | $677.33 |
|---|---|---|---|---|---|---|---|
| InvNo: | 14339 | InvDesc: | feb server mgmt/virus protect. | InvAmt: | $289.85 | | |
| InvNo: | 14400 | InvDesc: | jan it reconc | InvAmt: | $197.75 | | |
| InvNo: | 14401 | InvDesc: | backup storage fees | InvAmt: | $189.73 | | |

| ChqNo: | 0026401 | Date: | 06/02/2017 | Vendor: | COOPER & SONS PLUMBING | Amount: | $565.00 |
|---|---|---|---|---|---|---|---|
| InvNo: | 6440 | InvDesc: | po/bnk-sewer backup | InvAmt: | $565.00 | | |

| ChqNo: | 0026402 | Date: | 06/02/2017 | Vendor: | GERRY STRONG | Amount: | $384.61 |
|---|---|---|---|---|---|---|---|
| InvNo: | FEB 6 2017 | InvDesc: | bldg insp/planning mileage | InvAmt: | $230.77 | | |
| InvNo: | 2017 RETRO MILEAGE | InvDesc: | planning mileage retro | InvAmt: | $153.84 | | |

| ChqNo: | 0026403 | Date: | 06/02/2017 | Vendor: | HYDRO ONE NETWORKS INC. | Amount: | $11,151.83 |
|---|---|---|---|---|---|---|---|
| InvNo: | JAN 25 2017 PW | InvDesc: | pw-microfit | InvAmt: | $6.10 | | |
| InvNo: | JAN 26 2017 | InvDesc: | lagoon | InvAmt: | $3,891.01 | | |
| InvNo: | JAN 31 2017 MTG WTP | InvDesc: | mtg wtp | InvAmt: | $5,843.79 | | |
| InvNo: | JAN 31 2017 PW | InvDesc: | pw | InvAmt: | $783.47 | | |
| InvNo: | JAN 31 2017 NORISLE | InvDesc: | norisle heritage park | InvAmt: | $33.56 | | |
| InvNo: | FEB 1 2017 | InvDesc: | depot | InvAmt: | $593.90 | | |

| ChqNo: | 0026404 | Date: | 06/02/2017 | Vendor: | JACKIE WHITE | Amount: | $42.75 |
|---|---|---|---|---|---|---|---|
| InvNo: | 142225 | InvDesc: | pec-makerspace supplies | InvAmt: | $42.75 | | |

| ChqNo: | 0026405 | Date: | 06/02/2017 | Vendor: | MANITOWANING MILL & HOME BUILDING CENTRE | Amount: | $814.38 |
|---|---|---|---|---|---|---|---|
| InvNo: | 0102698 | InvDesc: | marina rink-shovels/brooms | InvAmt: | $146.84 | | |
| InvNo: | 0102476 | InvDesc: | arena-g.bags | InvAmt: | $110.71 | | |
| InvNo: | 0102681 | InvDesc: | arena-p.twl/t.tissue | InvAmt: | $148.00 | | |
| InvNo: | 0101920 | InvDesc: | po/bnk-cleaners/lt bulbs | InvAmt: | $46.91 | | |
| InvNo: | 0101422 | InvDesc: | po-ice melter | InvAmt: | $51.96 | | |
| InvNo: | 0102844 | InvDesc: | arena-runner | InvAmt: | $113.00 | | |
| InvNo: | 0102110 | InvDesc: | fire extinguisher new truck | InvAmt: | $79.09 | | |
| InvNo: | 0101532 | InvDesc: | braided water line | InvAmt: | $71.03 | | |
| InvNo: | 0101370 | InvDesc: | electrical wire | InvAmt: | $46.84 | | |

| ChqNo: | 0026406 | Date: | 06/02/2017 | Vendor: | MANITOULIN-SUDBURY DISTRICT SOCIAL SERVIC | Amount: | $62,257.00 |
|---|---|---|---|---|---|---|---|
| InvNo: | IN000014535 | InvDesc: | jan amb/social assist | InvAmt: | $31,128.50 | | |
| InvNo: | IN000014558 | InvDesc: | feb amb/social assist | InvAmt: | $31,128.50 | | |

| ChqNo: | 0026407 | Date: | 06/02/2017 | Vendor: | MANITOULIN CENTENNIAL MANOR | Amount: | $7,852.96 |
|---|---|---|---|---|---|---|---|
| InvNo: | 2017 1ST QTR | InvDesc: | 2017 1st qtr requisition | InvAmt: | $7,852.96 | | |

# The Township of Assiginack
## CHEQUE DISTRIBUTION REPORT
## Payables Management



| ChqNo: | Date: | Vendor: | Amount: |
|---|---|---|---|
| 0026408 | 06/02/2017 | MANITOWANING FRESHMART | $40.93 |

| InvNo: | InvDesc: | InvAmt: |
|---|---|---|
| 00280889/00283202 | admin-2 water refills | $7.98 |
| 00284067 | pec-snacks for snowshoeing | $28.96 |
| 00285200 | admin-water | $3.99 |

| ChqNo: | Date: | Vendor: | Amount: |
|---|---|---|---|
| 0026409 | 06/02/2017 | MANITOULIN FUELS | $202.72 |

| InvNo: | InvDesc: | InvAmt: |
|---|---|---|
| 143724 | def fluid | $202.72 |

| ChqNo: | Date: | Vendor: | Amount: |
|---|---|---|---|
| 0026410 | 06/02/2017 | MINISTER OF FINANCE | $22,607.00 |

| InvNo: | InvDesc: | InvAmt: |
|---|---|---|
| 17260117142 | dec policing costs | $22,607.00 |

| ChqNo: | Date: | Vendor: | Amount: |
|---|---|---|---|
| 0026411 | 06/02/2017 | MINISTER OF FINANCE | $91.07 |

| InvNo: | InvDesc: | InvAmt: |
|---|---|---|
| FEB 6 2017 | salary garnishment | $91.07 |

| ChqNo: | Date: | Vendor: | Amount: |
|---|---|---|---|
| 0026412 | 06/02/2017 | MSC INDUSTRIAL SUPPLY ULC | $19.10 |

| InvNo: | InvDesc: | InvAmt: |
|---|---|---|
| 9005014003 | bolts | $19.10 |

| ChqNo: | Date: | Vendor: | Amount: |
|---|---|---|---|
| 0026413 | 06/02/2017 | NEW NORTH FUELS INC | $983.26 |

| InvNo: | InvDesc: | InvAmt: |
|---|---|---|
| 398914 | po-furnace oil | $647.73 |
| 398913 | office-furnace oil | $335.53 |

| ChqNo: | Date: | Vendor: | Amount: |
|---|---|---|---|
| 0026414 | 06/02/2017 | NORTHERN COMMUNICATION SERVICES INC | $54.33 |

| InvNo: | InvDesc: | InvAmt: |
|---|---|---|
| 21216-02012017 | feb 911 | $54.33 |

| ChqNo: | Date: | Vendor: | Amount: |
|---|---|---|---|
| 0026415 | 06/02/2017 | NORTH EASTERN MANITOULIN & THE ISLANDS | $3,335.00 |

| InvNo: | InvDesc: | InvAmt: |
|---|---|---|
| IVC0005770 | 2016 info booth | $3,335.00 |

| ChqNo: | Date: | Vendor: | Amount: |
|---|---|---|---|
| 0026416 | 06/02/2017 | ONTARIO CLEAN WATER AGENCY | $4,520.00 |

| InvNo: | InvDesc: | InvAmt: |
|---|---|---|
| INV000090597 | mtg lagoon aeration | $4,520.00 |

| ChqNo: | Date: | Vendor: | Amount: |
|---|---|---|---|
| 0026417 | 06/02/2017 | PRO-GAS ENERGY SERVICES | $1,141.87 |

| InvNo: | InvDesc: | InvAmt: |
|---|---|---|
| 7622 | po/bnk-furnace repairs | $1,141.87 |

| ChqNo: | Date: | Vendor: | Amount: |
|---|---|---|---|
| 0026418 | 06/02/2017 | PUROLATOR COURIER | $100.28 |

| InvNo: | InvDesc: | InvAmt: |
|---|---|---|
| 433594385 | pw-freight | $51.35 |
| 433664312 | freight | $48.93 |

| ChqNo: | Date: | Vendor: | Amount: |
|---|---|---|---|
| 0026419 | 06/02/2017 | RALF ISLAND TRUCK PARTS | $117.31 |

| InvNo: | InvDesc: | InvAmt: |
|---|---|---|
| 1157 | lights | $117.31 |

| ChqNo: | Date: | Vendor: | Amount: |
|---|---|---|---|
| 0026420 | 06/02/2017 | RIVERSIDE ENTERPRISES | $3,123.32 |

| InvNo: | InvDesc: | InvAmt: |
|---|---|---|
| 17414 | jan recyling tranpsport | $3,123.32 |

| ChqNo: | Date: | Vendor: | Amount: |
|---|---|---|---|
| 0026421 | 06/02/2017 | SIFTO CANADA INC. | $3,464.87 |

| InvNo: | InvDesc: | InvAmt: |
|---|---|---|
| 72570570 | salt | $3,464.87 |

| ChqNo: | Date: | Vendor: | Amount: |
|---|---|---|---|
| 0026422 | 06/02/2017 | STRONGCO LIMITED PARTNERSHIP | $2,753.31 |

| InvNo: | InvDesc: | InvAmt: |
|---|---|---|
| 90322829 | plow blades/shoes/bolts | $1,744.00 |
| 90344999 | heat sensor #9 | $339.45 |
| 90342012 | plow shoes | $669.86 |

| ChqNo: | Date: | Vendor: | Amount: |
|---|---|---|---|
| 0026423 | 06/02/2017 | SUPERIOR PROPANE INC. | $35.60 |

| InvNo: | InvDesc: | InvAmt: |
|---|---|---|
| 14436055 | pw-cylinder rental | $11.87 |

InvNo: 14436056 InvDesc: arena-cylinder rental InvAmt: $23.73

| ChqNo: | 0026424 | Date: | 06/02/2017 | Vendor: | BARBARA BAKER | Amount: | $1,080.00 |
|---|---|---|---|---|---|---|---|

InvNo: 120 InvDesc: jan seniors comp program InvAmt: $1,080.00

| ChqNo: | 0026425 | Date: | 06/02/2017 | Vendor: | SIMALAM | Amount: | $565.00 |
|---|---|---|---|---|---|---|---|

InvNo: 0966 InvDesc: website hosting InvAmt: $565.00

| ChqNo: | 0026426 | Date: | 06/02/2017 | Vendor: | TRACKS & WHEELS | Amount: | $23.73 |
|---|---|---|---|---|---|---|---|

InvNo: P13554 InvDesc: joint assembly #14 InvAmt: $23.73

| ChqNo: | 0026427 | Date: | 06/02/2017 | Vendor: | WAT SUPPLIES | Amount: | $47.46 |
|---|---|---|---|---|---|---|---|

InvNo: 152204 InvDesc: admin-p.twls InvAmt: $47.46

| ChqNo: | 0026428 | Date: | 06/02/2017 | Vendor: | WAYNE MIDDAUGH | Amount: | $700.00 |
|---|---|---|---|---|---|---|---|

InvNo: FEB 6 2017 InvDesc: 14 beavers InvAmt: $700.00

| ChqNo: | 0026429 | Date: | 06/02/2017 | Vendor: | WEAVER-SIMMONS | Amount: | $595.51 |
|---|---|---|---|---|---|---|---|

InvNo: 43970- JAN 2017 InvDesc: legal InvAmt: $595.51

| ChqNo: | 0026430 | Date: | 06/02/2017 | Vendor: | WINDOWS UNLIMITED | Amount: | $169.50 |
|---|---|---|---|---|---|---|---|

InvNo: 296124 InvDesc: lib-touchups after countertop InvAmt: $169.50

*** *End of Report* ***

***Report Total:*** **$131,288.44**

| Payment # | Amount | Date | Batch # | Employee ID | Employee Name | Status | Payment Method |
|---|---|---|---|---|---|---|---|
| 0026393 | | 06/02/2017 | 02/06COMB | 118 | COOPER, RONALD | OUTSTANDING | Cheque |
| 0026394 | | 06/02/2017 | 02/06COMB | 122 | HOBBS, ALTON | OUTSTANDING | Cheque |
| 0026395 | | 06/02/2017 | 02/06COMB | 126 | MacDONALD, DEBORAH | OUTSTANDING | Cheque |
| 0026396 | | 06/02/2017 | 02/06COMB | 133 | BOND, FREDA | OUTSTANDING | Cheque |
| 0026397 | | 06/02/2017 | 02/06COMB | 158 | QUACKENBUSH, ASHLEY T | OUTSTANDING | Cheque |
| 736 | | 06/02/2017 | 02/06COMB | 106 | WOOD, STEVEN | OUTSTANDING | Direct Deposit |
| 737 | | 06/02/2017 | 02/06COMB | 134 | VIRTANEN, ANNETTE | OUTSTANDING | Direct Deposit |
| 738 | | 06/02/2017 | 02/06COMB | 140 | REID, WALTER | OUTSTANDING | Direct Deposit |
| 739 | | 06/02/2017 | 02/06COMB | 152 | PRAIRIE, JANET | OUTSTANDING | Direct Deposit |
| 740 | | 06/02/2017 | 02/06COMB | 155 | BECK, WILLIAM | OUTSTANDING | Direct Deposit |
| 741 | | 06/02/2017 | 02/06COMB | 163 | MACDONALD, ROBERT | OUTSTANDING | Direct Deposit |
| 742 | | 06/02/2017 | 02/06COMB | 164 | MIDDAUGH, WAYNE | OUTSTANDING | Direct Deposit |
| 743 | | 06/02/2017 | 02/06COMB | 168 | STRONG, GERRY | OUTSTANDING | Direct Deposit |
| 744 | | 06/02/2017 | 02/06COMB | 186 | RODY, JEREMY | OUTSTANDING | Direct Deposit |
| 745 | | 06/02/2017 | 02/06COMB | 205 | MOFFAT, PAUL | OUTSTANDING | Direct Deposit |
| 746 | | 06/02/2017 | 02/06COMB | 206 | CASE, ROBERT | OUTSTANDING | Direct Deposit |
| 747 | | 06/02/2017 | 02/06COMB | 211 | MOGGY, HUGH | OUTSTANDING | Direct Deposit |
| 748 | | 06/02/2017 | 02/06COMB | 214 | FIELDS, LESLIE | OUTSTANDING | Direct Deposit |
| 749 | | 06/02/2017 | 02/06COMB | 216 | REID, BRENDA | OUTSTANDING | Direct Deposit |
| 750 | | 06/02/2017 | 02/06COMB | 301 | ROBINSON, DEBBIE | OUTSTANDING | Direct Deposit |
| 751 | | 06/02/2017 | 02/06COMB | 314 | WOOD, JOAN | OUTSTANDING | Direct Deposit |
| 752 | | 06/02/2017 | 02/06COMB | 322 | OBRIEN, JOSEPH | OUTSTANDING | Direct Deposit |
| 753 | | 06/02/2017 | 02/06COMB | 323 | WHITE, JACQUELINE | OUTSTANDING | Direct Deposit |
| | --- | | | | | | |
| Total : | $18,957.65 | | | | | | |

## Alton Hobbs

**From:** gary.mackay@tulloch.ca
**Sent:** February-03-17 3:15 PM
**To:** Jeremy Rody
**Cc:** Alton Hobbs; 'Bill Tibble'
**Subject:** Municipal Drain Registration

Hello Jeremy,

The 2017 municipal drain maintenance program for Assiginack involves maintenance on the Bidwell Drain. I inspected this drain last year and I expect a similar maintenance program as Hilly Grove; beaver dam removal, bottom cleanout etc. In the past I have contacted the MNRF to get feedback from them on fisheries and terrestrial values that are present (or not) within the drain and those areas that may be effected by work on the drain, i.e. downstream lakes, watercourses etc. Through conversations back and forth with MNRF a plan is arrived at to avoid, mitigate and rehabilitate impacts. This has to be done every time for every drain. An alternative is the MNRF protocol where work activities can be registered, species at risk (SAR) are listed and a mitigation plan is developed. With this registration no MNRF notification is required and work can proceed based upon the mitigation plan developed. The mitigation plan is tailored to the SAR present in the drains and one registration form includes all drains within the municipality. The mitigation plan is not submitted but must be available upon request. I feel this is the way to go to protect the municipality and Tulloch from liabilities that could arise concerning impacts on SAR from a less than thorough, loosely defined plan based upon phone calls with the MNRF for each drain. It is due diligence to show we are doing everything reasonable to protect SAR.
There is an upfront cost involved to get this registration form submitted: research into what SAR are in each drain-or area of the drain and develop the mitigation plan for drain maintenance. The SAR list does change over time so these two items would require revisions from time to time but at minimal costs. Savings would be realized in time spent on MNRF dialogue for each drain, tender package preparation and it acts as an insurance policy against liabilities.
I would need approval from Assiginack to proceed. I will investigate if costs associated with this process are chargeable to the drains but my time spent on this would be 50% grantable from OMAFRA. I estimate the cost at $3,000.00.
Oceans and Fisheries Canada (DFO) is coming out with a new notification form for drain maintenance and there may be funding available to survey your drains to record what fish values are present and have the drains but into the DFO categories. Once rated it can lead to much quicker approvals for drain maintenance from the DFO. Tulloch environmental will look into the funds available.

RSVP, Gary

**Gary MacKay** P. Eng.
Project Manager

TULLOCH
ENGINEERING

Tel: 705 522 6303 ext 620
Fax: 705 869 6198
Cell: 705 677 7511

TULLOCH Engineering Inc
449 Second Ave., Espanola, ON P5E 1L2
gary.mackay@TULLOCH.ca | TULLOCH.ca

## *To our Community Partners:*

**On behalf of the *Manitoulin Physician Recruitment Sub-Committee* (a partner within the Huron North recruitment shared services) I am reaching out to you to provide an update on the past efforts, and to thank our participating sponsors for your support.**

**As well, I want to reach out to those of you who have not yet contributed to please consider providing funding assistance for this crucial community-building exercise!**

**We all need access to health care, and we all use health care resources, regardless of where we live across the Island. Access to care within a reasonable distance from home is a key component to building sustainable municipalities. We all have a stake in this, as leaders on behalf of our communities.**

Over the past few years, our local approach to physician recruitment has been underway, involving multiple organizations from across the Island. Thanks to the strength brought to this initiative, it has proven very successful, with two of the long-outstanding physician full-time vacancies being filled (one each in Little Current and Mindemoya), as well as bringing a very large pool of visiting locum physicians to backfill in all locations for other needs (i.e. vacation, maternity, medical education leave relief, etc.).
However, the challenges continue and the needs are expanding!

**A Brief History:**
Manitoulin Health Centre originally joined with the physician clinics in Mindemoya, Little Current, Gore Bay and Manitowaning, along with the 3 Family Health Teams and Noojmowin Teg Health Centre, to form a core group of stakeholders who helped steer the initial formative efforts. Then, added to this core of support, were the initial Municipal contributors.

A professional Physician Recruiter was engaged to work on our collective behalf, on a contracted basis. This resource has spearheaded tasks which include outreach contact efforts with candidate physicians throughout Ontario, helping to market the local opportunities of living and practicing medicine on Manitoulin, in all of our professional practice settings. This role involves travel across the province, visiting with medical students, residents and locum physicians in their various settings, and helping to organize work routines for our much needed local locum pool.

**The Challenge and Our Approach:**
There are a growing number of vacant physician positions across Ontario, and competition between communities is the new reality. Historically, Manitoulin has enjoyed a favourable compliment of family practice physicians, and vacancies have rarely been prolonged. This is no longer true. The new reality is that communities must link resources together and truly "market" their opportunities, incentives and life-style. Relationship-building with prospective candidates is an on-going requirement. In addition, easing the on-boarding

process for new locums and permanent physicians to Manitoulin Island is an additional responsibility.

Many communities across Ontario are spending hundreds of thousands of dollars on similar efforts. Our local, collaborative plan is based on very modest investments. To help accomplish this, on your behalf we have partnered with the Blind River area communities, with a shared recruiter as the human resource. This person brings all of the practice opportunities from our regions in front of candidates and then it is the candidate who decides on their level of interest and best "fit" with what is available.

This shared approach makes sense and is showing a good degree of success! When you think about it, if we had our "own" recruiter, and so did the Blind River communities, the two of them would be attending the same events, chasing down the same candidates with the same information as is being received today, and so the candidates would still be deciding what best suits their individual needs; by sharing, we avoid this costly competition, and strengthen the viability through one shared unbiased resource.

It has also enabled us to share the resources needed to build and sustain a website for recruitment: please visit ***http://www.huronnorth.com*** to view what has been built on our behalf.

Last year, the effort was cemented together through the pool of funds brought forward by the core stakeholders, including a significant contribution from our hospital. The total pooled Manitoulin budget amount was $30,000. This was then added to the amounts from the Blind River communities to pay for the recruitment-related efforts and expenses. The amounts contributed were scaled - based on whether or not physicians were directly located within a community, and then also scaled by the number of such positions.

ASKING FOR YOUR CONSIDERATION
***To help cement the effort for 2017, I am respectfully requesting the following:***

***For those who have contributed before, please earmark and flow the same contribution amount as was provided last year.***

***For those who have not contributed before, please consider $1000 - $2500 towards the effort, and consider adding this as a standing item in your annual expenses budget.***

Thank you for your consideration of this crucial issue. We look forward to your feedback and participation,

Derek Graham
Chair, Manitoulin Physician Recruitment Sub-Committee
President and CEO, Manitoulin Health Centre

This Is Manitoulin &
MANITOULIN'S magazine
P.O. Box 369, 1 Manitowaning Rd., Little Current, Ontario P0P 1K0 Phone: 705-368-2744 Fax 705-368-3822
email: expositor@manitoulin.ca website: www.manitoulin.ca

February 13, 2017

Alton Hobbs, CAO
Municipality of Assiginack,
Manitowaning, Ont.
P0P 1N0

Re: Note of appreciation for support

Dear Mr. Hobbs:

Today, we read the final proof of the 2017 edition of the *This is Manitoulin* magazine and sent files to the printer.

The two tourist publications we are responsible for, *This is Manitoulin* and *Manitoulin's Magazine*, are major efforts for our small shop. It has always been our objective to publish quality and useful tourist magazines that will encourage new visitors to our Island or encourage people who have chosen to visit here to stay longer and add a few extra dollars to Manitoulin's tourist economy.

It has also been our objective to operate these publications in a cooperative model thus keeping the rates as low as possible so cost is not a deterrent to anyone wanting to market their business. In turn, Manitoulin Island has well distributed, reliable tourist lure guides whose editorial and business message content present an accurate picture of what Manitoulin has to offer.

*This is Manitoulin* has been published since 1960 and *Manitoulin's Magazine* and Day Trips Guide since 1990.

People who depend on these publications, for the most part, take them for granted and assume there will be a new issue year after year.

*...Page 2*

For our part, as the publishers of these important products, we do not take this for granted for there is a great deal of thought, planning, execution and key distribution decisions made every year.

This message to you is one of thanks. The fact that your municipality supports these publications is not only a useful way of highlighting your community within the context of Manitoulin Island but it is also very important to us, as the publishers, to have your support.

For us, these tourist publications are not simply a part of our business. We view their ongoing publication and distribution as something vitally important that has been entrusted to us and we are pleased that we will this year, as in 2016, print and distribute 57,000 copies of *This is Manitoulin* magazine and 30,000 copies of *Manitoulin's Magazine*.

Once again, thank you for your municipality's support in our endeavours to promote Manitoulin Island as an important tourist destination.

Yours truly,

Rick McCutcheon, publisher
*This is Manitoulin*
*Manitoulin's Magazine* and Day Trips Guide

**THE CORPORATION OF THE TOWNSHIP OF ASSIGINACK**

**BY-LAW #17-05**

**BEING A BY-LAW of the Corporation of the Township of Assiginack to Authorize a Recyclables Acceptance Agreement with the City of Greater Sudbury**

**WHEREAS** Section 9 of the Municipal Act, S.O. 2001, c. 25, as amended, provides that a municipality has the capacity, rights, powers and privileges of a natural person for the purpose of exercising its authority under this or any other Act;

**AND WHERES** Subsection 5(3) of the Municipal Act, S.O. 2001, c. 25, as amended, provides that a municipal power shall be exercised by by-law;

**AND WHEREAS** the Council of the Corporation of the Township of Assiginack deems it beneficial to the community to enter into this agreement;

**NOW THEREFORE THAT** the Council of the Corporation of the Township of Assiginack ENACTS AS FOLLOWS:

1. THAT the CAO is hereby authorized to sign the attachment agreement with the City of Greater Sudbury.

2. THAT the agreement be attached to and form part of this by-law as Schedule A.

3. THAT this by-law shall come into force and take effect upon third and final reading.

Read a First, Second, and Third time and finally passed this 21st day of February, 2017.

_____
Mayor – P. Moffatt

_____
Clerk – J. Rody

Seal

**THIS RECYCLABLES ACCEPTANCE AGREEMENT** made in duplicate this day of February 1, 2017.

**B E T W E E N:**

**CITY OF GREATER SUDBURY**

hereinafter called the "City"

OF THE FIRST PART

A N D

**TOWNSHIP OF ASSIGINACK**

hereinafter called the "Organization"

OF THE SECOND PART

**WHEREAS** the City provides certain recycling collection and processing services for the benefit of residents of the City of Greater Sudbury, as part of its waste management program;

**AND WHEREAS** the City sells its processed recyclables to recover part of the cost of operating its recycling centre;

**AND WHEREAS** the Organization is a municipality which provides recycling collection services for the benefit of inhabitants within its municipal boundaries, but does not provide recycling processing services;

**AND WHEREAS** the Organization has requested the City accept all those recyclable materials collected by the Organization within its municipal boundaries, which are of a type then being processed by the City;

**AND WHEREAS** the City is authorized to accept such recyclables on the terms set out herein;

**THEREFORE IN CONSIDERATION OF THE TERMS HEREINAFTER STATED, THE CITY AND THE ORGANIZATION AGREE AS FOLLOWS:**

Definitions

1. In this agreement:

   (a) "Director" means the Director of Environmental Services and includes his or her authorized designate;

   (b) "Processing Rate" means the rate per tonne payable by the Organization for Recyclables accepted by the City plus overhead;

   (c) "Recyclables" means recyclable materials determined in accordance with the City's Waste Management Bylaw in effect from time to time;

   (d) "Recycling Centre" means the City's recycling centre located at 1825 Frobisher Street, Sudbury; and

   (e) "Term" includes renewal term.

   (f) "Township of Assigninack" to which the organization provides recyclable collection services are outlined on the sketch attached hereto as Schedule "A".

Accept Recyclables

2. During the term of this agreement (or until the agreement is earlier terminated) the City agrees to accept Recyclables from the Organization, in accordance with the terms and conditions of this agreement and policies and procedures implemented by the City from time to time.

Recyclables

3. The City will accept Recyclables of a type set out in Schedule "B" attached or as otherwise determined by the City from time to time in its sole discretion. The City will advise the Organization from time to time of changes in Recyclables by way of a letter signed by the Director attaching a copy of the Schedule "B" being substituted for Schedule "B" attached hereto and delivered in accordance with the provisions for notice in this agreement.

City - Exclusive Processer of Recyclables

4.(1) The Organization agrees that the City will be its exclusive provider of recyclable processing services and further that it will provide to the City, in accordance with the terms and conditions of this Agreement, all Recyclables collected within its geographic limits. In the event that the Organization does not collect all of the categories of Recyclables identified on Schedule "B", the Organization shall provide evidence satisfactory to the Director identifying the categories of Recyclables it does collect and shall notify the Director of any changes from time to time of the Recyclables it collects.

Education Program

(2) The Organization further agrees that it will promote recycling within its collection area by implementing an effective educational program which encourages the diversion of Recyclables from waste materials; advises which materials are Recyclables; and alerts individuals to the importance of separating all non-Recyclables from Recyclables set out for delivery.

No Contamination of Recyclables

5. The Organization shall be responsible to ensure Recyclables delivered to the Recycling Centre for processing are not intermingled with non-Recyclables. The Organization acknowledges and agrees that the City will not approve for acceptance shipments of Recyclables which are intermingled with non-Recyclables or Recyclables that are mixed and bagged.

Compaction of Recyclables

6. The Organization shall not compact Recyclables any more than a rate of 2:1.

Delivery of Recyclables

7. (1) The Organization shall be responsible to deliver all Recyclables to the Recycling Centre at its sole cost and expense. All deliveries of Recyclables shall be made to the location within the Recycling Centre and in the manner determined by the Director from time to time and communicated to the Organization (as detailed in the Receiving Protocol).

(2) The Organization shall arrange for all deliveries of Recyclables to be made between 8:00 a.m. and 10 a.m. during the days that the City is open for business at the Recycling Centre, as posted at the Recycling Centre from time to time or such other hours as the Director may advise from time to time. The Organization acknowledges and agrees that the City may change the days of operation of the Recycling Centre and the permitted times of delivery from time to time without advance notice to the Organization. The City will endeavour to notify the Organization in writing in advance of such changes.

(3) No shipment of Recyclables shall be left at the Recycling Centre until the shipment has first been approved for acceptance by the City, in the manner established by the Director from time to time and communicated to the Organization.

(4) The Organization acknowledges and agrees that its employees, contractors and agents on site at the Recycling Centre must comply with any by-laws, guidelines and protocols then effect governing the Recycling Centre.

(5) The Organization agrees that no Recyclables shall be deposited or left anywhere in the City except at the Recycling Centre and in accordance with this Agreement.

Rejected Shipment

8.(1) The City shall be entitled to reject in whole or in part any shipment of materials by the Organization which the Director, in his or her sole discretion, determines is not compliant with the requirements of this agreement.

(2) The Organization shall be responsible to promptly remove or have removed from the Recycling Centre and from the City at its own cost and expense, any shipment of materials or part thereof not accepted by the City.

(3) Should the Organization fail to remove from the Recycling Centre or the City, any shipment of materials not approved by the City for acceptance or such part as may not be approved, or should the Organization deposit, leave or abandon materials within the City limits contrary to this Agreement, the City shall have the right, but not the obligation to arrange to have the rejected shipment of materials or part thereof left or abandoned by the Organization, returned to the Organization, at the cost of the Organization. All costs associated with gathering, collecting and

returning the shipment of materials or any left or abandoned materials to the Organization shall be a debt owing to the City, due and payable in accordance with an invoice rendered by the City, and if unpaid, shall bear interest at the rate established by By-law as the rate payable on overdue amounts owing to the City. Any such debt may be enforceable by any means open to the City at law. The obligation to pay any such amount shall survive the expiry or earlier termination of this agreement. This right shall be in addition to any other remedy available to the City under this Agreement.

Fee and Payment

9.(1) During the term of this Agreement, the Organization agrees to pay the City for each shipment of Recyclables approved by the City for acceptance at the Recycling Centre, a fee equal to the total of the Processing Rate set out in Schedule "C" times the number of tonnes of Recyclables in that shipment. Where a part tonne is delivered, the Processing Rate shall be prorated appropriately. All fees hereunder shall be subject to Goods and Services Tax.

(2) Despite anything to the contrary, herein, the City shall have the right to change the Processing Rate from time to time in its sole discretion. The City will advise the Organization from time to time of changes in the Processing Rate by way of a letter signed by the Director attaching a copy of the Schedule "C" being substituted for Schedule "C" attached hereto and reflecting the newly established Processing Rate. The letter and substituted Schedule "C" will be delivered in accordance with the provisions for notice in this Agreement.

(3) The tonnage of the Recyclables delivered shall be determined using the weigh scale at the Recycling Centre. In the event that the weigh scale at the Recycling Centre is not operational for any reason at the time of delivery of the Recyclables, the City will advise of an alternate location at which weighing can take place prior to delivery of the Recyclables.

(4) The City shall invoice the Organization monthly for the fees incurred for approved Recyclables delivered for processing and accepted by the City, and any other amounts owing under this agreement

(5) Payment shall be due on the date specified in the invoice. Any unpaid amounts owing to the City shall be a debt to the City, and bear interest from the date due until payment in full, at the interest rate established by the City by By-law from time to time as the rate chargeable on outstanding amounts and may be enforceable by any means available to the City at law.

(6) The obligation under this Section 8 shall survive any expiry or other termination of this agreement.

Title to Recyclables

10. The Organization represents and warrants that at the time of delivery of Recyclables to the Recycling Centre for processing, it will have all right, title and interest to the Recyclables and will at that time, have the right to dispose of same. The parties agree that ownership of the Recyclables shall pass to the City upon approval and acceptance of the Recyclables by the City. The Organization acknowledges being advised that City will be processing the Recyclables and

subsequently selling the processed Recyclables. The Organization acknowledges and agrees that it has no right, claim or interest in any revenues received by the City as a result of the sale of Recyclables received from the Organization.

Risk

11. (1) The Organization, its officers, employees, contractors and agents enter on the Recycling Centre at its and their own risk.

(2) The Organization hereby agrees that the City, its elected and non-elected officials, employees, agents and those for whom the City is at law responsible, shall not be liable for any personal injury to, bodily injury to (including death of) or for any damage or loss to any property (including loss of use thereof) or for any incidental, indirect, special or consequential damages or any loss of use, revenue or profit arising out of or in any way related to the use or occupation of the Recycling Centre or lands on which same are situate, which is or may be suffered or incurred by the Organization, or its officers, employees or agents for any reason whatsoever, unless caused by or resulting from the negligence or willful misconduct of the City, its employees or agents while acting within the scope of his or her employment or agency respectively. The City agrees to indemnify and to save harmless, the Organization, its officers, employees and agents from and against all costs, claims, actions, loss, injury, expense, damages, fines, judgments or recoveries made, brought or recovered against the Organization, its officers, employees and agents resulting from any willful misconduct or negligence of the City, or its elected or

non-elected officers, employees or agents while acting in the course of his or her employment or agency and arising out of the Organization's authorized use and occupation of the Recycling Centre.

Indemnification

12.(1) The Organization agrees to indemnify and to save harmless, the City, its elected and non-elected officers, employees and agents from and against all costs, claims, actions, loss, injury, expense, damages, fines, judgments or recoveries made, brought or recovered against the City, its elected or non-elected officers, employees and agents resulting from any act or omission, any wilful misconduct or errors of the Organization or its officers, employees or agents in connection with the delivery of Recyclables pursuant to this Agreement or the use and occupation of the Recycling Centre and such indemnity shall include all legal costs incurred by the City (including fees and disbursements) and any administrative costs incurred by the City.

(2) This provision shall survive the termination or expiry of this Agreement.

Insurance

13. (1) The Organization shall ensure that all insurance coverage required pursuant to this agreement are in place prior to the delivery of any shipments of Recyclables to the City.

(2) During the Term of this Agreement, and any renewal or extension thereof, the Organization will, at its expense (including the cost of deductibles) maintain in effect, with an insurer licensed in Ontario:

(a) a contract of general liability insurance for its operations, with limits of not less than Five Million ($5,000,000.00) Dollars, in addition to coverage for defence and claimants' costs, all for any one occurrence, including coverage for:

(i) Personal injury including death;
(ii) Property damage or loss (direct or indirect and including loss of use thereof);
(iii) broad form property damage;
(iv) contractual liability;
(v) non-owned automobile liability;
(vi) Owner's and contractors' protective coverage;
(vii) Products - completed operations;
(viii) Contingent employer's liability;
(ix) Cross liability;
(x) Severability of interest; and
(xi) Blanket contractual liability.

all of standard wording. The policy of insurance shall name the City of Greater Sudbury as an additional insured with respect to its interest in the operations of the Organization; and

(b) Where the Organization is the registered owner of motor vehicle used in the delivery of Recyclables, a policy of motor vehicle liability insurance of standard wording, covering:

(i) motor vehicles owned, leased or operated by or on behalf of the Organization, in connection with the Services provided or to be provided under this Agreement, with coverage of not less than One Million ($1,000,000) Dollars per claim; and

(ii) equipment leased, borrowed, rented or operated by or on behalf of the Organization, with coverage of not less than One Million ($1,000,000) Dollar

Each policy of insurance shall provide that the policy shall be non-contributing with, and shall apply only as primary and not as excess to any other insurance available to the City. Every policy of insurance shall contain a deductible amount which is reasonable considering the financial circumstances of the Organization. The Organization shall be responsible to pay all deductible amounts.

Each policy of insurance shall also provide that neither the Organization nor the insurer shall cancel, materially change or allow the policy to lapse without first giving the City thirty days prior written notice, or in the case of automobile insurance, fifteen days prior written notice.

The Organization shall provide or cause to be provided to the City a certificate from its insurer, in the City's standard form, which shows that the policy or policies placed and maintained by it complies with the requirements of this agreement. No review or approval of any such insurance certificate by the City shall derogate from or diminish the City's rights or the Organization's obligations contained in this Agreement.

(3) If at any time the City is of the opinion that the insurance taken out by the Organization is inadequate in any respect, it shall forthwith advise the Organization of its reasons for such request and the Organization shall forthwith take out additional insurance satisfactory to the City.

(4) The taking out of insurance shall not relieve the Organization of any of its obligations under this agreement or limit its liability hereunder.

(5) It shall be the responsibility of the Organization to provide the necessary Workers' Compensation insurance for employees and agents of the Organization on site at the Recycling Centre.

Term

14. (1) This Agreement shall have a term of one year, commencing February 1, 2017 and including January 31, 2018, the end of the term (and each renewal term), and unless either party gives notice of its election to not renew the term of the agreement at least thirty (30) days prior to the expiration of the then current term, the Agreement shall automatically renew for a further term of one year.

(2) Each renewal term of this Agreement shall be on the same terms and conditions as are in effect on the last date of the immediately prior term, save and except that the Schedule "C" in effect in the immediately prior term shall be replaced by a Schedule "C" to be provided by the Director. In the event that the Director does not provide the Organization the form of Schedule "C" to be in effect for the renewal term, prior to the renewal date, the Organization shall continue to pay the City at the same Processing Rate as set out in the form Schedule "C" in effect in the immediately prior term, until such time as the replacement Schedule "C" is provided, and thereafter, the Organization shall pay the City fees calculated in accordance with the Processing Rate set out in the replacement Schedule "C".

(4) In the event that the processing rate established in any replacement Schedule "C" is not acceptable to the Organization, the Organization shall have the right to give 30 days notice of termination in accordance with the provisions in this Agreement, provided such notice is given within 30 days of delivery of that replacement Schedule "C".

Early Termination - Without Cause

15. This Agreement may be terminated by either party, without liability to the other, on sixty (60) days notice in writing to the other party given in accordance with this agreement.

Termination for Material Breach

16. Either party may, at its option, terminate this Agreement in the event of a material breach of this Agreement by the other party. Any such termination may be effected through a written notice to the other party, specifically identifying the breach or breaches on which termination is based. Following receipt of such notice, the party in breach shall have 14 days to cure such breach or breaches to the satisfaction of the non-defaulting party and this Agreement shall terminate in the event that such cure is not made by the end of such period. The failure of the Organization to pay any fee or other amount owing to the City shall always constitute a material breach of this Agreement.

Third Party Observance

17. (1) The Organization shall take all reasonable measures to ensure that its officers, directors, employees, contractors and agents are made aware of and are bound to

observe the terms of this Agreement. The Organization shall be responsible to ensure that any agreement it enters into with a contractor or agent to provide on its behalf, services related to this Agreement contains terms no less favorable to the City than set out herein to the extent that they are applicable to the work contracted or subcontracted.

Notice

18.(1) Any demand, notice or other communication to be given in connection with this Agreement shall be given in writing and may be given by personal delivery or by registered mail, courier or facsimile transmission, addressed to the recipient as follows:

(a) Notices to the City:

City of Greater Sudbury
Environmental Services Division
1805 Frobisher Street
Sudbury, Ontario, P3A 6C8
Attention: Director of Environmental Services
Phone Number: 705-674-4455 Ext. 4327
Fax: 705-671-1148

(b) Notices to the Organization:

Township of Assiginack
P.O. Box 238, 156 Arthur Street
Manitowaning, ON P0P 1N0
Telephone: 705-859-3196
Fax: 705-859-3010

or to such other address or facsimile number as may be designated by notice by either party to the other. Any such notice if given by personal delivery shall be conclusively deemed to have been given on the deposit thereof in the mail; if by courier, on the second day after delivery to the courier; and if by facsimile transmission, on the same day if sent prior to 4:00 p.m. on a day the recipient is open for business and on the next following working day of the recipient if sent after 4:00 p.m. or if sent on a day the recipient is not open for business. If the party giving any notice knows or ought reasonably to know of any difficulties with the postal system which might affect the delivery of mail, any such notice shall not be mailed but shall be given by personal delivery, courier or facsimile transmission.

MOE Approval

19. The agreement may be subject to the approval of the Ministry of the Environment, and any other Provincial or Federal authority having jurisdiction in matters relating to recycling and the environment. In such event, this agreement shall come into effect upon every such approval being granted. It shall be the responsibility of the City to apply for any such approval at its own cost and expense.

Relationship

20. Nothing in this Agreement shall be read or construed as conferring upon the Organization, its officers, directors, employees or agents, the status of employee, or agent of, or partner or joint venturer with the City.

Schedules

21. All terms and conditions of Schedules "A", "B" and "C" are incorporated into this Agreement except where they are inconsistent with this Agreement, in which case the agreement shall prevail.

Assignment

22. The Organization shall not assign this Agreement, or any part thereof, without the prior written approval of the City, which approval may not be unreasonably withheld by the City in its sole discretion or may be given subject to such terms and conditions as the City may impose.

Entire Agreement

23. This agreement and the attached Schedules "A", "B" and "C" embody the entire Agreement and supercede any other understanding or agreement, collateral, oral or otherwise, existing between the parties at the date of execution.

Amendment

24. (1) Except as expressly provided to the contrary in this agreement, this agreement may be amended only by amending agreement signed by both parties.

(2) Despite subsection 23(1) either or all Schedules to this Agreement may be replaced or substituted from time to time by way of letter attaching the replacement Schedule or Schedules, signed by the Director.

Governing Law

25. This Agreement shall be governed by and construed in accordance with the laws of the Province of Ontario.

MFIPPA

26. The Organization acknowledges that this agreement and any information or documents provided by the Organization may be released pursuant to the provisions of the *Municipal Freedom of Information and Protection of Privacy Act*, R.S.O. 1990, c. M.58, as amended and consents to the release of such information.

Rights and Remedies Cumulative

27. The rights and remedies of the Parties to this Agreement are cumulative and are in addition to and not in substitution for any rights and remedies provided by law or in equity.

Headings

28. Headings or descriptive words at the commencement of the various sections are inserted only for convenience and are in no way to be construed as a part of this agreement or as a limitation upon the scope of the particular section to which they refer.

Number and Gender

29. In this agreement the use of the singular number includes the plural and vice versa and the use of any gender includes all genders.

Non-Waiver

30. No condoning, excusing or waiver by any party hereto of any default, breach of, non-observance by any other party hereto, at any time or times with respect to any covenant or condition herein contained, shall operate as a waiver of that party's

rights hereunder with respect to any continuing or subsequent default, breach or non-observance and no waiver shall be inferred from or implied by any failure to exercise any rights by the party having those rights.

Force Majeure

31. The City shall not be liable for any failure to perform its obligations hereunder if the non-performance is due to lightning, tempest, explosion, earthquake, acts of God, mob violence, acts of the Queen's enemies, strike, lockout, or other labour disruption, or any catastrophic cause beyond its control.

Binding Effect

32. This agreement shall ensure to the benefit of and be binding upon the parties hereto, their heirs, legal personal representatives, successors and permitted assigns.

**IN WITNESS WHEREOF** the parties hereto have hereunder affixed their respective corporate seals attested to by the hands of their proper officers duly authorized in that behalf as of the day and year first above written.

**CITY OF GREATER SUDBURY**

Chantal Mathieu
Director of Environmental Services

**TOWNSHIP OF ASSIGINACK**

_____

Name, Title (*print)*

_____

Name (*signature*)

_____

Date

I/We have authority to bind the Corporation

## SCHEDULE "A"

## TO A RECYCLABLES ACCEPTANCE AGREEMENT BETWEEN

## CITY OF GREATER SUDBURY AND TOWNSHIP OF ASSIGINACK

### GEOGRAPHIC BOUNDARIES OF THE TOWNSHIP OF ASSIGINACK

## SCHEDULE "B"

## TO A RECYCLABLES ACCEPTANCE AGREEMENT BETWEEN

## CITY OF GREATER SUDBURY AND TOWNSHIP OF ASSIGINACK

### RECYCLABLES

### Plastic Containers

If one of these numbers appears on the bottom of a plastic container, place it in your Blue Box.

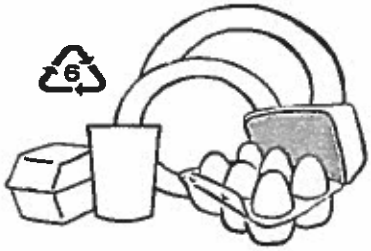
1 2 5

Do not recycle. Put these items in your regular garbage.
Containers that don't have a number, containers that have a 3 or 7 stamped on the bottom, plastic dishes and utensils, plastic toys.

### Paper

Almost all types of paper can be recycled.

Do not recycle. Put these items in your regular garbage.
Diapers, facial tissue and paper towels, waxed paper, cookie jars, paper drinking cups, waxed paper.



### Polystyrene Foam

- Foam egg cartons, meat trays, plates and cups
- Take-out food containers
- Solid white foam used for packing.
  Break large pieces into smaller sections (maximum 2 ft. x 3 ft. x 1 ft.)

Do not recycle. Put these items in your regular garbage.
Small foam "peanuts" used as packing, dirty trays, foam treated with fire retardant for thermal insulation.

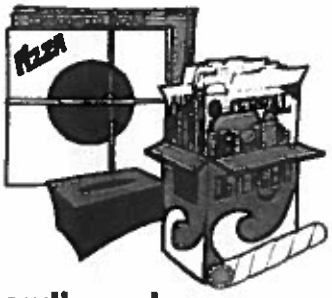
### Plastic Bags

Now you can recycle all types of plastic bags.

- Turn bags inside out to empty.
- Stuff empty bags into one and tie at the top.
- Place in your Blue Box.

When shopping, choose reusable cloth bags.

Do not recycle. Put these items in your regular garbage.
Bubble wrap, plastic food wrap, plastic bar wrappers.



### Cardboard & Boxboard

Remove bags, tissue paper and other liners from inside the boxes. Flatten all boxes and fold to a maximum size of 30" x 30". Place either beside or inside your Blue Box.

Do not recycle. Put these items in your regular garbage.
Coffee cups, waxed cardboard, wooden fruit crates.

***Return for Refund!***

Return wine and liquor containers to The Beer Store for a refund. The Beer Store will refund deposits paid for wine or liquor in glass bottles, plastic bottles, Tetra Pak and bag-in-box containers. Deposits range from 10 to 20 cents, depending on the size of the container.

### Glass Bottles & Jars

Please empty and rinse before placing in your Blue Box.
Leave labels on bottles and jars.
Leave plastic lids on bottles.
Metal lids should be taken off bottles or jars and placed in your Blue Box.

Do not recycle. Put these items in your regular garbage.
Drinking glasses and other dishes, light bulbs, window glass, window glass, flower pots and ceramics, mirrors.

## SCHEDULE "B"

## TO A RECYCLABLES ACCEPTANCE AGREEMENT BETWEEN

## CITY OF GREATER SUDBURY AND TOWNSHIP OF ASSIGINACK

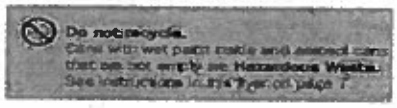
### RECYCLABLES

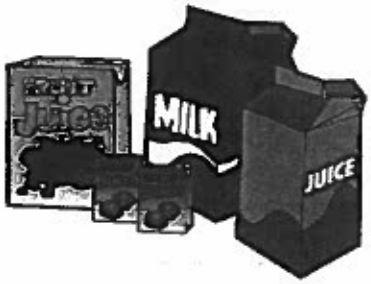
### Metal Containers

- Aluminum foil, pie plates, roast pans, etc.
- Food cans (Push the lids inside the can)
- Juice and pop cans


### Empty Aerosol Cans & Dry Paint Cans

- Empty paint cans or cans with dried up paint inside. Remove lids and place in Blue Box.
- Aerosol cans ("spray" cans) that are empty






### Beverage Boxes & Cartons

- Broth and Soup
- Milk and Cream
- Juice boxes (drinking boxes)

Please empty and rinse before placing in your Blue Box. Remove straws and put in your regular garbage.


### *Recycle cardboard cans*

**Recycle cardboard containers for refrigerated dough, frozen juice, chips, nuts, powdered drink mixes and powdered cleansers in your Blue Box.**

Include both metal ends in your Blue Box. Discard the plastic pull-off strip and/or peel-off seal with regular household waste.

### DON'T BAG MIXED RECYCLABLES

## SCHEDULE "C"

## TO A RECYCLABLES ACCEPTANCE AGREEMENT BETWEEN

## CITY OF GREATER SUDBURY AND TOWNSHIP OF ASSIGINACK

### PROCESSING RATES
### FOR THE TERM FROM APRIL 1, 2016 TO MARCH 31, 2017

As of the date of this Agreement, the Processing Rate per tonne of Recyclables accepted by the City is $100.02.

The Processing Rate is subject to change in accordance with the Agreement.

**THE CORPORATION OF THE TOWNSHIP OF ASSIGINACK**

**BY-LAW #17-05**

**BEING A BY-LAW of the Corporation of the Township of Assiginack to Authorize an Agreement with the Manitowaning**

**WHEREAS** Section 9 of the Municipal Act, S.O. 2001, c. 25, as amended, provides that a municipality has the capacity, rights, powers and privileges of a natural person for the purpose of exercising its authority under this or any other Act;

**AND WHERES** Subsection 5(3) of the Municipal Act, S.O. 2001, c. 25, as amended, provides that a municipal power shall be exercised by by-law;

**AND WHEREAS** the Council of the Corporation of the Township of Assiginack deems it beneficial to the community to enter into this agreement;

**NOW THEREFORE THAT** the Council of the Corporation of the Township of Assiginack ENACTS AS FOLLOWS:

1. THAT the Mayor and CAO are hereby authorized to sign the attached agreement with the Manitowaning Agricultural Society.

2. THAT the agreement be attached to and form part of this by-law as Schedule A.

3. THAT this by-law shall come into force and take effect upon third and final reading.

Read a First, Second, and Third time and finally passed this 21st day of February, 2017.

_____
Mayor – P. Moffatt

_____
Clerk – J. Rody

Seal

**SCHEDULE 'A' TO BY-LAW #17-06**

THIS AGREEMENT, MADE THE 21ST DAY OF FEBRUARY, 2017

BETWEEN:

The Corporation of the Township of Assiginack, (hereinafter referred to as the "Municipality")

AND

Manitowaning Agricultural Society, (hereinafter referred to as the "Society")

WHEREAS the Municipality is the registered owner of Lots 1-18, Vankoughnet Street South, 1-18 Lecourt Street North, Lots 3-19 Lecourt Street South, Lots 3-7 Plummer Street North and South, Lots 3-7 Meredith Street North in the Township of Assiginack which said lands are used as fairgrounds and on which buildings used as a Community Centre and Exhibition Hall;

AND WHEREAS the Municipality has agreed with the Society to permit free use of the land and buildings for a Fall Fair;

AND WHEREAS the said lands and buildings have been so used by the Society for the past several years;

NOW THEREFORE in consideration of the premises and other good and valuable consideration, the sum of the Two Dollars ($2.00), exchange of which is confirmed herein, the parties hereto hereby agree as follows:

1. The Society shall have the free use of the lands known as the Community Grounds and the buildings erected thereon:
    a. On the day or days of the holding of an annual fair or other exhibition each year for a period of 10 years from and after the date hereof.
    b. On the day of the holding of an annual horse race or any other race in the year as agreed upon by the Municipality and the Society for a period of 10 years from and after the date hereof.

2. The Society covenants and agrees to hold an annual fair or exhibition on the land in each year for a period of 10 years from and after the date hereof.

3. During such fair or exhibition or race, the lands shall be used at the sole risk of the Society and the Society does hereby indemnify and save harmless the Municipality from all claims, costs, demands, charges, damages and liabilities of whatsoever nature and kind arising from or relating to the use of the said lands and buildings and structures erected thereon, by the Society.

IN WITNESS WHEREOF, the parties have hereunto affixed their corporated seals under the hands of their duly authorized officers on that behalf the day and year first above written.

The Corporation of the Township of Assiginack:

_____ _____

MAYOR CAO

Manitowaning Agricultural Society:

_____ _____

PRESIDENT SECRETARY