



**The Corporation of the City of Stratford
Infrastructure, Transportation and Safety Sub-committee
Open Session
AGENDA**

Date: Wednesday, May 29, 2019

Time: 4:30 P.M.

Location: Council Chamber, City Hall

Sub-committee Present: Councillor Vassilakos - Chair Presiding, Councillor Burbach - Vice Chair, Councillor Gaffney, Councillor Ingram, Councillor Sebben

Staff Present: Nancy Roulston - Manager of Engineering, John Paradis - Fire Chief, Michael Mortimer - Manager of Environmental Services, Tatiana Dafoe - Deputy Clerk, Jodi Akins - Council Clerk Secretary, Joan Thomson - City Clerk, Allison Jordan - Events Coordinator

Pages

1. Call to Order

The Chair to call the Meeting to Order.

2. Disclosure of Pecuniary Interest and the General Nature Thereof

The *Municipal Conflict of Interest Act* requires any member of Council declaring a pecuniary interest and the general nature thereof, where the interest of a member of Council has not been disclosed by reason of the member's absence from the meeting, to disclose the interest at the first open meeting attended by the member of Council and otherwise comply with the *Act*.

Name, Item and General Nature of Pecuniary Interest

.....

3. Delegations

None scheduled.

4. Report of the Project Engineer

4.1 Level 2 Pedestrian Crossovers – Acceptance and Implementation (ITS19-030) 8 - 15

Motion by _____

Staff Recommendation: THAT Council confirm support for the future installation of warranted Level 2 Pedestrian Crossovers in the City;

THAT the installation of Pedestrian Crossovers be considered as part of the 2020 Capital Budget;

AND THAT the Director of Infrastructure and Development Services becomes responsible for the justification report on whether a proposed pedestrian crossover is warranted.

5. Report of the Events Coordinator

5.1 Request for Exemption from Noise Control By-law 113-79 for the 2019 Norman Street Party (ITS19-035) 16 - 18

Motion by _____

Staff Recommendation: THAT approval be given to the request from the organizers of the 2019 Norman Street Party for exemptions from Noise Control By-law 113-79 in a residential zone to permit amplification of sound from 7:00 p.m. to 12:00 a.m., the loading and unloading provision [Schedule 2 clause 4] from 11:30 p.m. to 12:00 a.m. and from the unreasonable noise provision [Schedule 1 clause 8] for the duration of the event from 12:00 p.m. on Saturday, June 22, 2019 to 12:00 a.m. on Sunday, June 23, 2019.

5.2 Request for Exemption from Noise Control By-law 113-79 for the 2019 Family Movie Night (ITS19-036) 19 - 21

Motion by _____

Staff Recommendation: THAT approval be given to the request from the organizers of the Family Movie Night for exemptions from Noise Control By-law 113-79 in a commercial zone to permit the loading and unloading provision [Schedule 2 clause 4] from 11:30 p.m. to 12:00 a.m. and from the unreasonable noise provision [Schedule 1 clause 8] for the duration

of the event from 2:00 p.m. on Saturday, July 6, 2019 to 12:00 a.m. on Sunday, July 7, 2019.

5.3 Stratford Summer Music 2019 – Firework Display Approval, Use of Municipal Property, and Noise Control By-law 113-79 Exemption (ITS19-037)

22 - 27

Motion by _____

Staff Recommendation: THAT the request to set off fireworks on municipal property for the Stratford Summer Music Opening Fireworks Display on Monday, July 15, 2019 in Lower Queen's Park be approved, subject to Fireworks By-law 73-2006, and the necessary permits being obtained prior to the event;

THAT the request to temporarily place newspaper boxes on municipal property to distribute advertising material for the 2019 Summer Music events be approved, subject to prior approval of locations by the Infrastructure and Development Services Department;

THAT the request to temporarily place sandwich board signs on municipal property to promote the 2019 Summer Music events be approved, subject to obtaining sign permits from the City;

THAT the request to temporarily place a kiosk on municipal property at the banks of the Avon River at the location of the MusicBarge, to provide information for the 2019 Summer Music events, be approved;

AND THAT the request to operate a MusicBarge on the Avon River during the 2019 Summer Music event, be approved, subject to the necessary permits being obtained.

6. Report of the Deputy Clerk

6.1 2019 Erie Street Parking Lot Improvements Open House (ITS19-032)

28 - 40

Motion by _____

Staff Recommendation: THAT the report entitled "2019 Erie Street Parking Lot Improvements Open House" be received for information.

6.2 Available Locations for the Operation of a Refreshment Vehicle in the Downtown Core (ITS19-033)

41 - 43

Motion by _____

Staff Recommendations: THAT no further action be taken by staff

regarding identifying a location for a refreshment vehicle in the downtown core until a final decision is made on whether 39 George Street will be converted into a parking lot or the development of a community hub commences;

AND THAT refreshment vehicles continue to be permitted as part of special events in the downtown.

7. Report of the Manager of Environmental Services

7.1 2018 Stratford Water Pollution Control Plant Annual Report (ITS19-028) 44 - 112

Motion by _____

Staff Recommendation: THAT the 2018 Stratford Water Pollution Control Plant Annual Report be received for information.

8. Report of the City Clerk

8.1 Encroachment Application for 1 Ontario Street (ITS19-040) 113 - 116

Motion by _____

Staff Recommendation: THAT the application be approved for an encroachment by the owner of 1 Ontario Street, to permit the existing stairs, concrete planters and roof overhang to encroach a total of 38.1m² onto City property at 1 Ontario Street;

AND THAT the annual fee of \$2,609.01, adjusted yearly by the CPI, be added to the property tax bill for 1 Ontario Street.

9. Report of the Energy and Environment Committee

9.1 Banning Single Use Plastic in the City of Stratford (ITS19-034) 117 - 118

Motion by _____

Staff Recommendation: THAT the Energy and Environment Advisory Committee request for staff to review the recommendations from Plastic Free Guelph on a similar initiative for Stratford and the request to research the feasibility of banning single-use plastic bags, be referred to Infrastructure and Development Services Department staff.

9.2 City of Stratford Dog Waste Collection Program (ITS19-038) 119 - 120

Motion by _____

Staff Recommendation: THAT the Energy and Environment Committee recommendation for staff to investigate the feasibility of a dog waste collection program in the City, be referred to staff.

- 9.3 Adopting Carbon Footprint and Greening of the Community Goals and Updating the Current Roundtable for the Environment Document into an Action Plan (ITS19-039) 121 - 166

Motion by _____

Staff Recommendation: THAT the Energy and Environment Committee resolutions recommending Council adopt goals of reducing the community carbon foot print and increasing the greening of the community as priority items and converting the Roundtable for the Environment document into an Action Plan, be referred to the City's Strategic Priorities Implementation Process.

10. Report of the Director of Infrastructure and Development Services

- 10.1 Huron Street and Huntingdon Avenue School Crossing Study Results (ITS19-029) 167 - 212

Motion by _____

Staff Recommendation: THAT the report titled Huron Street (Hwy 8) Pedestrian Crossing Study Intersection of Huron Street with Huntingdon Avenue in Stratford, Ontario prepared by R.V. Anderson Associates Limited be sent to the Ministry of Transportation Ontario as the technical basis for requesting vehicular traffic signalization at this location;

AND THAT City staff initiate discussions with Ministry of Transportation Ontario staff for the approval to install the appropriate traffic control signals at the intersection of Huron Street and Huntingdon Avenue.

- 10.2 Huntingdon Avenue No Parking Request (ITS19-031) 213 - 214

Motion by _____

Staff Recommendation: THAT Traffic and Parking By-law 159-2008 be amended as follows:

Schedule 2 (No Parking) be amended by adding:

| Street | Side | Between | Period |
|-------------------|------|---|---------|
| Huntingdon Avenue | West | From Huron Street to a point 37.5 m south of Huron Street | Anytime |

11. Capital Project Update 215 - 218

Engineering to provide a verbal update on the status of various engineering capital projects.

12. Advisory Committee/Outside Board Minutes 219 - 262

The following Advisory Committee/Outside Board minutes are provided for the information of Sub-committee:

Active Transportation Advisory Committee minutes of January 23 and February 27, 2019

Accessibility Advisory Committee minutes of February 5, March 5 and April 2, 2019

Energy and Environment Committee minutes of February 7, March 14 and April 4, 2019

Stratford Town and Gown Committee minutes of November 15, 2018

13. Next Sub-committee Meeting

The next Infrastructure, Transportation and Safety Sub-committee meeting is June 26, 2019 at 4:30 p.m. in the Council Chamber, City Hall.

14. Adjournment

Meeting Start Time:

Meeting End Time:

Motion by _____

Sub-committee Decision: THAT the Infrastructure, Transportation and Safety Sub-committee meeting adjourn.



MANAGEMENT REPORT

Date: May 29, 2019
To: Infrastructure, Transportation and Safety Sub-committee
From: Taylor Crinklaw, Project Engineer
Report#: ITS19-030
Attachments: Pedestrian Crossover versus Pedestrian Crosswalk.

Title: Level 2 Pedestrian Crossovers – Acceptance and Implementation

Objective: To provide background on the potential application of Level 2 Pedestrian Crossovers in Stratford, and to determine if Council wants to begin the installation of Level 2 Pedestrian Crossovers in the City.

Background: On January 1, 2016, the newly enacted Ontario Regulation (O.Reg.) 402/15: Pedestrian Crossover Signs under the *Highway Traffic Act* (HTA) and corresponding updates, to the HTA itself, came into place. The updates to the HTA requires that cyclists and drivers must now stop and yield to pedestrians intending to cross the road at pedestrian crossovers and wait for them to completely cross the road before continuing driving. This new law responds to recommendations made in the 2012 Chief Coroner's Report on Pedestrian Deaths. Pedestrian crossovers are identified by the unique and specific signs, pavement markings, and potential light configurations used to define the crossing. Pedestrian crossovers are not to be confused with pedestrian crosswalks that are typically found at intersections that have stop signs, traffic signals or pedestrian signals (see attached). The fines and demerit points were increased on September 1, 2018, from up to \$500 to up to \$1,000; and from 3 to now 4 demerit points. This exceeds the fines associated with running a red light. The additional infrastructure requirements provided by pedestrian crossovers and the increased penalty for infractions from drivers and cyclists, take a large step forward to ensure the safety of pedestrians in and around the road right-of-way, such that most communities now have multiple sites with pedestrian crossover infrastructure.

Analysis: Starting in 2016, pedestrian crossovers gained full support and began to be implemented by a number of municipalities across Ontario. The steep fines and stricter regulations help ensure safe pedestrian movement within a municipality. Realizing that HTA rules are not immediately known by the public, most communities implement a public

awareness campaign to ensure general conformity of the law. In order to ensure the safety of pedestrians using the crossing and to protect safety of road users as whole, implementing an in depth public awareness campaign should be carried out.

The Clerk's Division is already responding with a public awareness/education campaign in response to concerns of safe crossing of students at Huron Street and Huntingdon Avenue. The Clerk's Division has already been in contact with the Perth District Health Unit in establishing a collaborative communication and educational outreach plan. The Engineering Division would join the collaborative team and expand communication to residents, hospitals, schools, and other interested groups. The form of communication would include, at no additional cost, sources such as social media (City Website and Facebook page). This could expand to low cost sources such as the distribution of pamphlets to interested groups (i.e. schools). This could further be expanded for greater outreach by engaging paid radio and newspaper advertisements. Larger communities have already developed educational material that the City of Stratford could, upon approval, utilize. Assuming educational material is accessible at no cost, the recommended funding required for public awareness/education outreach would be upwards of \$6,000.

The updated HTA identifies that is the responsibility of the driver, cyclist and pedestrian, to understand the rules and procedures of pedestrian crossovers. The following are summarizations of some of the key points from the HTA:

Duties of the Driver

When a pedestrian is crossing on the roadway within a pedestrian crossover, the driver of a vehicle (including cyclists) approaching the crossover:

- shall stop before entering the crossover;
- shall not overtake another vehicle already stopped at the crossover; and
- shall not proceed into the crossover until the pedestrian is no longer on the roadway.

Duty of the Pedestrian

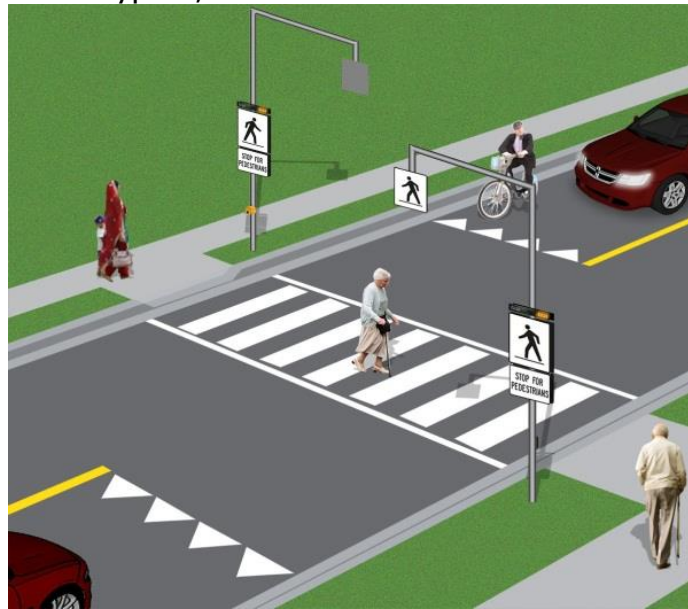
No pedestrian shall leave the curb or other place of safety at a pedestrian crossover and walk, run or move into the path of a vehicle that is so close that it is impracticable for the driver of the vehicle to comply with the duties of a driver.

The HTA also notes that cyclists are to dismount if crossing at a pedestrian crossover and that pedestrian crossovers are to be limited to roads with a posted speed of 60 km/h or less.

Design and Location

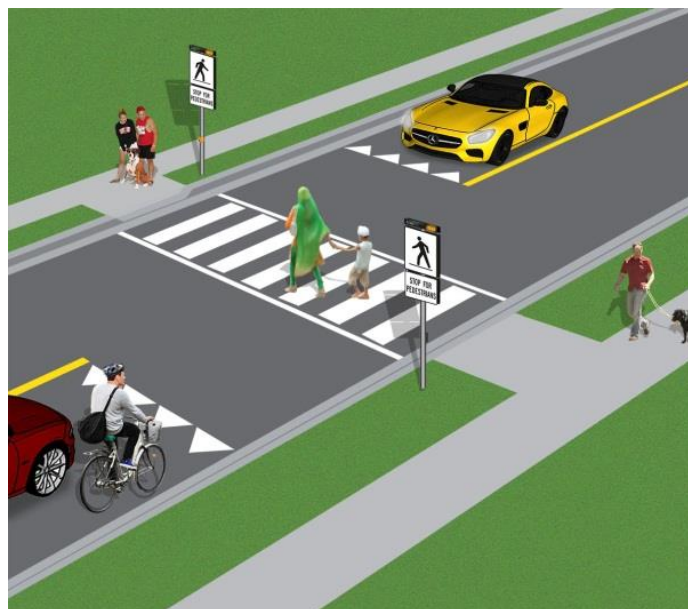
The Ministry of Transportation (MTO) Ontario Traffic Manual (OTM) Book 15 – Pedestrian Crossing Facilities (2016) is used as the main guide for design. This manual outlines four

distinct levels of crossing, each becoming more sophisticated with the increase of speed and vehicle traffic anticipated. This manual uses projected vehicle and pedestrian counts and integrates pedestrian connectivity links as factors to determine if a pedestrian crossing is warranted. If warranted, the manual provides a recommended type of crossover best suited to the proposed location. Under no circumstances are pedestrian crossovers recommended where the posted speed is greater than 60 km/h. For speeds 60 km/h and under, there are four types of crossing, each with increasing complexity and infrastructure to ensure an environment suitable for safe crossing. The two types of pedestrian crossovers recommended by the Engineering Division for immediate implementation are Level 2 Type B and Level 2 Type C, as shown below.



Pedestrian Crossover - Level 2 Type B

Image Credits Ministry of Transportation



Pedestrian Crossover - Level 2 Type C

Image Credits Ministry of Transportation

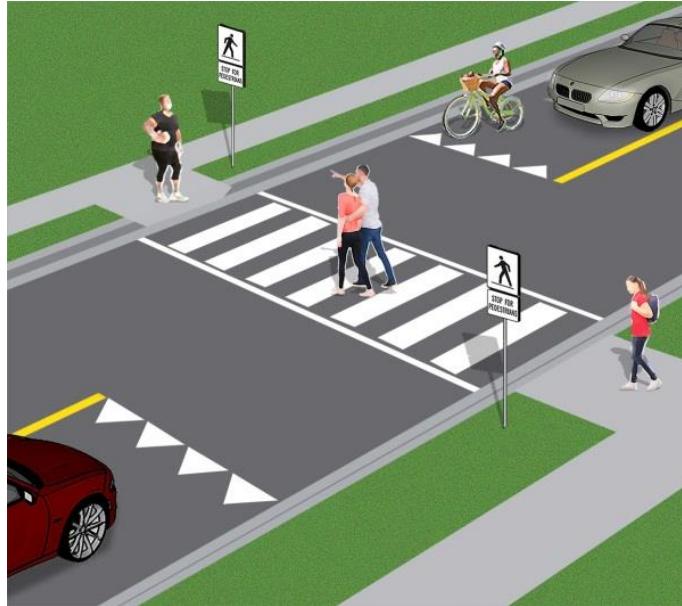
The Engineering Division recommends avoiding the use of Level 1 Type A and Level 2 Type D Pedestrian Crossovers at this time (see below). The application Level 1 Type A facilities would be for streets like Erie Street, Huron Street, Ontario Street and Romeo Street, four lanes of high volume traffic. It should be noted that many sections of these streets would not meet the warrants for a Level 1 Type A facility, as they would have traffic volumes in excess of what is recommended.

Level 1 Type A facilities includes traditional overhead mounted crossover signs and flashing beacons. Crossings at four lane high volume streets are associated with high safety risk and until the public is very familiar and comfortable with pedestrian crossovers, they should be avoided. Many municipalities share this concern and as a result they tend to install intersection traffic signals at such locations instead of pedestrian crossovers.



Pedestrian Crossover - Level 1 Type A

Image Credits Ministry of Transportation



Pedestrian Crossover - Level 2 Type D

Image Credits Ministry of Transportation

Level 2 Type D Pedestrian Crossovers consist primarily of pavement markings and a pedestrian crossover sign. These types of crossovers are for low volume local roads. Until the public is familiar with pedestrian crossovers, vehicles are more likely to overlook such crossings. It is the Engineering Division's view, that by installing flashing beacons, the likelihood of vehicles overlooking pedestrian crossover facilities would be reduced. The roads in Stratford that are likely to warrant pedestrian crossovers as per MTO design standards would primarily be 2 lane arterials and collectors. The justification, behind the installation of more robust facilities that include flashing beacons on such arterial and collector roads, is that they receive higher traffic volumes and generally have wider pavement widths. There would be one exception where the Engineering Division would recommend a Level 2 Type D Pedestrian Crossover, and that is at a channelized right-turn lane (i.e. pedestrian crossovers at intersections) where pedestrian traffic is to be anticipated (see below).



Pedestrian Crossover - Level 2 Type D (Channelized Right-Turn Lane)
Image Credits Region of Peel

Implications of Accepting Pedestrian Crossovers in the City

Any resident that actively walks in this City will quickly identify locations that they believe are suitable locations for pedestrian crossovers. If pedestrian crossovers are to be supported in the City, mechanisms need to be in place to determine what locations should receive crossovers and what level of sophistication should be applied at each crossing. It is recommended that requests be made to the Engineering Division to review if a crossing is warranted. This would require that the Engineering Division conduct observations of vehicle and pedestrian traffic at the proposed location and assess the information using provincially accepted guidelines.

A good practice for all types of pedestrian crossovers, and in some cases mandatory, is to have no parking/stopping within 30 m of the crossing. This would affect areas where parking provides a fundamental service for the area, such as the downtown core.

Financial Impact: One of the largest attractions to pedestrian crossovers is the reduced maintenance and capital costs in comparison to signalized crossings. The approximate cost for pedestrian crossing structures are as follows:

- Mid-Block Pedestrian Signal - \$150,000
 - Pavement markings, signage and traffic signals.
- Pedestrian Crossover - Level 2 Type B – \$28,000
 - Pavement markings, signage, flashing beacons and overhead sign.
- Pedestrian Crossover – Level 2 Type C - \$18,000
 - Pavement markings, signage and flashing beacon.
- Pedestrian Crossover – Level 2 Type D - \$5,000
 - Pavement markings and signage.

Cost would vary depending on site specific conditions and considerations.

The 2019 public awareness campaign efforts will focus on minimal cost options. When structures begin to be installed, the required public awareness cost is recommended to increase up to approximately \$6,000. The Engineering Division proposes to fund the public awareness costs as they arise, up to a maximum cost of \$6,000, from the approved 2019 Capital project-Trails and Bike and Pedestrian Plan Implementation of \$250,000.

Staff Recommendation: THAT Council confirm support for the future installation of warranted Level 2 Pedestrian Crossovers in the City;

THAT the installation of Pedestrian Crossovers be considered as part of the 2020 Capital Budget;

AND THAT the Director of Infrastructure and Development Services becomes responsible for the justification report on whether a proposed pedestrian crossover is warranted.



Taylor Crinklaw, Project Engineer



Ed Dujlovic, Director of Infrastructure and Development Services

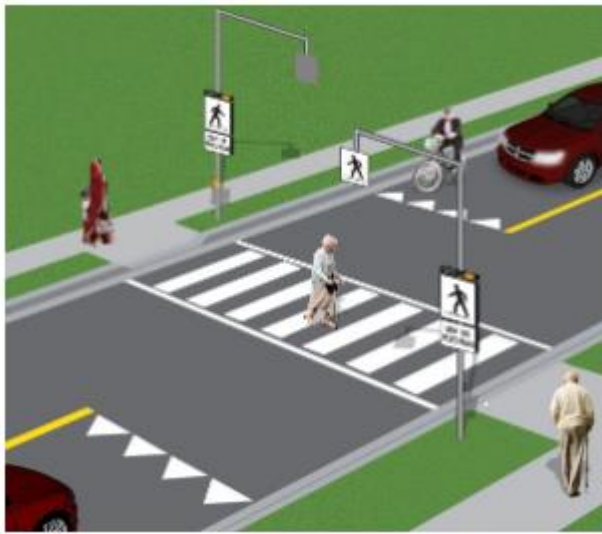


Rob Horne, Chief Administrative Officer

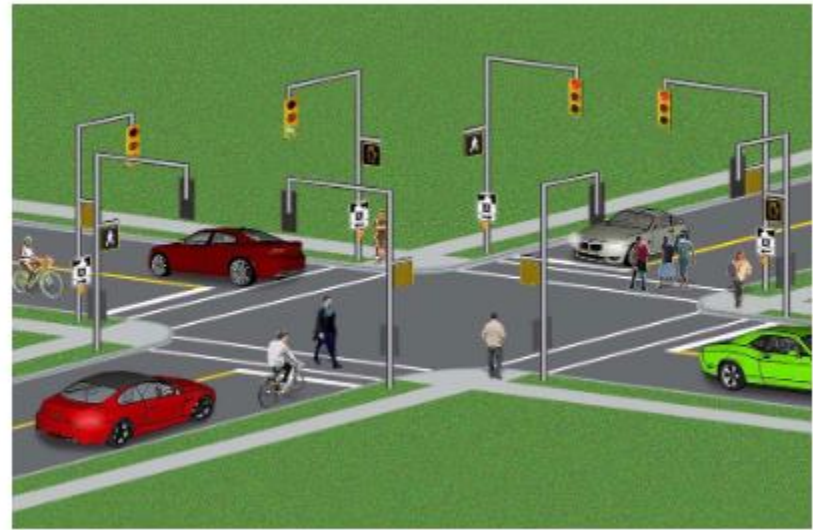
Pedestrian Crossover versus Pedestrian Crosswalk

Pedestrian Crossover: Pedestrian crossovers are identified by the unique and specific signs, pavement markings and potentially lights, used to define the crossing.

Pedestrian Crosswalk: Pedestrian crosswalks, usually found at intersections with stop signs, traffic signals or pedestrian signals.



Pedestrian Crossover



Pedestrian Crosswalk

Image Source: Ontario Ministry of Transportation.

Available at www.mto.gov.on.ca



MANAGEMENT REPORT

Date: May 13, 2019
To: Infrastructure, Transportation and Safety Sub-committee
From: Allison Jordan, Events Coordinator
Report#: ITS19-035
Attachments: None

Title: Request for Exemption from Noise Control By-law 113-79 for the 2019 Norman Street Party

Objective: To consider the request from the organizers of the Norman Street Party for an exemption from Noise Control By-law 113-79 for their event on Saturday, June 22, 2019 to Sunday, June 23, 2019.

Background: The City has been approached by organizers of the 2019 Norman Street Party for an exemption from the City's Noise Control By-law. This is the first request for an exemption to the Noise Control By-law 113-79 for the annual neighbourhood event that is in its 19th year. The event takes place on Norman Street between Avondale Avenue and John Street, a location designated within the Residential Zone, on Saturday, June 22, 2019 from 12:00 p.m. to 12:00 a.m. on Sunday, June 23, 2019.

The production, reproduction or amplification of sound is one of the sounds regulated by Noise Control By-law 113-79 as follows:

No person shall make, cause or permit an unreasonable noise or a noise that is likely to disturb inhabitants of the City [Schedule 1 clause 8].

The operation of any electronic device or group of connected electronic devices incorporating one or more loudspeakers or other electro-mechanical transducers, and intended for the production, reproduction or amplification of sound. [Schedule 2 clause 2]
 Prohibited Zones and Times:

Quiet Zone – Prohibited at all times;

Residential Zone – Prohibited all day Sundays and Statutory Holidays, and from 7:00 p.m. of one day to 7:00 a.m. next day;

Commercial Zone - Prohibited all day Sundays and Statutory Holidays, and from 11:00 pm of one day to 7:00 a.m. the next day (Monday to Thursday) and from 12:00 midnight of one day to 7:00 a.m. next day (Friday and Saturday);

Park Zone – Prohibited from 11:00 p.m. of one day to 7:00 a.m. next day; 9:00 a.m. on Sundays.

The loading, unloading, delivering, packing, unpacking, or otherwise handling of any containers, products, materials or refuse whatsoever, unless necessary for the maintenance of essential services or the moving of private household effects is also one of the sounds regulated by the By-law. [Schedule 2 clause 4] Prohibited Zones and Times:

Quiet Zone – Prohibited all day Sundays and Statutory Holidays, and from 7:00 p.m. of one day to 7:00 a.m. next day;

Residential Zone – Prohibited all day Sundays and Statutory Holidays, and from 9:00 p.m. of one day to 7:00 a.m. next day;

Commercial Zone – Prohibited all day Sundays and Statutory Holidays, and from 9:00 p.m. of one day to 7:00 a.m. next day;

Park Zone – Prohibited all day Sundays and Statutory Holidays.

Noise By-laws are designed to reduce and control both unnecessary and excessive sound which can be a nuisance and generally degrade the quality and peacefulness of neighbourhoods.

The organizers for the 2019 Norman Street Party circulated a notice to residents within 120m on April 20 with a deadline for comments of May 4. As of the May 4 deadline no concerns were received. The organizers received 2 positive comments in favour of the event.

Notice of the request was also issued in the Town Crier with a deadline for comments of May 11. As of the May 11 deadline, the City has not received any concerns.

Analysis: The City's Noise Control By-law defines parameters for noise and emissions that may impact local citizens. Any exemption to these time limitations is subject to Council review and final decision.

The organizers have sought public input by mailing notices to residents within 120 m of the event location, which is designated in a Residential Zone. No concerns were received.

The intent of the noise exemption is to permit the following:

- Amplification of sound for recorded music from 7:00 p.m. on Saturday, June 22, to 12:00 a.m. on Sunday, June 22. These hours are prohibited by the amplification of sound provision [Schedule 2 clause 2] in a residential zone from 7:00 p.m. of one day to 7:00 a.m. next day.
- Event tear down from 11:30 p.m. to 12:00 a.m. These hours are prohibited by the loading and unloading provision [Schedule 2 clause 4] in a Residential Zone from 9:00 p.m. of one day to 7:00 a.m. next day.
- Noise produced by the event for the duration of the event from 12:00 p.m. on Saturday, June 22 to 12:00 a.m. on Sunday, June 23. Unreasonable noise is prohibited per the unreasonable noise provision [Schedule 1 clause 8].

Financial Impact: None identified.

Staff Recommendation: THAT approval be given to the request from the organizers of the 2019 Norman Street Party for exemptions from Noise Control By-law 113-79 in a residential zone to permit amplification of sound from 7:00 p.m. to 12:00 a.m., the loading and unloading provision [Schedule 2 clause 4] from 11:30 p.m. to 12:00 a.m. and from the unreasonable noise provision [Schedule 1 clause 8] for the duration of the event from 12:00 p.m. on Saturday, June 22, 2019 to 12:00 a.m. on Sunday, June 23, 2019.



Allison Jordan, Events Coordinator



David St. Louis, Director of Community Services



Rob Horne, Chief Administrative Officer



MANAGEMENT REPORT

Date: May 13, 2019
To: Infrastructure, Transportation and Safety Sub-committee
From: Allison Jordan, Events Coordinator
Report#: ITS19-036
Attachments: None

Title: Request for Exemption from Noise Control By-law 113-79 for the 2019 Family Movie Night

Objective: To consider the request from the organizers of the Family Movie Night for an exemption from Noise Control By-law 113-79 for their event on Saturday, July 6, 2019 to Sunday, July 7, 2019.

Background: The City has been approached by organizers of the Family Movie Night for an exemption from the City's Noise Control By-law. The event is held by Jubilee Stratford and is a first-time event scheduled in Market Square from 2:00 p.m. on Saturday, July 6, 2019 to 12:00 a.m. on Sunday, July 7, 2019. The event location is within a Commercial Zone.

The production, reproduction or amplification of sound is one of the sounds regulated by Noise Control By-law 113-79 as follows:

No person shall make, cause or permit an unreasonable noise or a noise that is likely to disturb inhabitants of the City [Schedule 1 clause 8].

The operation of any electronic device or group of connected electronic devices incorporating one or more loudspeakers or other electro-mechanical transducers, and intended for the production, reproduction or amplification of sound. [Schedule 2 clause 2] Prohibited Zones and Times:

Quiet Zone – Prohibited at all times;

Residential Zone – Prohibited all day Sundays and Statutory Holidays, and from 7:00 p.m. of one day to 7:00 a.m. next day;

Commercial Zone - Prohibited all day Sundays and Statutory Holidays, and from 11:00 pm of one day to 7:00 a.m. the next day (Monday to Thursday) and from 12:00 midnight of one day to 7:00 a.m. next day (Friday and Saturday);

Park Zone – Prohibited from 11:00 p.m. of one day to 7:00 a.m. next day; 9:00 a.m. on Sundays.

The loading, unloading, delivering, packing, unpacking, or otherwise handling of any containers, products, materials or refuse whatsoever, unless necessary for the maintenance of essential services or the moving of private household effects is also one of the sounds regulated by the By-law. [Schedule 2 clause 4] Prohibited Zones and Times:

Quiet Zone – Prohibited all day Sundays and Statutory Holidays, and from 7:00 p.m. of one day to 7:00 a.m. next day;

Residential Zone – Prohibited all day Sundays and Statutory Holidays, and from 9:00 p.m. of one day to 7:00 a.m. next day;

Commercial Zone – Prohibited all day Sundays and Statutory Holidays, and from 9:00 p.m. of one day to 7:00 a.m. next day;

Park Zone – Prohibited all day Sundays and Statutory Holidays.

Noise By-laws are designed to reduce and control both unnecessary and excessive sound which can be a nuisance and generally degrade the quality and peacefulness of neighbourhoods.

The organizers for the Family Movie Night circulated a notice to residents within 120m on May 11 with a deadline for comments of May 20. As of the May 20 deadline, no concerns were received.

Notice of the request was also issued in the Town Crier with a deadline for comments of May 20. As of the May 20 deadline, the City has not received any concerns.

Several outdoor movie events have been held in Market Square since 2017. Logistics for each event have been properly executed and events were well attended.

Analysis: The City's Noise Control By-law defines parameters for noise and emissions that may impact local citizens. Any exemption to these time limitations is subject to Council review and final decision.

The organizers have sought public input by mailing notices to residents within 120 m of the event location, designated within a commercial zone. No submissions were received.

The intent of the noise exemption is to permit the following:

- Event tear down from 11:30 p.m. to 12:00 a.m. These hours are prohibited by the loading and unloading provision [Schedule 2 clause 4] in a Commercial Zone from 9:00 p.m. of one day to 7:00 a.m. next day.
- Noise produced by the event for the duration of the event from 2:00 p.m. on Saturday, July 6 to 12:00 a.m. on Sunday, July 7. Unreasonable noise is prohibited per the unreasonable noise provision [Schedule 1 clause 8].

The hours for the amplification of sound for live music and movie audio from 7:00 p.m. until 11:30 p.m. are permitted within the amplification of sound provision [Schedule 2 clause 2] in a Commercial Zone from 12:00 midnight of one day to the next for Saturday and do not require an exemption.

Financial Impact: None identified.

Staff Recommendation: THAT approval be given to the request from the organizers of the Family Movie Night for exemptions from Noise Control By-law 113-79 in a commercial zone to permit the loading and unloading provision [Schedule 2 clause 4] from 11:30 p.m. to 12:00 a.m. and from the unreasonable noise provision [Schedule 1 clause 8] for the duration of the event from 2:00 p.m. on Saturday, July 6, 2019 to 12:00 a.m. on Sunday, July 7, 2019.



Allison Jordan, Events Coordinator



David St. Louis, Director of Community Services



Rob Horne, Chief Administrative Officer



MANAGEMENT REPORT

Date: May 15, 2019
To: Infrastructure, Transportation and Safety Sub-committee
From: Allison Jordan, Events Coordinator
Report#: ITS19-037
Attachments: Stratford Summer Music 2019 – Letter of Request

Title: Stratford Summer Music 2019 – Firework Display Approval, Use of Municipal Property, and Noise Control By-law 113-79 Exemption

Objective: To consider the request from Stratford Summer Music for their 2019 season as follows:

1. To use municipal property for the Opening Night Fireworks Display in Lower Queens Park.
2. To place street boxes on municipal property to distribute advertising material.
3. To install and operate a MusicBarge on the Avon River during the 2019 event.
4. To place a kiosk on the banks of the Avon River at the location of the MusicBarge to distribute information to visitors, for the selling of artist CDs, and to sell event tickets.
5. To place sandwich board signs on municipal property to promote the Music Barge performances.

Background: Each year, Stratford Summer Music features different events, temporary street closings and promotional activities. For the 2019 season, the items requiring Council approval are noted in their request. The request from event organizers is similar to previous requests approved by Council for the 2018 season as follows:

1. To use of municipal property for the Opening Night Fireworks Display. The Opening Night Fireworks Display for the 2019 seasons is scheduled for Monday, July 15 at Lower Queen's Park. This request requires Council approval as outlined in the Fireworks By-law 73-2006 as follows:

7.9.a. If Display Fireworks are to be held on municipal property, approval of Council must be obtained prior to applying for a permit.

2. To install and operate a MusicBarge on the Avon River during the 2019 event. The MusicBarge will be installed for daily performances on Fridays, Saturdays, and Sundays from July 26 to August 25.

3. To place street boxes on municipal property for the purposes of distributing advertising material at the following locations:

- Beside Pazzo Restaurant, in Memorial Garden
- In front of previous Stratford Summer Music office (25 Ontario Street)
- Near the location of the MusicBarge
- In front of Stratford Summer Music current office (19 Waterloo Street S)

4. To place an information kiosk on the banks of the Avon River next to the location of the MusicBarge for the purpose of distributing information to visitors, the selling of artist CDs, and the selling of event tickets. The kiosks will be installed Friday through Sunday weekly for the duration of the festival between 11:00 a.m. and 4:00 p.m. daily. The kiosks will be removed each day.

5. To place sandwich board signs on municipal property to promote the MusicBarge performances. The boards will be placed near York Street and Veterans' Drive during performance times and near the Stratford Summer Music office at 19 Waterloo Street S during office hours.

Organizers have also requested Noise Control By-law Exemptions for select events. With the exception of the Film Screening with Live Music event on Saturday, August 17th, all requests for recurring events from previous years will be subject to the approval by the Director of Community Services as authorized by By-law 135-2017. A formal request for the Noise Control By-law Exemption for the Film Screening with Live Music event on Saturday, August 17th will be sent to Council following the circulation of letters to the public in June.

Analysis: A copy of the request from Stratford Summer Music including proposed locations for the various items is provided with this report.

Staff have reviewed this year's request and advise the following:

- Fireworks Permit from the Fire Chief must be obtained, required fees paid and inspections completed.
- Sign permits will be required for the sandwich board promoting the performances of the MusicBarge signs on municipal property.
- The location of the newspaper boxes is subject to the approval by Infrastructure and Development Services prior to installation.

Organizers have submitted Special Event Applications for all events taking place on municipal property including temporary road closure requests, which are being approved through delegated authority to staff and the Board of Park Management, where applicable.

Financial Impact: None.

Staff Recommendation: THAT the request to set off fireworks on municipal property for the Stratford Summer Music Opening Fireworks Display on Monday, July 15, 2019 in Lower Queen's Park be approved, subject to Fireworks By-law 73-2006, and the necessary permits being obtained prior to the event;

THAT the request to temporarily place newspaper boxes on municipal property to distribute advertising material for the 2019 Summer Music events be approved, subject to prior approval of locations by the Infrastructure and Development Services Department;

THAT the request to temporarily place sandwich board signs on municipal property to promote the 2019 Summer Music events be approved, subject to obtaining sign permits from the City;

THAT the request to temporarily place a kiosk on municipal property at the banks of the Avon River at the location of the MusicBarge, to provide information for the 2019 Summer Music events, be approved;

THAT the request to operate a MusicBarge on the Avon River during the 2019 Summer Music event, be approved, subject to the necessary permits being obtained;



Allison Jordan, Events Coordinator



David St. Louis, Director of Community Services



Rob Horne, Chief Administrative Officer

STRATFORD SUMMER MUSIC

MARK FEWER, ARTISTIC DIRECTOR

April 25, 2019

Joan Thomson, City Clerk
The Corporation of the City of Stratford
PO Box 818
City Hall, 1 Wellington St
Stratford, ON
N5A 6W1

Re: Stratford Summer Music 2019 Season and City of Stratford

Dear Ms Thomson,

Following is a list of events for which Stratford Summer Music respectfully requests permission from the City of Stratford for our 19th Anniversary music festival.

Monday July 15 – *Stratford Summer Music Opening Night on Tom Patterson Island*

We request arrangements that are similar to previous years:

1. *Use of Tom Patterson Island, 7 am to 11 pm*

Stratford Summer Music's opening event on the island is planned for invited guests including season volunteers, government officials, sponsors and community partners. This year we will feature a performance of the *Shallaway Youth Choir* from Newfoundland, prior to a fireworks display taking place at dusk. The *Grand Illumination* will be set off from Lower Queens Park; the entire community will be invited to enjoy them. Island set up (stage, sound equipment, chairs for guests) will begin shortly after 8 am. Guests begin to arrive approximately 8pm, and depart following the completion of the fireworks. Complete clean up of the Island will be conducted by our staff and volunteers following the event.

2. *Lower Queens Park and Lakeside Drive, 7 am to 11 pm*

We request the closure of Lakeshore Drive between 7:00 am and 11:00pm between Queen Street and the base of Snake Hill to ensure that no cars are parked here during the fireworks. We will have volunteers at the barricade locations throughout this time. Jeff Clarmo from North Star Fireworks Entertainment will contact the Fire Department once again regarding the fireworks plan, and ensure the area is completely cleaned up afterwards.

This event will be free and open to the Stratford community. Set up of equipment necessary for the fireworks and accompanying sound will require closure of the road bordering Lower Queen's Park. Fireworks will begin at approximately 9:30pm, finishing by 10:00pm. The area will be monitored at all times, and the appropriate paperwork submitted to City Hall and Fire Services for permits and road closures as necessary.

We will be requesting police assistance to stop traffic on Lakeshore Drive from 8:00pm to the end of the fireworks display at approximately 10:00 pm.

Tuesday July 16, A Market Square Youth Choir Presentation

The *Shallaway Youth Choir* from Newfoundland will present two afternoon concerts in Market Square, free to the public, at 1:30 and 4:30 pm. A separate application has been submitted for this Market Square event, including site plans and certificate of insurance. We are not requesting street closures for this event.

Friday July 26 – Sunday Aug 25 –MusicBarge

Free music concerts will once again be offered on Stratford Summer Music's MusicBarge, daily on Fridays at 12:00, twice daily (12:00 and 3pm) on Saturdays and Sundays. The MusicBarge will be installed on the Avon River, with an off-shore mooring in the river, and a shore mooring just east of the York St Visitors' Centre, below the Cenotaph. Performances are free; audiences sit on the lawns adjacent to the MusicBarge and around the Cenotaph. Sound equipment will be installed, along with a small kiosk style tent to protect the sound board and tech staff from the sun. Summer Music's kiosk will be installed close to the MusicBarge to facilitate distribution of materials, sale of artist CDs and as a place to obtain general information about the festival.

The MusicBarge will be put into the river on or about July 21 and will be removed on Monday August 26. Sound equipment will be installed specific to each performer's needs and will be uninstalled, along with all kiosks, following each performance. The MusicBarge will be removed from its moorings when not in use. All technical staff who operate the MusicBarge are required to have Boat Smart cards and to wear lifejackets when the MusicBarge is being operated in the water. Permission from the Parks Board has been requested for all events taking place in the park system.

Saturday July 27 – Chamber Music Pop Ups

From 10 am until 1 pm on this date, chamber groups of 3 – 5 musicians will present short 'pop up' concerts in various locations around Stratford's city centre. These acoustic music presentations will each last approximately 15 minutes. The musicians are members of the *National Youth Orchestra of Canada*, who will be performing as a full orchestra the following day at Avondale Church.

Saturday August 3 – Shuffle Demons in Market Square

The second in our Market Square series will be a jazz funk brass group from Toronto called *The Shuffle Demons*. They will present two concerts, each approximately 50 minutes long, in Market Square at 1:30 and 4:30 on this date. A separate application has been submitted for this Market Square event, including site plans and certificate of insurance. We are not requesting road closures for these concerts.

Saturday August 10 – The Wooden Sky in Market Square

The third Market Square event will feature an Indie folk rock band from Toronto call *The Wooden Sky*. This group will present two concerts, each approximately 50 minutes in length, in Market Square at 1:30 and 4:30. A separate application has been submitted for this Market Square event, including site plans and certificate of insurance. We are not requesting road closures for these concerts.

Thursday August 15 – Music for an Avon Morning on Tom Patterson Island

For the past several years, Stratford Summer Music has successfully presented early morning musical events on Tom Patterson Island. For 2019, on the morning of August 15 (and a possible rehearsal on August 14) Summer Music will feature a string quartet playing Haydn's Sunrise Quartet, along with Modo Yoga conducting free yoga classes for interested participants. Music for an Avon Morning will be presented at 7am, lasting approximately 45 minutes.

For this event we request the following:

1. Use of Tom Patterson Island for rehearsal on Wednesday August 14, time TBD.
2. Use of Tom Patterson Island for performance on Thursday August 15 from 7am – 8am.

In the past, the city cooperated by ensuring no watering, garbage collection or lawn maintenance vehicles operated during this time on either side of the river. We would appreciate this consideration again this year.

Saturday August 17 – Silent Film Screening- *Phantom of the Opera* - with live music in Market Square

In partnership with Movies Under the Stars who will oversee the 9 pm screening of the classic silent film *The Phantom of the Opera*, with musical accompaniment by the Mississauga Chamber Choir and a group of instrumentalists as they perform a soundtrack to this classic silent film featuring Lon Chaney. For this event we have requested road closure of Market Lane from 5pm in the evening, to facilitate load in of the equipment. A separate application has been submitted for this Market Square event, including site plans and certificate of insurance.

Sunday August 18 – *Bach Walk* in the TJ Dolan Natural Area

One Sunday we will again feature a popular event at Stratford Summer Music: a free one-hour walking tour of the T J Dolan Trail with interpretive guides supplied by the Stratford Field Naturalists, who have already agreed to partner with us for this event. The trail guides will describe flora and fauna along the walking route.

At intervals along the trail, there will be small groups of musicians and the walkers will stop for five- minute breaks to enjoy the music, before proceeding to the next stop. As the walkers circle back through the natural area trail, the full group of musician (approximately seven) will play one work together as a finale.

Street Box Outdoor Locations:

Our season guide boxes will be placed in the following locations:

- Beside Pazzo Restaurant, in Memorial Garden
- In front of previous Stratford Summer Music office (25 Ontario Street)
- Near the location of the MusicBarge
- In front of Stratford Summer Music current office (19 Waterloo Street S)

Information Kiosk

An information kiosk will be place next to the MusicBarge, to the east of the barge. The kiosk will be installed Friday through Sunday weekly for the duration of the festival, between 11:00 am and 4:00 pm and will be removed each day. At the kiosk we will be selling artist CDs, SSM event tickets and providing visitors with information about SSM. We would like to access the available hydro at this location, and have made this request in our application.

Sandwich Boards – locations

Sandwich boards announcing daily activities will be placed near the corner of York Street and Veterans' Drive during MusicBarge performance times, and the SSM offices / box office at 19 Waterloo Street S during office hours.

I am in regular communication with Allison Jordan, city of Stratford events coordinator, regarding communications to area residents potentially affected by the aforementioned events.

Please contact me if you have any questions or concerns. Artistic Director Mark Fewer and I would be happy to meet with any department head who would like us to explain aspects of our programming which may impact city services.

Best regards,

Judy Matheson
General Manager

 jmatheson@stratfordsummermusic.ca / 519-271-2101

cc Allison Jordan, Events Coordinator

MANAGEMENT REPORT

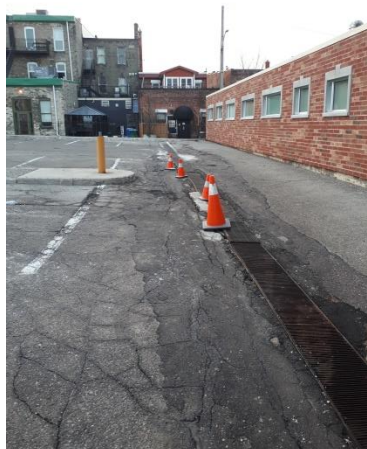
Date: April 24, 2019
To: Infrastructure, Transportation and Safety Sub-committee
From: Tatiana Dafoe, Deputy Clerk
Report#: ITS19-032
Attachments: Erie St Parking Lot 2019 Open House Summarization
Erie St Parking Lot 2019 Comments Received

Title: 2019 Erie Street Parking Lot Improvements Open House

Objective: To present the comments and concerns from the open house on the Erie Street parking lot improvements.

Background: The Erie Street parking lot contains 141 parking spaces and is located in the downtown core of the City of Stratford. In 2014, City staff undertook a review of reconstructing the Erie Street parking lot and following completion of the review, the project was deferred and no improvements were made.

The infrastructure in the Erie Street parking lot is nearing the end of its service life. The pavement structure requires replacement and its current state of disrepair resulted in sections of the storm infrastructure failing in 2018 as the image shows below.



As a result, motorists were unable to drive over this section and an emergency repair was undertaken. This reduced parking and the overall functionality of the parking lot as repairs were being prepared and made. Repairing infrastructure as it fails does not address the issue and is often more costly. More involved maintenance will be required for the parking lot until it is completely rehabilitated or replaced. The pavement structure shows signs of substantial fatigue and overall failure. The retaining wall structure shows signs of deterioration. A detailed assessment and design may improve upon existing conditions in a cost effective manner. In preparing to address the deteriorating infrastructure nearing the end of its service life staff included funds in the 2019 Parking Capital Budget to undertake a review of the Erie Street parking lot, including consideration for design and reconstruction once again.

Analysis: On February 22, 2019 a notice of Open House containing project information was mailed to property owners and residents within 120m of the lot. Information about the open house was also included on the City's website and social media sites and in the Town Crier.

The open house was held on March 6, 2019, in the City Hall Auditorium from 4:00pm - 6:00pm. The Deputy Clerk, the Customer Service Clerk II from the Clerk's Office, the Project Engineer, and the Engineering Design Technician were available throughout the open house to answer questions raised by attendees. Individuals who were unable to attend were asked to submit comments through the City's website by March 20, 2019.

A total of 13 people were in attendance at the Open House and a total of 17 comments were received by the deadline of March 20, 2019.

Attached to this report is:

- An open house summarization containing a detailed list of questions asked at the open house and staff's corresponding responses and responses to activities from the open house; and a
- list of feedback received on the comment cards and through the City's website.

Overall, the project received both positive and negative responses. A majority of responses indicated there should not be a loss of parking as a result of this project. Staff are in agreement and hope to maintain or increase the number of parking spaces in this lot.

Additional comments include:

- keep the design of the lot status quo and address infrastructure issues;
- do not construct a parking structure;
- construct a parking structure;
- improve pedestrian and vehicle sightlines;
- remove an entrance to improve sightlines;
- do not remove an entrance;
- do not remove delivery zones;
- complete construction in two phases to minimize impact on businesses;
- create a cycling path through the lot to Allen's Alley;

- add additional short term parking; and
- a traffic study should be done on vehicle queueing at the Erie Street and Ontario Street intersection as it may impact the functionality of the parking lot.

The next step of this project is to prepare a conceptual design with preferred options. The design and preferred options would be presented at a public open house to seek feedback. Following the collection of feedback, staff will prepare a second report recommending a preferred design.

At the Open House, staff presented the following tentative schedule for this project:

| | |
|-------------------------|---|
| March 6, 2019 | Open House – Information Gathering |
| April 24 – May 28, 2019 | ITS Sub-committee, Committee & Council – Report on Feedback (For Information Purposes Only) |
| June 2019 | Open House – Conceptual Design with Preferred Options |
| July 22 – Sep 6, 2019 | ITS Sub-committee, Committee & Council – Report Re: Selection of Preferred Design |
| November 2019 | Detailed Design and Construction Open House |
| Nov 27 – Dec 16, 2019 | ITS Sub-committee, Committee & Council – Open House Feedback Report |
| January 2020 | Tender Issued (subject to budget approval) |
| February 2020 | Tender Closed |
| March 1, 2020 | Construction Starts |

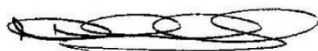
Financial Impact: The 2019 capital budget included \$100,000 to evaluate the condition of the Erie Street parking lot, gauge public opinion and develop a design plan for desired improvements.

Staff intends to forward the construction of the project to the Finance and Labour Relations 2020 Budget Committee for consideration as part of next year's draft budget submission.

Staff Recommendation: THAT the report entitled "2019 Erie Street Parking Lot Improvements Open House" be received for information.



Tatiana, Deputy Clerk



Michael Humble, Director of Corporate Services

A handwritten signature in black ink that reads "Rob Horne". The letters are cursive and fluid, with the first name "Rob" and last name "Horne" clearly distinguishable.

Rob Horne, Chief Administrative Officer



Corporate Services Department
Clerk's Office
1 Wellington Street
Stratford ON N5A 6W1

(519) 271-0250 Ext. 237
www.stratford.ca

March 6, 2019

Erie Street Parking Lot Improvements Open House Questions, Comments and Responses

The following list includes questions, comments and responses generated from the Erie Street Parking Lot Improvements Open House, held March 6, 2019, from 4:00 pm to 6:00 pm at the City Hall Auditorium.

Question 1: Will there be development on the site or a parking structure?

Response 1: No it is not anticipated that development will be considered. A parking structure is being considered, along with a variety of other options.

Question 2: Will a parking study be undertaken?

Response 2: No a parking study will not be undertaken. The study completed in 2015/16 advised there is sufficient parking in the downtown core and this study accounted for changes to the parking inventory such as the removal of parking spaces in Market Square

Question 3: When would construction commence?

Response 3: The earliest start date for construction is March 2020.

Question 4: How would construction be completed, in one phase or two?

Response 4: While it would depend on the design, construction could be completed in two phases to limit the impact on residents and businesses. Consultation would be undertaken on preference for completing construction in one or two phases.

Question 5: What is the purpose of the Erie Street Parking Lot Improvement project?

Response 5: Purpose is to develop and plan for addressing infrastructure deficiencies and issues. This process will consider all options including, but not limited to, keeping the lot status quo, reconstruction and a parking garage.

Question 6: Will accessible parking spaces be maintained?

Response 6: Yes, accessible parking spaces will be maintained.

Question 7: How many spaces were proposed to be lost with the original design for the lot?

Response 7: It was suggested 30 spaces were going to be lost with the original design presented in 2014 but that number could not be confirmed.

Question 8: How many parking spaces could be lost and what will affect the number of lost spaces?

Response 8: Until a design is completed we are unable to advise how many spaces could be lost. The intent is to maintain or increase the number of parking spaces, however the City needs to comply with current City standards outlined in the Zoning By-law which could affect future designs.

Question 9: Is this project redundant if the Cooper site is developed?

Response 9: No, the infrastructure in the Erie Street parking lot has reached its end of life and improvements will have to be made to ensure it is safe for use and there is not a timeline for development at the Cooper site.

Question 10: If a parking structure is not added at Cooper and one is required at the Erie Street parking lot does it make this work redundant?

Response 10: No, improvements still need to be made at the Erie Street parking lot as the infrastructure has reached its end of life.

Question 11: It was questioned why this project is being considered now?

Response 11: Following the failure of infrastructure in the lot in 2018 staff identified the need to develop a plan for addressing the infrastructure issues in the lot. As part of this review, staff are considering all options.

Comment 1: Consideration should be given to mailing notices to all residents in the City or including information in the tax bill.

Comment 2: Single space meters should be put back in the lots and the pay and display machines removed.

Comment 3: Parking spaces should be maintained or increased.

Comment 4: The parking lot should remain status quo.

Comment 5: Additional 30 minute spaces should be added.

Comment 6: The infrastructure issues should be addressed but the lot should remain as is.

Comment 7: Concern with removal of any entrance of the lot as it is difficult for delivery trucks to enter and navigate through to complete loading/un-loading. Reduction to two entrances will result in traffic back-up as turning left onto Erie Street is difficult during festival season.

Comment 8: Concern with creating one lot as grading will affect businesses with steps at rear entrances.

Comment 9: We do not need a pretty parking lot, but it can be prettier.

Comment 10: A parking structure should not be added to the Erie Parking Lot.

Comment 11: Consideration should be given to adding a parking structure to the Erie Lot.

Comment 12: Underground parking should be considered as an option.

The following comments were listed on the "I want to see..." display board:

1. Minimal to no loss of parking
2. A structure, multi-level
3. Increased parking, new structure
4. Possible retail/residential, multi-use building
5. No loss of parking
6. Below grade structure
7. Condo or hotel above to generate property taxes
8. Increase in spaces
9. Parking where the stores are, close, convenient
10. No loss of parking
11. No loss of parking spaces
12. Repair the asphalt and stairs as needed
13. Remove the flower boxes in the parking area and on Erie Street
14. No loss of parking – shelter over parking pay stations
15. No loss of parking!
16. 52 gone for a cement pad behind City Hall, enough!
17. No loss of parking
18. Maintain 3 entrance
19. Maintain grade
20. Fix infrastructure while preserving parking spots and keep spending to a minimum
21. One parking lot, one way in, one way out. Space for delivery trucks (Large)

Please share your comments on the Erie Street Parking Lot Improvement Project in the City of Stratford

Better communication regarding the process & project.

Leave the Erie Street parking alone – just repair asphalt, stairs etc.

Need parking that is short term and replace the standing alone parking meters back with the old meters
– better use of time – now paying too much to park downtown during the year

No parking garage or underground parking garage. Not considered safe for people or cars. Cost is more for residents.

Remove planters between spaces – in winter time dangerous walking area

Remove planters from side of road on Erie Street – causes more difficulty to get out of car on passenger side.

Make Cooper Site parking for theatre patrons by providing all day parking for \$5 -\$10. Then residents of Stratford will have parking available all year not just from Dec to April.

No hotel on the premises. Takes valuable parking space.

Maintain Type A accessible spaces suitable for accessible vans.

Don't like location of accessible spaces near Allen's Alley as you cannot use a ramp in these spaces.

The accessible space near CIBC is good.

Snow covering aisle lines at accessible spaces. No parking signs should be added along with better snow clearing.

1. Validity of this survey is negated by the ability to respond anonymously. Why was it done this way?

2. Need for additional parking seems paramount by all. In a city that relies so heavily on tourism, parking supply has fallen behind demand.
3. The precise location of the Erie parking lot is ideal for a multi-level parking garage, as it resides both at the intersection of two high traffic highways as well as being central to downtown activities,
4. A multi-level parking lot at Erie would negate the need for so many parking spaces in Market Square, which should be a pedestrian oasis. I would suggest reducing Market Square parking to a few time ruled spots (a short term stopping zone). Note there would not be a need for disabled parking provided ground level spots were made available in the Erie parking garage.
5. These days, architects have been able to make above ground parking structures aesthetically pleasing. (hanging gardens, art murals, etc)
6. Perhaps in the design, some floors could be allocated to local large and small businesses, so that prime Ontario street shoppers' parking would be available to customers and not business owners and staff.

If you have to upgrade the existing sewer and drainage then do so but DO NOT loose any parking spots. Improved sight lines onto Erie St might be nice, but for many years people have figured it out, same with pedestrians, so we don't need pedestrian routes. We need more parking downtown where the stores are. So maybe consider making a parking garage, in either the upper or lower lot.

If the City keeps getting rid of parking spot close to business then it will be on them, when said business close. and yes we could park at the cooper site, but I can't walk from the cooper site to the bank and then back again. So the bank and the pharmacy downtown have already lost my family's business because during the Festival season we can not find quick, close parking and we are but one family. Don't LOOSE any more parking downtown.

I'm in favour of repairs and improvements to existing facility, but strongly opposed to any spending on a tiered parking

| |
|--|
| structure. |
| <p>Increase the safety of the lot should be a high priority. Too many near misses inside the parking lot and trying to exit onto Erie Street.</p> <p>Try to improve the beautification and signage from its current condition would be nice too.</p> <p>No parking structure!</p> |
| <ul style="list-style-type: none"> - No loss of parking spaces - Remove parking on parking lot side of Erie Street, as sightlines are difficult when trying to exit from the parking lot |
| <p>If one entrance was removed would that increase number of parking spots? In my opinion gaining parking is of most importance!!!</p> |
| <p>First, the passage that the city is referencing where people drive is called an "aisle", not an "isle", which is short for "island".</p> <p>What I want to see is an above-ground, aesthetically pleasing parking structure that takes the pressure off the Market Square parking, so it can be eliminated entirely -- eventually. Keep it open, airy and safe, not just with lights but with other means as well. Make the rate there as low as possible for a three year period, to incentivize and train people to park there. Yes, it would be expensive, but let's remember that it is a long-term investment, not a short term expense. Create a lane behind the Wellington St. stores to allow deliveries. At the same time, install proper theft-proof bike racks both on the ground floor of the structure and along Wellington St., but taking one or two parking spaces for bikes.</p> |
| <p>I would not like to see the loss of any parking spaces in this parking area.</p> |
| <p>Maintain or increase parking spaces, improve sightlines at Erie Street, potential structure & better payment system. I work downtown and hear from a number of people, particularly seniors, who do not understand the pay by plate</p> |

machines that they have stopped parking in the lots and circle the streets or park illegally and unsafely, or simply don't come downtown anymore.

I think the lot works pretty well the way it stands, however I believe it needs repair in some areas, I think making it one complete lot with one entry and one exit makes sense. This would create more spaces.

It would be great if the construction could be done in sections to minimise disruption to business. also perhaps at a time of year when business is slower

I also feel that people don't know about the lot, perhaps it could be promoted more and Allens alley could be promoted also as easy access to downtown

I would not like to see any loss to the delivery zones behind the Wellington Street businesses. I'm attaching a picture from yesterday to show how busy it gets.



Hope that a solution is found that helps business, patrons and Stratford in general.

I feel that the Erie street lot has functioned well at providing parking for the downtown as it is for the past 40-50 years and as such the design should be maintained as is. There is a need to keep 3 entrances/exits in order to allow the proper flow of vehicles and delivery trucks in and out of the lot without causing major backups for those exiting or entering the

lot. If the middle entrance were to be closed, the northern exit would be backed up and nearly impossible to turn left out of due to the traffic that is often waiting to cross Ontario street especially in the tourist season when many cars are heading down to the river and the theatre. If one of the many delivery trucks is unloading in the lot, traffic will again be backed up if there is not some sort of break in the rows of parking. I also feel that changing the grade will negatively impact our back door traffic and deliveries which we rely heavily on from our many couriers and Canada Post delivery vehicles for our postal outlet. I also feel it will impact the private parking area behind Ross's Bikes, Sirkel and Carmans. We cannot afford to lose any parking spaces out of that lot as we have already lost many in front of our businesses. I feel that with the city's large debt load that the least expensive option to repair the infrastructure in this lot should be explored and that the usefulness of the lot should be maintained which means fixing the drainage, and repairing the base and resurfacing the lot while removing the old worn out benches and bricks and repairing the retaining wall. This could be done in two stages, one in each end of the lot so as to reduce the impact of the construction on surrounding businesses customers. By only repairing the lot rather than redesigning it, new codes will not be needed to be met and we can maintain the existing inventory of parking spaces.

Thank you.

On a personal level I live close enough to downtown that I walk for almost all my errands, but if I am going to buy anything heavy or multiple purchases I do like to have a car close enough by that I can drop things off at. For business, I park downtown three to four times a week, for either 15mins or about one to two hours. I appreciate that I can park close to the businesses that I work for and would like that to continue. Walking from the Cooper Site really isn't an option due to time constraints, being able to park close to the business is the only way I can meet my deadlines in a day. Any loss of parking spaces in this area will make it harder for some of the downtown business to continue business as usual. Many companies make deliveries (sometime of heavy objects) from their stores so being able to have a vehicle close at hand is the most cost effective. If the vehicle was parked away from the store, the cost of having to pay an employee to get the vehicle and then return it several times a day gets expensive.

I would like to see a feasibility study on a parking structure, I have seen other structures and they can be built to look quite nice with the correct green space and/or artistic flair. We could encourage longer term (employee) parking on the higher levels and leave the lower levels for those that only need short term parking. I wonder if we could get the Festival to rent one floor or section and they could sell passes to people for the Avon Theatre. I am not sure what the objections are about a parking structure but I think we should continue to revisit it as I believe that it is the truly the only solution

for the long run.

Figuring out a better spacing/routing for delivery trucks would help the car drivers as well as the truck drivers.

I would like to see clear and safe routes for pedestrians. This is very important because all drivers become pedestrians when they get out of their cars!. Safe and inviting pedestrian paths leading to downtown are important.

Secondly, I would like to see a marked cycle path. Cycling on the downtown streets (especially Ontario) is dangerous, and this parking lot provides a way to get to Market Square while avoiding some crazy intersections. If there could be a cycle path linked to Allen's Alley with signage for cyclists to dismount and walk through the alley, that would be ideal. There's cycle parking on Wellington that riders can walk to from there if they are staying in the area.

Loss of parking spaces in the downtown core should be done with extreme precaution and consideration.
Possibility of construction done in stages, so part of lot is still usable at all times during construction.
Alternate parking spaces available during construction and after if there is a loss of space.
Consideration of increasing downtown parking spaces with parking garage/multi-level infrastructure.

Public notice if there will be loss of parking spaces to the lot sent out publicly before construction plan is finalized.

There is absolutely no need for a parking structure in the Erie Street lot . On your average day the lot is not even close to being full. I strongly oppose the idea of taking money from the city's reserve fund for a parking structure. I understand that city counsellors may sometimes hear complaints from locals that they have trouble finding a parking spot directly in front of the store they are going too. But there certainly is parking available downtown especially if you're willing and able to walk a few blocks. Money from the reserve fund would be better used to add a pedestrian crossings (with painted lines on the roadways) in our city so that it's clear and easy for people to walk a few blocks from the parking that is already available.



MANAGEMENT REPORT

Date: April 24, 2019
To: Infrastructure, Transportation and Safety Sub-committee
From: Tatiana Dafoe, Deputy Clerk
Report#: ITS19-033
Attachments: None

Title: Available Locations for the Operation of a Refreshment Vehicle in the Downtown Core

Objective: To review the available locations for the operation of a refreshment vehicle in the downtown of City of Stratford.

Background: The City of Stratford's Business Licensing By-law 187-2004 (Licensing By-law) licences, regulates and governs certain businesses in the City of Stratford and establishes licencing fees. In the Licensing By-law, individuals selling food stuffs prepared or cooked in a refreshment vehicle would be classified as a Category 1 Refreshment Vehicle.

Currently, there is a notwithstanding clause that allows for the operation of one refreshment vehicle located in Market Square. In December 2016, the agreement with the operator of the refreshment vehicle located in Market Square expired and was not renewed following the re-development of this site. The decision was made to not permit a refreshment vehicle here in the future.

Staff were directed to identify potential locations for the operation of a refreshment vehicle in the downtown. When considering potential downtown locations it is imperative that pedestrian and vehicular traffic not be impeded with any food vehicle operation. In addition, staff do not support the use of parking spaces for this type of operation as all spaces are needed to address the volume of traffic experienced in any given year. The Licensing By-law also states that no person shall operate a refreshment vehicle within 60 meters of the property line of an existing restaurant or food premise within the City of Stratford unless the said refreshment vehicle is:

- a legal and conforming accessory use of the existing restaurant or food premise business; or
- if operating from municipal property where prior authorization has been granted by the City.

Analysis: Staff identified the following locations which are suitable for the operation of a refreshment vehicle:

- 39 George Street West;
- the dedicated parkette known as Tir na nOg, “Land of Youth” which is located between 42 and 30 Downie Street; and
- the old skate park located at the Cooper/Downie site (275 Downie Street).

Review of locations:

For 39 George Street, a request was made from an area business to convert this land into a parking lot for municipal and private parking. The business is still interested and staff in the Infrastructure and Development Services Department have been working to identify what is required for the conversion.

If a decision is made to not pursue developing this land into a parking lot, staff recommend this site as the preferred location for the operation of a refreshment vehicle. This site is recommended as it is sufficient to accommodate this use, it will not impede pedestrian or vehicular traffic and it is available for use in 2019.

For 42 and 30 Downie Street, no comments were received on this location. The site is much smaller which would limit the type of operation that could be permitted. It is not the preferred site for this type of operation.

For 275 Downie Street, the site is sufficient to accommodate this use and can be developed in such a way as to ensure pedestrian and vehicle traffic are not impeded. Concern was expressed that this area is not suitable for this operation in 2019 as Phase 2 of the Transit Terminal construction will begin. In addition, the BIA expressed concern that this location is separate from the downtown and may not benefit from the downtown crowds.

If this location is preferred, staff recommend permitting the operation of a refreshment vehicle to begin in 2020. This will allow the construction of the terminal to be completed, the site cleaned up and a request for proposal or quotation to be issued and awarded.

If none of these locations are preferred, staff recommend filing this request and amending the business licence by-law to remove the provision allowing for a refreshment vehicle to operate in the downtown, unless as part of a special event.

Options available for consideration:

1. That the Business Licence By-law 187-2004 be amended to permit a refreshment vehicle to operate at 39 George Street and that a request for proposal be issued;
2. That the Business Licence By-law 187-2004 be amended to permit a refreshment vehicle to operate at 275 Downie Street commencing in 2020 and that a request for proposal be issued;
3. That no further action be taken by staff regarding identifying a location for a refreshment vehicle in the downtown core until the development of a community hub commences and that refreshment vehicles continue to be permitted as part of special events in the downtown.

BIA Consultation: As noted in a previous report, the Stratford City Centre BIA was consulted and they expressed support for the operation of a refreshment vehicle in the downtown but requested consultation on the type of operation to be permitted.

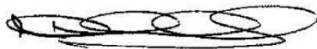
Financial Impact: In the event that a second refreshment vehicle location is approved for the downtown, a competitive process will determine the lease revenue to the City.

Staff Recommendations: **THAT no further action be taken by staff regarding identifying a location for a refreshment vehicle in the downtown core until a final decision is made on whether 39 George Street will be converted into a parking lot or the development of a community hub commences;**

AND THAT refreshment vehicles continue to be permitted as part of special events in the downtown.



Tatiana Dafoe, Deputy Clerk



Michael Humble, Director of Corporate Services



Rob Horne, Chief Administrative Officer



MANAGEMENT REPORT

Date: May 29, 2019
To: Infrastructure, Transportation and Safety Sub-committee
From: Mike Mortimer, Manager of Environmental Services
Report#: ITS19-028
Attachments: OCWA's 2018 Annual Performance Report to City of Stratford Mar2019

Title: 2018 Stratford Water Pollution Control Plant Annual Report

Objective: To submit the 2018 Stratford Water Pollution Control Plant Annual Report to Sub-Committee and Council for their information.

Background: The Stratford Water Pollution Control Plant (WPCP) is owned by the City of Stratford, but operated under contract by Ontario Clean Water Agency (OCWA). OCWA has prepared the 2018 Annual WPCP Report, which must be submitted annually to the Ministry of the Environment, Conservation and Parks (MECP), showing how the treatment plant performed throughout the year.

The report summarizes the operation for the WPCP and reports on all the activities that occurred at the treatment plant throughout the year. The report also indicates how the plant met all of the Environmental Compliance Approval requirements for effluent discharge into the Avon River.

Analysis:

Total Flows - The treatment plant treated a total of 7,236,945 m³ of effluent for an average daily flow of 19,850 m³ per day, almost identical to 2017 values. The design capacity of the treatment plant is 30,660 m³ per day and based on the flows received for 2018, operated at 64.7% of the design capacity. This percentage decreased from 64.9% in 2017.

Overflow Events - During the 2018 year, the treatment plant had 8 overflow events (2017-7 events) where there was discharge from the wet weather equalization tank and discharge into the Avon River. These events were all due to flows caused by heavy precipitation and/or snow melt and a total of 704,398 m³ (2017 – 535,947 m³) was discharged.

During a flow exceedance, the excess flow is diverted to an equalization tank and contact chamber where appropriate chlorination of the flow is achieved. Upon leaving the chlorine contact chamber, the flow is then de-chlorinated prior to discharge into the Avon River.

The treatment plant also experienced 2 bypass events. The first bypass event was due to equipment failure and resulted in 14,557 m³ bypassing the process sand filters. The second bypass event was to facilitate the removal of freshwater sponge accumulation in the UV channel and to apply growth-inhibiting coating to the channel walls. The bypass was pre-approved by the MECP and resulted in 128,520 m³ bypassing UV treatment. The quality of final effluent was not impacted by either bypass event as confirmed by sampling results.

Effluent Quality -The effluent discharges met all requirements for levels of removal for 2018:

| | |
|----------------------------------|--------|
| • Carbonaceous Biological Demand | 98.0 % |
| • Total Suspended Solids | 97.5 % |
| • Total Kjeldahl Nitrogen | 96.1 % |
| • Total Phosphorus | 95.4 % |

Capital Projects – The following are some of the more major capital projects undertaken for the 2018 year.

- Aeration tank cleanout (tank 1)
- Motor replacements for sludge recirculation pumps
- Mud Well pump replacements
- Replacement of the Return Activated Sludge flowmeter
- Automation of Primary Clarifier actuating valves
- Upgrade of the SCADA system (ongoing)

In summary, the Water Pollution Control Plant, operated by OCWA, has met and exceeded all Environmental Compliance Approval requirements for the 2018 operating year.

Financial Impact: Capital works and the cost of operating the Water Pollution Control Plant is financed through the Sanitary Sewer Surcharge rate.

Staff Recommendation: THAT the 2018 Stratford Water Pollution Control Plant Annual Report be received for information.



Mike Mortimer, Manager of Environmental Services



Ed Dujlovic, Director of Infrastructure and Development Services

A handwritten signature in black ink that reads "Rob Horne". The signature is written in a cursive, slightly informal style.

Rob Horne, Chief Administrative Officer



OCWA's 2018 ANNUAL PERFORMANCE REPORT
to the City of Stratford
March 29, 2019

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SECTION 1: EXECUTIVE SUMMARY

Overview

Water quality is essential to the health of the local water fowl and the aquatic ecosystem of the Avon River. 2018 marked another year of successful protection of that sensitive ecosystem at the City's Water Pollution Control Plant (WPCP). OCWA's operations and maintenance staff ensured that all final effluent water quality targets were met and exceeded throughout 2018 despite a number of abnormally high rainfall events. This continues the consistency of good results that our operations staff have consistently delivered to the City of Stratford since 1958.



2018 Results

The Stratford WPCP consistently produced high quality effluent that met and exceeded all regulated requirement limits of the plant's Amended Environmental Compliance Approval (Issued May 23, 2017; revoked December 13, 2018) and new Amended Environmental Compliance Approval (ECA) issued December 13, 2018. Removal rates for key effluent quality indicator parameters (i.e. CBOD5, TSS, TKN and Total Phosphorus) were all 95.4% or better in 2018. There were multiple days of abnormally high flows into the plant caused by excess precipitation or snow melt in the area that led to 8 storm tank overflow events with a combined plant overflow duration of 28 days for 2018. There were no corrective actions required related to samples tested during the year.

In addition to meeting all regulatory limit targets, applicable highlights for 2018 were:

- Conducted comprehensive operational activities to monitor and control plant performance 24/7.
- Minimized risk of exceedances impacting effluent quality through ongoing quality assurance.
- Annual scheduled maintenance, inspections and calibrations such as Lifting Device, Backflow and Emergency Generator Inspections and calibrations of Flowmeters and Gas Meters throughout the facility.
- Successfully completed multiple repair and replacement capital projects totaling an approximate value of \$320,000.
- Capital projects included:
 - The installation of 3 new Variable Frequency Drive (VFD) motors on the Screw Lift Pumps; the VFD units will provide electrical savings.
 - Replacement of two ferrous chloride chemical pumps accompanied with Variable Frequency Drives

- The relocation of the biosolids truck top loading pipe to a 'bottom-load system', complete with a new flowmeter to ensure continued efficiency and safety during the removal of biosolids from the facility
- The clean out and maintenance of Aeration Cell #1
- The installation of a new Multi-Barrier Roof on the Lift Station Building
- The replacement and installation of a Return Activated Sludge Flowmeter
- The replacement of two Mud Well Pumps for the Filter Backwash System.
- Ongoing updates to the Facility's SCADA system to improve process and time efficiency
- Continued to build community water awareness through the OCWA OneWater Program; this program provided education in a classroom setting and provided support at a number of local events.
- Zero service disruptions occurred and no customer complaints were received in 2018.
- OCWA continued to promote the maintenance of a safe and healthy work environment for staff, contractors and visitors.
- Produced anaerobically stabilized biosolids, meeting all the guidelines for agricultural land application.

Looking Ahead

The future looks bright for the City of Stratford as we look forward to continued compliant wastewater treatment in 2019 and beyond. OCWA continues to improve operating practices and technologies to better predict and prepare for extreme weather events and other factors that have the potential to impact plant processes. We will also continue to develop and implement equipment repairs, replacements and other capital projects aimed at sustaining and improving plant performance.

OCWA continually invests in their people and those systems that support our clients. There is great value in our remote monitoring, data collection and our asset management system. OCWA completed a major investment commitment to expand data and asset management tools. Updated SCADA management tools implemented by OCWA will allow the City to have access to historical and up to date data including process trending and plant optimization applications. OCWA's migration to a new and functional Asset Management System (Maximo) provides electronic access to equipment, asset details and the ability to schedule and track maintenance activities with timed accuracy for increased efficiency. The Maximo Work Management System was implemented at the Stratford WPCP in late 2016 and continues to evolve to suit plant and process needs and promote optimization of technology in the facility.

Section 8 of this report identifies a number of recommendations pertaining to asset repairs, replacements and recommendations which require capital investment. OCWA strives to deliver operational reports to the City of Stratford Manager of Environmental Services on a quarterly basis.

OCWA and the City of Stratford community's partnership focuses on protecting the Avon River and the broader environment through the effective treatment of wastewater at the Stratford Water Pollution Control Plant, process optimization, and the management of capital projects to sustain this goal. OCWA values its long-term partnership with the City of Stratford and looks forward to continuing operations for a successful future.

REPORT PREPARED BY:

Marcel Misuraca
General Manager
Ontario Clean Water Agency

SECTION 2: PROTECTING THE ENVIRONMENT

The City of Stratford and OCWA align our programs with community expectations with a major focus on protecting the Avon River watershed and keeping the local habitat healthy. OCWA operating procedures and its Quality and Environmental Management System (QEMS) describe activities we undertake to make sure compliance limits are met.

Operational Activities Conducted

Operational activity highlights during 2018 included:

- Performing multiple facility process checks & operator rounds.
- Collecting and analyzing multiple wastewater samples at our on-site laboratory.
- Collecting and sending required samples to external laboratories for detailed analysis.
- Reviewing operating and maintenance procedures in equipment manuals.
- Creating and updating Standard Operating Procedures (SOP) and Contingency Plans (CP).
- Reviewing & updating process data management technology to maintain accuracy.
- Continuing to optimize the Maximo Asset Work Management System.
- Accommodating internal process audits.
- Completing required facility Health and Safety inspections .
- Completing more than 460 preventive and corrective work orders; scheduled and tracked through the OCWA Maximo Work Management System.
- Completing and submitting all required compliance reports including this annual performance report.
- Meeting on a regular basis with City of Stratford representatives.

All Regulatory Targets Met

The City of Stratford Water Pollution Control Plant is equipped and operated to meet stringent regulatory requirements issued from the Ministry of Environment, Conservation and Parks (MECP) and designed to protect the Avon river's aquatic ecosystem. All effluent water regulated limits identified for this facility were met in 2018.

The plant met the 2018 targets for the following important indicators of water quality:

- Carbonaceous Biochemical Oxygen Demand (CBOD₅) is the most important indicator of the amount of organic pollution in wastewater effluent. Plant treatment removed more than 98% of CBOD from incoming raw wastewater
- Total Suspended Solids (TSS) is an indicator of the concentration of solid particles in the wastewater effluent and a determinant of the level of water clarity which, if reduced, can inhibit the ability of aquatic organisms to find food. Plant treatment removed 97.5% of raw wastewater TSS

- Total Kjeldahl Nitrogen (TKN) ; TKN is a major component of total nitrogen. Nitrogen in the form of nitrates can encourage algae and aquatic plant growth, which, if in excess, can lead to eutrophication in aquatic ecosystems and have detrimental effects on fish and aquatic species. Unionized ammonia can be toxic to aquatic life at low concentrations. Plant treatment removed 96.1% of TKN (organic nitrogen + ammonia) which is a major component of total nitrogen.
- Total Phosphorus (TP) in excess amounts causes an increase in algae and aquatic plant growth and cause eutrophication; the decomposition process can deplete oxygen levels and create adverse effects on aquatic fauna and restriction on recreational use of waterways. Plant treatment removed more than 95.4% of phosphorous from the raw wastewater

Table 1.0 below shows a summary of the treatment results achieved in 2018 compared to the Effluent Limits identified in the plant's Amended Environmental Compliance Approval (ECA) Number 0932-AJNJT4 (Issued May 23, 2017; revoked December 13, 2018) and the new Amended Environmental Compliance Approval (ECA) Number 7526-B2UKVJ issued December 13, 2018.

Table 1.1 below shows a summary of the treatment results achieved in 2018 against the Final Effluent Design Objectives set in the plant's Amended Environmental Compliance Approval (ECA) Number 0932-AJNJT4 (Issued May 23, 2017; revoked December 13, 2018) and the new Amended Environmental Compliance Approval (ECA) Number 7526-B2UKVJ issued December 13, 2018.

The final effluent pH did not consistently meet the systems design objectives during the months of February & June of 2018; the pH on February 23rd was 6.40 and the pH on June 29th was 6.47. The final effluent Total Phosphorous (TP) did not meet the monthly average design objective in January, June, August, September and December of 2018. The January 2018 TP Final Effluent Monthly Average was 0.12 mg/L. The June 2018 TP Final Effluent Monthly Average was 0.13 mg/L. The August 2018 TP Final Effluent Monthly Average was 0.11 mg/L. The September 2018 TP Final Effluent Monthly Average was 0.11 mg/L. The December 2018 TP Final Effluent Monthly Average was 0.11 mg/L. Total Phosphorus Monthly Averages all met the Effluent Concentration Limit every month in 2018. In house process monitoring and related process adjustments were made to strive to meet facility design objective values.

Table 1.0: Effluent Water Quality Parameters - Limits vs. Results

| Effluent Quality Parameter | Environmental Compliance Approval Effluent Concentration and Limits | Average Annual Concentration Results & Maximum Monthly Concentration | #of Exceedances |
|---|---|--|-----------------|
| Carbonaceous Biochemical Oxygen Demand (CBOD ₅ - mg/L) | 10.0 mg/L Monthly Average | Annual Monthly Average: 2.23 mg/L Max. Monthly Average: 2.75 mg/L | 0/12 |
| Total Suspended Solids (TSS – mg/L) | 10.0 mg/L Monthly Average | Annual Monthly Average: 3.03 mg/L Max. Monthly Average: 4.50 mg/L | 0/12 |
| Unionized Ammonia | 0.1 mg/L Monthly Average 0.2 mg/L Single Sample Result | Annual Monthly Average: < 0.001 mg/L Max. Monthly Average: 0.005 mg/L Maximum Single Sample: 0.16 mg/L | 0/52 |
| Total Phosphorous (TP - mg/L) | 0.2 mg/L Monthly Average | Annual Monthly Average: 0.099 mg/L Max. Monthly Average: 0.13 mg/L | 0/12 |
| E-Coli (Geometric Mean Density in CFU/100 mL) | 200 CFU per 100 mL | Annual Monthly Average: 6.44 per 100 mL Maximum Monthly GMD: 15.38 CFU / 100 mL | 0/12 |
| pH | 6.0 - 9.5 Inclusive Single Sample Result | Min. – Max.: 6.40 - 8.47 | 0/364 |
| Dissolved Oxygen | Minimum 4.0 mg/L Single Sample Result | Min. – Max.: 5.96 – 12.09 mg/L Minimum: 5.96 mg/L | 0/364 |

Table 1.1: Effluent Water Quality Parameters - Design Objectives vs. Results

| Final Effluent Loading Limits | | | |
|-------------------------------|--|--|------------------|
| Final Effluent Parameter | Limit (maximum unless otherwise indicated) | Maximum Monthly Average Daily Effluent Loading Concentration | # of Exceedances |
| CBOD ₅ | 306 kg/d | 58.08 kg/d | 0/12 |
| Total Suspended Solids | 306 kg/d | 86.48 kg/d | 0/12 |
| Total Phosphorus | 6.1 kg/d | 2.47 kg/d | 0/12 |
| Un-ionized Ammonia | 3.06 kg/d | 0.09 kg/d | 0/12 |

Table 1.2: Effluent Water Quality Parameters - Design Objectives vs. Results

| Effluent Quality Parameter | Environmental Compliance Approval Concentration Objectives | Average Annual Concentration Results | # of Exceedances |
|---|--|--|------------------|
| Carbonaceous Biochemical Oxygen Demand (CBOD ₅ - mg/L) | 5.0 mg/L monthly average | Annual Monthly Average: 2.23 mg/L Max. Monthly Average: 2.75 mg/L | 0/12 |
| Total Suspended Solids (TSS – mg/L) | 5.0 mg/L monthly average | Annual Monthly Average: 3.03 mg/L Max. Monthly Average: 4.50 mg/L | 0/12 |
| Un-Ionized Ammonia | 0.08 mg/L monthly average | Annual Monthly Average: < 0.0001 mg/L Max. Monthly Average: 0.005 mg/L | 0/12 |
| Total Phosphorous (TP - mg/L) | 0.1 mg/L monthly average | Annual Monthly Average: 0.10 mg/L Max. Monthly Average: 0.13 mg/L | 5/12 |
| <i>E-Coli</i> (Geometric Mean Density in CFU per 100 ml) | 150 CFU/100 mL monthly average | Annual Monthly Average: 6.44 per 100 mL Maximum Monthly GMD: 15.38 CFU / 100 mL | 0/12 |
| pH | 6.5 - 8.5 inclusive | Min. – Max.: 6.40 - 8.47 | 2/364 |
| Dissolved Oxygen | 5.0 mg/L | Min. – Max.: 5.96 – 12.09 mg/L Minimum: 5.96 mg/L | 0/364 |

Plant Overflow & Bypasses Well-Managed

Eight (8) overflow events and two (2) bypass events occurred at the Stratford WPCP during the 2018 calendar year. The overflow events occurred on January 11th to 14th, January 23rd to 24th, February 20th to 25th, April 4th to 5th, April 16th to 23rd, April 25th to 26th, August 22nd to 23rd and November 2nd to 3rd 2018. All the overflow events were the result of heavy area precipitation or snow melt. The bypassing events occurred on March 26th to 27th and on July 13th to 23rd 2018. Details of the events are below.

Overflow Events

1) Overflow Event January 11 - 14 2018

A Stratford WPCP overflow occurred January 11th to 14th 2018; the overflow started at 15:25 January 11th 2018 and ended at 21:00 January 14th 2018; the process overflowed for 75 hours & 45 minutes. The overflow occurred at the wet weather equalization tank; 126,354 m³ overflowed and discharged to the Avon River. The overflow was the result of snow melt. This Stratford WPCP overflow did not negatively affect the receiving river.

2) Overflow Event January 23 - 24 2018

A Stratford WPCP overflow occurred January 23rd to 24th 2018. The overflow started at 01:50 January 23rd 2018 and ended at 14:00 January 24th 2018; the process overflowed for 35 hours & 55 minutes. The overflow occurred at the wet weather equalization tank; 47,112 m³ overflowed and discharged to the Avon River. The overflow was the result of snow melt and heavy precipitation in the area at this time. This Stratford WPCP overflow did not negatively affect the receiving river.

3) Overflow Event February 20 - 25 2018

A Stratford WPCP overflow February 20th to 25th, 2018; the overflow started at 00:10 February 20th 2018 and ended at 08:20 February 25th 2018.; the process overflowed for 104 hours & 10 minutes. The overflow occurred at the wet weather equalization tank; 245,989 m³ overflowed and discharged to the Avon River. The overflow was the result of snow melt and heavy precipitation in the area at this time. This Stratford WPCP overflow did not negatively affect the receiving river.

4) Overflow Event April 04 – 05, 2018

A Stratford WPCP overflow occurred April 04th to 05th 2018; the overflow started at 03:30 April 04th 2018 and ended at 15:30 April 05th 2018.; the process overflowed for 36 hours. The overflow occurred at the wet weather equalization tank; 22,682 m³ overflowed and discharged to the Avon River. The overflow was the result of heavy precipitation in the area at this time. This Stratford WPCP overflow did not negatively affect the receiving river.

5) Overflow Event April 16 – 23, 2018

A Stratford WPCP overflow occurred April 16th to 23rd, 2018; the overflow started at 06:45 April 16th 2018 and ended at 14:00 April 23rd 2018.; the process overflowed for 175 hours & 15 minutes. The overflow occurred at the wet weather equalization tank; 181,543 m³ overflowed and discharged to the Avon River. The overflow was the result of heavy precipitation in the area at this time. This Stratford WPCP overflow did not negatively affect the receiving river.

6) Overflow Event April 25 – 26, 2018

A Stratford WPCP overflow occurred April 25th to 26th 2018; the overflow started at 09:00 April 25th 2018 and ended at 14:00 April 26th, 2018; the process overflowed for 28 hours & 30 minutes. The overflow occurred at the wet weather equalization tank; 13,214 m³ overflowed and discharged to the Avon River. The overflow was the result of heavy precipitation in the area at this time. This Stratford WPCP overflow did not negatively affect the receiving river.

7) Overflow Event August 22 – 23, 2018

A Stratford WPCP overflow occurred August 22nd to 23rd, 2018; the overflow started at 10:00 August 22nd and ended at 22:15 August 23rd 2018; the process overflowed for 36 hours & 15 minutes. The overflow occurred at the wet weather equalization tank; 27,150 m³ overflowed and discharged to the Avon River. The overflow was the result of heavy precipitation in the area at this time. This Stratford WPCP overflow did not negatively affect the receiving river.

8) Overflow Event November 2 – 3, 2018

A Stratford WPCP overflow occurred November 2nd to 3rd, 2018; the overflow started at 00:00 November 2nd and ended at 20:00 November 3rd 2018.; the process overflowed for 44 hours. The overflow occurred at the wet weather equalization tank; 40,354 m³ overflowed and discharged to the Avon River. The overflow was the result of heavy precipitation in the area at this time. This Stratford WPCP overflow did not negatively affect the receiving river.

Bypass Events**1) Bypass Event March 26 - 27, 2018**

A Stratford WPCP bypass occurred March 26th at 8:00 until March 27th, 2018 at 8:00; the process sand filters were bypassed. This tertiary bypass was the result of equipment failure; both the Mud Well Pumps failed. The tertiary bypass flow was directed through the UV system for disinfection. This bypass event lasted for 24 hours & 0 minutes; 14557 m³ of plant flow bypassed the tertiary filters. The bypass did not negatively affect the quality of the final effluent.

2) Bypass Event July 13 – 23, 2018

A Stratford WPCP preapproved planned bypass occurred from July 13th to 23rd, 2018; the bypass started at 11:15 July 13th 2018 and ended at 08:00 July 23rd, 2018; bypassing event lasted for a total of 10 days. Plant flow bypassed UV disinfection for this period. Flow bypassed the UV Channel to accommodate the removal of freshwater sponge accumulation in the channel. The channel was cleaned. Growth-inhibiting coatings were applied to the walls in the channel as a part of a pilot project. The July 13th to 23rd, 2018 bypassing flow received sodium hypochlorite disinfection treatment and de-chlorination. A total of 128,520m³ of plant flow bypassed the UV channel during July 13th to 23rd, 2018 bypass event. This bypass did not negatively affect the final effluent quality as the July 2018 E.coli Geometric Mean Average was compliant.

Processes Controlled to Produce Safe Effluent and Reusable Biosolids

Wastewater is collected from the more than 32,000 residents in the City of Stratford as well as industries, commercial establishments and institutions. The wastewater collection system within the City conveys the wastewater using gravity and pumping stations to the Water Pollution Control Plant. OCWA's operators treat and manage the wastewater along the following path:

- Receiving the raw sewage influent into the plant for treatment during regular flow levels. If flows are above the rated plant capacity during heavy precipitation or snow melt events, the extra flow is diverted to the wet weather flow Equalization Tanks. When the rain and/or snow melt subsides, the wastewater is then diverted back into the plant to be treated.
- Screening the raw wastewater influent to remove large objects through Preliminary Treatment.
- Removing grit from the wastewater utilizing a Grit Removal System.
- Settling out of large settleable solids in the primary clarifiers and removing the settled out materials (primary sludge) for further processing through Primary and Secondary Digestion.
- Utilizing an aeration system to supply the oxygen needed to metabolize dissolved and suspended organic matter by microorganisms in the wastewater. This process reduces the Biochemical Oxygen Demand (BOD) and returns excess materials (waste and return activated sludge) as needed to keep the process in balance.
- Final settling of remaining particles and removing the settled materials using a rapid sludge removal process. Some of this sludge is returned back to the front of the aeration process (return activated sludge) while any excess (waste activated sludge) is returned to the Primary Clarifiers for further processing along with the settled sludge in the primary clarifiers.
- Filtering or "polishing" the liquid effluent from the final settling tanks using a dual-media filtration system.
- Irradiation of the final effluent using ultraviolet lighting system.
- Sludge removed from the primary and final settling processes is digested and stabilized to ensure it is safe for eventual application to agricultural land as a soil fertilizer .
- Phosphorus is removed during the treatment process through the addition of ferrous chloride; this chemical is added into the aeration process.

Quality Assurance Part of Day-to-Day Operations

Effluent quality is assured on an ongoing basis by monitoring process parameters, analyzing the relationship between various parameters and examining any changes and trends that may have an impact on effluent quality.

Operators perform a number of daily tests on plant fluids throughout the process; Mixed Liquor samples, a mixture of raw or settled wastewater and activated sludge is a plant process fluid monitored daily. Mixed Liquor sample analysis includes dissolved oxygen content, pH, temperature, 30 minute settled solids and Total Suspended Solids (MLSS) measurements. In house sampling analysis results show the health of the processes that impact on the final effluent produced. Tests to monitor the ferrous chloride dosages and wasting volumes are also completed.

Final Effluent is also analyzed within the Facility Lab to ensure effluent quality is not compromised. In house final effluent testing included analysis of Dissolved Oxygen, pH, temperature, Total Phosphorus and Total Ammonia.

The biosolids processes is continuously monitored. Volatile acid and alkalinity tests are completed weekly on primary digester effluent to monitor the health of the digestion process. Total Suspended and Volatile Suspended Solids are measured daily as well.

Data collected from all the sampling analysis provides valuable information for the operator to determine appropriate treatment adjustments required or corrective action needed to meet ECA effluent limits.

MECP Inspections

The last Ministry of Environment Conservation & Parks Inspection was completed on April 16, 2016; all follow up actions were completed as required.

MOL Inspections

A Ministry of Labour Inspection of the Stratford Water Pollution Control Plant was completed on September 12, 2018; follow-up site visits were made on October 10th and November 28th, 2019.

Summary and Interpretation

A review of all influent data and characteristics shows that there has been a slight increase in the amount of contaminants entering the Water Pollution Control Plant; influent Total Suspended Solids, TKN, and CBOD levels all increased slightly. The Stratford Water Pollution Control Plant Percent Removal of contaminated has remained relatively constant therefore showing that the treatment processes within the Facility are capable of handling the noted slight increase of contaminants entering the plant.

The average annual Raw Sewage Inlet Flows have remained fairly constant; see Appendix 1. There has been an increase in Overflow Discharging Volume of almost 168,000 m³; see Appendix 2. Fluctuations over the last 10 years are visible. The increase in the Overflow Discharge Volume flows over the past three years as shown in Appendix 2 suggesting that wet weather events are becoming more common and at more extreme levels.

Processed Organic Waste volume has decreased slightly from last year suggesting that the facility aeration process is working very efficiently to breakdown large organic solids and therefore reduce the amount of Waste Activated Sludge being returned to the Primary Clarifiers.

Final Effluent concentrations showed a slight increase in certain parameters and a slight decrease from 0.12 to 0.10 mg/L for Total Phosphorus. Seasonal fluctuations remain very low as consistent monitoring by operation staff reduces sporadic changes in the final effluent quality. Final Effluent Concentration limits & Loadings levels continue to be below the ECA identified Compliance. The 2018 annual average Total Phosphorus value is at par with the ECA Design Objective value; monitoring of the phosphorus removal treatment processes and operational adjustments are made within the Plant by staff to strive and achieve levels below the Design Concentration Monthly Objectives.

The Monitoring Schedule was followed throughout the 2018 calendar year with no significant deviations from the prepared sampling schedule. ECA identified Monthly & Weekly samples collected were sent to an accredited laboratory for analysis; in house lab analysis is performed by competent staff as required. Biosolids sampling was completed on a monthly basis to ensure required analysis is completed before land application ensues. Acute Lethality Testing of the Final Effluent is completed as required on an annual basis as required.

A 2019 facility monitoring schedule was developed late in 2018 to ensure staff continue to meet ECA regulated sample collections and process monitoring as we move forward annually. Operational staff complete daily on site facility rounds & checks. The combination of a developed monitoring schedule, onsite checks and in house sample analysis provides compliant continual close monitoring of all processes within the Plant and opportunities for process optimization as needed.

All planned and predictive maintenance is completed as required utilizing the Work Management System (Maximo).

There were minimal operating issues encountered during the 2018 calendar year at the Stratford WPCP. Limited operational challenges were the result of the OCWA planned preventative maintenance program utilizing the Work Management System (Maximo) that results in timely completion of maintenance activity and early operator identification of issues.

The failure of the Return Activated Sludge Pump in the early months of 2018 a required capital investment to resolve issue including planning to replace the 24 inch flowmeter within an in-ground vault. A summary of all Capital Works, including corrective maintenance repairs is located in Table 3.

The City of Stratford has undertaken multiple efforts in their system to reduce the number of Overflow & Bypass Events at the Stratford WPCP. Approximately eight (8) kilometres of sanitary pipes were relined in 2018 to inhibit infiltration of groundwater in to the sewage collection system. The 2019 estimated budget for the elimination of overflow/bypass discharges is still undetermined.

SECTION 3: RESPONSIBLE FACILITY MAINTENANCE & STEWARDSHIP

The City of Stratford owns all wastewater facilities used to transport and treat Stratford's wastewater. the Ontario Clean Water Agency is the contracted Operating Authority who operates and maintains the facility that receives and processes the City of Stratford Wastewater.

Facilities under OCWA's Stewardship

Wastewater system facilities and equipment under OCWA's stewardship extend from the influent structure to the final effluent discharge point. The City of Stratford Water Pollution Control Plant (WPCP) is a conventional activated sludge facility which uses anaerobic digestion to stabilize its wastewater solids. The Stratford Water Pollution Control Plant's major components include the following:

- Raw Sewage Pumping Station
- Two (2) Wet Weather Flow Equalization Tanks
- Overflow Chlorination and Dechlorination System

- Preliminary Treatment using two (2) Automatic Bar Screens
- Grit Removal System
- Four (4) Primary Settling Tanks (Clarifiers)
- Four (4) Aeration Tanks equipped with Fine Pore Ceramic Diffusers
- Three (3) Final Settling Tanks (Clarifiers) with rapid sludge removal
- Four (4) Dual-Media Filters
- Ultraviolet Irradiation System
- One (1) Primary Anaerobic Digester and One (2) Secondary Digester
- Two (2) Sludge Storage Tanks
- Two (2) Ferrous Chloride Chemical Storage Tanks equipped with Three (3) Chemical Feed Pumps
- One (1) Standby Diesel Generator

Equipment & systems required to properly operate and maintain the Stratford Water Pollution Control Plant, include:

- Mechanical Systems (e.g. pumps, valves, mixers, screens, augers)
- Electrical systems (e.g. power supplies)
- Instruments (e.g. flowmeters, level and pressure transmitters, etc.)
- Control systems (e.g. Supervisory Control & Data Acquisition Systems (SCADA), Programmable Logic Controllers (PLC))
- Information Technology Systems (e.g. Work Management system (Maximo), process data management system (WISKI).

The wastewater system also includes 10 sanitary sewage pumping stations and 1 stormwater pumping station. These stations are located throughout the City and operated and maintained by the City of Stratford's Wastewater Department.

Operations and Maintenance Work Prioritized and Scheduled

All operations and maintenance work at the plant is requested, scheduled, completed and documented using OCWA's Work Management System (WMS) called Maximo. Maintenance work to be completed may be identified by a plant operator, mechanic or electrician and is documented using a Work Order. Following approval of a Work order, the Work Order is assigned to required personnel. Planned or preventative work orders can be scheduled and generated automatically by the WMS. Such examples include weekly sample collections, monthly greasing and lubrication of equipment, and annual pump oil changes.

The Work Management System (Maximo) contains an abundance of important data in regards to plant assets and specific maintenance procedures on how to maintain assets. This system helps us identify when an asset reaches the point where it is most cost-effective to perform rehabilitation work or replacement. The WMS can also be utilized to store equipment operations manuals and inspection reports.

The Work Management System (Maximo) identifies risk and impact-based priorities that help us determine the order in which we perform maintenance and operational activities. The prioritization method in the system considers factors such as risk, safety, environmental, customer, operations, financial and urgency. Work order requests are prioritized to ensure that top priority work is being pursued at all times.

The OCWA Work Management System (Maximo) identifies are three types of work orders.

1. **Emergency work** – which usually involves safety hazards, environmental concerns or major interruption of service. Repairs are often initiated without waiting for work orders to be processed.
2. **Planned or Preventive** maintenance work – which does not require prioritizing, as it is always scheduled and built into the regular work schedule.
3. **Breakdown or Corrective** maintenance work – which is prioritized, planned and scheduled into the regular preventive maintenance program.

The preventive maintenance and corrective maintenance work requests are added to the schedule according to their priority, the workload of staff and the availability of any required outside contractors. The following table shows the number of preventive work orders generated and completed in 2018.

Table 2: Word Orders Completed in 2018

| ROUTINE or PREVENTIVE MAINTENANCE WORK ORDERS GENERATED in 2018 | | | | | | | | | | | |
|---|-----|-----|-----|-----|------|------|-----|------|-----|-----|-----|
| JAN | FEB | MAR | APR | MAY | JUNE | JULY | AUG | SEPT | OCT | NOV | DEC |
| 40 | 39 | 32 | 35 | 27 | 31 | 21 | 15 | 19 | 38 | 31 | 19 |

OCWA's ongoing investment in our information technology and asset management tools will continue to provide sound monitoring and detailed support for asset protection and for the long-term health of your system.

Equipment Inspection & Instrument Calibration

There were a number of planned calibrations and inspections completed in 2018, including:

- Meters: Influent Flowmeter, Final Effluent Flowmeter, Overflow Flowmeter and Level Transmitters (calibrated by Pierce Services and Solutions Inc.)
- All Hand-Held and Laboratory Equipment (calibrated by Pierce Services and Solutions Inc.)
- Backflow Preventers (inspected by Turner Plumbing and Heating)
- All Lifting Equipment/Devices (inspected by Kone Cranes)
- All personal Lifting Devices (inspected by Hamisco Industrial)
- All Gas Monitoring Equipment (calibrated by Hetek Solutions Inc.)
- Emergency Generator (inspected by Sommers)
- Fire Extinguishers (inspected by Mobile Fire and Safety)

- In- house meters for pH and dissolved oxygen (calibrated by competent OCWA operators as per manufacturer's instructions)
- Health and Safety (inspections completed monthly by a trained OCWA Health and Safety Representative.

SECTION 4: CAPITAL PROJECTS AND PERFORMANCE IMPROVEMENTS

2018 Annual Capital Repair and Replacement Projects

The following is a summary of capital work undertaken by OCWA at the Stratford WPCP in 2018. This work was performed under OCWA's direction and coordinated in a way to ensure the plant continued to operate at an optimum level during any on-site construction activities. Each project was identified in the rolling 5-year capital improvement plan for the wastewater plant.

OCWA was responsible for identifying, designing and successfully implementing a number of important repairs and replacement projects on behalf of the City in 2018. The table below shows the projects and the benefits they performed for the City.

Table 3: Capital Projects for 2018 managed by OCWA

| Capital Project | Maintain Day-To-Day Operations | Reduce Risk | Increase Efficiency | Reduce Cost | Improve Health & Safety |
|--|--------------------------------|-------------|---------------------|-------------|-------------------------|
| New Ferrous Chloride Pumps | X | X | X | X | |
| New VFD screw pumps | X | X | X | | X |
| Relocation of Hauled Sludge Loading Pipe & Flowmeter Installation | X | X | X | X | X |
| Service agreements on generator, backflow preventers, fire extinguishers, etc. | X | X | X | X | |
| Replacement of RAS Flowmeter | X | | | X | |
| Replacement of new pressure gauges | X | X | X | | |
| Mud Well Pump Replacements | X | X | X | X | |
| Lift Station Multi-Barrier Roof | X | X | X | | X |
| Building Door Replacements | X | X | X | X | |
| Motor Replacements for Sludge Recirculation Pumps | X | X | X | X | |
| Sludge Storage Tank Concrete Rehabilitation | X | X | X | | X |
| Filter building surface wash repair | X | X | X | | |
| Aeration cleanout | X | X | X | X | |
| Upgrade of the SCADA system & Automation of Primary Clarifier Actuating Valves | X | X | X | X | X |

2018 Improvement Projects

Three improvement projects were delivered in 2018 by OCWA's technical advisory staff as part of Stratford's ongoing commitment to improving the performance of its wastewater facility:

- Plant Aeration # 1 Cleanout
- Installation of new VFDs and Motors for the three (3) Lift Station Pumps
- Automation of Primary Clarifier Actuating Valves through OCWA SCADA Support

Each project was targeted at reducing the amount of energy and time required to run the facility, reduce the amount of chemicals used to achieve effluent quality targets and reduce the cost of both. The ultimate outcome is to deliver a significant reduction of the City's carbon footprint.

Plant Aeration Blower Upgrade

The OCWA technical advisory team successfully completed the installation of the Stratford WPCP turbo blower on March 20, 2014. The team did an initial engineering study in coordination with City management to determine the size and type of the blowers and estimate the anticipated annual energy reduction (293,000 kWh). The team's recommendations were then validated by a third party.

Significant energy savings and cost reductions have been achieved as a result of the turbo blower implementation, including:

- In 2014-15, 376,000 kWh of actual energy savings was achieved for a total of \$56,400 in cost savings
- In 2015-16, a reduction of 521,781 kWh of energy savings is anticipated for a total of \$78,267 in cost savings
- In 2016-17, 390,040 kWh of actual energy saving was achieved for a total of \$58,506 in cost savings. Considering the higher flows of 874,177m³ in 2017, the savings are reasonable.
- In the year 2018, actual annual savings have been verified to be 317,206 kWh of energy savings which totals to \$44,409 in cost savings.

Energy Audit

OCWA performed an Energy Audit at the plant in 2015 to identify all opportunities to improve the use of energy in addition to the use of the turbo blower and the VFD screw pumps. Additional recommendations to reduce energy usage in the plant were provided and taken into consideration for action in years to come.

Comprehensive Performance Evaluation (CPE)

In October 2014, OCWA delivered a Comprehensive Performance Evaluation Report (CPE) to the City. The CPE identified the health of the wastewater system and provided 25 recommendations for improvement in the areas of design, operation, maintenance, and administration. Those recommendations continue to be a source of potential capital projects.

SECTION 5: CLOSE COMMUNITY PARTNERSHIP

OCWA's staff is proud to be able to support the Stratford community through our education and awareness programs such as OCWA's OneWater Program as well as contributing to various important charitable groups. Examples of local outreach include:

- Providing 10-15 tours per year of the Stratford Water Pollution Control Plant for organizations such as elementary and high schools, World Water Day Enthusiasts and employees of the Perth District Health Unit
- Presenting our OneWater Program for water literacy and good water stewardship to Downie Central Public School
- Sponsoring local events such as:
 - Winterfest (2018, 2017, 2016, 2015, 2014)
 - Santa Clause Parade (2018, 2017, 2016, 2013)

OCWA Staff in the 2018 Santa Clause Parade



OCWA Staff Working on Aeration System



SECTION 6: RESPONSIVE CUSTOMER SERVICE

OCWA staff are committed to protecting the Stratford community and its environment 24 hours per day, 365 days per year. Our licensed wastewater operators provide this service during regular working hours and on call after hours in case of an emergency. OCWA staff operating the Stratford WPCP have ongoing access to OCWA's unique province-wide Operational Emergency Response Team and a team of technical and engineering experts who can be on site at a moment's notice.

Customer Enquiries

OCWA staff are always available to respond to any questions from City of Stratford representatives. OCWA uses the latest in mobile and integrated technologies to access the necessary information quickly and effectively. OCWA analyzes data and monitors trends to predict situations before they occur so relevant information can be shared with City staff before problems occur.

Essential Services Status Means No Labour Disruption

OCWA's operations staff are covered under an Essential Services Agreement that guarantees the City of Stratford will not experience any labour disruption during our partnership.

SECTION 7: SAFE & HEALTHY WORK ENVIRONMENT

The health and safety of our staff, our contractors and any visitors to the Stratford wastewater facilities is of paramount importance. We are committed to providing a safe and healthy workplace for all employees, regularly promoting awareness and providing training at every level of the organization. Our Occupational Health and Safety Policy set the foundation for the development, implementation and continuous improvement of our Occupational Health and Safety System and related programs. We also provide extensive training on everything from defensive driving to regulatory and facility-specific safety procedures. With health and safety at the core of our culture we make sure all our services are provided professionally and responsibly.

At Stratford we achieved our target of zero lost time incidents in 2018. As well, our local staff each completed their MECP mandatory training included in 50 hours of operations training and 20 hours of specific health, safety and emergency preparedness training.

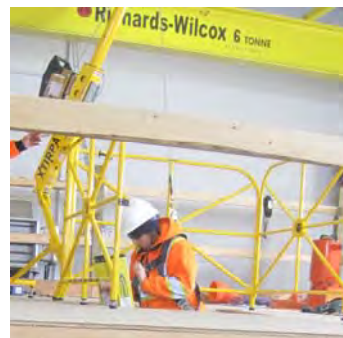
SECTION 8: OCWA CAPITAL RECOMMENDATIONS FOR 2019

There were a number of operational recommendations made for equipment rehabilitation and replacement required to ensure the plant continues to meet effluent compliance targets at an acceptable level of risk. We continue to consider a number of sources for the determination of capital priorities, including our Work Management System, the Comprehensive Performance Evaluation, the Energy Audit as well as the ongoing discussions with the City to make sure municipal priorities are considered. All projects are captured in an annually updated 5-year capital plan.

With the City's repair and replacement budget was set at \$200,000; the following capital items are recommended for 2019:

1. Upgrade all Programmable Logic Controllers (PLC) to optimize technical applications of the Facility SCADA System
2. Aeration Tank #2 cleanout and maintenance
3. Lunchroom roof repair.
4. Replace O-rings and gaskets on aeration diffusers.
5. Complete Rebuild of a Raw Sewage Pump
6. Replacement of one Raw Sewage Pump VFD
7. Replace rotor and stator of the raw sludge pumps.
8. New Energy Efficient Heaters for the Filter/ UV Building.

OCWA Staff Practicing Working in a Confined Space



Additional projects will be completed based on a clear cost-benefit as discussed with and approved by City staff.

SECTION 9: PLANT DESCRIPTION

Summary

The Stratford Water Pollution Control Plant (WPCP) is a conventional activated sludge facility with tertiary treatment. The plant receives raw influent which is subject to pumping, screening, grit removal, and primary settling before it arrives at the aeration process (tanks are equipped with fine pore ceramic diffusers). The liquids are then sent on for final settling with rapid sludge removal, before going through tertiary treatment filtration and ultraviolet irradiation.

In addition, phosphorus is removed during the treatment process by injecting ferrous chloride at a single point in the process. Dual point injection is available if required.

The waste solids are stabilized using a two-stage anaerobic digestion.

Wet weather flow is diverted from the distribution chamber to the wet weather flow equalization tanks and pumped back into the plant for treatment after the wet weather event has ended.

Table 4: Stratford Water Pollution Control Plant

| Plant Fact / Category | Description |
|---|--|
| Facility Type | Conventional activated sludge, sand filtration as tertiary treatment, with UV disinfection. Chlorination and de-chlorination of storm water overflow events. |
| Design Capacity | 30,660 m ³ /day |
| Receiving Water | Avon River |
| Certificate of Approval Number (Issued May 23, 2017; Revoked December 13, 2018) | 0932-AJNJT4 |
| Environmental Compliance Approval Number (Issued December 13, 2018) | 7526-B2UKVJ |
| Plant Classification | WWT-IV |

History

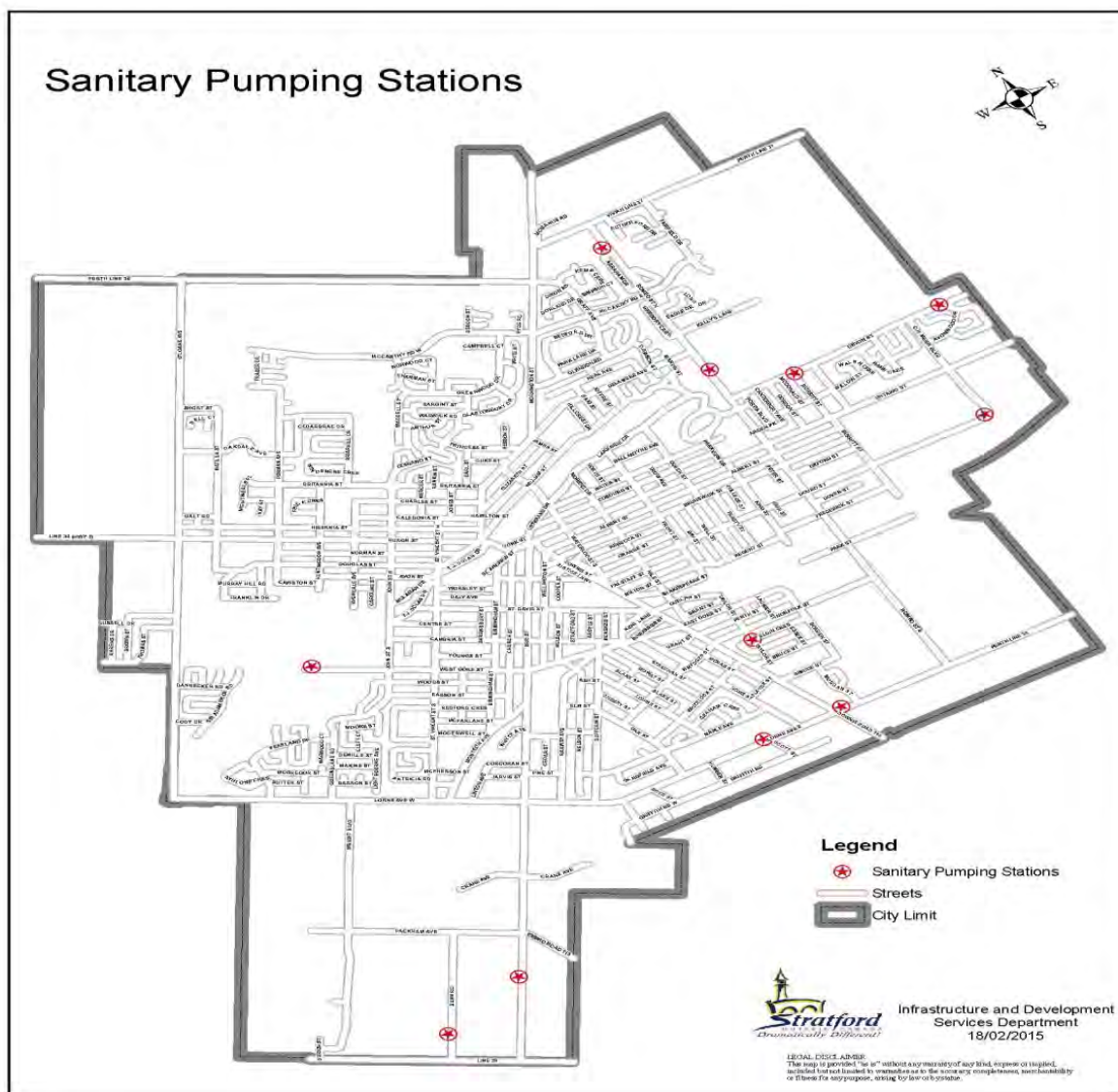
Improvements to the treatment facility were completed in 1996, 2004 and 2017. The 1996 improvements included the construction of a new wet weather flow equalization tank, upgraded the sewage pumping facilities, 4 new aeration tanks with fine bubble diffusion, one new secondary clarifier, modifications to the existing 2 secondary clarifiers, new chemical storage and delivery facilities, a new standby diesel engine and a generator capable of supplying 100% standby power for the site, new return sludge and waste sludge systems, metering and UV. The 2004 improvements included the modification to wet weather flow equalization tank number 1 with baffle walls, the construction of wet weather flow

equalization tank number 2, the addition of chlorination and de-chlorination facilities and miscellaneous controls, electrical equipment, instrumentation, piping, pumps and appurtenances essentials for the proper operation of the Water Pollution Control Plant. The 2017 the improvements include the primary clarifier upgrades and structural rehabilitation. A new diversion chamber was designed with the addition of 4 new stainless steel rotating sludge collection mechanisms, scum removal system, new bridges, electronic actuators and electrical panels with SCADA control.

Raw Wastewater Collection

The wastewater is collected by gravity and directed to the 10 Pump Stations and 1 Storm water Pumping Station located throughout the City of Stratford (see Fig. 1). The pump stations range from submersible pump operations to dry pit applications. All pumping stations are equipped with 2 pumps ranging in size from 1.5 horsepower to 29.0 horsepower. Six (6) of the pumping stations are equipped with backup emergency generators while the other stations have stand by power hook ups for connecting a mobile emergency generator. The pumps are controlled by a two level control systems, Miltronics Ultrasonic sensor and a float system. All pump stations are operated by the City of Stratford Wastewater Department and are equipped with alarm systems.

Figure 1: Stratford Sanitary Pumping Stations



Raw Wastewater Lift (raw sewage pumping) Station

The raw domestic wastewater is pumped from the pump stations to the raw sewage lift station located inside the gate at the WPCP treatment facility from the Forman/O'Loane and the Erie/Brydges/Worsley trunk sewers. The lift station is equipped with four (4) Archimedean screw, each of the three (3) screw pump having a capacity of 427L/s to handle peak dry weather flows and one (1) screw pump having a capacity of 2,600L/s to handle wet weather flows.



Archimedean Screw Pump

Wet Weather Flow Equalization Tanks and Facility

The storm tank and storm diversion system was commissioned and put into service in 2004. Under the new operation, excess flows are diverted to the two Equalization tanks and then to the chlorination contact tank during high flow events. Once all storage is full, excess flow begins to overflow the chlorination contact tank and the de-chlorinated primary treated effluent is discharged to the river. In these instances, the Equalization Tank acts as a primary clarifier (solids removal), providing primary treatment prior to the discharge to the Avon River.

Another storm tank was constructed beside the original tank on-site with a flushing system. A chemical building was constructed for the pumping of the sodium hypochlorite for the disinfection of the discharge and sodium bisulphite for the de-chlorination.

The two wet weather flow Equalization Tanks each have a capacity of approximately 3000m³, with a sediment flushing system and a 300mm diameter drain pipe connecting to the base of the raw sewage lift station. The overflow from tank 1 enters tank 2 which has baffle walls to provide an additional function for mixing during emergency wet weather overflow prior to discharge to the Avon River. In the event of a discharge to the Avon River, de-chlorination is achieved.

The overflow chlorination and de-chlorination facility consists of: chlorination and de-chlorination process equipment, controls and sampling equipment. The chlorination system for disinfection of emergency wet weather overflow includes two (2) 15,000 L capacity sodium hypochlorite storage tanks and four (4) 13.4 L/minute capacity metering pumps (one standby), chemical feed lines to the primary dosing point at the inlet chamber of the wet weather flow equalization tank # 1, equipped with an in-line mixer and a backup dosing point at the equalization tanks distribution chamber. The de-chlorination system for the emergency wet weather overflow includes one (1) 3,000 L capacity sodium bisulphite storage tank and two (2) 4.0 L/minute capacity metering pumps (one standby), chemical feed lines to the primary dosing point at the discharge channel of the wet weather flow equalization tank # 2, equipped with an in-line mixer and a backup dosing point at the bypass channel of the wet weather flow equalization tank # 2.

A SCADA system monitors all the flows entering the storm tanks and adjusts the chemical dosing rate based on the flow.



Chlorine Contact Chamber



Equalization Tank

Influent Works

The flow from the raw water lift station flows through the distribution chamber and into the screening building. The building consists of two (2) mechanical bar screens rated at a hydraulic peak flow of 450L/s, a dewatering screw auger to remove screenings, a grit handling facility and a metering chamber. The screening and the grit are removed and sent to the City of Stratford Landfill.



Automatic bar screens



Grit removal system

Primary Clarification

The flow from the inlet works enters the distribution chamber with waste activated sludge being added to the stream for co-settling through 2 of 4 primary clarifiers under normal flow conditions, each clarifier with a capacity of 1,500m³. The primary treatment system consists of four (4) circular primary clarifiers, of which two (2) Primary Clarifiers are used as storage tanks during wet weather events. The Primary Clarifiers are designed to remove settled and floating solids from the wastewater stream, utilizing sludge collector mechanisms, and thereby reducing the organic load on the downstream biological treatment process. Settled sludge collects on the bottom of the primary clarifiers and is moved to the central hoppers by a rotating scraper mechanism. Scum and floatables from the surface of the clarifiers are collected by rotating surface skimmers and directed to the scum hoppers. Both the

sludge and scum are pumped by two (2) sludge pumps and macerated through in-line grinders to the primary anaerobic digester.

There are two (2) raw sludge pumps rated at 10L/second, two (2) in-line sludge grinders, three (3) primary effluent submersible pumps rated at 210L/second and one (1) dewatering pump rated at 50L/second.



Primary Clarifiers

Biological Treatment (Secondary Treatment)

The main purpose of the secondary treatment system is the removal of solids dissolved in the wastewater and removal of suspended solids that were not removed in the primary treatment. In the aeration process (activated sludge process) bacteria utilize organic matter in the presence of dissolved oxygen for cell growth and reproduction. It is a biological treatment process that requires aerobic conditions and includes:

- **Carbonaceous Oxidation:** Biological conversion of carbonaceous matter in wastewater to cell tissue and various gaseous end products.
- **Nitrification:** Conversion of ammonia nitrogen to nitrites and then to nitrates.

The aeration system consists of four (4) aeration tanks. Each tank is divided into three passes to provide a plug flow aeration pattern. This flow pattern is usually recommended for nitrifying systems. It provides flexibility to vary the air supply within the tanks allowing better oxygen transfer and Dissolved Oxygen

(D.O.) control. It also optimizes power usage for aeration and improves sludge settleability. Aeration and mixing is provided by 12 grids of 944 ceramic disc fine pore diffusers per aeration tank, (1st pass 480, 2nd pass 284 and 3rd pass 180).

- **Air Supply System:** consists of one (1) duty...APG Neuros 350HP Turbo Blower and two (2) standby Hoffman 200HP centrifugal blowers that deliver compressed air to the aeration tanks and the diffuser air system.
- **Secondary Clarification:** There are three (3) circular Final Clarifiers. Mixed Liquor enters the final clarifier influent distribution chamber and is distributed evenly to the three tanks. The symmetrical shape of the chamber and positioning of the weirs ensure an equal split of the flow to each clarifier. Mixed Liquor enters each of the final clarifier via a feed pipe located at the base of the clarifier. The feed pipe discharges within a circular feed well which acts as a baffle to deflect the incoming flow downwards and reduces short circuiting.

The final clarifier mechanism in each tank is classified as a rapid sludge removal type. The settled sludge is continuously removed from the tank bottom by pipes which are supported on two rotating trusses. Mechanical rake arms on the bottom of the trusses scrape the settled sludge towards the opening in the suction pipes. The eight (8) suction pipes of each clarifier enter the sludge return box from below. A valve on each suction pipe is used to control the sludge flow rate into the box from each withdrawal pipe.

The settled sludge from the final clarifiers is identified as **Return Activated Sludge**. It is either returned to the main RAS header and further to the inlet chamber upstream of the aeration tanks or **Waste Activated Sludge** which is pumped to the discharge point in the primary settling tank inlet chamber. The Waste Activated Sludge then settles within the primary clarifiers and is pumped to the digesters.



Aeration System



Air Supply

*Final Clarifiers*

Effluent Filtration

In normal operation, secondary effluent is lifted by the Archimedean screws and flow into the filter box through the filter inlet gate. The effluent filtration system is rated at 30,660m³ per day, and consists of four (4) rapid filters provided with two (2) sub-surface agitators on each filter. The filters are designed to remove solids in the effluent discharged from the secondary clarifiers. In removal of the solids, some of the remaining BOD and phosphorus are also reduced. The solids accumulated in the filter are removed when the filters are backwashed and the backwash wastewater is pumped to the primary clarifier inlet channel. In the process of pumping to the primary clarifier inlet chamber, many of the solids removed by filtration are removed in the second routing through the plant by physical, chemical or biological flocculation and resultant sedimentation. As a result, finely divided solids do not accumulate in the plant.

The four (4) filters are housed in rectangular concrete boxes arranged side by side. In the concrete boxes are longitudinal trenches with pipe connections that provide outlets for filtered effluent and also is the supply source for the backwash pump. The trenches are bridged by vitrified clay filter blocks that cover the floors of the filter boxes. On the filter blocks, three (3) layers of media are placed. Layer one consists of 310 mm of graded support gravel varying in size from 19 mm on the bottom to 2.5 mm on the top. Layer two is 350 mm of filter sand and layer three is 460 mm layer of anthracite. There are two rotating sub-surface agitators in each filter box. Each agitator arm is provided with 38 nozzles and is designed to mix the expanded media during the backwash operation in order to effectively scour the media and remove all accumulated solids. Water with at least 485 kPa is used to rotate the sub-surface agitator during the backwash operation.

The effluent passes down through the filter media and is collected in the wet well beneath the filters and flows into the UV disinfection building channel. The rate of flow through the filters can be controlled for each filter by the filter rate control valve or by the filter inlet gate. Once passed through the filter, the effluent flows via channel to the final effluent disinfection process.

*Filter control room**Filter room**Filter model**Interior of a filter*

Final Effluent Disinfection

The effluent is directed to the open channel ultra-violet (UV) disinfection system before being finally discharged to the Avon River.

Filtered effluent flows to the UV channel where it is disinfected by the UV light. The UV system consists of two banks each comprised of 21 modules with 8 lamps per rack, totaling 168 lamps per bank placed in series within one disinfection channel. In addition, one stand-by unit is stored in the UV system cleaning basin in case there is failure with the active UV banks.



Ultraviolet Disinfection

Sludge Management System

The sludge stabilization system is a two-stage digestion process. The primary digester has a fixed cover and the secondary digester has a floating gasholder cover. The system has been designed so that either unit can function as a primary digester if necessary.

These are essentially four key elements to the anaerobic digestion system:

- Sludge feed and supernatant withdrawal
- Sludge recirculation and heating
- Gas system and digester mixing
- Sludge withdrawal

Primary sludge is pumped from the primary settling tanks to the primary digester. The primary digester is maintained at a constant level. When sludge is pumped into the digester, excess sludge overflows into the primary tank supernatant overflow box. The lowest pipe in the overflow box connects to the transfer line that leads to the secondary digester. The second highest pipe connects to the supernatant return line to the inlet works (acts as an emergency overflow). The third pipe in the box is the feed line for the box from the primary digester.

The primary digester is gas mixed. The gas compressor located in the gas pump room continuously moves gas through the diffusers located in the bottom cone of the tank. This induces a rolling motion in the digester that provides complete mixing in the unit. Sludge is heated by pumping it through the heat exchanger and back to the primary digester. The sludge recirculation pump operates continuously in duty/standby mode. Hot water is fed to the heat exchanger to heat the primary sludge and is turned on and off automatically.

Once sludge is transferred to the secondary digester, it settles and thickens in the tank. Gas that is produced is stored in the gas holder cover. Supernatant from the tank overflows in the secondary overflow box and is returned (by gravity) to the primary clarifier influent channel. Sludge can be sampled at various levels inside the digester by opening the appropriate valves in the sampling sink room.

Sludge is withdrawn from the bottom of the secondary digester and transferred to the sludge storage holding tank or sludge storage bed. Sludge is then withdrawn from the holding tank/bed and transferred to the truck loading bay by the transfer pumps. All sludge is removed and applied to agricultural land as per the NASM Guidelines.



2 Stage Anaerobic Digestion (Primary on the left and Secondary on the right, boiler room in the middle)



Sludge storage tank

Standby Power

The WPCP has an automatic standby generator which will operate the plant when there is a power failure. This allows for continuous running of the plant when power outages occur.



Emergency standby power

SECTION 10: FLOW AND WATER QUALITY DATA

Flow and water quality data at the Stratford WPCP is monitored as per Amended Environmental Compliance Approval #0932-AJNJT4 and Amended Environmental Compliance Approval #7526-B2UKVJ requirements. Detailed monitoring data is supplied in **Appendix 4**.

Raw Wastewater Flow & Discharge Data

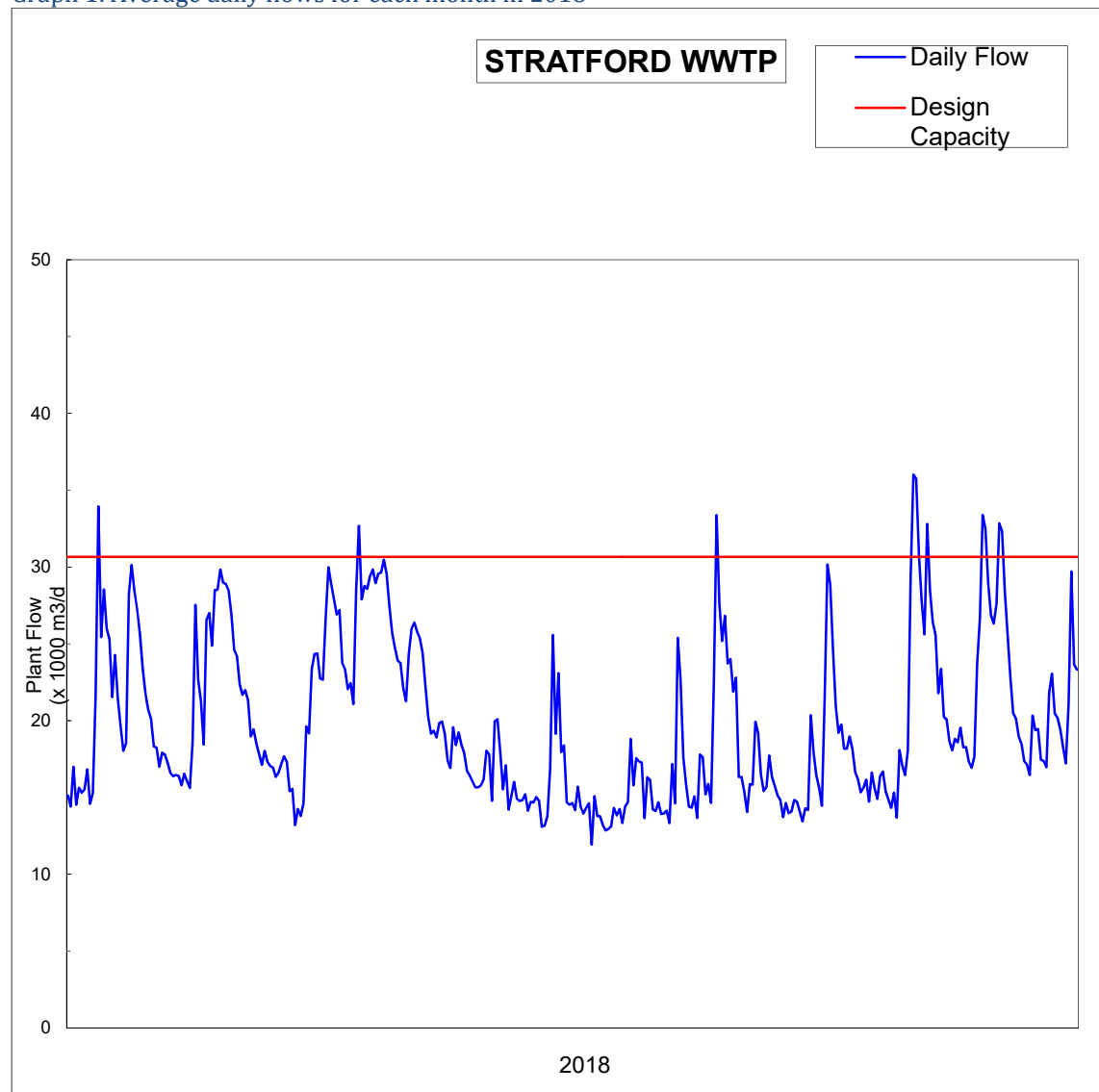
The table below summarizes the flow data for 2018.

Table 5: Stratford Water Pollution Control Plant Flows 2018

| Flow Parameter | Value |
|---|-----------|
| Total Annual Wastewater Flow Treated (m ³) | 6,752,536 |
| Average Daily Raw Wastewater Flow (m ³ /d) | 19,850.81 |
| Average Daily Raw Wastewater Flow / Design Capacity (%) | 64.74 |
| Maximum Daily Raw Wastewater Flow (m ³) | 35,491 |
| Instances Flow Exceeded Design Capacity (#) | 9 |
| Instances ECA limits were exceeded (#) | 0 |

The graph below shows the average daily flows during each month in 2018. There were 9 instances where the design flow of 30,660 was exceeded, these occurred throughout the year. Despite the higher flows, the plant was able to produce quality effluent without limit exceedances during these months as per ECA #0932-AJNJT4 and ECA # 7526-B2UKVJ

Graph 1: Average daily flows for each month in 2018



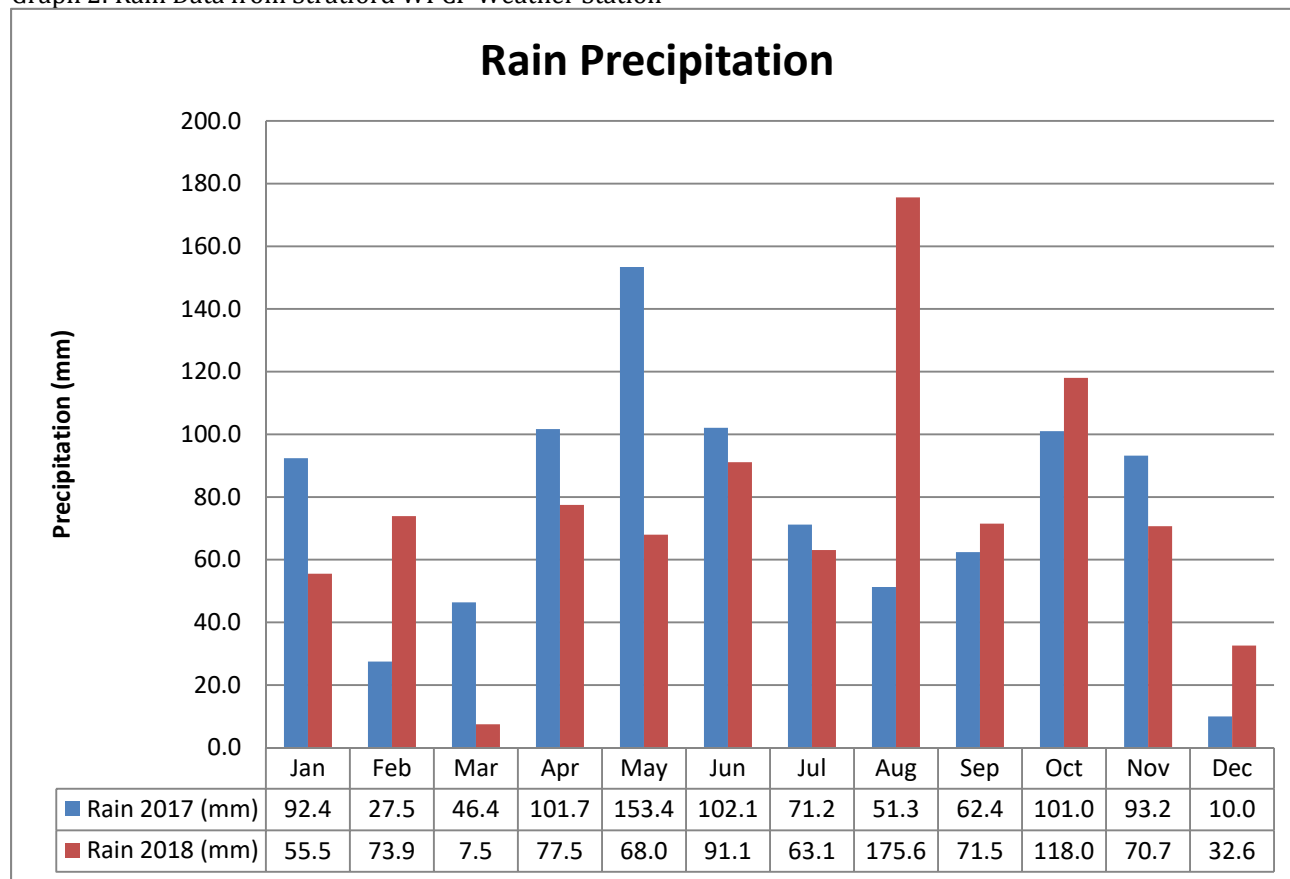
There were 8 events totaling 28 days of discharge from the wet weather flow equalization tanks in 2018 due to flows caused by heavy precipitation and or snow melt. All plant discharges received minimum primary treatment and were reported to the MECP. A total of 704,398m³ was discharged for a total of 520.3 hours. A summary of plant bypasses from 2008 to 2018 is provided in [Appendix 2](#).

A Stratford WPCP Tertiary Bypass began on March 26th and ended on March 27th 2018. A total volume of 14,557 m³ was bypassed during this event; this event lasted approximately 24 hours. All bypassing flow

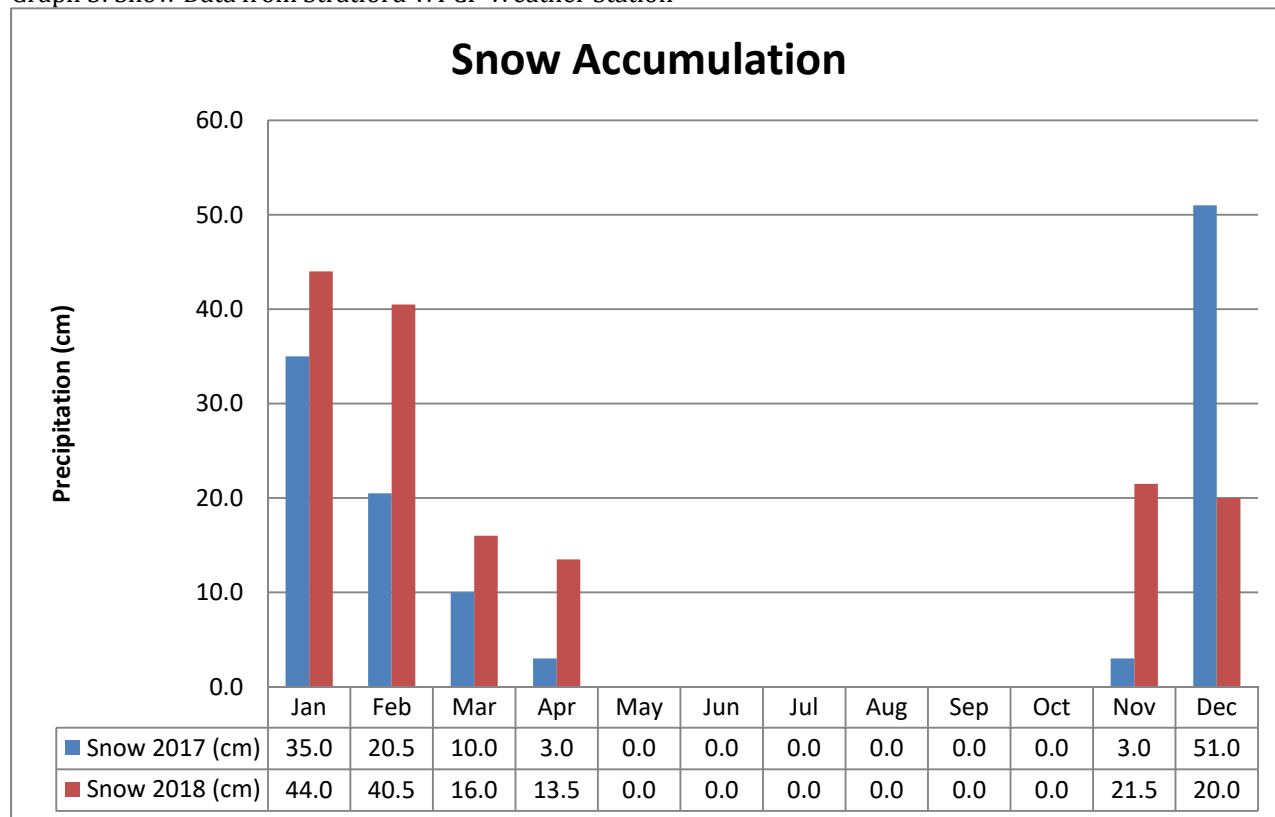
was disinfected through the facilities UV system . The bypass was the result of the failure of the Mud Well Pumps. New pumps were installed and the issue resolved.

The UV System was bypassed from July 13th to July 23^d 2018; UV channel cleaning and maintenance work was completed at this time.

Graph 2: Rain Data from Stratford WPCP Weather Station



Graph 3: Snow Data from Stratford WPCP Weather Station



Wastewater Quality

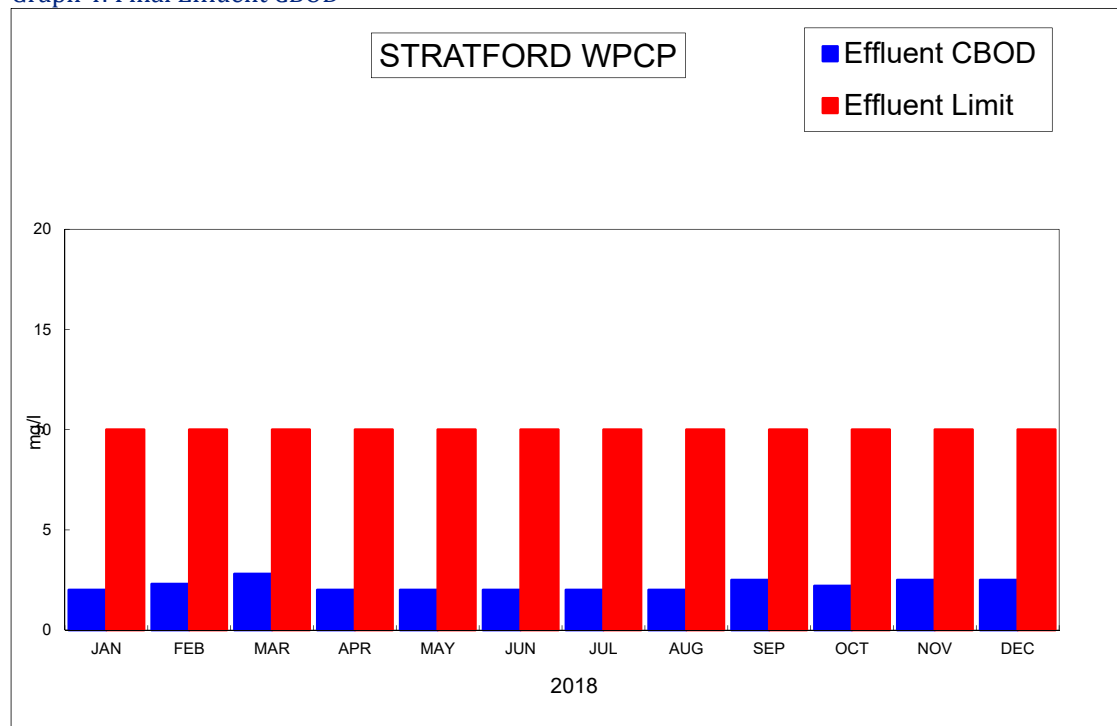
The raw wastewater is analyzed weekly for BOD₅, total suspended solids, Total Kjeldahl Nitrogen and total phosphorus from a 24-hour composite sample.

The final effluent is monitored, sampled and tested weekly for Carbonaceous Biological Oxygen Demand (CBOD)₅, Total Suspended Solids (TSS), Total Phosphorus (TP), Total Kjeldahl Nitrogen (TKN), Nitrate, Nitrite and Total Ammonia Nitrogen (TAN) weekly by composite sample. E-coli, pH, Temperature and Dissolved Oxygen (DO) is monitored weekly by grab sample. Unionized ammonia is calculated weekly. Total Residual Chlorine or Bisulphite Residual is tested daily when in use. Refer to [Appendix 4](#) for more detailed monthly results.

Carbonaceous Biochemical Oxygen Demand (CBOD₅)

The annual average raw sewage BOD₅ concentration to the plant was 135 mg/L with a maximum concentration of 216 mg/L. The annual final effluent CBOD concentration was 2.23 mg/L with a maximum of 2.75 mg/L.

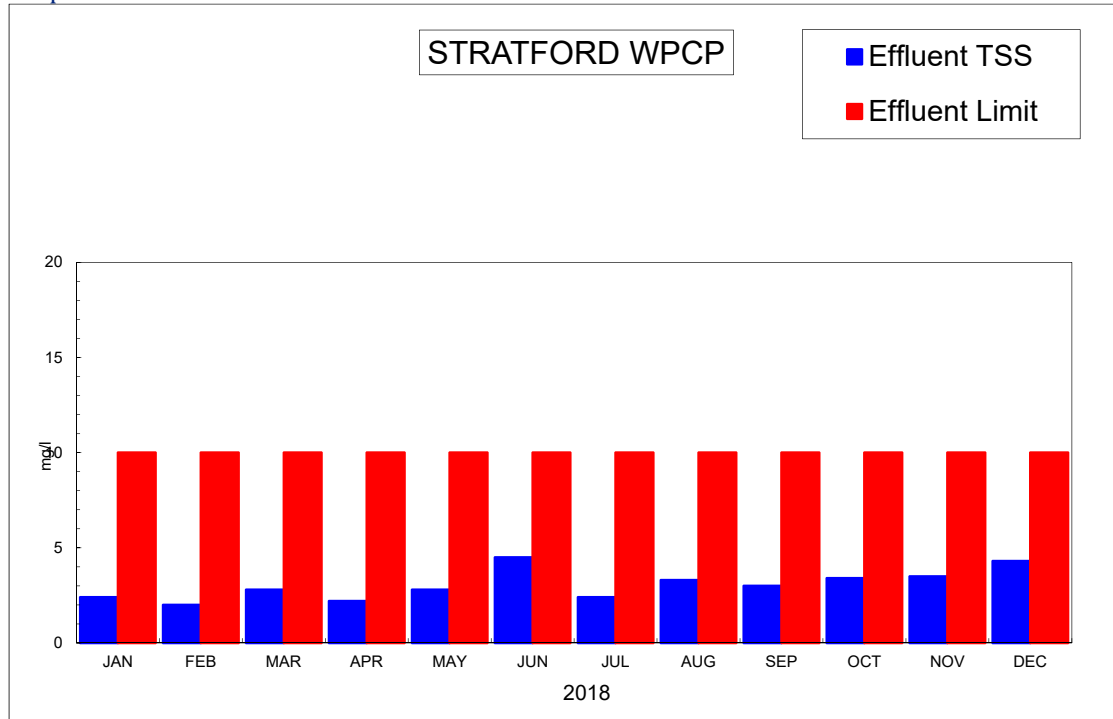
Graph 4: Final Effluent CBOD



Total Suspended Solids (TSS)

The annual average raw sewage total suspended solids (TSS) concentration to the plant was 124.3 mg/L, with a maximum concentration of 202.3 mg/L. The annual average final effluent TSS concentration was 3.03 mg/L with a maximum concentration of 4.5 mg/L.

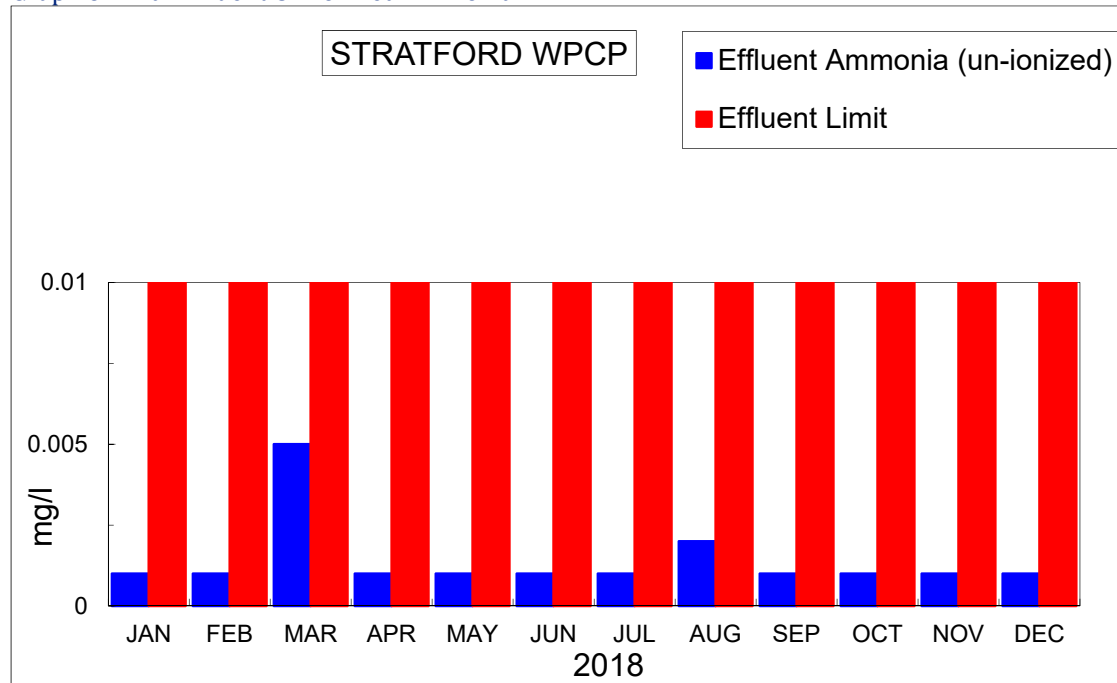
Graph 5: Final Effluent TSS



Total Kjeldahl Nitrogen(TKN) & Un-Ionized Ammonia

The annual average raw sewage Total Kjeldahl Nitrogen (TKN) concentration to the plant was 22.77 mg/L with a maximum concentration of 33.16 mg/L. The annual final effluent TKN concentration was 0.89 mg/L with a maximum concentration of 1.7 mg/L. The average annual unionized ammonia concentration of the effluent was 0.0014 mg/L, with the compliance limit of 0.1 mg/L.

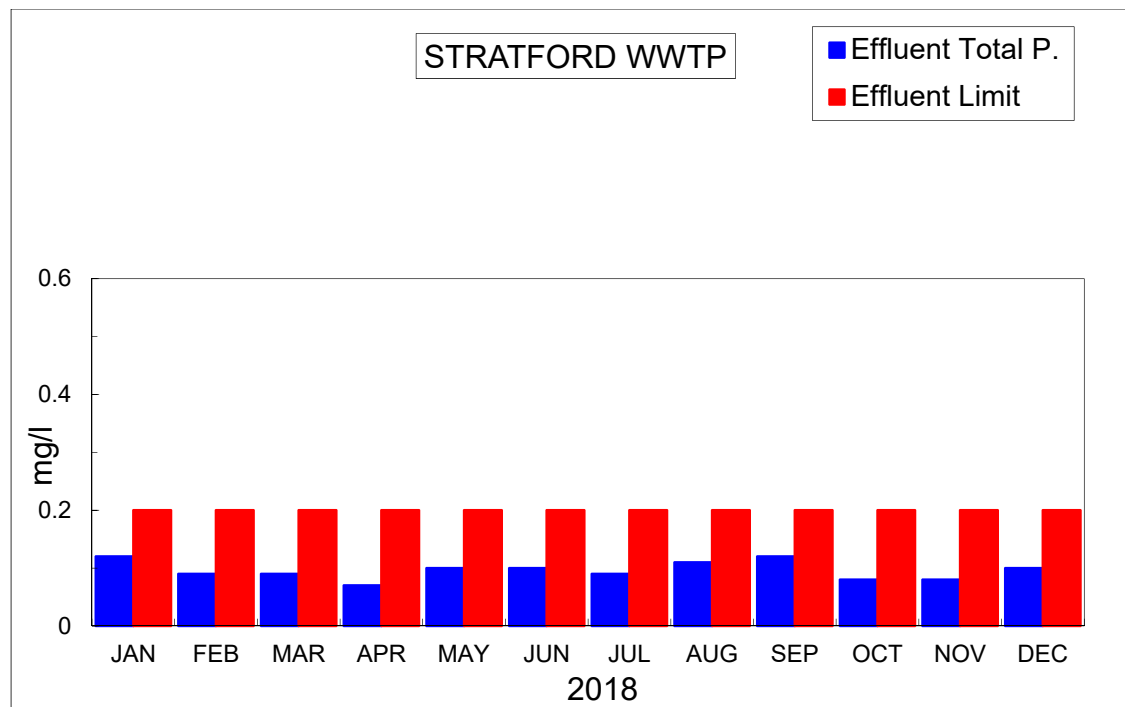
Graph 6: Final Effluent Un-ionized Ammonia



Total Phosphorous

The annual average raw sewage total phosphorus (TP) concentration to the plant was 2.62 mg/L with a maximum concentration of 3.62 mg/L. The annual average final effluent TP concentration was 0.099mg/L with the maximum being 0.13 mg/L.

Graph 7: Final Effluent Total Phosphorus



Biosolids Quality

Biosolids produced at the Stratford WPCP are anaerobically-stabilized and land applied in accordance with the Ontario Guidelines for Sewage Biosolids Utilization on Agricultural Lands. All Biosolids sample analysis was carried out by SGS Lakefield Research Ltd. A summary of the analysis is provided in [Appendix 4](#).

Bartels Environmental Services has been contracted to haul and land apply all Biosolids produced at the WPCP. A total of 13,677 m³ was land applied to numerous sites located within Perth County. Monthly haulage volumes from the treatment plant can be found in the Annual Summary report in [Appendix 4](#). Based on the information, the hauled biosolids volume for 2019 is anticipated to be in the range 14,000 m³.

Biosolids Land Application

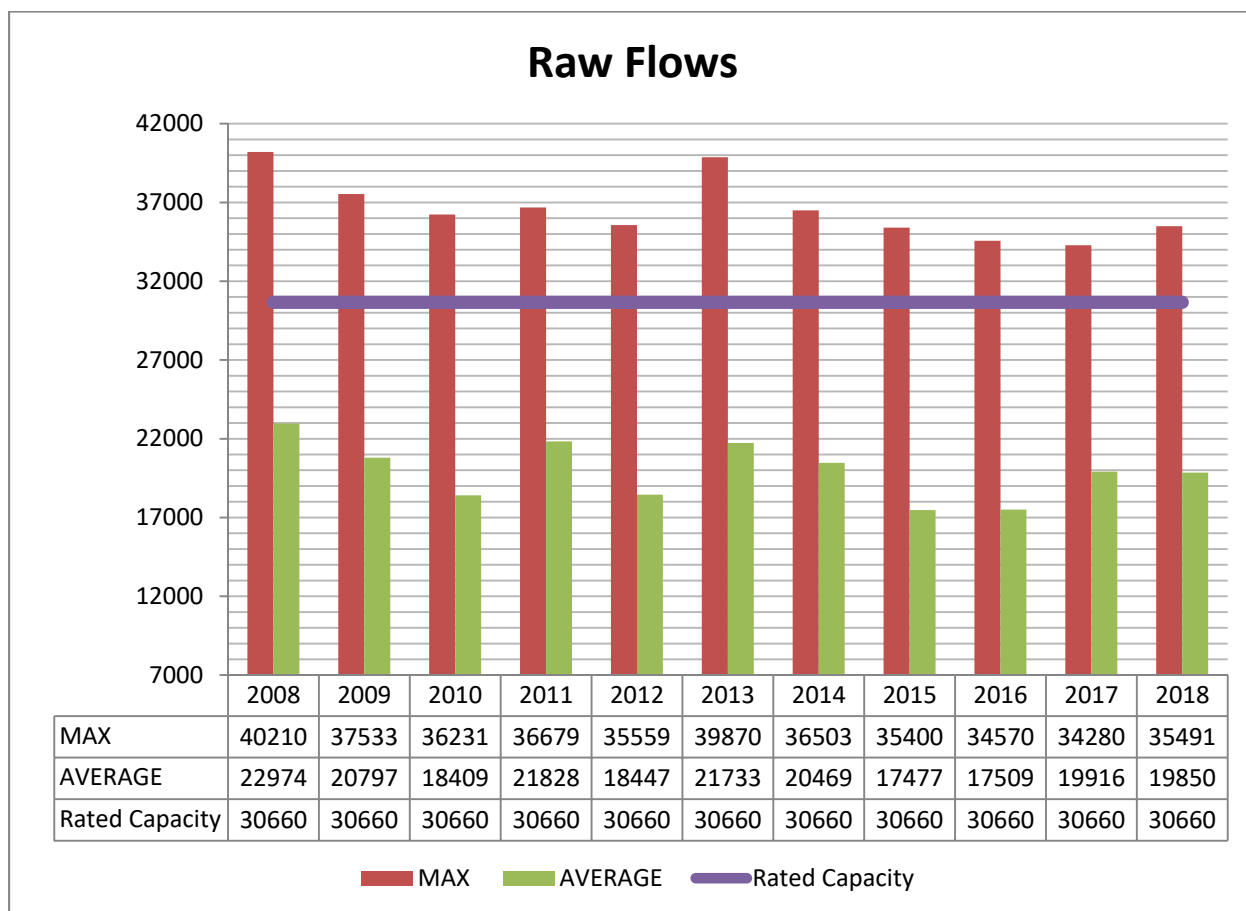
| NASAM Plan Site ID | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP | OCT | NOV | DEC | TOTAL |
|-----------------------|-----|-----|-----|-----|--------|-----|------|-----|-----|-----|------|-----|---------------------------|
| 22648 | | | | | 2964.0 | | | | | | | | 2964.0 |
| 22370 | | | | | 1189.0 | | | | | | | | 1189.0 |
| 23274 | | | | | 572.0 | | | | | | | | 572.0 |
| 22030 | | | | | | | 3876 | | | | | | 3876 |
| 22423 | | | | | | | | | | | 1971 | | 1971 |
| 23059 | | | | | | | | | | | 3105 | | 3105 |
| | | | | | | | | | | | | | |
| TOTAL | | | | | | | | | | | | | 13677m³ |

Air Quality

There were no odour complaints in 2018.

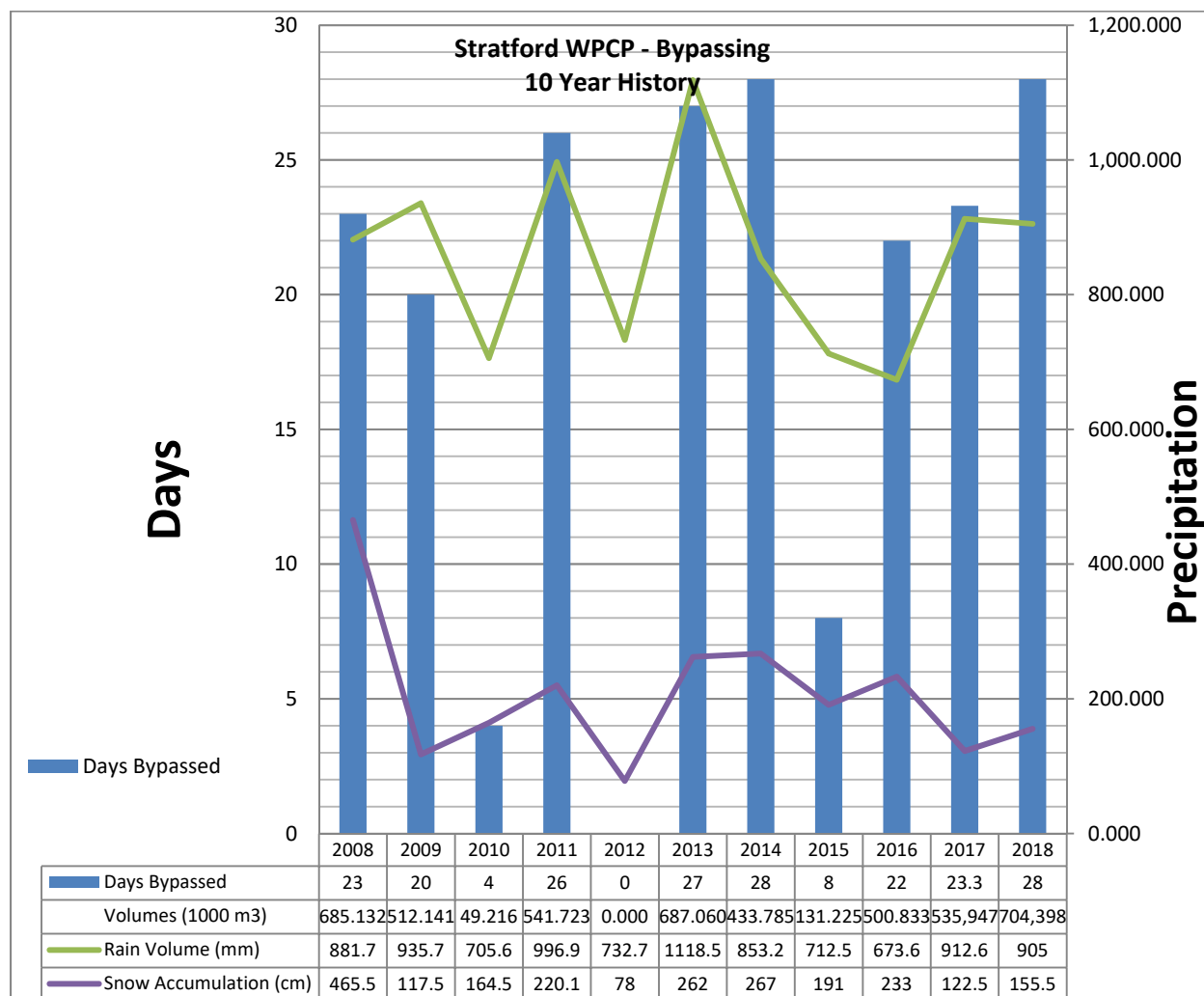
Appendix Cover Page

Appendix 1: Raw Sewage Influent Flows



Raw Water Influent Flows

Appendix 2: 10-Year Plant Bypass History



10-Year Bypass History

Appendix 3: Plant Performance Data**STRATFORD WASTEWATER TREATMENT PLANT 2018 Treatment Performance Results****ANNUAL SUMMARY FOR 2018****PLANT FLOWS**Total Flow: 7,236,945 m³Average Daily Flow: 19,850 m³**RAW SEWAGE QUALITY DATA (ANNUAL AVERAGE – mg/L)****ANNUAL LOADINGS**

BOD: 135.0 mg/L 2,686.0 kg/day

TSS: 124.0 mg/L 2,468.0 kg/day

TKN: 22.8 mg/L 452.0 kg/day

Total Phosphorus: 2.6 mg/L 52.0 kg/day

EFFLUENT QUALITY DATA (ANNUAL AVERAGE – mg/L)**ANNUAL LOADINGS**

CBOD: 2.6 mg/L 44.3 kg/day

TSS: 3.1 mg/L 60.5 kg/day

Ammonia: 0.20 mg/L 2.4 kg/day

TKN: 0.89 mg/L 17.7 kg/day

Total Phosphorus: 0.10 mg/L 1.9 kg/day

PERCENT REMOVAL

CBOD: 98.3%

TSS: 97.5%

TKN: 96.1%

Total Phosphorus: 95.4%

SLUDGE REMOVEDTotal Volume: 13,677 m³**COAGULANT USED**

Ferrous Chloride: 77,267 kg

Appendix 4: Performance Assessment Report Details

**Ontario Clean Water Agency
Performance Assessment Report Wastewater/Lagoon**

From: 01/01/2018 to 31/12/2018

Report extracted 01/28/2019 09:05

Facility: [5529] STRATFORD WASTEWATER TREATMENT FACILITY

Works: [110000702]

| | 01/2018 | 02/2018 | 03/2018 | 04/2018 | 05/2018 | 06/2018 | 07/2018 | 08/2018 | 09/2018 | 10/2018 | 11/2018 | 12/2018 | <--Total--> | <--Avg.--> | <--Max.--> | <--Criteria--> |
|---|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-------------|------------|------------|----------------|
| Flows: | | | | | | | | | | | | | | | | |
| Raw Flow: Total - Raw Sewage (m³) | 664030.00 | 596480.00 | 582680.00 | 805590.00 | 618430.00 | 495258.00 | 454959.00 | 580188.00 | 470640.00 | 556620.00 | 737930.00 | 674140.00 | 7236945.00 | | | |
| Raw Flow: Avg - Raw Sewage (m³/d) | 21420.32 | 21302.86 | 18796.13 | 26853.00 | 19949.35 | 16508.60 | 14676.10 | 18715.74 | 15688.00 | 17955.48 | 24597.67 | 21746.45 | | 19850.81 | | |
| Raw Flow: Max - Raw Sewage (m³/d) | 33940.00 | 29830.00 | 26910.00 | 32670.00 | 26380.00 | 25570.00 | 18810.00 | 33370.00 | 20350.00 | 30160.00 | 36010.00 | 32840.00 | | | 36010.00 | |
| Eff. Flow: Total - Final Effluent (m³) | 617310.00 | 557064.00 | 552250.00 | 763532.00 | 568708.00 | 455360.00 | 422243.00 | 539868.00 | 433352.00 | 515086.00 | 696941.00 | 630822.00 | 6752536.00 | | | |
| Eff. Flow: Avg - Final Effluent (m³/d) | 19913.23 | 19895.14 | 17814.52 | 25451.07 | 18345.42 | 15178.67 | 13620.74 | 17415.10 | 14445.07 | 16615.68 | 23231.37 | 20349.10 | | 18522.92 | | |
| Eff. Flow: Max - Final Effluent (m³/d) | 32362.00 | 28581.00 | 25973.00 | 31114.00 | 24740.00 | 24798.00 | 17510.00 | 31493.00 | 19363.00 | 28552.00 | 35491.00 | 31230.00 | | | 35491.00 | |
| Carbonaceous Biochemical Oxygen Demand: CBOD: | | | | | | | | | | | | | | | | |
| Eff: Avg cBOD5 - Final Effluent (mg/L) | < 2.000 | < 2.250 | < 2.750 | < 2.000 | < 2.000 | < 2.000 | < 2.000 | < 2.000 | < 2.500 | < 2.200 | < 2.500 | < 2.500 | | < 2.225 | < 2.750 | 10.0 |
| Eff: # of samples of cBOD5 - Final Effluent (mg/L) | 5 | 4 | 4 | 5 | 4 | 4 | 5 | 4 | 4 | 5 | 4 | 4 | 52 | | | |
| Loading: cBOD5 - Final Effluent (kg/d) | < 39.826 | < 44.764 | < 48.990 | < 50.902 | < 36.691 | < 30.357 | < 27.241 | < 34.830 | < 36.113 | < 36.554 | < 58.078 | < 50.873 | | < 41.268 | < 58.078 | |
| Biochemical Oxygen Demand: BOD5: | | | | | | | | | | | | | | | | |
| Raw: Avg BOD5 - Raw Sewage (mg/L) | 151.200 | 78.500 | 215.500 | 86.600 | 148.250 | 122.250 | 197.400 | 163.500 | 121.000 | 113.000 | 123.250 | 102.750 | | 135.267 | 215.500 | |
| Raw: # of samples of BOD5 - Raw Sewage (mg/L) | 5 | 4 | 4 | 5 | 4 | 4 | 5 | 4 | 4 | 5 | 4 | 4 | 52 | | | |
| Total Suspended Solids: TSS: | | | | | | | | | | | | | | | | |
| Raw: Avg TSS - Raw Sewage (mg/L) | 186.200 | 49.000 | 120.750 | 75.800 | 130.000 | 94.250 | 173.000 | 202.250 | 112.250 | 156.200 | 104.500 | 87.750 | | 124.329 | 202.250 | |
| Raw: # of samples of TSS - Raw Sewage (mg/L) | 5 | 4 | 4 | 5 | 4 | 4 | 5 | 4 | 4 | 5 | 4 | 4 | 52 | | | |
| Eff: Avg TSS - Final Effluent (mg/L) | 2.400 | < 2.000 | < 2.750 | < 2.200 | < 2.750 | < 4.500 | < 2.400 | 3.250 | 3.000 | 3.400 | 3.500 | 4.250 | | < 3.033 | 4.500 | |
| Eff: # of samples of TSS - Final Effluent (mg/L) | 5 | 4 | 4 | 5 | 4 | 4 | 5 | 4 | 4 | 5 | 4 | 4 | 52 | | | |
| Loading: TSS - Final Effluent (kg/d) | 47.792 | < 39.790 | < 48.990 | < 55.992 | < 50.450 | < 68.304 | < 32.690 | 56.599 | 43.335 | 56.493 | 81.310 | 86.484 | | < 55.686 | 86.484 | |
| Percent Removal: TSS - Raw Sewage (mg/L) | 98.711 | 95.918 | 97.723 | 97.098 | 97.885 | 95.225 | 98.613 | 98.393 | 97.327 | 97.823 | 96.651 | 95.157 | | | 98.711 | |
| Total Phosphorus: TP: | | | | | | | | | | | | | | | | |
| Raw: Avg TP - Raw Sewage (mg/L) | 3.236 | 1.900 | 3.455 | 1.568 | 2.318 | 2.910 | 3.622 | 3.063 | 2.720 | 2.512 | 1.693 | 2.403 | | 2.617 | 3.622 | |
| Raw: # of samples of TP - Raw Sewage (mg/L) | 5 | 4 | 4 | 5 | 4 | 4 | 5 | 4 | 4 | 5 | 4 | 4 | 52 | | | |
| Eff: Avg TP - Final Effluent (mg/L) | 0.124 | 0.090 | 0.093 | 0.066 | 0.100 | 0.133 | 0.090 | 0.110 | 0.107 | 0.088 | 0.080 | 0.105 | | 0.099 | 0.133 | 0.2 - 0.5 |
| Eff: # of samples of TP - Final Effluent (mg/L) | 5 | 4 | 4 | 5 | 4 | 4 | 5 | 4 | 4 | 5 | 4 | 4 | 52 | | | |
| Loading: TP - Final Effluent (kg/d) | 2.469 | 1.791 | 1.648 | 1.680 | 1.835 | 2.011 | 1.226 | 1.916 | 1.553 | 1.462 | 1.859 | 2.137 | | 1.799 | 2.469 | |
| Percent Removal: TP - Raw Sewage (mg/L) | 96.168 | 95.263 | 97.323 | 95.791 | 95.685 | 95.447 | 97.515 | 96.408 | 96.048 | 96.497 | 95.273 | 95.630 | | | 97.515 | |
| Nitrogen Series: | | | | | | | | | | | | | | | | |
| Raw: Avg TKN - Raw Sewage (mg/L) | 25.720 | 18.100 | 24.625 | 14.400 | 19.725 | 21.750 | 33.160 | 23.750 | 23.900 | 26.900 | 18.125 | 23.025 | | 22.765 | 33.160 | |
| Raw: # of samples of TKN - Raw Sewage (mg/L) | 5 | 4 | 4 | 5 | 4 | 4 | 5 | 4 | 4 | 5 | 4 | 4 | 52 | | | |
| Eff: Avg TAN - Final Effluent (mg/L) | < 0.120 | < 0.125 | < 1.200 | < 0.100 | < 0.100 | < 0.100 | < 0.100 | < 0.100 | < 0.100 | < 0.100 | < 0.100 | < 0.100 | | < 0.195 | < 1.200 | |
| Eff: # of samples of TAN - Final Effluent (mg/L) | 5 | 4 | 4 | 5 | 4 | 4 | 5 | 4 | 4 | 5 | 4 | 4 | 52 | | | |
| Loading: TAN - Final Effluent (kg/d) | < 2.390 | < 2.487 | < 21.377 | < 2.545 | < 1.835 | < 1.518 | < 1.362 | < 1.742 | < 1.445 | < 1.662 | < 2.323 | < 2.035 | | < 3.560 | < 21.377 | |
| Eff: Avg NO3-N - Final Effluent (mg/L) | 19.140 | 18.500 | 20.050 | 15.600 | 19.050 | 23.400 | 23.200 | 19.200 | 23.575 | 23.260 | 17.100 | 18.575 | | 20.054 | 23.575 | |
| Eff: # of samples of NO3-N - Final Effluent (mg/L) | 5 | 4 | 4 | 5 | 4 | 4 | 5 | 4 | 4 | 5 | 4 | 4 | 52 | | | |
| Eff: Avg NO2-N - Final Effluent (mg/L) | < 0.222 | < 0.138 | < 0.148 | < 0.038 | 0.063 | < 0.033 | < 0.030 | < 0.030 | < 0.033 | < 0.038 | < 0.030 | < 0.038 | | < 0.070 | 0.222 | |
| Eff: # of samples of NO2-N - Final Effluent (mg/L) | 5 | 4 | 4 | 5 | 4 | 4 | 5 | 4 | 4 | 5 | 4 | 4 | 52 | | | |
| Disinfection: | | | | | | | | | | | | | | | | |
| Eff: GMD E. Coli - Final Effluent (cfu/100mL) | 8.510 | 8.540 | 8.736 | 8.648 | 3.162 | 2.632 | 2.541 | 1.316 | 1.189 | 13.434 | 3.130 | 15.383 | | 6.435 | 15.383 | |
| Eff: # of samples of E. Coli - Final Effluent (cfu/100mL) | 5 | 4 | 4 | 5 | 4 | 4 | 5 | 4 | 4 | 5 | 4 | 4 | 52 | | | |

Appendix 5: Glossary of Terms

| Term | Acronym | Meaning in Relation to the Operational Compliance Report |
|--|-------------------|---|
| Acute Lethality | | Indicator of an effluent of a quality level such that it kills more than 50% of rainbow trout subjected to it for a period of a 96-hours |
| Adverse Water Quality Incident | AWQI | Reportable event that occurs when a regulated parameter (e.g. CBOD ₅) exceeds established targets |
| Biochemical Oxygen Demand | BOD ₅ | Measure of the amount of oxygen needed by aerobic biological organisms in a body of water to break down organic material at a certain temperature over 5 days. Indicator of the level of organic materials present in water. |
| Bypass | | Diversion of sewage around one or more treatment processes, excluding Preliminary Treatment System, within the Sewage Treatment Plant with the diverted sewage flows being returned to the Sewage Treatment Plant treatment train upstream of the Final Effluent sampling point(s) and discharged via the approved effluent disposal facilities |
| Bypass, Primary | PrBy | Diversion of sewage that has subjected to grit removal and disinfection (but not primary, secondary or tertiary treatment) before being released into the receiving waters |
| Bypass, Secondary | ScBy | Diversion of sewage that has been subjected to grit removal and primary treatment (settling and primary sludge removal) and disinfection (but not secondary or tertiary treatment) before being released into the receiving waters |
| Bypass, Tertiary | TeBy | Diversion of sewage that has been subjected to grit removal, primary treatment, secondary treatment (e.g. aeration) and typically nitrogen and phosphorous removal and disinfection (but not tertiary treatment) before being released into the receiving waters |
| Carbonaceous Biochemical Oxygen Demand | CBOD ₅ | Measure of the amount of oxygen needed by aerobic biological organisms in a body of water to break down organic material at a certain temperature over 5 days. Nitrification inhibited during the 5 day testing of unfiltered sample. Indicator of the level of organic materials present in water. |

| Term | Acronym | Meaning in Relation to the Operational Compliance Report |
|---|---------|---|
| Certificate of Approval (Environmental Certificates of Approval) | CofA | Legal instrument issued by the MOECC which permits the construction or alteration and operation of certain categories of a water or wastewater system, or parts thereof. For wastewater systems, CofAs are being replaced with Environmental Certificates of Approval (ECAs). |
| Chlorine Residual | | Concentration of chlorine remaining in the chlorinated water at the end of a given contact time that is available to continue to disinfect. Measured as Free Chlorine, Combined Chlorine and Total Chlorine. |
| Coliform (Total Coliform) | TC | Group of waterborne bacteria consisting of three main groups with common characteristics that are able to grow in the media used in the total coliform (TC) test. This test is used as an indicator of contamination of raw water and treated water. The presence of even one colony forming unit (CFU) of TC in a microbiological sample is an AWQI. |
| Combined Sewer Overflow | CSO | Discharge to the environment from a sewer system that conveys both sanitary sewage and storm water. |
| Combined Sewer System | | Sewage collection system which conveys sanitary sewage (domestic, commercial and industrial wastewaters) and stormwater runoff through a single-pipe system to a sewage treatment plant. Combined sewer systems which have been partially separated and in which roof leaders and/or foundation drains contribute stormwater inflow to the sewer system conveying sanitary flows are still defined as combined sewer systems in the Ministry Procedure F-5-5, "Determination of Treatment Requirements for Municipal and Private Combined and Partially Separated Sewer Systems". |
| Composite Sample | | Quantity of undiluted effluent collected continually at an equal rate or at a rate proportionate to flow over a designated sampling period. |
| Computerized Maintenance Management System (also known as Work Management System) | CMMS | See definition of Work Management System below. |


| Term | Acronym | Meaning in Relation to the Operational Compliance Report |
|---------------------------------------|---------|---|
| Contact Time | CT | The CT disinfection concept uses the combination of a disinfectant residual concentration (in mg/L) and the effective disinfectant contact time (in minutes), to quantify the capability of a chemical disinfection system to provide effective pathogen inactivation to the required level. |
| Contaminant | | Any solid, liquid, gas, odour, heat, sound, vibration, radiation or combination of any of them resulting directly or indirectly from human activities that causes or may cause an adverse effect. |
| Disinfection | | Destruction or inactivation of pathogenic and other kinds of microorganisms by physical or chemical means. |
| Dissolved Oxygen | DO | Molecular (atmospheric) oxygen dissolved in water or wastewater. |
| Environmental Certificate of Approval | ECA | Legal instrument, issued by the MOECC, which permits the construction or alteration and operation of wastewater systems, or parts thereof. |
| Escherichia coli | E.coli | Species of bacteria naturally present in the intestines of humans and animals. If animal or human waste containing E. coli contaminates drinking water it may cause gastrointestinal disease in humans. Most types of E. coli are harmless, but some active strains produce harmful toxins and can cause severe illness. The presence of even one colony forming unit (CFU) of EC in a microbiological sample is an AWQI. |
| Exceedance | | Violation of a limit for a contaminant as prescribed by a regulation or legal instrument for a facility (e.g. Certificate of Approval). |
| Grab Sample | | Quantity of undiluted sample collected at any given time. |
| Safety Data Sheet | SDS | Document that contains information on the potential hazards (health, fire, reactivity and environmental) and how to work safely with the chemical product. |
| Maximum Allowable Concentration | MAC | Concentration that represents the limit above which an exceedance occurs. |

| Term | Acronym | Meaning in Relation to the Operational Compliance Report |
|---|---------|---|
| Micrograms Per Litre (µg/L) | µg/l | Measure of the amount of a compound in a solution in terms of micrograms of the compound per litre of solution. It is equivalent to a part per billion in water. |
| Milligrams Per Litre (mg/l) | mg/l | Measure of the amount of a compound in a solution in terms of milligrams of the compound per litre of solution; equivalent to a part per million in water. |
| Mixed Liquor Suspended Solids | MLSS | Suspended solid particles in the mixed liquor of an aeration tank. |
| Non-Agricultural Source Material | NASM | Materials from non-agricultural sources that can be applied to agricultural land to provide valuable nutrients to soil and crops. |
| Nitrate (NO ₃)/Nitrite(NO ₂) | | MAC for Nitrate (NO ₃) is 10 mg/L (as nitrogen). The MAC for Nitrite is 1 mg/L (as nitrogen). NO ₃ and NO ₂ combined have a MAC of 10 mg/L. Nitrate is commonly found in source water, especially ground water. Nitrite can be formed in water systems from either ammonia or nitrate. |
| Overflow | | Means a discharge to the environment from the Works at designed location(s) other than the approved effluent disposal facilities or via the effluent disposal facilities downstream of the Final Effluent sampling point. |
| Pathogen | | An organism capable of causing illness or death. |
| pH | pH | pH is a numerical measure of acidity, or hydrogen ion activity used to express acidity or alkalinity. Neutral value is pH 7.0, values below pH 7.0 are acid, and above pH 7.0 are alkaline. |
| Phosphorus | Phos | Phosphorus is an essential nutrient that contributes to plant productivity. In excessive amounts, this nutrient may contribute to a buildup of nutrients (called eutrophication), which can in turn encourage the overgrowth of weeds, algae, and cyanobacteria (blue-green algae). |
| Rapid Sludge Removal | RSR | |

| Term | Acronym | Meaning in Relation to the Operational Compliance Report |
|--|---------|---|
| Return Activated Sludge | RAS | Settled activated sludge collected in the secondary clarifier and returned to the aeration basin to mix with incoming raw or primary settled wastewater. |
| Rotating Biological Contactor | RBC | a biological treatment process used in the treatment of wastewater following primary treatment. As a secondary treatment process, a RBC consists of a series of closely spaced, parallel discs mounted on a rotating shaft which is supported just above the surface of the waste water. Microorganisms grow on the surface of the discs where biological degradation of the wastewater pollutants takes place. |
| Sanitary Sewer Overflow | SSP | a discharge to the environment from a sanitary sewer system. |
| Sanitary Sewer System | | a separate sewer system which conveys sanitary sewage (domestic, commercial and industrial wastewaters), infiltrated groundwater and limited amounts of stormwater where an adjoining separate storm sewer system exists as the primary collection system to receive stormwater flows from catch basins and other sources of stormwater. |
| Sequencing Batch Reactors | SBR | a type of activated sludge process for the treatment of wastewater. SBR reactors treat wastewater such as sewage or output from anaerobic digesters or mechanical biological treatment facilities in batches. Oxygen is bubbled through the mixture of wastewater and activated sludge to reduce the organic matter (measured as biochemical oxygen demand (BOD) and chemical oxygen demand (COD)). The treated effluent may be suitable for discharge to surface waters or possibly for use on land. |
| Supervisory Control And Data Acquisition | SCADA | Automated system used by operations staff to monitor and control wastewater equipment and processes to ensure all plant parameters stay within target ranges. |
| Total Ammonia Nitrogen | TAN | Indicates the content of both un-ionized ammonia (NH ₃) and ionized ammonia (NH ₄ ⁺). NH ₃ is the principal form of toxic ammonia. Toxicity levels are both pH and temperature dependent. |
| Total Kjeldahl Nitrogen | TKN | Indicates nitrogen content in the form of organic proteins or their decomposition product ammonia, as measured by the Kjeldahl Method. |

| Term | Acronym | Meaning in Relation to the Operational Compliance Report |
|---|-----------------|---|
| Total Suspended Solids | TSS | Particles larger than 2 microns found in water. Anything smaller than 2 microns (average filter size) is considered a dissolved solid. TSS in mg/L can be calculated as: (dry weight of residue and filter - dry weight of filter alone, in grams)/ mL of sample * 1,000,000. |
| Un-ionized Ammonia | NH ₃ | Ammonia is un-ionized, and has the formula NH ₃ . Ammonium is ionized, and has the formula NH ₄ ⁺ . The major factor that determines the proportion of ammonia or ammonium in water is water pH. The activity of ammonia also is influenced by temperature and ionic strength. This is important as the unionized NH ₃ is the form that can be toxic to aquatic organisms. The ionized NH ₄ is basically harmless to aquatic organisms. |
| Waste Activated Sludge | WAS | The excess growth of microorganisms which must be removed from the process to keep the biological system in balance. |
| Wastewater System Effluent Regulation | WSER | Federal regulation established under the Fisheries Act that includes mandatory minimum effluent quality standards that can be achieved through secondary wastewater treatment. Requirements for monitoring, record-keeping, reporting and toxicity testing. |
| Work Management System (also known as Computerized Maintenance Management System) | WMS | <p>Software tool that allows staff to categorize work activities (Work Orders) into 4 types based on nature of work performed. These include corrective, preventive (e.g. weekly PM), capital, and operational. The work orders provide staff with all the information, instructions, and procedures that they need to complete the work.</p> <p>Contains a snapshot of the general overall condition, cost, criticality and life expectancy of equipment and plant assets. OCWA's uses the WMS to manage work, maintain equipment, and manage the assets within their care. Assets are registered within the WMS along with maintenance plans and schedules. As work orders containing this information are generated and closed, data is collected and used for reporting, and supporting modification of the preventive maintenance program.</p> |

Appendix 6: 2019 Sampling Calendar

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|--|--|--|
|  Ontario Clean Water Agency | Sample Schedule 2019 Stratford WPCP | Issued: 2018-12-12 Rev.#: 0 Pages: 1 of 12 |
| Reviewed by: QEMS Representative | | Approved by: Operations Management |

January 2019


| SUNDAY | MONDAY | TUESDAY | WEDNESDAY | THURSDAY | FRIDAY | SATURDAY |
|--------|--|-----------|--|----------|--------|----------|
| | | 1 STAT | 2 Sludge <input type="checkbox"/> Raw <input type="checkbox"/> F.Eff <input type="checkbox"/> | 3 | 4 | 5 |
| 6 | 7 Raw <input type="checkbox"/> F.Eff <input type="checkbox"/> | 8 | 9 | 10 | 11 | 12 |
| 13 | 14 Raw <input type="checkbox"/> F.Eff <input type="checkbox"/> | 15 | 16 | 17 | 18 | 19 |
| 20 | 21 Raw <input type="checkbox"/> F.Eff <input type="checkbox"/> Acute Lethality <input type="checkbox"/> | 22 | 23 | 24 | 25 | 26 |
| 27 | 28 Raw <input type="checkbox"/> F.Eff <input type="checkbox"/> | 29 | 30 | 31 | | |
| | | | | | | |

Calculated Unionized Ammonia required weekly.

Notes: Initial on date when sample was taken. Add any additional sampling completed for the facility.
 At the end of each month hand in the signed calendar to the Team Lead for review & filing; the signed monthly sample calendar will be filed in the sample report binder.

Revision History

| Date | Revision # | Reason for Revision | Revision By |
|------------|------------|------------------------------|-------------|
| 2018-12-12 | 0 | Created 2019 Sample Schedule | D Thomson |

| | | |
|--|--|--|
|  Ontario Clean Water Agency | Sample Schedule 2019 Stratford WPCP | Issued: 2018-12-12 Rev.#: 0 Pages: 2 of 12 |
| Reviewed by: QEMS Representative | | Approved by: Operations Management |

February 2019


| SUNDAY | MONDAY | TUESDAY | WEDNESDAY | THURSDAY | FRIDAY | SATURDAY |
|--------|--|--|-----------|----------|--------|----------|
| | | | | | 1 | 2 |
| 3 | 4 Sludge <input type="checkbox"/> Raw <input type="checkbox"/> F.Eff <input type="checkbox"/> | 5 | 6 | 7 | 8 | 9 |
| 10 | 11 Raw <input type="checkbox"/> F.Eff <input type="checkbox"/> | 12 | 13 | 14 | 15 | 16 |
| 17 | 18 STAT | 19 Raw <input type="checkbox"/> F.Eff <input type="checkbox"/> | 20 | 21 | 22 | 23 |
| 24 | 25 Raw <input type="checkbox"/> F.Eff <input type="checkbox"/> | 26 | 27 | 28 | | |
| | | | | | | |

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| | | |
|--|--|--|
|  Ontario Clean Water Agency | Sample Schedule 2019 Stratford WPCP | Issued: 2018-12-12 Rev.#: 0 Pages: 3 of 12 |
| Reviewed by: QEMS Representative | | Approved by: Operations Management |

March 2019


| SUNDAY | MONDAY | TUESDAY | WEDNESDAY | THURSDAY | FRIDAY | SATURDAY |
|--------|--|---------|-----------|----------|--------|----------|
| | | | | | 1 | 2 |
| 3 | 4 Sludge <input type="checkbox"/> Raw <input type="checkbox"/> F.Eff <input type="checkbox"/> | 5 | 6 | 7 | 8 | 9 |
| 10 | 11 Raw <input type="checkbox"/> F.Eff <input type="checkbox"/> | 12 | 13 | 14 | 15 | 16 |
| 17 | 18 Raw <input type="checkbox"/> F.Eff <input type="checkbox"/> | 19 | 20 | 21 | 22 | 23 |
| 24 | 25 Raw <input type="checkbox"/> F.Eff <input type="checkbox"/> | 26 | 27 | 28 | 29 | 30 |
| 31 | | | | | | |

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|--|--|--|
|  Ontario Clean Water Agency | Sample Schedule 2019 Stratford WPCP | Issued: 2018-12-12 Rev.#: 0 Pages: 4 of 12 |
| Reviewed by: QEMS Representative | Approved by: Operations Management | |

April 2019


| SUNDAY | MONDAY | TUESDAY | WEDNESDAY | THURSDAY | FRIDAY | SATURDAY |
|--------|--|--|-----------|----------|------------|----------|
| | 1 Sludge <input type="checkbox"/> Raw <input type="checkbox"/> F.Eff <input type="checkbox"/> | 2 | 3 | 4 | 5 | 6 |
| 7 | 8 Raw <input type="checkbox"/> F.Eff <input type="checkbox"/> | 9 | 10 | 11 | 12 | 13 |
| 14 | 15 Raw <input type="checkbox"/> F.Eff <input type="checkbox"/> | 16 | 17 | 18 | 19 STAT | 20 |
| 21 | 22 STAT | 23 Raw <input type="checkbox"/> F.Eff <input type="checkbox"/> | 24 | 25 | 26 | 27 |
| 28 | 29 Raw <input type="checkbox"/> F.Eff <input type="checkbox"/> | 30 | | | | |
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|------------|------------|------------------------------|-------------|
| 2018-12-12 | 0 | Created 2019 Sample Schedule | D Thomson |

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|--|--|--|
|  QEMS Ontario Clean Water Agency | Sample Schedule 2019 Stratford WPCP | Issued: 2018-12-12 Rev.#: 0 Pages: 5 of 12 |
| Reviewed by: QEMS Representative | Approved by: Operations Management | |

May 2019


| SUNDAY | MONDAY | TUESDAY | WEDNESDAY | THURSDAY | FRIDAY | SATURDAY |
|--------|--|--|-----------|----------|--------|----------|
| | | | 1 | 2 | 3 | 4 |
| 5 | 6 Sludge <input type="checkbox"/> Raw <input type="checkbox"/> F.Eff <input type="checkbox"/> | 7 | 8 | 9 | 10 | 11 |
| 12 | 13 Raw <input type="checkbox"/> F.Eff <input type="checkbox"/> | 14 | 15 | 16 | 17 | 18 |
| 19 | 20 STAT | 21 Raw <input type="checkbox"/> F.Eff <input type="checkbox"/> | 22 | 23 | 24 | 25 |
| 26 | 27 Raw <input type="checkbox"/> F.Eff <input type="checkbox"/> | 28 | 29 | 30 | 31 | |
| | | | | | | |

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|------------|------------|------------------------------|-------------|
| 2018-12-12 | 0 | Created 2019 Sample Schedule | D Thomson |

| | | |
|--|--|--|
|  Ontario Clean Water Agency | Sample Schedule 2019 Stratford WPCP | Issued: 2018-12-12 Rev.#: 0 Pages: 6 of 12 |
| Reviewed by: QEMS Representative | | Approved by: Operations Management |

June 2019


| SUNDAY | MONDAY | TUESDAY | WEDNESDAY | THURSDAY | FRIDAY | SATURDAY |
|--------|--|---------|-----------|----------|--------|----------|
| | | | | | | 1 |
| 2 | 3 Sludge <input type="checkbox"/> Raw <input type="checkbox"/> F.Eff <input type="checkbox"/> | 4 | 5 | 6 | 7 | 8 |
| 9 | 10 Raw <input type="checkbox"/> F.Eff <input type="checkbox"/> | 11 | 12 | 13 | 14 | 15 |
| 16 | 17 Raw <input type="checkbox"/> F.Eff <input type="checkbox"/> | 18 | 19 | 20 | 21 | 22 |
| 23 | 24 Raw <input type="checkbox"/> F.Eff <input type="checkbox"/> | 25 | 26 | 27 | 28 | 29 |
| 30 | | | | | | |

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| Date | Revision # | Reason for Revision | Revision By |
|------------|------------|------------------------------|-------------|
| 2018-12-12 | 0 | Created 2019 Sample Schedule | D Thomson |

| | | | |
|---|--|------------------------------------|--|
|  Ontario Clean Water Agency | Sample Schedule 2019 Stratford WPCP | | Issued: 2018-12-12 Rev.#: 0 Pages: 7 of 12 |
| | Reviewed by: QEMS Representative | Approved by: Operations Management | |

July 2019


| SUNDAY | MONDAY | TUESDAY | WEDNESDAY | THURSDAY | FRIDAY | SATURDAY |
|--------|--|--|-----------|----------|--------|----------|
| | 1 STAT | 2 Sludge <input type="checkbox"/> Raw <input type="checkbox"/> F.Eff <input type="checkbox"/> | 3 | 4 | 5 | 6 |
| 7 | 8 Raw <input type="checkbox"/> F.Eff <input type="checkbox"/> | 9 | 10 | 11 | 12 | 13 |
| 14 | 15 Raw <input type="checkbox"/> F.Eff <input type="checkbox"/> | 16 | 17 | 18 | 19 | 20 |
| 21 | 22 Raw <input type="checkbox"/> F.Eff <input type="checkbox"/> | 23 | 24 | 25 | 26 | 27 |
| 28 | 29 Raw <input type="checkbox"/> F.Eff <input type="checkbox"/> | 30 | 31 | | | |
| | | | | | | |

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|------------|------------|------------------------------|-------------|
| 2018-12-12 | 0 | Created 2019 Sample Schedule | D Thomson |

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|--|--|--|
|  QEMS Ontario Clean Water Agency | Sample Schedule 2019 Stratford WPCP | Issued: 2018-12-12 Rev.#: 0 Pages: 8 of 12 |
| Reviewed by: QEMS Representative | Approved by: Operations Management | |

August 2019


| SUNDAY | MONDAY | TUESDAY | WEDNESDAY | THURSDAY | FRIDAY | SATURDAY |
|--------|--|--|-----------|----------|--------|----------|
| | | | | 1 | 2 | 3 |
| 4 | 5 STAT | 6 Sludge <input type="checkbox"/> Raw <input type="checkbox"/> F.Eff <input type="checkbox"/> | 7 | 8 | 9 | 10 |
| 11 | 12 Raw <input type="checkbox"/> F.Eff <input type="checkbox"/> | 13 | 14 | 15 | 16 | 17 |
| 18 | 19 Raw <input type="checkbox"/> F.Eff <input type="checkbox"/> | 20 | 21 | 22 | 23 | 24 |
| 25 | 26 Raw <input type="checkbox"/> F.Eff <input type="checkbox"/> | 27 | 28 | 29 | 30 | 31 |
| | | | | | | |

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| 2018-12-12 | 0 | Created 2019 Sample Schedule | D Thomson |

| | | | |
|--|--|------------------------------------|--|
|  | Sample Schedule 2019 Stratford WPCP | | Issued: 2018-12-12 Rev.#: 0 Pages: 9 of 12 |
| | Reviewed by: QEMS Representative | Approved by: Operations Management | |

September 2019


| SUNDAY | MONDAY | TUESDAY | WEDNESDAY | THURSDAY | FRIDAY | SATURDAY |
|--------|--|--|-----------|----------|--------|----------|
| 1 | 2 STAT | 3 Sludge <input type="checkbox"/> Raw <input type="checkbox"/> F.Eff <input type="checkbox"/> | 4 | 5 | 6 | 7 |
| 8 | 9 Raw <input type="checkbox"/> F.Eff <input type="checkbox"/> | 10 | 11 | 12 | 13 | 14 |
| 15 | 16 Raw <input type="checkbox"/> F.Eff <input type="checkbox"/> | 17 | 18 | 19 | 20 | 21 |
| 22 | 23 Raw <input type="checkbox"/> F.Eff <input type="checkbox"/> | 24 | 25 | 26 | 27 | 28 |
| 29 | 30 Raw <input type="checkbox"/> F.Eff <input type="checkbox"/> | | | | | |
| | | | | | | |

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| 2018-12-12 | 0 | Created 2019 Sample Schedule | D Thomson |

| | | |
|--|--|---|
|  Ontario Clean Water Agency | Sample Schedule 2019 Stratford WPCP | Issued: 2018-12-12 Rev.#: 0 Pages: 10 of 12 |
| Reviewed by: QEMS Representative | | Approved by: Operations Management |

October 2019


| SUNDAY | MONDAY | TUESDAY | WEDNESDAY | THURSDAY | FRIDAY | SATURDAY |
|--------|--|--|-----------|----------|--------|----------|
| | | 1 | 2 | 3 | 4 | 5 |
| 6 | 7 Sludge <input type="checkbox"/> Raw <input type="checkbox"/> F.Eff <input type="checkbox"/> | 8 | 9 | 10 | 11 | 12 |
| 13 | 14 STAT | 15 Raw <input type="checkbox"/> F.Eff <input type="checkbox"/> | 16 | 17 | 18 | 19 |
| 20 | 21 Raw <input type="checkbox"/> F.Eff <input type="checkbox"/> | 22 | 23 | 24 | 25 | 26 |
| 27 | 28 Raw <input type="checkbox"/> F.Eff <input type="checkbox"/> | 29 | 30 | 31 | | |
| | | | | | | |

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| 2018-12-12 | 0 | Created 2019 Sample Schedule | D Thomson |

| | | |
|--|--|---|
|  Ontario Clean Water Agency | Sample Schedule 2019 Stratford WPCP | Issued: 2018-12-12 Rev.#: 0 Pages: 11 of 12 |
| Reviewed by: QEMS Representative | | Approved by: Operations Management |

November 2019


| SUNDAY | MONDAY | TUESDAY | WEDNESDAY | THURSDAY | FRIDAY | SATURDAY |
|--------|--|--|-----------|----------|--------|----------|
| | | | | | 1 | 2 |
| 3 | 4 Sludge <input type="checkbox"/> Raw <input type="checkbox"/> F.Eff <input type="checkbox"/> | 5 | 6 | 7 | 8 | 9 |
| 10 | 11 STAT | 12 Raw <input type="checkbox"/> F.Eff <input type="checkbox"/> | 13 | 14 | 15 | 16 |
| 17 | 18 Raw <input type="checkbox"/> F.Eff <input type="checkbox"/> | 19 | 20 | 21 | 22 | 23 |
| 24 | 25 Raw <input type="checkbox"/> F.Eff <input type="checkbox"/> | 26 | 27 | 28 | 29 | 30 |
| | | | | | | |

Calculated Unionized Ammonia required weekly.

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|------------|------------|------------------------------|-------------|
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| | | | |
|--|--|------------------------------------|---|
|  | Sample Schedule 2019 Stratford WPCP | | Issued: 2018-12-12 Rev.#: 0 Pages: 12 of 12 |
| | | | |
| Reviewed by: QEMS Representative | | Approved by: Operations Management | |

December 2019

| SUNDAY | MONDAY | TUESDAY | WEDNESDAY | THURSDAY | FRIDAY | SATURDAY |
|--------|--|---------|------------|------------|--------|----------|
| 1 | 2 Sludge <input type="checkbox"/> Raw <input type="checkbox"/> F.Eff <input type="checkbox"/> | 3 | 4 | 5 | 6 | 7 |
| 8 | 9 Raw <input type="checkbox"/> F.Eff <input type="checkbox"/> | 10 | 11 | 12 | 13 | 14 |
| 15 | 16 Raw <input type="checkbox"/> F.Eff <input type="checkbox"/> | 17 | 18 | 19 | 20 | 21 |
| 22 | 23 Raw <input type="checkbox"/> F.Eff <input type="checkbox"/> | 24 | 25 STAT | 26 STAT | 27 | 28 |
| 29 | 30 Raw <input type="checkbox"/> F.Eff <input type="checkbox"/> | 31 | | | | |
| | | | | | | |

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Revision History

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| 2018-12-12 | 0 | Created 2019 Sample Schedule | D Thomson |



MANAGEMENT REPORT

Date: April 24, 2019
To: Infrastructure, Transportation and Safety Sub-committee
From: Joan Thomson, City Clerk
Report#: ITS19-040
Attachments: 1 Ontario St Reference Plan

Title: Encroachment Application for 1 Ontario Street

Objective: To consider entering into an Encroachment Agreement with the owners of 1 Ontario Street for existing stairs, concrete planters and roof overhang encroaching onto the Ontario Street road allowance.

Background: The property owner applied for two consent applications (B01-18 and B02-18) on the subject lands to sever the property to create two new lots and two right-of-ways. These applications were approved by the Committee of Adjustments in 2018.

Condition 11 requires the owner to obtain an encroachment agreement for any encroachment within the lands to be dedicated to the City.

The owner of 1 Ontario Street, Stratford has submitted an encroachment application to permit the existing stairs, concrete planters and roof overhang to encroach onto City property at 1 Ontario Street as a result of the road widening.

The application is for the existing stairs, concrete planters and roof overhang, which will encroach a total of 38.1.m² onto the Ontario Street road allowance as shown on the attached property sketch.

Encroachment Policy P.3.2 provides for existing encroachments:

When an Encroachment Agreement is Required

When an existing building or structure encroaches onto municipal property, the City will exercise its right to require an encroachment agreement if the City intends to allow the encroachment to remain under certain terms and conditions.

Types of Existing Encroachments

Buildings or Structures

Typically, existing encroachments are permanent buildings or structures that were inadvertently and partially erected over a road allowance or municipal property and cannot easily be removed without significant impact to the remaining structure. Examples include existing buildings, garages, retaining walls or signs. Permission will not be given for additions to buildings or structures to encroach onto road allowances or other municipal property.

Projections

Consideration may also be given for the following encroachments which project over the road allowance or municipal property:

- *Canopies*
- *Awnings*
- *Balconies*
- *Cornices*
- *Eaves*
- *Sills*
- *Brackets*
- *Air conditioners*
- *Projecting signs*
- *Other similar projections beyond the main wall, not less than 8 feet above grade.*

Analysis: In reviewing this application, it was discovered that there are two (2) other encroachment agreements for adjacent property at 27 Ontario Street. An agreement was entered into with 27 Ontario Street for concrete steps on the street in front of the property. A second agreement was entered into for 1 Ontario which includes an area opening on Erie Street and the installation of brick veneer on the parking garage located on Erie Street. These other existing encroachments and agreements are to remain in place.

Staff have no concerns with this new application to authorize the existing stairs, concrete planters and roof overhang to encroach onto City property at 1 Ontario Street.

The owners and future owners of this property are responsible for maintenance of the existing stairs, concrete planters and roof overhang that encroached onto municipal property and are also required to indemnify the City. The agreement can be terminated by either party in the future if the stairs, concrete planters and roof overhang are removed.

Financial Impact: The annual fee of \$2,609.01, adjusted yearly by the CPI will be added to the property tax bill for this property. The annual fee is based on the size of the encroachment and is calculated by taking the current property tax times the size of the encroachment (area) divided by the total area of the owned property.

Staff Recommendation: THAT the application be approved for an encroachment by the owner of 1 Ontario Street, to permit the existing stairs, concrete planters and roof overhang to encroach a total of 38.1m² onto City property at 1 Ontario Street;

AND THAT the annual fee of \$2,609.01, adjusted yearly by the CPI, be added to the property tax bill for 1 Ontario Street.



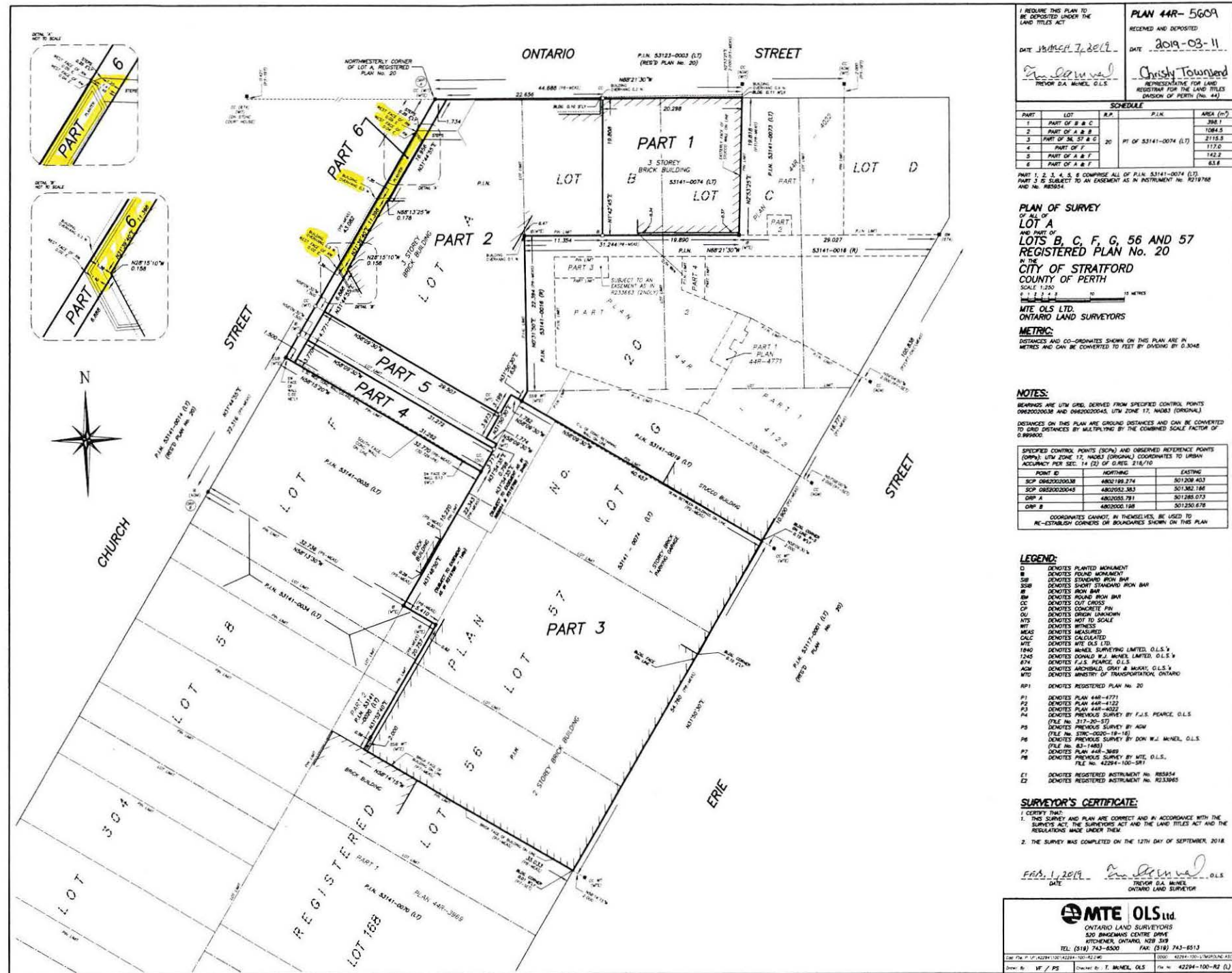
Joan Thomson, City Clerk



Michael Humble, Director of Corporate Services



Rob Horne, Chief Administrative Officer





MANAGEMENT REPORT

Date: April 24, 2019
To: Infrastructure, Transportation and Safety Sub-committee
From: Energy & Environment Advisory Committee
Report#: ITS19-034
Attachments: [Document Link to Plastic Free Guelph](#)

Title: Banning Single Use Plastic in the City of Stratford

Objective: To research and review the feasibility of the City of Stratford moving towards banning all single-use plastic items.

Background: Mr. Shayne Douglas Ward addressed the Energy & Environment Advisory Committee regarding the Plastic Free Guelph initiative he started three years ago. The basis of their “bring your own bag” campaign was a goal that, by Earth Day 2019, they wanted to phase out all single-use plastic bags from the City of Guelph. They concluded that the City of Guelph does have the resources and the capability to eliminate single-use plastic bags.

They asked the City of Guelph to recognize that they previously committed to being a Blue Dot community; they are obligated to provide citizens with a healthy environment, including clean air, drinking water, food and a stable climate. 1/10 of all plastic bags end up in the oceans. Plastic bags, bottles, straws and coffee cups are the most common litter.

Communities spend a large amount of their waste management budget on diversion projects, such as plastics. He noted that Victoria, BC banned single-use plastic bags on July 1, 2018. Businesses can provide paper bags for a charge \$0.15/bag and re-usable bags for a minimum cost of \$1.00. Victoria ran a 6-month outreach education plan prior to the by-law coming into effect, and now are allow a 6-month period for businesses to begin participating. If businesses are caught within the first year, they will visit the site and educate after the first offence. After that, they will face a fine.

Plastic Free Guelph conducted a survey and found that 78% of citizens were in favour of banning single-use plastic bags and had 2800 signatures on a petition to ban plastic bags. This began their push for banning plastic bags in Guelph. They have submitted a

recommendation to the City of Guelph and staff will be reporting back to Council by June 2019. From there, Council will make a decision on whether to move forward with the ban.

Energy and Environment Recommendation: That the Energy & Environment Advisory Committee requests City of Stratford staff review the recommendations from Plastic Free Guelph and report back to the committee with suggestions on how the City of Stratford can move forward with this initiative,

AND THAT the Energy & Environment Advisory Committee requests City of Stratford staff research the feasibility of the City of Stratford banning single-use plastic bags and provide suggestions the committee can address.

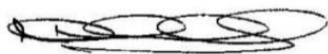
Analysis: To be provided as part of the staff research on feasibility.

Financial Impact: Unknown at this time.

Staff Recommendation: THAT the Energy and Environment Advisory Committee request for staff to review the recommendations from Plastic Free Guelph on a similar initiative for Stratford and the request to research the feasibility of banning single-use plastic bags, be referred to Infrastructure and Development Services Department staff.



Joan Thomson, City Clerk



Michael Humber, Director of Corporate Services



Rob Horne, Chief Administrative Officer



MANAGEMENT REPORT

Date: April 24, 2019
To: Infrastructure, Transportation and Safety Sub-committee
From: Energy & Environment Advisory Committee
Report#: ITS19-038
Attachments: None

Title: City of Stratford Dog Waste Collection Program

Objective: To investigate the feasibility of a dog waste collection program in the City of Stratford.

Background: Energy & Environment Committee members discussed costs and locations regarding dog waste collection containers. The approximate cost of one container is \$4,000.00, which includes installation. The cost of installation is approximately \$1,100.00, which could be deducted if City staff were to install the containers. The cost to empty the containers is \$150.00 per container.

Members discussed locations of the containers and the importance of placing them in the heaviest concentration of dog walkers who would use them. Members suggested that the dog park would be the top location to place one, as well as one down near the river. Another possible location would be at T.J. Dolan.

If the program is an option, starting with one test container would be the best option.

Energy & Environment Advisory Committee Recommendation: That the Waste Reduction Co-ordinator investigate the feasibility of a dog waste collection program in the City of Stratford.

Analysis: To be provided in a feasibility report.

Financial Impact: To be provided in a feasibility report.

Staff Recommendation: THAT the Energy and Environment Committee recommendation for staff to investigate the feasibility of a dog waste collection program in the City, be referred to staff.



Joan Thomson, City Clerk



Michael Humble, Director of Corporate Services



Rob Horne, Chief Administrative Officer



MANAGEMENT REPORT

Date: May 29, 2019
To: Infrastructure, Transportation and Safety Sub-committee
From: Energy & Environment Advisory Committee
Report#: ITS19-039
Attachments: 1. Roundtable on the Environment Report
 2. Strategic Priorities
 3. Strategic Priorities Matrix

Title: Adopting Carbon Footprint and Greening of the Community Goals and Updating the Current Roundtable for the Environment Document into an Action Plan

Objective: The Energy & Environment Advisory Committee would like to see Council adopt two goals. The first is to reduce Stratford's carbon footprint and the second is to increase the greening of the community.

If Council adopts these two goals, the Energy & Environment requests that Council direct staff to update and revise the current Roundtable for the Environment document into an action plan.

Background: The Energy & Environment Advisory Committee discussed the importance of having Council adopt the goals of trying to reduce the community's carbon footprint as much as possible, as well as working towards increasing the greening throughout the city.

With these two priority goals adopted, the request to have staff update the 2004 Roundtable for the Environment document would fall under this priority. The Committee discussed updating the Roundtable into an Action Plan to better outline recommendations and steps moving forward.

Motion by Energy & Environment Advisory Committee: That Council adopt two goals:

1. **reducing the community's carbon footprint and**
2. **increasing the greening of the community,**

**That these goals act as a lens through which all Council activities are viewed;
 And That Council establish these two goals as priority items.**

Motion by Energy & Environment Advisory Committee: That upon approval of the prior motion, Council direct staff to convert the Roundtable for the Environment Document into an Action Plan to implement the two priorities of reducing the community's carbon footprint and increasing greening.

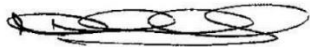
Analysis: City Council recently adopted Strategic Priorities for this term of Council. The Priorities will be used to guide Council's core initiatives and to align municipal activities. The carbon foot print and greening of the community can be dealt with through the City's strategic priorities process.

Financial Impact: Unknown at this time.

Staff Recommendation: THAT the Energy and Environment Committee resolutions recommending Council adopt goals of reducing the community carbon foot print and increasing the greening of the community as priority items and converting the Roundtable for the Environment document into an Action Plan, be referred to the City's Strategic Priorities Implementation Process.



Joan Thomson, City Clerk



Michael Humble – Director of Corporate Services



Rob Horne, Chief Administrative Officer

Roundtable on the Environment for the 21st Century Report Charting Stratford's Environmental Future...

December 2004



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Acknowledgements

The inaugural meeting of the Roundtable for the Environment for the 21st Century for the City of Stratford was held in February 2002. It was established largely through the efforts of then Councillor Jim Chapryk. Councillor Mike Jorna served as Chair for the first two years and the effort had the strong support and participation of then Mayor Karen Haslam. All three demonstrated a strong and enduring commitment to the environment. After the municipal election in November 2003, Councillors Chris Rickett and Sam Dinicol continued to demonstrate that same level of support and commitment.

The other members of the Roundtable, who have continued to work diligently toward the completion of this report, are:

- Jeff Brick – Coordinator of Hydrology and Regulatory Services, Upper Thames River Conservation Authority
- Eric Eberhardt – member of the 1992 Roundtable, representative of the Energy and Environment Committee of the City
- Bonnie Henderson – Chairperson, Perth County Greenworks
- Keith Hillyer – citizen representative, acting as Vice Chair (2001-3) and as Chair (2003-4)
- Penny Keegan – representing the Civic Beautification and Environmental Awareness Committee
- Lyndon Kowch – Manager of Public Works, City of Stratford
- Rachel McCormick – Public Health Inspector, Perth District Health Unit
- Dan Martin – Manager of Parks and Forestry, City of Stratford
- Liz Mountain – representing the Energy and Environment Committee of the City of Stratford
- Ginette Ouellet – citizen representative (2001-2)
- John Sewell – citizen representative
- Donna Taylor – Director of Health Protection, Perth District Health Unit

The Roundtable has also been ably supported in its deliberations by Kathy Bjorkquist, Tracy Louwagie and Michelle Eidt, who have all served at various times over the past two years as Recording Secretaries to the Roundtable.

This report was edited and designed by the Upper Thames River Conservation Authority.

UPPER THAMES RIVER
CONSERVATION AUTHORITY

1.0 Executive Summary

In 1993 a citizen group presented Stratford City Council with the Roundtable for the Environment Report which became the City's guiding document for environmental decision-making.

In 2004 a new citizen group, established by Stratford City Council, completed a report card on the City's environmental accomplishments since 1993 and prepared a new environmental plan, all of which are contained in this document.

Included in this report are the following recommendations:

1. That the City of Stratford take the necessary steps to encourage the implementation of the goals, targets and local actions contained in this document regarding the City's water management, drinking water, natural environment, waste management, transportation and energy.
2. That the City of Stratford adopt an Environment First Policy and pass the following resolution:

"We the Council and the employees of the City of Stratford are committed to examining and assessing potential environmental impacts in all Corporation services and programs as a part of the decision making process and to recommend appropriate actions that are achievable and within our jurisdictional authority in order to optimize environmental benefit."
3. That the City of Stratford adopt the Federation of Canadian Municipalities' statement of environmental policies and work towards completing the five milestones of Partners for Climate Protection.
4. That the City of Stratford set an example for its citizens by allocating resources to the implementation of this report by appointing an Environmental Coordinator whose function it will be to move the City's corporate activities toward environmental sustainability.
5. That the City of Stratford move toward ISO 14001 Certification as a way to provide leadership in environmental matters.
6. That the City of Stratford ensure the Roundtable on the Environment for the 21st Century remain a vibrant document that is reviewed for successes, and revise targets and goals every two years through the City's Energy & Environment Committee.

2.0 Introduction

In today's society people are increasingly realizing that the large environmental issues facing the world begin with the decisions each of us make in our daily lives, and not in forests distantly removed from our communities, or oceans far from our municipal borders, or with continental airsheds far beyond our control. Climate change, smog days and polluted groundwater all begin with the decisions each of us make in our daily lives.

How we design our neighbourhoods and homes, protect our natural features and promote environmental stewardship, can play a large role not only in making our community a better place to live, but also in enhancing the quality of life for the entire planet. This is truly a case where you cannot make the world a better place without first making your neighbourhood a better place.



North Shore Trail, Lake Victoria, Stratford

Photo: Richard Bain

3.0 Current Environmental Conditions

3.1 Background

In October 1993, a group of citizens presented Stratford City Council the Roundtable for the Environment Report, which became the City's guiding document for environmental decision-making.

During the next 10 years, many of the original report's goals and suggestions became part of everyday living in Stratford. However, during that decade attitudes, concerns, priorities and technologies evolved to the point where it was deemed necessary to revisit the original report.

In 2001 Stratford City Council established the Roundtable on the Environment for the 21st Century with a mandate to report on the environmental successes to date and to develop a new plan to guide the City for the next 10 years.

This new committee reviewed the original report and gathered information from various city departments and local stakeholders in order to develop a report card on the City's environmental successes.



Source: Stratford And Area Round Table for the Environment (1993)

3.2 Report Card

Waste Management

One of Stratford's major environmental successes was in the area of waste management. The City's "Pay-As-You-Waste" system has realized a 61% increase in recycling, with a corresponding 34% drop in residential waste, since the program's inception in 1997.

Some of the City's other successes include:

- From 1993 to 1996 the majority of apartments were placed on line with the recycling collection system.
- An estimated 70% of the community has purchased a backyard composter.
- All leaves and yard waste are banned from disposal with other garbage at the landfill but are diverted for composting in a monitored windrow operation at the City landfill.
- All recyclables and a variety of construction materials, tires, etc. are handled separately at the City's landfill operation.

While these are all notable successes, there are still many opportunities to extend the life of the City's landfill and to return more materials to the resource stream. One of the 1993 recommendations was to institute a household organics pick-up. This program was tendered but was not bid on. With residential organics comprising 30% of the City's waste stream, a household organics pick-up has the opportunity to dramatically increase the life of the City's landfill while creating a marketable product.

Energy

Conserving energy has a direct pay-back in the reduction of pollution. Ongoing programs involving education and incentives have enabled most citizens to dramatically improve the energy-efficiency of their lifestyles. Likewise, the City of Stratford has also embraced energy-efficiency measures, some of which are:

- The City completed an energy audit of all municipal buildings in 1992?. All efficiencies with a five-year payback were implemented, and the remainder will be implemented with future renovations.
- The Street Smart Program to deal with energy efficiency of street lighting.
- Council adopted an anti-idling by-law with enforcement commencing in 2002.

While these developments are beginning to take Stratford in the right direction, the 2003 Black-out illustrated the need to embrace more energy-efficiency community-wide. Plenty of opportunities remain for further improvements in energy-efficiency. It is up to the City to encourage further efficiency measures through example, education and promotion throughout the community.

Agriculture

Recognizing that Stratford has strong agricultural roots and is surrounded by prime agricultural land, the City has set density targets for new developments in order to realize residential intensification, rather than continued sprawl.

Intensification

Realizing that residential intensification is both fiscally prudent and environmentally responsible, the City of Stratford has instituted numerous measures to encourage infilling within the City. The following are some of the highlights of the City's accomplishments since 1993:

- The Community Improvement Plan for Stratford's Heritage Conservation District provides property owners with building upgrade loans and tax increment financing to encourage residential apartments in the downtown core.
- The City is developing a Brownfields Strategy that proposes providing financial assistance for the development of contaminated land. These two policies represent a large step forward for the City in encouraging more efficient use of its land. When looking at intensification it is important to realize that the more intensive a community's development is, the greater the per hectare tax base will be. Intensification offers environmental and social benefits as well as reducing sprawl and encouraging more citizen interaction. There is still room for improvement in the City to encourage even more efficient use of its land mass.

Transportation

How the City designs neighbourhoods and organizes the movement of citizens throughout the community plays a large role in pollution. Encouraging alternative forms of transportation and fuels as well as community design that promotes walking and biking can help reduce pollution.

Stratford has begun to make improvements in these areas, such as:

- The North East Secondary Plan includes room for bike paths and provides pedestrian greenway linkages.
- A Bicycle Plan has been adopted and a committee formed to implement its recommendations.
- An Alternative Fuels & Vehicle Procurement Committee has been formed to look at environmentally friendly fuels and efficient vehicles for the city. There remains much to do in reducing the impacts of vehicle use in the City. There also needs to be more promotion of alternative forms of transportation in order to reduce the environmental impacts of transportation on Stratford's air, water and land.

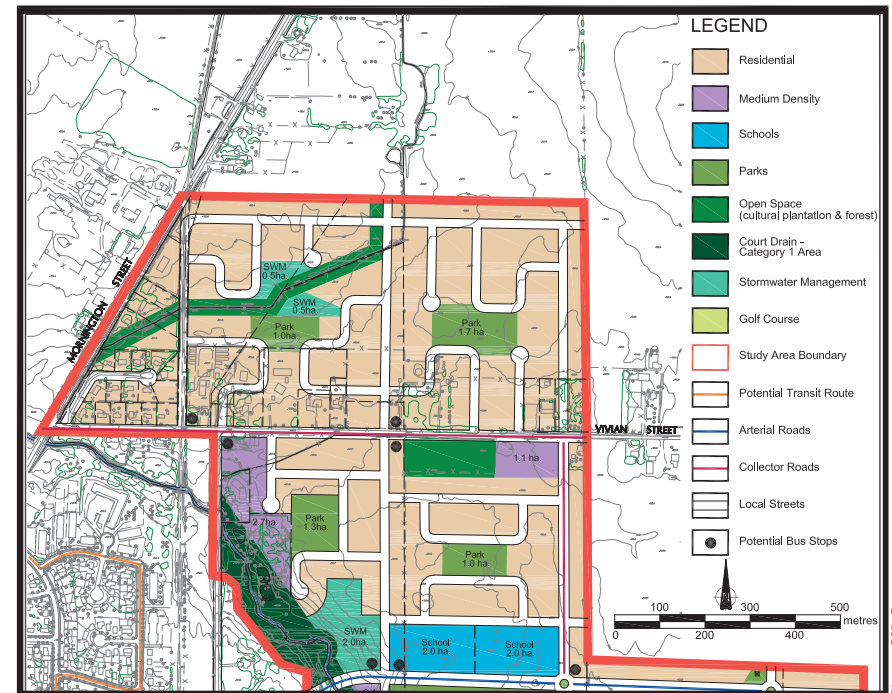
Natural Areas

Stratford's attention to its parklands, its tree planting programs and its commitment to naturalization are among the City's environmental success stories. The City has also made great strides in protecting its water resources and enhancing water quality in the watershed. Specifically, the following aspects are noteworthy:

- 6725 trees were planted on city streets and boulevards between 1988 and 2003, and 924 trees were removed during the same period, creating a replacement ratio of 7.27 trees planted for every 1 removed.
- T.J. Dolan Natural Area was created featuring 8 km of trails and the naturalization of 20 ha (50 acres) between 1992 and 2000.

- A series of smaller parks have been naturalized – SERC pond (1999), Meadowrue (1999), Cooper Standard (2000), Greenwood Park (2003/04), Packham Road Complex (2004), Kemp Crescent and Battershall Parks (2004).
- In 2001 herbicides were eliminated in City parkland, with the exception of sports fields and some formal park areas, resulting in an 85% reduction in the use of herbicides.
- The demand for water in Stratford has decreased by 9% over the last 10 years.
- The Stratford Groundwater Study was commissioned by Council and adopted into the City's Official Plan.
- These strides illustrate that the citizens of Stratford consider natural areas to be both environmental and community assets that enhance our quality of life. It is important for Council to continue naturalizing areas and embracing measures that will enhance the community's natural environment.

While there have been many environmental success stories and steps taken in Stratford, plenty of work still remains to reduce the City's ecological footprint. For more information on the City's successes and what still needs to be completed, view Appendix A: Where We Are.



Portion of land use concept from the NE Secondary Plan

Photo: GSP Group

4.0 Roundtable Process

With the report card completed the Roundtable committee then began developing environmental goals, targets and implementation strategies to guide decision-making in Stratford for the next 10 years. These environmental strategies received intense public review and are included in this report as Appendix B: Public Input.

4.1 Definition of New Categories

The 1993 Roundtable Report was a comprehensive report that dealt with areas such as energy, transportation, waste management, quality of life, land-use planning and agriculture. The committee felt that there were overlaps in these categories and defined the following new categories to better represent the concerns of today:

- Drinking Water
- Water Management
- Natural Environment
- Waste Management
- Energy
- Transportation

4.2 Definition of Goals, Targets, Local Actions Required & Best Bets

For each of these categories the committee developed goals with corresponding targets that are measurable and have a timeline, along with local actions that are achievable and specific for each target. In order to encourage the process and enable councillors and staff to start working immediately towards the Roundtable's goals, the committee created "best bets" that are actions that can be achieved with minimal resources in a short time period.



4.3 Public Input

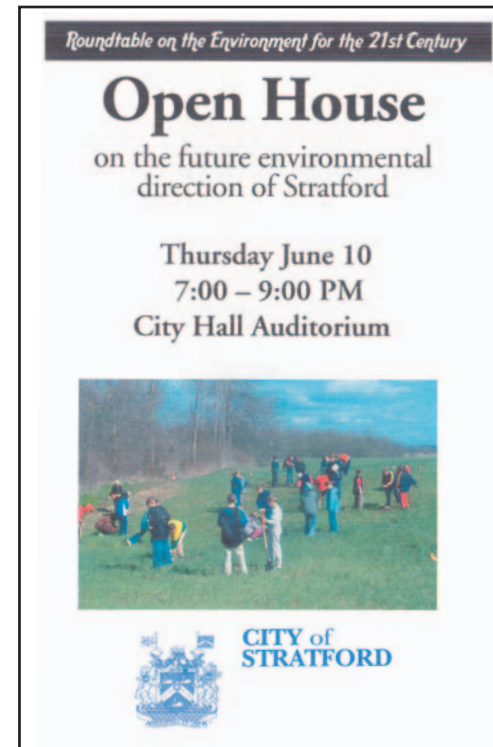
Once the committee had developed goals, targets, local actions required and best bets for each category, the draft document was presented at a public meeting hosted by the Roundtable for the Environment for the 21st Century Committee on June 10, 2004 in the City Hall Auditorium. The public meeting involved a presentation by committee members followed small group brainstorming sessions where participants were asked to share their concerns and thoughts on the goals, targets and local actions required to improve Stratford's environment. The meeting was attended by over 100 citizens.

Some of the common themes that came out of the public meeting were:

- The need for the municipality to take a lead on environmental issues.
- The need to communicate the Roundtable's findings to citizens and to illustrate how citizens can help reach the goals and targets set forward.

A complete listing of ideas from the public meeting can be found in Appendix B of this report.

The discussion was lively and enlightening, and by the end of the meeting participants had a real sense of ownership of the document and many of their ideas were incorporated into the final report.



5.0 Roundtable on the Environment for the 21st Century Report

Drinking Water

Water is one of our most precious resources. The City of Stratford must do all it can to protect the sources of our drinking water from depletion and contamination. Water is vital to all living things.

| Goals | Targets |
|--|--|
| Protect drinking water sources from contamination. | Continue to provide safe drinking water to the residents of Stratford. |
| Promote water conservation. | Reduce water usage by 15% by 2010 |

Municipal Actions Required:

- Lobby provincial and federal governments for stricter regulations/standards regarding source water protection.
- Implement recommendations of the Perth County Groundwater Study (January 2003).
- Cooperate/consult with neighbouring municipalities regarding land use planning, source water protection and watershed management.
- Complete inventory of private wells within the City of Stratford.
- Wherever possible ensure residents are connected to municipal water and sewer and that private wells and sewage systems are properly decommissioned by 2010.
- Provide sufficient funding for sewage treatment plant to decrease primary discharges.
- Follow recommendations of Pesticide Committee regarding the use of pesticides on private and public lands.
- Explore issues around high chlorine levels in City of Stratford drinking water.
- Educate watershed residents on urban best management practices related to pesticide use, herbicide use and proper household hazardous waste disposal.
- Increase water and sewage rates to encourage conservation.
- Lead the way in the use of rain barrels to water gardens and flowerbeds, and promote proper use of rain barrels.
- Install water saving devices, such as low flow toilets and faucets, in City buildings.
- Educate the public on ways to conserve water.



Mornington Street Well, Stratford



Dufferin Water Tower, Stratford

Best Bets For The City:

- Increase number of hazardous waste collection days within the City of Stratford.
- Provide waste oil depot at the landfill.
- Educate the public on ways to conserve water.
- Provide rebates to residents who install low flow toilets, showerheads or faucets or rain barrels.

Things you can do at home...

- Turn off the tap - when washing or shaving partially fill basin and use this water. This can reduce your water use by up to 60 % while completing these tasks.
- Check for leakage - find your water meter and record its reading late in the evening and first thing in the morning, if there was any movement during the night, find the leaks and fix them.
- Use low flush toilets and low flow showerheads. A low flush toilet can reduce water consumption by up to 80%.

Water Management

The Avon River and its tributaries are important environmental features in the City of Stratford. It is our goal to improve the aquatic health of this resource.

| Goals | Targets |
|---|--|
| Improve the aquatic health of the Avon River. | <p>Work with watershed residents to develop a collaborative, community-based subwatershed plan for the Avon River by the end of 2005.</p> <p>Decrease the Avon River Benthic Index from 5.23 to 5.00 by 2010 (the larger the number, the more pollution-tolerant benthos are present).</p> <p>Decrease the Avon River Phosphorous loading from 0.12 mg/l to 0.06 mg/l by 2010.</p> <p>Decrease the Avon River Bacteria Index from 711 per 100 ml to 300 per 100 ml by 2010.</p> <p>Decrease the Avon River conductivity Index from 900 Fs/cm to 600 Fs/cm by 2010.</p> |



John Street Weir, Stratford

Photo: Eric Eberhardt

Municipal Actions Required:

- Obtain community input on the subwatershed report card and based on this input, develop a community based action plan for the subwatershed.
- Require stormwater management for all new development.
- Retrofit existing developments with stormwater management quality control.
- Plant buffers along all open drains and the Avon River.
- Educate watershed residents on urban best management practices related to pesticide use, herbicide use and proper household hazardous waste disposal.
- Develop a road salt management plan with the goal of reducing the use of road salt.
- Permit and encourage the use of pervious pavement for parking areas to reduce runoff.
- Develop a waterfowl management plan for Lake Victoria.



Mayfly nymph. The invertebrates found in the stream are an indicator of aquatic health.



Blackside Darter from Avon River. Darter species indicate reasonable habitat and water quality.

Best Bets For The City:

- Require stormwater management quality control for all new development.
- Review City policies for management of open drains and ditches.
- Implement a Yellow Fish Road Program to increase awareness of the impact of point source contamination.
- Provide subsidies for residents to purchase rain barrels.

Things you can do at home...

- Watering your yard - water in the *coolest* part of the day (i.e. early mornings) and on non-windy days to avoid evaporation; place sprinklers so as to avoid water landing on the road or driveway; water your lawn only when it needs it during dry spells; encourage deep root growth by infrequent deep waterings (e.g. soak ground to 2-3cm depth every five days) instead of light, frequent waterings.
- Reduce or eliminate use of pesticides on private property.
- Use water collected from rain barrels to water plants and gardens.

Natural Environment

Stratford's natural environment includes natural woodlands, early successional areas, manicured public parks, outdoor recreation areas and boulevard trees. Stratford should advocate for a natural environment system on public and private land that meets human needs while respecting the ecosystem.

| Goals | Targets |
|---|--|
| Develop a plan to maintain existing natural woodlands and increase natural woodland cover. | Protect all existing natural wooded areas and increase the natural woodland cover from 2.6% to 3.5% by 2010. |
| Provide trails within and between municipally owned natural areas. | Expand the multi-use trail system by 2010. |
| Implement and maintain a tree management plan for privately and publicly owned land in the City of Stratford. | Add new trails to existing and new natural areas by 2010. |
| | Plant new trees (boulevards and park plantings) as per the Urban Forestry Plan. |
| | Maintain trees using the standards outlined in the Urban Forestry Plan. |
| | Complete a data base inventory of individual trees on City land by 2006. |
| | Maintain existing privately owned trees and increase by 10% within 5 years. |

Municipal Actions Required:

- Complete a natural heritage inventory for the Stratford that includes an inventory of the size, location and composition of all remaining natural woodland cover in the City.
- Develop a plan for natural woodlands collaboratively with stakeholders. Consider the range of implementation options (education, incentives, stewardship, regulations, land acquisition) as tools to protect existing woodlands.
- Develop management policies to guide the City in maintaining City-owned natural woodlands.
- Identify ways for converting existing manicured municipal areas to natural cover.
- Support reforestation projects and creation of natural habitat.
- Educate the public on the benefits of natural areas.
- Use part of the 5% parkland dedication to expand natural area coverage in strategic locations.
- Update the City's noxious weed by-law.
- Expand the parkland system to link existing and new natural areas and parks.
- Create interpretive trails as an education/information tool.
- Continue tree planting requirements in new development areas and provide trees to residents for boulevards.
- Continue tree replacement policy for trees that are removed due to damage, safety concerns or disease.
- Encourage the use of native trees and shrubs for all projects undertaken or approved by the City.
- Accept a methodology (data base, GIS) for quantifying the existing tree numbers in Stratford.
- Implement a tree protection by-law.

Best Bets For The City:

- Incorporate the *Stratford Natural Heritage Inventory (2004)* into the *Official Plan*.
- Use part of 5% parkland dedication to protect "at risk" natural woodlands.
- Naturalize *Devon Street Corridor*.
- Naturalize *Dufferin Park*.
- Naturalize *Marsh Pond*.
- Adopt a policy for the annexed lands that would divide the 5% parkland dedication between naturalization and active parkland.
- Set up a memorial forest program.
- Replace some of the annual flower beds with perennials on a trial basis.
- Identify trail corridors and linkages in the *NE Secondary Plan* and the *West Secondary Plan*.
- Establish a permit system to regulate private tree removal.
- Create a policy requiring tree replacement for permitted private tree removals.

Things you can do at home...

- Cut your lawn at a high setting to reduce weed growth and retain moisture.
- Re-seed areas that are bare in your lawn as quickly as possible to avoid soil erosion.
- Landscape your yard to avoid water run off by considering plant cover other than grass http://www.city.ottawa.on.ca/city_services/yourhealth/environmental/lawn_5_4_en.shtml.
- When planting trees and shrubs, plant native species as they generally require little more than the water nature provides.
- Call 271-0250 ext. 243 to have the Parks & Recreation Department plant a tree on your property for free.

Waste Management

The City of Stratford's Waste Management System is a full user-fee based system. Extending the landfill's life and reducing the City's ecological footprint will require ongoing waste diversion and reduction strategies.

| Goals | Targets |
|---|--|
| Implement full stream composting. | Decrease the percentage of organic material in the residential waste stream from 30% to 15% in 5 years through diversion programs and education. |
| Promote product stewardship. | Advocate for deposit and return. |
| Increase the volume and material types for the recycling program. | Increase the tonnage collected by 10% within 2 years. |
| Increase material diversion and recycling at the landfill. | Meet MOE targets of 50% of blue box wastes captured by the end of 2006 and 60% by 2008. |
| Decrease hazardous waste (household and industrial/commercial). | Divert lumber and other cut wood waste from disposal at landfill site. |
| Introduce electronic waste recycling. | Decrease quantity of residential hazardous waste being disposed of in landfill. |
| Corporate procurement practices to reflect "closing the loop." | Divert 100% of electronic waste from landfill site. |
| ISO 14001 designation. | 50% of material purchases should include post-consumer recycled content. |
| | Review and implement for 2006. |



Stratford Land Fill Site

Municipal Actions Required:

- Establish a curbside collection system for organics from households.
- Promote a city-wide Master Composter educational and training program.
- Municipality should provide backyard composters.
- Expand program to take a wider range of materials such as plastic film, aseptic containers and textiles in curbside and/or depot collection system. Some of this is currently being conducted by charitable organizations or by using other private organizations and businesses.
- Continue education and promotion of existing program.
- Increase accessibility to the program for multi-residential sector by revamping site plan agreement process to incorporate the need to accommodate recyclable containers and access to containers.
- Include a variety of additional blue box materials in tender for collection.
- Ban construction and demolition wood waste from landfill. Educate builders and construction companies regarding need to separate materials. Incorporate gypsum recycling into landfill diversion program.
- A targeted educational program to homeowners regarding alternates and reduction of usage. Using all materials up or saving them for proper disposal also needed as part of education.
- Divert material from landfill and curbside waste, set up free drop off program for residents, minimal charge (to cover costs) for Institutional, Commercial and Industrial.
- Purchase post consumer recycled papers throughout Corporation.

Best Bets:

- Promote backyard composters, sell at a unit price of less than \$25 or give away some free units.
- Depot for plastic film.
- More recycling containers in the core using blue units.
- Promote accomplishments and success stories in the media.
- Make presentations to schools and industry groups
- Use "recycler of the month" promo to educate residential users.
- Implement trial program to review participation.
- Education materials handed out on household hazardous waste days.
- Municipality to purchase 10% post-consumer paper by 2005.
- Ban asphalt shingles from landfill.

Things *you* can do at home...

Organics

- Buy a composter from the City of Stratford for \$25.
- Pick up a brochure on what to put into backyard composter and what not to - "trouble shooting tips".
- Pick up information on how to build your own backyard composter.
- Pick up free compost from the landfill site in the spring.
- Use your compost in your gardens to aid in plant growth and help maintain soil moisture.
- Plant a vegetable garden with your compost and grow your own organic vegetables.
- Plant flowers and plants to attract birds that will help control insects.
- Mulch your grass clipping and leave on the lawn, they aren't accepted for curbside leaf and yard waste collection and they will fertilize your lawn.

Blue Box

- Reuse plastic grocery bags or take them to Food Basics or the Beer Stores for recycling. Bring your own cloth bags to stores.
- Recycle aerosol cans.
- Recycle gable top milk and juice cartons by cutting out the plastic spout.
- Recycle plastic containers with a recycle symbol and numbers 1 to 7 (with the exception of Styrofoam and film).
- Only buy containers that are accepted in the blue box.
- Take reusable materials to Goodwill, House of Blessing and Habitat for Humanity, or have a garage sale.
- Buy in bulk for materials you know you will use.
- Buy pre-recycled paper and other products.
- Buy refillable containers and reuse them.
- Wrap presents with newspaper comics or flyers.
- Make litter-less lunches for school and work by using reusable containers.
- Buy recyclable milk containers or reuse milk bags for the freezer or lunch bags - they are sturdier.

Household Hazardous Waste

- Buy natural cleaners instead of hazardous cleaners. Mix 2 parts Borax with 1 part baking soda for an all purpose cleaner, use vinegar and water to wash windows and glass.
- Take used motor oil and filters to the Public Works Department located at 303 King Street 5 days a week.
- Make sure you clean out your garage and basement of all hazardous materials you no longer use prior to the Hazardous Waste Depot.
- Latex or water-based paint is better for the environment than oil-based paint.
- See if a neighbour or friend could use left over cleaners or paints.
- Collect your batteries in a jar and bring them to the Hazardous Waste Depot.
- A slice of potato removes fingerprints from painted wood.
- Only buy what you know you will use, some cleaners come in smaller packages.

Landfill

- Donate reusable materials to a charitable organization like Habitat for Humanity.
- See if the material can be fixed before throwing it out - like a chair or lawnmower.
- Use the shingle diversion bin if you are redoing your roof.
- Use the recycle depot for all recyclable materials - if you transport your garbage in a cardboard box, empty it and throw it in the cardboard bin.
- Donate your old computer to Swan Pack.
- Buy food and other products with reusable, recyclable and reduced packaging.
- Use cloth bags for your shopping trips.
- Buy products that are well-made and durable, that way you'll reduce waste while saving time, money and aggravation.

FACT:

Currently 30% of the residential waste stream is organic, all of which could be diverted through household composting, or a green box organic recycling system.

Transportation

Transportation accounts for 32% of Canada's greenhouse gas emissions. How Stratford designs neighbourhoods and organizes the movement of its citizens throughout the city can play a significant role in reducing the environmental impacts of transportation.

| Goals | Targets |
|---|---|
| Reduce dependence on private vehicles. | Reduce private vehicle kilometres travelled by 10% in 5 years. |
| Decrease vehicle reliance on greenhouse gas emitting fuels. | Reduce automobile ownership in the city by 10% in 10 years. |
| Divert unneeded transport truck traffic around city. | Reduce city vehicle fleet emissions. |
| Broaden southern Ontario transportation network. | Increased Via Rail service – twice in the morning and twice in the evening from and to Toronto. |

Municipal Actions Required:

- Encourage mixed-use development so that amenities are within walking distance.
- Encourage infill development – greenfield development should be last resort for development.
- Encourage residential development within City's downtown.
- Establish bike paths and nature trails throughout City.
- Make downtown core more pedestrian friendly.
- New residential developments should feature a traditional grid format, which provides for more connectivity and less car use.
- Make pedestrian friendly residential developments via interactive streetscapes that feature sidewalks, nature trails and bikeways as well as front porches and dwellings closer to the street.
- Promote transit as an alternative – making transit more comfortable and conveniently accessible.
- Aim for higher residential densities in order to make transit more sustainable – this can be done by creating transit nodes and increasing density close to transit stops.
- Increase transit convenience and accessibility through clear sight lines to stops, paths that avoid traffic and weather protected shelters.
- Implement education programs regarding the environmental, social and municipal costs of the automobile
- Encourage live/work spaces via zoning.
- Review City's vehicle procurement policy.
- Convert transit to run partially or wholly on bio-diesel.
- Upgrade City diesel fleet to bio-diesel and remaining vehicles to gas/electric hybrid.
- Implement program to collect grease waste from City's restaurants for use in city's diesel fleet.
- Lobby Province to build truck by-pass around City.
- Make driving through the City harder for trucks - erect more stop lights/signs at required corners along Hwy 7/8, make Ontario Street narrower downtown by creating angled parking.
- Tie in all transit options – train, inter-city buses and local transit.
- Lobby Via Rail for increased service.
- Build business plan with communities along North Main Line to show that increased service is financially sustainable.

Best Bets For The City:

- Direct new commercial growth to City's core, north and west ends.
- Lower or waive development charges for infill development.
- Reduce parking requirements for infill development in downtown and heritage areas as defined in the Official Plan.
- Lower or waive development charges for downtown residential development.
- Implement recommendations of Bicycle Advisory Committee. Include paths in City's secondary plans for annexed lands.
- Lower residential set-backs and increase set-backs for garages in City's Zoning Bylaw.
- Revive "Block Parent" program.
- Encourage more parking on local and collector streets to slow traffic down.
- Plant treed medians on arterials to make more appealing while reaping environmental rewards.
- Offer free transit passes for City employees and/or reduced rates for downtown merchants/employees.
- Construct new terminal that makes transit more appealing.
- Establish firm Urban Growth Boundary for the City.
- Promote "Leave your car at home day" in the City in conjunction with an education program.
- Expand "Walk-A-Block" to school program with Board of Education.
- Begin a fuel mixture of diesel and bio-diesel for transit buses.
- Enact by-law banning use of engine brakes within the City.

Things you can do at home...

- Drive smarter and less; fast starts and hard braking *only* reduce the average hour long trip by 2.5 minutes, but they consume 39% more fuel and produce up to five times more emissions.
- Limit use of air conditioning, as it can increase fuel consumption by up to 20%.
- Use gasoline with 10% ethanol.
- When filling your vehicle with gas, don't restart the pump when it stops for the first time as spillage is a major source of ground-level ozone (smog).
- Drive your vehicle less by walking, cycling, carpooling and using public transit. When you drive, plan ahead and get all your stops done in one trip.
- Maintain your vehicle - a poorly maintained vehicle uses up to 50% more fuel and results in 50% more emissions than a properly maintained vehicle - an under-inflated tire can result in 3% more fuel use.
- Buy a more efficient vehicle - a vehicle that is 25% more fuel efficient will reduce your greenhouse gas emissions and save you \$360 on an annual fuel bill of \$1440 - check out <http://oee.nrcan.gc.ca/vehicles/home.cfm> to see the most efficient vehicles
- if you're buying a used car visit <http://oee.nrcan.gc.ca/vehicles/home.cfm> to see the fuel efficiency of the model.
- Stop Idling - Turn-off your car when you stop to pick-up somebody or something - restarting your engine uses less fuel than 10 seconds of idling and pollutes less.
- Food in North America travels an average of 2,500 to 4,000 kilometres from farm to plate. Buying locally produced food or growing your own can reduce CO₂ emissions.
- Take the One-Tonne Challenge.



South Shore Trail, Lake Victoria, Stratford

Photo: Richard Bain



New City of Stratford Bus, 2004

FACTS:

Every litre of gasoline burned produces 2.4 kilograms of CO₂. Use your bike, walk, or take public transit whenever possible.

Number of tonnes of CO₂ produced by driving 20,000 km a year in a mid-sized SUV - 6 tonnes; in a mid-sized sedan - 4 tonnes; in a gasoline-electric hybrid - 2 tonnes.

Energy

While energy is essential to the operation of all facets of a municipality, it is also a major source of greenhouse gas emissions. Through new technologies, local generation and conservation, these impacts can be reduced.

| Goals | Targets |
|--|--|
| Reduce energy use within the City. | Reduce energy load of municipally owned buildings by 20% within 5 years. |
| Switch to locally generated sources of energy. | Generate 10% of municipality's energy needs locally within 10 years. |
| Develop and implement a Clean Air Plan for the City of Stratford, including an education section directed at individuals, businesses and industry regarding "air friendly" activities. Reduce energy load of City's residential sector by 20% in 10 years. | Develop plan by 2006 and implement within 5 years. |

Municipal Actions Required:

- Encourage construction of R2000 designated homes and use of passive solar energy.
- Encourage EnerGuide upgrades of City's existing residential stock.
- Streamline permit process for environmentally friendly developments and construction.
- Implement demand management strategy to reduce energy consumption.
- Construct new residential developments in grid format, which has been proven to reduce automobile dependence and increases walk-ability, thus reducing energy consumption.
- Increase building siting to gain 20-25% of energy via passive solar gain - encourage seasonal shading, solar orientation, thermal storage via building materials and double envelope construction.
- Shading parking areas and surface areas can reduce demand for cooling in summer months.
- Install smart meters in homes and businesses.
- Implement the Federation of Canadian Municipalities (FCM) Partners for Climate Protection (PCP) program and begin inventory of city's greenhouse gas emissions.
- Festival Hydro should participate in the encouragement of hydro conservation projects.
- Retrofit municipal buildings for energy efficiency.
- Buy green produced electricity for municipal operations.
- Outfit municipal buildings with energy generating and saving technologies, such as photovoltaic panels or solar hot water heating.
- Move towards using solar powered lighting for parking lots and streets.
- Move to smaller scale systems, such as wind, photovoltaic panels, micro-hydro generation, methane, industrial waste heat, ground source/geo-thermal heating and cooling, mini-turbines within storm and waste water systems.
- Direct 1-2% of Festival Hydro's profit towards the production of green energy in the area.
- Strike a committee of stakeholders to develop and implement a Clean Air Plan for the City.



Best Bets For The City:

- Lower or waive development charges for R2000 designated construction.
- Subsidize EnerGuide home inspections.
- Motion sensors on street lights - solar street/parking lot lights.
- Offer free trees for shading cooling units and homes through the Municipality.
- A comprehensive tree planting strategy.
- Adopt Partners for Climate Protection resolution and begin working towards five milestones.
- Mail out energy saving tips with monthly bills.
- Sign on to FCM's Municipal Building Retrofit Program - finance to complete project.

Things you can do at home...

- Trim house heating costs by up to 6% by lowering your thermostat by 3 degrees at night and when you're not at home. Leave your air conditioning turned a little warmer so it turns on less. Install a programmable thermostat that will automatically change the temperature at night or when you're not at home. Plant trees to shade your home.
- Turn off your water heater when on vacation and turn its regular heating temperature to 49 degrees Celsius to avoid scalds and save money year round.
- When you buy new appliances buy EnerStar models www.see.nrcan.gc.ca/appliances.
- Look for the EcoLogo on products www.environmentalchoice.com.
- An EnerGuide visit and upgrades can reduce your home's energy consumption by up to 25%, visit <http://see.nrcan.gc.ca/houses-maisons/english/choice.cfm?Text=N> for more information.
- Replace light bulbs with energy efficient bulbs - a 15-watt compact fluorescent bulb produces the same amount of light as a 60-watt incandescent bulb. If every Canadian home replaced just one 60-watt light bulb with a 15-watt compact fluorescent bulb in a heavy-use area, Canada would collectively save \$63 million annually in energy costs and reduce greenhouse gas emissions equivalent to taking 66,000 cars off the road.
- Building a new home? Building an eco-friendly home to the R2000 standard can reduce energy costs by 30% for a new home.
- Using nature to reduce energy-use - using a push mower to cut your lawn is a simple way to reduce greenhouse gas emissions and save money. Plant a tree to shade your air conditioner and reduce its energy load by up to half.
- Take the One-Tonne Challenge (www.climatechange.gc.ca)



Replace light bulbs with energy efficient bulbs

FACTS:

Money spent on energy is money that generally leaves the community. Money saved through energy efficiency stays within the local economy.

6.0 Recommendations

1. That the City of Stratford take the necessary steps to encourage the implementation of the goals, targets and local actions contained in this document regarding the City's water management, drinking water, natural environment, waste management, transportation and energy.

2. That the City of Stratford adopt an Environment First Policy and pass the following resolution:
"We the Council and the employees of the City of Stratford are committed to examining and assessing the potential environmental impacts of all of the Corporation's services and programs as a part of the decision-making process, and recommend appropriate actions that are achievable and within our jurisdictional authority in order to optimize environmental benefit."

3. That the City of Stratford adopt the Federation of Canadian Municipalities' statement of environmental policies and work towards completing the five milestones of Partners for Climate Protection.

4. That the City of Stratford set an example for its citizens by allocating resources to the implementation of this report by appointing an Environmental Coordinator whose function it will be to move the City's corporate activities toward environmental sustainability.

5. That the City of Stratford move toward ISO 14001 Certification as a way to provide leadership in environmental matters.

6. That the City of Stratford ensure the Roundtable on the Environment for the 21st Century remain a vibrant document that is reviewed for successes, and revise targets and goals every two years through the City's Energy & Environment Committee.

Appendix A: Where we are...

A Report Card on the 1993 Stratford Roundtable for the Environment

Waste Management

| SHORT-TERM STRATEGIES FOR WASTE MANAGEMENT | ACCOMPLISHMENTS REPORTED TO ROUNDTABLE |
|--|--|
| Deposit & return system. | A motion passed through Council requesting that the provincial government deposit/return commitment be further implemented within the Province. The original Provincial mandate of a 30% refillable system was restated in the motion. Council has endorsed a second motion from another municipality, which echoed this request for the LCBO. |
| The Blue Box Recycling Program needs to have some changes made. It will continue to be the most visible evidence of an individual householder's commitment to sustainability but will have to be streamlined to assure that it will be more efficient. | <p>Bi-Weekly collection implemented in 1996. Boxboard, plastic tubs and corrugated cardboard were added to the blue box program in 1996. The implementation of a User Pay or "Pay as you Waste" system was adopted in early 1997.</p> <p>Although the system is efficient, the costs have increased by over 200% based solely on the bid process and the acceptance of a new contract agreement for collection. System efficiency can continue to be reviewed. Contractor rates are fixed.</p> <p>Implementation of aerosol can recycling in April 2002.</p> <p>The implementation of the Pay as You Waste user pay system saw an increase in recycling by 61%. Today most boxes are placed out to capacity.</p> |
| All residents and businesses who produce recyclable materials should be provided with recycling services. | <p>From 1993 to 1996 the majority of apartments were placed on line with the collection system. The use of a 4-cart sort for these facilities allows residents to recycle base materials including cans, glass, newsprint and plastics. The recycling of boxboard and cardboard has proven to be more of a challenge at these locations as the carts do not lend themselves to this type of material collection.</p> <p>Five-stream recycling at apartments started in early 2002, with the addition of plastic container recycling into carts at some apartments.</p> |
| Make reduction and reuse the primary "R's". | Primarily a lobbying and educational effort. |
| An industrial/commercial/institutional steering committee should be formed to work with the municipalities within the watershed in reducing waste to the landfill. The committee would review possible alternatives for the disposal of specific materials as well as provide information for its membership regarding local solutions and examples. | Not initiated at this point. Use of Tip Fee as primary tool or disincentive which reduces ICI waste generation. |

| MID-TERM STRATEGIES FOR WASTE MANAGEMENT | ACCOMPLISHMENTS REPORTED TO ROUNDTABLE |
|--|--|
| <p>With 30% of the municipal waste stream compostable, a comprehensive organic collection and composting system should be implemented for municipal, commercial and industrial sectors.</p> <p>Food and yard wastes can be composted at home in either outdoor compost containers or indoor vermicomposters. Municipally subsidized programs encourage individuals to compost and provide the necessary training to do so. Other incentives may also be necessary to decrease the amount of garbage placed at the curb such as fees for excessive quantities or garbage bags could be implemented.</p> <p>Community composting systems may be needed for large volumes of yard wastes. Leaves can be collected and spread over farm fields as a natural fertilizer. A leaf collection pilot program has already been Initiated for the City of Stratford and proven very successful.</p> | <p>Not introduced to the community at this point. Such a system would typically follow a residential collection and composting program. Residential organics collection was offered to bidders in the last tender process and was not bid on. It is estimated that over 70% of the community has purchased a backyard composter. Surveys show that participation is high in terms of households composting with backyard units. Ongoing education and information on backyard composting is needed. Vermicomposting has not been adopted or offered in the City and needs to be reviewed as an option.</p> <p>All leaves and yard waste are diverted from disposal at the City landfill. These materials are composted in a modified windrow operation. The marketing and use of finished material continues to be a challenge as quantities of finished product increase.</p> |
| <p>The Household Hazardous Waste Program should be expanded to educate the user not to generate such materials. The use of material exchange and return to source options should be investigated. All levels of governments should be encouraged to restrict the use of certain substances currently available to the consumer.</p> | <p>The program was established in 1990, and primarily collects these materials. An exchange system is integrated but not well used. Collection frequency has increased to offer collection during two full weeks annually (May and Oct)</p> |
| <p>Source separation by laws and material ban by laws should be developed as such materials become readily recyclable or divertible. Such by laws would apply to both residential and industrial generators of waste.</p> | <p>Current by-law bans a variety of materials from disposal. All organics, recyclables and a variety of construction materials, tires etc. are diverted. Diversion options are in place for these materials. Local industry or the municipality provides them.</p> <p>Asphalt shingle diversion and recycling implemented in 2000.</p> |
| <p>Higher quality manufactured goods should be designed with recyclability in mind</p> | |

| LONG TERM VISION FOR WASTE MANAGEMENT | ACCOMPLISHMENTS REPORTED TO ROUNDTABLE |
|---|--|
| <p>All solid waste is to be composted or returned to the resource stream.</p> | |
| <p>No replacements of landfill sites will be necessary.</p> | |

Energy

| STRATEGIC PLANNING FOR ENERGY-SHORT TERM STRATEGIES | ACCOMPLISHMENTS REPORTED TO ROUNDTABLE |
|---|--|
| Identify and switch to more environmentally friendly energy sources where feasible such as the conversion of space heating and water heating away from electricity and towards more efficient alternate energy forms. | Growing use of natural gas and propane for space heating & vehicles. |
| Energy suppliers, perhaps in cooperation with private initiatives, should make available incentive programs to encourage the switching to more efficient appliances and lighting. | Private sector has made significant progress. Legislation/incentives. |
| Encourage intensification, to result in more efficient energy use. | Official Plan has been updated to address intensification issues. |
| Adopt an incentive program to increase the use of public transit. | Ongoing. |
| Adopt an idling bylaw in the City. | Idling by-law adopted by Council, with enforcement commencing in 2002. |
| The Utilities should print conservation and efficiency information on energy bills. | Done. |
| Encourage federal and provincial ministries to increase funding of renewable energy technologies and research. | |
| Encourage federal and provincial legislation which will reinforce conservation and efficiency. | |
| Encourage ongoing "energywise" education supported by municipalities, utilities, boards of education and industries. | |
| Convert public vehicles to cleaner more efficient fuels (i.e. propane, natural gas, ethanol, etc.). | Police cars were converted but gasoline reinstated due to maintenance issues. City Committee established to look into alternate fuel for vehicles and appropriate vehicle types. |

| STRATEGIC PLANNING FOR ENERGY-MID TERM STRATEGIES | ACCOMPLISHMENTS REPORTED TO ROUNDTABLE |
|---|---|
| Develop bicycle paths. | Recreational bike routes now mapped, mostly sharing quiet streets with other traffic. Erie St. Bike Path completed. Bike paths included in North East Secondary Plan. |
| Continue to upgrade local building bylaws to incorporate the latest energy conservation technology. | |
| Adopt mandatory energy auditing for all municipal facilities either institutional or private. | Energy audit completed and implemented. Street Smart Program. |
| Encourage environmentally friendly cogeneration of electricity moving toward self sufficiency, both in the urban and rural sectors. | |

| STRATEGIC PLANNING FOR ENERGY-LONG TERM STRATEGIES | ACCOMPLISHMENTS REPORTED TO ROUNDTABLE |
|--|---|
| Encourage the home as a workplace. | Progress being made. Home occupations are allowed under local zoning by-laws in R2 & R3 zones. An office for the resident's use is permitted in any dwelling. |
| Encourage organic farming techniques as the best way to harness solar energy for food and fuel. | Agriculture in this area is becoming more energy efficient through the use of low tillage and reduced amount of pesticides, synthetic fertilizer. |
| Create an interactive, communicative system to replace a lot of today's need for commuting, shopping, delivery, etc. | Tremendous progress and growth in internet use of communications, shopping, banking, systems management etc. |
| Establish more community ownership/rental arrangements to reduce material and energy duplication of resources (i.e. rototillers, power tools). | |
| Plan so that the car becomes a recreational vehicle rather than a daily necessity. | |
| Encourage solar, wind and ground heat as energy sources where feasible. | |
| Encourage societal development of fusion. | |
| For maximum efficiency, ensure supply of energy matches need | |

Agriculture

| AGRICULTURE LAND USE-SHORT TERM STRATEGIES | ACCOMPLISHMENTS REPORTED TO ROUNDTABLE |
|---|---|
| Encourage a diversity of farm activities and production. | |
| Encourage farmers to decrease or eliminate inputs of chemical fertilizers and pesticides. | |
| Encourage certified organic produce. | |
| Protect farmlands through legislation by all levels of government. | |
| Support initiatives for urban intensification. | NE Secondary Plan sets density target. |

| AGRICULTURE LAND USE-MID TERM STRATEGIES | ACCOMPLISHMENTS REPORTED TO ROUNDTABLE |
|---|---|
| Develop and expand markets for locally produced and processed farm products. | |
| Encourage “on farm processing”. | |
| Create or amend legislation to reflect the principles of sustainable agriculture. | |
| Support and recommend the development and implementation of legislation to reflect the principles of sustainable agriculture | |
| Encourage government support for farms in transition to sustainable agricultural practices. | |
| Sustainable agriculture must be economically feasible and desirable for farmers during the period of transition. | |
| Develop educational programs that encourage societal recognition of the fundamental importance of a sustainable and adequate food supply. | |

| AGRICULTURE LAND USE-LONG TERM STRATEGIES | ACCOMPLISHMENTS REPORTED TO ROUNDTABLE |
|--|---|
| The region’s food needs should be met locally | |
| Preserve and increase plant, animal and microbial diversity and acknowledge their interdependence. | |

Intensification

| STRATEGIC PLANNING FOR INTENSIFICATION-SHORT TERM STRATEGIES | ACCOMPLISHMENTS REPORTED TO ROUNDTABLE |
|--|--|
| Growth should be accommodated in existing built up areas with full services before being allowed to spread beyond the City's outer bounds, where feasible. Net expansion to urban boundaries should be a last alternative to accommodate growth. | All growth in the City has to be on full services, and the City is vigilant about watching developments on existing city boundaries. City must be notified of any zoning applications on boundaries. |
| Encourage infilling of vacant or under utilized land. It is recognized that previous land uses sometimes restrict future uses. | <p>Infilling severances occur regularly. The City is creating Community Improvements Plans under the Planning Act with various Building Upgrade Loan and Tax Increment financing programs within the Heritage Conservation District.</p> <p>The City is developing a Brownfield Strategy that proposes financial assistance for the development of contaminated lands.</p> |
| Research alternatives and progressive ideas on how to intensify while maintaining quality of life in studying other cities in North America and around the world. | CMHC Participation in the NE Secondary Plan |
| STRATEGIC PLANNING FOR INTENSIFICATION-MID-TERM STRATEGIES | ACCOMPLISHMENTS REPORTED TO ROUNDTABLE |
| Create policies to permit accessory apartments in large single family homes. | Accessory apartments permitted in all zoning areas except R1. |
| Redevelop at higher densities, especially near transit routes. | |
| Reduce, where appropriate, minimum lot frontages and setbacks and plan for more medium density areas. | Accomplished under current by-law. In some cases, minimum front yard setback requirements has been reduced from 7.5 to 4.5 metres, and rear yard to 6 metres, frontage to 10 metres. (BD) |
| Change present concept of zoning to a mixed land use concept. Current zoning can segregate land uses which can result in a necessity to travel further to business and facilities. A mixed-use concept makes the various aspects of life . | Non-residential uses are permitted in R2 and R3 Zones, however, commercial trends tend to be moving in opposite directions (i.e. big stores, increased use of vehicles). |
| STRATEGIC PLANNING FOR INTENSIFICATION-LONG TERM STRATEGIES | ACCOMPLISHMENTS REPORTED TO ROUNDTABLE |
| Encourage and develop concepts of community gardening on rooftops and community shared open space. | City has provided space for a community garden within the city. |
| Plan new development with the intent to link residences to employment opportunities and community services in the downtown core area | |

Natural Areas

| ITEMS NOTED IN 1993 REPORT INTRODUCTION | ACCOMPLISHMENTS REPORTED TO ROUNDTABLE |
|--|--|
| <p>The City owns all the land adjacent to the river banks within its boundary and has through its parks board made a number of additions that are meant to recognize the importance of the environment. These include:</p> <ul style="list-style-type: none"> • a natural area with nature trails within the City boundary • an arboretum designed for appreciation and education which will ultimately include all tree species indigenous to the area • a large new park is to be developed as a low maintenance semi natural park with numerous walking trails • a tree nursery to perpetuate species native to the immediate area • a woodchipping and composting program to make the operation self sufficient for topsoil needs in new developments within the park system • a policy of tree replacement that effectively has established a greater than seven to one ratio on replacement of old and dying trees with new ones | <p>Arboretum created in 1980. Has been filled and expansion has occurred to north shore and Upper Queens Park (1990-2002). Eventually will include and encompass Meadowrue Gardens (area will become semi-natural park).</p> <p>T.J. Dolan Natural Area created with trails established (8 km.). Replanting of area (50 acres) 1992-2002.</p> <p>Ecological inventory of TJ Dolan Natural Area completed in 2001. One of the recommendations was to prepare a management plan for TJ Dolan Natural Area.</p> <p>Series of smaller parks have been created which will be semi-natural with walking trails wherever appropriate. Examples include: SERC site and pond (1999); Meadowrue (1999); Cooper Standard (2000); Greenwood Park (2003/04); Packham Road Complex, Kemp Crescent and Battershall Parks(2004); Devon St. Park (2005 planned) and Marsh Pond (2005 planned).</p> <p>Nursery was completed in 1990 and has been harvested twice in the last decade with some 800 trees planted out in natural and formal park areas. Re-stocked with seedlings and whips in 2001 with harvest date – 2005.</p> <p>6725 trees planted on all city streets and boulevards from 1988 – 2003 924 trees removed during same period Replacement ratio – 7.27 to 1</p> <p>Creation and adoption of an Urban Forestry Plan by Council,. Recommendations guide department in the management of our urban forest. City tree cutting policy adopted by Council in 2003.</p> <p>All woodchips created from tree removals and tree trimming are used in the creation and maintenance of trails in the T.J Dolan and other natural areas such as Meadowrue. Also used for mulching purposes around trees and in shrub beds.</p> <p>Leaves collected in the cemetery and park system are composted and used in flowerbeds as well as top dressing material for turf areas and the tree nursery. Composted leaves also obtained from public works operation as required.</p> |

| NATURAL AREAS ECOLOGICAL PROTECTION & WATER MANAGEMENT -SHORT-TERM STRATEGIES | ACCOMPLISHMENTS REPORTED TO ROUNDTABLE |
|---|--|
| Encourage resource management and planning on a watershed basis | <p>City has completed a sub-watershed study for the Court drain, and will implement an amendment to fully incorporate this into the Official Plan.</p> <p>Recommendations can be implemented through future planning and development, landowner/community stream projects and agriculture land management opportunities. Court Drain SWS included benthic, fisheries, water quality and stream flow sampling and monitoring. Future monitoring as a result of the study recommendations continues.</p> <p>Preliminary evaluation of five dams has been completed in the Avon River watershed. Further study and remedial activity is planned for selected dams.</p> <p>Benthic samples have been collected and analyzed to evaluate stream health at a dozen sites on the Avon watershed. Samples are collected annually downstream from Stratford and near the mouth of the Avon River to monitor long-term trends. As part of the Provincial Water Quality Monitoring Network, monthly samples are also collected downstream of Stratford for chemical analysis by MOE.</p> <p>The Avon River Watershed Report Card grades the forest condition and surface water quality of the watershed, describes why conditions are good or bad, and provides a list of actions needed for improvement. It establishes a benchmark from which future changes can be tracked.</p> <p>O'Connor Commission Phase II recommendations:</p> <ol style="list-style-type: none"> 1. Drinking water sources should be protected by developing watershed based source protection plans. Source protection plans should be required for all watersheds in Ontario. 2. The Ministry of the Environment should ensure that draft source protection plans are prepared through an inclusive process of local consultation. Where appropriate, this process should be managed by conservation authorities. |
| Increase co operation, co ordination and communication between government agencies, community groups and individual citizens to ensure effective use of both human and material resources when involved in specific projects or overall environmentally sustainable ideals. | <p>Secondary plan development for land to be annexed is underway.</p> <p>Health Unit, MOE and water providers in Perth co-operated on the adverse results protocol.</p> <p>Stratford Groundwater Study was completed with Steering Committee including City of Stratford, MOE, Health Unit, Local industry, UTRCA, OMAF, County & Townships, County and City residents.</p> <p>Perth Groundwater Study was completed in 2003 with involvement of: Perth County, the City of Stratford, the Town of St. Marys, MOE, Health Unit, Local Industry, UTRCA, OMAF and residents.</p> |

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| Encourage farmers to use environmentally friendly farm practices. | |
| Stream bank planting and naturalizing of roadsides to decrease the need of pesticide use should be supported through the development of municipal by laws. | |
| Increase co operation, co ordination and communication between government agencies, community groups and individual citizens to ensure effective use of both human and material resources when involved in specific projects or overall environmentally sustainable ideals. | <p>Secondary plan development for land to be annexed is underway.</p> <p>Health Unit, MOE and water providers in Perth co-operated on the adverse results protocol. Steering Committee for the Stratford Groundwater Study consisted of City of Stratford, MOE, Health Unit, Local industry, U.T.R.C.A., OMAFRA, County & Townships, County & City residents.</p> <p>Perth Groundwater Study Steering Committee members as above. WORDING Perth County/City of Stratford/Town of St. Marys Groundwater (2002) Steering Committee members as above.</p> |
| Proper installation and maintenance of septic systems is imperative | <p>The Building & Planning Department issues permits for septic systems. Septic systems must conform to the Ontario Building Code. Any new development within the City must be serviced, however, some existing septic systems may be inherited with annexed lands.</p> <p>O'Connor Phase II Recommendation: Septic systems shall be inspected as a condition for the transfer of a deed.</p> |
| Protect all remaining wetlands and encourage research and development of artificial wetlands for waste treatment. | |
| Promote the naturalization of municipal drains. Artificial channelling of watercourses should be prohibited. | |
| All environmentally sensitive and significant natural areas within the watershed, including woodlots, wetlands, linkages, corridors and meadows, must be identified, enhanced and protected. | No provincially or regionally significant woodlots exist within the City, however locally significant natural areas are being reviewed. UTRCA is completing a Natural Heritage Inventory. |

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| <p>Improve herbicide/pesticide spraying techniques to maximize effectiveness and minimize negative impacts on the surrounding environment and population.</p> | <p>Biological inventory of the natural area between John Street and Lorne Avenue completed by UTRCA (2002).</p> <p>Naturalization Plan for 4.4 acre site at 703 Douro Street, including trails, wildflower meadows, wetland area, native trees and shrubs.</p> <p>The Avon River Watershed Report Card grades the forest condition and surface water quality of the watershed, describes why conditions are good or bad, and provides a list of actions needed for improvement. It establishes a benchmark from which future changes can be tracked.</p> <p>1995 – Reduction in spraying of herbicides from two applications per year to one on parklands including sport fields, picnic areas, passive recreational areas, formal parklands</p> <p>2000 – Formation of Ad Hoc Pesticide Use Committee to examine feasibility of eliminating traditional herbicide use on turf grass</p> <p>2001 – Elimination of the use of herbicides except on sport fields and some formal park areas (85% reduction in use of herbicides)</p> <p>2002-2003 – Alternative weed control measures study initiated.</p> <p>2003 – Lemon Aid Solution being tested to eliminate use of herbicides.</p> <p>2003 – Integrated Pesticide Management Committee established to review use on private property</p> <p>As a result of the recommended Best Management Practices within the Stratford Groundwater Study, all spraying of herbicide or pesticide has been stopped on property around municipal wells.</p> |
| <p>Woodlots must be protected.</p> | <p>Draft by-law being developed.</p> |
| <p>Upgrade storm water planning management to reduce urban pollution.</p> | <p>Required for new development – Stormwater Master Plan completed.</p> |
| <p>Water conservation should become the norm.</p> | <p>Water consumption over the last 10 years has dropped from 5,713,396 M3 in 1991 to 5,236,440 M3 in 2001 (9% decrease).</p> <p>Stratford was one of the pilot communities for the OCWA Water Conservation Program for schools.</p> |

| | |
|--|--|
| Supply management organizations, such as the Public Utilities Commission, must work with decision makers at all levels of government to ensure protection of ground and surface water resources. | <p>Stratford and Perth County Groundwater Studies completed. The recommendations of the Stratford Groundwater Study have been accepted by council and included in the City of Stratford Official Plan.</p> <p>The new Safe Drinking Water Act is before provincial legislature. Source water protection legislation is anticipated.</p> <p>Bill 81 (Nutrient Management Act) was passed in 2002. .</p> |
|--|--|

| NATURAL AREAS ECOLOGICAL PROTECTION & WATER MANAGEMENT - MID-TERM STRATEGIES | ACCOMPLISHMENTS REPORTED TO ROUNDTABLE |
|--|--|
| Each farmland owner within the Avon River Watershed should be required to develop conservation farm plans with the assistance of recognized (qualified) planners. | <p>Bill 81 (the Nutrient Management Act) requires nutrient management plans. The regulations are being phased in over the next few years.</p> <p>The Clean Water Project is a regional incentive program for landowners to improve water quality. The City of Stratford has provided funding support to this initiative.</p> |
| Developers, planners, engineers and community decision makers must be encouraged to incorporate water quality preservation and enhancement strategies into plans for new development | The Stratford Groundwater Study recommendations have been incorporated in the Official Plan. |
| Support and encourage MISA (Municipal Industrial Strategy For Abatement). | |
| Identify and manage high environmental risk areas. | The Stratford Groundwater Study and the Perth/Stratford/St. Marys Groundwater Study both contain a contaminant sources inventory. |
| Encourage the reduction and elimination of potable water for non-essential uses. | The demand for water in Stratford has decreased by 9% over the last 10 years. |
| Municipalities should pressure for revision of the Drainage Act to take into account environmental sensitivity. | Drains classified using DFO Classification Criteria. Involved habitat assessment and confirmation of presence or absence of indicator species. |

| NATURAL AREAS ECOLOGICAL PROTECTION & WATER MANAGEMENT - LONG TERM STRATEGIES | ACCOMPLISHMENTS REPORTED TO ROUNDTABLE |
|--|--|
| Support an increase in forest cover. | Plantings of 50+ acres in the TJ Dolan Natural Area and the ongoing creation of semi- natural areas throughout Stratford is increasing forest cover towards levels recommended by MNR. |
| Strive towards sustainable farm management practices. | |

Subdivision Planning

| SUBDIVISION DEVELOPMENT SHORT-TERM STRATEGIES | ACCOMPLISHMENTS REPORTED TO ROUNDTABLE |
|--|--|
| Require a site inventory study of physical and biophysical attributes which determine the site suitability for development and identifies the following sensitive features to be protected by regulations or restrictions: <ul style="list-style-type: none"> • Site hydrology (subsurface and surface drainage) • Biophysical resource base (flora and fauna) • Physical resource base (soil and topography) | Official Plan can require EIS. |
| Create an Environmental Advisory Committee to comment on new development proposals made up of qualified members of the general public. | |
| Encompass environmental concerns by requiring that multiunit development proposals or severances of more than two lots be accomplished only through plans of subdivision. | |
| Require that all agency approvals are in place prior to site stripping and preparation for development. | This is the case. Site stripping does not occur before approvals are in place. |

| SUBDIVISION DEVELOPMENT MID-TERM STRATEGIES | ACCOMPLISHMENTS REPORTED TO ROUNDTABLE |
|---|--|
| Create a Topsoil Preservation By-law as exists in Waterloo, Mississauga and Aurora, for the protection of valuable topsoil from site stripping and erosion. | |
| Increase the minimum number of dwellings per hectare for new development. | This has been happening. A new Zoning by-law has introduced two new R1 zones. New minimum frontage in R1(5) zone is 10 metres. A new smaller R2 zone has also been introduced. New development has a density target of 25 units per hectare. |

| SUBDIVISION DEVELOPMENT LONG-TERM STRATEGIES | ACCOMPLISHMENTS REPORTED TO ROUNDTABLE |
|---|---|
| Plan for self-contained neighbourhoods. | |

Transportation

| STRATEGIC PLANNING FOR TRANSPORTATION – SHORT TERM STRATEGIES | ACCOMPLISHMENTS REPORTED TO ROUNDTABLE |
|--|---|
| Establish and respect a hierarchical street system (i.e. small local streets, collector and arterial roadways). | The Official Plan designates local, collector and arterial roads. |
| Encourage measures to improve automobile occupancy habits and the reduction of length and frequency of automobile trips (i.e. develop an easy method for car pooling such as advertising in local newspapers). | |
| Identify positions where telecommuting or working from home would be feasible to reduce the need for commuting by motor vehicles. | |
| Actively discourage motor vehicle use. | |
| Encourage the use of public transit. | Steering Committee established. |
| Provide incentives for the use of alternatives to automobiles. | |
| Recognize the increasing number of bicycle users in the City and provide for them amenities such as signed cycle routes, safe parking areas and warnings to motorists at appropriate places. | |
| Require bicycle facilities be part of all road construction and reconstruction projects wherever feasible. | |
| Ensure in all new subdivisions, development and redevelopment proposals that adequate provisions are made for bike/walkway links. | NE Secondary Plan. |
| Encourage bicycle use by allocating bicycles a fixed minimum share of the municipal transportation budget for services such as secure bicycle parking. | |
| Research opportunities to realize the above noted recommendations by looking at other urban examples which promote automobile alternatives (i.e. Amsterdam). | |
| Provide wide sidewalks with attractive lighting and benches that will promote a safe and lively streetscape that is pedestrian oriented | |
| Ensure that streets and buildings are accessible for wheelchairs, carriages and carts. | Accessibility Committee guidelines established. |

| STRATEGIC PLANNING FOR TRANSPORTATION – MID TERM STRATEGIES | ACCOMPLISHMENTS REPORTED TO ROUNDTABLE |
|---|---|
| Develop a system of bike paths/walkways linking activity centres throughout the City and, where appropriate, do so in conjunction with the open space system. | Bicycle Plan established. |
| Plan for bicycle/public transit transfer by providing parking at transit stations and enabling carry on bicycle transportation wherever possible. | |
| Close certain streets to cars for bicycle and pedestrian use only and establish dedicated bicycle routes and trails. | |
| Establish police bicycle patrols to help ensure respect for cyclists' rights and responsibilities. | Police bicycle patrol established. |
| Provide incentives for businesses to provide secure bicycle parking and shower? Correct? facilities. | |
| Create a pedestrian and wheelchair accessible urban environment by identifying and eliminating barriers to continuous travel for wheelchairs and pedestrians. | Curb cuts improved annually. |
| Implement ongoing education programs regarding the environmental and social impact of the car and the cost to municipalities (full cost accounting). | |

| STRATEGIC PLANNING FOR TRANSPORTATION – LONG TERM STRATEGIES | ACCOMPLISHMENTS REPORTED TO ROUNDTABLE |
|--|--|
| Promote automobiles as recreation vehicles only for urban dwellers. | |
| Designate the central business area as pedestrian-only. | |
| Promote the lowering of emissions as new technology comes on stream. | Use of low sulphur diesel since 1966 has lowered particle matter by almost 90% |

Quality of Life and Community

| QUALITY OF LIFE AND COMMUNITY - SHORT-TERM STRATEGIES | ACCOMPLISHMENTS REPORTED TO ROUNDTABLE |
|--|---|
| Promote the Stratford downtown core as a community centre ensuring that all needs are accessible and available (stores, health care, recreational facilities, municipal and government offices). Malls built at the edges of the City draw people away from the downtown business core, disperse the community and can be less accessible in terms of public transportation. | <p>The Community Improvement Plan is in place, with goals including the upgrading of downtown core, use of upper stories.</p> <p>The Commercial Needs Study has limited development in the east end, with attempts to orient commercial development to the west end (Huron St.) and Cooper Site. It is hoped this will allow more equity in the downtown core businesses.</p> |
| Encourage and promote local artists and public participation in the theatres to increase a sense of community. | |
| Allow for easy accessibility to locally grown food (i.e. promote the Stratford Farmers' Market). | |
| Preserve heritage and historical sites and educate the community about these sites. | Heritage Conservation District, Community Improvement Plans, Heritage Designations, Municipal Heritage Committee (formerly LACAC) focus on this goal. There are also articles on heritage properties in the local papers. |
| Make pedestrian areas safe and people friendly. | |
| QUALITY OF LIFE AND COMMUNITY - MID TERM STRATEGIES | ACCOMPLISHMENTS REPORTED TO ROUNDTABLE |
| Promote easy access to the core area for pedestrians and bicycles by creating bicycle routes either through paths, lanes along roadways or by prohibiting motor vehicles on designated roadways at specific times. | Bicycle Plan developed |
| Increase the number of patios, meeting places, community centres and the facilities and activities offered there in order to bring people together. | |
| Encourage inter generational community centres and apartments. | |
| QUALITY OF LIFE AND COMMUNITY - LONG TERM STRATEGIES | ACCOMPLISHMENTS REPORTED TO ROUNDTABLE |
| Plan new development by considering community interaction and reliance, transportation links and meeting places. | NE Secondary Plan incorporates a modified fused-grid design. |

Appendix B – Public Input – June 10th, 2004 Public Meeting

ENERGY

- Planning-support for OPA 10 - disperse commercial services throughout the City as indicated in the Official Plan.
- Provide Motion sensors on street lights to limit time they are on
- Keep Street lights off during daylight
- Give out florescent bulbs or provide rate cut for their use
- Transportation improvements:
 - Since large buses are often empty, convert to small buses
 - Ban SUVs.
 - Design express routes for buses
 - Offer free transit
- Support local food products with recognizable signage in retail stores
- Provide public money for education on energy
- Encourage Festival Hydro to offer Smart Meters
- Festival Hydro should investigate the opportunity to buy green energy (propose that 1-2% of Festival Hydro profit go towards a green energy program)
- City should invest in tree planting that would reduce energy needs (such as shading)
- Local municipalities should combine to invest in wind/green energy
- Provide more recycle bins
- Eliminate diesel trucks from the downtown

NATURAL ENVIRONMENT

- City should reduce use of pesticides near the river
 - Find & use alternative sprays
 - When pesticides used, post signs to warn public
- Promote cutting of lawns no shorter than 3 inches to encourage storm water retention
- City should recommend a standard for woodlot density
- City should strive for the break-up of large pavement areas
- Builders should be encouraged to not clear all trees but rather leave as many as possible
- Roundtable report should include column describing the estimated costs to implement recommendations and identifying who will pay (Citizens are more willing to pay when they know what they are paying for and can see the benefits)
- Promote more articles in our local papers on environmental topics
- Encourage corporations and individuals to naturalize their properties
- Promote environmental awareness in all community activities
- City tree by-law should encourage homeowners to designate where a replacement could go rather than just pay to remove the tree
- Support youth in the implementation of environmental programs and it will spread to the entire community
- Seek and encourage all forms of community support



Photo: Bonnie Henderson

Energy Discussion Group, June 10, 2004



Photo: Bonnie Henderson

Natural Environment Discussion Group, June 10, 2004

WASTE MANAGEMENT

- Provide for 100% diversion of organics from the landfill
- Lower the price of a composter on certain days or provide them free
- Undertake educational programs on how to build composters
- Educate citizens that composting will not only save space in the landfill, but it is great stuff and there is never enough even now
- Include apartments in composting efforts
- Develop a program to use restaurant organic waste – provide them with information on private haulers
- Promote home curb pick up of waste rather than driving to the landfill as a better environmental option
- Upgrade tender requirements on trucks for waste hauling contractors (i.e.: garbage trucks should use bio-diesel)
- Develop special waste reduction programs for parks and special events (i.e. dragon boat races)
- Label gray bins at the river to clearly indicate (Recyclable) or make gray containers blue to be in keeping with recycle program.
- Position many more recycle containers throughout City especially in the core
- Position bins and notices at drive-outs from take-out restaurants for people to use
- Encourage take-out restaurants to use only recyclable packaging
- City should ban the use of Styrofoam
- Develop a recycling program which is more accessible for small business, especially for paper and cardboard
- Need for more information about waste reduction
- Communicate need for waste reduction to waste coordinators in Stratford industries
- Search for a better way of communicating issue to the citizens (i.e. articles in paper; a special column (Recycler of the Month) reporting the success stories of families and businesses; picture the person who has reduced their waste (friends will see them doing it):
- Make stores aware of the need to reduce packaging
- Benchmark our success and compare to other communities
- In the 2007 tender for recycling pick-up, add more items (i.e. tinfoil, plastic film)
- Provide money in City Budget for waste reduction
- Divert all wood from landfill site
- Establish a buying group to buy recycled paper for all City businesses
- Recycle gypsum at the landfill
- City staff must get out to high schools and union groups to develop community enthusiasm for reduction
- City should consider free newsletters to highlight best practices both for restaurants & homeowners
- Establish free curbside exchange of unwanted items – (Junk Week)
- Make Stratford the first community to be free of plastic shopping bags
- Encourage full understanding of the implications of diversion programs (e-waste) before starting program
- Undertake recycling pickup only with horse-drawn wagons
- Ensure good stewardship of Ontario Waste Reduction Programs (Currently the City applies such funds to offset the cost of the next landfill site).

DRINKING WATER

- Increase the number of hazardous waste days offered at the landfill
- Provide deposit for waste crankcase oil at landfill for individuals who do their own oil changes
- Complete an inventory of private wells in the City & County
- Educate public by making the information on their water bills more meaningful to the average person, thus providing individuals with a good understanding of how much water they use
- Consider financial implications of all these recommendations made to council, since someone has to pay for them
- Chlorine levels in water supply are too high; consider the issue of trihalomethanes
- Create a program to monitor the back flow
- Establish preventers on water systems in industry to prevent contamination of the water supply
- Promote the fact that the City of Stratford has good quality water
- Provide dates for the achievement of the Best Bets and other recommendations so that council has a deadline and something for which to strive
- Create a by-law that makes it mandatory to use low flush toilets and other water efficient fixtures in all new or renovated buildings
- Consider different water rates depending on the number of water efficient appliances and/or level of consumption (likely based mostly on an honour system although random audits could be considered)
- City should lead by example and use rain barrels to water flower beds, etc.
- Educate homeowners on which household products could be destructive to the quality of water and the environment
- Educate on proper use of rain barrels as it relates to the West Nile Virus – there is need for more positive input on West Nile to lessen concern about personal risk
- Plant perennials vs. annuals - seasonal plants for each stage of summer
- Promote creative thinking on ways to reduce water use

WATER MANAGEMENT

- Plant buffers along the watershed both in rural and urban areas
- Educate the public that water on lawns & streets often goes directly to the river, carrying salt and other harmful products as well as topsoil all of which affect water quality
- Should we not consider aeration of Lake Victoria to improve water quality
- City must lead the way for water management (i.e. we need studies to identify what is causing most pollution)
- Stratford must manage the water fowl on the river (cull or remove?)
- Must demonstrate the importance of the river to Stratford economy
- The health of Avon is a quality of life issue
- City should monitor and display to the public the actual quality of water in the river
- Need to alert tourist (signage in the tourist booth) to effort of improving water quality of the river
- Educate public on the need for buffers and retrofit older areas up to standards required in new areas
- Sewer by-pass being worked on
- Need information in all papers on what environmental actions are being taken in City
- North shore natural growth being worked on by the Avon River Ecological Association
- Education and involvement of ages in the community both in decision-making and remediation
- High schools are important to such efforts
- Yellow Fish Road program-boy scouts/girl guides, etc. (Note the Yellow Fish program is for all age groups)
- More public meetings needed to inform and educate citizens
- There are too many paved areas with water run off – seek alternatives to concrete/asphalt
- Establish a prototype subdivision with environmentally friendly features
- Provide incentives for developers to manage water more efficiently
- Retain separate budget items for environmental programs

TRANSPORTATION

- Amend by-law so that development occurs in core
- Expand core area parking limitation to encourage in-fill
- Reduce residential parking requirements
- Expand core designation as it pertains to parking requirement in order to encourage residential development
- Pay close attention and implement the Official Plan
- Promote easier transportation methods
- Implement bike paths throughout core and outside (for regular journeys such as going to get milk or getting to work)
- Implement recommendations of Bicycle Advisory Committee (Best Bet)
- Free bus pass for employees who work in core
- Promote a day to Car Pool to Work
- Educate the public on the connection between air pollution & smog, and idling (i.e. post signs at idling spots, provide bumper stickers)
- Enforce the anti-idling by-law without prejudice to include anyone (police as well)
- Reduce permitted idling time from 5 minutes to two minutes
- Publicize environmental citizen of the month (creates awareness)
- Benchmark the City with other communities
- City must set example in environmental leadership
- Review City's vehicle procurement policy
- Produce bio-diesel fuel from restaurants' organic waste
- Reduce student bus rates
- Educate tourism buses to discourage idling
- Offer tax break on the purchase of cars that use hybrid & alternate fuels
- Redeem bus pass in a taxi if buses not full
- Increase bus ridership
- Revamp current bus routes and develop express routes, with service to core & malls, and use fewer buses with express routes
- Offer free bus transportation on high smog days
- Increase bus routes on main streets (Huron, Ontario, Erie)
- Slow traffic on streets where bike paths are proposed
- Decrease bus costs by reducing the cost to ride
- Discourage the truck by-pass (city will become a ghost town-people will use truck route and miss the city altogether creating a lagging economy)
- Angle bus stops
- Build an attractive bus and intercity transit terminal in the core
- Establish a fleet of bikes for free use (tie into bike route)
- Link all transportation networks (Via Rail, bus, bike, etc.)
- Offer on demand busing (9 passenger vans)

- City plans should call for grid system for more connection between streets
- Offer collection points for transit
- Revive block parent type program for helping elderly and children feel more comfortable using transit system
- Promote walk a block to school program
- Encourage more on-street parking to promote slower traffic & safer environment
- Develop alternative fuels and energy sources - windmill to generator to hydrogen....
- Promote a treed median in core to discourage large trucks-will also serve to cool climate
- City should consider partnering with a car-share franchise in Stratford

ADDITIONAL IDEAS FROM OPEN DISCUSSION

- Put worms on pavement back on grass – promotes the environment
- Encourage every home with a free florescent bulb for front porch making Stratford a more welcoming community
- Reduce the number of diesel trucks going through City, and carcinogens emitted
- Create a clean air plan for the City
- Set a firm urban boundary
- Some great ideas but what is the Committee doing in next 6 months? Answer: Best Bets will get the ball rolling toward those goals and then proceed to local actions.
- Get the surrounding Townships on board
- Involve citizens by identify what each person can do – an action plan for each citizen
- Make environment the theme of the City's quality of life – improving it so that there is no need to escape to the cottage for better air, etc.



City of Stratford Strategic Package

Copy Version

April 2019

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**Overlap
Associates**

Mission, Vision, Values

Mission Statement

To provide services to support a sustainable, caring community with exceptional quality of life.

Vision Statement

A vibrant city, leading the way in community-driven excellence.

The City of Stratford Values

Integrity

To be fair, transparent, and hold the public's best interests in all decision making

Respect

To recognize and consider all perspectives and recognize the value of all input

Caring

To show genuine interest in the well-being of everyone in the community and to demonstrate compassion in our work

Progress

To be innovative and proactive by thinking and acting beyond our current state and embracing new ideas

Collaboration

To seek community partnership and work together toward a common goal

Strategic Priorities

Mobility, Accessibility, and Design Excellence

Improving ways to get around, to and from Stratford by public transit, active transportation, and private vehicle. Designing options that are accessible to people of all levels of ability.

Success by the end of this term can look like:

- Improved Pavement Management Index (PMI)
 - Completing an Asset Management Plan and assessing road deficit
 - Budget investment to further close the road deficit
- More sufficient year-round parking
 - A downtown land use assessment
 - Horizontal vs. vertical growth opportunities in parking
- A sustainable inter- and intra-city transit program
 - Developing partnerships
 - Marketing to build ridership
 - Launching the pilot service (county and regional)
- A safe, connected active transportation network
 - A Bike and Pedestrian Master Plan
 - Consistent capital budget investment in active transportation

Strengthening our Plans, Strategies, and Partnerships

Partnering with the community to make plans for our collective priorities in arts, culture, heritage, and more. Communicating clearly with the public around our plans and activities.

Success by the end of this term can look like:

- Further activating Market Square
 - Determining the impact on surrounding businesses and BIA involvement
 - An increase in attendance and number of events booked
 - An increase in variety of events and general use
 - A decrease in vacant storefronts
- More fulsome communication
 - Community engagement to develop a Corporate Communication Plan
 - Targeted community outreach
 - Determining engagement platforms and tools
 - A finished external and internal website refresh

- A Sports Tourism Strategy
 - Cataloguing current events and tournaments
 - Maximizing technology
 - Generating spillover impact on our local economy
 - Optimizing the availability and capacity of facilities
 - Increasing the flexibility of uses within/at facilities
- Building community well-being through partnerships
 - Developing city statistics by drawing from and sharing information with other agencies
 - Further research into quality of life in Stratford and opportunities for improvement

Developing Our Resources

Optimizing Stratford's physical assets and digital resources. Planning a sustainable future for Stratford's resources and environment.

Success by the end of this term can look like:

- Progress towards zero waste
 - Building a biodigester
 - Establishing a green bin/organics program
 - Updating climate action and waste reduction plans (with pressure on manufacturers to change packaging)
 - Introducing electric city vehicles
 - More greening of the city
- Increasing affordable housing
 - Including affordable housing incentives in new developments
 - Increasing mobile rent supplement
 - Beginning Phase 2 of Britannia Street Housing development
 - Repurposing surplus city-owned properties where appropriate
 - Securing more funding to build new housing
- Starting the Grand Trunk Community Hub
 - Gathering final community and partner input (including our active seniors partners)
 - Formal financial partnerships (YMCA, University of Waterloo)
 - Securing funding from Provincial and Federal governments
 - Final decision-making on facility details
 - Formal Council approval to proceed

Widening Our Economic Opportunities

Strengthening Stratford's economy by developing, attracting, and retaining a diversity of businesses and talent.

Success by the end of this term can look like:

- Bringing new industrial land to market
 - Purchasing land
 - Partnerships with developers
 - A servicing strategy
 - Infrastructure installation
 - A marketing plan
 - Starting new developments
- Increasing residential development at all levels of affordability
 - Working with local developers
 - Including a focus on mid-level affordability
- Balancing supply and demand of the available labour force
 - A decrease in unfilled jobs
 - Supporting skills development
 - Increasing partnerships with senior government levels

Appendices (attached separately)

Prioritization Tool

Initial Engagement Insights Report

Pop-Up Engagement Feedback Summary

City of Stratford

Strategic Priorities Matrix

A tool to support decision-making

About this tool

This is a tool to gauge how well opportunities align with the City of Stratford's Strategic Priorities for 2019-2022. It is intended to guide and support the decision-making process, and not intended to be the sole decision-making tool.

How to use this tool

The tool is a matrix. Across the top are the four Strategic Priorities. Along the left-hand column are three criteria to measure the potential impact, momentum, and match of an opportunity to each Strategic Priority.

- Identify the opportunity to consider and state it at the top of the page.
- Start with the left-most Priority. Use the prompt questions in the top criteria to assess the idea for how well it fits that Strategic Priority. Use a scale of red, yellow, green. Red means there is no fit between the idea and the Priority, Green means a strong fit, and yellow means the fit is uncertain. Write "red", "yellow", or "green" in the corresponding cell.
- Continue to assess the opportunity against all three criteria. Repeat the process for each Strategic Priority. As they arise, note considerations that are important to remember.
- Use your results to prompt discussion when making decisions related to this opportunity.



The Opportunity: _____

| | 2019-2022 Strategic Priorities | | | |
|--|--|---|--------------------------|-------------------------------------|
| | Mobility, Accessibility, and Design Excellence | Strengthening Our Plans, Strategies, and Partnerships | Developing Our Resources | Widening Our Economic Opportunities |
| Potential Impact <ul style="list-style-type: none"> Does the idea make a significant difference for this Priority? Does it address several problems in this Priority at the same time? Does the idea make it easier to pursue other opportunities in this Priority area? | | | | |
| Momentum <ul style="list-style-type: none"> Is there stakeholder demand for the idea related to this Priority? Is the idea timely (are there are upcoming events/initiatives in this Priority area that are likely to help the idea)? | | | | |
| Match <ul style="list-style-type: none"> Is the idea consistent with this Priority's objectives? Does the Priority bring unique assets or approaches to the idea? Does implementing the idea benefit the Priority area? | | | | |
| What considerations come to mind? | | | | |



MANAGEMENT REPORT

Date: May 29, 2019
To: Infrastructure, Transportation and Safety Sub-committee
From: Ed Dujlovic, Director of Infrastructure and Development Services
Report#: ITS19-029
Attachments: Huron Street (Hwy 8) Pedestrian Crossing Study Intersection of Huron Street with Huntingdon Avenue in Stratford, Ontario;
 Huron Street & Huntingdon Crossing – Status Update (COU19-012)

Title: Huron Street and Huntingdon Avenue School Crossing Study Results

Objective: To provide an update on a number of action items directed by Council with respect to the Huron Street at Huntingdon Avenue school crossing.

Background: At the January 14, 2019 Council meeting, City Council adopted the following resolution:

THAT the Huron & Huntingdon crossing be maintained with two crossing guards;

THAT a crossing guard be added at the Huron & John intersection and at the Huron & Forman intersection;

THAT a portable traffic speed sign be stationed near the Huron/Huntingdon crossing to make drivers aware of their speed;

THAT staff continue to investigate whether the lights from John to Forman can be changed to create adequate safe gaps;

THAT staff, in partnership with the Perth District Health Unit, develop an education plan and social media campaign to raise awareness of the issues around safe crossing at crossing intersections;

THAT staff request approval from the Ministry of Transportation Ontario to reduce the speed on Huron Street between John and Forman to 40km/hr and to double the fine for speeding along that stretch;

THAT Stratford Police Services be requested to continue to provide a police presence at the Huron/Huntingdon intersection to assist with safe crossings;

AND THAT staff prepare a follow-up report for the February 11, 2019 Regular Council meeting on the Huron & Huntingdon crossing.

A follow-up report (attached) was presented to Council on February 11, 2019, providing an update on actions taken by staff to address the recommendations from Council.

Analysis: The City did receive a response from the Ministry of Transportation Ontario (MTO) with respect to the reduction in the speed limit to 40km/h and the doubling of fines for speeding. The MTO response is that under the provisions of the Highway Traffic Act (HTA) a municipality is permitted, by by-law, to reduce the speed limit to 40 km/h. Since this section of Hwy 8, Huron Street, is a connecting link, the Ministry would approve that by-law. As far as increased fines on that section of connecting link, a Community Safety Zone would have to be established. A by-law would be required to designate the CSZ along with Ministry approval.

The City did purchase a new portable traffic speed sign. The existing trailer mounted sign was large and cumbersome which resulted limited locations to place the sign. The new portable sign, a pole mount, was installed on Huron Street near Huntingdon Avenue for west bound traffic on April 3, 2019. The new speed sign also has the capability to count traffic and record them in addition to the speeds.

The City retained R.V. Anderson to undertake a traffic study in the area to determine what could be done in order to provide a safer school crossing. The full report is attached. Conclusions from the report are as follows:

- The additional traffic counts that were undertaken over a two week period confirmed that there were insufficient safe gaps for the school crossing.
- Changes to the signal timing for the signalized intersections on Huron Street at Forman Avenue and John Street would not provide additional safe gap opportunities.
- Collisions are on the rise for the past two years at the intersection of Huron Street and Huntingdon Avenue and if the trend continues for 2019, a fully signalized intersection would be warranted. (Note: As of May 7, 2019 there has been one collision reported at this intersection.)
- Measured speed values indicate a slightly elevated operating speed along the roadway, but not significant given the operating environment.
- The study looked at various pedestrian crossing treatments and concluded that a pedestrian signal would be warranted in 2021.

The next step would be to forward the report to the MTO to obtain approval for the installation of the appropriate traffic signals at the intersection of Huron Street and Huntingdon Avenue.

Financial Impact: The cost of the new portable speed sign was \$4,059 plus HST. The speed sign will be used throughout the City of Stratford where concerns have been raised with regard to the speed of the traffic. The priority areas will be at existing school crossings.

The approximate cost for a pedestrian signal is \$150,000 and for a full signalized intersection is \$250,000. There would also be yearly operating cost for maintenance and power.

Staff Recommendation: THAT the report titled Huron Street (Hwy 8) Pedestrian Crossing Study Intersection of Huron Street with Huntingdon Avenue in Stratford, Ontario prepared by R.V. Anderson Associates Limited be sent to the Ministry of Transportation Ontario as the technical basis for requesting vehicular traffic signalization at this location;

AND THAT City staff initiate discussions with Ministry of Transportation Ontario staff for the approval to install the appropriate traffic control signals at the intersection of Huron Street and Huntingdon Avenue.



Ed Dujlovic, Director of Infrastructure and Development Services



Rob Horne, Chief Administrative Officer



April 8, 2019

RVA 184332

The City of Stratford
 PO Box 818
 Stratford ON
 N5A 6W1

Attention: Ed Dujlovic, P. Eng.

Dear Mr. Dujlovic:

Re: Huron Street (Hwy 8) Pedestrian Crossing Study
Intersection of Huron Street with Huntingdon Avenue in Stratford, Ontario

R. V. Anderson Associates Limited (RVA) was retained by the City of Stratford (the City) to analyze corridor operations along Huron Street (Hwy 8) in order to provide safe pedestrian crossing options across Huron Street (Hwy 8), at the intersection of Huron Street with Huntingdon Avenue in the City of Stratford in Ontario. This letter report was prepared after extensive review of best practices and taking into consideration the requirements of the reviewing agencies for undertaking these types of studies.

STUDY AREA

The study area for this pedestrian crossing study extends along Huron Street (Hwy 8) from its intersection with Forman Avenue in the north-west to John Street N in the south-east. The study intersections considered for this study are:

- Signalized intersection of Forman Avenue with Huron Street (Hwy 8);
- Two-way Stop Controlled (TWSC) intersection of Huntingdon Avenue with Huron Street (Hwy 8);
- Signalized intersection of John Street with Huron Street (Hwy 8).

The study area, the study corridor and the study intersections considered for this study is shown in **Figure 1**.

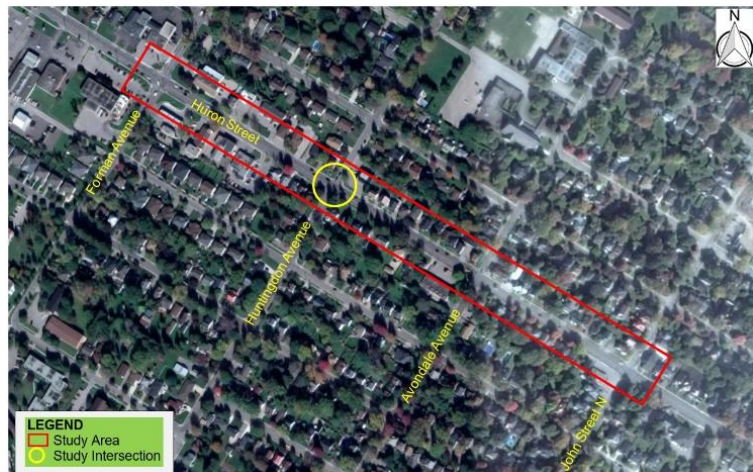


Figure 1: Study Area and Study Intersections

EXISTING CONDITIONS

Huron Street (Hwy 8) is a Ministry of Transportation connecting link and provides east-west connection between adjacent communities of Sebringville on the west and Shakespeare on the east; and, passes through residential neighborhood in the City of Stratford. Huron Street (Hwy 8) is under the jurisdiction of the Ministry of Transportation Ontario (MTO) but being a connecting link is managed by the City of Stratford. Under the existing condition, Huron Street (Hwy 8) has a four-lane cross section and the posted speed on Huron Street (Hwy 8) is 50 km/h, within the limits of the study area.

The study intersection of Huron Street with Huntingdon Avenue is an unsignalized intersection with free flow provided for Huron Street (Hwy 8) and stop-control provided on the minor street approaches of Huntingdon Avenue. This study intersection is located at approximately 245 m from the signalized intersection of Forman Avenue with Huron Street (Hwy 8) in the west and approximately 420 m from the signalized intersection of John Street N in the east.

Avon Public School is located on Huntingdon Avenue approximately 400m to the south-west side of the intersection of Huron Street (Hwy 8) with Huntingdon Avenue. And, St. Aloysius Roman Catholic School is located on Avondale Avenue approximately 450m to the north-east side of the intersection of Huron Street (Hwy 8) with Huntingdon Avenue.

Currently, school crossing guards direct the movement of students across the four-lane connection link of Huron Street (Hwy 8) at the school crossing location at this intersection. Additionally, flashing beacon warning signs, as shown in **Figure 2**, are posted on Huron Street (Hwy 8) on either side in advance of the study intersection.



Figure 2: Flashing Beacon Warning Signs

STUDY BACKGROUND AND PURPOSE

A one-day Gap Study was undertaken by the City on November 20, 2018, at the intersection of Huntingdon Avenue with Huron Street (Hwy 8) which examined the available safe gaps for school children to cross the Huron Street (Hwy 8). The conclusion of this study was presented in the Council Report dated December 17, 2018, which identified that there are limited safe gaps during the morning hour i.e. 8:00 am to 9:00 am; and, almost no safe gaps in the afternoon hour i.e. 3:00 pm to 4:00 pm.

Taking into consideration the functional characteristic of the Huron Street (Hwy 8), the volume of traffic (lack of gaps) and the current intersection control, the school crossing location at the intersection of Huron Street with Huntingdon Avenue is a safety concern for the City of Stratford. Hence, the City of Stratford has undertaken this study to review safe pedestrian crossing options across Huron Street (Hwy 8) at this intersection.

INTERVIEW WITH CITY CROSSING GUARDS

An interview was conducted with the Crossing guards to discuss their observations related to driver behavior, safety and gaps. Additionally, RVA field staff also undertook a field study on Tuesday March 5, 2019 recording gap availability and driver behavior related to study

crossings. In general, the crossing guards identified the following as their key issues at the study location, which were confirmed by the RVA field staff:

- Limited gaps in traffic, especially in the afternoon
- Automobile noncompliance to the crossing guards, especially in the afternoon
- High amount of truck traffic on the roadway
- City buses have difficulty in negotiating the turn onto Huntingdon Avenue

REVIEW OF TRAFFIC DATA AND REPORTS

At the onset of the study as well as progressing through the study, the City provided the following traffic data and reports:

- 8-hour turning movement count (TMC) data for the study intersections
- Signal timing data for the signalized study intersections
- Motor Vehicle Collision reports for the past 6 years (2013 to 2018) for the study intersections
- Gap Study undertaken by the City on November 20, 2018, at the intersection of Huntingdon Avenue with Huron Street (Hwy 8)
- Gap Study undertaken by the RVA March 5, 2019, at the intersection of Huntingdon Avenue with Huron Street (Hwy 8)
- Wavetronix volume, class and gap data. Collector set up approximately 250 m east of Huntingdon Avenue on the north side of Huron Street
- Council Reports dated December 17, 2018 and January 14, 2019.

Operations Review

A preliminary assessment involved considerations to modifications to the signal timings at the adjacent intersections of Forman Avenue with Huron Street (Hwy 8) and John Street with Huron Street (Hwy 8) to increase the available safe gaps for increasing opportunity for pedestrian crossing at the intersection of Huntingdon Avenue with Huron Street (Hwy 8). The results indicated that changes to the signal timings from that of the optimal signal timing did not provide additional safe gap opportunity. Moreover, making these adjustments to the optimal signal timing could result in negative impacts at the study signalized intersections. The impacts could include increased queuing and delay, resulting in increased vehicle speeds and driver frustration and decreased safety (e.g. more collisions).

Collision and Council Reports Review

Review of the 6 years Motor Vehicle Collisions (2013 to 2018) summary for the study intersections showed that collisions were highest at the intersection of Huron Street (Hwy 8) with Forman Avenue i.e. 83 collisions in total during this period. This shows that relocation of the school crossing to Forman Avenue with Huron Street (Hwy 8) will not be an optimal solution. It will not only increase the walking distance for school children by over 0.5km but will introduce the pedestrian crossing at a location with higher vehicle turning movements (i.e. conflicts with pedestrians) and a higher number of collisions including those with pedestrians. Additionally, the increased out of way travel to Foreman Avenue may be a deterrent resulting in some uncontrolled midblock pedestrian crossings.

Collision data also showed collisions have been increasing at the intersection of Huron Street (Hwy 8) with Huntingdon Avenue over the past 3 years with 2016 increasing from 1 annual

collision to 3 and then 2017 & 2018 both showing 6 collisions¹ each year. A review of the individual collisions at the intersection of Huron Street (Hwy 8) with Huntingdon Avenue showed that the majority were turning or angled collisions involving eastbound traffic turning left and being struck by oncoming westbound traffic. The balance of the collisions involved eastbound vehicles waiting to turn left and either struck from behind or sideswipe as a result of a late lane change by eastbound through traffic. There was no indication that light or weather conditions contributed to these collisions as such the primary cause was drivers accepting gaps that are too short to complete the turning maneuver or inattentive drivers not recognizing stopped cars. This trend of increasing vehicular collisions is notable and a majority are either angle or turning collisions which are correctible by signalization of the intersection. If this trend continues in 2019 traffic signal justification 5 which has a 15 collision in 3-year threshold would be met.

Gap Study and Wavetronix Data Review





Utilizing the Wavetronix traffic counting device traffic data was collected for 10 days starting January 14, 2019 until January 24, 2019. The data collected included traffic volume, speed and gap size by traffic lane. Average weekday traffic along the Huron Street was measured to be approximately 13,300 cars in a 24-hour period. The average speed during the weekdays was measured to be 52 kph and the 85% speed 59 kph. These values indicate a slightly elevated operating speed along the roadway, but not significant given the operating environment.

Review of Gap Study completed by the City showed that the Safe Gap Time required for crossing of Huron Street is 23 seconds. A summary of the measured average Gap² by lane from the Wavetronix data for the weekday AM hour (8:00am to 9:00am) and PM hour (3:00pm to 4:00pm) are presented in **Table 1**. The data indicates that although there are some safe gap times available in the individual lanes during Weekday AM hour, they are only available in two of the four lanes in the AM and in one of the 4 lanes in the PM. Taking into consideration the need for the pedestrians to cross all four-lanes of the Huron Street at once, the data indicates that there are insufficient safe gaps to complete the crossing during the 2 peak school pedestrian crossing hours. This analysis confirms the conclusions of the City gap study presented in the Council Report dated December 17, 2018 and the RVA field study completed March 5, 2019, both of which were one-day studies.

¹ Collision Report for 2018 was till the date of December 20, 2018.

² Gap is average time separation between vehicles in the interval, measured from back bumper of the preceding car and front bumper of the succeeding car.

Table 1
Wavetronix Safe Gap Summary by Traffic Lane
(Multi-day Weekday Results)

| SUMMARY | | | | | | | |
|---|------------|--------|-------------|--------------|-----------------|---------|---------|
| Weekday AM 8:00 - 9:00 AM | | | | | | | |
| | | VOLUME | SPEED (kph) | OCCUPANCY(%) | 85% SPEED (kph) | HEADWAY | GAP (S) |
|  | WB LANE_01 | 102 | 50.9 | 3.8 | 58.6 | 18.4 | 17.7 |
| | WB LANE_02 | 72 | 52.7 | 2.4 | 59.9 | 25.6 | 25.0 |
|  | EB LANE_04 | 205 | 46.6 | 7.3 | 53.2 | 8.8 | 8.2 |
| | EB LANE_03 | 58 | 51.6 | 1.9 | 58.4 | 32.3 | 31.7 |
| Weekday PM 3:00 - 4:00 PM | | | | | | | |
| | | VOLUME | SPEED (kph) | OCCUPANCY(%) | 85% SPEED (kph) | HEADWAY | GAP (S) |
|  | WB LANE_01 | 182 | 52.0 | 6.8 | 59.8 | 10.3 | 9.6 |
| | WB LANE_02 | 135 | 52.7 | 4.7 | 60.5 | 12.5 | 12.0 |
|  | EB LANE_04 | 202 | 47.5 | 7.4 | 54.9 | 8.5 | 7.9 |
| | EB LANE_03 | 68 | 52.0 | 2.2 | 59.3 | 26.1 | 25.5 |

ANALYSIS

This study was carried out using the methodologies presented the following industry approved guides and manuals, in addition to using engineering judgement, for identifying a solution to resolve the pedestrian crossing issue:

- Ontario Traffic Manual (OTM) Book 15: Pedestrian Crossing Treatments (June 2016)
- Ontario Traffic Manual (OTM) Book 12: Traffic Signals (March 2012)

TREATMENT SYSTEM SELECTION

As the study intersection of Huntingdon Avenue with Huron Street (Hwy 8) is a TWSC intersection and is directed by two school crossing guards during school periods, it is classified as a Controlled Pedestrian Crossing Facility.

The selection of an appropriate pedestrian crossing treatment from the range of available choices in the hierarchy for a pedestrian crossing location requires an assessment of the complex roadway environment conditions. The Decision Support Tool (DST) based on seven guiding principles: safety, delay, equity, expectancy, consistency, connectivity, and pragmatism, provided the threshold conditions for assessing pedestrian crossing needs and selection of the Treatment System. Taking into consideration the location of the study intersection of Huntingdon Avenue with Huron Street (Hwy 8) in a residential neighborhood and its proximity to two schools, the "Design Pedestrian" considered for this study were "Assisted" Pedestrians³. The DST includes two components: Preliminary Assessment; and, Pedestrian Crossing Selection

³ "Assisted" Pedestrian – Children under the age of 12, senior citizens, disabled pedestrians and other pedestrians requiring special consideration or assistance. Where an adult is accompanying a pedestrian included in the "Assisted" category, both individuals are counted as "Assisted" pedestrians.

Preliminary Assessment

The main purpose of this Preliminary Assessment was to identify whether a pedestrian crossing treatment of any type was warranted at this location.

The first step was to check if a traffic signal was warranted for pedestrians based on the requirements of Justification 6 of OTM Book 12: Traffic Signals. 8-hour turning movement count (TMC) data was provided by the City for undertaking this assessment and a copy is provided in **Appendix A**. The need for a traffic control device at an intersection must be considered if both the minimum pedestrian volume and delay criteria are met. For this study 90% of the observed pedestrians were considered as "Assisted" pedestrians and 80% were delayed more than 10 seconds. This information was estimated from data collected in the March 5, 2019 gap study.

- Assisted pedestrians, 90% of 122 = 110
- Unassisted pedestrians, 122 – 110 = 12
- Therefore, factored net 8-hour pedestrian volume = $12 + (2 * 110) = 232$ pedestrians (adjusted)
- Net 8-hour pedestrian delays = 76% of 232 = 176

Therefore, the total adjusted 8-hour pedestrian volume at the crossing are 232 pedestrians. The total vehicular volumes crossing Huron Street during the 8-hour period is $4231 + 4423 = 8654$ vehicles.

Review of the justification 6 requirements for adjusted 8-hour pedestrian volumes at the crossing and 8-hour vehicular volumes on the Huron Street showed that a traffic control device is not warranted at this intersection because only 1 of the 2 warrants was met. The minimum pedestrian volume warrant is not met but is very close to threshold and the minimum pedestrian delay is met. Details of the analysis along with warrants 1 through 5 is provided in **Appendix B**.

As the traffic signal was not fully warranted based on the 2018 volumes, a check of the pedestrian crossover (PXO) was completed per the requirements provided in the OTM Book 15: Pedestrian Crossing Treatments. As the 8-hour pedestrian volume was greater than 100 and the 8-hour vehicular volume was greater than 750, and the intersection of Huntingdon Avenue with Huron Street (Hwy 8) was at a distance greater than 200 m from the adjacent traffic-controlled intersections of Forman Avenue with Huron Street (Hwy 8) and John Street with Huron Street (Hwy 8), this study intersection of Huntingdon Avenue with Huron Street (Hwy 8) was a candidate for a Pedestrian Crossover (PXO) treatment investigation.

Pedestrian Crossing Treatment Selection

Ontario Regulation 402/15 defines two types of PXOs: Level 1 and Level 2 based on signs and pavement markings. Level 1 corresponds with Type A PXO, and Level 2 corresponds with types B, C, and D PXOs.

Level 1 Type A PXO: Uses regulatory and warning signs, flashing amber beacons, pavement markings per Ontario Regulation 402/15, and internally illuminated overhead warning signs. Level 1 Type A PXO is shown in **Figure 3**.

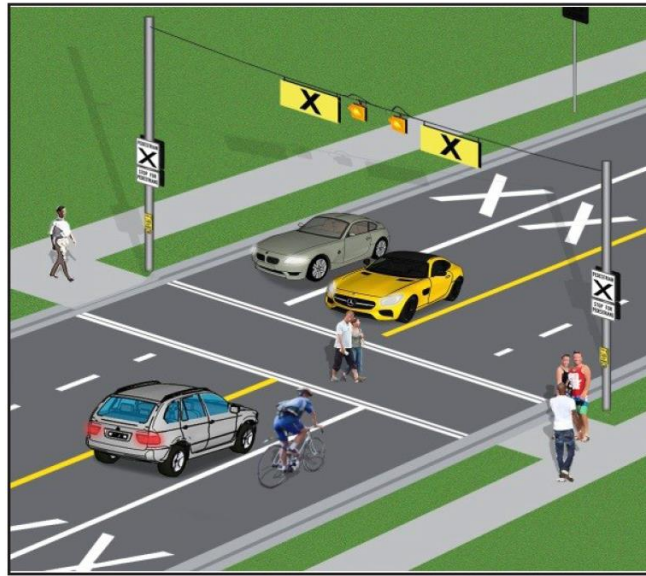


Figure 3: Level 1 Type A Pedestrian Crossover (Courtesy: OTC School Crossing Guard Guide)

Level 2 Type B PXO: Uses regulatory and warning signs, rapid rectangular flashing beacons (RRFB), pavement markings per Ontario Regulation 402/15, and side mounted and overhead regulatory signs. Level 2 Type B PXO is shown in **Figure 4**.

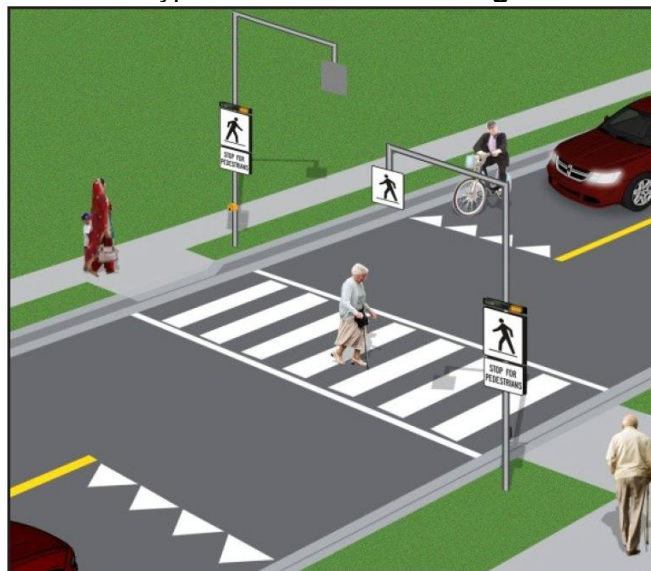


Figure 4: Level 2 Type B Pedestrian Crossover (Courtesy: OTC School Crossing Guard Guide)

Level 2 Type C PXO: Uses regulatory and warning signs, RRFB, pavement markings per Ontario Regulation 402/15, and only side mounted regulatory signs. Level 2 Type C PXO is shown in **Figure 5**.

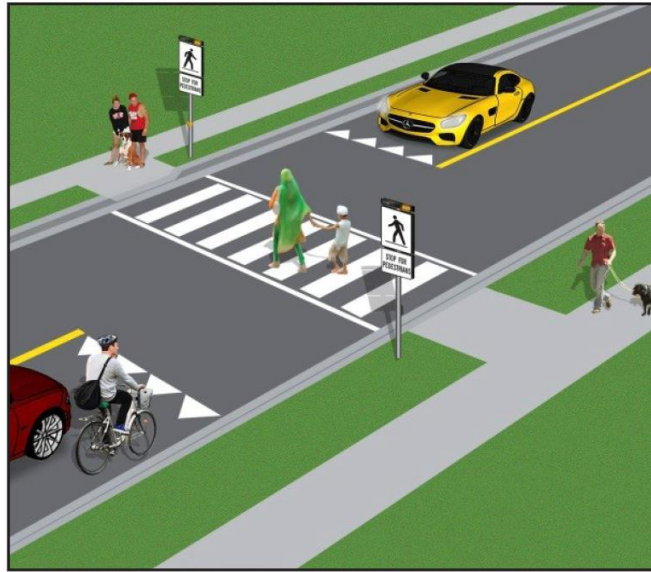


Figure 5: Level 2 Type C Pedestrian Crossover (Courtesy: OTC School Crossing Guard Guide)

Level 2 Type D PXO: Uses regulatory and warning signs, pavement markings per Ontario Regulation 402/15, and only side mounted regulatory signs. Level 2 Type D PXO is shown in **Figure 6**.

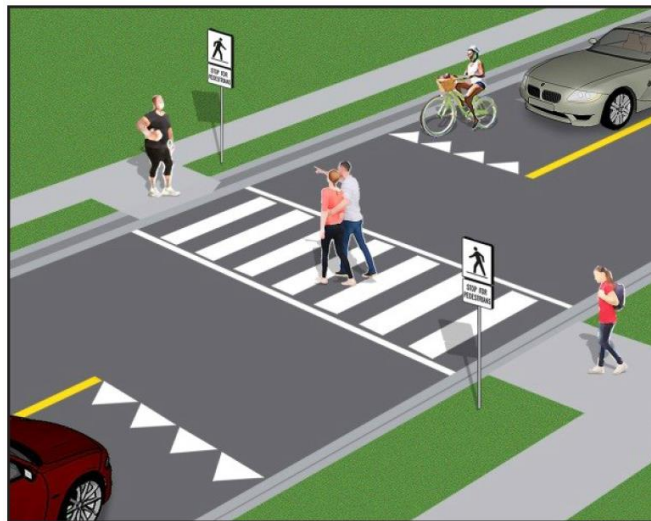


Figure 6: Level 2 Type D Pedestrian Crossover (Courtesy: OTC School Crossing Guard Guide)

All these four types of PXOs can be used for mid-blocks or at intersections. Huron Street also satisfies the requirements of Highway Traffic Act (HTA)⁴ and OTM Book 12: Traffic Signals⁵ for the application of PXO.

⁴ According to Section 140(5) of the HTA, PXOs are to be applied on roads with a posted speed limit of 60 km/h or less.

⁵ According to Section 4.9 of OTM Book 12: Traffic Signals, PXO can be installed on roadways

Four variables are used to select a PXO for a site:

- 8-hour or 4-hour two-way vehicular volume of the roadway at the location of the crosswalk,
- Posted speed limit of the roadway,
- Total number of lanes for the entire roadway cross-section, and
- Presence of raised pedestrian refuge.

The Huron Street has an 8-hour two-way vehicular volume of 8654 vehicles. It has a four-lane cross-section along its entire length and the posted speed limit of Huron Street is 50 km/h, within the limits of the study area. There is no raised pedestrian refuge currently on Huron Street at this study intersection.

Comparison of these variables with the Pedestrian Crossover Selection Matrix shows that a pedestrian crossing treatment for Huron Street at the intersection of Huntingdon Avenue with Huron Street (Hwy 8) is not applicable and as such should not be installed as traffic volumes are too high for a 4-lane roadway.

ALTERNATIVE SIGNALIZATION WARRANT

As the crossing location is not a candidate for a Pedestrian Crossover Control and the pedestrian volume warrant was approaching warrant level, a sensitivity analysis was completed considering future vehicular and pedestrian volume growth. For the purpose of this analysis annual growth rates for pedestrian and vehicle growth were estimated. Utilizing traffic data from 2014 and 2018 a growth rate of 2.0% per annum was calculated. Student growth was estimated utilizing data from the Ministry of Education student enrolment reports for the 2014 to 2016 years for the Avon Public School. 2016 was the most current year available. The student data reviewed indicated an increase in student enrollment of 12.5% over the 3-year period or 4.2% a year.

Utilizing this data, the forecast warrant inputs were calculated for the next 3 years and are summarized in **Table 2**.

Table 2
Forecast Net 8 Hour Pedestrian Volume Adjusted
Warrant Values

| Year | Forecast Vehicular Volume (2% / yr.) | Forecast Ped. Volume (4.2% / yr.) | Forecast Ped. Volume Threshold |
|------|--------------------------------------|-----------------------------------|--------------------------------|
| 2018 | 8654 | 232 | 259 |
| 2019 | 8828 | 242 | 258 |
| 2020 | 9005 | 253 | 256 |
| 2021 | 9186 | 264 | 254 |

- with a maximum of 4 lanes of two-way traffic or 3 lanes of one-way traffic,
- vehicular traffic volumes are collected during the 8-hours or 4-hours with the highest pedestrian volumes,
- where road volumes do not exceed 35,000 AADT, and
- where adjacent signal-protected pedestrian crossings are greater than 200 m.

The key inputs used in this calculation for 2021 include:

- Future net 8-hour Pedestrian volume = 264 (adjusted)
- Future net pedestrian delays = 76% of 264 = 201

This data indicates that the pedestrian volume warrant would be met by 2021 and as such should be considered for a pedestrian signal (IPS). A completed warrant analysis for justifications 1 through 6 was completed and is included in **Appendix B**.

FINDINGS

A review of the OTM guidelines and warrants resulted in signalization of a pedestrian crossing as the only viable solution to retain a pedestrian crossing at the Huntingdon Avenue location. A review of 2018 crossing pedestrian volumes along with the 2018 traffic volumes indicated that the only one of two warrants (i.e. pedestrian delay warrant) was met. A review of a 3-year horizon scenario with forecast increases in pedestrian and traffic volumes yielded a scenario in which the second warrant (minimum pedestrian volume warrant) is met by 2021.

Given the lack of safe gaps at this location, the difficulties (e.g. noncompliance, finding safe gaps, high truck percentage, etc.) experienced by the crossing guards, the anticipated growth in the number students crossings and the warrant sensitivity analysis results, the installation of an intersection crossing is recommended as the preferred solution to address the pedestrian crossing demand and safety concerns at the Huron Street (Hwy 8) and Huntingdon Avenue intersection. Following the guidelines outlined in section 4.9 of OTM-Book 12, the following pedestrian crossing types can be considered:

1. Pedestrian Crossover (PXO), or
2. Pedestrian signal (IPS)

The selection of the preferred type should be based on consistent municipal practice, in order to promote motorist familiarity with the crossing design and avoid unsafe maneuvers. Given this consideration the installation of an IPS is recommended. The City should also continue to monitor the collision experience at the Huntingdon Avenue intersection to see if the current trend of 6 collisions per year continues through 2019. If this trend continues, the City may wish to consider the installation of a full traffic signal. Using the OTM collision justification 5 the threshold for consideration of corrective measures is 15 collisions which are correctable by signals over 3-year period.

The IPS treatment consists of the following elements and a conceptual drawing is presented in **Figure 7** while a full traffic signal configuration is presented in **Figure 8**:

- Traffic Signal Heads as required
- Approach Markings (Stop Line, No-Passing zone, and turn lanes markings, as required)
- Crosswalk Markings
- Advanced Stop Bar at Crosswalk with mandatory Stop Here on Red Signal Sign (Rb-78)
- Stop Here on Red sign (Rb-78) on the near side of an IPS with vehicle and pedestrian heads installed on the far side
- Pedestrian Control Indications with AODA compliant Pedestrian Signal Pushbuttons and Pedestrian Pushbutton Symbol Sign (Ra-12)
- Stop sign (Ra-1) on the cross street for IPS

In addition, there are other desirable or optional inclusion including a crossing guard that can be considered. See attached Table 2 with excerpt from OTM Book 15

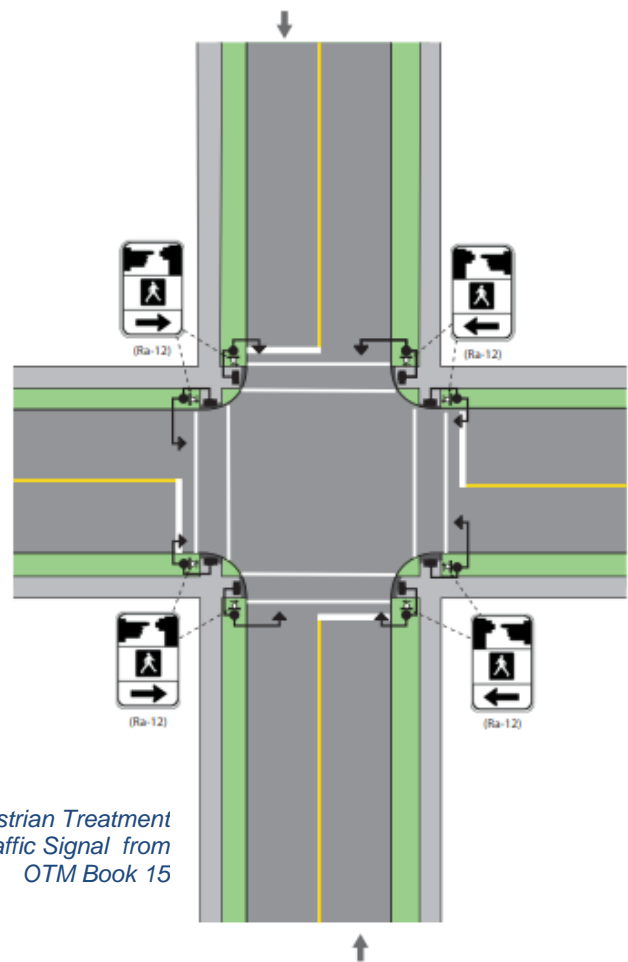
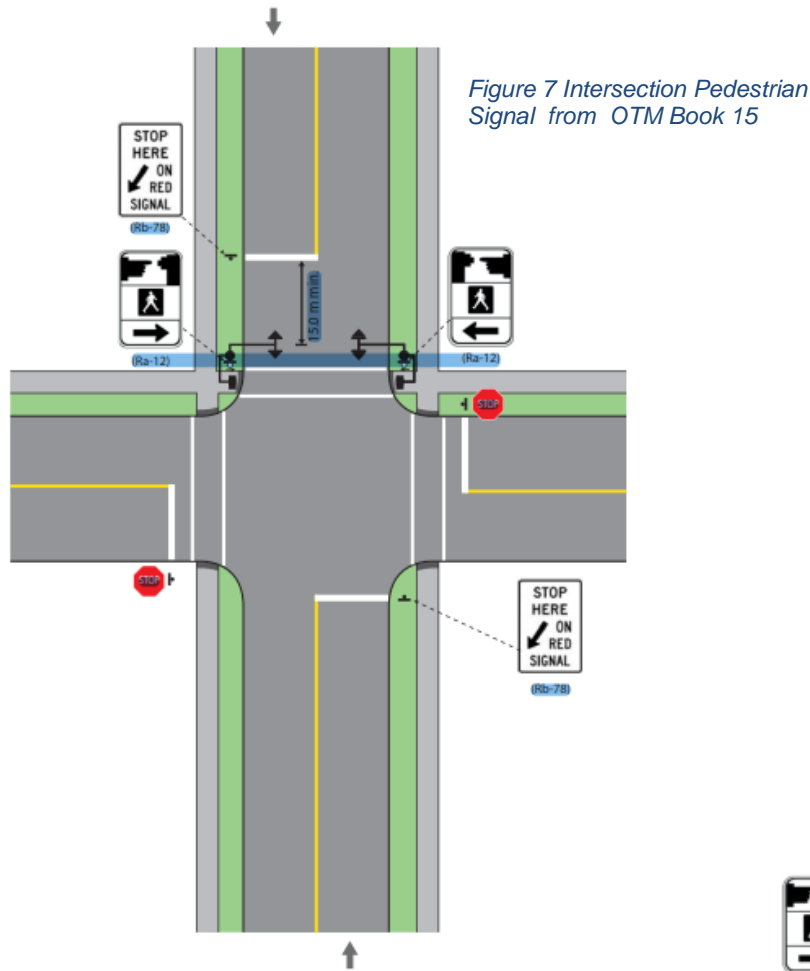


Table 2
Components for Intersections and Mid-block Signals
(Table 9 OTM Book 15)

| Required Components | Desirable Components | Optional Components |
|--|--|--|
| <ul style="list-style-type: none"> Traffic Signal Heads as required Approach Markings (Stop Line, No-Passing zone, and Turn Lanes markings, as required) Crosswalk Markings Advanced Stop Bar at Crosswalk with mandatory Stop Here on Red Signal Sign (Rb-78) Stop Here On Red sign (Rb-78) on the near side of an IPS with vehicle and pedestrian heads installed on the far side Pedestrian Control Indications with AODA compliant Pedestrian Signal Pushbuttons and Pedestrian Pushbutton Symbol Sign (Ra-12) Stop sign (Ra-1) on the cross street for IPS | <ul style="list-style-type: none"> Raised refuge island (for road cross-sections with more than two lanes and two-directional traffic) with mandatory: <ul style="list-style-type: none"> Pavement markings on approaches to obstructions Keep Right Sign (Rb-25, Rb-125) Object Marker Sign (Wa-33L) Stopping prohibition for a minimum of 30 m on each approach to the crossing, and 15 m following the crossing Parking and other sight obstructions prohibition within at least 30 m of crossings | <ul style="list-style-type: none"> School Crossing Guard Pedestrian Count Down Signals Pedestrian Countdown Signal Information Sign Auxiliary Signal Heads Type 12 Signal Head (300 mm red / amber / green lens) Ladder Crosswalk Markings Textured Crosswalk Raised Crosswalk Cross on Walk Signal Only Sign (RA-7) Cross Other Side Sign (Ra-9) Do Not Cross Here Sign (Ra-9a) No Right Turn on Red sign (Rb-79) Pedestrian Must Push Button to Receive Walk Signal (Ra-13) Safety elements including Barricades, Pedestrian Fencing, Gates, Walls, Bollards, and Barriers |

We would like to discuss these items with the City to determine their applicability. The anticipated capital cost for the installation of an IPS is approximately \$150,000 and for a full traffic signal would be \$250,000.

Thank you for providing us with the opportunity to undertake this pedestrian crossing study. After your review of the document we would like to setup a meeting to discuss the outcome. If there is any query related to this report, please feel free to contact the undersigned at 905-685-5049 ext. 4213 or by email at SVasudevan@rvanderson.com.

Yours very truly,

R.V. ANDERSON ASSOCIATES LIMITED



Sheeba Vasudevan, M. Eng.
Transportation Planner

APPENDIX A

TRAFFIC DATA



Turning Movement Count (3 . HURON ST & FORMAN AVE)

| Start Time | N Approach FORMAN AVE | | | | | | E Approach HURON ST | | | | | | S Approach FORMAN AVE | | | | | | W Approach HURON ST | | | | | | Int. Total (15 min) | Int. Total (1 hr) |
|------------|--------------------------|-------------|-------------|---------------|------------|----------------|------------------------|-------------|-------------|---------------|------------|----------------|--------------------------|-------------|-------------|---------------|------------|----------------|------------------------|-------------|-------------|---------------|------------|----------------|------------------------|----------------------|
| | Right N:W | Thru N:S | Left N:E | U-Turn N:N | Peds N: | Approach Total | Right E:N | Thru E:W | Left E:S | U-Turn E:E | Peds E: | Approach Total | Right S:E | Thru S:N | Left S:W | U-Turn S:S | Peds S: | Approach Total | Right W:S | Thru W:E | Left W:N | U-Turn W:W | Peds W: | Approach Total | | |
| 08:00:00 | 8 | 17 | 21 | 0 | 0 | 46 | 21 | 67 | 10 | 0 | 0 | 98 | 20 | 18 | 8 | 0 | 0 | 46 | 22 | 72 | 9 | 0 | 10 | 103 | 293 | |
| 08:15:00 | 7 | 22 | 29 | 0 | 0 | 58 | 27 | 74 | 9 | 0 | 0 | 110 | 26 | 23 | 12 | 0 | 0 | 61 | 14 | 102 | 4 | 0 | 12 | 120 | 349 | |
| 08:30:00 | 10 | 25 | 41 | 0 | 0 | 76 | 36 | 73 | 13 | 0 | 0 | 122 | 23 | 22 | 19 | 0 | 0 | 64 | 7 | 139 | 4 | 0 | 6 | 150 | 412 | |
| 08:45:00 | 9 | 31 | 52 | 0 | 0 | 92 | 23 | 94 | 13 | 0 | 0 | 130 | 23 | 15 | 23 | 0 | 0 | 61 | 15 | 101 | 4 | 0 | 5 | 120 | 403 | 1457 |
| 09:00:00 | 9 | 21 | 20 | 0 | 0 | 50 | 8 | 61 | 12 | 0 | 0 | 81 | 29 | 18 | 16 | 0 | 1 | 63 | 15 | 80 | 6 | 0 | 3 | 101 | 295 | 1459 |
| 09:15:00 | 6 | 11 | 17 | 0 | 0 | 34 | 6 | 56 | 9 | 0 | 2 | 71 | 27 | 18 | 12 | 0 | 3 | 57 | 18 | 80 | 7 | 0 | 6 | 105 | 267 | 1377 |
| 09:30:00 | 12 | 13 | 13 | 0 | 2 | 38 | 8 | 81 | 9 | 0 | 1 | 98 | 20 | 9 | 21 | 0 | 0 | 50 | 8 | 91 | 5 | 0 | 8 | 104 | 290 | 1255 |
| 09:45:00 | 4 | 20 | 17 | 0 | 1 | 41 | 10 | 77 | 12 | 0 | 0 | 99 | 19 | 17 | 17 | 0 | 1 | 53 | 14 | 86 | 5 | 0 | 5 | 105 | 298 | 1150 |
| 10:00:00 | 8 | 6 | 15 | 0 | 1 | 29 | 6 | 70 | 15 | 0 | 1 | 91 | 27 | 13 | 14 | 0 | 3 | 54 | 16 | 98 | 7 | 0 | 4 | 121 | 295 | 1150 |
| 10:15:00 | 7 | 11 | 15 | 0 | 2 | 33 | 10 | 61 | 10 | 0 | 1 | 81 | 18 | 15 | 19 | 0 | 3 | 52 | 16 | 84 | 6 | 0 | 3 | 106 | 272 | 1155 |
| 10:30:00 | 5 | 5 | 14 | 0 | 2 | 24 | 17 | 66 | 10 | 0 | 0 | 93 | 26 | 15 | 13 | 0 | 2 | 54 | 11 | 101 | 2 | 0 | 10 | 114 | 285 | 1150 |
| 10:45:00 | 16 | 8 | 19 | 0 | 0 | 43 | 16 | 92 | 5 | 0 | 0 | 113 | 16 | 6 | 10 | 0 | 3 | 32 | 9 | 100 | 3 | 0 | 11 | 112 | 300 | 1152 |
| 11:00:00 | 12 | 9 | 13 | 0 | 0 | 34 | 11 | 91 | 10 | 0 | 0 | 112 | 19 | 14 | 16 | 0 | 3 | 49 | 9 | 91 | 8 | 0 | 7 | 108 | 303 | 1160 |
| 11:15:00 | 13 | 15 | 19 | 0 | 1 | 47 | 8 | 93 | 11 | 0 | 0 | 112 | 12 | 12 | 12 | 0 | 2 | 36 | 18 | 103 | 8 | 0 | 5 | 129 | 324 | 1212 |
| 11:30:00 | 12 | 16 | 19 | 0 | 2 | 47 | 16 | 92 | 5 | 0 | 1 | 113 | 8 | 11 | 17 | 0 | 1 | 36 | 8 | 92 | 8 | 0 | 0 | 108 | 304 | 1231 |
| 11:45:00 | 7 | 7 | 18 | 0 | 0 | 32 | 17 | 98 | 12 | 0 | 0 | 127 | 20 | 9 | 22 | 0 | 4 | 51 | 13 | 105 | 3 | 0 | 56 | 121 | 331 | 1262 |
| 12:00:00 | 12 | 16 | 19 | 0 | 0 | 47 | 13 | 120 | 14 | 0 | 0 | 147 | 12 | 14 | 21 | 0 | 1 | 47 | 18 | 100 | 12 | 0 | 46 | 130 | 371 | 1330 |
| 12:15:00 | 8 | 8 | 14 | 0 | 0 | 30 | 13 | 98 | 10 | 0 | 0 | 121 | 19 | 13 | 22 | 0 | 0 | 54 | 18 | 101 | 8 | 0 | 7 | 127 | 332 | 1338 |
| 12:30:00 | 13 | 9 | 23 | 0 | 1 | 45 | 8 | 111 | 8 | 0 | 0 | 127 | 21 | 7 | 15 | 0 | 0 | 43 | 17 | 83 | 11 | 0 | 3 | 111 | 326 | 1360 |
| 12:45:00 | 13 | 9 | 21 | 0 | 0 | 43 | 14 | 86 | 7 | 0 | 0 | 107 | 15 | 7 | 13 | 0 | 0 | 35 | 4 | 98 | 7 | 0 | 4 | 109 | 294 | 1323 |
| 13:00:00 | 15 | 9 | 22 | 0 | 0 | 46 | 11 | 108 | 6 | 0 | 0 | 125 | 16 | 14 | 7 | 0 | 0 | 37 | 14 | 101 | 9 | 0 | 1 | 124 | 332 | 1284 |
| 13:15:00 | 17 | 13 | 19 | 0 | 1 | 49 | 13 | 87 | 4 | 0 | 0 | 104 | 9 | 8 | 19 | 0 | 2 | 36 | 10 | 77 | 13 | 0 | 5 | 100 | 289 | 1241 |
| 13:30:00 | 13 | 9 | 17 | 0 | 2 | 39 | 17 | 97 | 18 | 0 | 0 | 132 | 12 | 6 | 20 | 0 | 0 | 38 | 14 | 98 | 6 | 0 | 5 | 118 | 327 | 1242 |
| 13:45:00 | 18 | 11 | 14 | 0 | 0 | 43 | 17 | 114 | 12 | 0 | 0 | 143 | 26 | 10 | 20 | 0 | 1 | 56 | 9 | 108 | 7 | 0 | 7 | 124 | 366 | 1314 |
| 14:00:00 | 10 | 14 | 20 | 0 | 0 | 44 | 16 | 108 | 5 | 0 | 0 | 129 | 26 | 8 | 10 | 0 | 3 | 44 | 7 | 99 | 11 | 0 | 6 | 117 | 334 | 1316 |
| 14:15:00 | 15 | 13 | 16 | 0 | 0 | 44 | 13 | 126 | 10 | 0 | 0 | 149 | 18 | 13 | 20 | 0 | 1 | 51 | 22 | 92 | 7 | 0 | 2 | 121 | 365 | 1392 |
| 14:30:00 | 14 | 12 | 19 | 0 | 1 | 45 | 14 | 119 | 11 | 0 | 0 | 144 | 16 | 10 | 21 | 0 | 0 | 47 | 18 | 104 | 7 | 0 | 5 | 129 | 365 | 1430 |
| 14:45:00 | 13 | 11 | 19 | 0 | 1 | 43 | 19 | 112 | 9 | 0 | 0 | 140 | 20 | 14 | 20 | 0 | 1 | 54 | 17 | 112 | 7 | 0 | 2 | 136 | 373 | 1437 |
| 15:00:00 | 21 | 30 | 41 | 0 | 6 | 92 | 25 | 142 | 12 | 0 | 0 | 179 | 20 | 19 | 26 | 0 | 4 | 65 | 14 | 113 | 8 | 0 | 14 | 135 | 471 | 1574 |
| 15:15:00 | 10 | 21 | 22 | 0 | 5 | 53 | 21 | 142 | 12 | 0 | 0 | 175 | 21 | 16 | 32 | 0 | 8 | 69 | 14 | 121 | 9 | 0 | 35 | 144 | 441 | 1650 |
| 15:30:00 | 15 | 16 | 18 | 0 | 0 | 49 | 18 | 145 | 9 | 0 | 1 | 172 | 19 | 35 | 26 | 0 | 1 | 80 | 12 | 95 | 5 | 0 | 6 | 112 | 413 | 1698 |



| | | | | | | | | | | | | | | | | | | | | | | | | | | |
|--------------------|-------|-------|-------|----|----|-------|-------|-------|------|----|---|------|-------|-------|-------|----|----|------|-------|-------|------|----|-----|-------|-------|------|
| 15:45:00 | 21 | 12 | 19 | 0 | 2 | 52 | 13 | 123 | 5 | 0 | 0 | 141 | 13 | 17 | 19 | 0 | 3 | 49 | 13 | 122 | 8 | 0 | 7 | 143 | 385 | 1710 |
| Grand Total | 373 | 450 | 665 | 0 | 30 | 1488 | 485 | 3084 | 317 | 0 | 7 | 3886 | 616 | 446 | 562 | 0 | 51 | 1624 | 434 | 3149 | 224 | 0 | 306 | 3807 | 10805 | - |
| Approach% | 25.1% | 30.2% | 44.7% | 0% | | - | 12.5% | 79.4% | 8.2% | 0% | | - | 37.9% | 27.5% | 34.6% | 0% | | - | 11.4% | 82.7% | 5.9% | 0% | | - | - | - |
| Totals % | 3.5% | 4.2% | 6.2% | 0% | | 13.8% | 4.5% | 28.5% | 2.9% | 0% | | 36% | 5.7% | 4.1% | 5.2% | 0% | | 15% | 4% | 29.1% | 2.1% | 0% | | 35.2% | - | - |
| Heavy | 10 | 6 | 17 | 0 | | - | 19 | 137 | 5 | 0 | | - | 9 | 6 | 14 | 0 | | - | 9 | 118 | 7 | 0 | | - | - | - |
| Heavy % | 2.7% | 1.3% | 2.6% | 0% | | - | 3.9% | 4.4% | 1.6% | 0% | | - | 1.5% | 1.3% | 2.5% | 0% | | - | 2.1% | 3.7% | 3.1% | 0% | | - | - | - |
| Bicycles | - | - | - | - | | - | - | - | - | - | | - | - | - | - | - | | - | - | - | - | - | | - | - | - |
| Bicycle % | - | - | - | - | | - | - | - | - | - | | - | - | - | - | - | | - | - | - | - | - | | - | - | - |



Peak Hour: 03:00 PM - 04:00 PM Weather: Broken Clouds (2.54 °C)

| Start Time | N Approach FORMAN AVE | | | | | | E Approach HURON ST | | | | | | S Approach FORMAN AVE | | | | | | W Approach HURON ST | | | | | | Int. Total (15 min) |
|------------------------|--------------------------|-------|-------|--------|------|----------------|------------------------|-------|------|--------|------|----------------|--------------------------|-------|-------|--------|-------|----------------|------------------------|-------|-------|--------|-------|----------------|------------------------|
| | Right | Thru | Left | U-Turn | Peds | Approach Total | Right | Thru | Left | U-Turn | Peds | Approach Total | Right | Thru | Left | U-Turn | Peds | Approach Total | Right | Thru | Left | U-Turn | Peds | Approach Total | |
| 15:00:00 | 21 | 30 | 41 | 0 | 6 | 92 | 25 | 142 | 12 | 0 | 0 | 179 | 20 | 19 | 26 | 0 | 4 | 65 | 14 | 113 | 8 | 0 | 14 | 135 | 471 |
| 15:15:00 | 10 | 21 | 22 | 0 | 5 | 53 | 21 | 142 | 12 | 0 | 0 | 175 | 21 | 16 | 32 | 0 | 8 | 69 | 14 | 121 | 9 | 0 | 35 | 144 | 441 |
| 15:30:00 | 15 | 16 | 18 | 0 | 0 | 49 | 18 | 145 | 9 | 0 | 1 | 172 | 19 | 35 | 26 | 0 | 1 | 80 | 12 | 95 | 5 | 0 | 6 | 112 | 413 |
| 15:45:00 | 21 | 12 | 19 | 0 | 2 | 52 | 13 | 123 | 5 | 0 | 0 | 141 | 13 | 17 | 19 | 0 | 3 | 49 | 13 | 122 | 8 | 0 | 7 | 143 | 385 |
| Grand Total | 67 | 79 | 100 | 0 | 13 | 246 | 77 | 552 | 38 | 0 | 1 | 667 | 73 | 87 | 103 | 0 | 16 | 263 | 53 | 451 | 30 | 0 | 62 | 534 | 1710 |
| Approach% | 27.2% | 32.1% | 40.7% | 0% | | - | 11.5% | 82.8% | 5.7% | 0% | | - | 27.8% | 33.1% | 39.2% | 0% | | - | 9.9% | 84.5% | 5.6% | 0% | | - | - |
| Totals % | 3.9% | 4.6% | 5.8% | 0% | | 14.4% | 4.5% | 32.3% | 2.2% | 0% | | 39% | 4.3% | 5.1% | 6% | 0% | | 15.4% | 3.1% | 26.4% | 1.8% | 0% | | 31.2% | - |
| PHF | 0.8 | 0.66 | 0.61 | 0 | | 0.67 | 0.77 | 0.95 | 0.79 | 0 | | 0.93 | 0.87 | 0.62 | 0.8 | 0 | | 0.82 | 0.95 | 0.92 | 0.83 | 0 | | 0.93 | - |
| Heavy | 1 | 1 | 9 | 0 | | 11 | 4 | 18 | 0 | 0 | | 22 | 0 | 1 | 1 | 0 | | 2 | 1 | 13 | 1 | 0 | | 15 | - |
| Heavy % | 1.5% | 1.3% | 9% | 0% | | 4.5% | 5.2% | 3.3% | 0% | 0% | | 3.3% | 0% | 1.1% | 1% | 0% | | 0.8% | 1.9% | 2.9% | 3.3% | 0% | | 2.8% | - |
| Lights | 66 | 78 | 91 | 0 | | 235 | 73 | 534 | 38 | 0 | | 645 | 73 | 86 | 102 | 0 | | 261 | 52 | 438 | 29 | 0 | | 519 | - |
| Lights % | 98.5% | 98.7% | 91% | 0% | | 95.5% | 94.8% | 96.7% | 100% | 0% | | 96.7% | 100% | 98.9% | 99% | 0% | | 99.2% | 98.1% | 97.1% | 96.7% | 0% | | 97.2% | - |
| Single-Unit Trucks | 0 | 0 | 1 | 0 | | 1 | 0 | 5 | 0 | 0 | | 5 | 0 | 0 | 0 | 0 | | 0 | 0 | 2 | 0 | 0 | | 2 | - |
| Single-Unit Trucks % | 0% | 0% | 1% | 0% | | 0.4% | 0% | 0.9% | 0% | 0% | | 0.7% | 0% | 0% | 0% | 0% | | 0% | 0% | 0.4% | 0% | 0% | | 0.4% | - |
| Buses | 1 | 1 | 8 | 0 | | 10 | 4 | 5 | 0 | 0 | | 9 | 0 | 1 | 1 | 0 | | 2 | 1 | 7 | 1 | 0 | | 9 | - |
| Buses % | 1.5% | 1.3% | 8% | 0% | | 4.1% | 5.2% | 0.9% | 0% | 0% | | 1.3% | 0% | 1.1% | 1% | 0% | | 0.8% | 1.9% | 1.6% | 3.3% | 0% | | 1.7% | - |
| Articulated Trucks | 0 | 0 | 0 | 0 | | 0 | 0 | 8 | 0 | 0 | | 8 | 0 | 0 | 0 | 0 | | 0 | 0 | 4 | 0 | 0 | | 4 | - |
| Articulated Trucks % | 0% | 0% | 0% | 0% | | 0% | 0% | 1.4% | 0% | 0% | | 1.2% | 0% | 0% | 0% | 0% | | 0% | 0% | 0.9% | 0% | 0% | | 0.7% | - |
| Bicycles on Road | 0 | 0 | 0 | 0 | | 0 | 0 | 0 | 0 | 0 | | 0 | 0 | 0 | 0 | 0 | | 0 | 0 | 0 | 0 | 0 | | 0 | - |
| Bicycles on Road % | 0% | 0% | 0% | 0% | | 0% | 0% | 0% | 0% | 0% | | 0% | 0% | 0% | 0% | 0% | | 0% | 0% | 0% | 0% | 0% | | 0% | - |
| Pedestrians | - | - | - | - | 11 | - | - | - | - | - | 1 | - | - | - | - | - | 16 | - | - | - | - | - | 59 | - | - |
| Pedestrians% | - | - | - | - | 12% | - | - | - | - | - | 1.1% | - | - | - | - | - | 17.4% | - | - | - | - | - | 64.1% | - | - |
| Bicycles on Crosswalk | - | - | - | - | 2 | - | - | - | - | - | 0 | - | - | - | - | - | 0 | - | - | - | - | - | 3 | - | - |
| Bicycles on Crosswalk% | - | - | - | - | 2.2% | - | - | - | - | - | 0% | - | - | - | - | - | 0% | - | - | - | - | - | 3.3% | - | - |

Peak Hour: 03:00 PM - 04:00 PM Weather: Broken Clouds (2.54 °C)





Turning Movement Count (2 . HURON ST & HUNTINGDON AVE)

| Start Time | N Approach HUNTINGDON AVE | | | | | | E Approach HURON ST | | | | | | S Approach HUNTINGDON AVE | | | | | | W Approach HURON ST | | | | | | Int. Total (15 min) | Int. Total (1 hr) |
|------------|------------------------------|-------------|-------------|---------------|------------|----------------|------------------------|-------------|-------------|---------------|------------|----------------|------------------------------|-------------|-------------|---------------|------------|----------------|------------------------|-------------|-------------|---------------|------------|----------------|------------------------|----------------------|
| | Right N:W | Thru N:S | Left N:E | U-Turn N:N | Peds N: | Approach Total | Right E:N | Thru E:W | Left E:S | U-Turn E:E | Peds E: | Approach Total | Right S:E | Thru S:N | Left S:W | U-Turn S:S | Peds S: | Approach Total | Right W:S | Thru W:E | Left W:N | U-Turn W:W | Peds W: | Approach Total | | |
| 08:00:00 | 3 | 1 | 4 | 0 | 0 | 8 | 5 | 104 | 3 | 0 | 2 | 112 | 5 | 2 | 0 | 0 | 1 | 7 | 2 | 111 | 7 | 0 | 0 | 120 | 247 | |
| 08:15:00 | 4 | 0 | 1 | 0 | 0 | 5 | 1 | 109 | 5 | 0 | 3 | 115 | 10 | 0 | 1 | 0 | 1 | 11 | 3 | 149 | 5 | 0 | 0 | 157 | 288 | |
| 08:30:00 | 9 | 2 | 1 | 0 | 0 | 12 | 9 | 121 | 5 | 0 | 8 | 135 | 3 | 0 | 0 | 0 | 1 | 3 | 4 | 189 | 8 | 0 | 0 | 201 | 351 | |
| 08:45:00 | 14 | 3 | 0 | 0 | 0 | 17 | 6 | 128 | 6 | 0 | 31 | 140 | 1 | 3 | 0 | 0 | 2 | 4 | 12 | 163 | 4 | 0 | 0 | 179 | 340 | 1226 |
| 09:00:00 | 3 | 6 | 1 | 0 | 0 | 10 | 2 | 81 | 9 | 0 | 7 | 92 | 5 | 4 | 2 | 0 | 4 | 11 | 5 | 112 | 7 | 0 | 0 | 124 | 237 | 1216 |
| 09:15:00 | 3 | 0 | 4 | 0 | 2 | 7 | 1 | 70 | 2 | 0 | 0 | 73 | 6 | 0 | 1 | 0 | 3 | 7 | 1 | 113 | 3 | 0 | 0 | 117 | 204 | 1132 |
| 09:30:00 | 2 | 0 | 0 | 0 | 2 | 2 | 1 | 108 | 3 | 0 | 1 | 112 | 2 | 0 | 0 | 0 | 0 | 2 | 1 | 124 | 3 | 0 | 0 | 128 | 244 | 1025 |
| 09:45:00 | 3 | 0 | 1 | 0 | 0 | 4 | 2 | 106 | 0 | 0 | 2 | 108 | 2 | 0 | 0 | 0 | 1 | 2 | 0 | 114 | 3 | 0 | 0 | 117 | 231 | 916 |
| 10:00:00 | 5 | 0 | 5 | 0 | 2 | 10 | 5 | 92 | 3 | 0 | 0 | 100 | 6 | 0 | 0 | 0 | 0 | 6 | 2 | 124 | 5 | 0 | 0 | 131 | 247 | 926 |
| 10:15:00 | 5 | 1 | 4 | 0 | 2 | 10 | 5 | 92 | 5 | 0 | 2 | 102 | 3 | 2 | 0 | 0 | 2 | 5 | 0 | 116 | 3 | 0 | 0 | 119 | 236 | 958 |
| 10:30:00 | 2 | 0 | 2 | 0 | 3 | 4 | 2 | 101 | 5 | 0 | 0 | 108 | 4 | 0 | 0 | 0 | 4 | 4 | 2 | 135 | 5 | 0 | 1 | 142 | 258 | 972 |
| 10:45:00 | 3 | 2 | 1 | 0 | 2 | 6 | 4 | 116 | 2 | 0 | 0 | 122 | 3 | 1 | 0 | 0 | 2 | 4 | 2 | 125 | 4 | 0 | 2 | 131 | 263 | 1004 |
| 11:00:00 | 5 | 1 | 2 | 0 | 0 | 8 | 2 | 107 | 3 | 0 | 2 | 112 | 2 | 1 | 0 | 0 | 4 | 3 | 1 | 127 | 5 | 0 | 0 | 133 | 256 | 1013 |
| 11:15:00 | 2 | 0 | 2 | 0 | 0 | 4 | 1 | 114 | 7 | 0 | 0 | 122 | 6 | 0 | 0 | 0 | 5 | 6 | 2 | 130 | 6 | 0 | 1 | 138 | 270 | 1047 |
| 11:30:00 | 5 | 1 | 2 | 0 | 2 | 8 | 7 | 116 | 3 | 0 | 1 | 126 | 3 | 0 | 0 | 0 | 0 | 3 | 2 | 112 | 6 | 0 | 0 | 120 | 257 | 1046 |
| 11:45:00 | 2 | 0 | 5 | 0 | 2 | 7 | 12 | 131 | 5 | 0 | 0 | 148 | 3 | 2 | 1 | 0 | 4 | 6 | 2 | 128 | 3 | 0 | 0 | 133 | 294 | 1077 |
| 12:00:00 | 7 | 1 | 5 | 0 | 1 | 13 | 3 | 142 | 5 | 0 | 0 | 150 | 5 | 2 | 1 | 0 | 1 | 8 | 2 | 130 | 7 | 0 | 0 | 139 | 310 | 1131 |
| 12:15:00 | 1 | 0 | 5 | 0 | 1 | 6 | 6 | 116 | 2 | 0 | 0 | 124 | 5 | 0 | 0 | 0 | 0 | 5 | 3 | 120 | 2 | 0 | 0 | 125 | 260 | 1121 |
| 12:30:00 | 0 | 1 | 2 | 0 | 1 | 3 | 3 | 130 | 2 | 0 | 0 | 135 | 1 | 1 | 0 | 0 | 2 | 2 | 1 | 121 | 3 | 0 | 0 | 125 | 265 | 1129 |
| 12:45:00 | 5 | 3 | 2 | 0 | 1 | 10 | 5 | 107 | 3 | 0 | 1 | 115 | 3 | 0 | 0 | 0 | 0 | 3 | 0 | 127 | 4 | 0 | 0 | 131 | 259 | 1094 |
| 13:00:00 | 4 | 0 | 2 | 0 | 2 | 6 | 4 | 136 | 4 | 0 | 0 | 144 | 2 | 1 | 1 | 0 | 1 | 4 | 0 | 130 | 5 | 0 | 1 | 135 | 289 | 1073 |
| 13:15:00 | 8 | 1 | 4 | 0 | 3 | 13 | 1 | 107 | 5 | 0 | 0 | 113 | 2 | 2 | 1 | 0 | 3 | 5 | 1 | 101 | 6 | 0 | 0 | 108 | 239 | 1052 |
| 13:30:00 | 5 | 2 | 0 | 0 | 0 | 7 | 4 | 133 | 2 | 0 | 0 | 139 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 121 | 3 | 0 | 0 | 124 | 271 | 1058 |
| 13:45:00 | 4 | 0 | 2 | 0 | 0 | 6 | 6 | 143 | 0 | 0 | 1 | 149 | 4 | 0 | 0 | 0 | 1 | 4 | 2 | 134 | 4 | 0 | 0 | 140 | 299 | 1098 |
| 14:00:00 | 4 | 0 | 4 | 0 | 0 | 8 | 5 | 129 | 1 | 0 | 0 | 135 | 0 | 1 | 0 | 0 | 1 | 1 | 5 | 136 | 6 | 0 | 0 | 147 | 291 | 1100 |
| 14:15:00 | 4 | 0 | 4 | 0 | 0 | 8 | 1 | 162 | 3 | 0 | 0 | 166 | 4 | 0 | 0 | 0 | 3 | 4 | 4 | 125 | 7 | 0 | 2 | 136 | 314 | 1175 |
| 14:30:00 | 6 | 0 | 2 | 0 | 1 | 8 | 3 | 150 | 7 | 0 | 0 | 160 | 5 | 0 | 0 | 0 | 0 | 5 | 2 | 136 | 6 | 0 | 0 | 144 | 317 | 1221 |
| 14:45:00 | 2 | 1 | 0 | 0 | 1 | 3 | 2 | 145 | 4 | 0 | 1 | 151 | 4 | 1 | 1 | 0 | 0 | 6 | 2 | 150 | 5 | 0 | 0 | 157 | 317 | 1239 |
| 15:00:00 | 3 | 1 | 1 | 0 | 5 | 5 | 6 | 186 | 8 | 0 | 0 | 200 | 2 | 1 | 1 | 0 | 1 | 4 | 8 | 154 | 10 | 0 | 0 | 172 | 381 | 1329 |
| 15:15:00 | 9 | 2 | 0 | 0 | 5 | 11 | 14 | 167 | 10 | 0 | 14 | 191 | 4 | 1 | 3 | 0 | 6 | 8 | 11 | 147 | 10 | 0 | 0 | 168 | 378 | 1393 |
| 15:30:00 | 4 | 5 | 0 | 0 | 0 | 9 | 4 | 175 | 5 | 0 | 29 | 184 | 5 | 5 | 1 | 0 | 1 | 11 | 1 | 121 | 8 | 0 | 0 | 130 | 334 | 1410 |



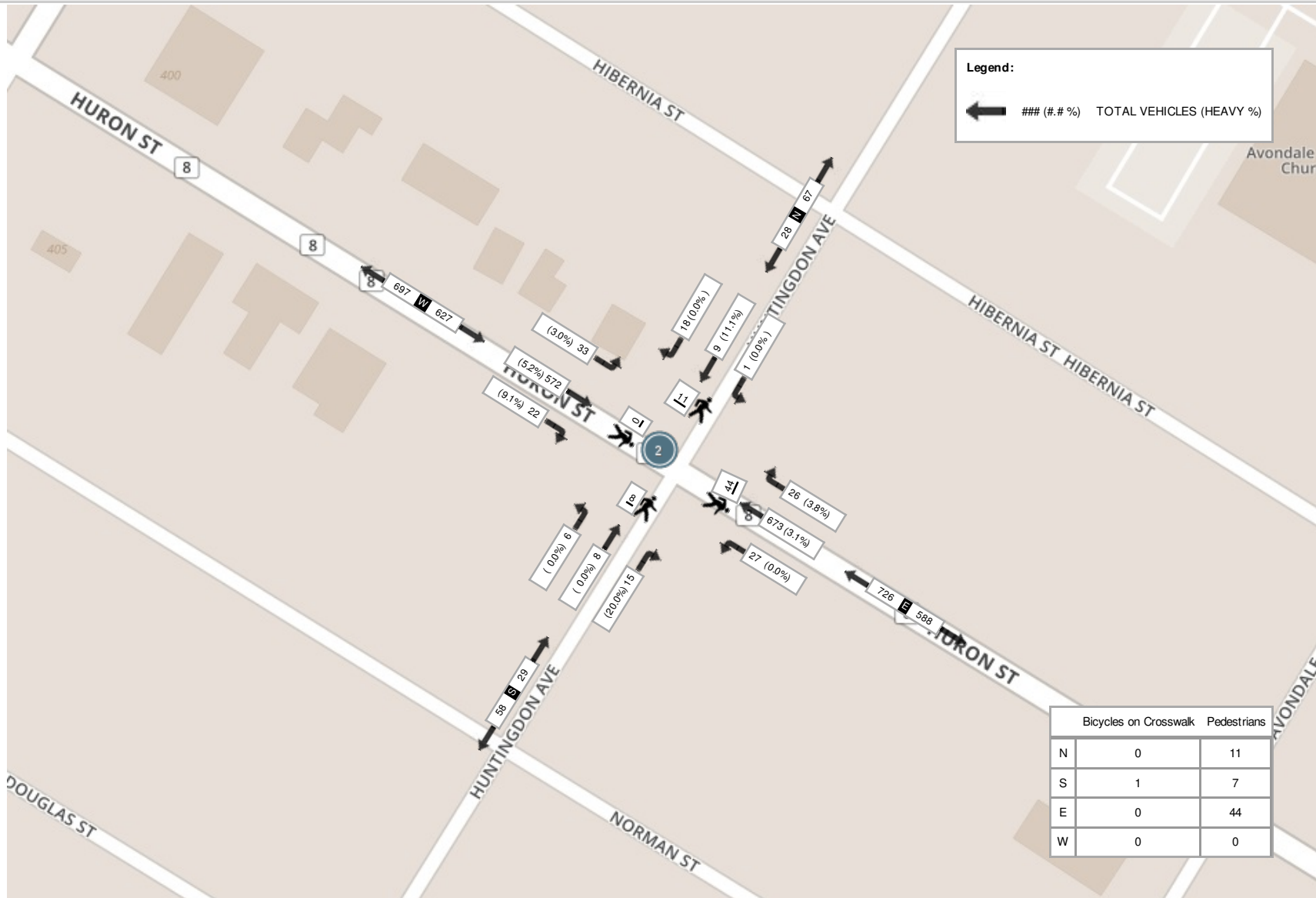
| | | | | | | | | | | | | | | | | | | | | | | | | | | |
|-------------|-------|-------|-------|----|----|------|-------|-------|------|----|-----|-------|-------|-------|-------|----|----|------|------|-------|------|----|---|-------|------|------|
| 15:45:00 | 7 | 1 | 1 | 0 | 3 | 9 | 5 | 140 | 3 | 0 | 9 | 148 | 5 | 1 | 0 | 0 | 5 | 6 | 3 | 139 | 10 | 0 | 1 | 152 | 315 | 1408 |
| Grand Total | 143 | 35 | 69 | 0 | 41 | 247 | 137 | 3964 | 130 | 0 | 114 | 4231 | 116 | 31 | 14 | 0 | 59 | 161 | 86 | 4164 | 173 | 0 | 8 | 4423 | 9062 | - |
| Approach% | 57.9% | 14.2% | 27.9% | 0% | | - | 3.2% | 93.7% | 3.1% | 0% | | - | 72% | 19.3% | 8.7% | 0% | | - | 1.9% | 94.1% | 3.9% | 0% | | - | - | - |
| Totals % | 1.6% | 0.4% | 0.8% | 0% | | 2.7% | 1.5% | 43.7% | 1.4% | 0% | | 46.7% | 1.3% | 0.3% | 0.2% | 0% | | 1.8% | 0.9% | 46% | 1.9% | 0% | | 48.8% | - | - |
| Heavy | 2 | 1 | 1 | 0 | | - | 17 | 155 | 6 | 0 | | - | 18 | 1 | 2 | 0 | | - | 4 | 136 | 4 | 0 | | - | - | - |
| Heavy % | 1.4% | 2.9% | 1.4% | 0% | | - | 12.4% | 3.9% | 4.6% | 0% | | - | 15.5% | 3.2% | 14.3% | 0% | | - | 4.7% | 3.3% | 2.3% | 0% | | - | - | - |
| Bicycles | - | - | - | - | | - | - | - | - | - | | - | - | - | - | - | | - | - | - | - | - | | - | - | - |
| Bicycle % | - | - | - | - | | - | - | - | - | - | | - | - | - | - | - | | - | - | - | - | - | | - | - | - |



Peak Hour: 02:45 PM - 03:45 PM Weather: Broken Clouds (2.54 °C)

| Start Time | N Approach HUNTINGDON AVE | | | | | | E Approach HURON ST | | | | | | S Approach HUNTINGDON AVE | | | | | | W Approach HURON ST | | | | | | Int. Total (15 min) |
|------------------------|------------------------------|-------|------|--------|-------|----------------|------------------------|-------|------|--------|-------|----------------|------------------------------|-------|-------|--------|-------|----------------|------------------------|------|------|--------|-------|----------------|------------------------|
| | Right | Thru | Left | U-Turn | Peds | Approach Total | Right | Thru | Left | U-Turn | Peds | Approach Total | Right | Thru | Left | U-Turn | Peds | Approach Total | Right | Thru | Left | U-Turn | Peds | Approach Total | |
| 14:45:00 | 2 | 1 | 0 | 0 | 1 | 3 | 2 | 145 | 4 | 0 | 1 | 151 | 4 | 1 | 1 | 0 | 0 | 6 | 2 | 150 | 5 | 0 | 0 | 157 | 317 |
| 15:00:00 | 3 | 1 | 1 | 0 | 5 | 5 | 6 | 186 | 8 | 0 | 0 | 200 | 2 | 1 | 1 | 0 | 1 | 4 | 8 | 154 | 10 | 0 | 0 | 172 | 381 |
| 15:15:00 | 9 | 2 | 0 | 0 | 5 | 11 | 14 | 167 | 10 | 0 | 14 | 191 | 4 | 1 | 3 | 0 | 6 | 8 | 11 | 147 | 10 | 0 | 0 | 168 | 378 |
| 15:30:00 | 4 | 5 | 0 | 0 | 0 | 9 | 4 | 175 | 5 | 0 | 29 | 184 | 5 | 5 | 1 | 0 | 1 | 11 | 1 | 121 | 8 | 0 | 0 | 130 | 334 |
| Grand Total | 18 | 9 | 1 | 0 | 11 | 28 | 26 | 673 | 27 | 0 | 44 | 726 | 15 | 8 | 6 | 0 | 8 | 29 | 22 | 572 | 33 | 0 | 0 | 627 | 1410 |
| Approach% | 64.3% | 32.1% | 3.6% | 0% | - | - | 3.6% | 92.7% | 3.7% | 0% | - | - | 51.7% | 27.6% | 20.7% | 0% | - | 3.5% | 91.2% | 5.3% | 0% | - | - | - | - |
| Totals % | 1.3% | 0.6% | 0.1% | 0% | 2% | 2% | 1.8% | 47.7% | 1.9% | 0% | 51.5% | 51.5% | 1.1% | 0.6% | 0.4% | 0% | 2.1% | 1.6% | 40.6% | 2.3% | 0% | 44.5% | 44.5% | - | - |
| PHF | 0.5 | 0.45 | 0.25 | 0 | 0.64 | 0.64 | 0.46 | 0.9 | 0.68 | 0 | 0.91 | 0.91 | 0.75 | 0.4 | 0.5 | 0 | 0.66 | 0.5 | 0.93 | 0.83 | 0 | 0.91 | 0.91 | - | - |
| Heavy | 0 | 1 | 0 | 0 | - | 1 | 1 | 21 | 0 | 0 | - | 22 | 3 | 0 | 0 | 0 | - | 3 | 2 | 30 | 1 | 0 | - | 33 | - |
| Heavy % | 0% | 11.1% | 0% | 0% | 3.6% | 3.6% | 3.8% | 3.1% | 0% | 0% | 3% | 3% | 20% | 0% | 0% | 0% | 10.3% | 9.1% | 5.2% | 3% | 0% | 5.3% | 5.3% | - | - |
| Lights | 18 | 8 | 1 | 0 | - | 27 | 25 | 652 | 27 | 0 | - | 704 | 12 | 8 | 6 | 0 | - | 26 | 20 | 542 | 32 | 0 | - | 594 | - |
| Lights % | 100% | 88.9% | 100% | 0% | 96.4% | 96.4% | 96.2% | 96.9% | 100% | 0% | 97% | 97% | 80% | 100% | 100% | 0% | 89.7% | 90.9% | 94.8% | 97% | 0% | 94.7% | 94.7% | - | - |
| Single-Unit Trucks | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 6 | 0 | 0 | 6 | 6 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 1 | 0 | 4 | 4 | - |
| Single-Unit Trucks % | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0.9% | 0% | 0% | 0.8% | 0.8% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0.5% | 3% | 0% | 0.6% | 0.6% | - |
| Buses | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 7 | 0 | 0 | 8 | 8 | 3 | 0 | 0 | 0 | 3 | 2 | 23 | 0 | 0 | 25 | 25 | - | - |
| Buses % | 0% | 0% | 0% | 0% | 0% | 0% | 3.8% | 1% | 0% | 0% | 1.1% | 1.1% | 20% | 0% | 0% | 0% | 10.3% | 9.1% | 4% | 0% | 0% | 4% | 4% | - | - |
| Articulated Trucks | 0 | 1 | 0 | 0 | 1 | 1 | 0 | 8 | 0 | 0 | 8 | 8 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 0 | 0 | 4 | 4 | - |
| Articulated Trucks % | 0% | 11.1% | 0% | 0% | 3.6% | 3.6% | 0% | 1.2% | 0% | 0% | 1.1% | 1.1% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0.7% | 0% | 0% | 0.6% | 0.6% | - |
| Bicycles on Road | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | - |
| Bicycles on Road % | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | - |
| Pedestrians | - | - | - | - | 11 | - | - | - | - | - | 44 | - | - | - | - | - | 7 | - | - | - | - | - | 0 | - | - |
| Pedestrians% | - | - | - | - | 17.5% | - | - | - | - | - | 69.8% | - | - | - | - | - | 11.1% | - | - | - | - | - | 0% | - | - |
| Bicycles on Crosswalk | - | - | - | - | 0 | - | - | - | - | - | 0 | - | - | - | - | - | 1 | - | - | - | - | - | 0 | - | - |
| Bicycles on Crosswalk% | - | - | - | - | 0% | - | - | - | - | - | 0% | - | - | - | - | - | 1.6% | - | - | - | - | - | 0% | - | - |

Peak Hour: 02:45 PM - 03:45 PM Weather: Broken Clouds (2.54 °C)





Turning Movement Count (1 . HURON ST & JOHN ST)

| Start Time | N Approach JOHN ST | | | | | | E Approach HURON ST | | | | | | S Approach JOHN ST | | | | | | W Approach HURON ST | | | | | | Int. Total (15 min) | Int. Total (1 hr) |
|------------|-----------------------|-------------|-------------|---------------|------------|----------------|------------------------|-------------|-------------|---------------|------------|----------------|-----------------------|-------------|-------------|---------------|------------|----------------|------------------------|-------------|-------------|---------------|------------|----------------|------------------------|----------------------|
| | Right N:W | Thru N:S | Left N:E | U-Turn N:N | Peds N: | Approach Total | Right E:N | Thru E:W | Left E:S | U-Turn E:E | Peds E: | Approach Total | Right S:E | Thru S:N | Left S:W | U-Turn S:S | Peds S: | Approach Total | Right W:S | Thru W:E | Left W:N | U-Turn W:W | Peds W: | Approach Total | | |
| 08:00:00 | 5 | 25 | 8 | 0 | 0 | 38 | 2 | 86 | 7 | 0 | 0 | 95 | 4 | 15 | 28 | 0 | 0 | 47 | 27 | 94 | 0 | 0 | 0 | 121 | 301 | |
| 08:15:00 | 1 | 45 | 13 | 0 | 4 | 59 | 4 | 78 | 6 | 0 | 2 | 88 | 3 | 17 | 27 | 0 | 4 | 47 | 40 | 119 | 4 | 0 | 4 | 163 | 357 | |
| 08:30:00 | 4 | 39 | 16 | 0 | 0 | 59 | 6 | 84 | 6 | 0 | 3 | 96 | 7 | 21 | 52 | 0 | 0 | 80 | 37 | 129 | 5 | 0 | 1 | 171 | 406 | |
| 08:45:00 | 5 | 38 | 8 | 0 | 3 | 51 | 1 | 88 | 5 | 0 | 0 | 94 | 9 | 17 | 46 | 0 | 2 | 72 | 50 | 111 | 3 | 0 | 0 | 164 | 381 | 1445 |
| 09:00:00 | 4 | 25 | 5 | 0 | 1 | 34 | 1 | 72 | 4 | 0 | 0 | 77 | 4 | 19 | 17 | 0 | 0 | 40 | 21 | 96 | 4 | 0 | 0 | 121 | 272 | 1416 |
| 09:15:00 | 3 | 10 | 6 | 0 | 1 | 19 | 6 | 48 | 3 | 0 | 0 | 57 | 4 | 7 | 22 | 0 | 3 | 33 | 21 | 96 | 3 | 0 | 2 | 120 | 229 | 1288 |
| 09:30:00 | 5 | 10 | 3 | 0 | 1 | 18 | 3 | 70 | 6 | 0 | 1 | 79 | 4 | 11 | 30 | 0 | 2 | 45 | 21 | 101 | 2 | 0 | 1 | 124 | 266 | 1148 |
| 09:45:00 | 4 | 13 | 5 | 0 | 0 | 22 | 4 | 86 | 5 | 0 | 1 | 95 | 6 | 13 | 21 | 0 | 0 | 40 | 17 | 102 | 1 | 0 | 0 | 120 | 277 | 1044 |
| 10:00:00 | 5 | 12 | 3 | 0 | 2 | 20 | 3 | 73 | 2 | 0 | 1 | 78 | 6 | 10 | 23 | 0 | 2 | 39 | 26 | 103 | 6 | 0 | 2 | 135 | 272 | 1044 |
| 10:15:00 | 1 | 12 | 4 | 0 | 1 | 17 | 0 | 86 | 6 | 0 | 0 | 92 | 7 | 16 | 17 | 0 | 0 | 40 | 27 | 96 | 1 | 0 | 3 | 124 | 273 | 1088 |
| 10:30:00 | 5 | 19 | 3 | 0 | 4 | 27 | 1 | 85 | 6 | 0 | 1 | 92 | 3 | 12 | 23 | 0 | 1 | 38 | 30 | 101 | 4 | 0 | 0 | 135 | 292 | 1114 |
| 10:45:00 | 3 | 19 | 6 | 0 | 0 | 28 | 6 | 94 | 7 | 0 | 0 | 107 | 10 | 16 | 29 | 0 | 0 | 55 | 31 | 91 | 3 | 0 | 1 | 125 | 315 | 1152 |
| 11:00:00 | 1 | 10 | 3 | 0 | 1 | 14 | 5 | 85 | 5 | 0 | 1 | 95 | 7 | 11 | 27 | 0 | 3 | 45 | 22 | 108 | 1 | 0 | 1 | 131 | 285 | 1165 |
| 11:15:00 | 0 | 9 | 6 | 0 | 0 | 15 | 8 | 101 | 7 | 0 | 1 | 116 | 7 | 13 | 28 | 0 | 1 | 48 | 24 | 110 | 5 | 0 | 0 | 139 | 318 | 1210 |
| 11:30:00 | 7 | 21 | 5 | 0 | 2 | 33 | 1 | 96 | 11 | 0 | 0 | 108 | 7 | 16 | 27 | 0 | 1 | 50 | 23 | 97 | 3 | 0 | 1 | 123 | 314 | 1232 |
| 11:45:00 | 4 | 20 | 4 | 0 | 2 | 28 | 6 | 112 | 7 | 0 | 0 | 125 | 4 | 15 | 38 | 0 | 2 | 57 | 27 | 108 | 3 | 0 | 2 | 138 | 348 | 1265 |
| 12:00:00 | 2 | 20 | 7 | 0 | 1 | 29 | 6 | 111 | 8 | 0 | 2 | 125 | 6 | 41 | 32 | 0 | 3 | 79 | 27 | 111 | 4 | 0 | 2 | 142 | 375 | 1355 |
| 12:15:00 | 3 | 13 | 4 | 0 | 0 | 20 | 2 | 84 | 4 | 0 | 0 | 90 | 10 | 20 | 36 | 0 | 1 | 66 | 18 | 108 | 3 | 0 | 0 | 129 | 305 | 1342 |
| 12:30:00 | 1 | 18 | 9 | 0 | 0 | 28 | 2 | 106 | 4 | 0 | 0 | 112 | 8 | 17 | 33 | 0 | 2 | 58 | 20 | 104 | 3 | 0 | 4 | 127 | 325 | 1353 |
| 12:45:00 | 4 | 28 | 7 | 0 | 0 | 39 | 7 | 79 | 9 | 0 | 0 | 95 | 6 | 22 | 30 | 0 | 0 | 58 | 17 | 109 | 4 | 0 | 0 | 130 | 322 | 1327 |
| 13:00:00 | 3 | 24 | 7 | 0 | 0 | 34 | 6 | 108 | 4 | 0 | 2 | 118 | 10 | 16 | 30 | 0 | 3 | 56 | 22 | 97 | 3 | 0 | 0 | 122 | 330 | 1282 |
| 13:15:00 | 5 | 18 | 11 | 0 | 3 | 34 | 4 | 88 | 8 | 0 | 0 | 100 | 7 | 17 | 31 | 0 | 4 | 55 | 26 | 80 | 3 | 0 | 2 | 109 | 298 | 1275 |
| 13:30:00 | 0 | 10 | 3 | 0 | 0 | 13 | 5 | 119 | 8 | 0 | 0 | 132 | 11 | 19 | 25 | 0 | 0 | 55 | 24 | 99 | 3 | 0 | 1 | 126 | 326 | 1276 |
| 13:45:00 | 2 | 19 | 5 | 0 | 0 | 26 | 6 | 103 | 6 | 0 | 0 | 115 | 13 | 17 | 42 | 0 | 2 | 72 | 22 | 105 | 2 | 0 | 0 | 129 | 342 | 1296 |
| 14:00:00 | 2 | 24 | 4 | 0 | 0 | 30 | 0 | 111 | 5 | 0 | 2 | 116 | 7 | 26 | 25 | 0 | 4 | 58 | 29 | 107 | 7 | 0 | 2 | 143 | 347 | 1313 |
| 14:15:00 | 5 | 20 | 4 | 0 | 3 | 29 | 1 | 127 | 8 | 0 | 0 | 136 | 9 | 12 | 32 | 0 | 4 | 53 | 16 | 114 | 3 | 0 | 0 | 133 | 351 | 1366 |
| 14:30:00 | 3 | 11 | 3 | 0 | 0 | 17 | 1 | 128 | 5 | 0 | 0 | 134 | 6 | 17 | 33 | 0 | 0 | 56 | 29 | 101 | 6 | 0 | 0 | 136 | 343 | 1383 |
| 14:45:00 | 4 | 22 | 4 | 0 | 2 | 30 | 1 | 111 | 7 | 0 | 0 | 119 | 6 | 22 | 44 | 0 | 1 | 72 | 32 | 119 | 4 | 0 | 0 | 155 | 376 | 1417 |
| 15:00:00 | 6 | 40 | 10 | 0 | 2 | 56 | 8 | 125 | 5 | 0 | 5 | 138 | 6 | 30 | 63 | 0 | 3 | 99 | 30 | 99 | 7 | 0 | 2 | 136 | 429 | 1499 |
| 15:15:00 | 7 | 28 | 8 | 0 | 9 | 43 | 4 | 133 | 4 | 0 | 3 | 141 | 12 | 30 | 55 | 0 | 6 | 97 | 22 | 141 | 7 | 0 | 2 | 170 | 451 | 1599 |
| 15:30:00 | 6 | 23 | 8 | 0 | 1 | 37 | 8 | 126 | 6 | 0 | 1 | 140 | 12 | 23 | 51 | 0 | 1 | 86 | 30 | 91 | 2 | 0 | 3 | 123 | 386 | 1642 |



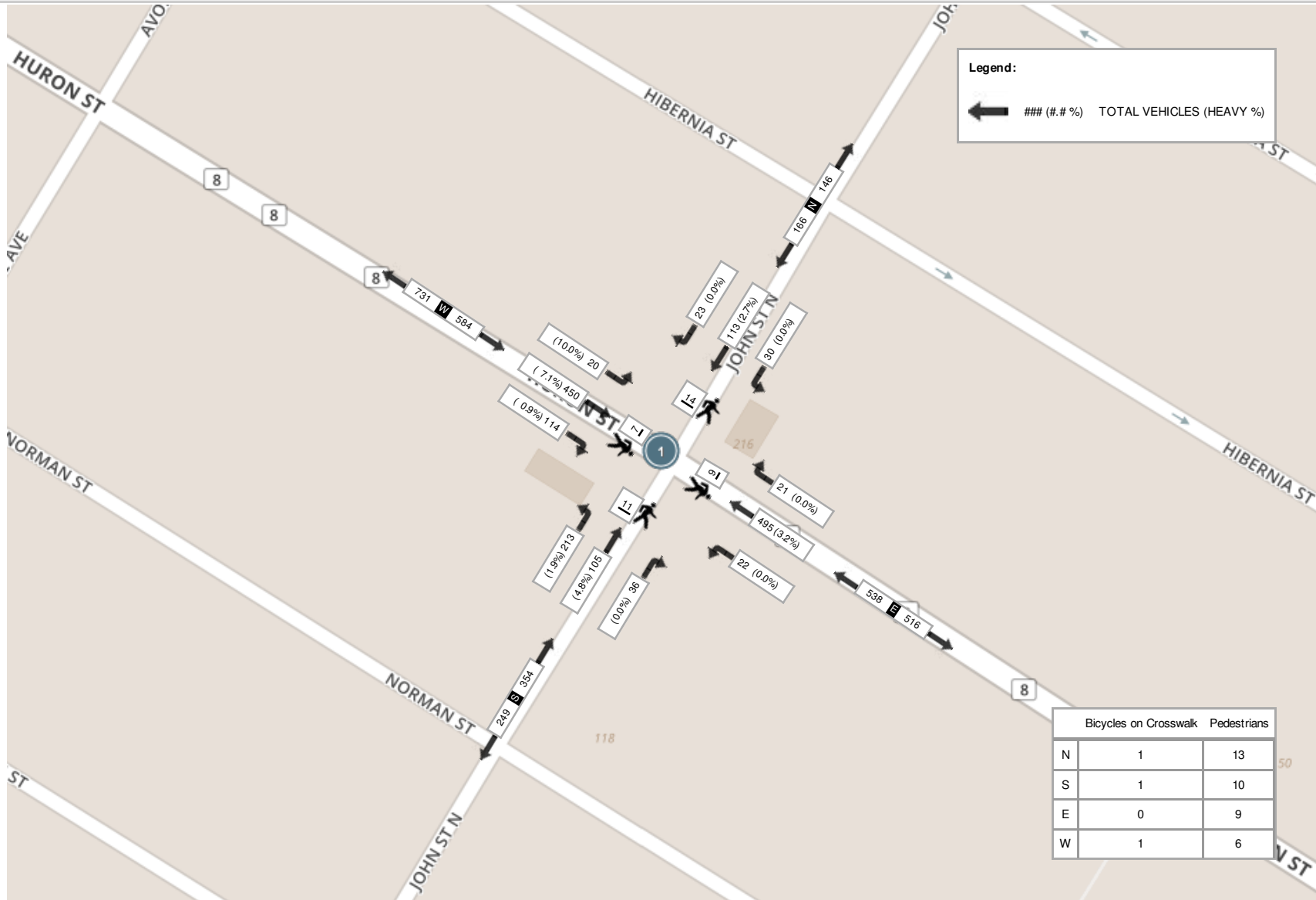
| | | | | | | | | | | | | | | | | | | | | | | | | | | |
|--------------------|-------|------|-------|----|----|------|------|-------|------|----|----|-------|-------|-------|-------|----|----|-------|-------|-------|------|----|----|-------|-------|------|
| 15:45:00 | 7 | 40 | 13 | 0 | 0 | 60 | 6 | 93 | 3 | 0 | 0 | 102 | 8 | 26 | 43 | 0 | 0 | 77 | 36 | 83 | 3 | 0 | 2 | 122 | 361 | 1627 |
| Grand Total | 117 | 685 | 205 | 0 | 43 | 1007 | 124 | 3096 | 187 | 0 | 26 | 3407 | 229 | 584 | 1060 | 0 | 55 | 1873 | 844 | 3330 | 112 | 0 | 38 | 4286 | 10573 | - |
| Approach% | 11.6% | 68% | 20.4% | 0% | | - | 3.6% | 90.9% | 5.5% | 0% | | - | 12.2% | 31.2% | 56.6% | 0% | | - | 19.7% | 77.7% | 2.6% | 0% | | - | - | - |
| Totals % | 1.1% | 6.5% | 1.9% | 0% | | 9.5% | 1.2% | 29.3% | 1.8% | 0% | | 32.2% | 2.2% | 5.5% | 10% | 0% | | 17.7% | 8% | 31.5% | 1.1% | 0% | | 40.5% | - | - |
| Heavy | 4 | 10 | 9 | 0 | | - | 5 | 155 | 3 | 0 | | - | 6 | 14 | 14 | 0 | | - | 7 | 147 | 3 | 0 | | - | - | - |
| Heavy % | 3.4% | 1.5% | 4.4% | 0% | | - | 4% | 5% | 1.6% | 0% | | - | 2.6% | 2.4% | 1.3% | 0% | | - | 0.8% | 4.4% | 2.7% | 0% | | - | - | - |
| Bicycles | - | - | - | - | | - | - | - | - | - | | - | - | - | - | - | | - | - | - | - | - | | - | - | - |
| Bicycle % | - | - | - | - | | - | - | - | - | - | | - | - | - | - | - | | - | - | - | - | - | | - | - | - |



Peak Hour: 02:45 PM - 03:45 PM Weather: Broken Clouds (2.54 °C)

| Start Time | N Approach JOHN ST | | | | | | E Approach HURON ST | | | | | | S Approach JOHN ST | | | | | | W Approach HURON ST | | | | | | Int. Total (15 min) |
|------------------------|-----------------------|-------|-------|--------|-------|----------------|------------------------|-------|------|--------|------|----------------|-----------------------|-------|-------|--------|-------|----------------|------------------------|-------|------|--------|-------|----------------|------------------------|
| | Right | Thru | Left | U-Turn | Peds | Approach Total | Right | Thru | Left | U-Turn | Peds | Approach Total | Right | Thru | Left | U-Turn | Peds | Approach Total | Right | Thru | Left | U-Turn | Peds | Approach Total | |
| 14:45:00 | 4 | 22 | 4 | 0 | 2 | 30 | 1 | 111 | 7 | 0 | 0 | 119 | 6 | 22 | 44 | 0 | 1 | 72 | 32 | 119 | 4 | 0 | 0 | 155 | 376 |
| 15:00:00 | 6 | 40 | 10 | 0 | 2 | 56 | 8 | 125 | 5 | 0 | 5 | 138 | 6 | 30 | 63 | 0 | 3 | 99 | 30 | 99 | 7 | 0 | 2 | 136 | 429 |
| 15:15:00 | 7 | 28 | 8 | 0 | 9 | 43 | 4 | 133 | 4 | 0 | 3 | 141 | 12 | 30 | 55 | 0 | 6 | 97 | 22 | 141 | 7 | 0 | 2 | 170 | 451 |
| 15:30:00 | 6 | 23 | 8 | 0 | 1 | 37 | 8 | 126 | 6 | 0 | 1 | 140 | 12 | 23 | 51 | 0 | 1 | 86 | 30 | 91 | 2 | 0 | 3 | 123 | 386 |
| Grand Total | 23 | 113 | 30 | 0 | 14 | 166 | 21 | 495 | 22 | 0 | 9 | 538 | 36 | 105 | 213 | 0 | 11 | 354 | 114 | 450 | 20 | 0 | 7 | 584 | 1642 |
| Approach% | 13.9% | 68.1% | 18.1% | 0% | - | - | 3.9% | 92% | 4.1% | 0% | - | - | 10.2% | 29.7% | 60.2% | 0% | - | - | 19.5% | 77.1% | 3.4% | 0% | - | - | - |
| Totals % | 1.4% | 6.9% | 1.8% | 0% | - | 10.1% | 1.3% | 30.1% | 1.3% | 0% | - | 32.8% | 2.2% | 6.4% | 13% | 0% | - | 21.6% | 6.9% | 27.4% | 1.2% | 0% | - | 35.6% | - |
| PHF | 0.82 | 0.71 | 0.75 | 0 | - | 0.74 | 0.66 | 0.93 | 0.79 | 0 | - | 0.95 | 0.75 | 0.88 | 0.85 | 0 | - | 0.89 | 0.89 | 0.8 | 0.71 | 0 | - | 0.86 | - |
| Heavy | 0 | 3 | 0 | 0 | - | 3 | 0 | 16 | 0 | 0 | - | 16 | 0 | 5 | 4 | 0 | - | 9 | 1 | 32 | 2 | 0 | - | 35 | - |
| Heavy % | 0% | 2.7% | 0% | 0% | - | 1.8% | 0% | 3.2% | 0% | 0% | - | 3% | 0% | 4.8% | 1.9% | 0% | - | 2.5% | 0.9% | 7.1% | 10% | 0% | - | 6% | - |
| Lights | 23 | 110 | 30 | 0 | - | 163 | 21 | 479 | 22 | 0 | - | 522 | 36 | 100 | 209 | 0 | - | 345 | 113 | 418 | 18 | 0 | - | 549 | - |
| Lights % | 100% | 97.3% | 100% | 0% | - | 98.2% | 100% | 96.8% | 100% | 0% | - | 97% | 100% | 95.2% | 98.1% | 0% | - | 97.5% | 99.1% | 92.9% | 90% | 0% | - | 94% | - |
| Single-Unit Trucks | 0 | 0 | 0 | 0 | - | 0 | 0 | 3 | 0 | 0 | - | 3 | 0 | 0 | 1 | 0 | - | 1 | 0 | 5 | 0 | 0 | - | 5 | - |
| Single-Unit Trucks % | 0% | 0% | 0% | 0% | - | 0% | 0% | 0.6% | 0% | 0% | - | 0.6% | 0% | 0% | 0.5% | 0% | - | 0.3% | 0% | 1.1% | 0% | 0% | - | 0.9% | - |
| Buses | 0 | 3 | 0 | 0 | - | 3 | 0 | 4 | 0 | 0 | - | 4 | 0 | 5 | 3 | 0 | - | 8 | 1 | 23 | 2 | 0 | - | 26 | - |
| Buses % | 0% | 2.7% | 0% | 0% | - | 1.8% | 0% | 0.8% | 0% | 0% | - | 0.7% | 0% | 4.8% | 1.4% | 0% | - | 2.3% | 0.9% | 5.1% | 10% | 0% | - | 4.5% | - |
| Articulated Trucks | 0 | 0 | 0 | 0 | - | 0 | 0 | 9 | 0 | 0 | - | 9 | 0 | 0 | 0 | 0 | - | 0 | 0 | 4 | 0 | 0 | - | 4 | - |
| Articulated Trucks % | 0% | 0% | 0% | 0% | - | 0% | 0% | 1.8% | 0% | 0% | - | 1.7% | 0% | 0% | 0% | 0% | - | 0% | 0% | 0.9% | 0% | 0% | - | 0.7% | - |
| Bicycles on Road | 0 | 0 | 0 | 0 | - | 0 | 0 | 0 | 0 | 0 | - | 0 | 0 | 0 | 0 | 0 | - | 0 | 0 | 0 | 0 | 0 | - | 0 | - |
| Bicycles on Road % | 0% | 0% | 0% | 0% | - | 0% | 0% | 0% | 0% | 0% | - | 0% | 0% | 0% | 0% | 0% | - | 0% | 0% | 0% | 0% | 0% | - | 0% | - |
| Pedestrians | - | - | - | - | 13 | - | - | - | - | - | 9 | - | - | - | - | - | 10 | - | - | - | - | - | 6 | - | - |
| Pedestrians% | - | - | - | - | 31.7% | - | - | - | - | - | 22% | - | - | - | - | - | 24.4% | - | - | - | - | - | 14.6% | - | - |
| Bicycles on Crosswalk | - | - | - | - | 1 | - | - | - | - | - | 0 | - | - | - | - | - | 1 | - | - | - | - | - | 1 | - | - |
| Bicycles on Crosswalk% | - | - | - | - | 2.4% | - | - | - | - | - | 0% | - | - | - | - | - | 2.4% | - | - | - | - | - | 2.4% | - | - |

Peak Hour: 02:45 PM - 03:45 PM Weather: Broken Clouds (2.54 °C)



Huron St - Huron/John

Controller Timing Plan (MM)2-1

Plan 1

| Phase | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
|----------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Direction | | WB | | SB | | EB | | NB | | | | | | | | |
| Min Green | 5 | 10 | 5 | 10 | 5 | 10 | 5 | 10 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 |
| BK Min Green | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| CS Min Green | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Delay Green | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Walk | 0 | 22 | 0 | 17 | 0 | 22 | 0 | 17 | 0 | 10 | 0 | 10 | 0 | 10 | 0 | 10 |
| Walk 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Walk Max | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped Clear | 0 | 7 | 0 | 7 | 0 | 7 | 0 | 7 | 0 | 16 | 0 | 16 | 0 | 16 | 0 | 16 |
| Ped Clear 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped Clear Max | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped CO | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Vehicle Ext | 5.0 | 5.0 | 5.0 | 4.0 | 5.0 | 5.0 | 5.0 | 4.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 |
| Vehicle Ext 2 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Max 1 | 35 | 30 | 35 | 34 | 35 | 30 | 35 | 34 | 35 | 35 | 35 | 35 | 35 | 35 | 35 | 35 |
| Max 2 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 |
| Max 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| DYM Max | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| DYM Stp | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Yellow | 3.0 | 4.0 | 3.0 | 4.0 | 3.0 | 4.0 | 3.0 | 4.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 |
| Red Clear | 1.0 | 2.0 | 1.0 | 2.0 | 1.0 | 2.0 | 1.0 | 2.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| Red Max | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Red Revert | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 |
| ACT B4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| SEC/ACT | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Max Int | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Time B4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Cars Wt | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| STPT Duc | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Time To Reduce | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Min Gap | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

Huron St - Huron/Forman

Controller Timing Plan (MM)2-1

Plan 1

| Phase | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
|----------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Direction | | EB | | SB | | WB | | NB | | | | | | | | |
| Min Green | 5 | 10 | 5 | 10 | 5 | 10 | 5 | 10 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 |
| BK Min Green | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| CS Min Green | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Delay Green | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Walk | 0 | 27 | 0 | 17 | 0 | 27 | 0 | 17 | 0 | 10 | 0 | 10 | 0 | 10 | 0 | 10 |
| Walk 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Walk Max | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped Clear | 0 | 7 | 0 | 7 | 0 | 7 | 0 | 7 | 0 | 16 | 0 | 16 | 0 | 16 | 0 | 16 |
| Ped Clear 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped Clear Max | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped CO | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Vehicle Ext | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 |
| Vehicle Ext 2 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Max 1 | 35 | 35 | 35 | 40 | 35 | 35 | 35 | 40 | 35 | 35 | 35 | 35 | 35 | 35 | 35 | 35 |
| Max 2 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 |
| Max 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| DYM Max | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| DYM Stp | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Yellow | 3.0 | 4.0 | 3.0 | 4.0 | 3.0 | 4.0 | 3.0 | 4.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 |
| Red Clear | 1.0 | 2.0 | 1.0 | 2.0 | 1.0 | 2.0 | 1.0 | 2.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| Red Max | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Red Revert | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 |
| ACT B4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| SEC/ACT | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Max Int | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Time B4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Cars Wt | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| STPT Duc | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Time To Reduce | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Min Gap | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

TUESDAY NOVEMBER 20 ¹⁹⁷ 2018

| | | | | | | | |
|---------------------|--|---|---|-------------------------------|--|-------------------------|---|
| Details | | | | | | | |
| Weather Conditions: | AM: | <input checked="" type="checkbox"/> Dry | <input type="checkbox"/> Sunny | <input type="checkbox"/> Rain | <input type="checkbox"/> Snow | Temperature: <u>-2°</u> | Other: <u>SNOW FLURRIES</u> |
| | PM: | <input checked="" type="checkbox"/> Dry | <input type="checkbox"/> Sunny | <input type="checkbox"/> Rain | <input type="checkbox"/> Snow | Temperature: <u>-5°</u> | Other: <u>SNOW FLURRIES</u> |
| Type of Crossing: | <input checked="" type="checkbox"/> 4 Way Intersection | | <input type="checkbox"/> 3 Way Intersection | | <input type="checkbox"/> Midblock (i.e., not an intersection) | | |
| Type of Control: | <input type="checkbox"/> Traffic Lights | | <input type="checkbox"/> Yield Signs | | <input type="checkbox"/> No Control | | <input type="checkbox"/> Adequate Control |
| | <input checked="" type="checkbox"/> Stop Signs (Traffic is stopped on one street only) | | | | <input type="checkbox"/> All Way Stop (Traffic is stopped in all directions) | | |

Crossing Guard Warrant Survey

Location: HURON ST - HUNTINGDON AVE

☒ Safe Gap Time Safe Gap Time Calculation (if applicable): $\left(\frac{(W)19 + 4}{5.5} \right)$ 23 = sec.

☐ Signalized Intersection Turning Traffic Count

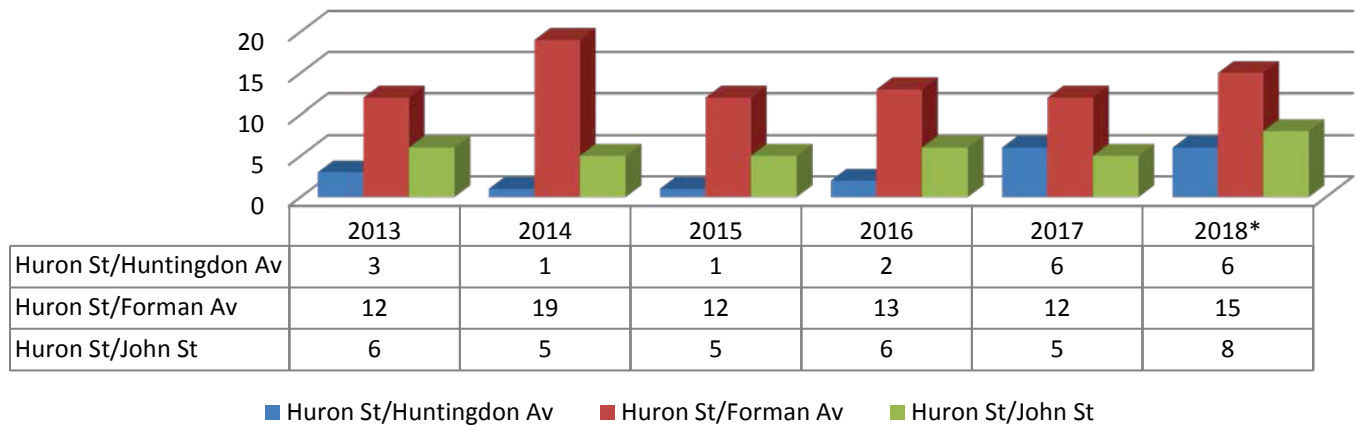
Morning Intervals

| # of Peds | Time (AM) | Leg: <input type="checkbox"/> N <input type="checkbox"/> S <input checked="" type="checkbox"/> E <input checked="" type="checkbox"/> W | # of Gaps |
|-----------|-------------|--|-----------|
| | 7:30 - 7:35 | | |
| | 7:35 - 7:40 | | |
| | 7:40 - 7:45 | | |
| | 7:45 - 7:50 | | |
| | 7:50 - 7:55 | | |
| | 7:55 - 8:00 | | |
| <u>2</u> | 8:00 - 8:05 | | <u>1</u> |
| <u>2</u> | 8:05 - 8:10 | | <u>2</u> |
| <u>4</u> | 8:10 - 8:15 | | <u>2</u> |
| <u>3</u> | 8:15 - 8:20 | | <u>1</u> |
| <u>0</u> | 8:20 - 8:25 | | <u>1</u> |
| <u>3</u> | 8:25 - 8:30 | | <u>0</u> |
| <u>2</u> | 8:30 - 8:35 | | <u>0</u> |
| <u>0</u> | 8:35 - 8:40 | | <u>1</u> |
| <u>4</u> | 8:40 - 8:45 | | <u>2</u> |
| <u>3</u> | 8:45 - 8:50 | | <u>0</u> |
| <u>20</u> | 8:50 - 8:55 | | <u>0</u> |
| <u>11</u> | 8:55 - 9:00 | | <u>0</u> |

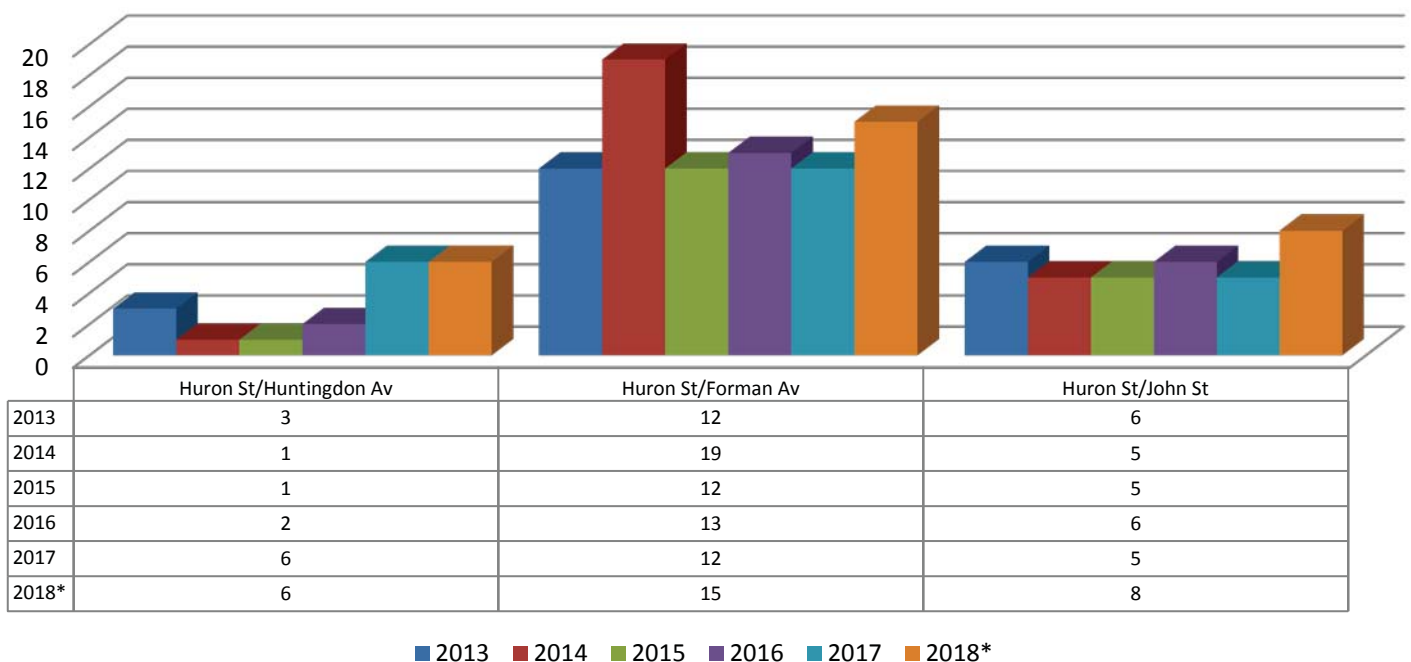
Afternoon Intervals

| # of Peds | Time (PM) | Leg: <input type="checkbox"/> N <input type="checkbox"/> S <input checked="" type="checkbox"/> E <input checked="" type="checkbox"/> W | # of Gaps |
|-----------|-------------|--|-----------|
| | 2:30 - 2:35 | | |
| | 2:35 - 2:40 | | |
| | 2:40 - 2:45 | | |
| | 2:45 - 2:50 | | |
| | 2:50 - 2:55 | | |
| | 2:55 - 3:00 | | |
| <u>7</u> | 3:00 - 3:05 | | <u>0</u> |
| <u>7</u> | 3:05 - 3:10 | | <u>0</u> |
| <u>1</u> | 3:10 - 3:15 | | <u>0</u> |
| <u>3</u> | 3:15 - 3:20 | | <u>0</u> |
| <u>6</u> | 3:20 - 3:25 | | <u>0</u> |
| <u>3</u> | 3:25 - 3:30 | | <u>0</u> |
| <u>6</u> | 3:30 - 3:35 | | <u>2</u> |
| <u>23</u> | 3:35 - 3:40 | | <u>0</u> |
| <u>18</u> | 3:40 - 3:45 | | <u>0</u> |
| <u>4</u> | 3:45 - 3:50 | | <u>1</u> |
| <u>6</u> | 3:50 - 3:55 | | <u>0</u> |
| <u>0</u> | 3:55 - 4:00 | | <u>0</u> |

Motor Vehicle Collisions at Intersections of Huron and Huntingdon, Forman and John



Motor Vehicle Collisions at Intersections of Huron and Huntingdon, Forman and John



| Motor Vehicle Collisions | | | | | | | |
|--------------------------|-----------|-----------|-----------|-----------|-----------|-----------|------------|
| Totals by Year | | | | | | | |
| | 2013 | 2014 | 2015 | 2016 | 2017 | 2018* | Totals |
| Huron St/Huntingdon Av | 3 | 1 | 1 | 2 | 6 | 6 | 19 |
| Huron St/Forman Av | 12 | 19 | 12 | 13 | 12 | 15 | 83 |
| Huron St/John St | 6 | 5 | 5 | 6 | 5 | 8 | 35 |
| Totals | 21 | 25 | 18 | 21 | 23 | 29 | 137 |

| Motor Vehicle Collisions | | | | | | |
|---------------------------------|----------|----------|----------|----------|----------|----------|
| Huron St/Huntingdon Av by Month | | | | | | |
| | 2013 | 2014 | 2015 | 2016 | 2017 | 2018* |
| January | | | | | 1 | 1 |
| February | | | | | | |
| March | | | | | | |
| April | | | | | 1 | |
| May | | | | | | |
| June | 1 | | | | | |
| July | | | | | | |
| August | | | | | | 1 |
| September | | | | 1 | | |
| October | | 1 | 1 | | 1 | 2 |
| November | 1 | | | | 1 | 2 |
| December | 1 | | | 1 | 2 | |
| Totals | 3 | 1 | 1 | 2 | 6 | 6 |

| Motor Vehicle Collisions | | | | | | |
|-----------------------------|-----------|-----------|-----------|-----------|-----------|-----------|
| Huron St/Forman Av by Month | | | | | | |
| | 2013 | 2014 | 2015 | 2016 | 2017 | 2018* |
| January | | 3 | 3 | 2 | | |
| February | | | 1 | 2 | 2 | 1 |
| March | 1 | 2 | | 1 | 2 | |
| April | 1 | 2 | 2 | 2 | | 1 |
| May | 1 | 1 | | 1 | 2 | 2 |
| June | 2 | 1 | 1 | 1 | 2 | 1 |
| July | | 1 | 1 | | 1 | |
| August | 2 | 2 | 1 | 1 | | 2 |
| September | 2 | 2 | 1 | | 1 | 1 |
| October | 1 | 2 | | 3 | 1 | 1 |
| November | | | | | | 4 |
| December | 2 | 3 | 2 | | 1 | 2 |
| Totals | 12 | 19 | 12 | 13 | 12 | 15 |





*ST13-10354 - pedestrian hit,
ST14-12566 - pedestrian hit,
ST14-18344 - pedestrian struck
ST15-18102 - cyclist hit,
ST15-17682 - pedestrian hit,
ST16-01405 - cyclist hit,
ST18-13407 - pedestrian struck,
ST18-08004 - pedestrian struck

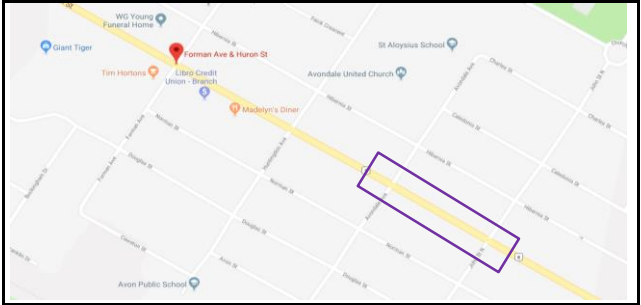
| Motor Vehicle Collisions | | | | | | |
|---------------------------|----------|----------|----------|----------|----------|----------|
| Huron St/John St by Month | | | | | | |
| | 2013 | 2014 | 2015 | 2016 | 2017 | 2018* |
| January | | | | | | 1 |
| February | | 2 | 1 | 1 | 1 | |
| March | | | 2 | 1 | | |
| April | 2 | 1 | 1 | | | 1 |
| May | | | | 1 | 1 | |
| June | | | | | | 1 |
| July | 2 | | | 1 | 1 | |
| August | 1 | | 1 | | | 2 |
| September | | | | | | 1 |
| October | | 1 | | 1 | | 1 |
| November | | 1 | | | | |
| December | 1 | | | 1 | 2 | 1 |
| Totals | 6 | 5 | 5 | 6 | 5 | 8 |

*ST14-2600 - cyclist struck
crossing road illegally
ST18-13785 - 2 pedestrians hit,
one fatality.

| Traffic Complaints | | | | | | |
|---------------------------------|----------|----------|----------|----------|----------|----------|
| Huron St/Huntingdon Av by Month | | | | | | |
| | 2013 | 2014 | 2015 | 2016 | 2017 | 2018* |
| January | | | | | | |
| February | | | | | | |
| March | | | | | | |
| April | | | | | | |
| May | | | | | | 1 |
| June | | | | | 1 | |
| July | | | | | | |
| August | | | | | | |
| September | | | | | | |
| October | | | 1 | 1 | | |
| November | | | | | | |
| December | | | | | | |
| Totals | 0 | 0 | 1 | 1 | 1 | 1 |
| Traffic Complaints | | | | | | |
| Huron St/Forman Av by Month | | | | | | |
| | 2013 | 2014 | 2015 | 2016 | 2017 | 2018* |
| January | | | | | 1 | |
| February | 1 | 1 | | | | |
| March | | | | | 2 | 1 |
| April | | | | | 1 | |
| May | | 1 | 1 | | | 2 |
| June | | | | | | 1 |
| July | | | 1 | | 2 | |
| August | | | | | | 1 |
| September | 1 | 1 | | | 1 | |
| October | 1 | 1 | | 1 | | |
| November | | | 1 | 1 | | |
| December | 1 | | | | 1 | |
| Totals | 4 | 4 | 3 | 2 | 8 | 5 |
| Traffic Complaints | | | | | | |
| Huron St/John St by Month | | | | | | |
| | 2013 | 2014 | 2015 | 2016 | 2017 | 2018* |
| January | | | | | 1 | |
| February | | | 1 | | | |
| March | | | | | | |
| April | 1 | | 1 | | | |
| May | | | | 1 | | |
| June | 1 | | | | | 1 |
| July | | | | | | 1 |
| August | 1 | 1 | | 1 | | 1 |
| September | 1 | | | | | |
| October | 1 | | | | | |
| November | | | 1 | | | |
| December | | | 1 | 1 | | |
| Totals | 5 | 1 | 4 | 3 | 1 | 3 |

Traffic Complaints include persons calling in to report a specific incident and do not include general inquiries, FOI requests or reports from the City, etc.

| HURON STREET PEDESTRIAN CROSSING STUDY | | | | | | | |
|---|----------------|--------|-------------|--------------|-----------------|---------|---------|
| HURON STREET BETWEEN JOHN STREET AND AVONDALE AVENUE | | | | | | | |
| WB LANE .01 | | | | | | | |
| Weekday AM | 8:00 - 9:00 AM | VOLUME | SPEED (kph) | OCCUPANCY(%) | 85% SPEED (kph) | HEADWAY | GAP (S) |
| 15/Jan/19 | 08:00:00 | 90 | 52.8 | 3.6 | 59.9 | 20 | 19.3 |
| 15/Jan/19 | 08:30:00 | 124 | 52.6 | 4.4 | 59.5 | 14.5 | 13.9 |
| 16/Jan/19 | 08:00:00 | 92 | 49.3 | 3.6 | 57.7 | 19.6 | 18.9 |
| 16/Jan/19 | 08:30:00 | 107 | 50.5 | 4.3 | 58.4 | 16.8 | 16.1 |
| 17/Jan/19 | 08:00:00 | 89 | 56.1 | 3.1 | 62.2 | 20.2 | 19.6 |
| 17/Jan/19 | 08:30:00 | 137 | 52.8 | 4.9 | 60.5 | 13.1 | 12.5 |
| 18/Jan/19 | 08:00:00 | 90 | 52.6 | 3.3 | 60.1 | 20 | 19.3 |
| 18/Jan/19 | 08:30:00 | 102 | 53.1 | 3.9 | 62 | 17.6 | 17.0 |
| 21/Jan/19 | 08:00:00 | 65 | 55.8 | 2.2 | 63.6 | 27.7 | 27.1 |
| 21/Jan/19 | 08:30:00 | 131 | 54.9 | 4.5 | 63.8 | 13.7 | 13.1 |
| 22/Jan/19 | 08:00:00 | 87 | 51.7 | 3.1 | 59 | 20.7 | 20.1 |
| 22/Jan/19 | 08:30:00 | 125 | 51.8 | 4.2 | 59 | 14.4 | 13.8 |
| 23/Jan/19 | 08:00:00 | 93 | 41.8 | 4.1 | 49.6 | 19.4 | 18.6 |
| 23/Jan/19 | 08:30:00 | 110 | 40.3 | 4.9 | 48 | 16.4 | 15.6 |
| 24/Jan/19 | 08:00:00 | 77 | 49.3 | 2.9 | 57.9 | 23.4 | 22.7 |
| 24/Jan/19 | 08:30:00 | 108 | 48.8 | 4.3 | 56.7 | 16.7 | 15.9 |
| AVERAGE | | 102 | 50.9 | 3.8 | 58.6 | 18.4 | 17.7 |
| Weekday PM | 3:00 - 4:00 PM | VOLUME | SPEED (kph) | OCCUPANCY(%) | 85% SPEED (kph) | HEADWAY | GAP (S) |
| 15/Jan/19 | 15:00:00 | 162 | 52.4 | 5.7 | 60.6 | 11.1 | 10.5 |
| 15/Jan/19 | 15:30:00 | 223 | 50.8 | 8.7 | 58.1 | 8.1 | 7.4 |
| 16/Jan/19 | 15:00:00 | 141 | 55.1 | 4.9 | 63.2 | 12.8 | 12.1 |
| 16/Jan/19 | 15:30:00 | 195 | 53.5 | 7 | 61.2 | 9.2 | 8.6 |
| 17/Jan/19 | 15:00:00 | 166 | 53.5 | 6 | 61.6 | 10.8 | 10.2 |
| 17/Jan/19 | 15:30:00 | 235 | 53.8 | 8.5 | 60.9 | 7.7 | 7.0 |
| 18/Jan/19 | 15:00:00 | 165 | 53 | 5.8 | 60.4 | 10.9 | 10.3 |
| 18/Jan/19 | 15:30:00 | 226 | 49.2 | 8.8 | 56.7 | 8 | 7.3 |
| 21/Jan/19 | 15:00:00 | 138 | 52.5 | 5.2 | 60.2 | 13 | 12.4 |
| 21/Jan/19 | 15:30:00 | 203 | 49.3 | 7.5 | 55.4 | 8.9 | 8.2 |
| 22/Jan/19 | 15:00:00 | 162 | 50.4 | 5.9 | 58.4 | 11.1 | 10.5 |
| 22/Jan/19 | 15:30:00 | 226 | 49.8 | 8.9 | 58.2 | 8 | 7.3 |
| 23/Jan/19 | 15:00:00 | 129 | 52.1 | 4.9 | 61.2 | 14 | 13.3 |
| 23/Jan/19 | 15:30:00 | 178 | 52.7 | 6.8 | 60.4 | 10.1 | 9.4 |
| AVERAGE | | 182 | 52.0 | 6.8 | 59.8 | 10.3 | 9.6 |
| EB LANE .03 | | | | | | | |
| Weekday AM | 8:00 - 9:00 AM | VOLUME | SPEED (kph) | OCCUPANCY(%) | 85% SPEED (kph) | HEADWAY | GAP (S) |
| 15/Jan/19 | 08:00:00 | 51 | 56.7 | 1.5 | 63.1 | 35.3 | 34.8 |
| 15/Jan/19 | 08:30:00 | 65 | 53.4 | 2 | 61.2 | 27.7 | 27.1 |
| 16/Jan/19 | 08:00:00 | 57 | 49.3 | 1.8 | 56.9 | 31.6 | 31.0 |
| 16/Jan/19 | 08:30:00 | 67 | 51.2 | 2.1 | 59.5 | 26.9 | 26.3 |
| 17/Jan/19 | 08:00:00 | 49 | 56.1 | 1.3 | 62.2 | 36.7 | 36.2 |
| 17/Jan/19 | 08:30:00 | 71 | 51.6 | 2.6 | 59.3 | 25.4 | 24.7 |
| 18/Jan/19 | 08:00:00 | 67 | 54.5 | 1.9 | 60.4 | 26.9 | 26.4 |
| 18/Jan/19 | 08:30:00 | 63 | 53 | 1.8 | 57.9 | 28.6 | 28.1 |
| 21/Jan/19 | 08:00:00 | 47 | 54.7 | 1.5 | 61.7 | 38.3 | 37.7 |
| 21/Jan/19 | 08:30:00 | 53 | 50.2 | 1.9 | 57.5 | 34 | 33.3 |
| 22/Jan/19 | 08:00:00 | 46 | 54.5 | 1.3 | 59.5 | 39.1 | 38.6 |
| 22/Jan/19 | 08:30:00 | 62 | 54.4 | 1.8 | 59.5 | 29 | 28.5 |
| 23/Jan/19 | 08:00:00 | 46 | 40.6 | 2.4 | 48.3 | 39.1 | 38.2 |
| 23/Jan/19 | 08:30:00 | 48 | 40.1 | 2.6 | 49.9 | 37.5 | 36.5 |
| 24/Jan/19 | 08:00:00 | 46 | 54.6 | 1.2 | 60.6 | 39.1 | 38.7 |
| 24/Jan/19 | 08:30:00 | 83 | 50.9 | 2.7 | 56.6 | 21.7 | 21.1 |
| AVERAGE | | 58 | 51.6 | 1.9 | 58.4 | 32.3 | 31.7 |
| Weekday PM | 3:00 - 4:00 PM | VOLUME | SPEED (kph) | OCCUPANCY(%) | 85% SPEED (kph) | HEADWAY | GAP (S) |
| 14/Jan/19 | 15:30:00 | 8 | 54 | 1.5 | 62.8 | 35.8 | 35.2 |
| 15/Jan/19 | 15:00:00 | 67 | 52.5 | 1.8 | 58.7 | 26.9 | 26.4 |
| 15/Jan/19 | 15:30:00 | 73 | 49.5 | 2.6 | 57.6 | 24.7 | 24.0 |
| 16/Jan/19 | 15:00:00 | 59 | 54.1 | 1.7 | 60.2 | 30.5 | 30.0 |
| 16/Jan/19 | 15:30:00 | 56 | 52.1 | 1.6 | 58.7 | 32.1 | 31.6 |
| 17/Jan/19 | 15:00:00 | 64 | 55.2 | 1.8 | 60.9 | 28.1 | 27.6 |
| 17/Jan/19 | 15:30:00 | 83 | 49.8 | 3 | 57.1 | 21.7 | 21.0 |
| 18/Jan/19 | 15:00:00 | 83 | 54 | 2.2 | 61.2 | 21.7 | 21.2 |
| 18/Jan/19 | 15:30:00 | 90 | 50.7 | 3 | 59.1 | 20 | 19.4 |
| 21/Jan/19 | 15:00:00 | 59 | 53.6 | 1.8 | 61.2 | 30.5 | 30.0 |
| 21/Jan/19 | 15:30:00 | 71 | 50.7 | 2.1 | 57.9 | 25.4 | 24.8 |
| 22/Jan/19 | 15:00:00 | 69 | 52.6 | 2.1 | 59.5 | 26.1 | 25.6 |
| 22/Jan/19 | 15:30:00 | 77 | 46.6 | 2.8 | 54.7 | 23.4 | 22.7 |
| 23/Jan/19 | 15:00:00 | 81 | 53.5 | 2.4 | 61.8 | 22.2 | 21.7 |
| 23/Jan/19 | 15:30:00 | 83 | 51 | 2.6 | 58.8 | 21.7 | 21.1 |
| AVERAGE | | 68 | 52.0 | 2.2 | 59.3 | 26.1 | 25.5 |
| SUMMARY | | | | | | | |
| Weekday AM 8:00 - 9:00 AM | | | | | | | |
|  WB LANE .01 | VOLUME | 102 | 50.9 | 3.8 | 58.6 | 18.4 | 17.7 |
| | WB LANE .02 | 72 | 52.7 | 2.4 | 59.9 | 25.6 | 25.0 |
|  EB LANE .04 | VOLUME | 205 | 46.6 | 7.3 | 53.2 | 8.8 | 8.2 |
| | EB LANE .03 | 58 | 51.6 | 1.9 | 58.4 | 32.3 | 31.7 |
| Weekday PM 3:00 - 4:00 PM | | | | | | | |
|  WB LANE .01 | VOLUME | 182 | 52.0 | 6.8 | 59.8 | 10.3 | 9.6 |
| | WB LANE .02 | 135 | 52.7 | 4.7 | 60.5 | 12.5 | 12.0 |
|  EB LANE .04 | VOLUME | 202 | 47.5 | 7.4 | 54.9 | 8.5 | 7.9 |
| | EB LANE .03 | 68 | 52.0 | 2.2 | 59.3 | 26.1 | 25.5 |



APPENDIX B

OTM BOOK 12: TRAFFIC SIGNAL and PXO JUSTIFICATION RESULTS

Input Data Sheet

[Analysis Sheet](#)
[Results Sheet](#)
[Proposed Collision](#)
[GO TO Justification:](#)

What are the intersecting roadways?

Huron Street and Huntingdon Avenue

What is the direction of the Main Road street?

East-West

When was the data collected?

2019/05/03

Justification 1 - 4: Volume Warrants

a.- Number of lanes on the Main Road?

2 or more

b.- Number of lanes on the Minor Road?

1

c.- How many approaches?

4

d.- What is the operating environment?

Urban

Population >= 10,000

AND

Speed < 70 km/hr

e.- What is the eight hour vehicle volume at the intersection? (Please fill in table below)

| Hour Ending | Main Eastbound Approach | | | Minor Northbound Approach | | | | Main Westbound Approach | | | Minor Southbound Approach | | | Pedestrians Crossing Main Road |
|--------------|-------------------------|--------------|-----------|---------------------------|-----------|------------|--|-------------------------|--------------|------------|---------------------------|-----------|------------|--------------------------------|
| | LT | TH | RT | LT | TH | RT | | LT | TH | RT | LT | TH | RT | |
| 8:45 | 24 | 612 | 21 | 1 | 5 | 19 | | 19 | 462 | 21 | 6 | 6 | 30 | 44 |
| 9:45 | 16 | 463 | 7 | 3 | 4 | 15 | | 14 | 365 | 6 | 6 | 6 | 11 | 10 |
| 10:45 | 17 | 500 | 6 | 0 | 3 | 16 | | 15 | 401 | 16 | 12 | 3 | 15 | 5 |
| 11:45 | 20 | 497 | 7 | 1 | 3 | 14 | | 18 | 468 | 22 | 11 | 2 | 14 | 4 |
| 12:45 | 16 | 498 | 6 | 1 | 3 | 14 | | 12 | 495 | 17 | 14 | 5 | 13 | 1 |
| 13:45 | 18 | 486 | 3 | 2 | 3 | 9 | | 11 | 519 | 15 | 8 | 3 | 21 | 2 |
| 14:45 | 24 | 547 | 13 | 1 | 2 | 13 | | 15 | 586 | 11 | 10 | 1 | 16 | 3 |
| 15:45 | 38 | 561 | 23 | 5 | 8 | 16 | | 26 | 668 | 29 | 2 | 9 | 23 | 53 |
| Total | 173 | 4,164 | 86 | 14 | 31 | 116 | | 130 | 3,964 | 137 | 69 | 35 | 143 | 122 |

Justification 5: Collision Experience

| Preceding Months | Number of Collisions* |
|------------------|-----------------------|
| 1-12 | 5 |
| 13-24 | 5 |
| 25-36 | 3 |

* Include only collisions that are susceptible to correction through the installation of traffic signal control

Justification 6: Pedestrian Volume

a.- Please fill in table below summarizing total pedestrians crossing major roadway at the intersection or in proximity to the intersection (zones). Please reference Section 4.8 of the Manual for further explanation and graphical representation.

| | Zone 1 | | Zone 2 | | Zone 3 (if needed) | | Zone 4 (if needed) | | Total |
|---|----------|------------|----------|------------|--------------------|------------|--------------------|------------|-------|
| | Assisted | Unassisted | Assisted | Unassisted | Assisted | Unassisted | Assisted | Unassisted | |
| Total 8 hour pedestrian volume | 110 | 12 | | | 0 | 0 | 0 | 0 | |
| Factored 8 hour pedestrian volume | 232 | | 0 | | 0 | | 0 | | |
| % Assigned to crossing rate | 100% | | | | | | | | |
| Net 8 Hour Pedestrian Volume at Crossing | | | | | | | | | 232 |
| Net 8 Hour Vehicular Volume on Street Being Crossed | | | | | | | | | 8,654 |

b.- Please fill in table below summarizing delay to pedestrians crossing major roadway at the intersection or in proximity to the intersection (zones). Please reference Section 4.8 of the Manual for further explanation and graphical representation.

| | Zone 1 | | Zone 2 | | Zone 3 (if needed) | | Zone 4 (if needed) | | Total |
|--|----------|------------|----------|------------|--------------------|------------|--------------------|------------|-------|
| | Assisted | Unassisted | Assisted | Unassisted | Assisted | Unassisted | Assisted | Unassisted | |
| Total 8 hour pedestrian volume | 110 | 12 | 0 | 0 | 0 | 0 | 0 | 0 | |
| Total 8 hour pedestrians delayed greater than 10 seconds | 84 | 8 | | | | | | 0 | |
| Factored volume of total pedestrians | 232 | | 0 | | 0 | | 0 | | |
| Factored volume of delayed pedestrians | 176 | | 0 | | 0 | | 0 | | |
| % Assigned to Crossing Rate | 100% | | 0% | | 0% | | 0% | | |
| Net 8 Hour Volume of Total Pedestrians | | | | | | | | | 232 |
| Net 8 Hour Volume of Delayed Pedestrians | | | | | | | | | 176 |

Analysis Sheet

Input Sheet

Results Sheet

Proposed Collision

GO TO Justification:

Intersection: Huron Street and Huntingdon Avenue

Count Date: 2019/05/03

Justification 1: Minimum Vehicle Volumes

Restricted Flow Urban Conditions

| Justification | Guidance Approach Lanes | | | | Percentage Warrant | | | | | | | | Total Across | Section Percent | | |
|--|--|--|--|---|---|------|-------|-------|-------|-------|-------|-------|--|-----------------|--|--|
| | 1 Lanes | | 2 or More Lanes | | Hour Ending | | | | | | | | | | | |
| Flow Condition | FREE FLOW <div><input type="checkbox"/></div> | RESTR. FLOW <div><input type="checkbox"/></div> | FREE FLOW <div><input type="checkbox"/></div> | RESTR. FLOW <div><input checked="" type="checkbox"/></div> | 8:45 | 9:45 | 10:45 | 11:45 | 12:45 | 13:45 | 14:45 | 15:45 | | | | |
| 1A | 480 | 720 | 600 | 900 | 1,226 | 916 | 1,004 | 1,077 | 1,094 | 1,098 | 1,239 | 1,408 | | | | |
| | COMPLIANCE % | | | | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 800 | 100 | | |
| 1B | 120 | 170 | 120 | 170 | 67 | 45 | 49 | 45 | 50 | 46 | 43 | 63 | | | | |
| | COMPLIANCE % | | | | 39 | 26 | 29 | 26 | 29 | 27 | 25 | 37 | 240 | 30 | | |
| Restricted Flow Signal Justification 1: | | | | | Both 1A and 1B 100% Fullfilled each of 8 hours Lesser of 1A or 1B at least 80% fulfilled each of 8 hours | | | | | | | | Yes <input type="checkbox"/> Yes <input type="checkbox"/> | | No <input checked="" type="checkbox"/> No <input checked="" type="checkbox"/> | |

Justification 2: Delay to Cross Traffic

Restricted Flow Urban Conditions

| Justification | Guidance Approach Lanes | | | | Percentage Warrant | | | | | | | | Total Across | Section Percent |
|--|---------------------------------------|---|---------------------------------------|--|---|------|-------|-------|-------|-------|-------|-------|--|--|
| | 1 lanes | | 2 or More lanes | | Hour Ending | | | | | | | | | |
| Flow Condition | FREE FLOW <input type="checkbox"/> | RESTR. FLOW <input type="checkbox"/> | FREE FLOW <input type="checkbox"/> | RESTR. FLOW <input checked="" type="checkbox"/> | 8:45 | 9:45 | 10:45 | 11:45 | 12:45 | 13:45 | 14:45 | 15:45 | | |
| 2A | 480 | 720 | 600 | 900 | 1,159 | 871 | 955 | 1,032 | 1,044 | 1,052 | 1,196 | 1,345 | | |
| | COMPLIANCE % | | | | 100 | 97 | 100 | 100 | 100 | 100 | 100 | 100 | 797 | 100 |
| 2B | 50 | 75 | 50 | 75 | 57 | 25 | 20 | 19 | 21 | 15 | 16 | 69 | | |
| | COMPLIANCE % | | | | 76 | 33 | 27 | 25 | 28 | 20 | 21 | 92 | 323 | 40 |
| Restricted Flow Signal Justification 2: | | | | | Both 2A and 2B 100% Fullfilled each of 8 hours Lesser of 2A or 2B at least 80% fulfilled each of 8 hours | | | | | | | | Yes <input type="checkbox"/> Yes <input type="checkbox"/> | No <input checked="" type="checkbox"/> No <input checked="" type="checkbox"/> |

Justification 3: Combination

Combination Justification 1 and 2

| Justification Satisfied 80% or More | | | | Two Justifications Satisfied 80% or More | |
|-------------------------------------|--------------------------|------------------------------|--|--|--|
| Justification 1 | Minimum Vehicular Volume | YES <input type="checkbox"/> | NO <input checked="" type="checkbox"/> | YES <input type="checkbox"/> | NO <input checked="" type="checkbox"/> |
| Justification 2 | Delay Cross Traffic | YES <input type="checkbox"/> | NO <input checked="" type="checkbox"/> | | NOT JUSTIFIED |

Justification 4: Four Hour Volume

| Justification | Time Period | Total Volume of Both Approaches (Main) | Heaviest Minor Approach | Required Value | Average % Compliance | Overall % Compliance |
|-----------------|-------------|--|-------------------------|-----------------------|----------------------|----------------------|
| | | X | Y (actual) | Y (warrant threshold) | | |
| Justification 4 | 8:45 | 1,159 | 42 | 147 | 29 % | 24 % |
| | 13:45 | 1,052 | 32 | 177 | 18 % | |
| | 14:45 | 1,196 | 27 | 138 | 20 % | |
| | 15:45 | 1,345 | 34 | 115 | 30 % | |

Analysis Sheet**Input Sheet****Results Sheet****Proposed Collision**

GO TO Justification:



Intersection: Huron Street and Huntingdon Avenue

Count Date: 2019/05/03

Justification 5: Collision Experience

| Justification | Preceding Months | % Fulfillment | Overall % Compliance |
|-----------------|------------------|---------------|----------------------|
| Justification 5 | 1-12 | 100 % | 87 % |
| | 13-24 | 100 % | |
| | 25-36 | 60 % | |

Justification 6: Pedestrian Volume**Pedestrian Volume Analysis**

| 8 Hour Vehicular Volume V_8 | | Net 8 Hour Pedestrian Volume | | | | |
|-------------------------------|-------------|------------------------------|---------------|-----------|------------|-------|
| | | < 200 | 200 - 275 | 276 - 475 | 476 - 1000 | >1000 |
| Justification 6A | < 1440 | | | | | |
| | 1440 - 2600 | | | | | |
| | 2601 - 7000 | | | | | |
| | > 7000 | | Not Justified | | | |

Pedestrian Delay Analysis

| Net Total 8 Hour Volume of Total Pedestrians | | Net Total 8 Hour Volume of Delayed Pedestrians | | |
|--|-----------|--|----------|-----------|
| | | < 75 | 75 - 130 | > 130 |
| Justification 6B | < 200 | | | |
| | 200 - 300 | | | Justified |
| | > 300 | | | |

Results Sheet**Input Sheet****Analysis Sheet****Proposed Collision**

Intersection: Huron Street and Huntingdon Avenue

Count Date: 2019/05/03

Summary Results

| Justification | | Compliance | | Signal Justified? | |
|-----------------------------|-------------------|------------|---|--------------------------|-------------------------------------|
| | | | | YES | NO |
| 1. Minimum Vehicular Volume | A Total Volume | 100 | % | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| | B Crossing Volume | 30 | % | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 2. Delay to Cross Traffic | A Main Road | 100 | % | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| | B Crossing Road | 40 | % | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 3. Combination | A Justificaton 1 | 30 | % | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| | B Justification 2 | 40 | % | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 4. 4-Hr Volume | | 24 | % | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

| | | | | |
|-------------------------|----|---|--------------------------|-------------------------------------|
| 5. Collision Experience | 87 | % | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
|-------------------------|----|---|--------------------------|-------------------------------------|

| | | | | |
|----------------|----------|-----------------------|--------------------------|-------------------------------------|
| 6. Pedestrians | A Volume | Justification not met | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| | B Delay | Justification met | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

Proposed Collision Justification (Justification 5A)

[Return to Justifications 1-6](#)

INPUT

a.- Intersection type (no input required):

b.- What year is the intersection being considered for traffic signals?

c.- What is the collision history and annual average daily traffic over the past few years? (Please fill in table below)

| Year | Traffic Volume | | Impact Type/Year | | | | | | |
|------|----------------|------------|------------------|-------|----------|-----------|------------------|-----|-------|
| | Major AADT | Minor AADT | Approach-ing | Angle | Rear end | Sideswipe | Turning movement | SMV | Other |
| 2018 | 15500 | 4000 | 0 | 1 | | | 4 | | |
| 2017 | 15200 | 3920 | 0 | | 1 | | 3 | | 1 |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |

d.- If known, please enter the expected traffic volume after signals are introduced. Otherwise, leave the cell blank.

| Year | Main AADT | Minor AADT |
|------|-----------|------------|
| 2019 | 15800 | |

ANALYSIS

Reducible Collisions

| | 2018 | 2017 | | | | | 2019 (Signal) |
|----------------------------------|-------|-------|--|--|--|--|---------------|
| Total Number of Crashes Per Year | 5 | 3 | | | | | --- |
| Parameter k | 1.95 | 1.95 | | | | | 1.92 |
| Model Prediction | 2.50 | 2.44 | | | | | 2.48 |
| C _{i,y} | 1.026 | 1.000 | | | | | 1.016 |
| Comp. Ratio for Period | 2.026 | | | | | | 1.016 |

Non-reducible Collisions

| | 2018 | 2017 | | | | | 2019 (Signal) |
|----------------------------------|-------|-------|--|--|--|--|---------------|
| Total Number of Crashes Per Year | 0 | 2 | | | | | --- |
| Parameter k | 1.59 | 1.59 | | | | | 1.76 |
| Model Prediction | 1.21 | 1.19 | | | | | 1.22 |
| C _{i,y} | 1.020 | 1.000 | | | | | 1.029 |
| Comp. Ratio for Period | 2.020 | | | | | | 1.029 |

| | Reducible Collisions | Non-reducible Collisions |
|--|----------------------|--------------------------|
| Total Number of Historical Crashes | 8 | 2 |
| Expected Annual Crashes without Signalization based on SPF | 2.437 | 1.187 |
| Expected Annual Crashes without Signalization | 3.579 | 1.099 |
| Variance of Expected Annual Crashes without Signalization | 1.267 | 0.327 |
| Expected Annual Crashes after Signalization based on SPF | 1.464 | 1.991 |
| Expected Annual Crashes after Signalization | 2.150 | 1.844 |
| Variance of Expected Annual Crashes after Signalization | 2.409 | 1.931 |

| | Reducible Collisions | Non-reducible Collisions |
|--|----------------------|--------------------------|
| Weights for Unsignalized Intersections | 0.27 | 0.18 |
| Weights for Signalized Intersections | 0.29 | 0.25 |

RESULTS

| Justification | Compliance | Signal Justified? | |
|-------------------------|---|-------------------------------------|--------------------------|
| | | YES | NO |
| 5. Collision Experience | Net Safety Change -0.080 | | |
| | Total Collisions will Decrease after this intersection is signalized | <input checked="" type="checkbox"/> | <input type="checkbox"/> |

OTM BOOK 12: TRAFFIC SIGNAL JUSTIFICATION 6

PEDESTRIAN VOLUME AND PEDESTRIAN DELAY

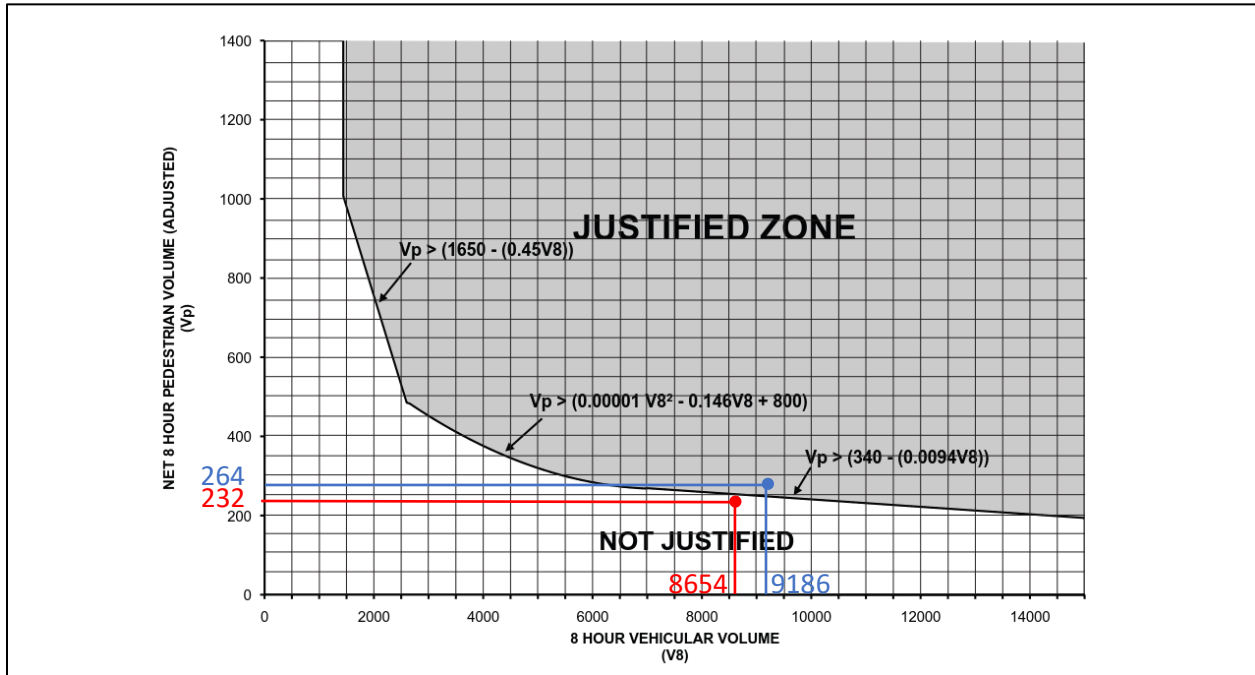


Figure B-1: Justification 6 - Pedestrian Volumes

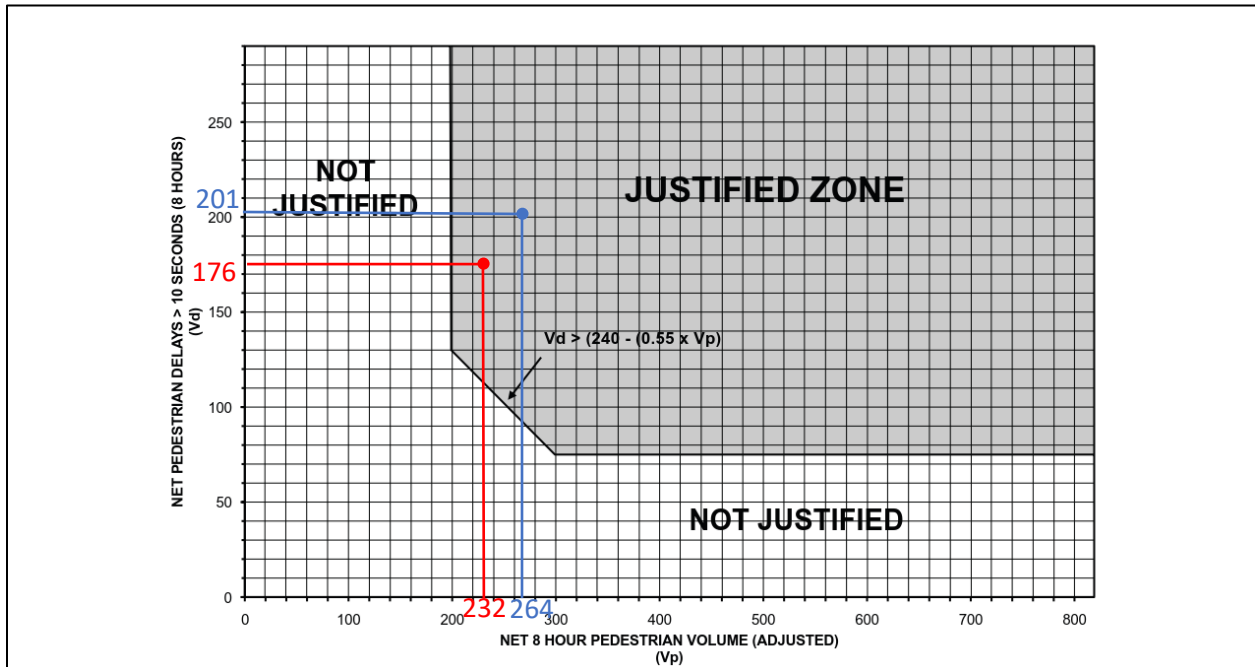


Figure B-2: Justification 6 - Pedestrian Delay

Note: Redlines represent 2018 values and blue lines represent a 2% traffic and 1% pedestrian growth over next ten years. In 2018, pedestrian volume warrant is not met and delay warrant is met. Under forecast scenario both warrants are met.

Pedestrian Crossover Selection Matrix

| Two-way Vehicular Volume | | | Posted Speed Limit (km/h) | Total Number of Lanes for the Roadway Cross Section ¹ | | | |
|--------------------------|-------------|-------------|---------------------------|--|-----------------------------|-----------------------------|---------------------------|
| Time Period | Lower Bound | Upper Bound | | 1 or 2 Lanes | 3 lanes | 4 lanes w/raised refuge | 4 lanes w/o raised refuge |
| 8 Hour | 750 | 2,250 | ≤50 | Level 2 Type D | Level 2 Type C ³ | Level 2 Type D ² | Level 2 Type B |
| 4 Hour | 395 | 1,185 | | | | | |
| 8 Hour | 750 | 2,250 | 60 | Level 2 Type C | Level 2 Type B | Level 2 Type C ² | Level 2 Type B |
| 4 Hour | 395 | 1,185 | | | | | |
| 8 Hour | 2,250 | 4,500 | ≤50 | Level 2 Type D | Level 2 Type B | Level 2 Type D ² | Level 2 Type B |
| 4 Hour | 1,185 | 2,370 | | | | | |
| 8 Hour | 2,250 | 4,500 | 60 | Level 2 Type C | Level 2 Type B | Level 2 Type C ² | Level 2 Type B |
| 4 Hour | 1,185 | 2,370 | | | | | |
| 8 Hour | 4,500 | 6,000 | ≤50 | Level 2 Type C | Level 2 Type B | Level 2 Type C ² | Level 2 Type B |
| 4 Hour | 2,370 | 3,155 | | | | | |
| 8 Hour | 4,500 | 6,000 | 60 | Level 2 Type B | Level 2 Type B | Level 2 Type C ² | Level 2 Type B |
| 4 Hour | 2,370 | 3,155 | | | | | |
| 8 Hour | 6,000 | 7,500 | ≤50 | Level 2 Type B | Level 2 Type B | Level 2 Type C ² | Level 1 Type A |
| 4 Hour | 3,155 | 3,950 | | | | | |
| 8 Hour | 6,000 | 7,500 | 60 | Level 2 Type B | Level 2 Type B | | |
| 4 Hour | 3,155 | 3,950 | | | | | |
| 8 Hour | 7,500 | 17,500 | ≤50 | Level 2 Type B | Level 2 Type B | | |
| 4 Hour | 3,950 | 9,215 | | | | | |
| 8 Hour | 7,500 | 17,500 | 60 | Level 2 Type B | | | |
| 4 Hour | 3,950 | 9,215 | | | | | |

Type A
 Type B
 Type C
 Type D



MANAGEMENT REPORT

Date: February 11, 2019
To: Mayor and Members of Council
From: Tatiana Dafoe, Deputy Clerk
Report#: COU19-012
Attachments: None

Title: Huron Street & Huntingdon Crossing – Status Update

Objective: To provide Council with a status update on the Huron Street & Huntingdon Avenue Crossing.

Background: At the January 14, 2019 Regular Council meeting, Council passed the following recommendations:

- **THAT the Huron & Huntingdon crossing be maintained with two crossing guards;**
- **THAT a crossing guard be added at the Huron & John intersection and at the Huron & Forman intersection;**
- **THAT a portable traffic speed sign be stationed near the Huron/Huntingdon crossing to make drivers aware of their speed;**
- **THAT staff continue to investigate whether the lights from John to Forman can be changed to create adequate safe gaps;**
- **THAT staff, in partnership with the Perth District Health Unit, develop an education plan and social media campaign to raise awareness of the issues around safe crossing at crossing intersections;**
- **THAT staff request approval from the Ministry of Transportation Ontario to reduce the speed on Huron Street between John and Forman to 40km/hr and to double the fine for speeding along that stretch;**
- **THAT Stratford Police Services be requested to continue to provide a police presence at the Huron/Huntingdon intersection to assist with safe crossings;**
- **AND THAT staff prepare a follow-up report for the February 11, 2019 Regular Council meeting on the Huron & Huntingdon crossing.**

Analysis:

Recruitment of Additional Guards:

Staff began recruitment for additional crossing guards on January 15, 2019 in order to station an additional guard at both the John & Huron and Forman & Huron intersections. Following completion of recruitment, a communication will be issued advising the public when crossing guards will be stationed at these two intersections.

Addition of a Portable Speed Sign:

Following review of the City's current portable speed sign, it was determined the sign was too large to place on Huron Street. Staff are in the process of purchasing a portable speed sign which will be placed at the Huron & Huntingdon intersection until further recommendations can be made on this crossing. It is anticipated that following resolution of the safety concerns at this intersection, the sign will be used at other crossing locations and intersections following complaints of traffic violations.

Education Program and Social Media Campaign:

Staff have begun working with the Perth District Health Unit to develop an education program and social media campaign about safe crossings.

Request for Assistance from Stratford Police Services:

Stratford Police Services were contacted and requested to provide assistance at the Huron and Huntingdon crossing. They advised they would assist at the crossing when an officer was available.

Reduction of Speed Limit and Doubling of Fines:

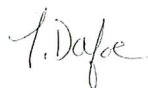
Staff contacted the Ministry of Transportation Ontario to discuss these matters. As per the conversation, a formal letter was submitted to the MTO on January 29, 2019 requesting a reduction in the speed limit to 40km/hr and to double the fines for speeding through a crossing. The City is awaiting a response.

Traffic Analysis

All the traffic data as required by the consultant to analyse and determine applicable options has been provided to the consultant.

Financial Impact: The cost for the portable traffic speed sign was \$4,149 excluding HST.

Staff Recommendation: THAT the report entitled "Huron Street & Huntingdon Crossing – Status Update" be received for information.



Tatiana Dafoe, Deputy Clerk



Michael Humble, Director of Corporate Services



Rob Horne, Chief Administrative Officer



MANAGEMENT REPORT

Date: May 29, 2019
To: Infrastructure, Transportation and Safety Sub-committee
From: Ed Dujlovic, Director of Infrastructure and Development Services
Report#: ITS19-031
Attachments: None

Title: Huntingdon Avenue No Parking Request

Objective: To consider a request from residents to restrict parking on Huntingdon Avenue between Huron Street and Norman Street.

Background: A written request was received from residents on Huntingdon Avenue between Huron Street and Norman Street to restrict parking on the west side of Huntingdon Avenue in this area. The residents expressed concerns that parking in this area causes issues for vehicles turning from Huron Street onto Huntingdon Avenue.

Analysis: Huntingdon Avenue between Huron Street and Norman Street is 9.9 metres wide. Parking is currently restricted on the east side from Huron Street to a point 38.1 metres south of Huron Street anytime. Staff investigated the area and would agree that a no parking, anytime, zone from Huron Street to a point 37.5 metres south of Huron Street (to approximately the first driveway entrance on the west side of Huntingdon Avenue) would address the concerns experienced in this area without making the entire west side of the street no parking. The City's Transit Manager was contacted for comments and he advised they are supportive of this proposed no parking restriction.

Financial Impact: The cost to supply and install the signs would come from the existing operating budget.

Staff Recommendation: THAT Traffic and Parking By-law 159-2008 be amended as follows:

Schedule 2 (No Parking) be amended by adding:

| Street | Side | Between | Period |
|--------------------------|-------------|--|----------------|
| Huntingdon Avenue | West | From Huron Street to a point 37.5 m south of Huron Street | Anytime |



Ed Dujlovic, Director of Infrastructure and Development Services



Rob Horne, Chief Administrative Officer

Capital Projects Update for May 2019

1. Quinlan Pump Station
 - Tender awarded to Finnbilt General Contracting Limited
 - Construction underway, on schedule
2. Quinlan Forcemains
 - Sanitary forcemains from Quinlan pumping station to the Mornignton/Quinlan intersection
 - Tender awarded to Steve Smith Construction, construction has begun
3. Queen Street Storm Sewer
 - Consultant – AMEC, detailed design complete, ECA received
 - RFP for consultant services during construction being prepared
 - Construction proposed for 2020
4. Flow Monitoring and Sanitary model update
 - RFP award to AECOM
 - Flow monitors and weather stations installed
 - Base model complete, collecting wet weather data
5. Concrete Sanitary Sewer Relining
 - Contract with Insituform extended for 2019 works
 - Prep work prior to lining is ongoing, lining has started
6. Ballantyne Avenue Watermain replacement
 - Road reconstruction – new watermain, storm and sanitary sewers
 - Tender awarded to Lavis Contracting
 - final asphalt and LID installation in 2019
7. Oxford Street Reconstruction
 - Tender awarded to Lavis Contracting Co. Limited
 - Final asphalt complete, Minor restoration in 2019
8. St. Vincent Watermain Phase 1 – Lorne Ave to Patricia
 - Tender awarded to Steve Smith Construction
 - Restoration works being completed, topcoat asphalt later this year
9. Erie Street Local Improvement Sidewalk
 - Preliminary design and estimates being finalized
 - open house to be scheduled in June
10. Pleasant Drive Local Improvement
 - Tender awarded to Lavis Contracting
 - Union Gas work almost complete
 - Construction scheduled to begin June 3
11. Concrete Sidewalk and Curb Replacement
 - Tender awarded to Nicholson Concrete, work has commenced

Capital Projects Update for May continued

12. Asphalt Resurfacing 2019
 - Tender closes June 5
 - O'Loane Ave from Dannecker to Lorne Ave plus Lorne Avenue and Wright Boulevard sections subject to budget amount
13. Bridge Improvements
 - RFP for consultant services being prepared
 - Repairs to foot bridges, culverts and railway tressle, concrete repairs to Queens Park bridge, load study for Tom Patterson island bridge
 - Quotations issued for repair at Romeo Street underpass retaining walls
14. Bridge Appraisal
 - BM Ross review of the Bridge, Foot Bridge, Retaining Walls, Culverts and Subways as per OSIM requirements
 - Assessment to commence in fall
15. Traffic Study – Downtown Areas
 - Review of George/Downie, Church/Ontario, various other intersections and pedestrian crossings
 - RFP for consultant services being prepared
16. Signal Intersection Updates for AODA compliance
 - 1st year of 7year program
 - New of audible signals at Ontario/Erie, Ontario/Downie, and Erie/St.Patrick
 - Work to be scheduled for spring/summer
17. Storm Model and Master Plan Update
 - RFP for consultant services being prepared
 - Update to existing storm model and consolidation of all existing storm master plans and EA reports
18. Frederick Street – Romeo to Burritt and Burritt to Douro
 - Reconstruction of Frederick and Burritt with new sidewalk, curb and gutter, storm sewers. Local Improvement project
 - Open house held March 12
 - Tender issued, closing June 3
19. St. Vincent Watermain Phase 2 – Patricia to Redford
 - Reconstruction of St. Vincent Street to replace watermain and complete spot repairs to storm and sanitary
 - Tender awarded to 291 Construction Ltd., construction scheduled to begin mid June
20. Grit Removal System
 - Upgrade to WPCP to reduce maintenance and operation costs
 - Quotation being prepared for issuance

Capital Projects Update for May continued

21. Water and Wastewater Rate Study
 - RFP for consultant services being prepared
 - Update to the existing financial plan for water and wastewater
22. Romeo Reservoir Works
 - Inspection and miscellaneous repairs
 - Scheduled for fall
23. Material Testing and Geotechnical Services
 - Quotations were submitted, MTE Consultants awarded the contract for 2019 and 2020
24. Romeo Storm Arch Rehabilitation
 - NDMP funding application was approved
 - RFP for consulting services is issued and closes June 3
 - Rehabilitation to be completed after Avon Theatre season is finished
25. Automated Pavement Assessments
 - RFP issued for a qualified firm to assess all roads within the City, closed May 23 and is being evaluated
 - Work is scheduled to be complete by end of September
26. Crane Avenue Reconstruction
 - MTE Consultants completed design, tender issued and closes in June
 - Construction to base asphalt is scheduled to be complete by end of 2019

Operations Update

- Street sweeping is well underway. Operating 2 sweepers through the day and night shifts, the crew is about 2/3 through the City. Once a full sweep is complete, a second cycle will be done
- Asphalt operations have switched from cold asphalt mix to applying hot asphalt from the asphalt plant. The asphalt attachment is currently being utilized with Lorne Ave edge work being completed over the last few weeks.
- Sidewalk sweeping was completed following winter operations.
- Washing of bridge decks and islands is ongoing throughout the City on the midnight shift.
- Crews have been busy at the Landfill site picking debris after the winter melt and working on erecting more sections of litter fence to better cover the area where loose debris is blowing off of the active face.
- Traffic crews have prepped the lane line painters and will begin painting stop bars, crosswalks, parking stalls, and accessible parking stencils in the coming weeks.
- Storm Sewer flushing is ongoing. Catch Basin cleaning will commence via third party at the end of May.

Capital Projects Update for May continued

- Plans for crack sealing within the City are underway. Third party will begin work in June.
- Spot repairs for Storm Sewer maintenance continue. Repairs being made for sewer lining ongoing.
- Core benches, garbage cans, recycling receptacles, bike racks and rings, furniture, and umbrellas have been placed throughout the core of the City.
- Extra materials being constructed to maintain safe environments for parades and street events.
- Sidewalk inspections will begin at the end of May.
- Note: weather conditions have slowed many operations, asphalt, litter fence, and painting can only be done in dry conditions.



A meeting of the Active Transportation Advisory Committee (ATAC) was held on the above date at 7:00 p.m., Games Room, Rotary Complex, Stratford.

Committee Present: Stephen Barlow – Chair presiding, Lorraine Kuepfer – Vice-chair, Bernard Goward, Cambria Ravenhill, Councillor Vassilakos and Councillor Burbach

Staff Present: Nancy Bridges – Recording Secretary

Regrets: Ryan Ritskes, Dave Mabee and Marianne Hawley

Also Present: Sarah Merkel and Linda Moraes - PDHU

MINUTES

1. DECLARATIONS OF PECUNIARY INTEREST AND THE GENERAL NATURE THEREOF BY MEMBERS OF CITY COUNCIL.

None declared.

2. ELECTION OF 2019 CHAIR AND VICE-CHAIR

Staff declared nominations for the Chair of the Active Transportation Advisory Committee open.

Councillor Vassilakos nominated Stephen Barlow.

Staff asked if there were any further nominations. No further nominations were made.

Motion by Cambria Ravenhill, seconded by Councillor Burbach to close nominations for the 2019 Active Transportation Advisory Committee chair. Carried.

Stephen Barlow indicated that he would allow his nomination to stand.

Motion by Cambria Ravenhill, seconded by Councillor Burbach to elect Stephen Barlow as the 2019 chair of the Active Transportation and Advisory Committee. Carried.

Staff declared nominations for Vice-Chair of the Active Transportation and Advisory Committee open.

Councillor Burbach nominated Lorraine Kuepfer.

Staff asked if there were any further nominations. No further nominations were made.

Motion by Councillor Vassilakos, seconded by Cambria Ravenhill to close nominations for the 2019 Active Transportation Advisory Committee Vice-Chair. Carried.

Lorraine Kuepfer indicated that she would allow her nomination to stand.

Motion by Councillor Vassilakos, seconded by Cambria Ravenhill to elect Lorraine Kuepfer as the 2019 Vice-Chair of the Active Transportation and Advisory Committee. Carried.

3. ADOPTION OF PREVIOUS MINUTES – November 28, 2018

Motion by Councillor Vassilakos, seconded by Lorraine Kuepfer.

**That the ATAC minutes dated November 28, 2018 be adopted as amended.
Carried.**

4. ANNUAL REVIEW OF TERMS OF REFERENCE

Stephen Barlow emphasized the importance of reading and understanding the Terms of Reference. There were no questions or concerns from the committee.

5. BUSINESS ARISING FROM PREVIOUS MINUTES

a.) Gaps in sidewalk infrastructure

Staff not present at meeting, therefore item moved to February agenda.

b.) Pedestrian/Cyclist accident statistics from Police Services

Councillor Vassilakos noted the data in the report is consistent with data she has seen from other municipalities and was expected. The addition of the 'time of day' information proved to be interesting. She wondered if there is some sort of education piece we can put out to the community. The committee discussed reviewing statistics from previous years and pulling information from other committees in the city.

Linda Moraes from the Perth District Health Unit (PDHU) noted that the Perth Road Safety Committee may be a useful resource. She also stated that the PDHU is always looking for new messages to put out to the public and may be able to help with education.

Councillor Vassilakos noted that the data does not point to a specific area as being the main cause for concern.

Motion by Councillor Vassilakos, seconded by Councillor Burbach that the Active Transportation Advisory Committee request that Stratford Police Services prepare a report for pedestrian/cyclist accidents involving vehicles that includes information on time of day and intersection, dating back to 2013.
Carried.

c.) Pedestrian Strategic Planning continued

Councillor Vassilakos stated that she has not spoken to staff about the areas of concern outlined in the previous ATAC meeting however there are traffic studies included in the 2019 budget which will address some of the issues. An outside consultant will be hired to complete the studies and offer recommendations.

Stephen Barlow asked what the focus of the traffic studies will be and Councillor Vassilakos indicated that numerous areas will be observed, including traffic flows, pedestrian traffic and infrastructure. Councillor Vassilakos noted that the study will be presented at a future Infrastructure, Transportation and Safety Sub-committee where public input can be received however no official public meeting is required.

Sarah Merkel noted that in order to prioritize the committee's top projects, the committee should consider cost and complexity and choose projects that can be done in a timely manner. The committee agreed that once their priority list is set it would be beneficial to have staff weigh-in.

Councillor Vassilakos noted the following information regarding the list created at the November 2018 meeting:

1. Martin Street – Accessibility Advisory Committee already considering
2. Erie Street – already in design phase and waiting for input from CN Rail
3. Worsley Street – good consideration for repair during the construction at Central Secondary School
4. Church Street – traffic study being done
5. Huron and Huntingdon – already being dealt with
6. Stratford General Hospital – very important
7. Thomas Street – recommended speaking with staff regarding any plans that may be already in progress
8. St. Vincent Street – recommended speaking with staff regarding any plans that may be already in progress
9. Downie Street (downtown) – included in 2019 traffic study
10. Brunswick Street (one-way streets) – included in 2019 traffic study and could be resolved with additional signage

Sarah Merkel recommended that the committee keep track of any progress relating to their "priority list" and use the report from Police Services to back-up their recommendations.

The committee discussed how roads are designated and whether certain areas should be classified differently. Councillor Burbach noted that the classification given to a road determines whether the public is required to pay for improvements/sidewalks. Councillor Vassilakos noted that it is rare that a road will have its classification changed however ATAC could make recommendations to staff. Consideration needs to be made to ensure that projects are treated the same and that exceptions are not made without cause.

The committee agreed that Forman Avenue should be a priority however it is made more complicated because the City has not yet assumed the new subdivision. She is not aware of the timeline to assume the subdivision but noted that it would have been set out in the agreement with the contractor. Councillor Burbach stated that this area could be fixed using signage and road paint, however completing the sidewalk infrastructure in the area would also be beneficial.

Cambria Ravenhill stated that her top four priorities would be; Worsley, Forman, Stratford General Hospital and one-way streets.

Councillor Burbach inquired whether there was a policy regarding sharing local improvement costs with schools. Councillor Vassilakos noted that commercial, industrial and institutional properties do have specific rules regarding what can and cannot be charged to them.

Stephen Barlow expressed concern with cycling infrastructure in the Stratford General Hospital area. Councillor Vassilakos noted that area would be very difficult to alter, as the road widths, etc do not allow for bike lanes. She also suggested closing TJ Dolan Drive and make it part of the trail system and for pedestrians only. Councillor Vassilakos noted that the old Avon Crest hospital area on the west side of John Street will be changing and it will be interesting to see what is developed on that land.

The committee discussed their top four priorities, leading to the following motions:

MOTION by Councillor Vassilakos, seconded by Cambria Ravenhill that ATAC recommend that staff improve signage on one-way streets. Carried

MOTION by Councillor Burbach, seconded by Councillor Vassilakos that ATAC recommend that staff and Stratford secondary school administrations come up with a plan to deal with increased pedestrian, cyclist and vehicular traffic during the amalgamation of schools during the renovation of Central Secondary School. Carried.

MOTION by Cambria Ravenhill, seconded by Councillor Burbach that ATAC recommend that staff include sidewalk infrastructure in the 2020 budget in order to complete missing sidewalks on Worsley street.

Carried.

MOTION by Cambria Ravenhill, seconded by Lorraine Kuepfer that ATAC recommend that staff review pedestrian infrastructure on all streets surrounding Stratford General Hospital.

Carried.

6. NEW BUSINESS

a.) Bike theft

Councillor Vassilakos wondered whether there are any statistics to show that bike theft is a problem or if social media is making the problem seem worse than it is. She noted that additional information from Police Services would be required to fully understand the problem. The committee agreed that educating the public on the bike registration program and how to get your bike back are important. Councillor Vassilakos noted that Mike Beitz, Corporate Communications Lead for the City of Stratford, could be a valuable asset in educating the public.

Linda Moraes – PDHU, inquired whether it would be beneficial to have a report from Police Services regarding bike theft. Councillor Vassilakos noted that this data could be difficult to obtain and suggested using a public survey to gather data. She emphasized the need to verify that bike theft is a problem by collecting data, prior to assuming certain areas are bad.

Councillor Burbach stated that Cycle Stratford could produce a survey and reach out to other municipalities for similar information. Cambria Ravenhill suggested the following items for the survey:

- Where?
- When?
- Was bike locked?
- Was bike reported stolen?

Various committee members and Linda Moraes from the PDHU expressed interest in participating in public education. Councillor Vassilakos again noted the possibility of utilizing the Communications Lead at the city for postings on Facebook and other social media outlets.

Councillor Vassilakos noted that she will obtain statistics regarding the number of bikes that are returned to owners versus sold at auction.

7. NEXT MEETING DATE – Wednesday, February 27, 2019 – 7:00 p.m.

Avon Room, 82 Erie Street, Stratford

Motion by Councillor Vassilakos, seconded by Councillor Burbach

That the January 23, 2019 ATAC meeting adjourn.

Carried.

MEETING ADJOURNMENT

Start Time: 7:10pm

End Time: 8:29pm



A meeting of the Active Transportation Advisory Committee (ATAC) was held on the above date at 7:00 p.m. in the Avon Room, 82 Erie Street, Stratford.

Committee Present: Stephen Barlow – Chair presiding, Bernard Goward, Cambria Ravenhill, Councillor Vassilakos and Councillor Burbach

Staff Present: Nancy Roulston – Manager of Engineering and Nancy Bridges – Recording Secretary

Regrets: Lorraine Kuepfer, Ryan Ritskes, Dave Mabee and Marianne Hawley

Also Present: Linda Moraes - PDHU

MINUTES

1. DECLARATIONS OF PECUNIARY INTEREST AND THE GENERAL NATURE THEREOF BY MEMBERS OF CITY COUNCIL.

None declared.

2. ADOPTION OF PREVIOUS MINUTES – January 23, 2019

Motion by Councillor Vassilakos, seconded by Cambria Ravenhill.

**That the ATAC minutes dated January 23, 2019 be adopted as printed.
Carried.**

3. BUSINESS ARISING FROM PREVIOUS MINUTES

a.) Gaps in sidewalk infrastructure

Nancy Roulston, Manager of Engineering, noted that a report went to council in 2015 showing the gaps in sidewalk infrastructure according to current policies. At that time the estimated cost to complete all projects was \$6.3 million. She noted council adopted the priorities list however a lack of funds has been the main limiting factor. To date, only a few items from the priorities list have been completed. Some improvements are coming in the near future, such as Erie Street.

Councillor Vassilakos indicated that the budget for these types of projects has risen to \$250,000 and is included in the capital budget. Steve Barlow inquired

how long it would take to complete the entire list. Councillor Vassilakos noted there was no way to know this. Many projects are done in combination with another project already scheduled.

The committee discussed the need to complete the small section of sidewalk on Worsley Street by Stratford Central Secondary School. Ms. Roulston noted that this area will be difficult to fix as council previously cancelled the project due to citizen complaints and the road was rebuilt without the sidewalk. The City does not own the ideal land on the North side of the street that would be ideal for the sidewalk, which would mean that a lot of trees would be cut down to make room for the sidewalk. There may also be issues with spacing due to an existing garage and fence. It is not an option to change the shape of the curb because it is already a tight corner.

Ms. Roulston noted that staff will be bringing a report to council regarding pedestrian crossings. The report will include information about different kinds of crossings and what triggers a crossing. The data will be used to determine the location and type of new crossings, therefore not only relying on complaints to make decisions.

Councillor Burbach stated she would like to see actual dimensions regarding the space available on Worsley Street.

Steve Barlow asked if there were other areas for a path to be built around the high school. Councillor Vassilakos noted there are already at least two other routes students can take to avoid walking on the street. Mr. Barlow suggested additional signage to help pedestrians be aware of these other routes.

Councillor Vassilakos noted that staff could find no historical reason why there are no sidewalks surrounding Stratford General Hospital. Ms. Roulston indicated that trees, hydro, and signs are the main issues that need to be considered for future infrastructure. Moving items to make room for the sidewalks could be very costly.

Councillor Vassilakos wondered if pedestrian crossings could be used to direct the flow of pedestrians to current sidewalk infrastructure, which would limit the amount of sidewalks needed directly adjacent to the hospital. Ms. Roulston agreed that smaller sections of sidewalk would be more realistic than surrounding the entire hospital. The main goal is to get pedestrians onto the hospital property in the most efficient way.

The committee briefly discussed that obtaining additional lands from the hospital is not an option, although Mr. Barlow suggested proposing this to the hospital again. Accessibility and safety are key concerns relating to the location of new infrastructure.

The committee agreed that the area from the bus stop on West Gore Street to John Street would be an ideal location for a sidewalk, as well as the small section on Cambria Street from the main entrance to John Street.

Councillor Vassilakos noted that Council has given staff direction to work with the high schools to do a traffic study around Northwestern Secondary School. This will help to evaluate any concerns with the amalgamation of the high schools during construction of Stratford Central high school. Ms. Roulston noted that a consultant will need to be hired and that staff will most likely wait until the weather is nicer to get a more accurate representation of the data. It will also require a lot of guess-work if the study is done before the full number of students are at the schools.

Councillor Vassilakos noted that a vehicle has been approved in the budget for parking enforcement. This will allow additional parking enforcement in the area of the schools. Alternative parking arrangements will need to be investigated by the schools to accommodate the increase in students.

Mr. Barlow suggested moving the student drop-off location further away from the school and requiring that students walk a short distance. Councillor Vassilakos noted the schools have discussed this option however it would be difficult for some schools to find a safe alternative.

Ms. Roulston noted the pedestrian crossing report will develop standards for the City and once adopted by Council will allow staff to install crossings when necessary.

b.) Catch basin cover update

Councillor Vassilakos noted the City does have a catch basin replacement policy and the covers are replaced when necessary. Residents are able to flag problem areas and send the information to staff for repair/replacement.

c.) Pedestrian/Cyclist accident statistics from Police Services

Councillor Vassilakos stated that it would be beneficial for ATAC to analyze the data from Police Services and in the future the new engineering position could look at similar data and pair with the data from Police Services. Councillor Vassilakos volunteered to analyze the data from Police Services, specifically focusing on a few key factors, such as time of day.

Linda Moraes from the Perth District Health Unit noted that the health unit would be interested in the data and could pull similar information from other municipalities for comparison. There may be other health unit partners, such as the Public Health Library, that have resources that could be useful.

The committee agreed that many safety concerns will be the result of behavioural issues and that pedestrians are often making things unsafe for

themselves with their habits. Councillor Vassilakos noted the need to change perceptions and habits.

4. **NEW BUSINESS**

a.) **Wayfinding**

Councillor Vassilakos noted there was a wayfinding open house, run by the consultants who have been hired. The consultants will develop a wayfinding strategy for Stratford, with the help of data collected at the open house.

Specific routes and signage will most likely be up to staff to develop. Bernard Goward was in attendance at the open house and provided a brief outline of what happened at the meeting.

5. **NEXT MEETING DATE** – Wednesday, March 27, 2019 – 7:00 p.m. Mansbridge Room, 353 McCarthy Rd. W., Stratford

Motion by Councillor Vassilakos, seconded by Cambria Ravenhill

That the February 27, 2019 ATAC meeting adjourn.

Carried.

MEETING ADJOURNMENT

Start Time: 7:09pm

End Time: 8:15pm



A meeting of the **Stratford Accessibility Advisory Committee (AAC)** was held on the above date at 11:30 a.m., 82 Erie Street – Falstaff Room, Stratford ON

Committee Present: Michelle Good – Chair Presiding, Councillor Bonnie Henderson, Peter Zein, Judy Hopf, Jessica Jantzi, Diane Sims, Julie Patterson

Staff Present: Julia Opie – Accessibility Coordinator, *Nick Sheldon – Engineering Division, Casey Riehl – Recording Secretary

Also Present: *Montana Wilson – MTE Consultants, *Ben Valiquette – MTE Consultants, Ken Wood

Absent: Peg Huettlin, Laurie Maloney Devlin

MINUTES

1.0 CALL TO ORDER

Michelle Good - Chair, called the AAC meeting to order at 11:30 a.m.

2.0 DISCLOSURE OF PECUNIARY INTEREST

None declared.

3.0 ADOPTION OF THE PREVIOUS MINUTES – January 8, 2019

Motion by Judy Hopf, seconded by Julie Patterson that the minutes dated January 8, 2019 be adopted as amended. Carried.

4.0 DELEGATES: Ben Valiquette and Montana Wilson – MTE – Update on Rotary Parking Lot Design Plans

Ben Valiquette reviewed the updates to the plans, taking into consideration the suggestions the AAC made at the last meeting. They have added a multi-use path that circles the entire outer edge of the Rotary Complex and the Agriplex. They managed to increase the pathway from 1.5m to 2.0m. The existing entrance to the subdivision on the west side will now have a raised speed bump crossing as well as a paved pathway to the opening from the road.

Members have suggested that the sidewalk widths be increased from 1.5m to 1.8m. Mr. Valiquette explained that the difficulty is trying to maintain the drive aisles and work with the existing light standard placement. Mr. Zein noted that if the sidewalks are 1.5m, two wheelchairs cannot pass one another. Julia Opie explained that if the sidewalks are 1.5m, then legislation states that for every 30m of sidewalk, a passing area must be provided.

Peter Zein suggested that at the back corner of the Rotary Complex where you turn right to go back to the Agriplex, possibly the first parking spot along the south side of the building should not be used, as it may create visual difficulties for crossing. Mr. Valiquette noted that the crossings at this corner are the raised ones, which will hopefully slow traffic down as well as bump-outs to slow traffic.

MTE has also suggested in their design that the transit buses enter with all stops at the Rotary and Agriplex unloading and loading passengers on the right-hand side, on the sidewalk to assist with safety concerns of pedestrians having to cross through traffic.

MTE will provide Jim Bryson an update on design plans and provide the AAC with updated drawings.

*Ben Valiquette and Montana Wilson no longer present (12:08 p.m.)

5.0 INFRASTRUCTURE & DEVELOPMENT SERVICES UPDATE – Nick Sheldon

Nick Sheldon reported that the tender for the 2019-20 concrete work will be going out next month. He reported that staff has reviewed the list of concerns from the January AAC meeting. Wellington Street sidewalk will be replaced from the corner to the first driveway. The inspector is going to assess the area on Waterloo Street, near Radio Cab. The Erie Street parking lot sidewalk leading to Allen's Alley requires grinding to repair. This area will be addressed in greater detail should the Erie parking lot upgrades go ahead. The request for a ramp on Veteran's Drive near Erie can be investigated this year. Mornington Street sidewalk will move ahead once the last half of the utilities have been moved and the land purchase has been finalized. Erie Street preliminary drawings are complete; however local improvements will slow down the process of the new sidewalks being installed.

*Nick Sheldon no longer present (12:20 p.m.)

6.0 PARKING

No new updates.

7.0 TRANSIT

Parallel Transit is purchasing a new mobility bus in the spring to replace an older one in their current fleet. Councillor Henderson also reported that in the 2019 budget, the hiring of a new Transit Supervisor has been requested.

Ken Wood inquired if the AAC works towards helping mobility challenged citizens only or do they focus on the greater city. Julia Opie explained that as this is the Accessibility Advisory Committee, their main focus is on the accessibility of all aspects of the city, including transit. Mr. Wood stated that he has suggested to the City that a transit advisory committee would be beneficial.

*Ken Wood no longer present (12:25 p.m.)

8.0 SITE PLAN REVIEW SUB-COMMITTEE UPDATE

The site plan review committee reviewed two plans this month and copies of the feedback reports have been provided to the AAC.

9.0 AAC PROJECTS UPDATE

- (a) Stratford Sporting Facilities Accessibility Review – B. Henderson**
Deferred to spring.

10.0 BUSINESS ARISING FROM PREVIOUS MINUTES

- (a) AAC Benches Update – Julia Opie**
Julia Opie reported that the two benches have been picked up and paid for. They will be installed in the spring on concrete pads.
- (b) Stratford Accessibility Guidelines – Julia Opie**
Julia Opie reported she is waiting for the zoning by-law to be updated and for staff to review both documents to ensure their information matches. Ms. Opie would also like to look at adding bariatric seating to the theatre category.
- (c) Annual Status Update – Multi-Year Accessibility Plan – Julia Opie**
Julia Opie circulated a draft copy of the Annual Status Update for 2018-2022 multi-year accessibility plan. Ms. Opie requested feedback from the AAC to include in the draft. Members suggested that universal design be the focus of all aspects for the city. Once complete, it will go to the AODA Steering Committee and then to Council for final approval.
- (d) Stratford Home Show (April 12-14, 2019)**
Councillor Henderson will circulate a sign-up sheet for shifts at the show.
- (e) AAC Terms of Reference – Annual Review**
Julia Opie circulated the revisions discussed at the January meeting. She will forward staff the list of AODA requirements to add to the role section. Further discussion at the March meeting.

11.0 NEW BUSINESS

(a) **2019/20 AODA Compliance Consultant Work Plan – Julie Opie**

Julia Opie shared with the committee the work plan she submits to the AODA Steering Committee each year outlining what she will be working on. The work plan can change, depending on changes in AODA standards.

(b) **Comprehensive Wayfinding Strategy (Feb. 5/19) – Michelle Good**

Michelle Good and Peter Zein are attending the wayfinding strategy session this afternoon as AAC representatives. The city is looking at changing all signage within the city and is consulting with stakeholders and citizens for feedback. Julia Opie noted that at some stage in the process, the AAC should be consulted. She can forward staff the AODA guidelines on accessible signage. Some suggestions from committee members: signage should be larger font and consistent throughout the city. Placement of the signs should be the same at each street, i.e. all on the left or all on the right. Possibly add signage for major intersections ahead, i.e. 300m left to Erie Street. Keep signage away from trees.

(c) **March of Dimes Opening Doors For Accessibility (Mar. 29/19)**

Julia Opie encouraged members to try and attend this event on March 29th from 9-1:30 p.m. in London. There is no cost to attend and lunch is provided. You must pre-register.

(d) **Fare Equity – Transit**

Julia Opie explained that after the war, CNIB offered free municipal transit for members with valid cards. However, not every municipality offers free transit for CNIB members. Some offer for conventional transit and not for specialized transit, some offer for both and some no longer offer free rides for people with a CNIB card. They feel it is discriminatory for people with other types of disabilities who do not get free rides. Currently, in the City of Stratford, CNIB card holders are permitted to ride conventional transit without charge. However, on specialized transit, it is not free. Moving forward, Stratford must decide to continue to honour CNIB members the free rides on conventional transit and charging for specialized or possibly move to a system that is based on your income, not your disability. Ms. Opie will raise this issue at the next Accessibility Steering Committee meeting and possibly set up a meeting and include AAC members and staff. Jessica Jantzi noted that if a citizen has passport funding, their passes will be covered. Councillor Henderson stated that ODSP also offers reduced transit rates.

(e) **Erie/Ontario Street Crossing**

Julia Opie discussed crossing Erie Street at Ontario. There has been previous discussion regarding the audio signals at this large busy intersection. Ms. Opie visited the site to test the crossing signals. Once at the median the centre of the crossing or slightly past, you could no longer hear the audio signals. She has

spoken to staff and they have doubled the time on the crossing, allowing longer to cross.

(f) AccessMate App

Julia Opie shared some information from the University of Waterloo regarding an app allowing you to enter the route you are travelling within the city and it will assist you with accessibility information. She will keep the committee updated on the progress of this initiative.

12.0 NEXT MEETING – Tuesday, March 5, 2019 – 11:30 am – Avon Mtg. Room

13.0 ADJOURNMENT

Motion by Julie Patterson, seconded by Jessica Jantzi that the meeting adjourn. Carried.

Time: 1:25 p.m.



A meeting of the **Stratford Accessibility Advisory Committee (AAC)** was held on the above date at 11:30 a.m., 82 Erie Street – Falstaff Room, Stratford ON

Committee Present: Michelle Good – Chair Presiding, Councillor Bonnie Henderson, Peter Zein, Judy Hopf, Diane Sims, Julie Patterson

Staff Present: *Dan Sykes – Development Coordinator, Casey Riehl – Recording Secretary

Absent: Peg Huettlin, Laurie Maloney Devlin, Julia Opie – Accessibility Coordinator, Jessica Jantzi

MINUTES

1.0 CALL TO ORDER

Michelle Good - Chair, called the AAC meeting to order at 11:35 a.m.

2.0 DISCLOSURE OF PECUNIARY INTEREST

None declared.

3.0 ADOPTION OF THE PREVIOUS MINUTES – February 5, 2019

Motion by Judy Hopf, seconded by Julie Patterson that the minutes dated February 5, 2019 be adopted as printed. Carried.

4.0 INFRASTRUCTURE & DEVELOPMENT SERVICES UPDATE – Dan Sykes

Dan Sykes informed the committee the summer students for their department will be beginning shortly, so they will be starting to identify problem areas to add to the AAC list of improvements.

Mr. Sykes inquired if the AAC would be interested in allocating some of their 2019 accessibility budget to installing a sidewalk in front of the hospital on West Gore Street from the corner of John Street to the next driveway into the hospital where the bus shelter is located. Members agreed this would be a beneficial link and would like staff to inquire if the hospital would be willing to partner with the city to cover the costs. The hospital has partnered with the city on sidewalk improvements in the past. In the future, the city plans to continue the sidewalk along West Gore from the bus shelter to St. Vincent.

Mr. Sykes reminded members of the city's open house tomorrow, March 6th, regarding the Erie Street parking lot improvements (4:00 – 6:00 p.m.).

Councillor Henderson inquired if the Mornington Street multi-use trail will be completed this year. Mr. Sykes stated it is his understanding that the Mornington Street and Erie Street projects are still scheduled for 2019.

*Dan Sykes no longer present (11:50 a.m.)

5.0 PARKING

No new updates.

6.0 TRANSIT

Diane Sims inquired what the role of the new transit supervisor will be. Councillor Henderson explained that they will be assisting the Transit Manager, Michael Mousley, on a day to day basis with transit operations. Currently there is no one in this position.

7.0 SITE PLAN REVIEW SUB-COMMITTEE UPDATE

The site plan review committee reviewed one plan this month and copies of the feedback report have been provided to the AAC.

8.0 AAC PROJECTS UPDATE

- (a) **Stratford Sporting Facilities Accessibility Review – B. Henderson**
Deferred to spring.

9.0 BUSINESS ARISING FROM PREVIOUS MINUTES

- (a) **Stratford Accessibility Guidelines – Julia Opie**
Deferred to next meeting.
- (b) **Annual Status Update – Multi-Year Accessibility Plan – Julia Opie**
Deferred to next meeting.
- (c) **Stratford Home Show (April 12-14, 2019)**
Councillor Henderson will send out an electronic sign-up sheet closer to the end of March for members to sign up for shifts at the show.
- (d) **AAC Terms of Reference – Annual Review**
Peter Zein inquired if the wording under "Composition and Terms of Appointment" should be adjusted to read "with a majority of the citizen members of the AAC being persons with disabilities", instead of just "members". Staff will inquire with Julia Opie prior to a final review by members at the April AAC meeting.

(e) Update on Comprehensive Wayfinding Strategy Session – M. Good

Michelle Good and Peter Zein attended the comprehensive wayfinding session held for stakeholders. They were disappointed at the session that there was no discussion on any accessibility aspects of wayfinding. They did not feel the consultants were willing to hear any input from members and the session was not conducted professionally. The session was strictly on the aesthetics of signs and geared for tourism, there was no wayfinding consideration. As the chair of AAC, Ms. Good inquired if the consultants would be available to come to an accessibility meeting to discuss the wayfinding project; however they declined and invited members to the next open house. Councillor Henderson will send an e-mail to staff outlining some of the committee's concerns and the hope that accessibility will be taken into consideration before it is too late.

Diane Sims noted that she has worked in the past for the Rehabilitation Institute of Ottawa, reporting to a board of doctors, occupational therapists, physiotherapists and government agencies, including CMHC. They wrote one of the first accessibility restaurant guides in Canada. She stated that the best colour for visually impaired people is black printing on a yellow background. One of the federal appointees on the committee was blind herself, who could attest to the black and yellow contrast.

(f) Reminder: March of Dimes Opening Doors for Accessibility (Mar. 29)

Peter Zein reported that last year when he attended the March of Dimes event in London, he discussed purchasing a new wheelchair with them. He noted, however, that qualifying for March of Dimes funding depends on where you live geographically. London qualifies with 25% funding for assistive devices, however, Stratford does not necessarily receive that.

10.0 NEW BUSINESS**(a) Push Buttons/Accessible Options for Businesses – B.Henderson/D.Sims**

Members discussed the barriers citizens face with local businesses not having accessible push buttons to open their front doors. Diane Sims has inquired with some downtown businesses if they have plans to install push buttons; however they state that cost is a large factor for having not done the installation. Members suggested that a battery-operated doorbell might be an option. The doorbells could be installed for patrons to ring if they require assistance opening the door. Michelle Good suggested getting the City Centre Committee on board to work towards a solution. Staff will invite City Centre Committee representatives to attend the next AAC meeting.

(b) Ministry of Training Webinar (March 8, 2019)

Members discussed the three webinar dates available. Julia Opie has a room booked in Milverton at the Perth East Municipal Office for the March 27th date. Members agreed this would be the best date for members to attend. Staff will forward this information to the members not present at the AAC meeting today.

Motion by Councillor Henderson, seconded by Julie Patterson that the Stratford Accessibility Advisory Committee spend up to a maximum of \$300.00 for transportation expenses incurred by committee members to attend both the Ministry of Training Accessibility Webinar in Milverton (March 27, 2019) and the March of Dimes Event in London (March 29, 2019). Carried.

(c) 2019 Accessibility Awareness Week (May 31–June 6, 2019)

Judy Hopf suggested that for Accessibility Awareness week this year, members could visit local elementary and secondary schools to discuss accessibility issues. Doing some activities with the children, such as a scavenger hunt or navigating a course with visual challenges might be ideas to investigate. Judy Hopf volunteered to begin putting a plan together.

11.0 NEXT MEETING – Tuesday, April 2, 2019 – 11:30 a.m. – Avon Mtg. Room

12.0 ADJOURNMENT

Motion by Peter Zein, seconded by Judy Hopf that the meeting adjourn. Carried.

Time: 1:15 p.m.



A meeting of the **Stratford Accessibility Advisory Committee (AAC)** was held on the above date at 11:30 a.m., 82 Erie Street – Falstaff Room, Stratford ON

Committee Present: Peter Zein – Vice-Chair Presiding, Michelle Good, Jessica Jantzi, Councillor Bonnie Henderson, Diane Sims, Judy Hopf, *Peg Huettlin, Julie Patterson

Staff Present: *Dan Sykes – Development Coordinator, Julia Opie –Accessibility Coordinator, Casey Riehl – Recording Secretary

Absent: Laurie Maloney Devlin, Judy Hopf

MINUTES

1.0 CALL TO ORDER

Peter Zein - Vice-Chair, called the AAC meeting to order at 11:35 a.m.

2.0 DISCLOSURE OF PECUNIARY INTEREST

None declared.

3.0 ADOPTION OF THE PREVIOUS MINUTES – March 5, 2019

Motion by Julie Patterson, seconded by Councillor Henderson that the minutes dated March 5, 2019 be adopted as printed. Carried.

4.0 INFRASTRUCTURE & DEVELOPMENT SERVICES UPDATE – Dan Sykes

Dan Sykes has contacted the Stratford Hospital regarding installing a new sidewalk at the back of the building (old emergency department) connecting the corner to the bus stop. He will follow up later this week and keep the committee updated.

Mornington Street project delayed, staff is working on purchase of land.

Erie Street sidewalk open house will be held soon; further details to follow. The project is still scheduled for this summer. Mr. Sykes has a list compiled to get started. The concrete contractor will hopefully start the beginning of May.

Summer students have not yet been hired for this year. The students will begin by identifying sidewalks/curb cuts.

A contractor has completed work at the Avon Theatre and will be repairing the sidewalk. A new accessible ramp has been installed at the stage door and the floor has been dropped inside the building.

Peter Zein inquired if contractors at the Douro/Romeo Street development are responsible for damage done to existing sidewalks during construction. Dan Sykes explained that all contractors make damage deposits for the frontage. Staff takes pictures prior to construction beginning and a damage assessment is completed post construction. Any damages fixed by the city are taken from the damage deposit.

*Dan Sykes no longer present (11:45 a.m.)

5.0 PARKING

Councillor Henderson shared with the committee that she has been contacted regarding the accessible parking at the Rotary Complex. Event organizers have placed VIP parking signs over all the accessible parking signs for event speakers. She has sent this information to staff to make them aware of the situation.

*Peg Huettlin now present (11:45 a.m.)

6.0 TRANSIT

Diane Sims reported the orange construction signs at the new transit terminal are blowing down in the wind and sometimes block the sidewalk on Downie Street. Councillor Henderson will contact the Transit Manager to make him aware this is happening.

7.0 SITE PLAN REVIEW SUB-COMMITTEE UPDATE

The site plan review committee reviewed one plan this month and copies of the feedback report have been provided to the AAC. Feedback was given to the developer regarding directional signage, the width of the accessible parking spaces, access aisles, pathways/sidewalks, dimensions of both barrier-free parking spaces, safe crossings.

8.0 AAC PROJECTS UPDATE

(a) Stratford Sporting Facilities Accessibility Review – B. Henderson

Councillor Henderson and Peter Zein will aim to have the review completed by the end of May.

9.0 BUSINESS ARISING FROM PREVIOUS MINUTES

(a) Stratford Accessibility Guidelines – Julia Opie

Julia Opie reported she has received feedback from the Engineering Department. Once she receives the Chief Building Officials feedback she will work on streamlining the process and then send the document to the Accessibility

Steering Committee for review. She is working on insuring the guidelines do not conflict with the zoning by-law.

(b) Stratford Home Show (April 12-14, 2019)

Julia Opie noted there are still some volunteer time slots that need filling. Please let her know if you are available to help. Councillor Henderson will pick up the AAC display board and promotional items at the Clerk's Office.

(c) AAC Terms of Reference – Annual Review

Members reviewed the latest update of the AAC terms of reference. At the March AAC meeting, Peter Zein had inquired if the details in the composition section of the terms should be revised. Julia Opie informed members that the current wording is correct.

Motion by Peg Huettlin, seconded by Julie Patterson that the Accessibility Advisory Committee requests Council update the current terms of reference for the AAC committee to include new AODA guidelines. Carried.

(d) Update on Ministry of Training Webinar (Mar. 27/19)

Members commented that the webinar was very informative. Julia Opie reported that further training sessions on reviewing site plans and play spaces will also be offered. There is a condensed version of the webinar being held on April 10, 2019. If any members would like to attend that webinar, please let staff know. Peg Huettlin volunteered to hold the webinar at Community Living.

(e) Update on March of Dimes Opening Doors for Accessibility (Mar. 29)

Diane Sims and Peter Zein commented about the March of Dimes speakers' surprising use of old terminology that most people would find offensive; wording such as "wheelchair bound". Councillor Henderson enjoyed the National Housing Strategy session discussion on affordable housing needs, inclusive communities and assisted seating. She will forward staff some links to share with members. Peter Zein would like another year to hear from speakers who have overcome difficult circumstances, such as financial obstacles. He also attended the travel seminar, however he did not feel it provided him with many travel solutions. Julia Opie noted that sessions ran over, so he may have had to cut the discussion short. Jessica Jantzi stated she has some information regarding travel and will send it to the committee. Councillor Henderson enjoyed the adaptive re-use cooking session. Members discussed bringing some of the adapted cooking items they use to the Home Show to inform visitors.

(f) Push Buttons/Accessible Options for Businesses – B.Henderson/D.Sims
City Centre representatives will be attending the May 7, 2019 AAC meeting for a discussion.

(g) 2019 Accessibility Awareness Week (May 31-June 6, 2019)

Judy Hopf has been in contact with Northwestern Secondary School and will set up a meeting with the vice-principal. Julia Opie suggested that the Alzheimer's Society has a kit of items that people can use to feel what is like to have various disabilities; such as blurry glasses, glasses that you can only see out of the centre, gloves, etc. Ms. Opie will connect with a representative to see if they could also attend the event at the school. She will also contact Judy Hopf to finalize plans.

10.0 NEW BUSINESS**(a) Age-Friendly Communities – Bonnie Henderson**

Councillor Henderson inquired if AAC members would be interested in working on an age-friendly community plan. Julia Opie stated the County of Perth received a grant and hired consultants to produce an action plan. The project is at a standstill at the moment and needs an implementation plan to move forward. She recommends that the City of Stratford and Town of St. Marys need to be involved to make the plan work within the County. If both Stratford and St. Marys apply and receive grants to develop their own action plan, then everyone can work together to create an implementation plan based on the three action plans. Ms. Opie stated that there are still grants available for age-friendly plans.

Motion by Councillor Bonnie Henderson, seconded by Peg Huettlin that the Accessibility Advisory Committee requests that the City of Stratford apply for grant funding to develop an age-friendly action plan for Stratford. Carried.

(b) SLAAA – Julia Opie

Julia Opie has been contacted regarding recent accessibility and mobility issues that SLAAA has faced during bus trips. They are trying to develop a policy moving forward to prevent these issues from happening. The legislation does say that a municipality can require that someone has a support person with them, but it refers to facilities, not excursions on a private bus. Ms. Opie has contacted ONAP to inquire if anyone else has encountered this issue and how they have dealt with it. If the municipality requires that a support person must accompany them, then the organization would be responsible to pay for the support person. Members inquired if a waiver would work? When a person is voluntarily going on the trip, you are responsible to provide your own support person for the outing and responsible for getting yourself home if you are not able to board the bus. Another suggestion was to have a support person on-board the bus to be available if anyone does require help. Michelle Good suggested contacting local nursing homes to see how they organize their outings and use support workers.

(c) Skate Park – Diane Sims

Diane Sims noted the amount of people you see at the skate park who do not wear helmets. Julia Opie explained that Community Services does have large signs posted at the park; however this is not something staff can enforce. She suggested that perhaps local service clubs could run helmet education programs.

(d) Parking at Ag Society and Rotary Complex

Peter Zein inquired if there was any update on a timeline regarding the updated parking plans at the Rotary. Councillor Henderson reported that Council has not been informed of any updates.

(e) StopGap Update

Michelle Good inquired if there was any update on the StopGap program and permitting store owners to leave their portable ramps out during the day. Staff reported that it is currently being reviewed by the Chief Building Official.

11.0 NEXT MEETING – Tuesday, May 7, 2019 – 11:30 a.m. – Avon Mtg. Room

12.0 ADJOURNMENT

Motion by Peg Huettlin, seconded by Jessica Jantzi that the meeting adjourn. Carried.

Time: 1:20 p.m.



**A meeting of the Energy & Environment Advisory Committee
 was held on the above date at 4:00 p.m.
 Rotary Complex, 353 McCarthy Road W. – Mansbridge Meeting Room**

Present: Emily Chandler – Chair Presiding, *Councillor Bonnie Henderson, Dave Hanly, Marianne Hawley, Craig Merkley, Vanni Azzano, Sammie Orr, Anna Stratton, Mike Jorna, *Councillor Jo-Dee Burbach

Staff Present: Kate Simpson – Waste Reduction Coordinator, Allison Jordan – Events Coordinator, Casey Riehl – Recording Secretary

Also Present: Lorraine Kuepfer, Helene Crabb, *Vicky Loss, *Max Loss

Absent: Matthew Orchard, Dave Mabee, Taylor Crinklaw – Project Engineer

MINUTES

1.0 CALL TO ORDER

Emily Chandler called the meeting to order at 4:00 p.m.

2.0 DISCLOSURE OF PECUNIARY INTEREST AND THE GENERAL NATURE THEREOF

None declared.

3.0 ADOPTION OF THE PREVIOUS MINUTES – January 10, 2019

Motion by Mike Jorna, seconded by Anna Stratton that the minutes dated January 10, 2019 are adopted as printed. Carried.

4.0 UPDATES FROM WORKING GROUPS

Ecological

Craig Merkley reported that E&E is registered for the Garden Show and the Home Show. The Garden Show reps requested that E&E incorporate an interactive area at their booth. Kate Simpson reported that the main theme for the display this year is waste reduction. They will have a garbage can, blue box and composter at the booth and have materials that visitors can sort into the proper containers. Ms. Simpson has some posters regarding plastic-free and waste reduction tips. They are going to avoid too many handouts and try to use as many posters as possible. There will be a draw held for any visitors who

participated in the interactive area at the booth. E&E has purchased some giveaways with their 2018 budget. Members also plan to contact Mike Mortimer to inquire if they can use the water cube again this year for their display. Dave Hanly inquired if Anna Stratton and Lorraine Kuepfer would put together another re-usable kit to have as part of the display or use as a giveaway.

*Councillor Henderson, Councillor Burbach, Vicky Loss, Max Loss now present (4:08 p.m.)

Emily Chandler suggested incorporating cigarette butts and the new receptacles as part of the display.

Motion by Dave Hanly, seconded by Jo-Dee Burbach that the Energy & Environment Advisory Committee spends up to a maximum of \$300.00 on various supplies for the 2019 Home Show and Garden Show required for the displays and giveaways. Carried.

Councillor Henderson will e-mail members with the sign-up sheets for both the Home Show and Garden Show.

Craig Merkley updated the committee that the upcoming 60 ft. north shoreline project is scheduled to begin the week of February 18, 2019. Construction will take place that week, with the plan to possibly install it at the end of the week. This section will have two viewing areas that jut out into the lake. Mr. Merkley will be meeting with the Parks Board next week to finalize plans.

Waste & Water

Councillor Henderson will be meeting again with the St. James Church to discuss partnering in the future for a water event. She will continue to keep E&E updated.

Energy

Anna Stratton reported that they have met to discuss some project plans. The updated Terms of Reference has now been completed. They would like to continue working towards the city possibly investigating using electric or non-fossil fuel burning vehicles. They discussed working on a green energy guide, forming a green team, energy plans for new buildings and continue researching zero waste initiatives. They continue to look at how they can partner with other organizations in the community, such as Festival Hydro. Councillor Henderson discussed the new Britannia Street housing development and that the city is using the most energy efficient architect to try to make the buildings as energy efficient as possible. Vicky Loss added that Woodstock recently built new affordable housing units and their Council strived to make them as energy efficient as possible. They have managed to reduce the utility bills for one-bedroom units to \$5.00/month. Vanni Azzano will e-mail members an article he has recently read on green buildings and the climate.

5.0 BUSINESS ARISING FROM PREVIOUS MINUTES

(a) **Zero Waste at Stratford Events – Allison Jordan**

Allison Jordan reported that she has met with the CFUW to discuss the city's zero waste documents and how best to implement these into special events held within the city. One step Ms. Jordan is taking is tentatively approving applications earlier to allow time for organizers to plan for such items as the zero waste initiative. She is providing applicants with resources to help them achieve lower waste at their event. All special event applications are now available online and can be e-mailed to her directly. She has been working on modifying the sections regarding waste and recycling to gain further details, such as how many recycling bins the event requires. There is a section in the application that the city advises against the use of bottled water at events. Ms. Jordan is currently working on creating a special event handbook that will include waste reduction resources, such as the water trucks available from the Ontario Clean Water Agency to use at events. Until the city has a zero waste policy in place, they cannot enforce waste reduction at events, and can only provide suggestions. In initial discussions with event organizers, Ms. Jordan is hearing that the largest hurdle is getting volunteers to help with the waste reduction at the events. Anna Stratton noted that this is a good example of where a green team could help. The difficulty of having a green team is who will coordinate and organize the volunteers.

(b) **UTRCA Green Program Update (St. Aloysius) – Vanni Azzano**

No new updates.

(c) **Roundtable on the Environment Update**

Kate Simpson suggested adding all the initiatives, such as banning single-use plastics, dog waste collection, etc. to the Roundtable document instead of many individual motions. The Roundtable document encompasses many different departments. Members requested that perhaps staff could attend the next E&E meeting to discuss moving forward on some of these initiatives. Staff will contact the Director of Infrastructure & Development Services and Manager of Development Services to inquire if they are available to attend.

(d) **Annual Review of E&E Terms of Reference**

Committee members reviewed the updates to the current Terms of Reference. Staff reviewed the proposed updated purpose of the committee as discussed at the last meeting and members are satisfied with the new description.

Motion by Councillor Bonnie Henderson, seconded by Councillor Jo-Dee Burbach that the Energy & Environment Advisory Committee requests Council update the purpose of the committee as defined in the committee's Terms of Reference. Carried.

(e) Bee City Representative on E&E

Members have discussed at previous meetings, the interest in adding a Bee City representative to the Energy & Environment Committee. Lorraine Kuepfer, a member of the Bee City board of directors and would support having a representative on E&E.

Motion by Anna Stratton, seconded by Councillor Burbach that the Energy & Environment Advisory Committee requests Council add a Bee City Canada representative as a permanent voting position on the Energy & Environment Advisory Committee. Carried.

6.0 UPCOMING EVENTS

| | |
|---------------------------------|--------------------------|
| Garden Festival | (Feb. 28-Mar. 3, 2019) |
| World Water Day | (Friday, March 22, 2019) |
| Home Show | (April 12-14, 2019) |
| Trashion Week Film | (April 18, 2019) |
| London Water Festival VIP Tour | (May 15, 2019) |
| Perth Children's Water Festival | (May 26-28, 2020) |

7.0 NEW BUSINESS

(a) Children's Water Festival (May 26-28, 2020) – Vanni Azzano

Vanni Azzano discussed with the committee plans to organize a Perth Children's Water Festival in 2020 held at Wildwood Conservation Area. It would be a 3-day festival, with 2 classes from each of the 28 schools attending for a total of 56 classes. They will be setting up 25 stations highlighting water conservation, water attitude, water technology, water protection and water science. They will be contacting the local high schools for volunteers. They are in the process of putting together an organizing committee and would welcome a member of the E&E Committee if they are interested. Please let him know if you would like to participate. The London festival is being held this spring. Mr. Azzano will send out information for the VIP tour being held on May 15, 2019.

(b) Strategic Priorities Open House

Emily Chandler encouraged members to attend the upcoming strategic priorities open house being held on Monday, February 11, 2019 from 4-8 p.m. at City Hall.

(c) LED Light Bulbs

Councillor Henderson will contact the Manager of Housing to discuss the best options to disperse the LED bulbs purchased by E&E. Councillor Burbach suggested that making the bulbs available to the affordable housing building managers would be an option to make the best use of them within the units, but also in common area such as hallways and entrances.

8.0 SOCIAL MEDIA UPDATES FOR MIKE BEITZ

Emily Chandler will contact Mike Beitz regarding coverage for the crib wall work on the north shore and the new zero waste document for special events.

9.0 NEXT MEETING DATE – March 7, 2019 – 4 p.m.– Rotary Complex (Mansbridge Rm)

10.0 ADJOURNMENT

Motion by Councillor Burbach, seconded by Anna Stratton that the meeting adjourn. Carried.

Time: 5:10 p.m.



**A meeting of the Energy & Environment Advisory Committee
 was held on the above date at 4:00 p.m.
 Rotary Complex, 353 McCarthy Road W. – Mansbridge Meeting Room**

Present: Emily Chandler – Chair Presiding, Councillor Bonnie Henderson, Dave Hanly,
 *Marianne Hawley, Craig Merkley, Vanni Azzano, Sammie Orr, Anna Stratton, Mike Jorna,
 *Councillor Jo-Dee Burbach, *Matthew Orchard

Staff Present: Jeff Leunissen – Manager of Development Services, Casey Riehl – Recording Secretary

Absent: Dave Mabee, Taylor Crinklaw – Project Engineer, Kate Simpson – Waste Reduction Coordinator

MINUTES

1.0 CALL TO ORDER

Emily Chandler called the meeting to order at 4:00 p.m.

2.0 DISCLOSURE OF PECUNIARY INTEREST AND THE GENERAL NATURE THEREOF

None declared.

3.0 ADOPTION OF THE PREVIOUS MINUTES – February 7, 2019

Motion by Mike Jorna, seconded by Dave Hanly that the minutes dated February 7, 2019 are adopted as printed. Carried.

4.0 DELEGATE: Jeff Leunissen – Updating the Roundtable for the Environment

Jeff Leunissen attended the meeting to discuss with members how best to move forward to update and maintain the current Roundtable for the Environment document the city currently has. The document was created in 2004, with the E&E Committee completing an update in 2014. The committee has many different initiatives they would like to move ahead with and inquired if incorporating these into the Roundtable document would be a beneficial first step.

*Matthew Orchard and Councillor Burbach now present (4:05 p.m.)

Mr. Leunissen suggested the committee formally resolve to update the Roundtable and have Council approve and direct staff to initiate the update. Mr. Leunissen stated that staff uses the Roundtable when they are reviewing applications, reviewing programs, updating streets and subdivision designs. A comprehensive review and update should include best practice recommendations and how it can be incorporated in to the work plan program for all city departments involved. Emily Chandler noted that it states in the Roundtable that the document is to be updated every two years. Mr. Leunissen agreed that an update every two years would be a reasonable time frame.

Mike Jorna inquired when staff updates the Roundtable, do they move into areas that become feasible or does staff set goals for Council to consider? Mr. Leunissen explained that is a combination of both budget and goals.

Emily Chandler inquired if E&E requests Council to resolve staff update the Roundtable; when would the E&E Committee and the public have input on suggestions for the document? Mr. Leunissen explained that if a public open house or consultation is to be held, it should be clear in the request so staff are aware that this is the scope the committee is looking for.

Councillor Burbach inquired how a climate action plan can be integrated into the Roundtable. She also inquired if it can somehow be streamlined? Mr. Leunissen noted that incorporating new information from the County's sustainability climate change coordinator may delay the update. Vanni Azzano suggested that if the Roundtable could be more of a living document, having staff updating it as progress is made, it would better serve all parties involved. Matthew Orchard added that as a public document, it is very dense, and seems more staff related. He suggested a different format would serve as a better representation for public use. Members suggested perhaps renaming the document as a possible "action plan". Councillor Burbach also suggested that the 2008 Green House Gases document could be somehow incorporated into the Roundtable. Mr. Leunissen noted that this document may be out of date, as some reports previously required by the Province are no longer required to be updated.

Mike Jorna suggested the E&E Committee maintain their mandate to advise Council to work towards reducing the community's carbon footprint and to seize opportunities to green the city and plant more trees. He noted the Development Services Department could look at smaller houses and medium high rises with smaller units. Jeff Leunissen noted that the city is addressing these issues within their new Official Plan with provisions to go higher and denser with buildings, provisions on secondary suites and apartment units. Staff is also currently working on an update on the Comprehensive Zoning By-law outlining some of these changes.

*Jeff Leunissen no longer present (4:30 p.m.)

Mike Jorna suggested having Council adopt goals to have staff work towards lowering Stratford's carbon footprint and working towards greening the community. If Council adopted this recommendation, documents such as updating the Roundtable would fall under this policy. The E&E Committee could put forth recommendations for Council to approve and pass along to staff.

Motion by Mike Jorna, seconded by Councillor Burbach that the Energy & Environment Advisory Committee requests that Council adopt two goals: reducing the community's carbon footprint and increasing the greening of the community, that these goals will act as a lens through which all Council activities are viewed and that Council establish these two goals as priority items. Carried.

Motion by Matthew Orchard, seconded by Craig Merkley that the Energy & Environment Advisory Committee, upon approval of the prior motion, requests that Council direct staff to convert the Roundtable for the Environment Document into an Action Plan to implement the two priorities of reducing the community's carbon footprint and increasing greening. Carried.

5.0 UPDATES FROM WORKING GROUPS

Ecological

Craig Merkley updated the committee that the latest cribwall installation went very well. They will add in top soil and shrubs/vegetation once the weather warms up. Community Services staff will top dress the path again with stone dust. They received many thanks from local residents asking them to keep going along the shore. When the weather improves and the path is finished, they will hold an event.

Mr. Merkley reported that the Garden Show went well and the E&E booth was well received. Councillor Henderson will send out the sign-up sheet for the Home Show in the next couple of weeks. Members can send any questions visitors to the booth had regarding waste and recycling to the Waste Reduction Coordinator for her to reply. Visitors to the booth were very interested in the green cones. Sammie Orr noted that at the garden show there was a lot of interest in the dryer balls. She inquired if there was any way the balls could be used in local laundromats. Members supported the idea, but questioned how they would prevent the balls from being stolen. Marianne Hawley suggested also educating people on better ways to do their laundry, such as faster cycles to use less water, using cold water, less detergent, etc. Information poster on the dryer balls and tips to educate people could be posted at the laundromats. Craig Merkley suggested doing a radio interview to explain what the dryer balls are to generate interest.

Motion by Vanni Azzano, seconded by Councillor Burbach that the Energy & Environment Advisory Committee spend up to a maximum of \$200.00 to purchase additional dryer balls to use as giveaways at the upcoming 2019 Stratford Home Show and the Trashion Week Film Screening Event on April 18, 2019. Carried.

Waste & Water

Emily Chandler reported that the working group is helping to work on an initiative to collect old mascara wands to be diverted from the landfill to be used for the rehabilitation of wildlife. An organization in St. Catherines collects them and distributes them to wildlife centres. There will be three drop-off locations in Stratford, with six weeks of collection. Ms. Chandler has also contacted the City Centre Committee to begin a program to recognize local restaurants that are already eliminating/reducing straws, with the hope it will encourage other restaurants to follow.

Motion by Mike Jorna, seconded by Councillor Burbach that the Energy & Environment Advisory Committee spends up to a maximum of \$150.00 on shipping costs to return the collected mascara wands to St. Catherines. Carried.

Energy

No new updates.

Members discussed looking at changing the working groups into "green projects" groups, based on the updated Roundtable/action plan.

6.0 BUSINESS ARISING FROM PREVIOUS MINUTES

(a) UTRCA Green Program Update (St. Aloysius) – Vanni Azzano

Vanni Azzano met with the grade 8's and they are now looking at a policy on waste management. They are looking at the green cones and if the city has a program to subsidize any composters or green cones. They will be contacting Kate Simpson to complete their research. The students will draft a recommendation to submit to E&E and then Council. The grade 7's have chosen pollution as their issue to focus on. They are looking at the Avon River from the cemetery bridge up to the waste water treatment plant. They plan on participating in the Thames River cleanup to clean up that section of the river. They will list the steps involved, what they can and cannot do, what items they can pick up. They have Councillor Henderson's contact information and will be working with her.

(b) Update from CFUW – Environmental Activities/Tips Sheet – A. Stratton

Anna Stratton distributed the Green Tips Sheet to E&E members. They have a list of other organizations they will also be sharing the tips sheet with. The City's Events Coordinator will be distributing the tips sheet with all event applications that go through the city. Ms. Stratton inquired if the city would do a press release or send out the information to other organizations and the City Centre. Emily Chandler has sent the document to the City Centre Committee.

Motion by Councillor Henderson, seconded by Councillor Burbach that the Energy & Environment Advisory Committee requests the City of Stratford Events Coordinator distribute the Green Tips Sheets to all community groups. Carried.

(c) Trashion Week – Anna Stratton

Anna Stratton noted that they are still in need of volunteers to help out the evening of the event. Tickets to the event are now available online. There is no cost for the tickets.

(d) Earth Day Program – Vanni Azzano

Vanni Azzano updated the committee that the Parks & Forestry Manager has 200 trees for HPCSB students to plant along the sesquicentennial trail at Borden and Lorne Avenue. They plan on holding a day program at the Knights of Columbus hall as it is close by. Volunteers are welcome; please let him know if you are available. Mr. Azzano will also speak to the Parks & Forestry Manager to inquire about future locations that the E&E committee can assist with supplying trees.

7.0 UPCOMING EVENTS

| | |
|---------------------------------|--------------------------|
| World Water Day | (Friday, March 22, 2019) |
| Home Show | (April 12-14, 2019) |
| Trashion Week Film | (April 18, 2019) |
| Earth Day Program | (April 26, 2019) |
| Thames River Clean-up | (April 27, 2019) |
| London Water Festival VIP Tour | (May 15, 2019) |
| Stratford Water Day | (April 22, 2020) |
| Perth Children's Water Festival | (May 26-28, 2020) |

8.0 NEW BUSINESS

None.

9.0 NEXT MEETING DATE – April 4, 2019 – 4 p.m.– City Hall Annex (Avon Room)**10.0 ADJOURNMENT**

**Motion by Mike Jorna, seconded by Craig Merkley that the meeting adjourn.
Carried.**

Time: 5:25 p.m.



**A meeting of the Energy & Environment Advisory Committee
 was held on the above date at 4:00 p.m.
 City Hall Annex, 82 Erie Street, Stratford ON – Avon Meeting Room**

Present: Emily Chandler – Chair Presiding, Councillor Bonnie Henderson, Dave Hanly, Marianne Hawley, Craig Merkley, Vanni Azzano, Sammie Orr, Anna Stratton, Mike Jorna, Matthew Orchard, Dave Mabee, Councillor Jo-Dee Burbach

Staff Present: *Taylor Crinklaw – Project Engineer, Kate Simpson – Waste Reduction Coordinator, Casey Riehl – Recording Secretary

Also Present: Anne Carbert, Lorraine Kuepfer, *Bill James-Abra, Natasha McCormick

MINUTES

1.0 CALL TO ORDER

Emily Chandler called the meeting to order at 4:00 p.m.

2.0 DISCLOSURE OF PECUNIARY INTEREST AND THE GENERAL NATURE THEREOF

None declared.

3.0 ADOPTION OF THE PREVIOUS MINUTES – March 14, 2019

Motion by Mike Jorna, seconded by Matthew Orchard that the minutes dated March 14, 2019 are adopted as printed. Carried.

4.0 DELEGATES: Anne Carbert & Bill James-Abra – Climate Change Blog

Anne Carbert discussed a new initiative she is developing aimed at climate action mobilization locally. Helping people understand how they can impact climate change locally. They are launching a blog this spring, aiming for Earth Day. Working at a municipal level to engage citizens in climate change action. Bill James-Abra explained that Canada is warming twice as fast as the global rate. The idea of the blog is to give people some direction on how they can make a difference. The blog project will focus on projects already completed or near completion that decrease energy use or lower the carbon footprint. They will highlight and profile local individuals and groups making a difference. Some planned profiles are the LED street lights, local youth activists and climate change education. The hope is to have on blog per week for the summer and then stretch out the frequency. They are recruiting volunteer writers.

Phase two will start in the fall; gathering groups of people together for informal discussions on climate change. To make community connections and to work together moving forward. Phase three is a planned event in the spring of 2020. Organizers hope to hold a town hall discussion with an eco-info fair.

Ms. Carbert has asked committee members to share the blog information once it launches and looks forward to hearing from the E&E Committee with blog and topic ideas.

Mike Jorna noted that this fits well with the E&E recommendation to Council last month that they try to reduce Stratford's carbon footprint and increase greening in the community.

Dave Mabee suggested organizers partner with local businesses to help spread the blog information with their contacts.

Dave Hanly inquired if there was any feedback from other cities who are already doing the initiative? Mr. James-Abra has not received any updates from Singapore of the various cities in the United States.

Councillor Henderson noted that many of the E&E initiatives would fit well with this idea.

*Bill James-Abra no longer present (4:20 p.m.)

5.0 UPDATES FROM WORKING GROUPS

Waste & Water

Emily Chandler updated the committee that the cosmetic repurposing project is ready to go. There will be four depots set up in Stratford to collect mascara wands. They will start collecting during Trashion Week and run for six weeks. Everything collected will be send to a recycling facility in St. Catherines.

Emily Chandler has been working with the City Centre Committee to encourage local restaurants and businesses to reduce the use of plastic straws.

Kate Simpson reported that she received a stack of hand-written letters from a school in Kinkora encouraging the Mayor of Stratford to change the by-law to bank plastic straws. Ms. Simpson has discussed the letters and the request with Mayor Mathieson and he encouraged her to share the information with the E&E Committee. E&E has already put forth the recommendation for Council to consider banning single-use plastics in Stratford. Members encouraged Ms. Simpson to share the letters with the community. She will contact Mike Beitz to discuss sharing this great example of youth activism.

Vanni Azzano suggested that all of the bans, such as single-use plastics and plastic straws need to be included in a waste reduction strategy. Councillor Burbach noted that the City of Vancouver has a great example of a single-use plastic reduction plan. She will forward the link to members.

Kate Simpson updated the committee that there may be changes coming in the recycling program in Stratford. There will be some items not accepted any more, which will require an educational program to inform residents. The fees will also rise drastically, so it will be imperative that the residents are aware of what can and cannot be recycled. Ms. Simpson also received two tenders for the proposed composting program. They have put forth a recommendation to Council and it will be up to them to decide to move forward with a two-year composting program.

*Taylor Crinklaw no longer present (4:45 p.m.)

Kate Simpson has a new poster with the updated recycling information to display at the E&E booth at the upcoming Home Show.

Mike Jorna stated that many residents may be upset that the recycling program seems to be retrogressing. They may choose to continue putting items not accepted into their blue boxes. Mr. Jorna questioned if periodic drop-offs could be held at the landfill to accept some of the eliminated items such as cartons, small yogurt/pudding containers. Ms. Simpson agreed with the idea of a depot, however the logistics of sorting, collecting and ultimately finding an end-market to ship the item to create a roadblock. Anna Stratton explained that the City of Toronto ran community collection days twice per year. They set up bins/depots around the city.

Ms. Simpson stated that the most important aspect will be to change people's shopping habits and attitudes. A key part will be educational programs in the schools.

Dave Mabee inquired if bringing back glass containers is an option. Ms. Simpson stated that the issue with glass is the weight; which drives the shipping cost up.

Ms. Simpson noted that the recycling program is scheduled for discussion at the April 8, 2019 Council meeting.

Ecological

Councillor Henderson reported that plans for the Home Show are set. She will recirculate the sign-up sheet to everyone.

Craig Merkley reported that the ecological working group is meeting with the CAO to discuss the city's carbon footprint and increasing greening. Some statistics gathered between 2000-2010 indicate Stratford has lost 6 hectares of woodland. By comparison,

London, Ontario has lost 348 hectares in that same time period. They will also discuss the climate action position for the city.

Dave Hanly suggested a dialogue with the surrounding municipalities as to how we can overall increase the coverage of greening within the County.

Mr. Merkley explained that the City of London runs "tree power" programs, which may be an idea for Stratford.

The UTRCA will be doing a planting around Shakespeare Pond on April 30, 2019.

Mr. Merkley suggested the E&E Committee could take a field trip and visit some of the sites of recent tree plantings.

They are continuing to push hard with the invasive species program to keep on top of it. The UTRCA is looking at possibly partnering with local gardening clubs to stop invasive species.

UTRCA are in talks with the City's Engineering Department regarding the John Street weir. They are discussing the possibility of removing the weir. Removing it would improve the aquatic health.

Mr. Merkley reported they have tentatively scheduled a media day on May 2, 2019 at 3:30 p.m.. They will contact Mike Beitz to cover the event.

Councillor Henderson reported they have asked for an e-coli count update for the Avon River.

Vanni Azzano reported that the beavers have destroyed trees and shrubs at Devon Park. They are planning a tree planting of 150 trees to replace the damaged ones. A class from St. Michael's School will be assisting with the planting on April 24, 2019.

Motion by Vanni Azzano, seconded by Dave Hanly that the Energy & Environment Advisory Committee spends \$750.00 to support the tree planting project at Devon Park on April 24, 2019. Carried.

*Matthew Orchard no longer present (5:00 p.m.)

Energy

No new updates.

6.0 BUSINESS ARISING FROM PREVIOUS MINUTES

(a) Request to Update the Roundtable for the Environment – Update

Emily Chandler updated the committee that last month's recommendation from the E&E committee is with staff and will go to the ITS Sub-committee for review.

Ms. Chandler also noted that the Bee City representative request to be added to E&E is going to Committee for consideration on April 8, 2019.

The dog waste collection report is going to the ITS Sub-committee on Wednesday, April 24, 2019.

(b) Trashion Week Film Event – April 18, 2019

Anna Stratton noted they are still in need of a couple of volunteers the evening of the film event. Please let her know if you are available to help out.

7.0 UPCOMING EVENTS

| | |
|---------------------------------|---------------------|
| Home Show | (April 12-14, 2019) |
| Trashion Week Film | (April 18, 2019) |
| Devon Park Tree Planting | (April 24, 2019) |
| Earth Day Program | (April 26, 2019) |
| Thames River Clean-up | (April 27, 2019) |
| Shakespeare Pond Planting | (April 30, 2019) |
| London Water Festival VIP Tour | (May 15, 2019) |
| Stratford Water Day | (April 22, 2020) |
| Perth Children's Water Festival | (May 26-28, 2020) |

8.0 NEW BUSINESS

(a) Green Program Proposal – Vanni Azzano

Vanni Azzano updated the committee on the Green Program the grade 7 and 8's at St. Aloysius School are participating in. Stratford is a great model for this type of program and the organizers are looking to add more community partners to assist with the program moving forward. The Grade 8's are currently working on their proposals; which they will eventually present to the E&E Committee. Mr. Azzano noted that they have applied for grant funding to keep the program going. They would like to offer the program to two more schools if funding allows. The cost is approximately \$5,000.00 per school for two classes to participate.

Motion by Dave Mabee, seconded by Mike Jorna that the Energy & Environment Advisory Committee spends \$1,000.00 to support the future of the Green Program at Stratford Schools. Carried.

9.0 NEXT MEETING DATE – May 9, 2019 – 4:00 p.m.– City Hall Annex – Avon Room

10.0 ADJOURNMENT

Motion by Councillor Burbach, seconded by Dave Hanly that the meeting adjourn. Carried.

Time: 5:20 p.m.



A meeting of the **Stratford Town and Gown Committee (T&G)** was held on the above date at 5:45 p.m. – University of Waterloo - 125 St. Patrick Street, Rm. 1003, Stratford ON

Present: Councillor Martin Ritsma – Chair Presiding, Nancy Orr, *Annaka Willemsen, *Councillor Bonnie Henderson, Councillor Danielle Ingram, Kiera McMaster

Staff Present: Casey Riehl – Recording Secretary

Also Present: Kim Moore – Conestoga College, Bob Friesen – Stratford Chef School

Absent: Mayor Dan Mathieson, Stephanie Potter – Policy & Research Associate – CAO's Office, Jeff Leunissen – Manager of Development Services

MINUTES

1.0 CALL TO ORDER

Councillor Ritsma called the meeting to order at 5:45 p.m. Members and guests introduced themselves.

2.0 DISCLOSURE OF PECUNIARY INTEREST

None declared.

3.0 ADOPTION OF PREVIOUS MINUTES – September 27, 2018

Motion by Councillor Ingram, seconded by Nancy Orr to adopt the previous minutes dated September 27, 2018 as printed. Carried.

4.0 BUSINESS ARISING FROM PREVIOUS MINUTES

(a) T&G Communication Plan/Council Presentation

Staff will confirm the January Council meeting date with the Clerk. Members would like to attend the January 14, 2019 meeting to do the update. Councillor Ritsma will do the update on T&G, Annaka Willemsen and Kiera McMaster will do the update on U of W. Conestoga College and the Stratford Chef School will also be sending representatives to join in on the update.

*Councillor Henderson and Annaka Willemsen now present (5:52 p.m.)

Councillor Ritsma will report on how T&G is working towards trying to make Stratford a more student-friendly city and the committees accomplishments. The schools will update on student information, curriculum length, residents, post-graduation plans, etc. Members also noted that the committee could reach out the Festival School of Hairdressing.

Annaka Willemsen reviewed the committee's communication plan – the committee needs to work on adding initiatives to keep moving forward with the initial communication plan. Councillor Ritsma suggested adding the Communication Lead as a tool the committee can use to share information through the city's communication channels. As requested by the committee, staff will inquire if Mr. Beitz will record the January 14, 2019 presentation for the committee to use in the future.

Members discussed accommodations with respect to Conestoga students and the Chef School. Ms. Willemsen noted that students attending U of W are starting to look for accommodations between Dec-Jan. It would be beneficial to hold a housing fair earlier than in the past. She suggested T&G host an event early to mid-January. Members agreed to work towards a January 11, 2019 event date, from 11:30-1:30 to be available for students who may only have morning or afternoon classes. This will also catch the first year students. Ms. Moore noted that the majority of the Conestoga students are already residents of Stratford who are working on upgrading their schooling or retraining. Mr. Friesen noted that the Chef School generally begins their academic cycle after Thanksgiving; however they take admissions continually, not everyone begins at the same time. Their students usually begin securing accommodations over the summer. The Chef School has a template on their website that accommodation providers can fill out for students to view.

Nancy Orr noted that the last time a housing event was held, it was not well attended. She suggested that they change the format up and express this to the landlords who are invited. Ms. Willemsen suggested doing one housing fair at the Stratford campus and holding an additional small "road show" to the living learning community in Waterloo. In the future, these events would be the most beneficial to be held in October/November.

Motion by Councillor Ingram, seconded by Nancy Orr that the Town & Gown Advisory Committee spends up to a maximum of \$900.00 from their 2018 budget on promotional items, thank you items and refreshments required to host the student welcome and housing event. Carried.

(b) 2018/19 Student Welcome Event Ideas

Kiera McMaster reported that she has received some feedback from U of W students regarding what type of events students might be interested in participating in. The top four suggestions in order were: skating/hot chocolate, painting night, cooking class and soup tasting. There were no votes for another bus tour. Members suggested that arranging transportation back to Waterloo in the evening would open up possibilities to hold an event after classes are done. Otherwise, students do not have a way to get back to Waterloo and events need to be held over the lunch hour. Ms. McMaster will survey students to see if offering transportation to and from an event would draw more of them into attending. Kim Moore suggested choosing an event that gives the students a sense of belonging and a feeling of being immersed in the community; encouraging students to volunteer and participate in local events. Mr. Friesen will look into the logistics of possibly holding a future event at the Chef School for approximately 50+ students. For this year, T&G will combine the welcome event and the housing event on January 11, 2019.

Annaka Willemsen and Nancy Orr will work on reviewing the missing areas on the communication plan.

(c) Youth Retention Strategy Update – Stephanie Potter

No update.

5.0 NEW BUSINESS**(a) Comprehensive Zoning By-Law Review Meeting – Nov. 14, 2018**

Nancy Orr attended last night's meeting. She reported that it has been a very long process and a lot of work has gone into it. Councillor Ritsma reported that he inquired if the footprint of the Grand Trunk and U of W will accommodate the needs of the school. There have also been updates added with regards to housing in Stratford. Ms. Orr reported that the debate between short-term rentals and B&B's is ongoing. It is very challenging for student landlords to be successful in Stratford and the issue of not allowing short-term rentals is a large part of that.

*Kiera McMaster no longer present (7:00 p.m.)

6.0 NEXT MEETING DATE – Thursday, February 21, 2019 @ 5:00 p.m. – U of W**7.0 ADJOURNMENT**

Motion by Councillor Ingram, seconded by Councillor Henderson that the meeting adjourn. Carried.

Time: 7:05 p.m.