BROCKVILLE
CITY OF THE 1000 ISLANDS

# Finance, Administration and Operations Committee

Tuesday, April 19, 2011 4:15 p.m.
City Hall - Council Chambers

| Committee Members | Areas of Responsibility: | |
|---|---|---|
| Councillor J. Fullarton, Chair | Clerk's Office | CRCA |
| Councillor L. Bursey | Environmental Services | Cemetery |
| Councillor L. Journal | Finance Department | Health Unit |
| Councillor D. LeSueur | Fire Department | Joint Services Committee |
| Councillor M. McFall | Human Resources Dept. | PLMG |
| Mayor D. Henderson, Ex-Officio | Operations Department | Police Services Board |
| | Airport Commission | Safe Communities Coalition |
| | Arena Advisory Board | St. Lawrence Lodge Management Board |
| | Brockville Municipal Accessibility Advisory Committee (BMAAC) | Volunteer Awards |
| | | All legal matters [excepting the purchase and sale of land] |

## *AGENDA*

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**DISCLOSURE OF INTEREST**

**DELEGATION(S) AND PRESENTATION(S)**

3-4 1. Mr. John Taylor
Brockville Trail Committee

**STAFF REPORTS**

5-10 1. 2011-036-04
Public Nuisance By-Law

11-18 2. 2011-033-04
Water & Wastewater Systems
Quarterly Report
(Jan - Mar 2011)

19-21 3. 2011-037-04
Privy Replacements
City of Brockville Islands
Contract 3-2011

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## STAFF REPORTS



## FAO - CONSENT AGENDA

## Brock Trail Committee

**John Taylor**
**Brock Trail Committee**

**Recommendation:**

That Council endorse the involvement of the Brock Trail Committee for the purpose of leading and coordinating a community based expansion and revitalization of the Brock Trail.

**Purpose:**

The Purpose of this report is to advise and inform Council of our activities to date and obtain Council endorsement for our proposal to accelerate the planned expansion and revitalization of the Brock Trail.

**Background:**

As in most Ontario communities, Brockville residents expect, and receive, high quality traditional recreation facilities including arenas, swimming pools and sports fields. There is however, a growing proportion of the population that enjoys the health and wellness benefits of being able to travel throughout their community on foot or by bicycle, or must travel by a mobility-assisted device. These residents and visitors, are looking for a well defined, linked linear trail system to take them safely around the city. In Brockville, the Brock Trail provides this linkage.

Begun over 30 years ago, the Brock Trail has seen continued progress. Suitable for all ages and fitness levels, this linear park is arguably the most extensively used and cost effective recreation facility in our community, However a completed linkage throughout the city has remained elusive as financial pressures and changing priorities have created a challenging funding environment for all municipal services and facilities.

Brockville's new Official Plan (yet to be adopted) references the City's desire to overcome these challenges, stating that "*The City shall promote the provision of pedestrian, cycling and trail linkages and the integration of recreational and parks and open space uses*."

Brockville's Strategic Plan notes that, "*Over the past decade, Brockville has invested in a solid social, cultural, recreational and physical infrastructure that provides a quality of life that is second to none in the country.*" It further confirms Councils commitment to "*ensuring that community partnerships are engaged to maintain and enhance community infrastructure*."

The plan identifies a number of strategic initiatives and time-lines for the period 2009-2014 with a primary recreational/tourist initiative being to: "*complete connectivity of trail system*".

In responding to this commitment, the City's Capital Plan identifies a total of $1,075,000 earmarked for the expansion and revitalization of the Brock Trail for the period 2012-2016

Recently, a community-based, Brock Trail Committee, spearheaded by Brockville resident and business owner John Taylor, has become active locally. It's intent is to renew community focus and awareness on the Brock Trail as an important recreational and tourist resource, and to solidify partnerships with City Council and other community stakeholders in accelerating, a coordinated expansion and redevelopment program for the Brock Trail.

**Analysis:**

The primary goal of the Brock Trail Committee is *"To coordinate a community fund raising campaign for the purpose of undertaking a Brock Trail expansion and redevelopment project, consistent with the visions articulated in the City's Official Plan.*"

To date, the committee has confirmed interest among many of our local stakeholders and subsequently has held preliminary discussions with a number of these groups including:

- City Operations and Engineering Dept.
- Brockville Road Runners
- Brockville Cycling Advisory Committee
- Brockville Community Foundation
- City Economic Development Dept.
- Cataraqui Conservation Authority
- Rotary Club of Brockville

Each has expressed their support for a coordinated community project aimed at expanding and improving the trail system. Armed with this support, the Committee is anxious to move forward, with Council's endorsement, and:

- Expand the committee to include representation from stakeholders and key community leaders.
- Spearhead a community fundraising campaign to supplement city funds earmarked for the Brock Trail.
- Investigate and apply for provincial, federal and private funding opportunities to maximize leverage of community raised funds and city commitments.
- Together with city and stakeholder input, assist in the development of trail standards and implementation plan, to include a major Brock Trail expansion/redevelopment project.

**Financial Considerations**:

With the involvement of the Brock Trail Committee in a community wide fundraising effort, it is anticipated that the City's costs to complete the expansion and revitalization of the Brock Trail (identified in the Capital Plan at $1,075,000) could be substantially reduced.

**April 4, 2011**

**REPORT TO FINANCE, ADMINISTRATION & OPERATIONS COMMITTEE**
**April 19, 2011**

**2011-036-04**
**PUBLIC NUISANCE BY-LAW**

**SANDRA M. SEALE**
**CITY CLERK**
**SCOTT FRASER**
**INSPECTOR, BROCKVILLE POLICE SERVICE**
**BRENDA CLARKE**
**EXECUTIVE DIRECTOR, DBIA**

## RECOMMENDED

THAT Council adopt the proposed Public Nuisance By-law, a copy of which is attached hereto as Schedule A.

## PURPOSE

To adopt a Public Nuisance By-law to assist in maintaining peace and order in Brockville.

## BACKGROUND

In February 2010, the Operations Committee directed staff to prepare a report in response to the request from Downtown Brockville to adopt a nuisance by-law.

## ANALYSIS/OPTIONS

Over the years there have been several discussions regarding loitering and nuisance in the downtown.

In 2005, Council considered but did not adopt a Loitering By-law to address concerns related to loitering in downtown.

In 2007, Council formed a Downtown Security Committee to consider alternative enforcement strategies to address growing safety concerns of downtown residents. This resulted in the formation of the HEAT (High Enforcement Action Team) team by the Brockville Police Service.

The HEAT was created in order to respond to a growing number of complaints regarding disturbing behaviour, mainly in the King Street area. The disturbances involved mischief to property, theft, public intoxication, assault, fighting and loud noise to name a few. The response from the police service was to have officers work overtime shifts in the downtown core and posses a zero tolerance attitude.

The program was implemented in June 2007 and mainly focused on weekends and holidays. Eleven dates were identified and were staffed with 4 officers per HEAT shift with a cost of $16,658 in overtime. The results were 33 arrests, 25 Criminal Code charges, 31 Highway Traffic Act charges, 41 Liquor Licence Act charges, 4 arrests for controlled drugs and substances charges, 1 Trespass to Property charge and 5 City by-law offences.

Due to the success of the project in 2007 it was once again implemented in 2008 with 18 days staffed by 60 officers with a cost of $26,415, with the following results: 58 arrests, 62 Criminal Code charges, 19 Highway Traffic Act charges, 51 Liquor Licence Act charges, 8 controlled drugs and substances charges, 8 City by-law offences.

The initiative continued in 2009 with 22 days by 64 officers with a cost of $35,436, which resulted in 39 arrests, 32 Criminal Code charges, 2 Highway Traffic Act charges, 52 Liquor License Act, 1 controlled drugs and substances charge, 4 Trespass to Property Act charges and 4 City by-law offences.

A significant decline was observed after 3 years of the program and in 2010 it was replaced with the Community Oriented Policing (COP) Unit. HEAT weekends are still identified and members of the COP unit are assigned at no overtime cost. Disturbances still continue in the downtown core, however, the volume has declined.

**FINANCIAL CONSIDERATIONS**

There are no additional expenditures arising from the passing of this by-law by additional staff resources. The fines levied through this by-law will be processed by the Provincial Offences Court and become part of the revenue of the Joint Services Committee. No direct revenue will be received by the City.

**CONCLUSION**

The implementation of a nuisance by-law will permit officers to issue offence notices for offences such as urinating in public and fighting. The creation of the by-law will enable officers the discretion to issue a by-law ticket versus laying a criminal charge. This will benefit both the police and the accused.

S. Seale
City Clerk

S. Fraser
Inspector, Brockville Police Service

B. Clarke
Executive Director, Downtown Brockville

B. Casselman
City Manager

**Schedule A**

**THE CORPORATION OF THE CITY OF BROCKVILLE**
**By-law No. 0xx-2011**

*A By-law to address Public Nuisances*

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WHEREAS the Municipal Act 2001, S.O. 2001, c.25 as amended, now provides that a municipality has the capacity, rights and powers and privileges of a natural person for the purpose of exercising its authority and that it may do so by by-law; and further that Section 128 of the said Municipal Act, provides that a local municipality may prohibit and regulate with respect to public nuisance, including matters that in the opinion of Council, are or could become, or cause public nuisances; and

WHEREAS it is the opinion of the Council for the Corporation of the City of Brockville that certain actions outlined in this by-law do constitute a public nuisance; and

WHEREAS section 425 of the Municipal Act, establishes that any person who contravenes any by-law of the municipality is guilty of an offence.

NOW THEREFORE THE COUNCIL OF THE CORPORATION OF THE CITY OF BROCKVILLE enacts as follows:

1.0 **DEFINITIONS:**

1.1 "City" shall mean the Corporation of the City of Brockville;

1.2 "Defecate" shall mean to discharge waste matter from the bowels;

1.3 "Fight" shall mean any confrontation involving violent physical contact between two or more people;

1.4 "Fouling" shall mean and includes spitting, urinating, vomit, defecating or any other act of defacing property;

1.4 "Graffiti" shall mean images or lettering scratched, scrawled, painted or any form of marking on property that does not belong to the artist;

1.5 "Public place" includes a highway, sidewalk, pedestrian walkway or trail, property and any place to which the public have access as of right or by invitation, expressed or implied and private property that is exposed to public view but does not include a washroom facility;

1.6 "Spit" shall mean to eject phlegm, saliva, chewing tobacco juice, or any other substance from the mouth;

1.7 "Urinate" shall mean to discharge urine from the body;

1.8 "Vomit" shall mean to eject matter from stomach through the mouth;

2.0 **PROHIBITIONS:**

2.1 No person shall urinate, defecate, vomit or spit in a public place.

2.2 No person shall knock over or attempt to knock over a Canada Post mailbox, newspaper box, bench, fence, blue box or garbage container, or any other structure or object, located in a public place. This section shall not apply to City employees or persons under contract with the City, acting under the jurisdiction of the City.

2.3 No person shall participate in a fight in any public place.

2.4 No person shall mark or apply graffiti on any public place, including signs, or private property.

2.5 No person shall leave, throw or deposit any bottles, glasses or other materials on public or private property.

2.6 No person shall block, interfere with or otherwise impede the passage of any pedestrian on any City sidewalk or portion thereof, unless he or she is the driver of an emergency vehicle as defined within the *Highway Traffic Act*, R.S.O. 1990, c.H.8, as amended, or a vehicle otherwise engaged in works undertaken for or on behalf of the City

## 3.0 ENFORCEMENT:

3.1 The provisions of this by-law may be enforced by a municipal law enforcement officer, police officer, or other individual duly appointed for the purpose of enforcing this by-law.

3.2 No person shall obstruct, hinder or otherwise interfere with any by-law enforcement officer, Police Officer, Peace officer, or other individual duly appointed while carrying out an investigation, making inquiries, or performing their duties for the purposes of enforcing this by-law.

## 4.0 OFFENCE AND PENALTY PROVISIONS

4.1 Any person who contravenes any provision of this By-law is guilty of an offence and, upon conviction, is subject to a fine as provided in the *Provincial Offences Act*, as amended, and to any other applicable penalties.

4.2 If this by-law is contravened and a conviction entered, the court in which the conviction has been entered and any court competent jurisdiction thereafter may, in addition to any other remedy and to any penalty that is imposed, make an order prohibiting the continuation or repetition of the offence by the person convicted.

5.0 **VALIDITY**

5.1 Each provision of this by-law is independent of all other provisions and if any provision is declared invalid for any reason by a court of competent jurisdiction, all other provisions of this by-law remain valid and enforceable.

5.2 The short title of this By-law is the "Public Nuisance By-law".

6.0 **COMMENCEMENT**

6.1 This By-law shall come into force and take effect on the date of its passing.

Given under the Seal of the Corporation
of the City of Brockville and passed this
xx day of xx, 2011.

Mayor

City Clerk

**THE CORPORATION OF THE CITY OF BROCKVILLE**
**By-Law Number xx-2011**

*Being a By-law to address Public Nuisances*

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Part I Provincial Offences Act
Set Fine Schedule

| *Item* | *COLUMN 1*<br>*Short Form Wording* | *COLUMN 2*<br>*Provision Creating or Defining Offence* | *COLUMN 3*<br>*Set Fine* |
|---|---|---|---|
| 1. | Urinated, defecated, vomited or spit in a public place | 2.1 | $180.00 |
| 2. | Knocked over or attempted to knock over a container, other structure or object | 2.2 | $180.00 |
| 3. | Participated in a fight | 2.3 | $300.00 |
| 4. | Marked or applied graffiti | 2.4 | $180.00 |
| 5. | Left, threw or deposited bottle, glass or other material | 2.5 | $180.00 |
| 6. | Blocked, interfered with or other impede the passage of pedestrian | 2.6 | $180.00 |
| | | | |

**April 8, 2011**

**REPORT TO FINANCE, ADMINISTRATION, OPERATIONS COMMITTEE – APRIL 19, 2011**

**2011-033-04**
**WATER & WASTEWATER SYSTEMS QUARTERLY REPORT (JAN. – MAR. 2011)**

**PETER RAABE, P. ENG.**
**DIRECTOR OF ENVIRONMENTAL SERVICES**
**ED MALCOMNSON**
**WASTEWATER SYSTEMS SUPERVISOR**
**DON RICHARDS**
**WATER SYSTEMS SUPERVISOR**

## RECOMMENDED

THAT Report 2011-033-04 Water & Wastewater Systems Quarterly Report (Jan. – Mar. 2011) be received for information purposes.

## PURPOSE

This report covers the months of January, February and March 2011. The intent of the report is to keep the Committee, Council, and the public current with performance and major operational aspects of the Water Treatment Plant, Water Distribution System, the Water Pollution Control Centre (wastewater treatment system), and Wastewater Collection System, including any notable highlights, MOE Inspections and adverse conditions.

## BACKGROUND

This report is submitted quarterly, and represents the first quarter of 2011.

## ANALYSIS/OPTIONS

### A. WATER TREATMENT PLANT AND WATER DISTRIBUTION SYSTEM

The City continues to be in compliance with the Water Treatment Plant's Certificate of Approval (C of A), in addition to the Ontario Safe Drinking Water Act and Regulations. Please refer to Attachment #1 – Brockville Drinking Water System Performance Assessment Report to review the treatment and bacteriological sampling results.

The Brockville Drinking Water System 2010 Annual Water Quality Report was approved by Council, submitted to the Medical Officer of Health, and Elizabethtown-Kitley Township and posted on the City's website.

Adverse Water Quality Incidents:

AWQI 99761 January 24, 2011 – Hydro power dip and UPS failure caused chlorine raw and treated water chlorine residual analyzers to fail. Primary disinfection was not compromised and an AWQI was filed as a precautionary measure.

**Items of Note:**

1. Main Treatment Plant
   - Inspection of filter influent sluiceway, influent gates and drain gates.
   - Annual servicing completed on chlorinator injectors.
   - Pre-chlorinator repaired and back in service.

2. Booster Stations & Parkedale Reservoir:
   - Parkedale Reservoir - problem with emergency power disconnect switch, unit replaced and back in service.
   - Parkedale Reservoir - PLC output card failed causing problem with Zone 2 pump 1 operation. ISI Controls replaced output card. Pump placed back in service.
   - New ethernet modems installed at First Avenue booster station.
   - New pressure relief valves installed on reservoir feeder main.
   - Chlorine residual analyzer failed, new analyzer installed.
   - Data line communication failure at Sunset Booster station, Bell Canada line.

3. Filters:
   - No items to report.

4. Overhead Tank:
   - No items to report.

5. Low Lift Pump Station:
   - Electrical connection for standby generator heater core and battery charger installed.
   - 2010 Capital Project - 1958 Allis Chalmers low lift pump #2 removed from service and a new pump/base installed and commissioned.
   - Electrical preventative maintenance completed - Infrared and ultrasonic thermography on the electrical distribution system. Problem with incoming electrical power line coming into low lift MCC - repairs to line connection completed.

6. Drinking Water Quality Management System:
   - Standard Operational Procedures and Emergency Procedure Manual updated to conform to DWQMS Operational Plan.
   - Operational Plan amended and approved by Senior Management.
   - DWQMS Audit completed for elements 1,2,3,4,5,6,9,10,12,17.

     Audit Summary

     The internal audit team reviewed the previous audit results, CAR's and follow-up documentation to confirm the follow up and closure of all concerns and non-conformances. There is currently one item which remains outstanding and is a repeat major non-conformance. It is identified in the body of this report.

Results of the internal audits were classified as concerns, minor non-conformances and major non-conformances. Upon the completion of the internal audit process for the City of Brockville 9 concerns were identified, along with 6 minor non-conformances and 1 major non-conformance.

There is clear evidence that hard work and commitment has been put towards the development of a quality management system. There is an acknowledgement that there is a quality management system that has been put into place by a dedicated team. However, there is a need for improved communications and document control as one of the steps towards implementation of a sustainable system.

Major Non-Conformance ** Repeat from Previous Audit

*Requirement:* ELEMENT 3 Commitment and Endorsement DO a), b), c) and d). An important part in proving Top Management commitment and endorsement is their participation in Management Reviews.

*Major Non-Conformance* – No management review committee meetings have taken place.

*Evidence:* No documentation to confirm a management review meeting has taken place following the completion of any Internal Audits.

7. MOE Inspections:
   - MOE inspection on January 10th, 2011 for the Brockville Drinking Water System – inspection found one finding of non-compliance with regulatory requirements and achieved an inspection rating of 97%.
     - Non-Compliance: Records did not confirm that the water treatment equipment which provides chlorination or chloramination for secondary disinfection purposes was not operated so that all times and all locations in the distribution system the chlorine residual was never below 0.05 mg/L free or 0.25 mg/L combined.
     - Action(s) Required: No actions are required as the cause of the low secondary disinfection residual was resolved and required corrective actions completed.

8. Regulatory Sampling
   - A review of all regulatory bacteriological sampling conducted. The review of current sampling practice determined that a reduction in the number of weekly bacteriological samples will result in an approximate annual saving of $2,500.00 in laboratory contracted services. Standard operating procedures amended to reflect reduced sampling; new sampling program implemented meeting all MOE regulatory sampling requirements.

- All regulatory weekly bacti sampling for Brockville and Elizabethtown-Kitley completed.
- All regulatory quarterly sampling for THM's Nitrate, Nitrite for Brockville and Elizabethtown-Kitley completed.

9. Trunk Water Distribution:
   - No items to report.

10. Elizabethtown-Kitley Distribution:
    - Water main break – Gilbert Road 2" HDPE connection failure.

11. Local Water Distribution:

- Water Main Breaks:
  - January 2011
    - North Augusta Road & Byng Avenue 4" CI (Shear)
    - Perth Street & Front Avenue 8" CI (Shear)
    - Park Street 8" HDPE/PVC (Connection failure)
    - Park & Water Street 4" CI (Contractor damaged main)
  - February 2011
    - Park Street 8" HDPE/PVC (Connection failure)
    - Cochrane Drive 6" CI (Shear)
  - March 2011
    - Water Street 4" CI (Shear)
    - Water Street 6" valve failure

- Flushing Program:
  - No flushing conducted during this quarter.

- Service Repairs / Replacement:
  - Thawed numerous frozen services.
  - 36 Byng Avenue service repaired.
  - 794 Tupper Street, repaired curb stop.
  - Service relocated for 6 Park Street due to Hydro One pole installation.
  - 1355 Linden Crescent service line repaired.

- Valve / Hydrant Inspection:
  - No valve/hydrant inspections during this quarter.
    Fire hydrant inspections under review with Director of Environmental Services, Fire Chief and City Manager.

- Capital Projects:
  - No capital projects during this quarter.

## B. WASTEWATER TREATMENT PLANT AND COLLECTION SYSTEM

The 2010 WPCC Annual Summary Report for Council was approved by Council and submitted to the MOE in February 2011. A copy was also posted on the City's website.

Please refer to Attachment #2 – Brockville WPCC Sewage Plant Performance Assessment Report for all Operational Data for the quarter. In regards to compliance of Carbonaceous 5-day Biochemical Oxygen Demand ($CBOD_5$), as of the end of March the 12 month revolving average effluent characteristics (concentration and loading) for $CBOD_5$ are 52.25 mg/L and 929.38 kg/day respectively and remain out of compliance with the Certificate of Approval.

**Items of Note:**

1. Main Plant:

    - MCC #3 and grit screw, including pump and piping, replaced as part of the secondary treatment upgrade.
    - New cyclone installed in the grit system.

2. Main Pumping Station:

    - New pump, motor and control panel for Pump #1 have been installed and are in service.
    - Ongoing work with heaters and actuators for ventilation equipment.
    - Bypasses:
        - On March 5-6, 2011 there was a bypass at the Main Pumping Station due to heavy rain and snow melt. Approximate volume of the bypass was 30,966 $m^3$. MOE was notified of the event. Chlorination was established and samples taken.
        - On March 11, 2011 there was a bypass at the Main Pumping Station due to heavy rain and snow melt. Approximate volume of the bypass was 10,760 $m^3$. MOE was notified of the event. Chlorination was established and samples taken.

3. Pumping Stations:
    - WPCC staff responded to two (2) mechanical pump calls. The necessary repairs were made and both pumps were put back in service.
    - Thomas Street Pumping Station Pump #2 back in service.
    - Upgrades have been completed at Thomas Street Pumping Station, West End Pumping Station and Broome Pumping Station. These stations have been turned back over to the City but have not been commissioned yet.

4. Primary Clarifiers:
    - No new updates.

5. Disinfection:
   - Sodium pump #2 was repaired and is back in service.

6. Digesters:
   - Changed out sludge recirculating pump #1 with rebuilt unit.
   - Testing of new mixing system is complete.

7. Dewatering:
   - No new updates.

8. Power Outages:
   - We had two power outages at the WPCC/Pumping Stations. No issues to report.

9. Collection System Responses:
   - 32 blocked sewers/maintenance/smell of sewer gas.
   - 2 blocked mains.
   - 0 sewer lateral service repairs

## POLICY IMPLICATIONS

No policy implications at this time.

## FINANCIAL CONSIDERATIONS

No financial considerations at this time.

## CONCLUSION

It is recommended that Council receive the report for information purposes.

P. Raabe P. Eng.
Director of Environmental Services

E. Malcomnson
Wastewater Systems Supervisor

D. Richards
Water Systems Supervisor

D. Cyr
Director of Finance

B. Casselman
City Manager

ATTACHMENT #1

# BROCKVILLE DRINKING WATER SYSTEM
# PERFORMANCE ASSESSMENT REPORT

| | CITY OF BROCKVILLE | | | | ELIZABETHTOWN-KITLEY | | BACTERIOLOGICAL SAMPLING | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | BROCKVILLE WDS | | |
| Month 2011 | Total Volume Treated (ML) | Avg. Daily Flow (ML/d) | Avg. Fl2 Residual (mg/L) | WDS Avg. FCR (mg/L) | Total Flow (ML) | Avg. Daily Flow (ML/d) | EC | TC | HPC |
| JAN | 343.99 | 11.10 | 0.46 | 1.12 | 6.13 | 0.20 | 44<br>44 out of 44 Safe | 44<br>44 out of 44 Safe | 28<br>28 out of 28 Safe |
| FEB | 323.61 | 11.56 | 0.45 | 1.13 | 5.45 | 0.19 | 38<br>38 out of 38 Safe | 38<br>38 out of 38 Safe | 19<br>19 out of 19 Safe |
| MAR | 348.62 | 11.25 | 0.49 | 1.19 | 5.63 | 0.18 | 45<br>45 out of 45 Safe | 45<br>45 out of 45 Safe | 22<br>22 out of 22 Safe |

FCR - Free Chlorine Residual
WDS - Water Distribution System
EC - E. coli
TC - Total Coliform
HPC - Heterotrophic Plate Count
ML - Million Litres

# ATTACHMENT #2

## BROCKVILLE WATER POLLUTION CONTROL CENTRE

MUNICIPALITY: BROCKVILLE
PROJECT: BROCKVILLE
PROJECT NUM.:
WORKS NUM.: 120000122

YEAR: 2010/2011
WATER COURSE: ST. LAWRENCE RIVER
DESIGN CAPACITY: 21.800 X 1000 m3/d
PEAK DESIGN CAPACITY: 54.500 X 1000 m3/d

DESCRIPTION: A PRIMARY TREATMENT FACILITY, COMPLETE WITH TWO PRIMARY ANAEROBIC DIGESTERS TWO CENTRIFUGES FOR SLUDGE THICKENING AND UTILIZING POLYMER FOR PHOSPHORUS REMOVAL AND SODIUM HYPOCHLORITE FOR EFFLUENT DISINFECTION.

| MONTH | FLOWS | | | BOD/CBOD | | | SUSPENDED SOLIDS | | | | PHOSPHORUS | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | TOTAL FLOW 1000M3 | AVG DAY FLOW 1000M3 | MAX DAY FLOW 1000M3 | AVG RAW BOD (mg/L) | AVG EFF CBOD (mg/L) | TOTAL LOADING EFF. CBOD (kg/day) | AVG RAW SS (mg/L) | AVG EFF SS (mg/L) | TOTAL LOADING EFF. SS. (kg/day) | PERCENT REMOVAL | AVG RAW PHOS. (mg/L) | AVG EFF PHOS. (mg/L) | TOTAL LOADING EFF.PHOS. (kg/day) | PERCENT REMOVAL |
| MAR 11 | 864.40 | 27.884 | 47.378 | 95.25 | 33.67 | 938.85 | 95.14 | 24.07 | 671.17 | 74.7 | 1.88 | 0.49 | 13.66 | 73.9 |
| FEB 11 | 460.18 | 16.435 | 27.914 | 149.55 | 64.64 | 1062.36 | 156.50 | 38.58 | 634.06 | 75.3 | 3.04 | 0.92 | 15.12 | 69.7 |
| JAN 11 | 483.33 | 15.591 | 16.876 | 163.00 | 70.46 | 1098.54 | 157.50 | 40.42 | 630.19 | 74.3 | 3.23 | 1.08 | 16.84 | 66.6 |
| DEC 10 | 605.17 | 19.522 | 31.584 | 123.50 | 51.75 | 1010.26 | 116.75 | 29.38 | 573.56 | 74.8 | 2.66 | 0.65 | 12.69 | 75.6 |
| NOV 10 | 564.29 | 18.810 | 26.423 | 152.27 | 59.27 | 1114.87 | 142.36 | 33.46 | 629.38 | 76.5 | 2.73 | 0.66 | 12.41 | 75.8 |
| OCT 10 | 712.57 | 22.986 | 40.672 | 122.82 | 42.46 | 975.99 | 114.73 | 33.27 | 764.74 | 71.0 | 2.30 | 0.59 | 13.56 | 74.3 |
| SEP 10 | 498.83 | 16.628 | 40.528 | 165.78 | 66.11 | 1099.28 | 164.33 | 36.17 | 601.43 | 78.0 | 3.05 | 0.78 | 12.97 | 74.4 |
| AUG 10 | 529.55 | 17.082 | 41.555 | 116.82 | 52.18 | 891.34 | 128.64 | 35.27 | 602.48 | 72.6 | 2.99 | 0.86 | 14.69 | 71.2 |
| JUI 10 | 475.43 | 15.336 | 19.539 | 118.55 | 42.36 | 649.63 | 138.91 | 29.55 | 453.18 | 78.7 | 2.95 | 0.64 | 9.82 | 78.3 |
| JUN 10 | 498.39 | 16.613 | 25.459 | 134.00 | 46.78 | 777.16 | 147.67 | 26.92 | 447.22 | 81.8 | 2.73 | 0.66 | 10.96 | 75.8 |
| MAY 10 | 474.22 | 15.297 | 18.134 | 131.50 | 43.83 | 670.47 | 168.58 | 28.43 | 434.89 | 83.1 | 3.34 | 0.73 | 11.17 | 78.1 |
| APR 10 | 484.38 | 16.146 | 18.384 | 140.08 | 53.50 | 863.81 | 154.42 | 33.75 | 544.93 | 78.1 | 3.39 | 0.94 | 15.18 | 72.3 |
| AVG | | 18.194 | | 134.43 | 52.25 | 929.38 | 140.46 | 32.44 | 582.27 | 76.59 | 2.86 | 0.75 | 13.26 | 73.85 |
| MAX | | | 47.378 | 165.78 | 70.46 | | 168.58 | 40.42 | | 83.14 | 3.39 | 1.08 | | |
| CRITERIA | | 21.800 | | | 35.00 | 763.00 | | 45.00 | 981.00 | | | 1.00 | 22.00 | |
| COMPLIANCE | | YES | | | NO | NO | | YES | YES | | | YES | YES | |
| STATISTICS FOR THE MONTH OF MARCH: | | | | | | | | | | | | | | |
| 2010 | 620.05 | 20.002 | 23.315 | 106.92 | 45.64 | 912.89 | 115.27 | 26.57 | 531.45 | 76.9 | 2.43 | 0.62 | 12.40 | 74.5 |
| 2009 | 649.81 | 20.962 | 28.317 | 76.55 | 45.25 | 948.53 | 101.23 | 25.93 | 543.54 | 74.4 | 2.18 | 0.63 | 13.21 | 71.1 |
| 2008 | 744.38 | 24.012 | 32.589 | 76.20 | 39.30 | 943.67 | 137.10 | 20.10 | 482.64 | 85.3 | 2.31 | 0.58 | 13.93 | 74.9 |

| MONTH | Total Loadings | | |
|---|---|---|---|
| | TOTAL RAW BOD (kg/day) | TOTAL RAW SS (kg/day) | TOTAL RAW P (kg/day) |
| MAR 11 | 2,656 | 2,653 | 52 |
| FEB 11 | 2,458 | 2,572 | 50 |
| JAN 11 | 2,541 | 2,456 | 50 |
| DEC 10 | 2,411 | 2,279 | 52 |
| NOV 10 | 2,864 | 2,678 | 51 |
| OCT 10 | 2,823 | 2,637 | 53 |
| SEP 10 | 2,757 | 2,732 | 51 |
| AUG 10 | 1,996 | 2,197 | 51 |
| JUI 10 | 1,818 | 2,130 | 45 |
| JUN 10 | 2,226 | 2,453 | 45 |
| MAY 10 | 2,012 | 2,579 | 51 |
| APR 10 | 2,262 | 2,493 | 55 |
| | | | |
| AVG | 2,402 | 2,488 | 51 |
| MAX | 2,864 | 2,732 | 55 |

COMMENTS:

**13APR2011**
**REPORT TO FINANCE AND OPERATIONS COMMITTEE – APRIL 19, 2011**

**2011-037-04**
**PRIVY REPLACEMENTS**
**CITY OF BROCKVILLE ISLANDS**
**CONTRACT 3-2011**

**R. FRASER, SUPERVISOR**
**PUBLIC WORKS/PARKS**
**C.J. COSGROVE, P.ENG.**
**DIRECTOR OF OPERATIONS**

## RECOMMENDATION

THAT the quotation from Century Building Restoration in the amount of twenty thousand nine hundred and sixty-one dollars ($20,961), excluding HST for Contract 3-2011 Privy Replacements, City of Brockville Islands be accepted; and

THAT the project be funded from accounts 9701105-9970116-9431 (Black Charlie Island), 9701105-9970169-9431 (Sparrow Island) and 9701105-9970125-9431 (Cockburn Island), with additional funding of $3,329.91 to be provided from the Parkland Equipment Reserve Fund.

## PURPOSE

To replace three existing wooden privy structures on City islands. The buildings have deteriorated and are in need of replacement for safety and access concerns.

## BACKGROUND

The Public Works/Parks Division maintains five privies on City-owned islands. The privies were constructed in the early 1990s and have deteriorated due to age and use and are in need of replacement.

Replacement of the privy structures situated on Black Charlie Island (1), Sparrow Island (1) and Cockburn Island (1) were approved for replacement during the 2011 budget process. This will complete the privy unit replacements at these locations as the holding tanks under these structures were replaced in 2010. The two remaining privy structures, located on Refugee Island and McCoy Island, will tentatively be scheduled for replacement during 2012. Ten firms received quotation documents. Five bid submissions were received by the City of Brockville for the project.

## ANALYSIS

Quotations were opened at 12 noon on April 4, 2011 with the following results:

| | Prices (excl. HST) |
|---|---|
| Century Building Restoration, Elizabethtown-Kitley | $20,961.00 |
| Richard Steele Construction, Elizabethtown-Kitley | $21,824.00 |
| Jeg's Carpentry, Elizabethtown-Kitley | $37,136.82 |
| D.C. Snelling, Prescott | $39,995.00 |
| Dalcon Enterprises, Ottawa | $53,000.00 |

Operations Department Estimate: $18,000

Total funds of $21,329.91 after HST rebate is required to award this contract to the low bidder. Eighteen thousand dollars ($18,000) is budgeted in the Parkland Equipment Reserve account. It is recommended that the additional $3,329.91 be funded from the Parkland Equipment Reserve Fund.

## POLICY IMPLICATIONS

As per Purchasing By-law 090-2005, Council approval for this quotation is required as the low bid was in excess of the approved budget amount.

## FINANCIAL CONSIDERATIONS

Funds for the $18,000 budget amount are contained in the Parkland Equipment Reserve Accounts as follows:

| | |
|---|---|
| 9701105-9970116-9431 | Black Charlie Island |
| 9701105-9970169-9431 | Sparrow Island |
| 9701105-9970125-9431 | Cockburn Island |

The Parkland Equipment Reserve Fund has a projected 2011 year-end balance of $49,933 from which to provide the additional $3,329.91 required to fund the project.

## CONCLUSION

That the low tender from Century Building Restoration for Contract 3-2011 be accepted, with additional funding to be provided from the Parkland Equipment Reserve Fund.

C.J. Cosgrove, P.Eng.
Director of Operations

R. Fraser, Supervisor
Public Work/Parks

D. Cyr
Director of Finance

B. Casselman
City Manager

**13APR2011**
**REPORT TO FINANCE AND OPERATIONS COMMITTEE – APRIL 19, 2011**

**2011-038-04**
**SEWAGE HOLDING TANK REPLACEMENTS**
**CITY OF BROCKVILLE ISLANDS**
**CONTRACT 2-2011**

**R. FRASER, SUPERVISOR**
**PUBLIC WORKS/PARKS**
**C.J. COSGROVE, P.ENG.**
**DIRECTOR OF OPERATIONS**

## RECOMMENDATION

THAT the quotation from Century Building Restoration in the amount of twenty-six thousand dollars ($26,000), excluding HST for Contract 2-2011 Sewage Holding Tank Replacements, City of Brockville Islands be accepted: and

THAT the project be funded from accounts 9701105-9970160-9431 (Refugee Island) and 9701105-9970148-9431 (McCoy Island), with additional funding of $6457.60 to be provided from the Parkland Equipment Reserve Fund.

## PURPOSE

To replace two existing privy holding tanks on City islands which have deteriorated and may pose an environmental hazard to the islands.

## BACKGROUND

The Public Works/Parks Division maintains five privies on City-owned islands. The holding tanks for these units were initially installed in the early 1990's. Replacement of three of the tanks on Black Charlie, Sparrow and Cockburn Islands were carried out during 2010. The remaining two units on Refugee Island (1) and McCoy Island (1) were approved for replacement during the 2011 budget process. Eleven firms received quotation documents. Three bid submissions were received by the City of Brockville for the project.

## ANALYSIS

Quotations were opened at 12 noon on April 4, 2011 with the following results:

| | Prices (excl. HST) |
|---|---|
| Century Building Restoration, Elizabethtown-Kitley | $26,000.00 |
| Elmer's Construction, North Augusta | $26,910.00 |
| Dalcon Enterprises, Ottawa | $47,000.00 |

2010 contract cost for three sewage tank replacements: $29,400 (excl. HST)

Operations Department Estimate: $20,000

Total funds of $26,457.60 after HST rebate is required to award this contract to the low bidder. Twenty thousand dollars ($20,000) is budgeted in the Parkland Equipment Reserve account. It is recommended that the additional $6457.60 be funded from the Parkland Equipment Reserve Fund.

## POLICY IMPLICATIONS

As per Purchasing By-law 090-2005, Council approval for this quotation is required as the low bid was in excess of the approved budget amount.

## FINANCIAL CONSIDERATIONS

Funds for the $20,000 budget amount are contained in the Parkland Equipment Reserve Accounts as follows:

| | |
|---|---|
| 9701105-9970160-9431 | Refugee Island |
| 9701105-9970148-9431 | McCoy Island |

The Parkland Equipment Reserve Fund has a projected 2011 year-end balance of $49,933 from which to provide the additional $6457.60 required to fund the project.

## CONCLUSION

That the low tender from Century Building Restoration for Contract 2-2011 be accepted, with additional funding to be provided from the Parkland Equipment Reserve Fund.

C.J. Cosgrove, P.Eng.
Director of Operations

R. Fraser, Supervisor
Public Work/Parks

D. Cyr
Director of Finance

B. Casselman
City Manager

**15APR2011**
**REPORT TO FINANCE AND OPERATIONS COMMITTEE – APRIL 19, 2011**

**2011-042-04**
**LONG TERM SUSTAINABLE SOLID WASTE MANAGEMENT PLAN AND WASTE RECYCLING STRATEGY**

**C.J. COSGROVE, P.ENG.**
**DIRECTOR OF OPERATIONS**
**P. RAABE, P.ENG.**
**DIRECTOR OF ENVIRONMENTAL SERVICES**

## RECOMMENDATION

THAT the Long Term Sustainable Solid Waste Management Plan for the City of Brockville, March 2011, be received for implementation purposes;

THAT the Waste Recycling Strategy for the City of Brockville, March 2011, be received for implementation purposes; and

THAT the following programs be included as options in the Request for Proposal for the Solid Waste Management Services:

a) Weekly collection processing and marketing of all recyclable materials
b) Weekly collection, handling and composting of source separated organic waste
c) Bi-weekly collection, handling and disposal of garbage
d) Spring collection of leaf and yard waste
e) Extending collection services to residential areas not currently receiving services where curbside collection is feasible.

## PURPOSE

To receive and commence implementation of a new Long Term Sustainable Solid Waste Management Plan and Waste Recycling Strategy.

## BACKGROUND

The current Solid Waste Management Services contract will expire on December 31, 2011. At the same time, the province has set a residential waste diversion target of 60%, and the Waste Diversion Ontario (WDO) municipal funding formula is placing increased emphasis on recycling best practices.

## ANALYSIS

A long term Sustainable Solid Waste Management Plan (SSWMP) has been prepared to guide how the City will manage its garbage, recycling, composting, and other diversion programs over the next twenty years (Attachment 1). The goal was to develop a plan that:

- Aligns the City with provincial policy, including waste diversion targets, strategy development and the Waste Diversion Ontario Blue Box Program Enhancement and Best Practices Assessment report;
- Provides an environmentally, socially and economically sustainable framework to manage the City's waste into the future; and
- Identifies future system components that will be included in a new waste collection, processing and disposal contract.

This plan builds upon Brockville's commitment to "being green." Brockville's Community Strategic Plan (February 2009) identifies environmental and financial sustainability as one of the Strategic Plan's four enduring community focal points. The City's Mission Statement also expresses the City's commitment to promoting "community and environmental sustainability within a framework of fiscal responsibility and a commitment to customer service."

A stand-alone Waste Recycling Strategy (Attachment 2) has been created from the Long Term Sustainable Solid Waste Management Plan with financial support from the Continuous Improvement Fund to specifically highlight how the City can maximize the amount of recyclable material diverted from disposal and incorporate WDO blue box program best practices.

The planning process used to develop the Long Term Sustainable Solid Waste Management Plan and Waste Recycling Strategy was consistent with the Ministry of Environment's *Policy Statement on Waste Management Planning.* When considering options for improving diversion of recyclables, the process also factored in the WDO funding formula, a growing portion of which is dependant on the following Best Practice categories:

1. Development and implementation of an up-to-date plan for recycling as part of a Waste Diversion System or Integrated Waste Management System;

2. Establishing defined performance measures, including diversion targets, monitoring and a continuous improvement program;

3. Multi-municipal planning approach to collection and processing of recyclables;

4. Optimization of operations in collections and processing...following generally accepted principals for effective procurement and contract management;

5. Training of key program staff;

6. Appropriately planned, designed, and funded Promotion and Education program; and

7. Established and enforced policies that induce waste diversion.

The steps followed in developing this plan included:

- Interviews with community stakeholders
- Characterization of waste stream and review of component programs
- Performance of gap analysis and identification of waste diversion opportunities
- Review of possible diversion solutions
- Public Open House #1 (May 5, 2010)
- Selection of preferred options for waste management system
- Public Open House #2 (June 15, 2010)
- Preparation of Long Term Sustainable Solid Waste Management Plan
- Public comment period on the draft Long Term Sustainable Solid Waste Management Plan (December 2010 to February 2011).

The community consultation included a set of interviews with local stakeholders for the early identification of key issues and two open houses to present the study results and possible and recommended waste management system options. The results of the consultation activities are provided in Appendix A of the Plan.

A review of the City's existing solid waste management programs revealed the following information that was valuable in developing the Long Term Sustainable Waste Management Plan:

- Approximately 41.5% of residential waste is being diverted from disposal (2008)
- 2008 net costs were $96/tonne or $62/household (Table 1)
- Approximately 86% of materials targeted for the blue box/green box program are being captured
- The 2008 net cost per tonne for the blue box/green box program was the third lowest in the Small Urban Municipality category (Figure 3)
- Brockville disposes (landfills) less waste per capita than 75% of the municipalities in the Small Urban category (Figure 4)
- Brockville's disposal cost per tonne is the third lowest of nine comparator municipalities (Figure 5)

- Up to 77% of the residential waste stream can potentially be diverted from disposal by reducing, recycling or composting (Figure 6)
- The largest opportunities for increasing diversion are leaf and yard waste as well as food waste (Table 4).

Options to increase waste diversion were evaluated against the following criteria: economic feasibility, proven approach/technology, ease of implementation, environmental effects and social acceptance.

The Long Term Sustainable Solid Waste Management Plan identifies the following additions or enhancements to the existing solid waste management program:

1. Enhanced promotion, education and communications with emphasis on waste minimization (staffing required)
2. Source separated organics collection and composting (staffing required for start-up)
3. Spring leaf and yard waste collection
4. Weekly collection of both blue and green box recyclables
5. Garbage, recycling and organics collection for residential areas where curbside collection is feasible but not currently provided
6. Active enforcement of mandatory recycling (staff required)
7. Industrial/Commercial/Institutional (ICI) waste diversion support program

With respect to disposal alternatives, the Long Term Sustainable Solid Waste Management Plan recommends:

- The City continue sending its waste to a proximate disposal site
- That every three to five years the City conduct a cost-benefit analysis of contracted disposal against developing a disposal site under its waste disposal Certificate of Approval; and
- Continue to examine Energy from Waste opportunities as they occur

The following table compares the cost of the existing program (2008) to the cost of the program including all additions and enhancements:

| | Existing | | Recommended | |
|---|---|---|---|---|
| **System Component** | **Net Cost** | **Tonnes Collected** | **Net Cost** | **Tonnes Collected** |
| Recycling | $136,661 | 1,524 | $248,858 | 1,639 |
| MHSW | 37,439 | 33 | 37,439 | 33 |
| Leaf & Brush | 65,129 | 832 | 126,095 | 1,301 |
| Backyard Composting | | 451 | | 451 |
| Garbage Collection | 210,568 | 3,716 | 99,360 | 1,753 |
| Waste Disposal[3] | 202,362 | 3,832 | 101,791 | 1,869 |
| Public Education | | | 42,909 | 203 |
| Source Separated Organics | | | 235,105 | 1,176 |
| ICI Waste Diversion Program | | | 3,500 | |
| **Totals** | **$652,159** | **6,672[1]** | **$895,057** | **6,672[2]** |

Note [1] Total does not include garbage collection to avoid double counting tonnage for garbage collection and disposal

Note [2] Total does not include garbage collection to avoid double counting tonnage for garbage collection and disposal

Note [3] Waste disposal includes residue from recycling collection requiring disposal

It is recommended that source separated organics, spring leaf and yard waste collection, weekly collection of both blue and green box recyclables and extension of collection services to unserviced residential areas where curbside collection is feasible be included as options in the Request for Proposal for Solid Waste Management Services in order that actual costs can be used for evaluating the economic feasibility of implementing these services. It is recommended that enhanced promotion/education/communications, active enforcement of mandatory recycling, and ICI waste diversion programming be evaluated relative to the recommended program resulting from the Request for Proposal.

## POLICY IMPLICATIONS

None at this time.

## FINANCIAL CONSIDERATIONS

None at this time.

## CONCLUSION

Implementation of the Long Term Sustainable Solid Waste Management Plan and Waste Recycling Strategy should commence by including options for enhanced diversion in the Request for Proposals for Solid Waste Management Services.

C.J. Cosgrove, P.Eng.
Director of Operations

for P. Raabe, P.Eng.
Director of Environmental Services

D. Cyr
Director of Finance

B. Casselman
City Manager

# Long Term Sustainable Solid Waste Management Plan

for the

# City of Brockville

**March 9, 2011**

(amended April 14, 2011)

Prepared by

# Table of Contents

# 1 Introduction and Study Purpose

The City of Brockville has prepared a long term Sustainable Solid Waste Management Plan (SSWMP) that will guide how the City will manages its garbage, recycling, composting, and other diversion programs over the next twenty years. The purpose of this project was to develop a plan that:

- Aligns the City with Provincial policy, including waste diversion targets, strategy development and alignment with the Waste Diversion Ontario Blue Box Program Enhancement and Best Practices Assessment report;
- Provides a sustainable framework to manage the City's waste into the future; and
- Identifies future system components that will be included in a new waste collection, processing and disposal contract.

This plan builds upon Brockville's commitment to "being green." Brockville's Community Strategic Plan (February 2009) identifies environmental and financial sustainability as one of the Strategic Plan's four enduring community focal points. The City's Mission Statement also expresses the City's commitment to promoting "community and environmental sustainability within a framework of fiscal responsibility and a commitment to customer service."[1] By adopting this long term SSWMP, the City is moving forward to reduce its environmental footprint using financially prudent practices.

# 2 Planning and Consultation Process Overview

The planning process used to develop this long term Sustainable Solid Waste Management Plan was consistent with that as laid out by the Ontario Ministry of Environment in its *Policy Statement on Waste Management Planning*. When considering options for improving diversion of recyclables, the process also factored in the WDO funding formula, a growing portion of which is dependant on the following Best Practice categories[2]:

1. Development and implementation of a up-to-date plan for recycling as part of a Waste Diversion System or Integrated Waste Management System;

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[1] City of Brockville. *Community Strategic Plan Version 4.4*. February 2009.

[2] Detailed Questions and sub-categories are posted on-line at:

www.wdo.ca/files/domain4116/2009 Datacall BP Funding Questions - FINAL Nov 2009 for posting.pdf

2. Establishing defined performance measures, including diversion targets, monitoring and a continuous improvement program;
3. Multi-municipal planning approach to collection and processing of recyclables;
4. Optimization of operations in collections and processing...following generally accepted principals for effective procurement and contract management;
5. Training of key program staff;
6. Appropriately planned, designed, and funded Promotion and Education program; and
7. Established and enforced policies that induce waste diversion.

The steps followed in developing this plan included:

- Interviews with community stakeholders;
- Characterization of waste stream and review of component programs;
- Performance of gap analysis and identification of waste diversion opportunities;
- Review of possible diversion solutions;
- Public Open House #1 (May 5, 2010);
- Selection of preferred options for waste management system;
- Public Open House #2 (June 15, 2010); and
- Preparation of long term Sustainable Solid Waste Management Plan.

The community consultation included a set of interviews with local stakeholders for the early identification of key issues and two open houses to present the study results and possible and recommended waste management system options. The results of the consultation activities are provided in Appendix A.

# 3 Goals and Objectives

The primary goals of the long term Sustainable Solid Waste Management Plan are to:

- Guide how the City will manage its garbage, recycling, composting, and other diversion programs over the next twenty years;
- Maximize the amount of waste diverted from disposal, while meeting and exceeding the provincial residential waste diversion target of 60%;
- Incorporate the WDO blue box program best practices into its standard operating procedures; and
- Implement approaches to waste management that are environmentally, socially and economically sustainable.

# 4 Study Area

The primary focus of this study was on the City of Brockville's residential sector, including both single-and multi-family homes. Initial outreach with the City's industrial, commercial and institutional sector (ICI) has also been included in this plan.

# 5 Current Solid Waste Trends and Practices

## *5.1 System Overview*

In 2008, the City of Brockville had an estimated population of 19,128. The City is comprised of 8,172 single-family and 2,283 multi-family households[3]. The City provides curbside waste management collection services (including garbage collection, blue box and leaf and yard waste) to 7,971 single-family homes. The City also provides collection services for blue box materials to 1,487 multi-family households, plus garbage and leaf and yard waste to 600 multi-family households. In areas serviced by private roads or due to previously negotiated site plan agreements[4], the City does not provide service to the remaining single or multi-family households and they are financially responsible for their own services through a private contractor or other means. The City also hosts a Household Special Waste (HSW) event each year allowing residents to drop off domestic hazardous wastes including items such as paint, motor oil, pesticides, herbicides, etc.

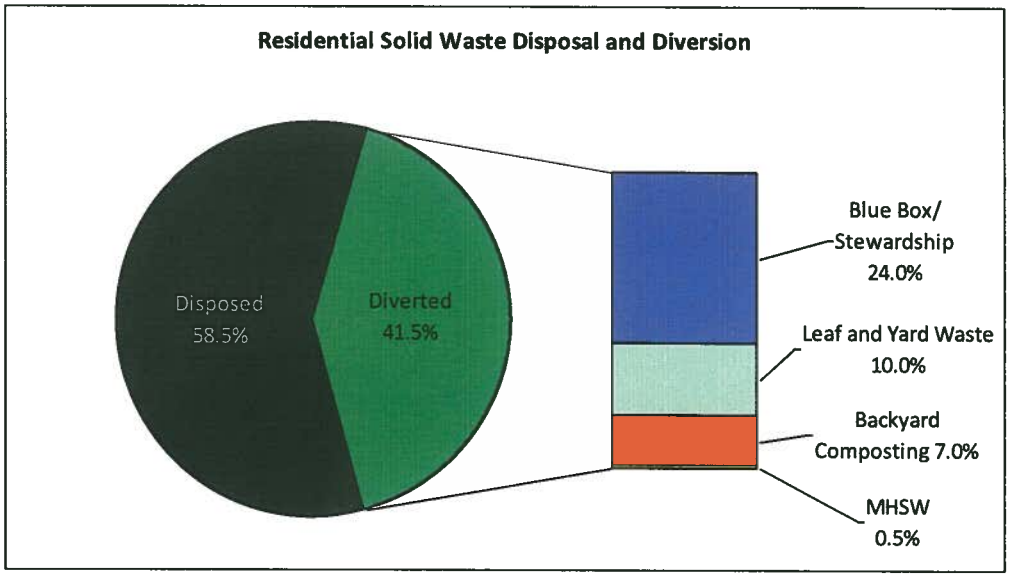
Approximately 6,776 tonnes of residential waste was generated in 2008. Of this, 3,956 tonnes consisted of curbside refuse collection. Approximately 41.5%[5] (2,810 tonnes) was diverted through programs such as blue box recycling, leaf and yard waste composting, household special waste collections, and backyard composting. These programs and the remaining waste stream are discussed in more detail below.

[3] 2008 WDO Datacall. Waste Diversion Ontario.

[4] For example, multiple residential or condominium complexes, etc.

[5] Waste Diversion Ontario.

**Figure 1**




Overall, Brockville's waste management system in 2008 had an estimated annual net cost of $652,158, or $62 per household.

**Table 1: Overview of Brockville's Solid Waste Management System Costs (2008)**

| System Component | Gross Cost[a] | Revenue/ Subsidy | Net Cost | Tonnes Collected | Net Cost per Tonne | Cost Per Household[b] |
|---|---|---|---|---|---|---|
| Recycling Program | $223,333 | $86,672 | $136,661 | 1,524 | $90 | $13 |
| Stewardship Deposit/ Refund Returns[c] | na | na | na | 105 | na | na |
| MHSW | $81,191 | $43,751 | $37,439 | 33 | $1,145 | $4 |
| Leaf and Brush | $79,094 | $13,965 | $65,129 | 832 | $78 | $6 |
| Backyard Composting | Na[d] | na | na | 451 | na | na |
| Garbage Collection | $276,931 | $66,364 | $210,568 | 3,716[e] | $57 | $20 |
| Waste Disposal | $268,725 | $66,364 | $202,362 | 3,831[f] | $54 | $19 |
| **Total[g]** | ***$929,274*** | ***$277,115*** | ***$652,158*** | ***6,777*** | ***$96*** | ***$62*** |

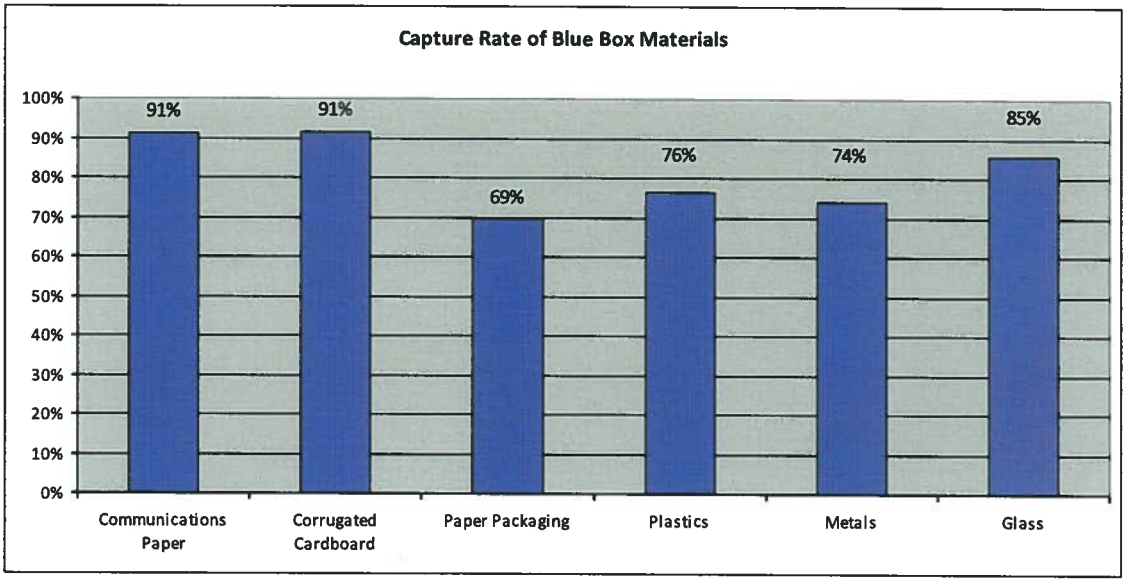
[a] Includes contract costs plus administrative expenses.
[b] 10,455 households.
[c] Stewardship deposit/returns refer to beverage containers (predominately alcohol) returned through stewardship programs.
[d] Costs for backyard composting are integrated with public education and administrative costs, which are in turn factored into the recycling program costs.
[e] Value for tonnage noted in "Garbage Collection" is also represented in the tonnage for "Waste Disposal".
[f] Includes 116 tonnes of residue from recyclables processing.
[g] Columns may not add up exactly as shown in "Total" row due to rounding.

Source: City of Brockville

## 5.2 Residential Blue Box

In 2008, the City of Brockville recycled 1,524 tonnes of blue box material[6], plus another 105 tonnes through the Residential Deposit Return Program[7]. Based on waste audits conducted in 2008 through the Stewardship Ontario Waste Audit Program, the City is currently capturing 86% of the blue box materials targeted in its blue box program. This exceeds the blue box capture rate goal of 80% for a municipality of its size (Small Urban)[8] (as suggested by WDO). As the chart below illustrates, the City is achieving its greatest capture performance with communications paper (e.g., newspapers, magazines, fine paper) and corrugated cardboard, capturing an estimated 91% of available material. The City's lowest capture rates are with paper packaging (such as boxboard, kraft paper and molded pulp) and metals (in particular paint cans, aerosol cans, and aluminum foil).

**Figure 2**




The City provides curbside collection of recyclables to 7,971 single-family households and 1,487 multi-family households. Collection is weekly; however, recyclable containers (plastic, glass and metal) are collected on weeks opposite to that of fibres (e.g., paper, cardboard).

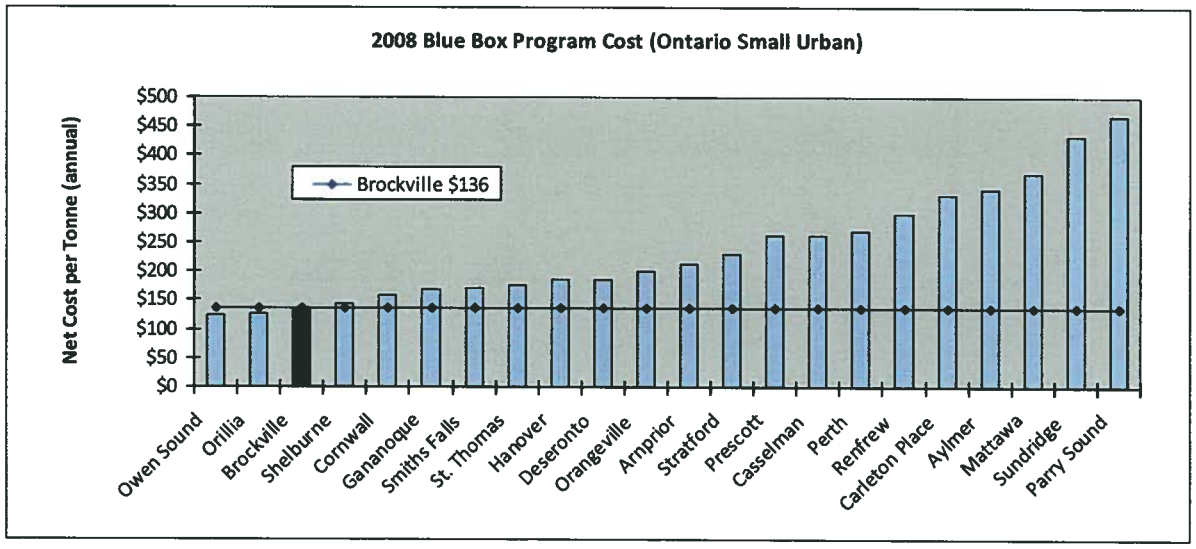
[6] 1,640 tonnes of material was collected and processed through the blue box program. Of this, there was 1,524 tonnes of material marketed for recycling and 116 tonnes of processing residue.

[7] 2008 WDO Datacall. Waste Diversion Organization.

[8] Continuous Improvement Fund. *Guidebook for Creating a Municipal Waste Recycling Strategy*. March 2010.

In 2008, the net cost for Brockville's blue box program (as reported by WDO) was approximately $136 per tonne[9]. As the diagram below illustrates, this is one of the more cost-efficient blue box programs when compared against others in the Small Urban municipal category[10].

**Figure 3**




*Source: WDO 2008 Datacall.*

*Note: WDO cost calculation does not factor in subsidies from LCBO Interim Funding or Stewardship Ontario Funding.*

As is commonly the case in many other municipalities, the City is achieving greater participation from its single-family households compared to multi-family (apartment) households. As seen in the table below, more than twice as much recyclable material is collected from the average serviced single-family household compared to serviced multi-family households.

**Table 2: Recyclable Materials Collected by Dwelling Type (2008)**

| Dwelling Type | Households /Units Serviced | Recyclables Collected (kg/hhld/year) |
|---|---|---|
| Single-family (curbside collection) | 7,971 | 193 |
| Multi-family (apartment collection) | 1,487 | 86 |

*Source: City of Brockville*

[9] Does not factor in subsidies from LCBO Interim Funding or Stewardship Ontario Funding.

[10] 2008 WDO Datacall. Waste Diversion Ontario. *Residential Blue Box Data by Municipal Groups (2008).*

## 5.3 Organic Waste

Based upon the Stewardship Ontario Waste Audit results, Brockville's residential organic waste stream consists of primarily two categories: 1) leaf and yard waste and 2) food waste. The City is currently diverting about 708 tonnes of leaf and yard waste, which consists of 79% leaves (drop off and collected), 20% wood chips, and 1% Christmas trees. This accounts for about 12% of the entire residential solid waste stream. Based on WDO data, an estimated 7% (or 451 tonnes) of food waste is estimated to be diverted through backyard composting.

## 5.4 Municipal Household Special Waste

The City of Brockville has implemented initiatives to recycle or properly dispose of Municipal Household Special Waste (MHSW), which includes materials such as paint, batteries, used oil, solvents, and other potentially hazardous materials commonly found in households. In 2008, the City of Brockville collected 32.71 tonnes of MHSW through an Event Day. Of this, 22.31 tonnes (or 68%) was recycled and the remainder was safely disposed.

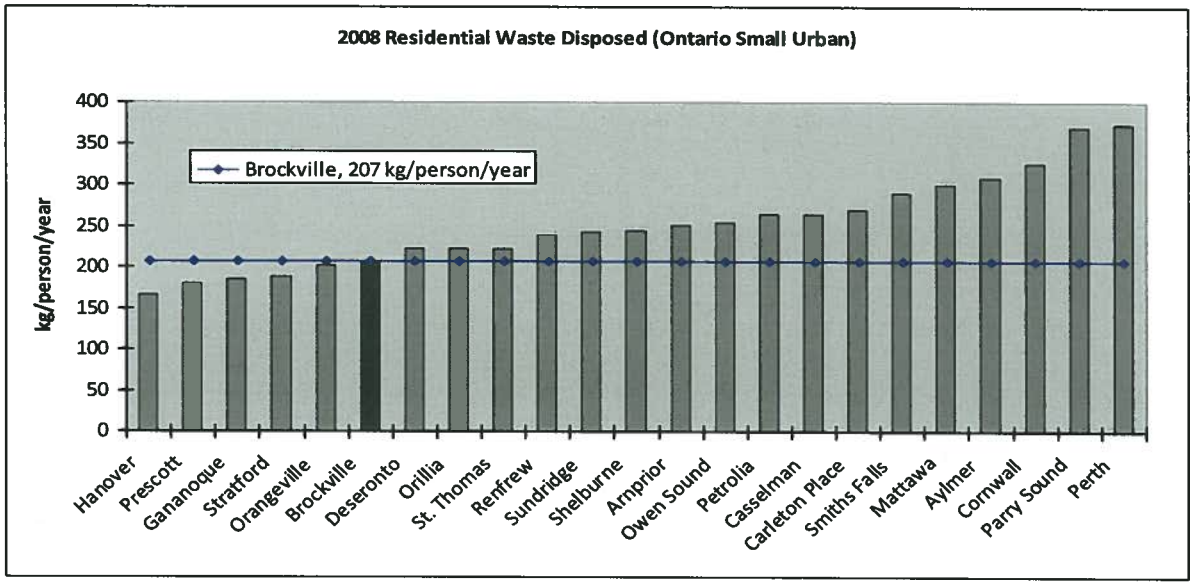
## 5.5 Waste Electronic and Electrical Equipment

In 2009, the City of Brockville began collecting Waste Electronic and Electrical Equipment (WEEE) through a community drop-off, where approximately 64 tonnes was collected.

## 5.6 Garbage

The City of Brockville disposed of 3,956 tonnes of residential waste in 2008, or 378 kg per household. This consisted of 3,716 tonnes collected from single- and multi-family households and 240 tonnes of blue box and organics processing residues. In comparison with other municipalities, the City of Brockville disposes less waste per capita than 75% of the other municipalities in its peer group (see Figure 4).

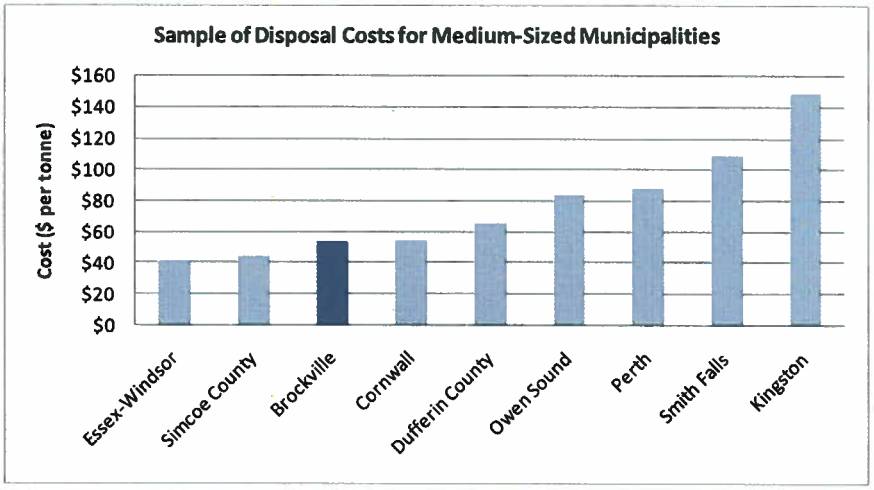
**Figure 4**




Garbage collection takes place weekly and includes a one bag (or container) limit. Residents with excess bags of waste can purchase bag tags for $2.50 each. Residents may also place large bulky items such as furniture (not including appliances) curbside for collection. Residents must purchase a $10.00 "large item" tag to have the item collected.

The City contracts the collection of garbage and is charged for collection on a per tonne basis, plus a fuel surcharge. Garbage is transferred to a private landfill for disposal and the City is charged on a per tonne basis, although no fuel surcharge applies. A summary of the collection and disposal charges are provided in Table 3 on the following page. A comparison of disposal costs for small municipalities is shown in Figure 5 below.

**Figure 5**



| Table 3: Refuse Collection and Disposal Costs (2008) | | |
|---|---|---|
| **Service** | **Unit fee** | **Gross Annual Cost for Service (net GST, and including administrative expenses)** |
| Garbage Collection | $67.19 + fuel surcharge | $276,931 |
| Garbage Disposal | $68.00 | $268,725 |

*Source: City of Brockville*

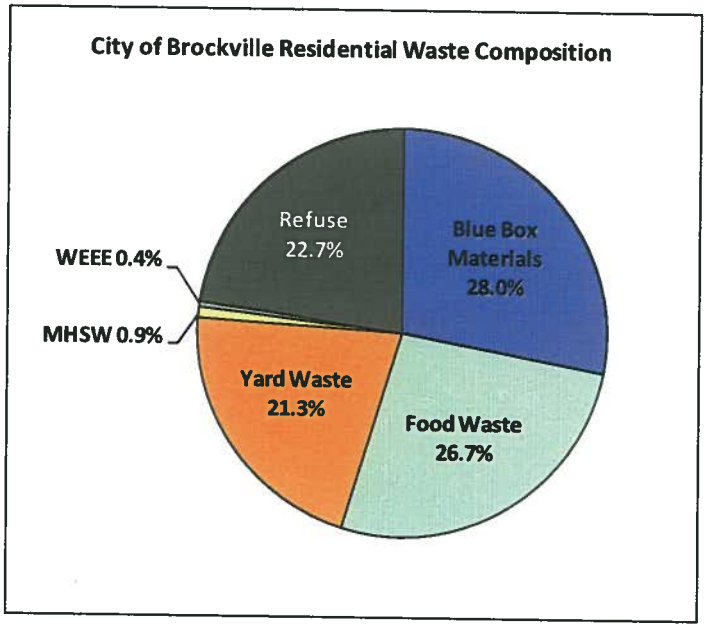
# 6 Projected Waste Management Needs

## 6.1 Opportunities for Increasing Diversion

*Waste Composition*

Trow prepared a waste composition analysis of Brockville's waste streams, based on available waste audit data and the WDO datacall (all figures 2008). As seen in the diagram to the left, the composition analysis indicates that of the total waste stream, only 23% of Brockville's waste stream requires disposal (Refuse) while up to 77% of Brockville's waste stream (Blue Box, Food Waste, Yard Waste and MHSW) could potentially be reduced, recycled or composted.

**Figure 6**




*Gap Analysis*

A gap analysis was conducted to assess the performance of Brockville's diversion programs. The analysis (see Table 4) demonstrates that the City is diverting the majority of targeted blue box material available in the City's waste stream, while the key opportunity for increasing diversion

is through household organics: specifically, leaf and yard waste and food waste. About 29% of the remaining waste stream is comprised of household organics and leaf and yard waste.

**Table 4: Estimate of Recycled and Available Recoverable Waste Materials**

| Waste/Resource Material | Estimated Composition (%) | Material Available for Diversion (tonnes)[a] | Material Currently Captured (tonnes) | Divertible Material Remaining in waste Stream (tonnes) | Material Remaining in Waste Stream for Diversion (% of total waste stream) |
|---|---|---|---|---|---|
| Stewardship Returns[b] | 1.6% | 105 | 105[b] | 0[b] | 0.0% |
| Communications Paper | 12.9% | 875 | 786 | 89 | 1.3% |
| Corrugated Cardboard | 3.0% | 202 | 182 | 20 | 0.3% |
| Total Paper Packaging | 3.5% | 264 | 178 | 85 | 1.3% |
| Total Plastics | 2.4% | 164 | 124 | 40 | 0.6% |
| Total Metals | 1.7% | 118 | 86 | 32 | 0.5% |
| Total Glass | 2.5% | 170 | 143 | 27 | 0.4% |
| Yard Waste | 21.3% | 1,446 | 833 | 614 | 9.1% |
| Food Waste | 26.7% | 1,807 | 451 | 1,356 | 20.0% |
| MHSW | 0.9% | 59 | 33 | 26 | 0.4% |
| **Total Divertible Materials** | 77% | 5,210 | 2,921 | 2,290 | |
| ***Current Diversion Rate***[c] | | | 43.1%[c] | | |
| ***Additional Diversion Rate***[c] | | | | | 33.8%[c] |
| ***Maximum Future Diversion Rate***[c] | | | | | 76.9%[c] |

[a] Based on 6776 tonnes generated.

[b] Stewardship returns are comprised of beverage containers (predominately alcohol) returned through stewardship programs. As the data on these returns are aggregated, they are therefore presented as a lump sum. Other stewardship-covered beverage containers identified in the waste stream or in blue boxes have been accounted for in their respective material-type category. For this reason, the amount available equals the amount diverted for Stewardship Containers.

[c] Before processing. Assumes 100% capture rate.

*Source of data: City of Brockville; Waste Diversion Ontario*

# 7 Overview of Options (Diversion Strategy)

## *7.1 Evaluation of Diversion Options*

A number of waste diversion options were identified and analyzed for suitability of application to the City's waste management system. The most appropriate options were then evaluated against a set of criteria, including:

- Economic feasibility – how economically feasible is the program, and how does it compare against the others on a cost per tonne basis.
- Sound approach/technology – has this approach or technology worked in other jurisdictions.
- Ease of implementation – how easy will the option be to plan for and implement.
- Environmental effects (including waste diversion) – what are the main environmental effects of the option (primarily represented as waste diversion).
- Social acceptance – how accepted is the option, measured by feedback received or as commonly received in other jurisdictions.

The table below presents the options and their ranking, followed by a description of each option. The highest possible score is 15, and the lowest possible score is -15. A higher score indicates greater preference. For a more complete evaluation, please see Appendix B.

**Table 5: Summary of Diversion Option Rating**

| Recommended Diversion Options | Overall Rating |
|---|---|
| Promotion and education | 13 |
| Household Source Separated Organics (e.g., kitchen and food waste) | 10 |
| Enhance Yard Waste | 10 |
| Waste Minimization (source reduction) | 9 |
| Optimized Blue Box (Service Optimization) | 9 |
| Extended Collection services (Service Optimization) | 9 |
| Mandatory Recycling By-law (Service Optimization) | 9 |
| ICI Waste Diversion | 9 |

## *7.2 Capture Rate and Anticipated Diversion*

Currently, the City of Brockville is capturing 57% of its divertible waste. This varies among the various waste streams. For example, 85% of the recyclables in Brockville's waste stream is currently being captured for recycling. This is very high for a municipality, and it becomes

increasingly more difficult to capture additional materials as you get closer to 100% capture rate. Conversely, the City is only capturing approximately 28% of the household food waste available in the entire waste stream, primarily through its backyard composting program.

The City of Brockville is categorized as "Small Urban" by the WDO. The target capture rate set by WDO for the "Small Urban" category is 80%. With a recycling capture rate of 85%, Brockville has demonstrated that the municipality and its residents are able to capture most of the recyclables in their waste stream. To improve on this, this strategy recommends a capture rate of 90% for both recyclables and organics. When achieved, along with waste reduction, this will result in a residential diversion rate of 72%, and will divert an additional 1,644 tonnes of food and yard waste and 115 additional tonnes of recyclables. The table below presents the amount of material currently diverted, how much more will be diverted by achieving a 90% capture rate, and the total anticipated diversion after implementation of the recommended options.

**Table 6: Anticipated Diversion with 90% Capture Rate of Materials**

| Material | Amount Currently Diverted (tonnes) | Increased Diversion @ 90% Capture Rate (tonnes) | Percentage Points Added to Diversion Rate |
|---|---|---|---|
| Communications Paper | 786 | 2 | nil |
| Corrugated Cardboard | 182 | nil | nil |
| Total Paper Packaging | 178 | 59 | 1% |
| Total Plastics | 124 | 24 | < 1% |
| Total Metals | 86 | 20 | < 1% |
| Total Glass | 143 | 10 | < 1% |
| Yard Waste | 833 | 469 | 7% |
| Food Waste | 451 | 1,176 | 17% |
| MHSW | 33 | 20 | < 1% |
| (waste reduction) | - | 203 | 3% |
| ***Total Additional Diversion Rate*** | | | ***29%*** |
| ***Target Diversion Rate*** | | | ***72%*** |

## *7.3 Recommended Diversion Options*

### 7.3.1 Overview

As the City of Brockville is currently capturing the vast majority of the recyclable materials in the City's waste stream, the greatest potential for increased waste diversion is therefore

through its organics stream. The recommendations included in this waste plan are intended to support existing and new waste diversion programs, optimize existing recycling services, and implement a new household organics diversion program. This system is depicted in the Figure below.

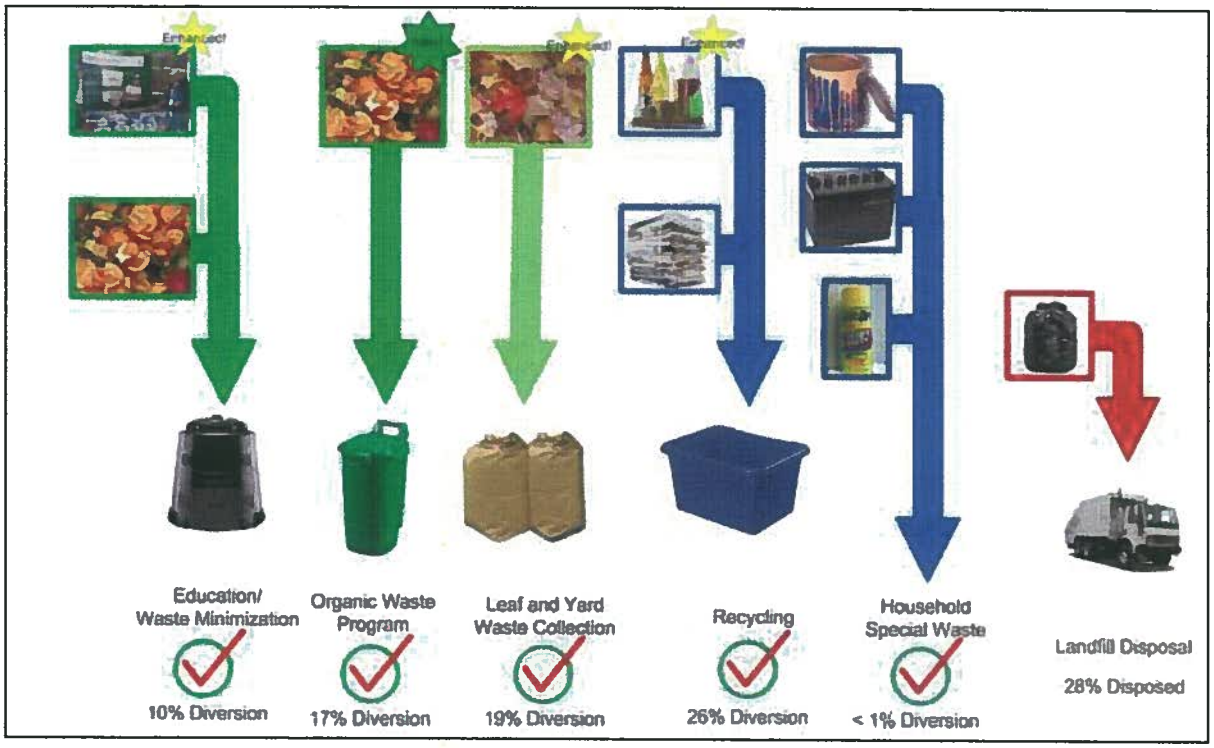



**Figure 7: Overview of Waste Programs**

### 7.3.2 Description of Options

#### 1) Promotion and Education

Enhancing the City's public education program was the highest-scoring option reviewed. To be successful, a waste management system requires a sound communications strategy, and one that results in a promotion and education program that supports all of the system's waste management components (e.g., recycling, composting, reduction, MHSW, etc). A good communications program will allow residents and businesses to fully participate in waste reduction and diversion programs by raising awareness about the City's programs and overcoming barriers to participation.

An enhanced promotion and education program would go beyond the static use of brochures and online information by establishing a dialogue with residents to assess those barriers to participation and determine opportunities for improvement. Such a program may include:

- Face-to-face contact to promote specific programs, possibly at community events or by going door-to-door;
- Using neighbourhood champions or community leaders to teach others or to lead by example (e.g., backyard composting);
- Give-aways or discounts to help physical barriers to participation (e.g., biodegradable mini-bin bags, mulching lawnmower blades);
- Interactive on-line waste forums and feedback forms; and
- Community-based social marketing approaches, among other things.

To support the implementation and operation of an enhanced promotion and education program the City would require the addition of an additional staff person. The strategy should also examine additional cost-effective means of delivering outreach to the community, including (but not limited to):

- The use of community volunteers and neighbourhood champions;
- Participation in existing events (e.g., display booths at expos or fairs);
- Cost-sharing opportunities with other municipal departments or engaging community partners that have similar or complimentary mandates (e.g., beautification or anti-litter programs, newsletters from other departments or community partners, etc);
- Hiring of a student or intern (specifically for waste projects or shared between departments); or
- Presentations to community groups on available programs.

The communication activities should have specific strategic targets. Possible targets may include (but are not limited to):

- Promotion of specific programs at key points of the year (e.g., promotion of leaf and yard waste pick-up in the fall, backyard composting in late winter/early spring);
- Reminders about specific recyclable materials or topics of concern to achieve identified problem areas (e.g., to reduce contamination levels, to clarify how to recycle problematic or confusion materials, etc); or

- Encouraging the adoption of waste reduction/prevention behaviours (e.g., encouraging wasteless gifts by purchasing 'experiences', such as concert tickets or a spa visit, or consciously avoiding the purchase of products with excessive packaging).

The waste diversion communication strategy should include a monitoring and evaluation component, which will allow program managers to adjust programming in response to program performance or other identified needs, such as changes in materials collected, common contamination issues, feedback from residents, or new priority issues.

The estimated annual cost for the waste system's education program (not including ICI) is $12,546 (based on $1.20 per household, which was identified as a best practice in the KPMG *Blue Box Program Enhancement and Best Practices Assessment Project Final Report*. At a minimum the addition of a part time staff person would be required. The estimated annual cost for an additional part time staff person is approximately $30,000. Of the total cost for this program, $33,909 is a recommended increase in funding over 2008 levels, while the remaining $8,637 is currently integrated within costs for the existing system components.

**Learning from Other Communities**

There is a wealth of information that can be learned from the outreach activities in other communities. Two good sources of information include the *Fostering Sustainable Behaviour: Community-Based Social Marketing* website (www.cbsm.com) and Tools of Change (www.toolsofchange.com). Both websites are searchable and showcase what other communities have done to change behaviours and encourage more sustainable habits.

### 2) Waste Minimization (source reduction)

An emphasis on waste minimization (or source reduction) should be included in the City's solid waste promotion and education strategy, as the most efficient way to reduce waste going to disposal is to avoid producing it in the first place. Waste reduction addresses the first, most important approach of the waste hierarchy – reduce. There are a number of ways that residents and businesses can avoid generating waste, including:

- Buying green – purchase goods that have a minimal amount of packaging, or that are durable rather than disposable.
- Grasscycling – grass clippings left on the lawn provide a wide range of benefits to lawn-owners, including less dependence on purchased fertilizers, better water

retention, and greener lawns. This could be reinforced by promoting the ban on grass clippings.

- Backyard composting – backyard composters can be made available to residents at a subsidized cost or through a limited number of free backyard composters (possibly as a prize in a contest).
- Precycling – influence buying decisions by considering the amount of packaging that will have to be disposed of once the product is brought home or to the office.
- Reuse – instead of buying new or disposing of unwanted yet useful items, residents can breathe new life into old items at reuse centres, community swaps, or through donations to charities.
- Waste exchanges – online waste exchanges can help businesses and residents alike save money by connecting them with people who can use their waste materials. www.brockville.reuses.com is a local waste exchange, while freecycle.org is another example of a waste exchange that operates in Ontario.

Encouraging waste reduction will require frequent public engagement. To broaden the draw of the waste reduction message, the City will conduct its outreach in cooperation with community partners, such as charities, retailers or non-governmental organizations. Businesses in particular can play a key role in waste minimization. By examining their purchasing and production processes, they can identify ways to avoid waste and save money through material and disposal costs.

The cost for the promotion of waste minimization is included in the promotion and education program costs. Additional costs include approximately $9,000 for backyard composter and lawn mower mulching blade promotions.

### 3) Household Source Separated Organics (not including leaf and yard waste)

The term "household source separated organics" (SSO) is commonly used to describe the biodegradable portion of the residential waste stream and includes materials such as food waste and compostable fibres (such as paper, boxboard, etc). Organics present a major opportunity for increasing diversion, as it makes up an estimated 27% of Brockville's residential waste stream. Some of this material is currently diverted through backyard composting.

**SSO Organics Green Cart and Mini Bin**

To capture this waste stream, many municipalities in Ontario have implemented curbside source separated organics (SSO) programs. Most commonly, households are provided with a green cart and a kitchen-mini bin (see right). The green cart is

stored outside, while the mini-bin is stored in the kitchen. Household organics such as food wastes (peelings, meat and bone scraps) are put into the mini-bin, which is then emptied daily into the green cart. To reduce mess and odour from food wastes, residents can wrap their food waste in newspaper or paper towel, or some municipalities allow residents to use compostable bags.

Based on municipal waste audit data, annually approximately 1,360 tonnes of food waste is disposed of by Brockville residents. Assuming that 90% of this material can be captured in a curbside SSO program, Brockville should be able to divert approximately 1,176 tonnes of food waste (or 17% of its residential solid waste stream) from disposal and compost it instead.

The cost to collect SSO is approximately $100 per tonne, while costs to process or compost the material can range from $40 to $150, depending on the composting technology used (see table below). Implementation costs need to consider the initial start-up costs (e.g., rfp and contract development, purchase of bins, communications) and annualized operating cost of the service. For example, the cost to roll out a source separated organic collection program to homes in the 6 northern municipalities of York Region was approximately $20/hh for the purchase and delivery of containers and $5/hh for promotion and education materials for a total of roughly $25.00/household. The capital cost to purchase SSO bins for the City of Brockville would be approximately $210,000. For the purpose of this study, the estimated annual operating cost for an SSO program in Brockville is $235,105, based on an estimated cost of $200 per tonne for collection and processing combined. Amendments to the refuse collection program may be required to divert organics to the SSO stream.

**Table 7: Estimated Composting Technologies Operating Cost**

| Technology | Estimated Operating Cost ($/tonne) |
|---|---|
| Windrow | $40 - $60 |
| Covered Windrow | $50 - $80 |
| Aerobic (in-vessel) | $50 - $100 |
| Anaerobic (in-vessel) | $100 - $150 |

In addition to the benefits of reduced greenhouse gas emissions and landfill space savings, the addition of an organics program would also allow the City to consider switching garbage collection from weekly to every two weeks. The potential cost savings of such a move can be assessed by including both collection frequency options in the City's next garbage collection tender.

### 4) Enhanced Yard Waste

Based on the City's waste audits (conducted through Stewardship Ontario), an estimated 614 tonnes of yard waste remains in the City's waste stream. Currently, the City operates a leaf and yard waste drop off site from May until December and offers collection of leaves during the fall. Additionally, residents can also place one bag or container of either garbage, yard waste or bundled brush and hedge trimmings for weekly curbside refuse collection. Containers/bundles in excess of the allowed one require a $2.50 bag tag (for example, a resident placing one bundle of brush and one bag of garbage is required to have one of those items affixed with a bag tag).

To encourage greater capture of leaf and yard waste, it is recommended that the City provide an additional leaf and yard waste collection in the spring, while continuing to operate the leaf and yard waste drop-off and the fall collection. Assuming that the extra spring collection results in the capture of 90% of the remaining leaf and yard waste (aided by additional education and promotion during the spring-fall season), approximately 469 tonnes of leaf and yard waste could be diverted from the current refuse stream.

The cost to collect leaf and yard waste typically ranges from $80 to $120 per tonne, while the cost to compost the material ranges from about $50 to $150 per tonne. For the purpose of this study, the estimated cost of enhancing yard waste collection (and the resulting additional processing required) is $60,970 (based on an average estimated cost of $80 per tonne for collection and $50 per tonne for processing assuming that leaf and yard waste will be collected separate from other waste and composted using simple windrow technology).

### 5) Service Optimization

While the City's current capture rate for recyclables is high, a number of options for service optimization have been identified. These options are intended to improve cost-efficiencies and levels of service while contributing to increasing the diversion of blue box materials.

*Optimized Blue/Green Box Collection*

The collection of recyclables forms a key component of the City's current diversion program, and will continue to be so. To achieve a higher participation rate in the City's blue/green box program, the current alternating weekly collection will be examined for change to weekly collection of both blue and green box materials. For example, an option to provide weekly collection of all recyclable material can be included in the City's future waste collection tender.

Upon the evaluation of tenders, the City can then determine the potential cost of implementing this option. The City will also continue to examine the feasibility and cost-effectiveness of:

- Adding additional materials to the blue and green box streams (when feasible);
- The use of alternative collection containers, where feasible (e.g., automated cart collection);
- Examining partnerships with neighbouring municipalities and industry for recyclables collection and processing;
- Maintaining and further promoting the depot at the transfer station, and providing additional depot locations.

Prior to future program changes, further consideration and research should be completed to examine the timing of municipal contracts, end markets for new materials, alternative collection methodologies such as using split compaction collection vehicles and creative solutions to overcome the cost of providing weekly blue/green box collection. The estimated cost for this option is estimated to range from $15,000 to $20,000. To determine the cost to provide an enhanced blue/green box collection program, the City should include this program as an option in its future waste collection tender.

*Extended Collection services*

Currently, 979 multi-family units and 163 single-family units are not eligible to receive municipal collection due to locations on private roads or where restrictions are in place from previously negotiated Site Plan Control Agreements. Including these locations within the City's current waste management program will enhance the diversion of waste from disposal and provide an equitable level of waste management services to its residents. It is recommended that the City develop a protocol for revisiting those agreements and assessing if municipally-provided collection is warranted for specific locations. The annual cost for this option is estimated to range from $65,000 to $70,000.

### 6) Mandatory Recycling By-law

While the City currently has a by-law addressing recycling, it is not actively enforced. The current 2010 Curbside Refuse Regulations (as stipulated in City of Brockville By-Law # 94-2000) state that "Refuse items that WILL NOT be collected are recyclables, corrugated cardboard, tires, demolition material and lumber, animal feces, liquids, paints, oils, batteries, propane tanks or other hazardous material."

A mandatory recycling by-law can be a useful tool to help support public education and outreach programs. Typically, most residents will recycle and compost if programs are convenient to use and if they know how to use them; however, by-laws provide regulators and property managers with the legal backing to further encourage waste diversion where needed. Enforcement should be carefully applied and only when required to correct repeated violations.

A mandatory recycling by-law could be used in conjunction with the implementation of clear garbage bags. Clear garbage bags will allow waste collectors to easily identify if there are prohibited items in the garbage, whereby those bags would be left at the curb with a sticker affixed explaining why. Recent studies have shown that switching to clear bags can result in an increase in diversion. For example, in a 2008 study by Quinte Waste Solutions (E & E Funded Project Number 177) examining 22 municipalities that had implemented clear refuse bag programs, 21 of them experienced an increase in the amount of recyclables diverted from disposal.

At a minimum the addition of a part time staff person would be required to manage this program. The estimated annual cost for an additional part time staff person is approximately $30,000.

### 7) ICI Waste Diversion

To assist its local businesses in waste diversion, it is recommended that the City initiate an ICI (Industrial, Commercial and Institutional) Waste Diversion Program, which would provide support to businesses. Support would be provided in the form of education programming, a 'waste exchange' network, and various incentives and disincentives for reducing waste. For example, the ICI Waste Diversion Program could include (but is not limited to):

- Educational materials advising businesses on how to reduce their waste, develop a waste reduction plan or conduct a waste audit. This could include web-links to existing resources, such as the resources provided on the websites for the Recycling Council of Ontario (www.rco.on.ca/businesses) or Waste Reduction week in Canada (www.wrwcanada.com, under the resources tab).;
- Recognition for or case studies on business leaders who are finding ways to reduce their waste;
- Promotion of retailer take-back programs;
- Discussions with local businesses about their most significant wastes and opportunities for reducing or recycling; or

- Promotion of www.brockville.reuses.com as a waste exchange, including a demonstration of how businesses should use it.

These activities could possibly be cost shared with relevant City departments or business improvement organizations. The estimated annual cost for this program is $3,500, although this would vary depending on the types of activities undertaken.

## 7.4 Evaluation of Disposal Options

Three options for waste disposal were examined in developing the City's waste plan:

- The *status quo*, where garbage is shipped to a waste disposal site in Moose Creek, Ontario for disposal;
- Energy from waste; and
- Building a new municipally operated landfill site.

As the target diversion rate will require some time to achieve, the disposal options are assessed based on 2008 disposal rates.

*Status Quo*

Currently, the City of Brockville ships its solid waste to the Laflèche Environmental waste disposal site in Moose Creek for disposal. This landfill site is located approximately 130 km kilometers from Brockville. In 2008, garbage management cost $210,568 for collection ($57 per tonne includes fuel charge) and $202,362 for disposal[11] ($54 per tonne).

*Energy from Waste*

A second option examined was Energy from waste, or EFW, which would see the City's refuse converted into energy. A typical EFW facility requires a minimum of 50,000 tonnes annually to operate. Currently, with an annual waste disposal rate of 3716 tonnes, the City of Brockville does not generate sufficient waste to warrant siting of an EFW facility. Further study is required to determine if there is sufficient waste generated by neighbouring municipalities to warrant a Regional EFW facility.

[11] Costs are net of bag tag revenue

EFW facilities have high capital costs that range from $50 million to $200 million depending on the type of technology. Regulatory approval for an EFW facility requires a comprehensive process that can cost $200,000 to $500,000 and includes a timeframe of 2 to 5 years. Options exist for exporting waste to EFW facilities located in the Greater Toronto Area. For example, the Algonquin Power EFW facility is located in Brampton and the proposed Durham/York EFW facility site location is in Clarington. However, these facilities are between 270 and 360 km away from Brockville. The estimated tipping fee for garbage ranges from $50 to $120 per tonne (the Region of Peel pays $123 per tonne to convert its garbage into EFW, including $85 per tonne tip fee and other costs to manage the resulting ash and other outputs[12]). Plasco Energy Group currently has a pilot project underway in the Ottawa area to test a gasification technology that turns garbage into energy. However, the pilot project has been ongoing for approximately 3 years with no immediate plans to complete a full scale facility.

In addition to the tip fee costs and cost of collection, the City would also have haulage fees to ship the waste to the EFW facility. The total estimated cost for collection and tipping fee for this option ranges from about $372,000 to $743,000 (or $100 to $200 per tonne).

*Expand or Build New Municipally-operated Landfill Site*

The City jointly holds a Certificate of Approval with the United Counties of Leeds and Grenville, and the Town of Prescott to develop a landfill site located north of Cardinal known as ED-19. The cost to construct a landfill on the site is estimated to range from $6,000,000 to $10,000,000, depending on the size and characteristics of the site. The property and possession of the Certificate of Approval provides the City with a significant asset that can address the City's future waste management needs. Furthermore, the City has been approached by the private sector regarding the potential of a private public partnership to develop the site. This type of arrangement could help offset construction and operating costs to the City.

The City's disposal requirements currently benefit from a reasonable disposal cost. However, as the remaining disposal capacity in Ontario decreases the cost of disposal will continue to increase. It is recommended that the City's ability to develop a landfill site not be put into action until required.

[12] The Regional Municipality of Peel Waste Management Subcommittee. Meeting Minutes (Wmsc-2009-2). http://www.peelregion.ca/council/subcomm/wm/2000s/2009/wmmin-2009-03-12.htm. Accessed July 14, 2010.

## *7.5 Recommended Disposal Option*

The evaluation for the three disposal options is presented on the following page. Based on the evaluation, it is recommended that:

- The City continue sending its waste to a proximate disposal site;
- That every three to five years the City conduct a cost-benefit analysis of contracted disposal against developing a disposal site under its waste disposal C of A; and
- Continue to examine Energy from Waste opportunities as they occur.

**Table 8: Options for Future Waste Disposal**

| | | Evaluation | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | **Economic Feasibility** | | **Sound Technology** | | **Ease of Implementation** | | **Environmental Affects** | | **Social Acceptance** | | ***Overall Rating*** |
| | | | Rating | | Rating | | Rating | | Rating | | Rating | |
| **Disposal Options** | **Status Quo: Transport Waste to Lafleche** | Reasonable operating cost | +3 | Landfills are a normal practice | +3 | Standard operating procedure | +3 | Increased GHG emissions | +1 | No opposition noted against current disposal method; however, preference is for minimal disposal | +2 | 12 |
| | **Disposal using Energy from Waste** | EFW only economical if exporting to large facility (high capital and operating costs, minimum volume required for own facility) | +1 | Successfully employed in large municipalities, or shared in smaller municipalities to gain effective volumes of waste | +2 | Implementation requires comprehensive/expensive provincial approval process including community acceptance. | 0 | Diverts waste from disposal in substantive quantities, converts to renewable energy. May be airborne effects. Ash, the byproduct of EFW, equals approx 25% of waste and must be landfilled. | +1 | Generally accepted at open house, although many communities face opposition to EFW | +1 | 5 |
| | **Expand or build new municipally-operated landfill Site** | Potential cost of expansion | -1 | Successfully demonstrated in other municipalities | +3 | Mitigation of environmental impacts; Engineering design | +2 | Potential for risk to environment can be mitigated | +1 | Public support | +1 | 6 |

| **Criteria** | **Rating/Scale** | | | | | | |
|---|---|---|---|---|---|---|---|
| | **-3** | **-2** | **-1** | **0** | **1** | **2** | **3** |
| **Economic Feasibility** (in $/tonne) | $900 + | $900 - $700 | $700 - $500 | $500 - $300 | $300 - $200 | $200 - $100 | Less than $100 |

# 8 Costs and Financing

## 8.1 Cost of Preferred System

The table below presents the estimated system cost of the recommended preferred Brockville Long Term Solid Waste Management Plan.

**Table 9: Estimated Future System Annual Cost**

| System Component | Net Cost | Tonnes Generated, Collected, and Diverted | Net Cost Per Tonne | Net Cost Per Household |
|---|---|---|---|---|
| ***Based on Existing System*** | | | | |
| Recycling Program | $136,661 | 1,524 | $90 | $13 |
| Stewardship Deposit/Refund Returns | Na | 105 | na | na |
| MHSW (2009 cost) | $37,439 | 33 | $1,145 | $4 |
| Leaf and Brush | $65,129 | 832 | $78 | $6 |
| Backyard Composting | Na | 451 | na | na |
| Garbage Collection [a] | $99,360 | 1,753 [b] | $57 | $10 |
| Waste Disposal [a] | $101,791 | 1,869 [b, c] | $54 | $10 |
| | | | | |
| ***New Initiatives*** | | | | |
| Additional public education | $42,909 [d] | 203 | $64 | $1 |
| Household Organics | $235,105 | 1,176 | $200 | $22 |
| Enhanced Yard waste | $60,966 | 469 | $78 | $4 |
| Service Optimization | $142,196 | 115 | $1,241 | $14 |
| *Optimized Blue/Green Box* | *$15,593* | | | *$1* |
| *Extending Collection Services* | *$66,604* | | | *$6* |
| *Mandatory Recycling Bylaw* | *$30,000* | | | *$6* |
| ICI Waste Diversion Program | $3,500 | | | < $1 |
| ***Total*** [e] | ***$895,056*** | ***6,777*** | ***$132*** | ***$86*** |

[a] Garbage collection and waste disposal costs adjusted to reflect diverted tonnage; costs reflect the current system's cost per tonne.

[b] Value for tonnage noted in "Garbage Collection" is also represented in the tonnage for "Waste Disposal".

[c] Includes 116 tonnes of residues from recyclables processing.

[d] Includes $9,000 for BYC and mulching lawnmower blade giveaway.

[e] Columns may not add up exactly as shown in "Total" row due to rounding.

The estimated incremental operating cost to implement the proposed new initiatives is $242,904 and the incremental diversion rate is approximately 29%. The capital cost to purchase SSO bins for the City of Brockville would be approximately $210,000.

| | Cost | Diversion Rate |
|---|---|---|
| Current Program | $652,152 | 42% |
| New Initatives | $895,056 | 70% |
| Difference | $242,904 | 29% |

## *8.2 Projected Future Costs*

In support of the City's Official Plan process, a Land Use & Growth Management Strategy was prepared and adopted by Council in December 2009. Based on the Strategy's projected population and household growth, it is estimated that by 2031 the net system annual cost will be approximately $926,000 and manage approximately 7,300 tonnes of residential waste[13].

**Table 10: Projected Future Waste Management System Summary**

| | 2008 | 2021 | 2031 |
|---|---|---|---|
| **Population** | 19,128 | 24,100 | 24,600 |
| **Households** | 10,455 | 10,783 | 11,233 |
| ***Material*** | | | |
| Blue Box (Recycling) | 1,755 | 1,810 | 1885 |
| Stewardship Returns | 105 | 109 | 113 |
| Household Organics | 1,176 | 1,212 | 1,263 |
| Leaf and Yard Waste | 1,301 | 1,342 | 1,398 |
| Waste Reduction (including BYC) | 654 | 675 | 703 |
| MHSW | 33 | 34 | 35 |
| Garbage Disposal | 1,753 | 1,808 | 1,884 |
| **Total Waste Generated** | **6,777** | **7,000** | **7,300** |
| **Net System Cost** | **$895,056** | **$916,000** | **$955,000** |

[13] Based on tonnes of waste generated per household and net cost per household in 2008.

# 9 Implementation Plan

Once finalized, the next steps for Brockville to implement the Long Term Sustainable Solid Waste Management Plan include:

- Obtain approval for the Plan from City Council;
- Prepare detailed implementation plans for the preferred system components to be implemented; and
- Proceeding with the implementation of the preferred options.

Recommended steps to move each of the system options toward implementation are provided in the table below.

**Table 11: Moving Toward Option Implementation**

| Recommended Diversion Options | Recommended Steps toward Implementation |
|---|---|
| Promotion and education (including waste minimization) | • Develop a detailed solid waste communications budget.<br>• Build partnerships, as necessary.<br>• Prepare a communications strategy, including the identification of:<br>  ○ Goals and objectives of the communications strategy, including specific diversion goals;<br>  ○ Target audience;<br>  ○ Target messages;<br>  ○ Mechanisms for delivering the messages (e.g., brochures, volunteers, etc).<br>• Develop communication materials.<br>• Roll-out communications strategy. |
| Household Source Separated Organics (e.g., kitchen and food waste) | Develop detailed implementation plan, including:<br>  ○ System design (type of collection/processing);<br>  ○ Costs;<br>  ○ Communications;<br>  ○ Pilot testing;<br>  ○ Contracting (if required) |
| Enhance Yard Waste | • Negotiate new terms with contractor<br>• Communications to public |
| ICI Waste Diversion | • Prepare program workplan, including activities to be completed and resources. |

| | |
|---|---|
| | • Prepare communications plan. |
| Optimized Blue Box | • Complete research/studies<br>• Pilot testing if required<br>• Purchase necessary equipment<br>• Negotiate any change in service level with collection/processing contractor |
| Extended Collection services | • Develop protocol and define parameters required for municipal collection. |
| Mandatory Recycling By-law | • Confirm opportunities for enforcement.<br>• Define conditions when enforcement is required.<br>• Assign enforcement resources. |

## 10 Contingencies

In the event of unforeseen circumstances, there are a number of contingencies that the City of Brockville can adopt to help ensure the SSWMP continues to move forward. Possible contingencies are provided in the table below.

**Table 12: Contingencies**

| Risk | Contingency |
|---|---|
| Insufficient funding | • Raise/implement user fees.<br>• Explore and apply for other funding sources.<br>• Delay lower-priority initiatives.<br>• Increase proportion of municipal budget to solid waste management. |
| Public opposition to planned recycling initiatives | • Improve public communications.<br>• Engage community/stakeholders to discuss initiatives/recycling plan. |
| Lack of available staff | • Prioritize department/municipal goals and initiatives.<br>• Hire summer student to help with planning. |
| Permit requirements | • Identify permit requirements early on in process.<br>• Establish a "permit requirements" checklist. |

# 11 Monitoring and Reporting

The City of Brockville currently monitors many aspects of the City's solid waste system, and this will continue to be an important component of the City's SSWMP. The table below provides recommendations for the ongoing monitoring of Brockville's SSWMP.

**Table 13: Approaches for Monitoring of SSWMP**

| Topic | Tools | Frequency |
|---|---|---|
| Total waste generated (by type and by weight) | Measuring of wastes and recyclables at transfer station/disposal site (e.g., weigh scale records) | Each load |
| Diversion rates achieved (by type and by weight) | Formula: (Blue box materials + other diversion) ÷ Total waste generated * 100% | Monthly |
| Waste disposed (by type and by weight) | Reconciliation of weigh scale tickets | Monthly |
| Program participation | Customer survey (e.g., telephone); monitoring set-out rates | Every 1 to 3 years |
| Customer satisfaction | Customer survey (e.g., telephone); tracking calls/complaints received to the municipal office | Every 1 to 3 years |
| Opportunities for improvement | Customer survey (e.g., telephone); tracking calls/complaints received to the municipal office | On-going |
| Planning activities | Describe what initiatives have been fully or partially implemented, what will be done in the future | Annually |
| Review of SSWMP | A periodic review of the SSWMP to monitor and report on progress, to ensure that the selected initiatives are being implemented, and to move forward with continuous improvement | Every 3 to 5 years |

# 12 Review of SSWMP

As noted in Section 11, the implementation and the performance of the long term SSWMP should be monitored on a regular basis, with the results being comprehensively reviewed every 3 to 5 years.

The review should include:

- Comparison of waste diversion rates against the 2008 rates;
- Comparison of program performance against 2008 performance;
- Consultation with stakeholders[14] or the public for input on how the SSWMP and its implementation should be adjusted; and
- Recommendations for future actions to ensure the SSWMP performs with maximum efficiency and effectiveness.

[14] Possibly through a community advisory committee.

# Appendix A: Consultation Results

## Open House 1 Comments

### Goals and Objectives of Brockville's Long Term Sustainable Solid Waste Management Plan

| Goals | Objectives |
|---|---|
| Maximize the diversion of E-waste | Municipal by-law plus education |
| Reduce the quality of non compostable waste going to landfill | Provide facility or service to residents to "enable" reduction |
| Education to inform those affiliations of "not" recycling | teach in schools etc. with examples of the "good" of recycling and the "bad" if we don't. |
| Reduce solid waste and disposal and their costs | Education and maybe user fees |
| Increase amount and items to be recycled | Add more plastic tubes recycled (i.e. bags, #7, #6). Add Styrofoam to the list as well. More, if possible. |
| Reduce solid waste | Have residents use compostable bags only |
| Maximize leaf and tree clippings recycled | Offer mulch to residents as well as compost to use. More recycling depots in city to make it easier. |
| Divert Styrofoam from waste | Have a source (industrial and retailer) to recycle Styrofoam, etc. |
| Reduce solid waste into the system | Education of residents, exchange (treasure days) allow items to be out for a few days at residence for someone to take |
| | Goulborn Sanitation (or similar) 836-6069 Stittsville – more items could be recycled (broken plastic garden pots, etc.) |
| Reduce backyard composting | Have discounted composters available to residents |
| Increase water collection for gardens | Have discounted water barrels available to residents |
| Educate public more regarding the proper preparation of items for the recycling blue box. Rinse out pop cans plus jars etc. –reduce pests | |

| Goals | Objectives |
|---|---|
| Educate public about pesticide free yard care, not necessary having all grass - - use garden flowers, vegetables. Grassless is Best. | |
| Recycling should be the "problem of the manufacturer (source). If we demand containers and stuff that is recyclable, this will help the solid waste problem. (i.e. bakery containers, electronics packed in Styrofoam.) | |
| Have a recycling program that is fair to all residents | Pick up condo plus apartment garbage and recycling at city expense |
| Cut organic input into landfill | Have a compost program for all organics - sell as fertilizers |
| Emphasize on reduced use of water bottles | Discourage water bottle use |
| Reduce amount of packaging | Manufacturers pay for the landfilling of their packaging |
| Encourage reusing | Encourage + subsidize yard sales |
| Reduce packaged foods | Have a community garden. |

## Options for Brockville's Long Term Sustainable Solid Waste Management Plan

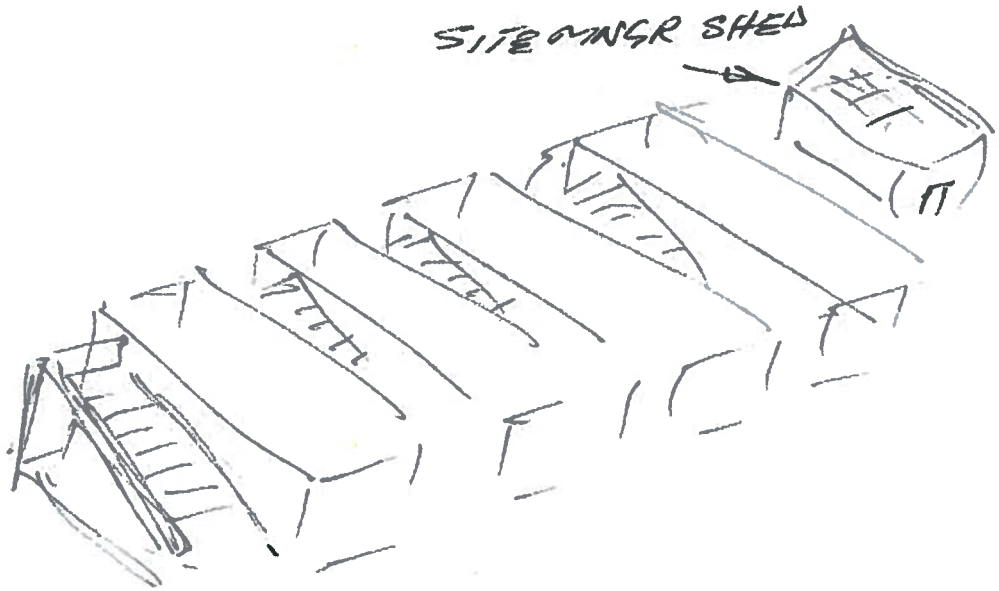
| Category | Option<br>(number in brackets indicate number of people who expressed support in comment sheets) |
|---|---|
| **Waste Minimization/Diversion** | **Individual Measures**<br>○ Reducing waste at source (4)<br>○ Backyard composting (4)<br>○ Grasscycling (2)<br>**Collaborative Measures**<br>○ Separation of Recyclables onsite (at landfill) (5)<br>○ Separation of Compostables (Organics) onsite (at landfill) (3)<br>○ Enhancing Curbside Collection Recyclables (2)<br>○ Curbside Collection Compostables (Organics – e.g., green carts, yardwaste) (3)<br>○ Increase education and promotion (4)<br>○ Reuse centres (3) |
| **Waste Diversion Policies** | ○ Full user pay (0)<br>○ Bag limits (0)<br>○ Clear garbage bags to ensure material that can be diverted are not being disposed (4)<br>○ Use of larger blue box/carts or blue transparent bags to help increase recycling set out capacity (2)<br>○ Bi-weekly garbage collection in conjunction with household organic collection program to help maximize diversion rates (1)<br>○ Mandatory recycling by-law (4) |
| **Waste Disposal/Recovery** | **Public or Private Sector and/or area Partners:**<br>○ Disposal (1)<br>○ Energy from Waste (4)<br>○ Recycling Facility (5)<br>○ Composting Facility (Organics) (3) |
| **Other Measures** | ○ Public education (7)<br>○ Education programs for the business/industrial community (ICI sector) (7) |

| What additional system options do you suggest the City evaluate as part of the long term solid waste management plan? |
|---|
| Nothing |
| Turn waste into fertilizer |
| Use the internet and local newspapers to educate the public on what can be recycled , Consider setting up a managed recycling centre. I have witnessed a used centre in my home county of North fork UK. The particular one is to be found at please see. www.southnorfork.gov.uk/environment/816.asp this lists all the centres into the area. The one I used (when cleaning out my mother's house) was in London. You will find the website useful. |
| More recycling (educate public) means less solid waste and less cost. Put money into recycling, backyard composters. More opportunities for "treasure days" anytime to get rid of good trash. Make recycling available to apartments and multi dwellings without additional cost. You should add more items to what you accept for recycling so you have less solid waste to manage. Lobby provincial government for more recyclables and depots to recycle within all areas and make it consistent with province. Make industrial manufactures responsible for having materials for packing and retail packaging in recyclable containers. The less solid waste we have to manage to better and cheaper. Have recycling bins where the city has garden bins (i.e. parks, memorial centre, downtown, etc.) for public use to decrease waste and increase recycling. I'm always looking for a recycling bin while walking. People then have a choice instead of no choice to dispose of waste. |

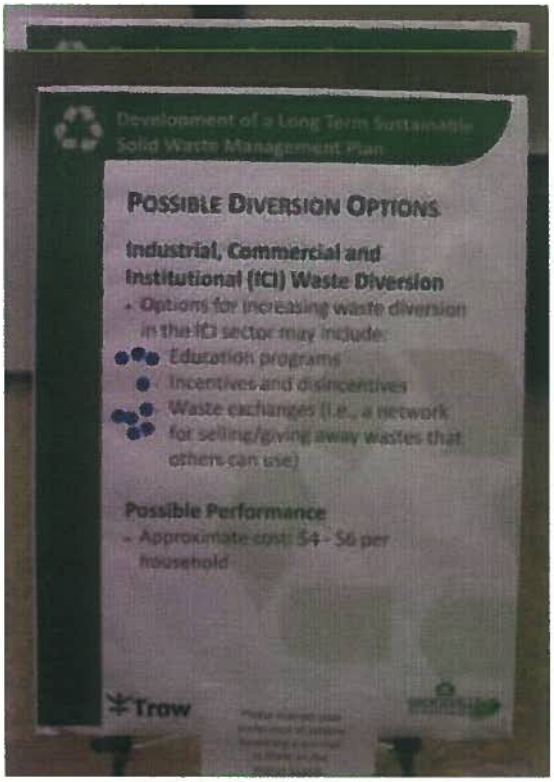
**Criteria for Selecting Brockville's New Solid Waste Management System**

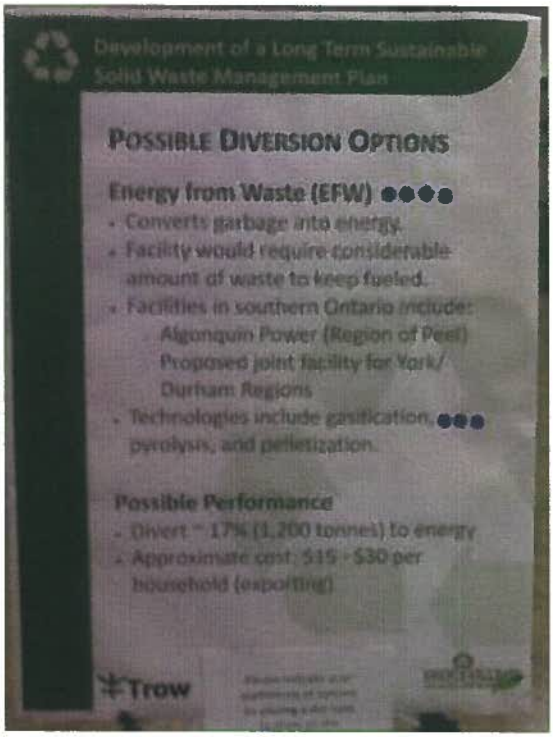
| Evaluation Criteria |
|---|
| Nothing |
| Track record, environmental effects, affect on wasted diversion, ease of implementation, cost effectiveness, social impact |
| Public acceptance has to be ensured, disciplined with the fines for non compliance.(in the UK if the plastic bag of household waste is suspected of included garden waste the bag is cut to open and left until you sort it out. |
| Affect on waste diversion decrease amount – decrease cost, environmental effects – recycle + decrease garbage into ground, council should be buying recycled things if available to model and educate public about recycling – reusing raw materials and not lading unnecessary things into the landfill. Our ancestors did this well due to necessity and we should continue this automatically as much as is possible (not cost effectively good for the city.), ease of (implementation – make it easy don't complicate it for others cost will decrease if cost effectiveness less garbage to track. |
| Research – push implementation of known systems and supply of containers (streamline to fewer sizes, shipping companies to reduced packaging materials especially Styrofoam. |

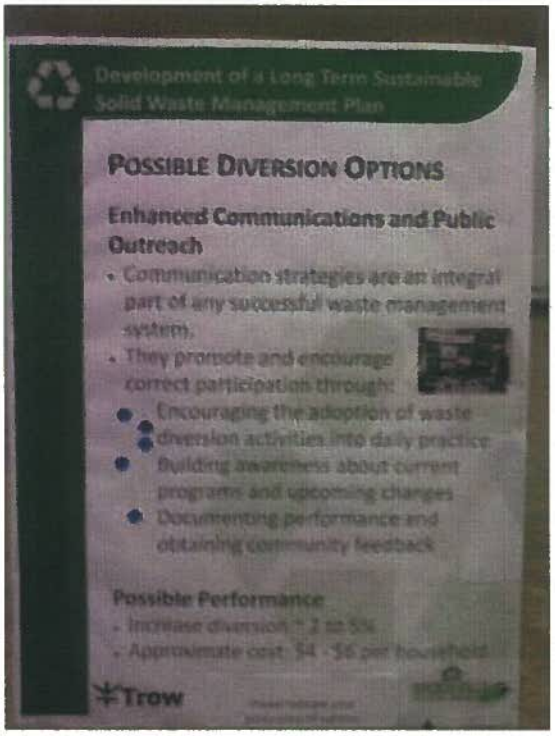
**Additional Comments...**

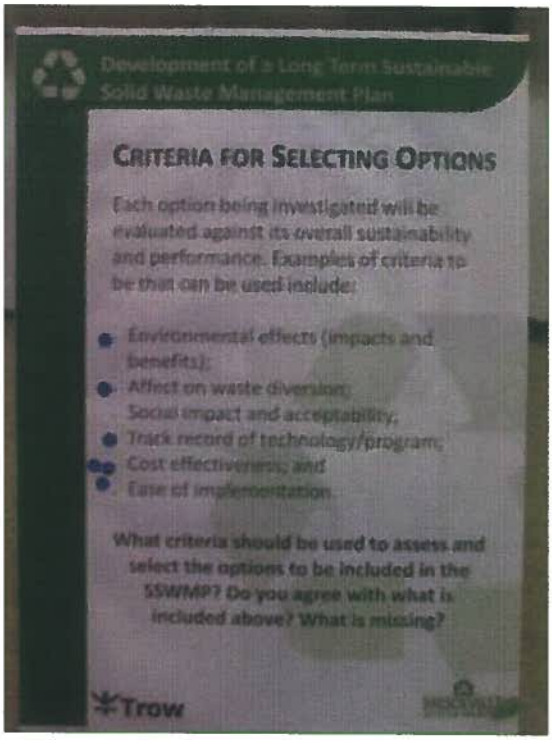
| Additional Comments |
| --- |
| www.pyrogenesis.com – circuit boards plus plastics |
| Nothing |
| RE: recycle site. The one I used 10years ago was similar to sketch<br>  <br><br>Each Bin was dedicated to a special material. The location has now expanded to a much larger site and larger range of items and can be seen on Google. |

## Feedback Provided on Display Boards





Development of a Long Term Sustainable Solid Waste Management Plan
CRITERIA FOR SELECTING OPTIONS
Each option being investigated will be evaluated against its overall sustainability and performance. Examples of criteria to be that can be used include:
Environmental effects (impacts and benefits);
Affect on waste diversion;
Social impact and acceptability;
Track record of technology/program;
Cost effectiveness; and
Ease of implementation.
What criteria should be used to assess and select the options to be included in the SSWMP? Do you agree with what is included above? What is missing?
Trow


Development of a Long Term Sustainable Solid Waste Management Plan
POSSIBLE DIVERSION OPTIONS
Waste Minimization
Reduces waste at the source
Possible activities include:
Backyard composting
Changing purchasing behaviours
Grasscycling
Reusing items
Challenges: can be difficult to change minds, requires continuous education
Possible performance
Up to 5% additional diversion (~338 tonnes)
Approximate cost: $2 - $6 per household
Trow


Development of a Long Term Sustainable Solid Waste Management Plan
POSSIBLE DIVERSION OPTIONS
Household Organics Diversion
Organics includes kitchen and food waste, non-recyclable paper
This involves source-separating organics in the home, and then setting at curbside for collection
Possible performance
Additional 20% diversion (~1,300 tonnes)
Approximate costs
Collection: $10 to $15 per household
Composting: $13 to $24 per household
Start-up (including capital and education): $20 to $25 per household
Trow


Development of a Long Term Sustainable Solid Waste Management Plan
POSSIBLE DIVERSION OPTIONS
Optimized Blue Box
- This could mean:
Adding new materials to the list of materials collected: ●●●
Changing the frequency of when blue box materials are collected; ●
Increasing capacity (i.e., bigger boxes, carts, etc); ●
Using transparent clear bags; or ●●●
Adding depots.
Possible performance
- About 2 – 3% additional diversion (~ 200 tonnes)
- Approximate cost: $2 - $6 per household
Trow


Development of a Long Term Sustainable Solid Waste Management Plan
POSSIBLE DIVERSION OPTIONS
Extending Collection Services ●●●●●
- Currently, some households are ineligible to receive municipal collection due to Site Plan Control Agreements
979 multi-family units
163 single-family units (e.g., townhouses)
- Some multi-family developments prior to site plan agreements have been eligible for municipal collection ●
- Modification of Site Plan Control Agreements could help to provide consistent service across Brockville ●●●
Possible performance
- About 2 - 3% additional diversion (~ 200 tonnes)
- Approximate cost: $5 - $10 per household
Trow

## Other comments

Reference: Long Term Solid Waste Management Plan

I was puzzled by the coverage of this from the first public meeting.

1. What is the initiative for this project?
2. Does someone think we or the city does not do enough?
3. Have here been complaints from the citizenry?

From what I have read of the proposals a couple sound worth exploring, notably turning trash into energy. The mandatory recycling and collection of kitchen waste I do not support. Is it better to lead with a carrot or beat with a stick? I already recycle Kitchen waste, have done so for years. I don't want to pay for something I don't need. Selfish? Yes. Add another box to the recycling stream and my taxes go up.

Let's look a little larger at this idea. Once again the little taxpayer is getting dinged, being asked to do more. Meanwhile large industrial polluters,(read Tar Sands et. al.
overwhelm the ecosystems of this country.

My quick thoughts and opinions.

| Goals | Objectives |
|---|---|
| Optimize the current waste diversion programs to achieve highest capture per tax dollar | • Consider switch to re-usable containers or paper bags for leaf & yard collection<br>• Offer more frequent collection of leaf & Yard<br>• Promote backyard composting<br>• Encourage Grass cycling<br>• Establish a master composter volunteer program<br>• Establish an environmental centre for diverting re-using materials at transfer station/landfill<br>• Educational promoter to attend events/schools and educate on waste management (perhaps on a volunteer basis)<br>• Promote reduction and re-use by working with charities such as Habitat for Humanity, etc.<br>• Increase communication in all formats (printed, web-based, other media) to |

| | |
|---|---|
| | advertise important information regarding events and waste changes, etc.<br>• Curriculum for waste management for elementary schools (Ottawa has a Gr 4 to 8 program that teaches the basics of the 3R's with labs, etc.<br>• Shift the thinking/advertising to reflect that most waste is a resource. |
| Look for longer term solutions to other types of waste that may be reduced or diverted from disposal | • Consider implementing a source-separated organics program and possibly combine it with leaf and yard collection and bi-weekly garbage collection.<br>• Keep contracts flexible to allow for legislative changes which may lead to operational and budgetary changes (i.e. WDA review and EPR, MHSW, and Compost Quality guidelines, & Tires)<br>• Ensure that best practices are standard procedure for contracts and programs<br>• Consider partnerships with neighboring municipalities for processing of some types of waste (i.e. organics in Kingston, Ottawa or Moose Creek)<br>• Participate in training opportunities with peer organizations such as MWA and AMO<br>• Participate and voice "official" opinion on postings by the province/feds and industry organizations<br>• Energy From Waste might be considered, if volumes warrant and partnership can be had with other municipalities, but only as an option to disposal without energy recovery |
| Look for opportunities to harmonize waste management with other City departments and other I,C &I partners | • Offer a yellow-bag program to small businesses that produce near residential waste quantities to encourage diversion (recycling, organics)<br>• At minimum, City parks, facilities, special events and the downtown core should have diversion opportunities as well as garbage cans (good signage too, to avoid contamination!) |
| Encourage complimentary programs to reduce environmental impacts to Brockville and Area | • Promote City drinking water over bottled water<br>• Establish an Environmental Advisory |

| | |
|---|---|
| | committee, if one does not exist already |

Criteria for selecting Brockville's New Solid Waste Management System (in my preferred order)

1) Environmental Impacts (including diversion – which is the same in my mind)
2) Practicality (Will people adapt and majority participate?)
3) Feasibility (Is technology sound and established, and worth implementing?)
4) Cost Effectiveness (Biggest environmental Bang for the buck?)
5) Affordability/sustainability (Is it affordable/reasonable and will it save money in the long term?)

---

Since I couldn't find anything further information on www.brockville.com , and that I will be in Toronto on Wednesday May 5th, and therefore miss the meeting, I am concerned about the following.

A week ago I was returning from Toronto and decided to detour off of 401 and take the southern route from Cobourg to Trenton. In two of the communities along the way, people had yard waste in large paper bags out a the street. This consisted of leaves raked up during the Spring clean up.

Is it possible for Brockville to get into the 21st century and have a Spring clean up pick up as we do with the leaves in the Fall. A considerable number of my neighbours are wondering why this is not done.

A response would be appreciated.

---

I saw the announcement for the OPEN HOUSE to be held tonight.
Will make an effort to be there.
However, there is one item I rather send to you by email and by now you should have good feeling what that is. We had some previous communications on the topic! Here we go:
The announcement states: "Currently, the **City** collects garbage and recyclables from nearly 8000 single-family households, and collects recyclables from another 1500 multi-family units (e.g. condos or apartments) as well". What may be missing is the fact that a considerable number of condos look after their own garbage disposal (**the City does not collect**) and the ones I am familiar with, **do recycle just about everything that can be recycled** because they believe in **Being Green**. In addition these folks may pay approx. $250/yr/unit to have Waste Management pick up the garbage and recycle materials. Other residents get this "free" but we know that our taxes include a certain amount of dollars for garbage collection.

I have sent my concern to you by email as it should not become a topic during to-night's meeting. We want to address **improving** (vs sustain??) our waste and recycle collection system!
On the other hand you folks once more have opened up the topic of fairness of paying for garbage/recyclables pick-up by a considerable number of condo owners. My previous recommendation was to reimburse these Condo Organizations by the amount included in our yearly tax bill. E.g. $75/yr in our tax structure - 10 units = $750)
Hope you will review this topic once more.

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Having "discovered" your City of Brockville advertisement in the May 27th Recorder & Times today (when I was perusing the papers received over the past week after my recent houseguests departed), I visited the website listed. Of the three documents listed on the site (buried at the third level of the website), I could not view the May 5 slides (my computer crashed three times because of the graphics and size of the file), I went through your 'Workbook' (which was hardly informative and could not be filled in on-line!) and I read the 'Technical Report' prepared by Trow Associates. News of the policy development was only available in the Recorder & Times, all of the information is on-line (three of our eleven residents do not even own a computer!), but no response on-line is provided for! Interesting communications, information and feedback strategy!!

This is the first news I have that the Solid Waste Policy is actually being developed! Now you want our input by tomorrow (May 31)!!!! Despite promises from (staff), no one ever contacted me/us to advise of the Open House on May 5, or the feedback requirements!!! In fact, in January I was told you would be in touch with me personally by April . . . nothing!!!

Personally, I have spent HOURS preparing and delivering presentations to the Operations Committee and City Council (beginning in January 2008), writing letters to City staff and the City Council (the Mayor and all City Councillors), and attending Council meetings on behalf of the homeowners on Susanna Lane!!! And from you . . . nothing!!! Now there is not sufficient time to inform our homeowners about your feedback deadline and the status of the policy development!!

In any event, the issue for us is not what, how or when you plan to collect waste in this City! Rather, WE WANT TO KNOW FROM WHOM YOU INTEND TO COLLECT IT! We are 11 freehold units located on a private lane off King Street West. Originally (our development was built in

2006-07) we were surprised to learn that we had to have a private contractor to collect our garbage. As of last September, the City agreed to pick up our trash (which we have ALWAYS placed on the corner of King Street and Susanna Lane, with the municipal garbage truck originally passing right by, without stopping, on Fridays – our original contract was for pick-up on Wednesdays!) BUT we are currently required to affix a City Bag Tag to every garbage bag! We pay the same taxes as every other homeowner in the City, and we get ZERO SERVICES!

Even from the analysis by Trow Associates, there appear to be discrepancies (unexplained) showing that some homeowners get pick-up of solid waste and recycles, some get only pick-up of recycles, some have to add bag tags, and some don't get any pick-up at all! The complexities are mind-boggling!!! For the residents of Susanna Lane, the current policy is costing each homeowner ($2.50 X 52) $130 per year, in addition to the property taxes we already pay (and the per-bag rate has increased over the period we have lived here, and can only go higher in the foreseeable future!).

By the City's own calculation last year, the cost for collecting solid and recyclable waste for the 11 residences on our laneway (from the corner of King Street where we always place them) is approximately $800. Our collective taxes are approximately $30,000 per annum!!! Pretty good cost-versus-revenue for the City - although it currently costs the City nothing, because we must also invest an additional $130 X 11 = $1430 for bag tags!

Please provide a rationale for WHO WILL GET WHAT PICK-UP included in their property taxes under the new policy, who will have to pay extra, and who will not get any pick-up at all. I would also appreciate receiving a complete copy of the proposed draft policy.

Every city taxpayer is entitled to equitable treatment!!! Your cooperation in providing this information will be appreciated. Thank you.

**Open House 2 Comments**

**Subject:** RE: Clear Garbage Bags

Hello Conal,

Listed is the address for the article on the racoons just incase the last e-mail was screened out.

http://www.ottawacitizen.com/technology/Ottawa+Green+Bins+prove+match+clever+raccoon/3122435/story.html

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**Subject:** FW: The Municipality of the District of West Hants, Clear Bag Program

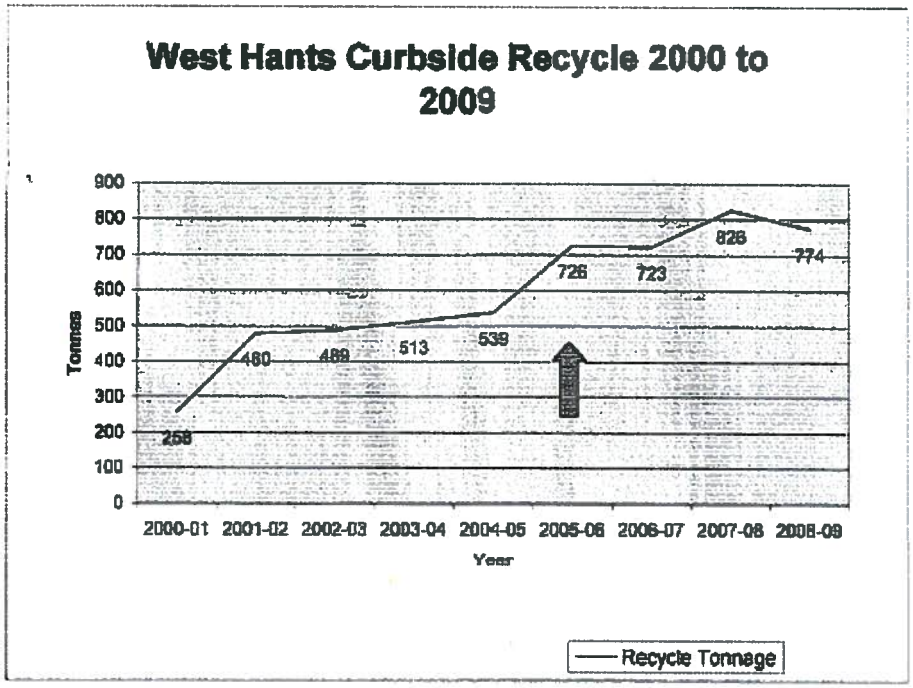
Good Morning Conal,

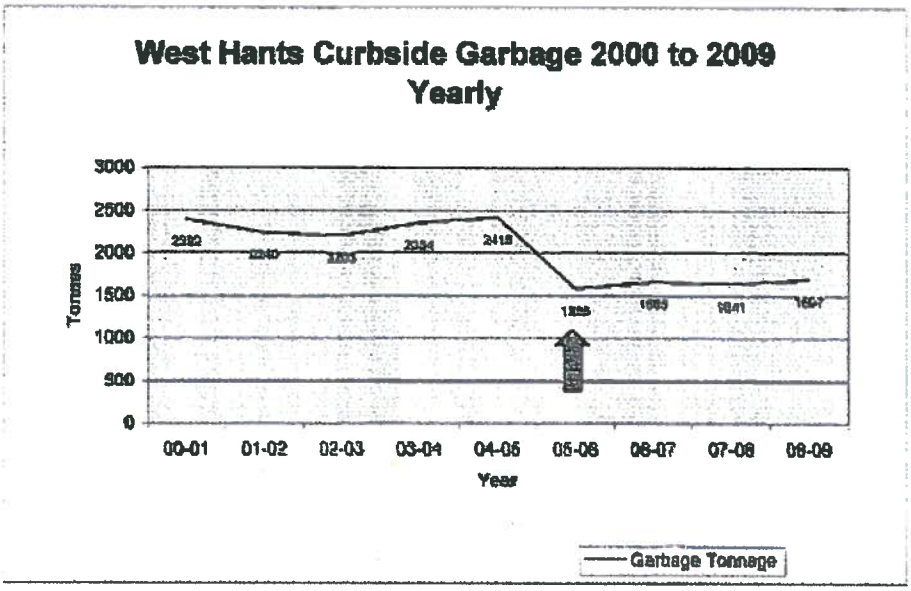
As follow up to the June 15, 2010 City of Brockville Open House on waste reduction, I advised that the Municipality of the District of West Hants, NS had implemented a clear bag a program that resulted in a significant increase in their collectable curb side recycling volumes. As you can see from the attached spread sheets, their recycling volumes increased by 30% with a corresponding drop of 30% in the curb side waste collected. When reviewing the information West Hants has sent, switching to a clear bag program is cost effective and produces significant results. If you would like to discuss this initiative directly with West Hants they can be contacted at 713-798-4908.

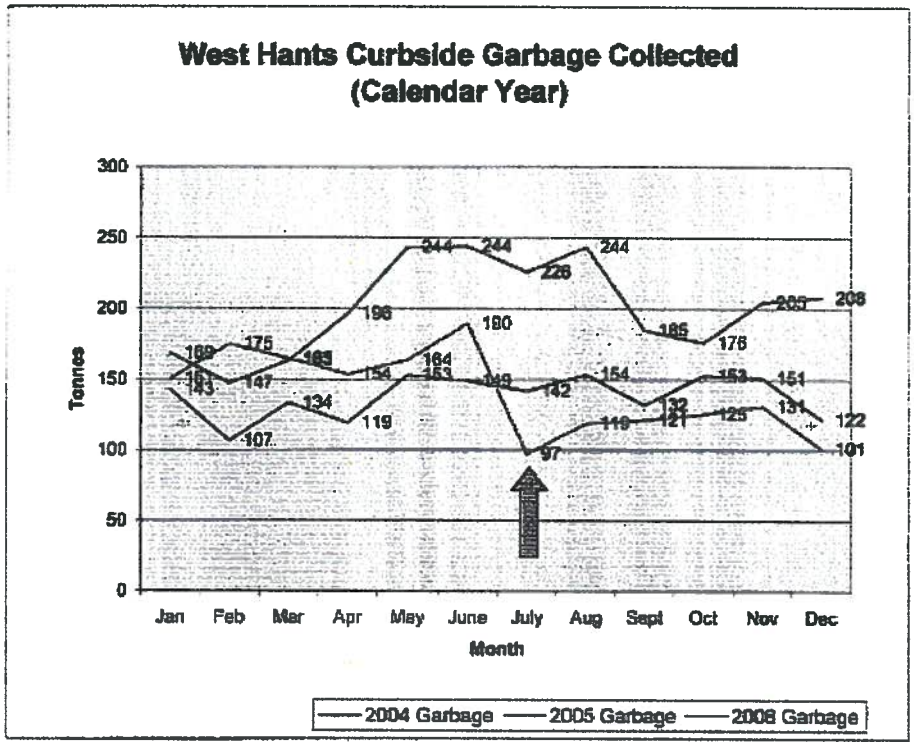
Regards,

Municipality of West Hants - waste tonnage (metric tonnes)

| | Black bag | Clear bag | | | |
|---|---|---|---|---|---|
| | 2004-05 | 2005-06 | 2006-07 | 2007-08 | 2008-09 |
| Recyclables | 539 | 726 | 723 | 826 | 774 |
| % increase | base | 26 | 26 | 35 | 30 |
| Garbage | 2418 | 1585 | 1665 | 1641 | 1697 |
| % decrease | base | 34 | 31 | 32 | 30 |






Subject: SWMP - Comments on public consultation, Open House #2

Mr. Cosgrove,

Please accept these brief notes as input into the SWMP public consultation process, in lieu of completing the provided workbook.

1. All printed material on this process refers to a "long term sustainable solid waste management plan." When queried at Open House #2, Trow Associates stated the Plan is not intended to be long term.
Is it, or is it not long term?

2. Poor attendance at Open House #2 indicates the failure of the review process to engage the public. This lack of engagement will reflect on the validity of the resulting plan.

3. Opportunities for regional cooperation need to be considered. These can reduce costs, enhance results, and qualify our community for support programs offered by higher-tier governments and other organizations.

4. Given the size of SWM as a line item on the municipal budget, and given the mandate established by City Council with its approval of the 2009 Community Strategic Plan, the impacts of the various disposal options on greenhouse gas emissions need to be considered.

5. Consultants refer in the documentation to freecycle.org as an example of an online waste diversion system. Why does it not refer instead to brockville.reuses.com, which uses a system developed in our community; which is purpose-built for community reuse programming (not the case for freecycle.org which is based on generic Yahoo Groups); which provides metrics including GHG reduction equivalents; and which is garnering financial support from the Community Improvement Fund in other Ontario communities?

6. Given that Promotion and Education shows the highest overall rating (11) amongst the diversion options, an Annual Incremental Cost of $3,900 seems entirely inadequate -- this would barely cover the cost of production of one flyer. There are many other methods available for promotion and education, as suggested at this website:

http://www.cbsm.com/articles/category/waste/
http://www.cbsm.com/forums/index.lasso?category=waste

Thank you for this opportunity to provide feedback.

## Comments Received Following Notice of Project Completion

I chair the Green Committee for the Chamber of Commerce . I have reviewed the report and we have had preliminary discussions with the Green Committee and our Advocacy Committee about its recommendations and comments. We would like to prepare a position paper on the report from our perspective but I have been asked to speak to you to get some clarifications and some more information before we finalize this position paper. Feel free to respond via email but I would be very pleased to set up a meeting with both / either of you when it is convenient for you. Some of my questions may be better directed at TROW . If that's the case ,could you provide me with the contact information for the people that completed the report.

- can you give us an idea of the present share of the overall waste management cost that is borne by businesses in Brockville. I believe some Downtown merchants have weekly pickup that is provided as part of their tax bill. However , outside of these merchants I believe businesses pay for their own disposal even though it is part of their tax bill.

---

Please be advised that I am strenuously opposed to the adoption of such a plan at this time for the following reasons:

1. the city budget is already in a deficit position, why is the city looking for ways to increase expenses further at this time?
2. the city is already doing a very good job with its garbage compared to other Ontario municipalities by the measures shown in the study, why are you looking to do more when it will cost more?
3. Ottawa has looked at such a plan and figured they could cut regular garbage pick-ups to cover the increased cost of recycling. Brockville citizens spoke out with the past two years that they did not want

their pick-up schedule reduced to less than once per week. I am sure that public opinion in Brockville has not changed on this issue.
4. why are you proposing to hire yet another city worker (even if only part time) to enforce the mandatory recylcing and then saying there will be no coersion to enforce this. Get real - this city loves to stick prices on everything related to garbage, can you really say that enforcers won't be given regulations and fines to work with.
5. if you get the city budget balanced (and I doubt you will), then consider expansion of the program. At present, my taxes have gone up way over the rate of inflation these past four years. Look at people who are struggling with job loses or no pay increases. This is no time to add more cost at city hall.
6. I think you would do better to reduce waste, but increasing the number of times a year that you do yard waste pick-up. The present pick up schedule is pathetic and poorly advertised. Why are pick up dates not fixed and sent out in the yearly gudie to garbage services?

---

On behalf of the Susanna Lane Homeowners Association we would like to provide some feedback on the recently posted proposal, "Sustainable Solid Waste Management Plan". In regards to Extended Collection Services it is our hope that you will revisit the current site plan agreement for Susanna Lane residents.

In recent years we have gone from a completely private garbage collection service to having the city collect our garbage provided each resident purchase a bag tag for each garbage bag placed at the curb. Each resident of this city is entitled to one free bag of garbage - it is our hope as tax paying citizens that we can progress to the next step and have the same rights granted.

There is no need for the city collection services to go out of their way to accommodate our request as we are already placing our garbage on the corner of King and Susanna Lane.

I know we agreed that for additional bags a tag is warranted, but for the basics we would hope to receive equitable treatment.

We would appreciate if you would take our concerns under consideration in your upcoming decision on regarding Extended Collection Services.

---

Having served as secretary of the Susanna Lane Homeowners Association since its inception, I know that you are very familiar with the wishes of the residents to have the city pick up their gargage. Before proceeding further, please let me thank you for your patience.

The original agreement between the city and the developer made a kind of sense because the lane that runs between the two rows of units is too narrow to accomodate a garbage truck. However, the only way for us to get our gabage picked up by ANY contractor is to take it out to King street (not a hardship at all). Since the trucks that are contracted by the city to pick up garbage do drive past us as they pick up garbage on King Street from houses to our East and West, the original agreement makes no sense. We carry our garbage to King Street no matter who picks it up (and, as you know, it is trucks from the same company that do both the city pick-up and the privately arranged pick-ups--so that can be a bit galling for the residents).

In sum, we pay the same taxes, the trucks drive down King street and pick up other taxpayers garbage, so why not simply stop and pick up ours? Indeed, given the concentration of the 11 units, we are asking for only one stop for taxes generated by 11 units.

**RE: Long Term Sustainable Solid Waste Management Plan for Brockville, ON**

On behalf of the Solid Waste Management Committee of Country Club Place (CCP) Brockville, we appreciate the opportunity to comment on the above noted plan. CCP is a 20 year old residential development of 54 Georgian Townhouses constructed in blocks of 4 and 6 units around a raceway shaped roadway. It is located on the western boundary of Brockville, on the St Lawrence River and south of County Road #2 across from the Brockville Country Club.

CCP strongly supports the Solid Waste Management Plan contained in your report of December 9, 2010. It is hoped that the political will exists to implement all of this plan.

With respect to the plan, CCP is most concerned that the item on page 19, "Extended Collection Services", is acted upon immediately to finally eliminate twenty years of unfairness. **We firmly believe that it is essential that all of the new initiatives contained in the plan must be available to all home owners**. As you noted, over 1000 multi-family and single family units in Brockville do not receive municipal collection. You failed however to point out that a very important matter of unfairness exists. These owners CONTINUE TO PAY THROUGH THEIR TAXES FOR THE SERVICE THAT THEY DO NOT RECEIVE. This situation is not only unfair but also is inconsistent with the goals contained in the Brockville Mission Statement, "community and environmental sustainability within a framework of fiscal responsibility and a commitment to customer service" (Strategic Plan Version 4.4, February 2009) to which the city is dedicated. As you have stated, the annual cost of implementation is $65,000, which is a small amount within the city budget, but with implementation would remove a very long standing irritation and the continuing unfairness as well. Why this issue of extending services, which are paid for but not received, will be the "thorniest part of the discussion" of the plan as stated by Mayor Henderson (Recorder and Times, December 24th, 2010) is difficult to comprehend.

If this "thorny" bit cannot be resolved and the service is still deemed not to be warranted, then CCP recommends that those continuing to be denied any service should receive a $130 rebate on their taxes as a start (52 weeks at $2.50 for tags in the case of the 54 units at CCP). When extended to all 54 units the rebate would be $7,020 and when extended to all 1000 plus units the rebate would exceed the cost of implementing the plan. To continue to be fair, this rebate should be adjusted annually to reflect any additional costs of the implementation of the solid waste management plan, which these units would not be a part of.

In summary, all citizens should receive the services that their taxes pay for and all citizens should be included in any new plans or be compensated. In our view, there is no logic to implementing any elegant plan before the foundation is completed. CCP, like any other group that continues to be left out and treated unfairly, should not have to pay more taxes for new and additional services that they will not receive. Logic dictates either inclusion or compensation.

We appreciate this opportunity to comment on the plan. It now requires political will and dedication to proceed. CCP would be prepared to meet with city officials at any time to expand on our position if deemed useful.

---

I just want to say that as a tax paying citizen of Brockville I am in favour of the proposed SSO program . It would be great to have our household waste recycled as compost. It is being done in Perth Ontario. Why can't we do it here?

I would like to register my comments on the Solid Waste Management Plan for Brockville prior to the January 21st deadline for public input.

The SSO option for Brockville is one of the best initiatives which I have heard for this city in a long time. Having lived in other communities and having family living in areas (Oshawa and Sudbury) which have the organics collection programs, I can say confidently that this is an extremely valuable program for residents. I am often frustrated by the amount of my garbage placed curbside which is organic and could be diverted in a program like this. I would estimate this at much greater then your figure of 27%, and place it above 50%, often approaching 75%. Of the suggestions in the report, as a resident, I would find this by far the most valuable service. I would also agree with and support an enhanced collection of our blue and green boxes, as we are often placing 2 or 3 boxes curbside for collection, especially for the paper box due to the seemingly never ending flood of junk mail and flyers. Living in a smaller home, maintaining 3-4 boxes (2 for paper and 1-2 of cans/bottles etc) is a hardship which would be eliminated with this change and allow for the room to transition to the composting program.

While the overall report is very good, I do strongly disagree the the recommendation for the mandatory recycling by-law which would require homeowners to purchase and use clear plastic bags for garbage collection. As a homeowner who utilizes reusable bags for all shopping, the fact that I would be forced to purchase plastic bags seems counter-intuitive. To further reduce waste, we often do not use bags in our garbage can, or use any bags which do end up coming into our home (eg, milk bags, bread bags) to dispose of our garbage. I feel that causing people to purchase clear garbage bags, which are not always widely available and are often much larger then required for a weekly disposal, is punitive and does not further the case of reducing waste.

Thank-you for the opportunity to comment on this plan.

---

Already too much government interference in our lives. We do not need any more at the municpal level. We cannot afford the new solid waste management plan as the future costs are unknown and will be paid for by the taxpayers. We do not need four trucks passing by our front door. The report contains no evidence that this program will be of benefit to the environment, as in most cities the papers and glass and the solid waste are stockpiled. Thus no net benefit to anyone. The green cart and kitchen mini-bin are totally impractical and only foster a place for fruit-flies and maggots to breed and the raccoons seem to love the outdoor storage. I resent a By-law Enforcement Officer going through my garbage since I am best qualified to decide how I want to manage my waste since I as a taxpayer will be paying for your entire waste management program. All in all "it's a really stupid idea".

---

As seniors are on a very low fixed income and we are keeping our home with very high taxes,
we believe this extra cost for waste management plan is far too expensive for Brockville
Do you realize how many seniors live in brockville and what this would take away from them?
We won't be able to afford proper food on our table so that someone can go around checking our garbage.
Is our council losing sight of what we are all about?
Perhaps some of those politicians should reduce their wages to what seniors recieve and they would consider more closely about making us put our kitchen waste in a container that would attract rodents to our property.
We voted Mr. henderson in to keep our costs down not to add to our taxes and put on more regulations we recycle and that is sufficient.

---

I personally think that the waste bins are a GREAT idea. They have them in Grimsby ON.. They work very well there. The idea of the back yard Recycle bin is a good one in some since's but here in Brockville anyway NOT!!! We at the North End of town near the Conservation park have many problems with the compost containers and the animals that can get in to them.. Oh I hear you... You are saying put the lid on tighter.. That does not work no does putting bricks on the lid or using tie downs.. We have tried them

all. NOTHING WORKS.. When the animals want in they get in.. No matter how hard you try.. None of us want the animals in our yards. NOT that we don't like the critters, it is just we don't want them coming to our homes..

So in my prospective of things the green bin and the white bin in the kitchen for waste is the way to go..or it will end up in my trash.. I hate doing that with good compost.. As I recycle every thing I can.. Because of the one bag rule. ( hating that... As you can't do a good house cleaning) But that is another story.

Give us the green bins for compost. " NO DON'T CHARGE US MORE..WE ARE BEING CHARGED OUT THE BACK END AS IT IS." As things are you take take take and give nothing in return...

---

We are property managers who manage twelve condominiums comprising over three hundred fifty condominium units in Brockville.

While we are aware that part of the agreements to build roadways smaller than standard was only permitted if the City did not have to service this private property, we feel that in fairness, as a minimum, some consideration should be given to refunding the annual cost of garbage service to the tax payers who because of the agreements, cannot access the City contracted waste removal services.Typically a condominium pays from just under four to five times the cost per unit of City contracted garbage pick up. We are assuming that a local owner is paying $60 per year of their taxes for waste removal and recycling services.

We are sure all condominium owners would love to get in on the great price negotiated by the City or at least be credited for not receiving the service. The same trucks access the condominiums as the regular city streets in most circumstances. It would be fairer to condominium owners who I believe pay a lot of taxes proportionately to a detached single family home.

---

I just read the paper re: the 2011 Waste Management Program for the City of Brockville.
I have attended some of your meetings and see that positive public input has been incorporated where applicable and where it makes sense.
My writing to you is to ensure that we do not hide some important items under general headings.
**e.g. "Extended Collection Services---item: define protocol and define parameters required for municipal collection"**
My concern is the fairness as how we handle the collection of waste for different sections of the population. I strongly believe that Condominiums should be included in the collection and fee structure. Approx. $61 collected in taxes is for the collection of garbage from an average household. In the case of LCC #38 individual owners pay approx. $250/yr. The distance between Millwood Ave and the bins is less than 200 feet. The driveway is 30 ft wide!
I have tried to make this point in the past and surely hope we can come up with a 2011 program that is fair to all. It also means that the Planning By-Laws (Condominiums) must be updated to reflect a change.

## Appendix B: Diversion Options Evaluation Results

**Diversion Options**

| Diversion Options | Evaluation Criteria (Range -3 to +3) | | | | | | | | | | Overall |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Economic Feasibility * | | Sound Technology | | Ease of Implementation | | Environmental Effects incl. Waste Diversion * | | Social Acceptance | | Rating |
| | | Rating | | Rating | | Rating | | Rating | | Rating | |
| **Promotion and Education (incl. behavioural change)** | Can be developed at a level that is locally affordable | +3 | Documented best practice | +3 | Development of a Communications Strategy can be completed in a short timeframe | +2 | Supports the successful operation of waste diversion programs | +2 | Public in favour of increased promotion and education; assists to maximize diversion of waste from disposal | +3 | 13 |
| **Household Organic Waste Diversion** | One of the most expensive diversion program, although can be developed at a local level that is cost effective. | +1 | Successfully demonstrated in other municipalities | +3 | Considerable administrative/coordination effort required for successful implementation | +1 | Positive diversion of waste from disposal; Produces environmentally significant soil amendment | +3 | Organic diversion programs demonstrate 70% to 90% public participation in other jurisdictions | +2 | 10 |
| **Enhanced Yard Waste Program** | Cost effective means to divert sizable portion of waste stream | +2 | Successfully demonstrated in other municipalities | +3 | Operation can be contracted to private sector. | +1 | Significant diversion of materials available for renewable resources | +2 | Good participation in similar programs in other jurisdictions | +2 | 10 |
| **Waste Minimization (e.g. source reduction)** | Most cost effective means to divert waste from disposal; Can be developed at a level that is locally affordable | +3 | Successfully demonstrated in other municipalities | +2 | Considerable administration/ coordination required | +1 | Reduces waste before it has to be managed. | +1 | Most waste reduction techniques have proven to be socially acceptable means to divert waste from disposal. | +2 | 9 |
| **Optimized Blue Box Program** | Increased operating cost | +3 | Successfully demonstrated in other municipalities | +3 | May require contract adjustments, finding markets for new materials | -1 | Increased diversion of materials available for renewable resources | +1 | Good participation in other jurisdiction programs. | +3 | 9 |
| **Extended Collection Services** | Additional operating cost | +2 | Units simply added to current system | +3 | Requires revisiting Site Plan Agreements; negotiating service level change with collection contractor | +1 | Supports the diversion of waste from disposal | 0 | Public consultation indicates support for this service | +3 | 9 |
| **Mandatory Recycling By-law** | Upfront legal costs and on-going enforcement | +3 | Successfully demonstrated in other municipalities | +2 | Requires recurring education, on-going enforcement | +1 | Supports the diversion of waste from disposal, provides City with legislative backdrop, if required | +1 | Feedback received at open house generally in favour of open house | +2 | 9 |

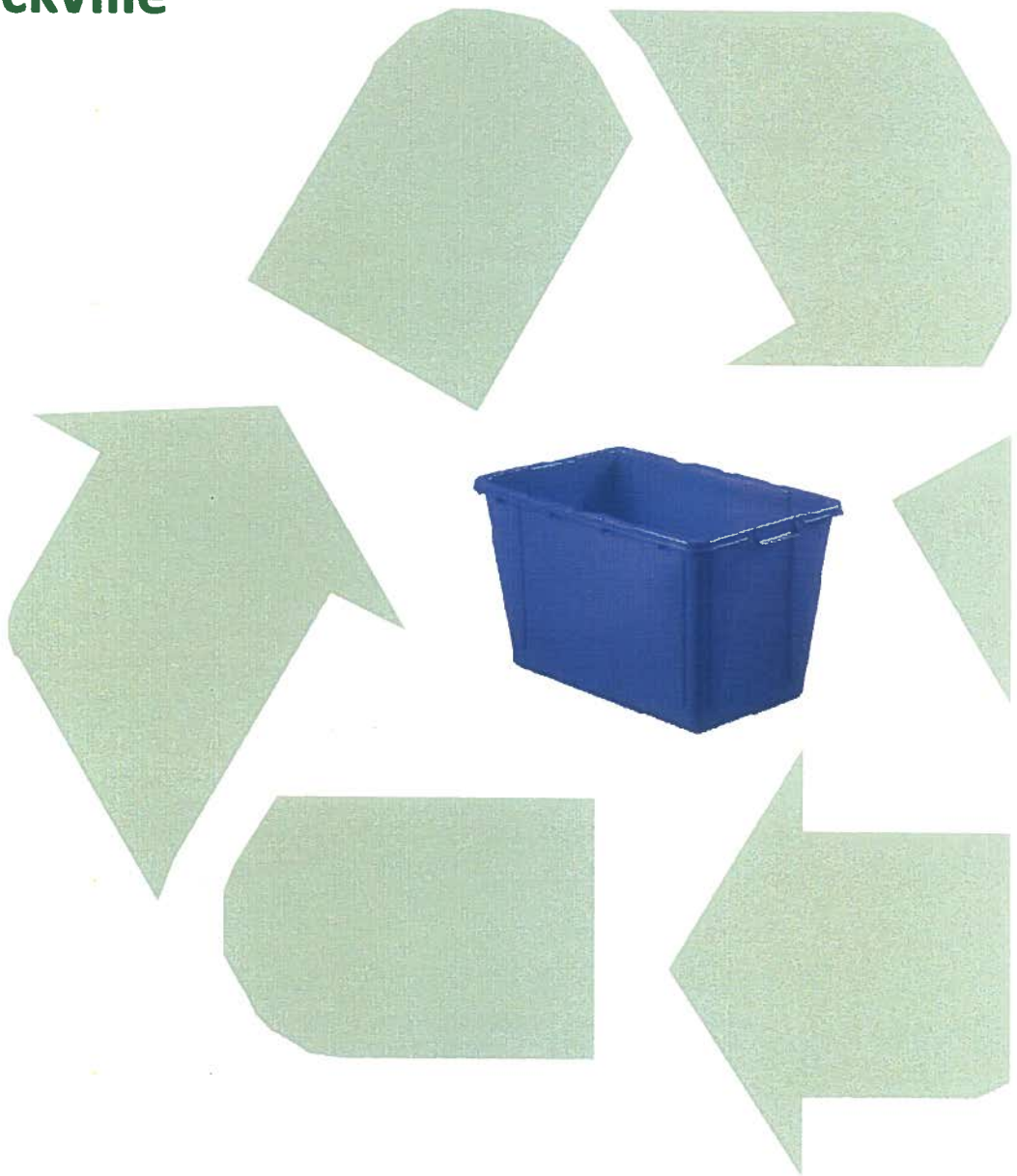
| Diversion Options | Evaluation Criteria (Range -3 to +3) | | | | | | | | | | Overall |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Economic Feasibility [a] | | Sound Technology | | Ease of Implementation | | Environmental Effects Incl. Waste Diversion [a] | | Social Acceptance | | *Rating* |
| | | Rating | | Rating | | Rating | | Rating | | Rating | |
| **ICI Waste Diversion** | Education and support program can be developed that is cost effective | +3 | Successfully demonstrated in other municipalities | +2 | Requires discussion with ICI community, assessment of their waste diversion needs | +1 | Supports the diversion of waste from disposal | +1 | Approaches for reducing ICI waste generally socially acceptable in other municipalities | +2 | 9 |
| a – see rating scale below | | | | | | | | | | | |

| Criteria | Rating/Scale | | | | | | |
|---|---|---|---|---|---|---|---|
| | -3 | -2 | -1 | 0 | 1 | 2 | 3 |
| **Economic Feasibility** (in $/tonne) | $900 + | $900 - $700 | $700 - $500 | $500 - $300 | $300 - $200 | $200 - $100 | Less than $100 |
| **Environmental Effects** (in additional diversion potential) | Creates waste | | | 0 – 1% | 1% – 5% | 5% - 10% | More than 10% |

# A Waste Recycling Strategy

## for the

# City of Brockville



**March 9, 2011**

**Prepared with assistance from Waste Diversion Ontario**

# Table of Contents

# 1 Introduction and Study Purpose

This Waste Recycling Strategy was initiated by the City of Brockville to develop a plan to increase the efficiency and effectiveness of its recycling program and maximize the amount of blue box material diverted from disposal. In particular, the objective of this strategy is to increase the City's Blue Box diversion rate from 14.4% up to 20% (2008 average for municipal grouping) in the short term (3 to 5 years) and 25% (achieving 70% capture rate of Blue Box materials in waste stream)in the long term (5 to 10 years).

The study area for this Waste Recycling Strategy is the residential sector of the City of Brockville.

This Waste Recycling Strategy was developed with support from the Continuous Investment Fund (CIF), and is based on the CIF's *Guidebook for Creating a Municipal Waste Recycling Strategy*.

# 2 Planning and Consultation Process Overview

In preparation of this Waste Recycling Strategy, meetings were held with municipal staff to discuss key issues with the current recycling program, the recycling system process, and upcoming milestones. The 2009 Waste Diversion Ontario datacall for Brockville was used to assess the recycling system, including current costs and diversion and future needs. This information was also compared against published WDO datacall information for other municipalities within Brockville's municipal grouping.

The planning process used to develop this Waste Recycling Strategy was consistent with that as laid out by the Continuous Improvement Fund. When considering options for improving diversion of recyclables, the process also factored in the WDO funding formula, a growing portion of which is dependant on the following Best Practice categories[1]:

1. Development and implementation of a up-to-date plan for recycling as part of a Waste Diversion System or Integrated Waste Management System;
2. Establishing defined performance measures, including diversion targets, monitoring and a continuous improvement program;

[1] Detailed Questions and sub-categories are posted on-line at:
www.wdo.ca/files/domain4116/2009 Datacall BP Funding Questions - FINAL Nov 2009 for posting.pdf

3. Multi-municipal planning approach to collection and processing of recyclables;
4. Optimization of operations in collections and processing...following generally accepted principals for effective procurement and contract management;
5. Training of key program staff;
6. Appropriately planned, designed, and funded Promotion and Education program; and
7. Established and enforced policies that induce waste diversion.

The steps followed in developing this plan included:

- Interviews with community stakeholders;
- Characterization of waste stream and review of component programs;
- Performance of gap analysis and identification of waste diversion opportunities;
- Review of possible diversion solutions;
- Public Open House #1 (May 5, 2010);
- Selection of preferred options for waste recycling system;
- Public Open House #2 (June 15, 2010); and
- Preparation of the Waste Recycling Strategy report.

The community consultation included a set of interviews with local stakeholders for the early identification of key issues and two open houses to present the study results and possible and recommended waste recycling options.

# 3 Stated Problem

Management of municipal solid waste, including the diversion of blue box materials, is a key responsibility for all municipal governments in Ontario. The factors that encourage or hinder municipal blue box recycling programs can vary greatly and depend on a municipality's size, geographic location and population.

The issues facing Brockville are common among many smaller Ontario municipalities outside the GTA, such as:

- Limited or no municipal disposal capacity;
- A low economy of scale for handling recyclables, due to smaller population and therefore lower tonnages of material collected;
- A smaller staff compared to larger municipalities, therefore few or no staff dedicated to managing recycling programs.

In addition, levels of funding received for blue box recycling in Ontario is based in part on the adoption of a waste recycling plan, the incorporation of other WDO-approved recycling best practices, and the amount of recyclable material marketed. This Waste Recycling Strategy will help to improve efficiencies and maximize the amount of eligible funding available.

# 4 Goals and Objectives

The primary goals of the Waste Recycling Strategy are to:

- Guide how the City will manage its blue box recycling programs over the next twenty years;
- Maximize the amount of recyclable material diverted from disposal, while meeting and exceeding the provincial residential waste recycling targets;
- Incorporate the WDO blue box program best practices into its standard operating procedures; and
- Implement approaches to blue box recycling that are environmentally, socially and economically sustainable.

# 5 Study Area

The focus of this study was on the City of Brockville's residential sector, including both single- and multi-family homes.

# 6 Current Solid Waste Trends and Practices

## *6.1 System Overview*

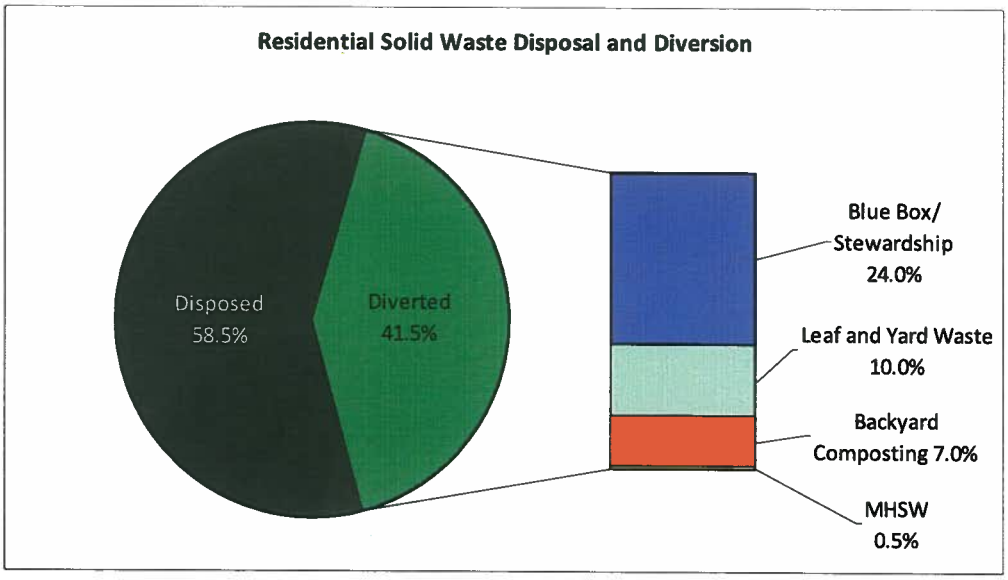
In 2008, the City of Brockville had an estimated population of 19,128. The City is comprised of 8,172 single-family and 2,283 multi-family households[2]. The City provides curbside waste management collection services (including garbage collection, blue box and leaf and yard waste) to 7,971 single-family homes. The City also provides collection services for blue box materials to 1,487 multi-family households. In areas serviced by private roads or due to previously negotiated site plan agreements[3], the City does not provide service to the remaining single or multi-family households and they are financially responsible for their own services through a private contractor or other means.

[2] 2008 WDO Datacall. Waste Diversion Ontario.

[3] For example, multiple residential or condominium complexes, etc.

Approximately 6,776 tonnes of residential waste was generated in 2008. Of this, 3,956 tonnes consisted of curbside refuse collection and approximately 41.5%[4] (2,810 tonnes) was diverted through the City's blue box recycling program. These programs and the remaining waste stream are illustrated in Figure 1 below.

**Figure 1**




Overall, Brockville's waste management system in 2008 had an estimated annual net cost of $652,158, or $62 per household.

[4] Waste Diversion Ontario.

| Table 1: Overview of Brockville's Solid Waste Management System Costs (2008) | | | | | | |
|---|---|---|---|---|---|---|
| **System Component** | **Gross Cost[a]** | **Revenue/ Subsidy** | **Net Cost** | **Tonnes Collected** | **Net Cost per Tonne** | **Cost Per Household[b]** |
| Recycling Program | $223,333 | $86,672 | $136,661 | 1,640[c] | $83 | $13 |
| Stewardship Deposit/ Refund Returns[d] | na | na | na | 105 | na | na |
| MHSW | $81,191 | $43,751 | $37,439 | 33 | $1,145 | $4 |
| Leaf and Brush | $79,094 | $13,965 | $65,129 | 832 | $78 | $6 |
| Backyard Composting | na[e] | na | na | 451 | na | na |
| Garbage Collection | $276,931 | $66,364 | $210,568 | 3,716 | $57 | $20 |
| Waste Disposal | $268,725 | $66,364 | $202,362 | 3,716 | $54 | $19 |
| **Total** | ***$929,274*** | ***$277,115*** | ***$652,158*** | ***6,777*** | ***$96*** | ***$62*** |

[a] Includes contract costs plus administrative expenses.
[b] 10,455 households
[c] Pre-processing, includes residues
[d] Stewardship deposit/returns refer to beverage containers (predominately alcohol) returned through stewardship programs.
[e] Costs for backyard composting are integrated with public education and administrative costs, which are in turn factored into the recycling program costs.

Source: City of Brockville

## *6.2 Residential Blue Box*

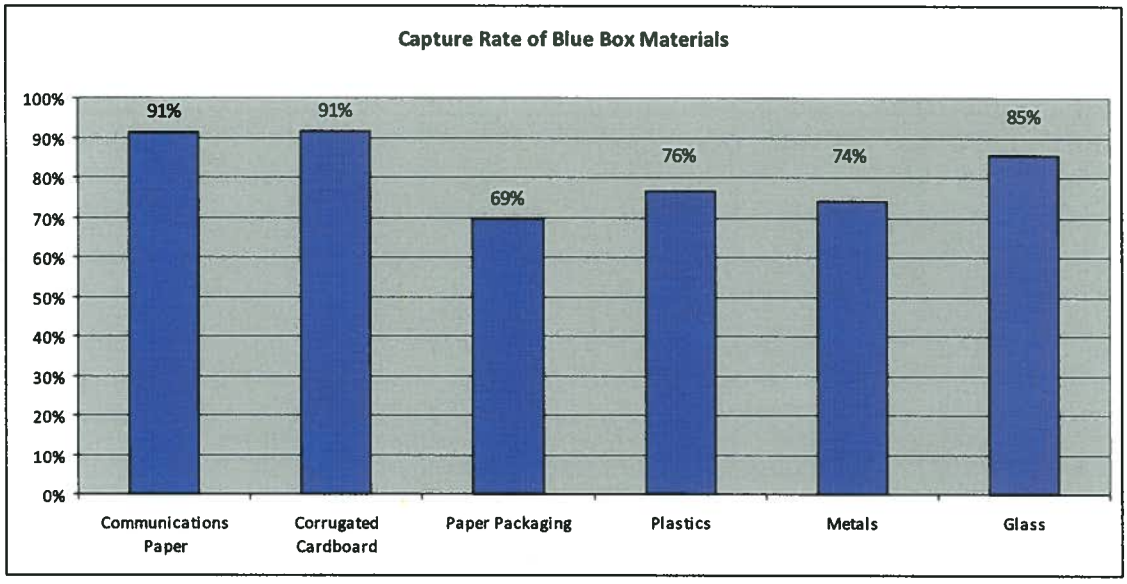
In 2008, the City of Brockville recycled 1,524 tonnes of blue box material[5], plus another 105 tonnes through the Residential Deposit Return Program[6]. Based on waste audits conducted in 2008 through the Stewardship Ontario Waste Audit Program, the City is currently capturing 86% of the blue box materials targeted in its blue box program. This exceeds the blue box capture rate goal of 80% for a municipality of its size (Small Urban)[7] (as suggested by WDO). As the chart below illustrates, the City is achieving its greatest capture performance with communications paper (e.g., newspapers, magazines, fine paper) and corrugated cardboard, capturing an estimated 91% of available material. The City's lowest capture rates are with paper packaging (such as boxboard, kraft paper and molded pulp) and metals (in particular paint cans, aerosol cans, and aluminum foil).

[5] 1,640 tonnes of material was collected and processed through the blue box program. Of this, there was 1,524 tonnes of material marketed for recycling and 116 tonnes of processing residue.

[6] 2008 WDO Datacall. Waste Diversion Organization.

[7] Continuous Improvement Fund. *Guidebook for Creating a Municipal Waste Recycling Strategy*. March 2010.

**Figure 2**



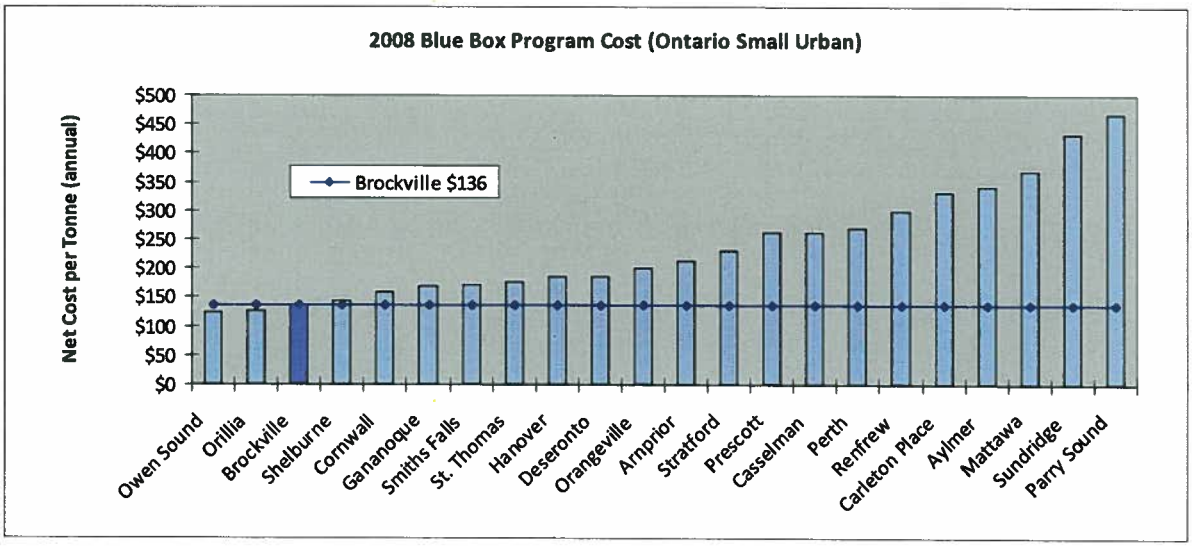

The City provides curbside collection of recyclables to 7,971 single-family households and 1,487 multi-family households. Collection is weekly; however, recyclable containers (plastic, glass and metal) are collected on weeks opposite to that of fibres (e.g., paper, cardboard).

In 2008, the net cost for Brockville's blue box program (as reported by WDO) was approximately $136 per tonne[8]. As the diagram below illustrates, this is one of the more cost-efficient blue box programs when compared against others in the Small Urban municipal category[9].

[8] Does not factor in subsidies from LCBO Interim Funding or Stewardship Ontario Funding.

[9] 2008 WDO Datacall. Waste Diversion Ontario. *Residential Blue Box Data by Municipal Groups (2008).*

**Figure 3**




*Source: WDO 2008 Datacall.*

*Note: WDO cost calculation does not factor in subsidies from LCBO Interim Funding or Stewardship Ontario Funding.*

As is commonly the case in many other municipalities, the City is achieving greater participation from its single-family households compared to multi-family (apartment) households. As seen in the table below, more than twice as much recyclable material is collected from the average serviced single-family household compared to serviced multi-family households.

**Table 2: Recyclable Materials Collected by Dwelling Type (2008)**

| Dwelling Type | Households /Units Serviced | Recyclables Collected (kg/hhld/year) |
|---|---|---|
| Single-family (curbside collection) | 7,971 | 193 |
| Multi-family (apartment collection) | 1,487 | 86 |

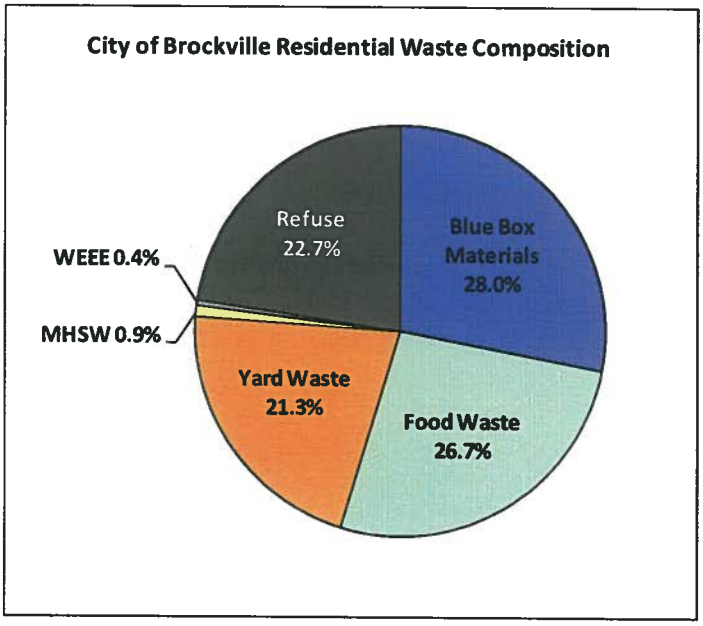
*Source: City of Brockville*

# 7 Projected Waste Management Needs

## *7.1 Opportunities for Increasing Diversion*

*Waste Composition*

**Figure 4**




Trow prepared a waste composition analysis of Brockville's waste streams, based on available waste audit data and the WDO datacall (all figures 2008). As seen in the diagram to the left, the composition analysis indicates that of the total waste stream, approximately 28% could potentially be recycled through the City's blue box program.

*Gap Analysis*

A gap analysis was conducted to assess the performance of Brockville's waste recycling programs. The analysis (see Table 4) demonstrates that the City is diverting the majority of targeted blue box material available in the City's waste stream.

**Table 3: Estimate of Recycled and Available Recoverable Waste Materials**

| Waste/Resource Material | Estimated Composition (%) | Material Available for Diversion (tonnes)[a] | Material Currently Captured (tonnes) | Divertible Material Remaining in waste Stream (tonnes) | Material Remaining in Waste Stream for Diversion (% of total waste stream) |
|---|---|---|---|---|---|
| Stewardship Returns[b] | 1.6% | 105 | 105[b] | 0[b] | 0.0% |
| Communications Paper | 12.9% | 875 | 786 | 89 | 1.3% |
| Corrugated Cardboard | 3.0% | 202 | 182 | 20 | 0.3% |
| Total Paper Packaging | 3.5% | 264 | 178 | 85 | 1.3% |
| Total Plastics | 2.4% | 164 | 124 | 40 | 0.6% |
| Total Metals | 1.7% | 118 | 86 | 32 | 0.5% |
| Total Glass | 2.5% | 170 | 143 | 27 | 0.4% |
| **Total Divertible Blue Box Materials** | 27.6% | 1,898 | 1,604 | 293 | 4.4% |
| ***Current Diversion Rate***[c] | | | 23.6%[c] | | |
| ***Additional Diversion Rate***[c] | | | | | 4.4%[c] |
| ***Maximum Future Diversion Rate***[c] | | | | | 28%[c] |

[a] Based on 6776 tonnes generated.

[b] Stewardship returns are comprised of beverage containers (predominately alcohol) returned through stewardship programs. As the data on these returns are aggregated, they are therefore presented as a lump sum. Other stewardship-covered beverage containers identified in the waste stream or in blue boxes have been accounted for in their respective material-type category. For this reason, the amount available equals the amount diverted for Stewardship Containers.

[c] Before processing. Assumes 100% capture rate.

*Source of data: City of Brockville; Waste Diversion Ontario*

# 8 Overview of Options (Diversion Strategy)

## *8.1 Evaluation of Diversion Options*

A number of waste diversion options were identified and analyzed for suitability of application to the City's waste recycling system. The most appropriate options were then evaluated against a set of criteria, including:

- Economic feasibility – how economically feasible is the program, and how does it compare against the others on a cost per tonne basis.
- Sound approach/technology – has this approach or technology worked in other jurisdictions.
- Ease of implementation – how easy is the option to plan for and implement.
- Environmental effects (including waste diversion) – what are the main environmental effects of the option (primarily represented as waste diversion).
- Social acceptance – how accepted is the option, measured by feedback received or as commonly received in other jurisdictions.

The table below presents the options and their ranking, followed by a description of each option. The highest possible score is 15, and the lowest possible score is -15. A higher score indicates greater preference.

**Table 4: Summary of Diversion Option Rating**

| Recommended Diversion Options | Overall Rating |
|---|---|
| Promotion and education | 13 |
| Household Source Separated Organics (e.g., kitchen and food waste) | 10 |
| Optimized Blue Box (Service Optimization) | 9 |
| Extended Collection services (Service Optimization) | 9 |
| Mandatory Recycling By-law (Service Optimization) | 9 |

## *8.2 Capture Rate and Anticipated Diversion*

Currently, the City of Brockville is capturing 24% of its blue box recyclable waste. Approximately 85% of the recyclables in Brockville's waste stream is currently being captured for recycling. This is very high for a municipality, and it becomes increasingly more difficult to capture additional materials as you get closer to 100% capture rate.

The City of Brockville is categorized as "Small Urban" by the WDO. The target capture rate set by WDO for the "Small Urban" category is 80%. With a recycling capture rate of 85%, Brockville has demonstrated that the municipality and its residents are able to capture most of the recyclables in their waste stream. To improve on this, this strategy recommends a capture rate of 90% for recyclable material. When achieved, the blue box program will result in an estimated residential diversion rate of 26%, and will divert an additional 115 tonnes of additional tonnes of recyclables. The table below presents the amount of material currently diverted, how much more will be diverted by achieving a 90% capture rate, and the total anticipated diversion after implementation of the recommended options.

**Table 5: Anticipated Diversion with 90% Capture Rate of Materials**

| Material | Amount Currently Diverted (tonnes) | Increased Diversion @ 90% Capture Rate (tonnes) | Percentage Points Added to Diversion Rate |
|---|---|---|---|
| Communications Paper | 786 | 2 | nil |
| Corrugated Cardboard | 182 | nil | nil |
| Total Paper Packaging | 178 | 59 | 1% |
| Total Plastics | 124 | 24 | < 1% |
| Total Metals | 86 | 20 | < 1% |
| Total Glass | 143 | 10 | < 1% |
| ***Total Additional Recycling Rate*** | | | ***2%*** |
| ***Target Recycling Rate*** | | | ***26%*** |

## *8.3 Recommended Recycling Options*

### 8.3.1 Description of Options

#### 1) Promotion and Education

Enhancing the City's public education program was the highest-scoring option reviewed. To be successful, a waste recycling program requires a sound communications strategy, and one that results in a promotion and education program that supports all of the system's initiatives. A good communications program will allow residents to fully participate in waste recycling programs by raising awareness about the City's programs and overcoming barriers to participation.

An enhanced promotion and education program would go beyond the static use of brochures and online information by establishing a dialogue with residents to assess those barriers to participation and determine opportunities for improvement. Such a program may include:

- Face-to-face contact to promote specific programs, possibly at community events or by going door-to-door;
- Using neighbourhood champions or community leaders to teach others or to lead by example (e.g., backyard composting);
- Give-aways or discounts to help physical barriers to participation (e.g., additional or larger blue boxes);
- Interactive on-line waste forums and feedback forms; and
- Community-based social marketing approaches, among other things.

To support the implementation and operation of an enhanced promotion and education program the City would need to develop a waste recycling communication and education strategy, associated C&E campaign and require an additional staff person to resource a campaign. The strategy should also examine additional cost-effective means of delivering outreach to the community, including (but not limited to):

- The use of community volunteers and neighbourhood champions;
- Participation in existing events (e.g., display booths at expos or fairs);
- Cost-sharing opportunities with other municipal departments or engaging community partners that have similar or complimentary mandates (e.g., beautification or anti-litter programs, newsletters from other departments or community partners, etc);
- Hiring of a student or intern (specifically for waste projects or shared between departments); or
- Presentations to community groups on available programs.

The communication activities should have specific strategic targets. Possible targets may include (but are not limited to):

- Reminders about specific recyclable materials or topics of concern to achieve identified problem areas (e.g., to reduce contamination levels, to clarify how to recycle problematic or confusion materials, etc); or

- Encouraging the adoption of waste reduction/prevention behaviours (e.g., encouraging wasteless gifts by purchasing 'experiences', such as concert tickets or a spa visit, or consciously avoiding the purchase of products with excessive packaging).

The waste diversion communication strategy should include a monitoring and evaluation component, which will allow program managers to adjust programming in response to program performance or other identified needs, such as changes in materials collected, common contamination issues, feedback from residents, or new priority issues.

The estimated annual cost for the waste system's education program is $12,546 (based on $1.20 per household, which was identified as a best practice in the KPMG *Blue Box Program Enhancement and Best Practices Assessment Project Final Report*. At a minimum the addition of a part time staff person would be required. The estimated annual cost for an additional part time staff person is approximately $30,000. Of the total cost for this program, $33,909 is a recommended increase in funding over 2008 levels, while the remaining $8,637 is currently integrated within costs for the existing system components.

**Learning from Other Communities**

There is a wealth of information that can be learned from the outreach activities in other communities. Two good sources of information include the *Fostering Sustainable Behaviour: Community-Based Social Marketing* website (www.cbsm.com) and Tools of Change (www.toolsofchange.com). Both websites are searchable and showcase what other communities have done to change behaviours and encourage more sustainable habits.

## 2) Service Optimization

While the City's current capture rate for recyclables is high, a number of options for service optimization have been identified. These options are intended to improve cost-efficiencies and levels of service while contributing to increasing the diversion of blue box materials.

### *Optimized Blue/Green Box Collection*

The collection of recyclables forms a key component of the City's current diversion program, and will continue to be so. To achieve a higher participation rate in the City's blue/green box program, the current alternating weekly collection will be examined for change to weekly collection of both blue and green box materials. For example, an option to provide weekly

collection of all recyclable material can be included in the City's future waste collection tender. Upon the evaluation of tenders, the City can then determine the potential cost of implementing this option. The City will also continue to examine the feasibility and cost-effectiveness of:

- Adding additional materials to the blue and green box streams (when feasible);
- The use of alternative collection containers, where feasible (e.g., automated cart collection);
- Examining partnerships with neighbouring municipalities and industry for recyclables collection and processing;
- Maintaining and further promoting the depot at the transfer station, and providing additional depot locations.

Prior to future program changes, further consideration and research should be completed to examine the timing of municipal contracts, end markets for new materials, alternative collection methodologies such as using split compaction collection vehicles and creative solutions to overcome the cost of providing weekly blue/green box collection. The estimated cost for this option is estimated to range from $15,000 to $20,000. To determine the cost to provide an enhanced blue/green box collection program, the City should include this program as an option in its future waste collection tender.

*Extended Collection services*

Currently, 979 multi-family units and 163 single-family units are not eligible to receive municipal collection due to locations on private roads or where restrictions are in place from previously negotiated Site Plan Control Agreements. Including these locations within the City's current waste management program will enhance the diversion of waste from disposal and provide an equitable level of waste management services to its residents. It is recommended that the City develop a protocol for revisiting those agreements and assessing if municipally-provided collection is warranted for specific locations. The annual cost for this option is estimated to range from $50,000 to $60,000.

### 3) Mandatory Recycling By-law

While the City currently has a by-law addressing recycling, it is not actively enforced. The current 2010 Curbside Refuse Regulations (as stipulated in City of Brockville By-Law # 94-2000) state that "Refuse items that WILL NOT be collected are recyclables, corrugated cardboard, tires, demolition material and lumber, animal feces, liquids, paints, oils, batteries, propane tanks or other hazardous material."

A mandatory recycling by-law can be a useful tool to help support public education and outreach programs. Typically, most residents will recycle and compost if programs are convenient to use and if they know how to use them; however, by-laws provide regulators and property managers with the legal backing to further encourage waste diversion where needed. Enforcement should be carefully applied and only when required to correct repeated violations.

A mandatory recycling by-law could be used in conjunction with the implementation of clear garbage bags. Clear garbage bags will allow waste collectors to easily identify if there are prohibited items in the garbage, whereby those bags would be left at the curb with a sticker affixed explaining why. Recent studies have shown that switching to clear bags can result in an increase in diversion. For example, in a 2008 study by Quinte Waste Solutions (E & E Funded Project Number 177) examining 22 municipalities that had implemented clear refuse bag programs, 21 of them experienced an increase in the amount of recyclables diverted from disposal.

At a minimum the addition of a part time staff person would be required to manage this program. The estimated annual cost for an additional part time staff person is approximately $30,000.

# 9 Implementation Plan

Once finalized, the next steps for Brockville to implement the Waste Recycling Strategy include:

- Obtain approval for the Waste Recycling Strategy from City Council;
- Prepare detailed implementation plans for the preferred system components to be implemented; and
- Proceeding with the implementation of the preferred options.

Recommended steps to move each of the system options toward implementation are provided in the table below.

**Table 6: Moving Toward Option Implementation**

| Recommended Diversion Options | Recommended Steps toward Implementation |
|---|---|
| Promotion and education (including waste minimization) | • Develop a detailed solid waste communications budget.<br>• Build partnerships, as necessary.<br>• Prepare a communications strategy, including the identification of:<br>o Goals and objectives of the communications strategy, including specific diversion goals;<br>o Target audience;<br>o Target messages;<br>o Mechanisms for delivering the messages (e.g., brochures, volunteers, etc).<br>• Develop communication materials.<br>• Roll-out communications strategy. |
| Optimized Blue Box | • Complete research/studies<br>• Pilot testing if required<br>• Purchase necessary equipment<br>• Negotiate any change in service level with collection/processing contractor |
| Extended Collection services | • Develop protocol and define parameters required for municipal collection. |
| Mandatory Recycling By-law | • Confirm opportunities for enforcement.<br>• Define conditions when enforcement is required.<br>• Assign enforcement resources. |

# 10 Contingencies

In the event of unforeseen circumstances, there are a number of contingencies that the City of Brockville can adopt to help ensure the Waste Recycling Strategy continues to move forward. Possible contingencies are provided in the table below.

**Table 7: Contingencies**

| Risk | Contingency |
|---|---|
| Insufficient funding | • Raise/implement user fees.<br>• Explore and apply for other funding sources. |

| | |
|---|---|
| | • Delay lower-priority initiatives.<br>• Increase proportion of municipal budget to solid waste management. |
| Public opposition to planned recycling initiatives | • Improve public communications.<br>• Engage community/stakeholders to discuss initiatives/recycling plan. |
| Lack of available staff | • Prioritize department/municipal goals and initiatives.<br>• Hire summer student to help with planning. |

## 11 Monitoring and Reporting

The City of Brockville currently monitors many aspects of the City's solid waste system, and this will continue to be an important component of the City's Waste Recycling Strategy. The table below provides recommendations for the ongoing monitoring of the Strategy.

**Table 8: Approaches for Monitoring of SSWMP**

| Topic | Tools | Frequency |
|---|---|---|
| Total waste generated (by type and by weight) | Measuring of wastes and recyclables at transfer station/disposal site (e.g., weigh scale records) | Each load |
| Diversion rates achieved (by type and by weight) | Formula: (Blue box materials + other diversion) ÷ Total waste generated * 100% | Monthly |
| Waste disposed (by type and by weight) | Reconciliation of weigh scale tickets | Monthly |
| Program participation | Customer survey (e.g., telephone); monitoring set-out rates | Every 1 to 3 years |
| Customer satisfaction | Customer survey (e.g., telephone); tracking calls/complaints received to the municipal office | Every 1 to 3 years |
| Opportunities for improvement | Customer survey (e.g., telephone); tracking calls/complaints received to the municipal office | On-going |
| Planning activities | Describe what initiatives have been fully or partially implemented, what will be done in the future | Annually |
| Review of the Waste Recycling Strategy | A periodic review of the Waste Recycling Strategy to monitor and report on progress, to ensure that the selected initiatives are being implemented, and to move forward with continuous improvement | Every 2 to 3 years |

## 12 Review of Waste Recycling Strategy

As noted in Section 11, the implementation and the performance of the Waste Recycling Strategy should be monitored on a regular basis, with the results being comprehensively reviewed every 2 to 3 years.

The review should include:

- Comparison of waste diversion rates against the 2008 rates;
- Comparison of program performance against 2008 performance;
- Consultation with stakeholders[10] or the public for input on how the Waste Recycling Strategy and its implementation should be adjusted; and
- Recommendations for future actions to ensure the Waste Recycling Strategy perform with maximum efficiency and effectiveness.

[10] Possibly through a community advisory committee.

**REPORT TO FINANCE, ADMINISTRATION AND OPERATIONS COMMITTEE**
**April 19, 2011**

**2011-039-04**
**Amendment to Parking By-law 119-89**
**New Infraction – Boat Trailer Parking**

**S.M. SEALE**
**CITY CLERK**

RECOMMENDED

THAT Council authorize an amendment to Parking By-law 119-89 to create a new infraction and applicable penalty for parking of boat trailers and vehicles without payment of fee.

PURPOSE

To amend the Parking by-law to include a new parking infraction for parking boat trailers without paying the appropriate fee.

BACKGROUND

With changes to the boat trailer parking fees in 2010, it has become necessary to create a new infraction with applicable fine to sufficiently deter people from parking without paying the applicable fee.

ANALYSIS

Currently, By-law Enforcement Officers are able to ticket vehicles/trailers that park without paying the applicable fee but the fine is $5.00 (early payment)/$7.00 (after seven days) which is much less that the current daily rate of $21.50. To rectify this imbalance it is necessary to amend the Parking By-law.

It is being recommended to implement a $50.00 (early payment)/$60.00 (set fine (after seven days)) which should significantly deter people from parking without paying the fee.

FINANCIAL CONSIDERATIONS

Additional revenues resulting from the implementation of this penalty will be reflected in the Parking Fine revenues and be directed to the Parking Reserve account.

S.M. Seale
City Clerk

D. Cyr
Director of Finance

B. Casselman
City Manager