

TO:	CHAIR AND MEMBERS CIVIC WORKS COMMITTEE MEETING ON MARCH 7, 2017
FROM:	KELLY SCHERR, P.ENG., MBA, FEC MANAGING DIRECTOR - ENVIRONMENTAL & ENGINEERING SERVICES & CITY ENGINEER
SUBJECT	RESULTS OF PILOT PROJECT FOR CURBSIDE COLLECTION AND DIVERSION OF CHRISTMAS TREES AND RECOMMENDED NEXT STEPS

RECOMMENDATION

That, on the recommendation of the Managing Director, Environmental & Engineering Services and City Engineer, the following actions **BE TAKEN** with respect to the collection and diversion of Christmas trees:

- a) The results of the curbside collection and diversion of Christmas trees pilot project **BE RECEIVED** for information;
- b) Starting in January 2018, the following actions **BE APPROVED**:
 - i) Christmas trees and other yard waste be collected curbside as part of one Green Week starting on the first Monday after the holiday garbage pickup exemption period and ending on the Saturday of that week (the dates in 2018 will be January 8 to 13);
 - ii) EnviroDepots be opened for 3 additional days to provide increased access to drop off Christmas trees, recyclable materials and excess garbage (\$1.50 per bag) accumulated during the longer collection cycles over the holiday period;
 - iii) Funding for the services in i) and ii) (\$60,000 per year) be allocated from the Waste Diversion Services Strategic Investment approved as part of the Multi-year budget for 2018 and beyond; it being noted that \$200,000 per year has been previously approved; and
 - iv) Forestry Services continue with the higher value tree maintenance activities for the budget previously used to manage Christmas trees;
- c) The Civic Administration **BE DIRECTED** to prepare the necessary amendments to the Municipal Waste & Resource Materials Collection By-law (WM-12) to facilitate curbside collection of Christmas trees and other yard waste as part of one Green Week in accordance with b) i) above: and
- d) That Civic Administration **BE AUTHORIZED** to undertake all other administrative acts that are necessary in connection with this matter.

PREVIOUS REPORTS PERTINENT TO THIS MATTER

Relevant reports that can be found at www.london.ca under City Hall (Meetings) include:

- Options for Collection and Diversion of Christmas trees (May 10, 2016 meeting of the Civic Works Committee (CWC), Item #5)
- Update: Interim Waste Diversion Plan (2014-2015) and Additions for 2016 (February 2, 2016 meeting of the CWC, Item #15)
- Waste Diversion – Update on Examination of Residential Organic Waste (Food Scraps) and Next Steps (April 20, 2015 meeting of the CWC, Item #13)
- Interim Waste Diversion Plan 2014-2015 (July 21, 2014 meeting of the CWC, Item #18)
- Waste Diversion and Garbage Collection Updates (November 25, 2013 meeting of the CWC, Item #7)

STRATEGIC PLAN 2015-2019

Municipal Council has recognized the importance of solid waste management including waste diversion, climate change and other related environmental issues in its 2015-2019 - Strategic Plan for the City of London ([2015 – 2019 Strategic Plan](#)). With respect to this Civic Works Committee (CWC) Report 2 of the 4 Areas of Focus address increasing waste diversion as it relates to providing a service for a beneficial use of discarded Christmas Trees:

Building a Sustainable City

- Strong and healthy environment

Leading in Public Service

- Excellent service delivery

BACKGROUND

PURPOSE:

The purpose of this report is to:

- Provide a summary and evaluation of the Christmas tree curbside collection and diversion pilot project undertaken in January 2017; and
- Recommend an on-going program commencing in 2018 that provides options for both curbside collection and diversion of Christmas trees (City wide Green Week including Saturday pickup) and improved resident drop-off options by opening the EnviroDepots on additional days in January of each year.

CONTEXT:

At the May 10, 2016 meeting of the CWC staff presented the report: Options for Collection and Diversion of Christmas Trees. The May report examined the options to divert more Christmas trees from landfill, and recommended a pilot project to collect trees curbside for composting in January 2017. At the May 17, 2016 Council meeting, Civic Administration were directed among other items, to implement a pilot project, eliminate the temporary Christmas tree depots, and report back to the CWC, as per clauses a), b) and e) of the Council resolution:

- a) a one-year pilot project for curbside collection of Christmas trees, to take place January 7, 2017 and January 14, 2017, to assist with the implementation of the 2016 Interim Waste Diversion Plan, BE APPROVED;
- b) the elimination of the temporary, seasonal Christmas tree depot service for January 2017, BE APPROVED; it being noted that the four (4) EnviroDepots are open on winter hours;
- e) The Civic Administration BE DIRECTED to report back to the Civic Works Committee by April 2017 with respect to the results of the Pilot Project.

(Note: Clause c) and d) dealt with the by-law amendments and the administrative acts necessary to undertake the pilot project).

DISCUSSION:

This section contains information under the following headings:

1. Background information - Christmas Tree Management Options Prior to 2017
2. 2017 Pilot Project (plus Appendix A)
3. Comparison of Alternative Christmas Tree Management Options (plus Appendix B)
4. Conclusion

1. Background Information – Christmas Tree Management Options Prior to 2017

Prior to the pilot project, there were four options for residents to manage their natural Christmas trees:

1. Drop off at one of the six temporary Christmas tree depots for chipping
2. Drop off at one of the four EnviroDepots for composting
3. Hold until spring then set to curb for collection with yard materials for composting
4. Set to curb following Christmas for collection with garbage for landfilling

With the exception of option 1 above, managing Christmas trees was included in other program operations and additional costs were minor. The temporary Christmas tree depot and chipping costs were estimated at approximately \$40,000 to \$60,000 per year. Annual costs varied on the quantities of trees dropped off, weather conditions and the lag time between when the trees were dropped off at the temporary depots and processed (e.g., harsh winter weather and heavy snow impacts the ability of crews to remove and chip trees and results in increased costs).

Based on information at that time, it was estimated that approximately 120 tonnes of trees were received annually at the temporary depots and EnviroDepots. Estimates were based primarily on the number of trees dropped off at the temporary depots and chipped on site. There were no measured weights available.

2. 2017 Pilot Project (Appendix A)

In January 2017, a separate collection for Christmas trees on two designated Saturdays was provided to approximately 120,000 households with curbside pickup service. Half of the city (Zones C, D, E) was collected on January 7 and the other half (Zones A, B, F) was collected on January 14. Changes to the existing Christmas tree management program were required to implement this pilot project including amendments to the Municipal Waste & Resource Materials Collection By-law (WM-12) and closing the temporary Christmas tree depots.

Residents that did not have access to the collection service (e.g., residents in multi-residential buildings, downtown core), or for those that missed the Saturday pickup, or did not wish to wait for the pickup day, had the option to take their tree to one of the four EnviroDepots. Residents with yard waste collection could also choose to wait for the spring green collection week.

Undertaking the pilot project presented the opportunity to:

- determine the requirements for curbside collection across 120,000 households;
- obtain more accurate data on the number of Christmas trees to be managed, and how residents prefer to handle them;
- learn first-hand about the requirements and challenges of changing a service (permanently closing temporary depots);
- compare assumptions and other municipal experience with hands on experience gained from the pilot project; and
- develop additional management options based on local information that could lower or contain costs and/or increase convenience to customers.

Approximately 120 tonnes (approximately 11,700 individual trees) of Christmas trees were collected curbside or dropped off at the EnviroDepots. The cost of the pilot project was \$60,000, which includes \$54,000 for collection and \$6,000 for processing (composting). The pilot project cost is in line with estimated costs and the cost of the service prior to the pilot project. Approximately \$8,500 in expenditures were required to promote the pilot project. Further details are provided in Appendix A.

3. Comparison of Alternative Christmas Tree Management Options

Outlined on Table 1 are the estimated total program costs associated with each Christmas tree management option contained in Appendix B, including the previous system, noting the following:

- Option 1 is the same service as the Pilot Project with 3 additional EnviroDepot days.
- Option 2 is the same as Option 1 but uses two locations to tip and process Christmas trees. Christmas trees collected on north side of the city, would be tipped and composted at Try Recycling. On the southside, Christmas trees would be tipped on the brush grinding pad at the W12A Landfill site. The chips would be used for landscaping or other beneficial uses.
- Option 3 condenses all collection into one week starting on the Monday and likely ending on the Saturday. This is structured after the green week service for yard waste that Londoners have had since 1996. Christmas trees would go to both locations as noted above. Additional EnviroDepot days are also identified.
- Option 4 is the elimination of all curbside collection of Christmas trees and increase the number of days that the EnviroDepots are open from the current number of 4 days to 12 days.

Table 1: Summary of Estimated Total Program Costs

Christmas Tree Management Option	Collection & Processing Cost (from Table B-1, Appendix B)	Additional EnviroDepot Operation Cost (from Table B-2, Appendix B)	Total Estimated Cost
<i>Previous System for Managing Christmas Trees – Temporary Depots</i>			
Temporary Drop-off Depots and Chipping (set up for about nine days)			\$40,000 to \$60,000
<i>Curbside Collection Options</i>			
Option 1: Two Saturday Collections	\$60,000	\$3,000	\$63,000
Option 2: Optimized - Two Saturday Collections	\$50,000 to \$55,000	\$3,000	\$53,000 to \$58,000
Option 3: One Green Week Collection	\$52,000 to \$57,000	\$3,000	\$55,000 to \$60,000
<i>No Curbside Collection – EnviroDepots Only</i>			
Option 4: No Collection (use EnviroDepots with more open days)	\$15,500 to \$18,000 ⁽¹⁾	\$3,000	\$18,500 to \$21,000

Note:

- ¹ Collection and processing estimated costs reduced by \$2,000 from numbers presented in Appendix B as two EnviroDepot operating days of the first two weeks of January are already included in the Additional EnviroDepot Operation Cost estimate.

4. Conclusion and Next Steps

The one year pilot project was successful. For approximately the same cost as previous years (temporary depot service), convenience was increased to Londoners that had a natural Christmas tree and ensured that Christmas trees were diverted from landfill. London's curbside Christmas tree pilot project was consistent with the level of service provided in other Ontario municipalities as noted in the survey contained in the CWC May 2016 report (e.g., 15 of 17 municipalities provide curbside service). Most municipalities surveyed collected Christmas trees on one scheduled day. All 17 municipalities surveyed had banned the collection of Christmas trees with garbage.

In 2018 and beyond, budget has been approved by Council for future waste diversion initiatives in the amount of \$200,000 per year (Strategic Investment). Re-aligning program expenditures to ensure an increased level of value is obtained between Forestry Operations and Solid Waste Management (Waste Diversion) would occur in 2018. Forestry Operations, for example, would have the opportunity to undertake higher value work on tree maintenance rather than expend funds on chipping Christmas trees. Operational responsibility for Christmas tree management will be assigned to Solid Waste Management.

From a customer service perspective, a dedicated curbside collection program is the most convenient collection option and provides London residents with an enhanced collection service. Although Option 4 is the lowest cost, it is the least convenient of the options.

Operationally, Option 3, the one green week curbside collection, is the best option as it allows for greater scheduling flexibility for collections operations. If inclement weather occurs operations can make the appropriate adjustments to the collection schedule. A one week collection also could eliminate the amount of time trees sit out at the curb before the collection date reducing the chance of trees becoming buried or frozen in the snow. Increasing the number of open days at the EnviroDepots helps not only with those that wish to drop off Christmas trees but also those with holiday recyclables and/or excess holiday garbage. This option will cost about \$60,000 annually.

Communicating the curbside collection program would be about half the cost of the 2017 pilot project as the proposed changes are similar to the pilot project. Changes would be made to the Waste Reduction & Conservation Calendar and a communications campaign would be initiated mid-December.

ACKNOWLEDGEMENTS

This report was prepared with the assistance of Anne Boyd, Manager, Waste Diversion Programs and Kevin Springer, Manager, Waste Collection Operations.

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APPENDIX A

Results of the 2017 Pilot Project

Christmas Tree Quantities

Approximately 120 tonnes (approximately 11,700 individual trees) of Christmas trees were collected curbside or dropped off at the EnviroDepots during the pilot project as summarized in Tables A-1, A-2 and A-3.

Table A-1: Christmas Trees Collected (Number and Tonnes)

	January 7 Zones C,D,E ¹	January 14 Zones A,B,F ¹	Four EnviroDepots ²	Total
Tree Quantities ¹	3,900	7,100	700	11,700
Tonnes	40	70	10	120

¹ Collection crews counted trees collected. These trees were weighed.

² EnviroDepot tonnes are based on an estimated weight per tree. EnviroDepot staff counted the trees dropped off.

Table A-2: Christmas Trees Collected by Zone

Zone	Includes the following communities	Number of Christmas trees picked up on Saturday
A	Bryon, Oakridge, Westmount	2,570
B	Cherryhill, Masonville, Stoneybrook Acres, Whitehills, Sherwood Forest	2,260
C	Carling Heights, Northridge, Old North, Stoneybrook Heights, River Bend	1,915
D	Argyle Park, Fairmount, Huron Heights, Trafalgar Heights, part of Lambeth	895
E	Cleardale, Pond Mills, Summerside, Westminster Park	1,090
F	Hamilton Road Area, Kensal Park, Old South, Southcrest, part of Lambeth	2,270

Table A-3: Christmas Trees Collected by EnviroDepot

Location	Number of Christmas trees dropped off
Oxford EnviroDepot	445
Clarke EnviroDepot	125
EnviroDepot at the W12A Landfill	60
EnviroDepot at the Try Recycling north end location	70

As previously noted prior to 2017, it was estimated that approximately 120 tonnes of trees were managed annually through the temporary depot program and EnviroDepots. It was estimated (May 10, 2016 CWC report) that an additional 100 to 150 tonnes may be collected during the pilot project. There are a number of factors that may have contributed to why the anticipated additional tonnes to be managed were not observed:

- Previous estimates of trees collected at depots were much higher than actual (e.g., these were estimates rather than weighed tonnes).

- Fewer trees were being collected with garbage than was estimated (i.e., there are fewer trees available than was estimated). This would suggest that most Londoners were taking their tree to a depot rather than setting out for garbage collection.
- A large percentage of trees are still in the system (i.e., were not collected in January or brought to an EnviroDepot) and will be placed out for collection in the spring yard material collection week.

Pilot Project Cost and Operations

The cost of the pilot project was \$60,000, which includes \$54,000 for collection and \$6,000 for processing. The pilot project cost is in line with estimated costs. Approximately \$8,500 in expenditures were required to promote the pilot project.

On each of the designated Saturdays a fleet of 27 collection vehicles was deployed to complete the curbside Christmas tree collection service. A large fleet was utilized due to the many unknowns of the pilot project which included collection time efficiencies, tree quantities and weather. A full fleet also ensured that collection was completed in a timely manner. For the pilot the weather conditions on the both Saturdays did not cause any operational problems as the Christmas trees at the curbside were visible and accessible, free of ice and snow.

Undertaking this pilot project for one year also resulted in the elimination of the temporary depots. The previous temporary depot locations included advertising that they were permanently closed and information on where to take Christmas trees. The temporary depots were monitored by Solid Waste Collection staff and removed trees that were dropped off in these locations. The number of trees that were incorrectly disposed of at these closed temporary locations was very minimal.

Feedback

Twenty-one (21) comments were received by City Staff about this program, and 50% of these were concerns about three common issues: closing of the temporary depots, lack of collection for multi-residential buildings, collection day was too soon/late in the month (e.g., various cultures were still using their tree for religious celebrations after the collection date and unable to participate in the curbside pick-up). Additional concerns may have been expressed directly to Councillors and/or the Mayor's office.

Summary

The outcome of the 2017 pilot project resulted in the evaluation of valuable information regarding the expected quantity of trees available for composting, routing of trucks for collection and associated costs of offering a dedicated curbside collection program.

The quantity of trees collected at the curbside and at the EnviroDepots was approximately 50% of what had been anticipated. Several reasons are possible as to why the quantity of Christmas trees to manage did not increase during the pilot project. Based on the number of trees collected, 10% of London's curbside households set trees to the curbside.

The pilot project offered a convenient, enhanced service for about 10% of households at a cost of about \$5 per tree collected. This year's winter weather did not hamper collection efforts and collection took place on the scheduled day, and within the estimated costs. It is worth noting that the cost of the pilot project could have been higher if a winter storm event delayed collection.

Collecting these details assisted with developing alternative options to manage Christmas trees in 2018 and beyond (Appendix B).

APPENDIX B

Comparison of Pilot Project with Alternative Christmas Tree Management Options

An evaluation of the pilot project and three additional Christmas tree management options are presented in Table B-1 as follows:

1. 2017 Pilot Project – trees collected curbside (two Saturdays) and composted
2. Current 2017 Pilot Project optimized – portion of trees chipped
3. One dedicated collection week – all six zones collected in one week including Saturday if required
4. No collection; increase the use of four EnviroDepots by opening for more days

For each of the options Christmas trees are banned from garbage collection and include additional EnviroDepot operational days. Additional days would result in having the EnviroDepots open on consecutive days (excludes statutory holidays) for two weeks following the holidays. Costs for three additional EnviroDepot days are found on Table B-2.

Residents that do not have the curbside collection program available (i.e. residents that live in multi-residential buildings) or chose not to participate in the curbside collection program would benefit from the extended EnviroDepot collection days. Approximately 6% of the trees collected during the pilot program were received at the EnviroDepots. In the winter months the Clarke Road and Oxford Street EnviroDepots have reduced winter operating hours and are open only 2 days a week (Wednesdays and Saturdays).

Table B-1: Overview of Christmas Tree Management Options

	Program Option	Collection Cost¹	Processing Cost	Total Estimated Cost	Advantages & Disadvantages
1	Two Saturday Collection (2017 Pilot Program) First Saturday: Zones C,D,E Second Saturday: Zones A,B,F	\$54,000	\$6,000	\$60,000	<u>Advantages:</u> <ul style="list-style-type: none"> • Convenient/enhanced service • Availability of staff and trucks to work a full day as they are not also collecting garbage <u>Disadvantages:</u> <ul style="list-style-type: none"> • Potential inclement weather impacts on collection and operations
2	Optimized Two Saturday Collection (One Saturday chipped instead for landscaping materials ²) South end Zones: A,F,E North end: Zones B,C,D	\$46,000 to \$51,000	\$4,000	\$50,000 to \$55,000	<u>Advantages:</u> <ul style="list-style-type: none"> • Reduced cost • Convenient/enhanced service • Operational flexibility to deliver trees to nearer processing site <u>Disadvantages:</u> <ul style="list-style-type: none"> • Potential inclement weather impacts on collection and operations

	Program Option	Collection Cost ¹	Processing Cost	Total Estimated Cost	Advantages & Disadvantages
3	<p>One Green Week Collection: Monday through Friday– north end Zones: B,C,D Saturday – south end Zones: A,E,F</p>	\$48,000 to \$53,000	\$4,000	\$52,000 to \$57,000	<p><u>Advantages:</u></p> <ul style="list-style-type: none"> • Similar cost to prior temporary depot program • Convenient/enhanced service • Less inclement weather impacts • Potential to reduce call backs for missed trees <p><u>Disadvantages:</u></p> <ul style="list-style-type: none"> • Trees may become lodged in the snow when they are set out on Monday • If garbage collection finishes late it could impact the resources available to collect trees Monday to Friday
4	<p>No Collection: Depot only option using four Enviro Depots (Open Clarke Rd and Oxford St for first two weeks of January each year (other permanent depots already open more days)</p>	\$10,000 to \$12,500	\$7,500	\$17,500 to \$20,000	<p><u>Advantages:</u></p> <ul style="list-style-type: none"> • Reduced costs <p><u>Disadvantages:</u></p> <ul style="list-style-type: none"> • Reduced collection service

Notes:

¹ Does not include the cost of three additional operating days in January at Clarke Rd and Oxford EnviroDepots (Table B-2).

² Trees chipped at the brush grinding pad at the W12A Landfill will be used for such landscaping beneficial uses purposes.

Table B-2 summarizes the costs of opening two EnviroDepots (Clarke Rd and Oxford St. locations; as the North End EnviroDepot and W12A EnviroDepot already have extended days as per their Environmental Compliance Approval) for an additional three days to provide increased access to drop off Christmas trees, recyclable materials and excess garbage accumulated during the longer collection cycles.

Table B-2: Additional EnviroDepot Operating Days

New Operating Days	Cost
Sunday, December 31, 2017	\$1,000
Tuesday, January 2, 2018	\$1,000
Sunday, January 7, 2018	\$1,000
Total operational costs	\$3,000