



**SUBJECT: Tree planting initiatives update**  
**TO: Committee of the Whole**  
**FROM: Roads, Parks and Forestry Department**

Report Number: RPF-03-24

Wards Affected: All

Date to Committee: May 13, 2024

Date to Council: May 21, 2024

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**Recommendation:**

Approve the by-law, substantially as shown in Appendix A of roads, parks and forestry department report RPF-03-24, being a by-law to amend By-law 55-2020 Tree Planting Initiatives Reserve Fund; and

Direct the Chief Financial Officer to allocate \$175,000 from the tree establishment and enhancement reserve to the Forestry Operating budget in 2024 to fund the identified tree planting projects; and

Authorize the Director of Roads, Parks and Forestry to enter into discussions with Conservation Halton to develop a formal agreement related to tree planting partnerships with the City; and

Direct the Director of Roads, Parks, and Forestry to report back on an annual basis with respect to tree establishment and enhancement initiatives funded through the reserve fund.

**PURPOSE:**

This report provides an update on the community supported tree planting initiatives funded by cash in lieu dollars received through the private tree bylaw administration. In addition, the report provides rationale for updating the existing Tree Planting Initiatives Reserve Bylaw and details future opportunities related to community supported programming to support canopy establishment and enhancement.

**Vision to Focus Alignment:**

- Designing and delivering complete communities in Burlington
  - Providing the best services and experiences
  - Protecting and improving the natural environment and taking action on climate change
  - Driving organizational performance
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## **Executive Summary:**

The City's Forestry section plants several thousand trees on an annual basis as part of a council-approved tree planting program. This program can be organized into two discrete streams: Caliper Tree Plantings, located within the municipal right of way and manicured parks, and Community supported planting initiatives, which is a combination of tree giveaways and planting events on public and private land.

### **In 2023, staff planted:**

- **A combined total of 2,081 trees were planted under the Caliper tree planting program.**
- **3,571 trees and shrubs were planted as part of the Community Supported Planting Initiatives.**

The caliper tree replacement program is funded annually through the Operating budget, while the community supported tree planting initiatives are funded from cash in lieu revenue generated from the City's Public and Private Tree By-laws, which is held in the Tree Planting Initiatives Reserve account. Staffing and equipment costs associated with the community tree planting initiatives are paid from the Forestry Operating budget.

Through ongoing research and evaluation of past planting sites, staff conclude that tree survivorship can be increased with additional funding allocated toward tree establishment and enhancement processes, including but not limited to site preparation and soil amendments, as well as post-planting care which includes watering, mulching, and weeding.

The tree planting initiatives reserve is managed by way of reserve bylaw 55-2020, which earmarks money to tree planting on public and private land. Staff recommend amending the current bylaw to encompass additional activities to support long-term tree survivorship as identified in **Appendix A** and renaming the reserve bylaw to the Tree Establishment and Enhancement Reserve Fund. To support this work, it is proposed that funding will be allocated annually from this reserve fund as part of the annual budget process.

Staff have identified a strong desire from the Burlington community to increase the offerings of community planting initiatives, but are limited by staff capacity currently,

since both planting streams are administered by the same business unit within the Forestry section. Opportunities for additional staffing resources that are consistent with the Urban Forest Master Plan recommendations will be considered as part the annual budget process.

## Background and Discussion:

### Tree Replacement Programs funded through Operating

Currently, the Forestry section replaces all trees that have been removed within the municipal right of way and manicured parks on a one for one basis as a minimum. This includes all replacement planting as part of the Council approved EAB management plan. The average combined annual tree planting for this program exceeds 2,000 trees. To align with Council’s Vision to Focus plan and approved Urban Forest Master Plan, staff propose to increase replacement ratios to 2:1 in the coming years, contingent on funding. Table 1 below includes a detailed breakdown.

**Table 1: 2023 Caliper Tree Planting Programs at a Glance**

Program Type	2023 Quantity	Size	Location	Cost
Annual Tree Replacement Program (non-EAB)	776	50 mm wire basket (12' height)	Streetside and manicured parks	\$315,000
EAB Replacement Program	1305	50 mm wire basket (12' height)	Streetside and manicured parks	\$555,000
<b>Total</b>	<b>2,081</b>			<b>\$870,000</b>

### Community Supported Planting Initiatives

The Forestry section administers several programs which support tree planting initiatives on both public and private land on an annual basis. These programs vary in scope and delivery, and commonly involve smaller sized trees that are easier to handle without the use of heavy equipment. Several programs are consistently delivered year over year such as free tree giveaways, and the community tree planting event on Earth Day. In addition, several ad hoc planting projects are undertaken annually contingent on community desire and staff capacity. There is potential to increase program offerings in future, which is an identified priority of the Urban Forest Master Plan. This will be phased in over time, contingent upon funding and staff capacity.

**Table 2: 2023 Community Supported Planting Initiatives**

<b>Program Type</b>	<b>Annual Quantity (3 yr Avg)</b>	<b>Size</b>	<b>Location</b>	<b>Cost</b>
Spring Free Tree Giveaway	500	3 gal. pots (2-5' height)	Private Property	\$13,500
Fall Free Tree Giveaway	500	3 gal. pots (2-5' height)	Private Property	\$9,400
Ad Hoc Events	726	1 – 3 gal. pots (2-5' height)	Private Property	\$7,480
Spring Community Planting Event	500	1 – 3 gal. pots (2-5' height)	City-owned Manicured parks	\$9,000
Conservation Halton Collaboration	1,345	1 – 3 gal. pots (2-5' height)	City-owned Manicured parks / Woodlands	\$23,800
<b>Total</b>	<b>3,571</b>			<b>\$63,180</b>

**Free Tree Giveaways**

In April 2023, 500 trees were given away as part of an annual spring giveaway. In September, an additional free tree giveaway event was held where 500 trees were given away to residents, and a raffle of 25 trees was held in collaboration with Burlington Green during National Forest Week.

The spring and fall tree giveaways have been able to be administered in a cost-effective manner. Procurement of trees is funded from the Tree Planting Initiatives Reserve, whereas program related costs, including staff time, and equipment costs are absorbed within the Forestry Operating budget rather than recovered from the tree planting initiatives reserve.

**Spring Community Planting Event**

As a continuation of Earth Day celebrations, Forestry staff, in collaboration with Burlington Green and 200 community volunteers, planted 500 trees at Millcroft Park in 2023. Forestry staff were responsible for site selection and preparation, and the procurement and delivery of all nursery stock. Burlington Green took the lead role of communicating and marketing the event, as well as the registration of 200 volunteers.

Burlington Green has been a valued partner for several years as it relates to tree planting initiatives. There is an opportunity to administer a second planting event in the fall, however, City staff are limited in capacity at this time.

### Conservation Halton Collaboration

Forestry staff continue to collaborate with Conservation Halton staff on several programs and projects. In 2023, both parties worked collaboratively on initiatives ranging from corporate tree planting events with Tree Canada, as well as educational opportunities with local schools. Additionally, Conservation Halton provided support for naturalization planting for the city throughout 2023.

**Table 3: 2023 Conservation Halton Planting Projects**

Location	Program Type	Tree/Shrub Quantity	Cost
Driftwood Park	Tree Canada Collab.	125	\$2,300
Cityview Park	Tree Canada Collab.	400	\$3,600
Tom Thompson PS/Optimist Park	From the Ground Up	100	\$600
Corpus Christi / Orchard Woodlot	From the Ground Up	220	\$2,000
Paletta Woodlot	Contract Planting	500	\$15,300
Total		1,345	\$23,800

Conservation Halton has a very successful suite of programs that are offered to Burlington residents, ranging from landowner outreach, restoration, reforestation, and education. These efforts directly align with the City’s approved Urban Forest Master Plan, specifically as it relates to canopy growth on private property, as well as engaging with the Burlington community. Program capacity in these cases is often limited by available funding. There is an opportunity for the City to increase Conservation Halton’s program capacity through additional financial support and collaboration of human resources, while achieving canopy growth targets as established in the City’s Urban Forest Master Plan.

### Ad Hoc Community Events

Throughout the 2023 planting season, there were several ad hoc opportunities for engagement and outreach with the Burlington community, which included smaller scale free tree giveaways and tree plantings. A total of 726 trees were given away or planted through ad-hoc community events and outreach.

**Table 4: 2023 Reserve Funded Community Supported Planting Events**

<b>Location</b>	<b>Partner</b>	<b>Tree/Shrub Quantity</b>	<b>Cost</b>
Norton Park	Florian Realty Team	150	\$1,750
Sherwood Forest	Field and Stream Rescue Team	350	\$4,500
Kilbride Community	Rural Forum	50	\$830
Lowville Park	Ontario Federation of Anglers and Hunters	150	Trees supplied by Tree Canada
Tree Talks	Various	26	\$400
<b>Total</b>		726	\$7,480

## **Research and Innovation**

### **Greening the Landscape Research Consortium (in Progress – Year 2)**

The City continues to be actively involved in the Greening the Landscape Research Consortium which is an interdisciplinary group of industry professionals ranging from nursery growers, landscape contractors, conservation authorities, and other municipalities, led by the Vineland Research and Innovation Center (VRIC). This research focusses on developing solutions associated with the tree value chain from grower to end user, to ensure long-term survivability.

### **Colin Alton Parkette Soil Study (Complete)**

Over the last 2 years, the City partnered with VRIC to evaluate how soil health influences tree performance.

The Colin Alton Parkette project has allowed Forestry the opportunity to compare different methods of mechanical decompaction practices and soil quality, and their relationship to newly planted trees. Results have shown that through improved soil management as part of the construction process, tree survivorship can be improved. Staff concluded that investment in improved soil management pay dividends in growing the City's tree canopy faster, reducing transplant shock, while minimizing new tree problems and service requests related to young tree dieback.

### **Juniper Ave & Tremineer Ave Canopy Recovery Project (In Progress - Year 2)**

Both Juniper Ave and Tremineer Ave were heavily impacted by EAB infestation because these streets were monocultured with ash.

To replace the significant loss in tree canopy and to demonstrate the importance of biodiversity, through evidence-based practice, Forestry teamed up with VRIC to conduct an experiment on whether the addition of various soil inoculants (beneficial bacteria and fungi) support improved tree establishment in urban areas. Further, this research highlights the positive impact that regular post-planting care has in the years following planting, yielding greater tree survivorship over time.

This program will continue to evaluate tree health over the next year and compare it to other planting locations that have not received post-planting care. If positive, the findings of the research will form the basis of a Young Tree Care program.

### **Trees as Assets – From planting to establishment**

The research that Forestry staff have participated in, as well as a growing body of industry research, supports the need for greater resource inputs in the pre- and post-planting activities to support long term tree survivorship. In addition, there is a demonstrated interest from the Burlington community to actively participate and contribute to growing the City's urban forest.

This means changing the perspective from tree planting to tree establishment. The planting of a tree is the first step in five years of establishment work (such as watering, structural pruning, mulching, weeding and integrated pest management) before it can be considered 'alive'.

Additional research is required to improve tree survivorship. Staff will be proposing an annual allocation of funding through the operating budget process by way of a 'living lab' to support this work.

### **Current Program Limitations**

- Both the free tree giveaways and community planting event programs are well received by the residents, and there is significant interest in increasing the scope of either of the programs with the help of our community partners. However, these programs require an extensive number of resources to perform well, and often operate successfully at the expense of other programs given current staffing resources. Other municipalities that run tree giveaway programs of this scope are successful because they are run by full time, dedicated staff.
- The concept of 'tree planting' should be reframed to 'tree establishment'. Through this reframe, proper attention to site and soil preparation, as well as after-care and maintenance are integral parts to ensure long term tree establishment. The existing verbiage within the Tree Planting Initiatives Reserve

is rigid in its utility, and there is an opportunity to improve long term program objectives of tree survivorship and subsequent canopy growth City-wide by modifying the wording to address the pre- and post-planting activities.

- There is currently no method of tracking trees once they have been given away as part of the tree giveaway events. Although residents must register, there are no resources to follow up to ensure trees have survived the first year. This means there are minimal metrics to report on long-term program success.
- Maintenance after planting is critical for both public support and tree establishment. There is *no* established program to support maintenance of newly planted trees after warranty. Trees planted within the City's right of way are presently absorbed within Forestry's grid maintenance program, which could mean new trees are not maintained for another 6-8 years after warranty. Trees planted as part of a community supported initiative do not have a formal maintenance program, which can lead to high levels of mortality. Developing a young tree care program including level of service is a recommended initiative as part of the Urban Forest Master Plan.
- As a method of program efficiency, 2-year tree planting deferrals have been offered to residents since 2021 that did not want a tree planted within the municipal right of way in front of their residence. In total there have been 416 deferrals from 2021 through to April 2024. Of those deferrals 52 of them were at locations where a tree was to be established in order to replace a removed one at the same location. Despite the deferral option improving customer relations as well as operational efficiency, it does not align with V2F 2:1 replacement ratio, as well as canopy targets. In order to meet canopy targets, every available planting space within the municipal right of way will need to be exhausted.

## **Strategy/process/risk**

### **Program Plans 2025 and beyond**

#### **Proposed Tree Planting Initiative Reserve Bylaw Amendments:**

The tree planting initiatives reserve bylaw is regulated by bylaw 55-2020. The current wording within the bylaw restricts the use of the funds to *“tree planting and/or replacement on city and privately owned properties”*. Through the review and revision of the bylaw, it is recommended the wording be revised to encompass a greater range of tree establishment and enhancement activities, such as pre- and post-planting activities in the interest of improving long-term tree survivorship. Furthermore, the reserve fund usage can be expanded to planting opportunities that include both shrub and meadow habitats by way of naturalization initiatives. The proposed changes to the reserve fund bylaw are reflected in Appendix A.



### **Program Expansion through additional resourcing:**

The Community supported tree planting initiatives have grown in size and scope over the past several years, based on continued outreach with, and interest from, the Burlington community. There are several opportunities to increase the scale of this program long-term through the launch of the Community Tree Planting Grant, and other initiatives. In order to expand the program offerings, staff have identified the need for a full-time equivalent (FTE) resource. This position has been identified through the Urban Forest Master Plan recommendations and other departmental resourcing needs.

Example roles and responsibilities for this position are summarized below:

- Planning and administration of all community tree planting events and giveaways
- Explore grant opportunities offered by the provincial and federal governments to offset costs of staffing, site preparation, and communications for community outreach events.
- Continue to build on key relations with larger-sized community partners (e.g. Conservation Halton, Burlington Green, Tree Canada) through the development of formalized agreements.
- Pursue public-private partnerships within the city to plant trees on private property.
- Administer the Community Tree Fund Program

### **Young Tree Care Program - 2024**

At present, trees that have been planted through the caliper tree program as well as community tree planting initiatives do not receive any formal post-planting care by way of watering, mulching, weeding or structural pruning. This has led to higher degrees of mortality of newly planted trees. To ensure higher levels of tree survivorship, a young tree care program should be established through a contracted service for both asset classes. It is recommended that post-planting care programs be rolled out in phases, with priority being placed on community supported plantings. It is estimated that total program costs would not exceed \$50,000 annually and funded through the Tree Establishment and Enhancement Reserve Fund.

### **Risk**

Since the launch of community supported tree planting initiatives, there have been significant improvements made in community engagement, general awareness of urban forestry issues, as well as positive contributions to canopy growth on both public and private property. At this point, the Forestry section is over capacity with respect to the ongoing administration of these programs, which presents a number of risks:

- 1) Without adequate access to funds, newly planted trees from community planting events are not sufficiently maintained, which has led to increased tree mortality due to lack of water and other care.
- 2) Additional growth potential for future community partnerships across the City is limited due to lack of staffing resources.
- 3) Increasing workload of staff creates the potential for burnout and if left unremedied will lead to retention issues of technical staff.
- 4) Loss of public support for City of Burlington forestry programs if plants are not adequately maintained or neglected.

## **Options Considered**

### **Future Options:**

With sufficient resourcing, there are a number of programs that can be launched to increase tree planting opportunities on private property throughout the City.

### **Community Tree Fund Program - 2025**

The purpose of the Community Tree Fund is to support (with technical and/or financial assistance) established community groups and/or non-governmental organizations willing and able to lead eligible and approved tree establishment projects on lands that are not in City ownership (e.g., school grounds, institutional lands such as health care facilities, and privately owned properties).

As part of the Community Tree Fund, the City would provide support by way of technical, logistical, and matching funds from \$1,000 to \$10,000 per project, with applications being reviewed on an annual basis. This program would be funded through the Tree Establishment and Enhancement Reserve.

This program is anticipated to be launched in 2025, contingent upon additional staffing resources that would be required to administer the program.

### **Third Party Giveaways and Planting Programs**

Through collaboration with local environmental NGOs, Forestry staff could outsource all or a portion of tree giveaways and community supported tree planting programs. This is not recommended by staff at this time as there would be little to no oversight to manage critical urban forestry metrics such as biodiversity, location, quality and survivorship. Further, tree planting events would still require staff coordination of site selection and application pre-planting preparation. Costs for this program framework are unknown at this time.

### Grassroots Forestry Giveaways

Various small scale giveaway opportunities were piloted in 2023. This included donations of trees to community groups to giveaway at events, small scale giveaways at community forestry walks, and a community event in Kilbride. In all 175 were given away through these efforts. While valuable for outreach and building connections in the community, these small-scale giveaways are far more resource intensive than the large-scale giveaways.

### Financial Matters:

The Tree Planting Initiatives Reserve is funded from cash in lieu dollars received through both the Public and Private Tree By-laws. At present, the account has nearly \$1,100,000. Historically, \$60,000 to \$70,000 have been transferred from the Tree Planting Initiatives Reserve to fund community tree planting initiatives.

Future funding considerations for utilization of the Tree Establishment and Enhancement Reserve are as follows:

**Table 5: 2024 Existing Programs**

Activity	Costs
Spring Free Tree Giveaway	\$15,000
Fall Free Tree Giveaway	\$15,000
Earth Day Community Planting Event	\$15,000
Ad Hoc Planting Events (incl. Community Tree Fund)	\$30,000
<b>Total:</b>	<b>\$75,000</b>

**Table 6: 2024 Proposed Additional Programs**

Activity	Costs
CH Tree Planting Collaboration	\$50,000
Young Tree Care Program	\$50,000
<b>Total:</b>	<b>\$100,000</b>

### Total Financial Impact

#### Source of Funding

The Tree Planting Initiatives Reserve Fund Bylaw is the primary source of funding for community supported planting initiatives. The current fund balance is nearly \$1,100,000. Approximately \$200,000 is received annually through cash in lieu contributions through

the administration of the Public and Private Tree Bylaws. Going forward, an annual transfer from the reserve fund through the budget process will be done to ensure sustainable use of reserve funds without exhausting them entirely.

### **Other Resource Impacts**

Additional FTE staffing resources have been identified as part of the UFMP to improve program delivery of the community supported tree planting program. which will be considered through the annual budget process.

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### **Climate Implications:**

Trees provide one of the most cost-effective means of climate mitigation and carbon sequestration. Canopy growth within the City is therefore an important consideration for longer term climate mitigation and adaptation. The majority of land within the City of Burlington is privately owned and having the opportunity to have trees planted on private land allows us an even greater opportunity to grow the canopy of the city overall.

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### **Engagement Matters:**

Forestry has been working with community partners to facilitate planting events and collaborate on volunteer resourcing as noted below:

- Burlington Green has been a regular partner for the City's Earth Day planting events in 2022, 2023 and 2024. They are also a regular partner during National Forest Week in September, hosting a webinar with Burlington Forestry staff, as well as a Tree Loving Care event where a planting event location is cared for through weeding, and replanting of dead trees,
  - Conservation Halton has been a regular partner for canopy growth and has facilitated the relationship between Burlington Forestry and Tree Canada.
  - Field and Stream Rescue Team has taken part in creek cleanups across Burlington and regularly liaise with Forestry staff in the planting of valuable riparian habitats.
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### **Conclusion:**

Community supported tree planting programs are integral to the growth and long-term success of the Urban Forest. These programs foster a sense of ownership, raise awareness to Urban Forestry issues that face the City, as well as contribute to net canopy growth on both public and private land.

By modifying the use of the Tree Planting Initiatives Reserve Bylaw to encompass Tree Establishment and Enhancement, Forestry staff will be better able to address challenges associated with tree planting to improve the health and survival of newly planted trees, and more effectively engage with members of the public to grow the Urban Forest.

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Respectfully submitted,

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**Appendices:**

- A. Bylaw 55-2020 Tree Establishment and Enhancement Reserve Fund

**Report Approval:**

All reports are reviewed and/or approved by Department Director, the Chief Financial Officer and the Executive Director of Legal Services & Corporation Counsel.