

REPORT

Council

Meeting Date: March 25, 2024

FROM: Parks and Open Space Department

DATE: March 12, 2024

SUBJECT: **Urban Forest Strategic Management Plan 2020**

WARD: Town wide

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RECOMMENDATION:

1. That the report from the Parks and Open Space Department dated February 20, 2024, titled Urban Forest Strategic Management Plan 2020; be received.
2. That the recommendations of the UFSMP be incorporated within the business planning of the Forestry section, Parks and Open Space Department.
3. That staff to report back to Council within three years to assess the impact of recommended canopy cover targets in achieving the goal of 40% canopy cover target by 2057.

KEY FACTS:

The following are key points for consideration with respect to this report.

- The urban forest strategic management plan has been identified by all external stakeholders, as the most effective document to achieve our canopy cover objective, urban forests sustainability and climate change mitigation.
- The plan consolidates two forestry management plans for North and South Oakville into one Urban Forest Strategic Management Plan.
- The plan was developed by a consulting team with direct input from a multi department working group and a diverse group of external stakeholders.
- The plan reviews the status of urban forest management, assesses the progress since the first urban forest management plan delivered in 2008, and

provides strategic direction and recommendations to enhance canopy cover to 40% by 2057 and to achieve a sustainable urban forest.

- Current status of urban forest management in Oakville has been assessed using customized sustainable urban forest criteria and indicators adopted by United States Department of Agriculture, Forestry Service.
- Comparing the ten most important indicators affecting canopy cover and sustainability of urban forest, collected in 2005 and 2015, demonstrates the Town's canopy cover has improved in all but one indicator, "invasive species". This has increased in presence and abundance since 2005.
- The Town's enhanced tree planting program strengthened private tree protection by-law and strong Council support have been leading contributors to the Town's success in protecting and growing its tree canopy. In addition, the combined impact of fewer trees being removed, and an increased number of trees being planted on private properties for all applications regulated under the Town's private tree protection by-law has also increased the growth of tree canopy.
- As a result of active management, the total number of trees and the percentage of native species have been increased and average tree condition has been improved since 2005.
- Management of insect pests (e.g. Spongy moth aerial spray, previously known as gypsy moth), with positive results has been documented through the Town's forest monitoring program.
- The townwide canopy cover, south of Dundas, increased from 26.5 % in 2005 to 31.2 % in 2018.
- The Town cannot reach its 40% tree canopy if the North Oakville tree canopy target for residential land uses is applied to the same land use type south of Dundas Street.
- Limited town owned lands for tree planting opportunities, south of Dundas Street, requires the Town to shift its focus to private properties and other public lands (i.e. school boards, MTO lands, hospital lands) and promote strategic partnerships with other landowners and community groups.

- The quality and sustainability of the urban forest in natural areas have been negatively affected by invasive plants, pests and disease.
- To achieve the 40% canopy cover target by 2057 and achieve a sustainable urban forest, the Town should expand its woodland regeneration program and plant trees in all woodlands north Dundas and in the woodlands heavily infested by invasive buckthorn and other invasive species south Dundas.
- The most challenging areas to achieve the canopy cover targets include; Residential lands south of Dundas Street and woodlands and Natural Heritage System lands north and south of Dundas Street.
- To create a more efficient process for all Forestry permits and approvals staff initiated a Tree Permit Review Project in 2023. Undertaking a comprehensive LEAN process review, the main objectives of the project included; improving the business processes in all tree protection and removal applications, decreasing the timelines for application review, improving the customer journey and satisfaction through a single point of contact, optimizing processes and maximizing the efficiencies in making evidence-based decisions. As a result of the LEAN review, we have established a single point of contact and organized all tree related resources in Forestry Services, Parks and Open Space Department. Staff previously working in tree related development permits and planning review processes within Transportation and Engineering have recently joined Forestry Services on a permanent basis. This provides one stop shopping and single point of contact for all tree permits and approvals making the tree protection process more efficient and effective for all internal and external customers.
- Staff will continue to review all business processes within the Forestry section to optimize and maximize the performance of the section through the lens of LEAN.

BACKGROUND:

A multidisciplinary consulting team from KBM Resource Group, being the prime consultant, along with Dillon Consulting Inc., Natural Resource Solutions Inc. and Lallemand Inc./BioForest, as sub consultants, were engaged to develop the Town's

first consolidated urban forest strategic management plan that outlines an effective approach to the management and stewardship of Oakville's urban forest.

The Urban Forest Strategic Management Plan-2020 (UFSMP-2020) was prepared in collaboration with a core working team from several town departments and members of a diverse group of stakeholders, including non-government organizations and external government organizations.

Urban forest management priorities change over time in response to changing environmental conditions. Oakville's urban forest has been described extensively in past plans and study reports, including the four key documents below:

- Oakville's Urban Forest: Our Solution to Our Pollution (2005)
- Urban Forest Strategic Management Plan, South Oakville (2008-2027)
- North Oakville Urban Forest Strategic Management Plan (2012)
- Growing Livability: A Comprehensive Study of Oakville's Urban Forest (2016)

The 2008 UFSMP included a focus on management needs that were identified at the time, such as:

- Formalizing the Town's forestry program through baseline inventories, planning and reporting.
- Integrating the Town's forestry goals in Town policy and planning documents.
- Managing emerald ash borer crisis, which was an emerging forest health threat at the time.

A separate 2012 North Oakville plan provided a starting point for urban forest management north of Dundas Street, where new development was in its early stages. A focus of that plan was to establish and implement land use targets for tree cover in new development to meet the Town's canopy cover objectives north of Dundas Street.

This 2020 Urban Forest Strategic Management Plan (UFSMP) consolidates two separate forestry plans for North and South Oakville. It incorporates data from previous studies as well as stakeholder input to develop updated action plans to help the Town continue to make progress on its forest management goals and promote a sustainable urban forest.

The plan will address new challenges that have emerged since the last plans were developed. As the EAB program is winding down, the plan focuses on emerging challenges such as the observed increase in the presence and abundance of

invasive species, pests, and disease, and how to balance canopy cover goal and urban forest sustainability with urban intensification. Key management priorities addressed in the 2020 plan include:

- Updating urban forest inventory and generating reliable operational data to report accurately on key performance indicators and report to Council.
- Implementing newly developed canopy cover targets for all land use types to achieve 40% canopy cover.
- Developing a strategy to deal with the increasing number and abundance of invasive species.
- Mitigating the effects of pests, disease, and invasive species on woodland health.
- Balancing the impact of urban intensification with the Town's objective to reach 40% canopy cover goal and maintain town's urban forest health and sustainability.
- Forecasting and budgeting for increases in Forestry Services resource requirements in light of future assumption of lands and management responsibilities in North Oakville, and;
- Promoting strategic partnerships with other landowners and community groups and shift focus to private properties and other public lands (i.e. school boards, MTO lands, hospitals lands) to achieve 40% canopy cover goal by 2057.

Management of the Town's urban forest is largely overseen by the Forestry Section, Parks and Open Space Department under the direction provided in Strategic Forest Management Plans and a body of enabling policy and legislation. Areas of Forestry responsibility include protection of municipal and private trees through tree protection by-laws, management of street trees, urban park trees and forested natural areas, managing invasive species affecting urban forest of the Town and tree planting on town properties.

Other town departments also contribute to managing aspects of the urban tree canopy through plan review processes, providing funding for tree planting projects, and through various planting and inspection processes related to urban development. Balancing the impact of urban intensification and protecting growing space for trees has been identified as one of the important strategic goals to achieve 40% canopy cover and a sustainable urban forest. An inter-departmental town working group is an important venue for working co-operatively to achieve the Town's strategic goals.

Many North American municipalities, including Oakville, have set tree canopy cover targets in recognition of many benefits provided by the urban forest. In the early literature, 40% was universally recommended as a reasonable target in a 1997

American Forests article. In Canada, some municipalities also refer to a report from Environment Canada that recommends 40% forest cover as the minimum requirement to sustain basic watershed function.

The Town's enhanced tree planting, strengthened tree protection by-laws, policies, and strong Council support has led to the Town's success in protecting and growing its tree canopy. The overall tree canopy cover for the whole Town is 31.2% in 2018. Specifically, the data shows that the overall canopy cover for the area south of Dundas Street has increased from 26.5 % in 2005 to 27.8% in 2015 and to 32.6% in 2018, despite impacts from the emerald ash borer infestation, a major ice storm in 2013, and significant concentrations of development applications south of the QEW.

The goal of the 2020 UFSMP is to recommend actions that will support continual improvement of the Town's successful forestry programs, progress in climate change goals and progress towards achieving the 40% tree canopy cover goal.

COMMENT/OPTIONS:

The value of the urban forest is reflected in a vision statement that was developed with community input for the Town's 2008 forest management plan. Over the years, this vision statement has had strong support from Council and the community, which is a critical part of Oakville's success in preserving and expanding its urban forest. Support for urban forest preservation and management is enshrined in policy and regulation through the Town's Official Plan, the Town's tree protection and canopy preservation policies and by-laws, Private Tree Protection Policy and many other supporting guidelines and documents.

Oakville is consistently ranked among the top ten 'best places to live' in Canada. A large part of Oakville's appeal is the result of Council's commitment to maintaining parks, green space and the extensive urban forest canopy. Surveys illustrate that Oakville's residents rank trees and parks as one of the most important elements contributing to quality of life in the Town. Over the years, strong Council and community support for urban forestry initiatives has made Oakville a leader in urban forest management.

Fifteen years after the first forestry study was done in Oakville in 2005, forest monitoring and information about trends in key urban forest indicators, show an improvement in many areas. Despite a 10-year battle with the emerald ash borer as well as extensive damage from a 2013 ice storm, overall tree canopy in Oakville has increased. This reflects the Town's continued efforts and investments in urban forest management. Monitoring data reveals that the Town is on track toward meeting its canopy cover goal of 40% by 2057.

The 2020 UFSMP has been developed with consideration for progress made since past plans, monitoring data from forestry studies and input from Town staff and stakeholders. These inputs have identified the following six priority areas for the 2020 UFSMP:

1. Forest Protection
2. Forest Health and Resilience
3. Tree Planting and Establishment
4. Risk Management
5. Collaboration and Partnerships
6. Adaptive Management

Priority 1, Forest Protection:

Protecting existing healthy trees is one of the premier ways to maintain and grow Oakville’s urban forest. Tree removal and/or damage to healthy trees have been reduced through continued application of municipal tree by-law, private tree by-law and tree protection policies. The Town should continue to apply the Town’s Tree Protection and Tree Canopy Preservation Policy and Tree Protection during Construction Procedure consistently to all development activities that affect trees in Oakville.

The Town is not able to achieve its urban forest canopy cover target without factoring the retention of mature trees and the protection of existing tree canopy. Some of the recommendations of UFSMP plan under this priority include:

- Update and implement recommended North and South Oakville canopy cover targets in new and re-development/infill projects to support the Town’s overall 40% canopy cover goal.
- Assess root causes and quantify canopy change, including the impacts of urbanization and invasive species.
- Identify opportunities within current permitting processes to improve communications with applicants about the “Design Guidelines for Stable Residential Neighbourhoods” and the value of retaining mature trees and vegetation on site.
- To create a more efficient process for all Forestry permits and approvals staff initiated a Tree Permit Review Project in 2023. The main objectives of the project included; improving the business processes in all tree protection and removal applications, decreasing the timelines for application review, improving the customer journey and satisfaction through a single point of

contact, optimizing processes and maximizing the efficiencies through the lens of LEAN and making evidence-based decisions. As a result of the LEAN review, we have established a single point of contact and organized all tree related resources in Forestry Services, Parks and Open Space Department. staff previously working in tree related development permits within Transportation and Engineering have recently joined Forestry Services on a permanent basis. This provides one stop shopping and single point of contact for all tree permits and approvals making the tree protection process more efficient and effective for all internal and external customers.

Implementation of this LEAN project continues with action plans including appropriate communication and ServiceOakville alignment, evidence-based data reporting on service levels, automation of some of the administrative work, cross training staff, staff assignments, addressing backlog, are all in progress. Staff will continue to use LEAN throughout the Forestry Services section to enhance all business processes.

Priority 2, Forest Health and Resilience:

Our urban forest is under ongoing pressure from pests, disease, climate change, and invasive species. Forest health monitoring and active management in urban areas and woodlands help maintain a healthy and resilient urban forest. At present, the Town's approach to manage and control invasive species is reactive. Forestry budgets annual capital funds to implement its reactive responses to highly infested areas by invasive insects and plant species.

Forestry's woodland regeneration project is a good example of a successful reactive approach to control the invasive buckthorn in areas of our woodlands heavily infested by emerald ash borer. Ground and aerial spray of *Bacillus thuringiensis* var. *kurstaki* (Btk) to control spongy moth and canker worm is another example of a reactive approach that effectively reduced the population of spongy moth and canker worm in infested woodlands.

Studies indicate that early detection and rapid response intervention to new invasions are the most effective ways to manage invasive species. The more established a species becomes, the more complex the treatments are to manage or control it. Early treatments of invasive species are more cost-effective, as there is a lower density and smaller average size of invasive plants to manage on site.

The need to develop an invasive species management plan and implement interim management are identified in this plan. This plan should address high priority and early response actions. Some of the recommendations of UFSMP plan under this priority include:

- Consider resource allocation for rapid response to new invasive species infestations.
- Implement woodlands regeneration program to include all woodlands and NHS north Dundas Street and woodlands heavily infested by European buckthorn and other invasive species.
- Consider expanding forest health monitoring program to include North Oakville as lands are assumed through the development process.

Priority 3, Tree Planting and Establishment:

Oakville's tree planting programs and by-laws have helped maintain and increase tree cover across the Town. Appropriate species, site selection and early tree maintenance make the urban forest more resilient and maximize the benefits of investment in tree planting.

Land cover change measured between the 2005-2015 studies indicates an approximate 3% increase in hard surfaces and a decrease in pervious area over the ten-year study period. Identifying opportunities to integrate more trees in impervious environments and targeting areas of low forest cover will help the Town achieve its overall 40% canopy cover goal.

The 2020 UFSMP includes a series of maps that identified priority planting areas based on existing level of tree cover and potential planting area. These are useful for operational planning to assist staff in identifying and prioritizing areas on Town lands where additional trees can be strategically planted.

Several town departments include tree planting in their respective business activities. Until recently, each department had its own set of tree planting specifications. To achieve a consistent standard and ensure optimal growth outcomes, a revised and standardized set of specifications were developed for this UFSMP. Recently a corporate interdepartmental technical committee met to discuss standardization of specifications for tree planting. Through the work of the committee, a standard specification for tree planting has been approved. To achieve a harmonized specification, the next step is to ensure these specifications are

incorporated into all standardized specification documents and implemented consistently across all departments in future tree planting projects.

There is a finite amount of space available for increasing tree cover on municipal lands. Many areas have been afforested through past planting programs. Competing space for other uses in parks and open areas can also limit the area available for tree planting. Parks and open spaces are needed to meet other social needs, including recreation, sports fields, gathering places and open, sunny areas for residents to enjoy. However, there are still some opportunities to increase and maximize tree canopy on public lands, particularly in the open space and parkway land use category. Some of the recommendations of UFSMP plan under this priority include:

- Use priority area tree planting maps to focus strategic tree planting efforts on both public and private lands.
- Develop and monitor implementation of new standardized tree planting specifications Town-wide.

Priority 4, Risk Management:

Climate change, pests and disease as well as ongoing development will continue to put pressure on the urban forest. The Town's Climate Change Strategy identified an increase in the severity and frequency of extreme weather. As the number of extreme weather events increases and new forest health threats emerge, early detection, robust emergency response systems as well as regular tree maintenance and forest health monitoring will help mitigate risk to residents, properties, and the urban forest. The need for continual improvements in emergency response and business recovery/continuity procedures have been identified in this plan.

Some of the recommendations of UFSMP plan under this priority include:

- Analyse the impact of climate change and develop comprehensive emergency response plans and business recovery procedures to address future extreme weather events and impact of pest and disease.
- Continue to assess and update the 10-year capital forecast outlining anticipated future Forestry Services budgetary, staffing and equipment projections, including impacts from the future assumption of lands in North Oakville.

Priority 5, Collaboration and Partnerships:

About 58% of the area south of Dundas Street is private land and represents 47% of tree canopy. Studies have identified opportunities to grow the urban forest on private land, where residents and businesses have an important role to play in meeting the Town's goal of 40% canopy cover by 2057. It is highlighted in the UFSMP, the Town should shift focus to private properties and other public agency lands (i.e. school boards, MTO lands, and hospital lands) and promote strategic partnerships with other landowners and community groups. The Town has already reached out to Conservation Halton and MTO and collaborated with Oakvillegreen and other non-governmental organizations to enhance tree planting on non-town lands and town lands (i.e. backyard tree planting, 50 million trees program). Expanding the urban forest canopy in Oakville requires continuation of the ongoing collaboration between town departments, external partners, and community-based organizations.

There is a growing interest in public/private partnerships to help offset the cost of municipal programs and assets that benefit all citizens. Given the critical importance of private and other landowners' participation in supporting Oakville's canopy cover, biodiversity and climate resilience goals, the plan highly recommends considering the impact of climate change and biodiversity initiatives in urban forest planning and management including tree planting and maintenance operations, with a greater focus on public education, tree planting and stewardship effort.

Priority 6, Adaptive Management:

Urban forest management should be adaptable to a dynamic, changing environment. Factors like urban intensification and climate change alter available growing space and tree habitat, as well invasive species, pests, and disease exert ongoing pressure on the urban forest. Forest managers use a variety of tools to respond to change in management priorities. Continued monitoring of forest condition and threats will help ensure the Town's forestry program on track. The Town's tree and urban forest inventory data (streets, parks and woodland inventory) collected in 2009, was 11 years old and due to many changes since then, it was outdated. Tree inventory information is the foundation for all forestry operations. Having an up-to-date tree inventory and tracking assets in our asset management system assists in making evidence-based decisions to manage the urban forest and it supports accountability by generating reliable data for reporting to Council and residents.

One of the most important recommendations in Urban Forest Strategic Management Plan under this priority, was to update tree and woodlands inventory.

- The Town updated its street and active parks tree inventory in 2023. It is recommended the tree inventory be updated on a ten-year cycle. The presence and abundance of invasive species will be included in the next Woodland inventories.

CONSIDERATIONS:

(A) PUBLIC

The public is aware of the importance of our urban forests. In External Stakeholder's Workshops, attendees shared their thoughts using real time voting (Mentimeter) and identified urban forest strategic management plan, invasive forest insect management plan followed by private and town tree protection by-laws as the most effective documents and policies to improve town's urban forests (see appendix B).

In regard to the programs, the canopy conservation, hazard abatement and canopy replacement programs were identified as the three most effective programs having the most significant impact on sustaining and enhancing the urban forest.

(B) FINANCIAL

The UFSMP contains a number of priorities with budget implications. Some of these initiatives have already been completed while others will be considered by staff through the annual budget process and incorporated into the 10-year capital forecast, subject to available funding constraints. One example is tree standardization. Future corporate budgets that contain tree planting will be adjusted to reflect the new standards, subject to funding constraints.

Town staff have, and will continue to, utilize LEAN methodology to improve customer services and find efficiencies to minimize the impact on the tax levy.

(C) IMPACT ON OTHER DEPARTMENTS & USERS

This report has been prepared in conjunction with the Clerks and Legal Departments. A multidepartment working group developed the UFSMP.

(D) CORPORATE AND/OR DEPARTMENT STRATEGIC GOALS

This report addresses the corporate strategic goal to:

- Enhance our natural environment and urban forest
- Have environmentally sustainable programs and services
- Be accountable
- To be the most livable town in Canada

(E) CLIMATE CHANGE/ACTION

The urban forest is under ongoing pressure from urban intensification, climate change, invasive species, pests and disease.

The urban forest strategic management plan has been identified by all external stakeholders, as the most effective document to achieve our canopy cover objective and urban forests sustainability mitigating the climate impact.

As trees grow, they help absorb and sink the carbon that would otherwise contribute to global warming. Most of the benefits of trees in urban environment affecting community health and sustainability such as, filtering criteria pollutants, carbon sequestration, storm water attenuation, and many other ecological benefits and environmental services come from tree canopy.

The urban forest strategic management plan identified opportunities to integrate more trees on right of ways to help the Town to achieve its overall 40% canopy cover goal by 2057.

This will support improved air quality and climate change adaptation through maximizing tree canopy within the Town of Oakville. Increasing tree canopy is one of most effective way of taking CO₂ out of the atmosphere to tackle the climate crisis.

APPENDICES:

- Appendix A – Urban Forest Strategic Management Plan- 2020
- Appendix B – 2020 Urban Forest Strategic Management Plan - Appendices

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