



Attachment 7



LOTHLORIEN GARDEN CONSULTING

POST-CONSTRUCTION RESTORATION PLAN

8 Main Street, Vaughan, ON L4H 3N5

Date: March 27th, 2024

Prepared for: Sherard McQueen

On behalf of Rubinoff Design Group

Prepared by: **Ivan Mitev**, M.Sc. Ecologist

ISA Certified Arborist® #2297A

Consulting Arborist – *Lothlorien Garden Consulting*

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INTRODUCTION

Lothlorien Garden Consulting was retained by owner(s) to prepare a Post-Construction Restoration Plan in support of a development application for the property located at 8 Main Street, Vaughan, Ontario. This report provides an overview of the proposed for restoration zone, adjacent to the valley corridor associated with a tributary of the Humber River located northwest of the subject lot. The proposed new development is to be located within an anthropogenic area on the tableland portion of the subject property. The area North of the existing house will be restored to mitigate the edge effects of the proposed new construction, as well as to provide a protective and adequate buffer between the natural feature and the new development.

ASSIGNMENT

The objectives of the restoration/replanting plan can be summarized as follows:

- Establish a healthier buffer zone with enhanced species diversity, understory and wildlife habitat;
- Control introduction and establishment of invasive species;
- Provide a long-term Biodiversity Net Gain;

POTENTIAL IMPACTS OF DEVELOPMENT ON FOREST EDGE, VALLEY AND STREAM CORRIDORS

The construction process can damage or kill trees in many different ways. Typically, impacts to the remaining forest community may include, but are not limited to:

- Decreased biodiversity;
- Reduced landform stability due to addition of unconsolidated material;
- Heat damages by burning debris near trees or by hot equipment exhaust;
- Tree root damage or stress due to re-grading or the placement of fill along forest edges;
- Mechanical injury to the trunk and/or crown by equipment used for land clearing, grading;
- Soil compaction in the forest edge due to vehicle traffic and other operations;
- Soil and /or water contamination;

PURPOSE AND USE

This report is provided to homeowner(s), Rubino Design Group., and shall be used in whole and as provided to the TRCA Planning staff and other stakeholders as it relates solely to this project. This report should be shared with all contractors responsible for site development.



BY-LAWS, PERMITS, REGULATIONS

Early in 2010, Credit Valley Conservation (CVC) in partnership with the Toronto and Region Conservation Authority (TRCA) produced the Low Impact Development Stormwater Management Planning and Design Guide. The guide was developed to provide engineers, landscape architects, designers, ecologists and planners with up-to-date information and direction on the design of low impact development (LID) stormwater management (SWM) practices, and thereby help ensure the continued health of the streams, rivers, lakes, fisheries and terrestrial habitats in the CVC, TRCA watersheds and throughout Ontario.

“Restoration is required when disturbance in a natural area is unavoidable and requires clearing of vegetation. Every effort should be made to avoid these impacts, however the following guidelines should be followed in instances where this is not possible. It is critical to the success of the restoration planting that the range of site conditions be assessed as some level of site preparation will likely be required prior to planting. Site preparation is paramount as soil compaction, grading, altered hydrology, herbivory, and inadequate topsoil depths can seriously inhibit planting success of even the hardiest species and can limit the process of regeneration. There are also a suite of urban stresses that can hinder the growth of plantings including salt spray, pollution, pests, and altered micro-climate. These issues need to be dealt with on a site-by-site basis, but should be considered when developing restoration plans. (TRCA Post-Construction Restoration Guidelines July 2004)”

SITE CONDITIONS

The subject property is located on the north side of Main Street, southeast of Islington Avenue and King's Highway 27. The rear of the designated lot falls within the TRCA Regulated Area of the Humber River watershed. Lot topography is relatively flat at the front of the site and becomes undulating and rolling across the turf covered backyard on the property. The existing site is occupied by a 1- story single-family frame dwelling, a gravel driveway fronting Lester B. Pearson Street and several old wooden shed at the rear of the property. Tree resources appear to be comprised of landscape plantings and naturally occurring trees. Trees on site include the following species: Norway maple (*Acer platanoides*), Silver maple (*Acer saccharinum*), Manitoba maple (*Acer negundo*), Austrian pine (*Pinus nigra*), Colorado Blue spruce (*Picea pungens* 'Glauca'), Horse-chestnut (*Aesculus hippocastanum*), Japanese lilac (*Syringa reticulata*), Purple Fountain Weeping Beech (*Fagus sylvatica* 'Purple Fountain'), Japanese maple (*Acer japonicum*) and Crab apple (*Malus spp.*). Canopy cover is estimated at 90 percent of the lot.

The hardwood dominant forest north of the stable top of bank, however, is comprised mostly of non-native tree cover, mainly Manitoba maple (*Acer negundo*), Austrian pine (*Pinus nigra*), and several native species such as Eastern Black walnut (*Juglans nigra*), Eastern White pine (*Pinus strobus*) and Willow (*Salix spp.*). It should be noted, that most of the trees beyond the slope are covered by wild grape vine.



Figure 1: shows an aerial view of the property along with the existing vegetation, as of 2023



PROPOSED DEVELOPMENT

The proposed development, as illustrated in the Proposed Site Plan (A) prepared by Rubinoff Design Group, dated February 20th, 2024, includes a proposal to demolish the existing home and construct a new two storey single family detached dwelling with an integral garage, a circled driveway fronting Main Street and a 1½ storey pool house at the rear of the lot. The accompanying Edge Restoration Plan includes an overview of the site plan details.

IMPLEMENTATION OF THE RESTORATION PLAN

The proposed part for restoration is irregular in shape and has an approximate area of **651 m²**. The designated area will be restored to support functioning, diverse and self-sustaining communities of native plants and wildlife. An understory of small trees, shrubs and herbaceous species will be established primarily within the 10-metre transition zone (see a typical restoration area on RRP L-2). The width of the restoration zone is approximately between 8 to 10 metres.

Notes:

1. The proponent is responsible for ensuring that all plantings are native species and are suitable given the soil, moisture, and light conditions of the site, as well as any specific stresses. Cultivars of native species are generally not acceptable. While invasive species are not permitted, non-invasive exotic species may be used in some limited areas. Plantings should also be compatible and complementary to the existing vegetation communities.
2. Early successional species should be used alone or in concert with shade tolerant (i.e. late-seral species) to allow natural succession to ensue. Shade tolerant species can be used if conditions are favourable and in areas where a source of late-seral seed does not exist in



order to promote succession.

3. Woody plantings should follow the standard densities of **1 metre** on centre for shrubs and **5 metres** on centre for trees. However, higher densities may be required depending on the situation (e.g. live staking, use of stock 100 cm or smaller, edge management, sensitive areas, or other sitespecific situations).
4. Indicate that site stabilization will occur during or immediately following construction to avoid unacceptable levels of erosion. Depending on their suitability, various techniques may be employed including hydroseeding, or installing straw mulch or jute mats, etc. Although sod is acceptable as an interim measure, it will not be permitted as a permanent groundcover in natural areas and associated buffers.
5. Seeding mixtures should consist of quick-growing, non-invasive species. Manufacturers offer an assortment of mixtures that are suited to various conditions, including a slope stabilization mix, meadow mix, and wetland mix. In particularly sensitive areas, a seed mix consisting entirely of native species should be used to avoid the invasion of aggressive vegetation. Please refer to the CVC Seed Mix Guidelines for further details. In areas where invasive species are a particular problem, eradication of these species may become a component of the restoration initiative.
6. Ensure that riparian planting coverage for a stream extends from the watercourse edge to a minimum of 10 metres on either side. For a valley, coverage should include plantings within the entire feature plus an additional 10 metres.

The following specifications are recommended for edge restoration planting:

- A qualified restoration landscaping company should be contracted to complete plantings.
- Where restoration works are likely to disturb existing vegetation, no mechanized equipment should be used; all plantings should be hand-dug.
- Plantings should be in an asymmetrical, random mix.
- Trees should be planted 3 to 5 metres apart and shrubs 1 metres apart.

Trees should not be planted during unseasonably wet or dry weather.

INSTALLATION

TOPSOIL:

- ✓ Use evenly mixed topsoil of fertile, friable natural loam containing not less than 4% organic matter for clay loam and minimum 2% minimum organic matter for sand loams with an acidity range of 5.5 to 7.5 pH. All topsoil should be free of subsoils, clay, stones, roots, excess water frost and other extraneous matter.

PLANTING:

- ✓ Prepare planting soil by evenly mixing four parts sandy topsoil, one-part organic soil additive with 500 g bone meal and 750 commercial fertilizer per cubic meter.
- ✓ Excavate and provide planting soils as per planting details.
- ✓ Provide all shrubs and trees according to the guide specification for nursery stock of the Canadian Nursery Trade Association with regard to quality and grading and sized as per plant list.
- ✓ Spray all plantings in leaf with antidesiccant. Provide trees with stakes.



- ✓ Trees are to have sturdy, straight trunks with well-developed branches not less than 1.8 m above the ground.
- ✓ All shrubs are to be planted in continuous beds.
- ✓ Do not sod between plants. Excavate entire area of shrub bed uniformly to specified depth and fill with specified planting soil.

SODDING:

- ✓ Prepare a minimum 200mm depth of topsoil with 30-10-20 commercial fertilizer at 7.3 kg/100 sq. m. The proportions specified are subject to adjustment depending on topsoil analysis report. Immediately after installation, sod must be watered and rolled.

HYDRO SEEDING:

- ✓ Hydroseeds all disturbed areas as well as areas indicated on plans.
- ✓ Use appropriate seed mix in areas as specified.
- ✓ Ensure that areas to be seeded have been cultivated to a depth of 25 mm and are moist to depth of 150mm before seeding, fine grade area free of humps and hollows if required.
- ✓ Obtain lead Ecologist/Architect's approval of topsoil grade and depth before starting to seed.
- ✓ Fertilizer to be 8-32-16 and to be applied at a rate of 300 kg/hectare.
- ✓ Apply seed mix at rate of 22 - 25 kg/ha or at a rate of 250g/90 sq. m for smaller areas.
- ✓ Seeding to be completed between April 1 and May 15 or between August 15 and September 30.

RODENT PROTECTION:

- ✓ The contractor shall be responsible for the protection of all trees and shrubs from rodent injury for the duration of the guarantee period. Protective wire mesh guards shall be installed around all deciduous trees. Guards shall be installed prior to the application of mulch and should be placed a minimum of 50 mm out from the tree trunk on all sides. Sufficient mesh should be cut to complete this circumference as well as to provide a minimum of 25mm overlap.
- ✓ The wire mesh guards must be of galvanized steel 12mm square mesh, 19 gauge and supplied in 600mm rolls. All trees and shrubs shall have an application of 'Scoot' of approved equivalent rodent formula, to be applied at the end of October.

PROPOSED PLANTS FOR RESTORATION

A total of seventeen **(17)** native species, i.e., four **(4)** large/medium-growing shade trees and thirteen **(13)** shrubs shall be planted on the subject site to support functioning, diverse and self-sustaining communities of native plants and wildlife.

The upland community species recommended for planting are outlined in Table 1 and 2 on the next pages. Please also refer to the provided Restoration Replanting plan (RRP-L1) for species selection, location, quantity, etc., of all new trees/shrubs proposed for replanting.

Table 1. Native Species Recommended for Planting

PLANT LIST							
DECIDUOUS TREES							
Key	Qty	Botanical	Common	Type	Size	L-rank April-22	Wetland Status (OWES)
Qr	3	<i>Quercus rubra</i>	Northern Red oak	container	80 cm	L4	upland
Qa	3	<i>Quercus alba</i>	White oak	container	80 cm	L2	upland
Ta	3	<i>Tilia americana</i>	American basswood	container	80 cm	L5	upland
Ur	3	<i>Ulmus rubra</i>	Slippery elm	container	80 cm	L3	upland
CONIFEROUS TREES							
Key	Qty	Botanical	Common	Type	Size	L-rank April-22	Wetland Status (OWES)
Jv	10	<i>Juniperus virginiana</i>	Eastern Red cedar	container	80 cm	L5	upland
Pr	5	<i>Pinus resinosa</i>	Red pine	container	80 cm	L1	upland
SHRUBS							
aa	10	<i>Amelanchier amabilis</i>	Large-flowered serviceberry	container	60 cm	L3	upland
coa	15	<i>Cornus alternifolia</i>	Alternate leaf dogwood	container	60 cm	L5	upland
ca	15	<i>Corylus americana</i>	American hazel	container	60 cm	L3	upland
pv	10	<i>Prunus virginiana</i>	Choke cherry	container	60 cm	L5	upland
va	10	<i>Viburnum acerifolium</i>	Maple-leaved viburnum	container	60 cm	L3	upland
vl	20	<i>Viburnum lantanoides</i>	Hobblebush	container	60 cm	L2	upland
eo	30	<i>Euonymus obovatus</i>	Running strawberry-bush	container	60 cm	L3	upland
gm	80	<i>Geranium maculatum</i>	Wild Geranium	container	60 cm	L4	upland
hd	20	<i>Helianthus decapetalus</i>	Thin-leaved sunflower	container	60 cm	L3	upland
jh	20	<i>(Juniperus horizontalis)</i>	Creeping juniper	container	60 cm	L3	upland
FERNS							
Key	Qty	Botanical	Common	Type	Size	L-rank April-22	Wetland Status (OWES)
dfm	10	<i>Dryopteris filix-mas</i>	Male fern	container	30 cm	L3	upland



Table 2. TRCA Upland Slope Mix (TRCA-SD-3) Use on dry slopes

TRCA Upland Slope Mix (TRCA-SD-3)			
L-Rank	Scientific Name	Common Name	%
L3	<i>Andropogon gerardii</i>	Big bluestem	16.0%
L5	<i>Asclepias syriaca</i>	Common milkweed	2.0%
L5	<i>Symphyotrichum novae-angliae</i>	New England aster	1.0%
L5	<i>Desmodium canadense</i>	Showy tick-trefoil	2.0%
L4	<i>Elymus canadensis</i>	Canada wild rye	15.0%
L2	<i>Heliopsis helianthoides</i>	Oxeye	3.0%
L5	<i>Monarda fistulosa</i>	Wild bergamont	3.0%
L3	<i>Panicum virgatum</i>	Switch grass	15.0%
L3	<i>Pycnanthemum virginianum</i>	Virginia mountain mint*	2.0%
L4	<i>Rudbeckia hirta</i>	Black eyed Susan	3.0%
L2	<i>Schizachyrium scoparium</i>	Little blue stem	15.0%
L5	<i>Solidago canadensis</i>	Canada goldenrod	1.0%
L4	<i>Solidago juncea</i>	Early goldenrod*	1.0%
L2	<i>Sorghastrum nutans</i>	Indian grass	20.0%
L3	<i>Symphyotrichum laeve</i>	Smooth aster	1.0%
Total			100.0%

*% of seed mix refers to % by weight

The Upland Slope Restoration Mix shall be used along the proposed new plantings in order to establish a healthier buffer zone between the proposed development and the Ravine Natural Protected Area at the rear of the lot. The proposed part for restoration is irregular in shape and has an approximate area of **265 m²**.

Native seed mixes do best when planted in the fall, typically between Oct. 15th and Nov. 15th. A late fall sowing allows the seed to be stratified naturally over the winter and early spring. An early spring sowing in April can work but due to the possibility of unseasonable weather preventing decent seed stratification, there is a greater chance that seed will remain dormant and not germinate until the spring of the following year.



Application rate

These seed mixes should be applied at a rate of 22 - 25 kg/ha (21-23 lbs/acre) or at a rate of 250g/90m² (1/2lb/1000 sq. ft) for smaller areas.

Site Preparation.

While there is little you can do to deal with the seeds of undesirable plants that are already in the soil, to help minimize unwanted competition in the seeding area, remove existing weeds by hand or apply an organic non-selective herbicide. Once all unwanted vegetation has been taken care of, loosen soil to 2.5 cm (1") depth with a stiff rake, cultivator or hoe. Prairie flowers and grasses germinate and establish themselves much better when the seed is planted into a bed of loose, well drained soil rather than dense, compacted topsoil. Broadcast the seed evenly and let Mother Nature do the rest. Smaller seed can be mixed with dry sand to improve distribution when sowing. Rain, snow and frost-heaving of the soil will work the seed down into the soil bed. If you do choose to do a spring planting, it is imperative to make sure the seed comes into good contact and with the soil. Irrigate as needed during the first growing season. Be prepared to cut the site at a height of 20 cm (8") twice during the first growing season and possibly once earlier in the second season to help keep aggressive weeds in check while the native plants work through their establishment period. Hand removal of pockets of aggressive weeds may be required during the establishment period. Keep in mind that establishing a native planting from seed typically takes three to four years. Sow at 500 g/180 m² or 25 kgs/ ha.

MAINTENANCE DURING ESTABLISHMENT

Transplant shock is fairly common in newly transplanted trees. A tree can lose as much as 90% of its root system when it is removed from the nursery. This causes a great deal of stress on the plant as it tries to reestablish itself. Research has shown that approximately one year of recovery is needed for every inch of tree diameter. Starting a regular plant maintenance and inspection program to head-off problems early, and providing good after-care will help maintain the health and vigor of your newly planted trees and shrubs. Maintenance during establishment shall be ongoing throughout the guarantee period and is the responsibility of the Contractor and Landscape Architect under supervision and inspection of the Developer. Maintenance of newly planted trees should focus on producing healthy plant growth toward desired mature form and increased size.

WATERING:

Water is probably the most important element in caring for new trees and shrubs. Since a newly transplanted tree or shrub has not extended its roots into the existing soil, adequate moisture needs to reach the root ball. Soil type and the amount of rainfall govern the amount of watering necessary. On most well drained soil, one inch of water per week throughout summer and fall is required to establish and maintain good growth. In sandy soils, as much as two inches of water per week is needed.

MULCHING:

Mulch is another important element in good plant health care maintenance. Apply a 3-to-4-inch layer of organic, composted mulch (wood chips, leaves, or pine bark) extending from the base of the plant out past the drip line (end of the branches). Do not let the mulch rest against the trunk of the plant. All plants benefit from mulch, because, as the mulch breaks down, it provides an excellent



growing medium for roots, and acts as a slow-release fertilizer. Mulch will also help conserve moisture, moderate soil temperatures, eliminate weeds, and protect the trunk from mechanical injury, especially weed whips and lawn mowers.

FERTILIZING:

Fertilization at the time of planting is generally not recommended. It is ineffective until the root system has a chance to reestablish. It is usually advisable to wait two or three years before applying fertilizer, and then it is recommended to get a soil test first.

PRUNING:

Pruning after planting should be limited to removing dead, rubbing, or broken branches only. Wait at least a year before removing any larger limbs or shaping the structure of the tree or shrub. Remember, pruning encourages growth, so cut only where you need growth, and try to maintain the natural shape of the plant.

SUPPORT SYSTEM: for trees should be inspected regularly to ensure that the ties are not damaging the trunk. Stakes, guy wires and ties shall be maintained for one full growing season. Ties shall be checked at least every three months to ensure that they are not rubbing against the bark, and shall be loosened, repaired or replaced as necessary. After one full growing season, the Contractor shall remove all staking and associated ties. Trees shall be inspected to ensure that they are secure in the ground. Trees that cannot sufficiently support themselves without stakes after one full growing season shall be checked to confirm adequate soil consolidation around the root ball and be restaked for an additional growing season. Stabilization material shall be removed no later than the end of the guarantee period.

PEST AND DISEASE CONTROL: All planted areas shall be inspected for pests and diseases at least once a month throughout the growing season from May to October. The principles and methods of Integrated Pest Management (IPM) and Plant Health Care (PHC) should be applied in controlling pests and diseases.

GUARANTEE PERIOD AND REPLACEMENT

A minimum two-year guarantee period is required for all tree planting from the date of acceptance.

- The Developer's Landscape Architect shall carry out inspections of the planting at least once per month during the growing season from June 1 to October 31.
- The TRCA can request replacements at any time based on periodic inspections during the guarantee period of two consecutive calendar years.
- The Contractor shall remove and replace, without costs, and as soon as weather conditions permit, and within a specified planting period, all plants not in a healthy and flourishing condition as determined by the Developer's Landscape Architect and/or TRCA staff any time during the guarantee period. Replacement shall be subject to all requirements in the original specifications.



RESTORATION MONITORING

To ensure that new planted material survives and fulfills its future function, plantings will be monitored for a period of two consecutive calendar years following installation. Monitoring specifications are as follows:

- An ISA Certified arborist or biologist will visually inspect the restoration planting area, immediately following installation, once following the first growing season and winter, and again at the end of the second year.
- Following each monitoring event, a letter report will be submitted to the Municipality and TRCA Conservation Authority.



PICTURES

Figure 2: Proposed for restoration area outlined in red below, viewed from the east



Figure 3: Proposed for restoration area outlined in red below, viewed from the west





ASSUMPTIONS AND LIMITING CONDITIONS

1. Care has been taken to obtain all information from reliable sources. All data has been verified insofar as possible; however, the arborist can neither guarantee nor be responsible for the accuracy of the information provided by others.
2. Loss or alteration of any part of this report invalidates the entire report.
3. Possession of the report or copy of thereof does not imply right of publication or use for any purpose by anyone other than the person to whom it is addressed, without the prior expressed written or verbal consent of the consulting arborist.
4. The consulting arborist shall not be required to give testimony or to attend court by reason of the report unless subsequent contractual arrangements are made, including payment of an additional fee for such services as described in the fee schedule and contract engagement.
5. Sketches, diagrams, graphs, and photographs in the report, are intended as visual aids, and are not necessarily to scale and should not be construed as engineering or architectural reports or surveys.
6. Unless expressed otherwise: 1) the information contained in this report covers only those items at the time of inspection; and 2) the inspection is limited to visual examination of the accessible items without dissection, excavation, probing or coring. There is no warranty of guarantee, expressed or implied, that problems or deficiencies of the plants or property in question may not arise in the future.



CERTIFICATE OF PERFORMANCE

I Ivan Mitev, of Lothlorien Garden Consulting, do certify:

That I have personally inspected the subject tree(s) and/or the property defined in the “Assignment” found within this report, and have stated my findings accurately. The extent of the evaluation and/or appraisal is stated in the attached report and Terms of Assignment.

That I have no current or prospective interest in the vegetation or the property that is the subject of this report, and I have no personal interest or bias with respect to the parties involved.

That the analysis, opinions and conclusions stated herein are my own.

That my analysis, opinions, and conclusions were developed and this report has been prepared according to commonly accepted Arboricultural practices.

That no one provided significant professional assistance to the consultant, except as indicated within the report.

That my compensation is not contingent upon the reporting of a predetermined conclusion that favors the cause of the client or any other party, nor upon the results of the assessment, the attainment of stipulated results, or the occurrence of any other subsequent events

I further certify that I am an International Society of Arboriculture Certified Arborist® and that I acknowledge, accept and adhere to the ISA Code of Ethics. I have been involved with the practice of Arboriculture and the care and study of trees since 2005.

Ivan Mitev,
M.Sc. Ecologist
ISA Certified Arborist® #2297A
Consulting Arborist – *Lothlorien Garden Consulting*
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REFERENCES AND RESOURCES

TRCA

- Toronto and Region Conservation Authority - Rouge River State of the Watershed Report
- Toronto and Region Conservation Authority 2004 Forest Edge Management Plan Guidelines
- Toronto and Region Conservation Authority Seed Mix Guidelines July 2004
- Toronto and Region Conservation Authority Forest Edge Management Plan Guidelines July 2004
- Toronto and Region Conservation Authority Post-Construction Restoration Guidelines July 2004
- Toronto and Region Conservation Authority Flora Species Native to the TRCA Jurisdiction (October 2022)
- Toronto and Region Conservation Authority A MONITORING & MAINTENANCE GUIDE FOR NEWLY PLANTED SITES

CVC

- LANDSCAPE DESIGN GUIDE FOR LOW IMPACT DEVELOPMENT, CVC, June 2010
- Plant Selection Guideline, CVC 2018
- LOW IMPACT DEVELOPMENT CONSTRUCTION GUIDE, CVC 2012
- Canadian Nursery Standards Association. Canadian Standards for Nursery Stock, Eight Edition.
- <http://www.canadanursery.com/>
- ISA, 2001-2011. Best Management Practices, Books 1-9, Companion publications to ANSI A300
- ANSI A300 (Part 6) – 2005. Tree, Shrub, and Other Woody Plant Maintenance –Standard Practices (Transplanting)
- ANSI A300 (Part 1) – 2008. Tree, Shrub, and Other Woody Plant Management –Standard Practices (Pruning)
- Canadian Nursery Landscape Association. 2006. Canadian Standards for Nursery Stock – 8th Edition
- AS 4970-2009 PROTECTION OF TREES ON DEVELOPMENT SITES
- Tree Preservation & Protection Standards- The Urban Tree Management Group 2017-05-15
- THE CORPORATION OF THE CITY OF MISSISSAUGA PRIVATE TREE PROTECTION BY-LAW 254-12
- AS 4970-2009 PROTECTION OF TREES ON DEVELOPMENT SITES
- Installation Guide Spectra® Roadway Improvement System ©2005, Earth Technologies, Inc.
- Tree Protection By-Laws TORONTO MUNICIPAL CODE CHAPTER 813, TREES
- Ministry of Natural Resources, 2013. Biodiversity – Terrestrial invasive species.


PLAN

183'-4" [55.88 M]

268

LESTER B. PEARSON
(BY BY-LAW NO. 215-97 INST. #R706266)
(FORMERLY CENTRE STREET, BY REGISTERED PLAN 268)
PIN 03347-0118 (LT)

MAIN STREET



LOTHLORIEN
GARDEN DESIGN
CONSULTING

1502-111 Inverlochy Blvd. Thornhill,
ON, L3T 3R7
Phone: 647 351 2631
www.lothloriengarden.com

ISSUED

REVISION

COMMENTS

DATE

NOTES:


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RESTORATION
REPLANTING
PLAN

ADDRESS:

8 Main Street, Vaughan, ON L4H 3N5

CLIENT NAME:

SITE PLAN:  Rubinoff Design Group

TPP DRAWN BY:

IVAN MITEV
M.Sc. Ecologist
ISA Certified Arborist® ON-2297A
Consulting Arborist - Lothlorien Garden Consulting
lothloriengardenconsulting@gmail.com

DATE:

03/27/2024

SCALE:

1:275 (17" x 11")

SHEET NUMBER:

RRP- L1

LEGEND

TREES TO REMAIN
protected root zone (TPZ)

EXISTING TREE KEY

TREES TO BE REMOVED

TREES TO BE INJURED

PLANT KEY

PROPOSED ZONE FOR
RESTORATION

SHRUB SYMBOLS

NATIVE SEED MIX

PROPOSED CONIFEROUS TREE

PROPOSED DECIDUOUS TREE



















MOW LIMIT

DEMOLITION LIMIT

TREES IN DECLINE
PROPOSED FOR REMOVAL

TRCA LIMIT

TREE REPLANTING
LOCATION

LEGEND					
PLANTING LIST	Symbol	Plant key	Qty.	L-Rank	Wetland Status
Red pine (<i>Pinus resinosa</i>)		Pr	5	L1	upland
Eastern Red cedar (<i>Juniperus virginiana</i>)		Jv	10	L5	upland
Large-flowered serviceberry (<i>Amelanchier amabilis</i>)		Al	10	L2	upland
Alternanthera dogwood (<i>Cornus alternifolia</i>)		Co	10	L5	upland
American hazel (<i>Corylus americana</i>)		Ca	10	L3	upland
Choke cherry (<i>Prunus virginiana</i>)		Pv	10	L5	upland
White oak (<i>Quercus alba</i>)		Qa	3	L2	upland
Northern Red oak (<i>Quercus rubra</i>)		Qr	3	L4	upland
American basswood (<i>Tilia americana</i>)		Ta	3	L5	upland
Slippery elm (<i>Ulmus rubra</i>)		Ur	3	L3	upland
Maple-leaved viburnum (<i>Viburnum acerifolium</i>)		Va	10	L2	upland
Hobblebush (<i>Viburnum lantanoides</i>)		Vl	20	L2	upland
Male fern (<i>Dryopteris filix-mas</i>)		df	10	L3	upland
Running strawberry-bush (<i>Euonymus alatus</i>)		ea	20	L3	upland
Wild Geranium (<i>Geranium maculatum</i>)		gr	20	L4	upland
Thin-leaved sunflower (<i>Helianthus decapetatus</i>)		hd	20	L3	upland
Creeping Juniper (<i>Juniperus horizontalis</i>)		jh	20	L3	upland
Native Seed Mix (TRCA Upland Slope Mix TRCA-SD-3)					upland

TRCA Local Rank (L-Rank)
L1 - L3 Species of Regional Conservation Concern
L4 Species of Conservation Concern in Urban Area
L5 Species Not of Conservation Concern at this time

Wetland Status (OWES)
FAC Wetland Plant (BUT NOT RESTRICTED TO WETLANDS)
OBL Wetland Indicator (OBLIGATE: RESTRICTED TO WETLANDS)
REV Suspected Wetland (Sent to Ministry for Review)
UPL Upland Plant (NOT IN WETLANDS)
S STATUS APPLIES TO S. ON (INCLUDING TRCA)



TREE INSTALLATION

Careful selection of a tree species that is well matched to the site and the use of vigorous, healthy nursery stock with a well-developed root system are essential, but do not compensate for poor or improper planting procedures.

Timing of Planting

- Acceptable planting times depend on plant species, type of stock, climate and weather.
- Spring, after the ground thaws and before the tree buds break, is the best time to plant most species. With care and proper techniques, planting may also be feasible in the summer.
- Trees are planted throughout the year unless the soil is frozen. Some species favour spring planting such as oaks. Trees dug in the dormant season and container grown trees can be held for planting throughout the growing season with proper care.
- Bare root trees are dug and planted when trees are dormant and water stress is lowest.
- The following recommendations are the optimal planting times. Weather and other circumstances may require variance from these dates.
- Planting shall be done within the following dates:
 - o Deciduous: May 1 to June 31 or September 1 to November 1
 - o Coniferous: May 1 to June 31
 - o Exceptions: seasons may be shorter than expected depending on weather conditions
- If special conditions exist that warrant a variance from the recommended planting dates, a written request shall be submitted by the Contractor to the Contract Administrator stating the special conditions and the proposed variance.

Planting Hole Preparation

- The Contractor shall ensure that the layout has been reviewed by the Landscape Architect and the CVC. The Contractor shall be responsible for all costs associated with transplanting plant material that is deemed to have been planted in conflict with utilities or setback requirements.
- The Contractor shall ensure that all utility locates are complete. The Contractor shall be responsible for all damage resulting from neglect or failure to comply with this requirement.
- Excavation may be done by shovel, backhoe or stump grinder. Note: a soil auger or tree spade may not be used.
- Surrounding clay soil may restrict root transition from an amended planting pit to the, effectively limiting their growth to the amended area. The planting pit edges must be sufficiently scarified to allow for roots to penetrate parent soil.
- Research has shown that a wider planting hole improves establishment, particularly in heavy soils.
- Option 1 – the planting hole shall be at least 3 times the diameter of the soil ball and the soil shall be loosened beyond the edge of the planting hole.
- Option 2 – The planting hole shall be at least 2 times the diameter of the soil ball and the soil shall be loosened at least one ball diameter's distance beyond the hole to a depth of 20-30cm using a rotary tiller.
- Planting depth shall result in the top of the root collar being even with or a maximum of 50mm above the surrounding grade after planting.
- Holes shall be dug at the time of planting. Excavation holes shall not be left unattended or open over night.
- Proper water drainage must be assured. The Contractor shall notify the Contract Administrator, in writing, of any soil conditions or other obstructions that the Contractor considers detrimental to tree growth. Such conditions shall be described, as well as suggestions for correcting them.
- Where soil conditions or below ground obstructions which cannot be remedied are encountered, the Contract Administrator shall designate alternate planting locations. The Contract Administrator shall not bear any costs associated with such relocation.

Soil Preparation

- Existing soil shall be used to backfill planting holes wherever possible. Backfilled soil shall be cultivated, removing any large clods or extraneous material.
- Amendment may be required on sites with poor quality soil or lack of sufficient parent soils.
- Test pits shall be conducted in 5% of the planting locations for topsoil depth, soil structure, bulk density, and subsoil drainage.
- Existing topsoil and all imported soils shall be tested for pH, Organic Matter, Nutrient Levels, % Sand, % Silt, % Clay, Cation Exchange Capacity (CEC) and sodium absorption ratio (SAR).
- Suggested amendments for clay soil are coarse sand and coarse organic matter such as compost or aged manure. Finer sands may compound soil structure problems.
- Avoid fine-textured material such as peat moss or packaged manures.

Planting

- Plants must be centred and plumb in the hole.
- Plant in the same orientation as marked in the nursery unless otherwise directed by the Contract Administrator.
- Plant so that the top of the root collar is even with or a maximum of 50mm above finished grade. Plants shall be set so that they will be at the same depth 1 year after planting. Planting too deep may result in trunk disease or girdling roots. If the root collar is deep in the ball, excess soil may be removed from the trunk using hands, not tools.
- Bare root plants shall have their roots spread into a natural position, free of bunching, kinking, or circling. No root pruning shall be done.
- Plants in containers shall have containers removed completely before planting. If roots are crowded or coiled on the bottom, sides or surface of the root ball, they shall be gently separated from the edges or surface. The plant material is rejectable if excessively girdled or pot bound.
- For plants moved with tree spades, all holes and cavities between the ball and the surrounding soil shall be filled. The planting hole surfaces shall be sufficiently roughened prior to backfilling.
- Cut and remove all material from the top 1/3 of the rootball.
- All plastic ties, ropes, strings, wire baskets, burlap and other wrappings must be removed from the tree and hole. The ball shall be in the hole and well supported before the material is removed.
- Planting holes shall be backfilled with cultivated excavated soil, tamped in 150mm lifts. When holes are approximately two-thirds full, they shall be watered thoroughly.
- Backfill soil to the top of the root ball and form a 10cm soil ring to direct water to the rootball. Backfill shall not filled around the trunk or above the root flare.
- Remove all trunk wrap immediately after planting.

Support Systems

- Tree support may be required to provide anchorage for roots while they become established, to maintain trunk in a vertical position, provide support for trunk and crown and provide protection to the trunk.
- Should trees move 10% or more from vertical plane throughout the guarantee period, the contractor shall stake within one week of notification at their own expense.
- Where required, trees shall be staked using two 1.8m long 50mm x 50mm (2"x2") wood stakes. Ensure that stakes are driven into undisturbed soil and never driven through the root ball.
- Tree tie to be Arbor Tie or approved equivalent material that is a minimum of 25mm wide and will remain soft and pliable under all weather conditions.
- Tree supports shall be monitored and maintained throughout the guarantee period.

Mulching

- Mulch shall consist of aged or composted wood chips or shredded bark with no pieces larger than 25mm in length and shall be free of material injurious to plant growth.
- Place mulch to a consolidated depth of 15cm throughout the entire planting pit area and kept back no less than 5cm and no more than 10cm from the trunk.

Watering (Performance Standard)

- The Contractor shall submit a watering plan for approval by the CVC prior to installation of any plant material detailing the water source, method of application and quantity and frequency of watering for the first two growing seasons.
- The contractor shall surface water each tree immediately following planting with minimum 40 litres of water.
- Water shall be free of contaminants which could adversely affect the trees survival and growth.

Trunk Protection

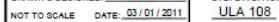
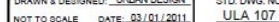
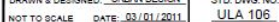
- Trunk protection may be required to protect from sunscald, frost crack, animal and maintenance equipment damage. Trunk protection may also be required to protect trees during establishment in densely populated and high traffic areas.
- Tree guards shall be made of a perforated material such as mesh or chicken wire kept back a minimum of 50mm from the trunk to allow for air circulation and sun penetration. The tree guard shall be installed from the top of mulch to 500mm up the trunk. Tree guard material and installation shall be approved by the Town. Mulch shall not be trapped between the guard and trunk. Tree guards must be monitored for damage and interference with tree growth.
- Tree grates may be used to protect soil and increase pedestrian right of way. Tree grates are only appropriate when they are easily removable and their condition is monitored to allow for tree growth. Tree grate opening shall be adjustable and removable to allow for trunk growth.

LOTHLORIAN

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TRUE NORTH

ISSUED	REVISION	COMMENTS	DATE
NOTES:			
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RESTORATION PLAN CONCEPTUAL DESIGN			
8 Main Street, Vaughan, ON L4H 3N5			
LEGEND			
<div>EXISTING MATURE TREE</div>			
<div>PROPOSED CALIPER TREE</div>			
<div>PROPOSED CONIFEROUS TREES AND SHRUBS</div>			
<div>PROPOSED DECIDUOUS SHRUBS</div>			
<div>RESTORATION MIX</div>			
SCALE:		1:100 (17" x 11")	
SHEET NUMBER:		RRP- L2	



RRP- L3