

ARBORIST REPORT & TREE PRESERVATION PLAN



PREPARED FOR: York 1

DATE: September 1st, 2023

FILE #:2871

REVISION #:



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1.0 BACKGROUND INFORMATION

1.1 INTRODUCTION

Cosburn Giberson Consultants Inc. has been retained by York 1 to prepare a Tree Inventory and Preservation Plan & Arborist Report for the proposed development at 529 Tiffin Street - Barrie. This report will be written in conjunction with the City of Barrie's requirements for preparation for an Arborist Report and Tree Preservation Plan.

This Arborist Report outlines the results of a tree inventory, (completed May 24th, 2023) and makes recommendation for tree preservation / protection, tree injury and mitigative measures.

This report is to be read in conjunction with:

- Table 1: Tree Inventory and Preservation Charts
- Tree Inventory and Preservation Plans (TIPP)

1.2 PROPERTY OVERVIEW

The subject land is approximately 4 acres in total area & is designated as Employment Area – Industrial as per the City of Barrie Official Plan. The land has been cleared with little existing vegetation remaining. A small area of cultural meadow is present in the south part, comprised of native and non-native species including Kentucky Bluegrass, Balsam Poplar, Wild Carrot, Oxeye Daisy, smooth Brom & Viper's Bugloss.

Neighbouring property conditions adjacent to the subject land include:

North of subject property –

- Existing coniferous tree row, (buffer)

East & South of subject property –

- Designated natural heritage system (woodland)

West of subject lands –

- Neighbouring Industrial site used for commercial fleet parking
- Drainage swale

The existing vegetation within and adjacent to the subject property is comprised of;

- Woodland comprised of Silver Maple, Balsam Polar, Green Ash, White Pine & White Spruce

- Narrow strip of Norway Spruce along the north property line
- Few large deciduous trees along the west property line
- No rare, endangered, threatened or species of special concern (species at risk) were found within the study area
- Refer to Figure 1 for an aerial view of the subject lands (Existing conditions)



Figure 1, Aerial view of subject property

1.3 PURPOSE OF ASSIGNMENT

Cosburn Giberson Consultants Inc. has been hired to prepare a Tree Inventory and Preservation Plan for the proposed development at 529 Tiffin Street.

This report shall:

- Identify all trees within the subject property limits with a DBH 10cm or larger, (measured 1.4m above grade, DBH).
- Identify trees on private property within 6 metres of the subject property
- Identify trees of any size located on adjacent municipal right-of-way
- Include a Plan of Preservation (CAD), with regards to the proposed development
- Provide direction for tree preservation, techniques for mitigating injuries and rationale for tree removals.

1.4 PROPOSED DEVELOPMENT

The proposed development of the site includes:

- A recycling transfer station
- Parking
- Future outdoor storage area

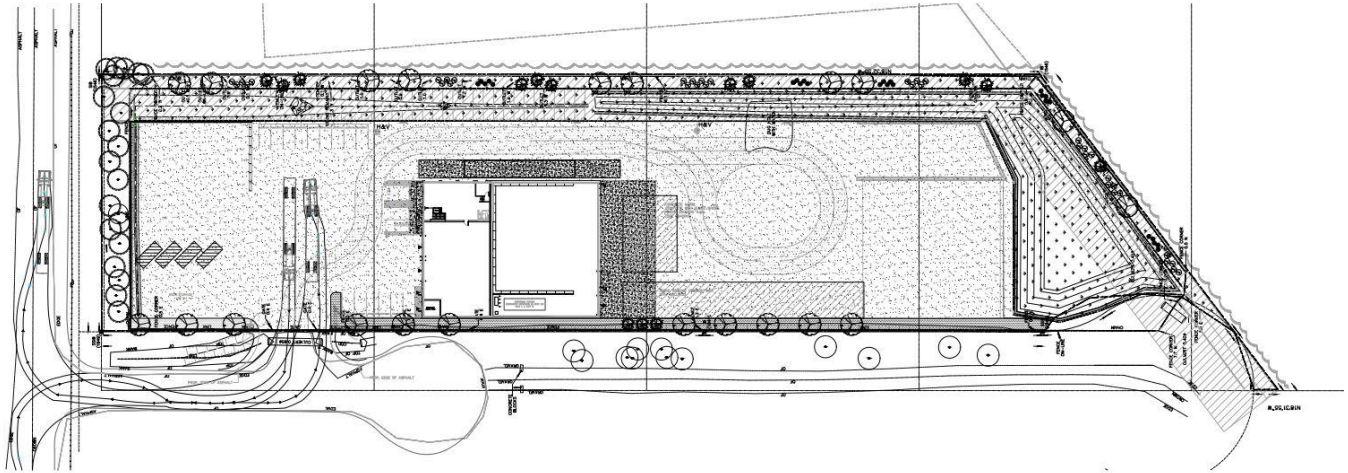


Figure 2, Concept Plan of proposed development

2.0 METHODOLOGY

2.1 EXISTING DOCUMENTATION

Cosburn Giberson Consultants Inc. conducted a review of all available site documentation / drawings including:

- Survey prepared by Rudy Mak Surveying Ltd.
- Aerial photography
- Site photos

2.2 SITE INSPECTION

Field observations and data collection was completed on May 24th, by Daniel Beauchesne.

All trees located on the subject lands or within 6 meters of the potential limits of disturbance are included in the inventory. Tree diameter was measured at 1.4 meters above grade (DBH) and trees were assessed for health, structure and risk potential.

All inventoried trees have been identified by their regionally used common name and botanical name.

Any species ranked endangered, threatened, or special concern by the SARO (regardless of size), were assessed and inventoried.

Trees were tagged during this inventory (Refer to Appendix 1 - Tree Inventory)

2.2.1 HEALTH CONDITION

A generalized assessment system was used to describe the overall health condition of each inventoried tree. A 6-level scale of plant health and structure with descriptors of good, satisfactory, potential trouble, declining, death imminent, dead was used to quantify the range of the tree's condition.

All inventoried trees have been assessed by a visual inspection of the above ground, (and limited excavation of root flare) portion of the tree.

Good condition was given to a tree whose health, growth rate, crown closure and structural integrity was greater than eighty percent of a perfect specimen. Vice versa, a poor condition was given to a tree whose condition is less than twenty percent of a perfect specimen.

(Refer to Table 1 for tree condition assessment system)

2.2.2 TREE LOCATION

Trees have been identified on the existing survey prepared by Rudy Mak Surveying Ltd.

Any trees that were not identified by the Ontario Land Survey were recorded and had their location approximated by eye.

This information was utilized and accurately appears in this report along with the Concept Plan as the base for the Tree Preservation Plan

2.2.3 TREE SIZE

All trees identified on the inventory were sized by measuring their trunk diameter at 1.4 meters above grade, (DBH). Where trees cannot be accurately measured by sizing a DBH, (i.e. co-dominant leaders), the tree will be measured using the appropriate arboricultural method, as described by the ISA.

Rating Category	Condition Components			Percent Rating
	Health	Structure	Form	
Good	High vigor and nearly perfect health with little or on twig dieback, discoloration, or defoliation.	Nearly ideal and free of defects.	Nearly ideal for the species. Generally symmetric. Consistent with the intended use.	81% - 100%
Satisfactory	Vigor is normal for the species. No significant damage due to disease or pests. Any twig dieback, defoliation, or discoloration is minor.	Well-developed structure. Defects are minor and can be corrected.	Minor asymmetrical/deviations from species norm. Mostly consistent with the intended use. Function and aesthetics are not compromised.	61% - 80%
Potential Trouble	Reduced vigor. Damage due to insects or diseases may be significant and associated with defoliation but is not likely to be fatal. Twig dieback, defoliation, discoloration, and/or dead branches may compromise up to 50% of the crown.	A single defect of a significant nature or multiple moderate defects. Defects are not practical to correct or would require multiple treatments over several years.	Major asymmetrical/deviations from species norm and/or intended use. Function and/or aesthetics are compromised.	41% - 60%
Declining	Unhealthy and declining in appearance. Poor vigor. Low foliage density and poor foliage colour are present. Potentially fatal pest infection. Extensive twig and/or branch dieback.	A single serious defect or multiple significant defects. Recent change in tree orientation. Observed structural problems cannot be corrected. Failure may occur at any time	Largely asymmetrical/abnormal. Detracts from intended use and/or aesthetics to a significant degree	21% - 40%
Death Imminent	Poor vigor. Appears to be dying and in the last stages of life. Little live foliage.	Single or multiple severe defects. Failure is probable or imminent.	Visually unappealing. Provides little or no function in the landscape.	6% - 20%
Dead				0% - 5%

Table 1, Tree Condition Assessment System

3.0 TREE INVENTORY

The on-site inventory of existing trees was carried out using the current survey of the subject property and relies on the accuracy of this survey.

During the site inspection on May 24th, a total of 47 trees inventoried. Trees were identified under four categories:

- Private Property
- Boundary Trees
- Neighbouring Trees
- Municipal Trees

Refer to Appendix 1 for the detailed inventory and assessment of each individual tree.

4.0 TREE PRESERVATION AND PROTECTION RECOMMENDATIONS

The majority of the existing trees on site, with the exception of the isolated perimeter coniferous trees along Tiffin Street, will be subject to grading and excavation impacts related to the proposed development.

No existing neighbouring trees will be injured by the proposed development. Existing chain link fencing along the east, west and south property lines will act as tree protection to the adjacent woodland and drainage swale.

The following standards shall apply to any trees that have been identified as “Preserve”. Where the municipality enforces its own standards, those shall supersede the recommendations contained within this report. In all other instances, the following recommendations shall be treated as minimum standards for tree protection and retention.

4.1 ESTABLISH A TREE PROTECTION ZONE

The purpose of the tree protection zone, (TPZ) is to prevent root damage, soil compaction and soil contamination during construction activities. Workers and machinery shall not disturb the TPZ in any way. In order to prevent access within this space, the following recommendations have been provided.

- Install tree protection hoarding as per municipal standards.
- Ensuring no equipment, fill, supplies, or waste within the designated TPZ.
- Tree protection hoarding must not be removed until all construction activities have been completed.
- Maintain the tree protection hoarding in good condition for the duration of construction.

4.2 ROOT PRUNING

Where possible, in order to prevent any unnecessary tearing or pulling of roots, all areas closest to each tree must be hand dug. Roots 2.5 centimeters or greater in diameter, or roots that are injured or diseased should be removed by following the following procedure.

- Preserve the root bark ridge. Directional Root pruning (DRP) is the recommended technique and should be employed during hand excavation around the tree roots.
- No wound dressings or pruning paint shall be used to cover the ends of each cut.
- All roots needing to be pruned or removed shall be cut cleanly with sharp hand tools by a Certified Arborist
- All roots requiring pruning shall be cut using the following tools:
 - Large or small loppers, Hand Pruners, Small hand saws, Woundscribers
- Prolonged exposure of tree roots during construction shall be avoided.

4.3 IRRIGATION AND FERTILIZATION

Refer to the following measures:

- If construction is to occur during July / August, roots must be irrigated during dry conditions.
- Aeration and deep root fertilization to ensure that all trees receive the appropriate nutrients for healthy growth.
- Fertilizer must be a low nitrogen formula such as 5-30-30 to promote root growth rather than shoot growth.

4.4 MAINTENANCE PROGRAM

Pre-Construction:

Prior to commencement of construction the following tasks should be performed by a qualified tree care practitioner under on site supervision of the Landscape Architect/Certified Arborist in order to preserve the health and safety of all existing trees to be preserved:

- Removal of any man-made debris.
- Remove any existing hangers in tree crowns from all trees to be preserved and chip.
- Supply and place 75 mm deep shredded bark mulch in a 5m radius on site side around trees to be preserved. No mulch shall be placed within 15cm of tree trunks.
- All dead and prior pruning stubs will be disposed of off-site and chipped.
- All cut woody debris shall be chipped, wood chips re-used as surface mulch on site.
- All trees to be preserved will require protection with continuous tree protection barrier fencing per detail I, drawing TP-2 during entire construction period.
- No site construction works may commence prior to obtaining approval from the City of Barrie.
- Tree Preservation signage shall be installed on the Tree Preservation fencing per City of Barrie Standard drawing TP-2 on construction side of fencing. Signage must remain in place for the entire construction period.

During Construction:

- During construction, run-off and siltation from construction activities should be controlled through the use of Tree Protection fencing installation including siltation control fabric on project side of fence to effectively reduce sedimentation impacts on the existing vegetation to be protected and on local downstream ecosystems. All construction vehicle access and egress will be limited to areas outside of Tree Protection Zones (TPZ'S).
- Potentially hazardous, diseased or damaged limbs shall be pruned from dripline edge under on site supervision of Landscape Architect/Certified Arborist.
- Tree Protection fencing must be maintained in good repair for the entire duration

of work until construction is complete.

- During construction, any excavation or activity that will affect the critical rooting zones of any tree shall be monitored by the Landscape Architect/Certified Arborist. Should roots be injured or cut the arborist shall prune or cut flush the injured root with a sharp implement. All cut and/or exposed roots shall be backfilled immediately to prevent desiccation.
- No fill or disturbance to any vegetation shall occur within the TPZ'S during construction. All tree preservation fencing shall be removed following total completion of construction.
- Should any trees to be protected be damaged during construction the project Landscape Architect/Consulting Arborist should be notified immediately. All recommended mitigative works shall be completed immediately at the contractor's expense.
- Any man-made debris and/or construction debris that collects and /or is dumped in the TPZ should be removed immediately.
- All arboricultural works shall be performed by a qualified tree care practitioner under on site supervision of the Landscape Architect/Certified Arborist to City of Barrie approval.

Post-Construction:

Following completion of construction, a site inspection shall be completed and required post construction maintenance work including the following will be identified as follows:

- Any dead, damaged, diseased or branches damaged by machinery will require removal.
- Any damaged bark shall be carefully traced back to living tissue with a sharp knife.
- Do not apply wound dressing.
- Upon the approval, of the City of Barrie, Tree Protection fencing may be removed

5.0 CONCLUSIONS

Based on our findings, out of the 47 trees inventoried, CGLA is of the opinion that 13 trees located within the boundaries of the private property will need to be removed to accommodate the proposed development, (3 of which are dead or dying).

A total of 37 trees will require an injury to the minimum TPZ in order to accommodate the proposed multi-use path. These trees will require a permit for injury prior to construction.

Trees which have been identified as "Preserve" on the inventory shall be protected in accordance with the approved Tree Protection Plan and details. All tree hoarding shall be installed, inspected and approved prior to the start of any construction activities. Special care must always be taken when working with the designated TPZ's of any tree to be retained.

6.0 SIGNATURES

PREPARED BY



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Certified Arborist ON-2497A

September 1, 2023
Date

APPROVED BY



Max Lazo, OALA, CSLA
Senior Landscape Architect, Principal

September 1, 2023
Date

Cosburn Giberson Consultants Inc. prepared this report solely for the use of the intended recipient, (York 1), in accordance with the professional services agreement. The intended recipient is solely responsible for the disclosure of any information contained in this report. The content and opinions contained in the report are based on the observations and/or information available to Cosburn Giberson Consultants Inc. At the time of preparation. If a third party makes use of, relies on, or makes decisions in accordance with this report, said third party is solely responsible for such use, reliance or decisions. Cosburn Giberson Consultants Inc. Does not accept responsibility for damages, if any, suffered by any third party as a result of decisions made or actions taken by said third party based on this report. This limitations statement is considered an integral part of this report.

APPENDIX 1 – TREE INVENTORY

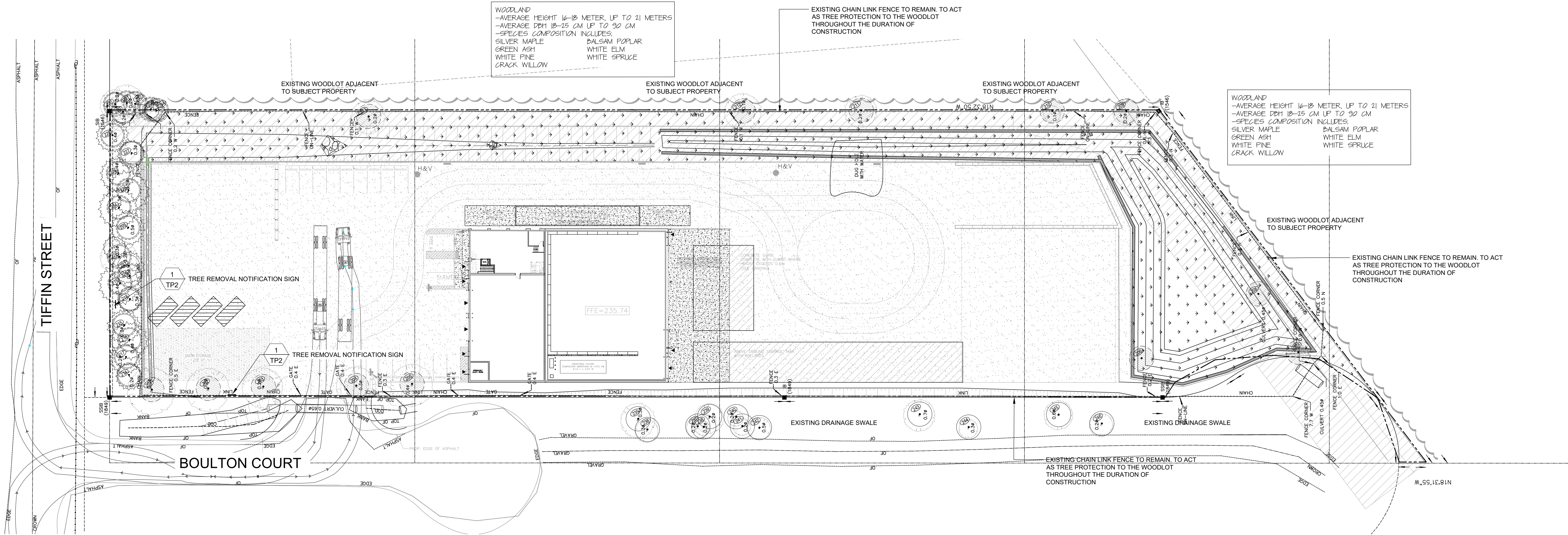
Note: For Common Names refer to Master Tree Species List

Tree Tag No.	Botanical Name	Diameter at Breast Height (cm)	Height (m)	Health and Condition Rating	Crown Spread (m)	Remarks	Ownership (P,N,M,B)	Tree Status (P,I,R)
201	<i>Fraxinus americana</i>	30	12	Good	8	Pruned at base	P	R
202	<i>Fraxinus americana</i>	25	12	Dead	8	Sucking at base, Dead	P	R
203	<i>Fraxinus americana</i>	25	12	Dead	8	Sucking at base, Dead	P	R
204	<i>Fraxinus americana</i>	27	12	Declining	8	Pruned at base	P	R
205	<i>Fraxinus americana</i>	27	12	Declining	8	Pruned at base	P	R
206	<i>Salix alba</i>	15/7	8	Satisfactory	3	Dead leader	P	R
207	<i>Salix alba</i>	15	10	Declining	3	Minor deadwood present	P	R
208	<i>Populus tremuloides</i>	10	10	Satisfactory	2	Minor deadwood present	P	R
209	<i>Salix alba</i>	10/7	6	Good	4	Codominant	P	R
210	<i>Populus tremuloides</i>	10	10	Good	1	Minor deadwood, Choked out by adj. woodlot	P	R
211	<i>Salix alba</i>	10/7/7	10	Declining	4	Multi-stem, Minor deadwood present, Grown into fence	P	R
212	<i>Populus tremuloides</i>	10	9	Potential Trouble	2	Choked out by adj. woodlot, In decline	P	R
213	<i>Populus balsamifera</i>	20	13	Satisfactory	4	Minor deadwood present at base	P	R
214	<i>Picea abies</i>	17	4	Dead	2	Broken Leader, Dead	P	P
215	<i>Picea abies</i>	30	8	Good	5	Codominant	P	P
216	<i>Picea abies</i>	22	5	Good	5	Growing into adj. Spruce, Codominant	P	P
217	<i>Picea abies</i>	17	7	Dead	3	Regrowth occurring at base, Dead	P	P
218	<i>Picea abies</i>	10/10/10	11	Good	4	Codominant, One Leader has died	P	P
219	<i>Picea abies</i>	30	12	Good	5	Deadwood present at base	P	P
220	<i>Picea abies</i>	20/10	10	Declining	4	Choked out by surrounding vegetation, Codominant	P	P
221	<i>Acer negundo</i>	12/7	10	Satisfactory	5	Choked out by surrounding vegetation, Codominant	P	P
222	<i>Picea abies</i>	25	10	Declining	5	Minor deadwood present	P	P
223	<i>Picea abies</i>	30	13	Good	5	Minor deadwood present	P	P

Tree Tag No.	Botanical Name	Diameter at Breast Height (cm)	Height (m)	Health and Condition Rating	Crown Spread (m)	Remarks	Ownership (P,N,M,B)	Tree Status (P,I,R)
224	<i>Picea abies</i>	27	12	Satisfactory	5	Bare at base, Minor deadwood present	P	P
225	<i>Picea abies</i>	30	13	Good	6	Minor deadwood present at base	P	P
226	<i>Picea abies</i>	20/12	11	Satisfactory	5	Choked out by surrounding Buckthorn, Codominant	P	P
227	<i>Picea abies</i>	17/10	8	Declining	5	Choked out by Cottonwood, Codominant	P	P
228	<i>Picea abies</i>	25/10/10	11	Satisfactory	6	Codominant	P	P
229	<i>Populus tremuloides</i>	15	11	Satisfactory	4	Choked out by surrounding woodlot	P	P
230	<i>Populus tremuloides</i>	15	11	Satisfactory	4	Choked out by surrounding woodlot	N	P
231	<i>Fraxinus americana</i>	13	10	Dead	3	Dead	N	P
232	<i>Salix alba</i>	10/7/7/5	10	Satisfactory	3	Choked out by surrounding woodlot	N	P
233	<i>Thuja occidentalis</i>	10/7	7	Good	2	Minor deadwood at base	B	P
234	<i>Picea abies</i>	10	8	Satisfactory	2	Choked out by surrounding woodlot	B	P
235	<i>Salix alba</i>	20	8	Satisfactory	4	Leaning, Minor deadwood at base	N	P
236	<i>Salix alba</i>	10/7/7	8	Satisfactory	3	Multi-stem, Sucking at base, Minor deadwood present	N	P
237	<i>Salix alba</i>	12	8	Satisfactory	3	Minor deadwood at base	N	P
238	<i>Salix alba</i>	12	8	Satisfactory	3	Choked out by nearby Cottonwood, Deadwood present	N	P
239	<i>Salix alba</i>	12/12	7	Satisfactory	4	Leaning, Codominant, Deadwood at base	N	P
240	<i>Salix alba</i>	10	8	Satisfactory	1.5	Deadwood present at base	N	P
241	<i>Salix alba</i>	10	7	Satisfactory	2	Slight lean, Deadwood present at base	N	P
242	<i>Salix alba</i>	12/12/12	8	Satisfactory	3	Multi-stem, Choked out by surrounding vegetation, Deadwood present at base	N	P
243	<i>Populus balsamifera</i>	12	7	Good	3		N	P
244	<i>Salix alba</i>	17/10/10	10	Good	4	Multi-stem, Choked out by surrounding vegetation	N	P
245	<i>Salix alba</i>	12/12	7	Good	4	Multi-stem	N	P

Tree Tag No.	Botanical Name	Diameter at Breast Height (cm)	Height (m)	Health and Condition Rating	Crown Spread (m)	Remarks	Ownership (P,N,M,B)	Tree Status (P,I,R)
246	Salix alba	12/12	7	Good	4	Multi-stem	N	P
247	Salix alba	12	7	Good	4	Multi-stem, Deadwood present	N	P

APPENDIX 2 – TREE PRESERVATION PLAN



NOTE:
REFER TO DRAWING SHEET TP2 FOR TREE PRESERVATION NOTES



KEY MAP N.T.S.

LEGEND:

- EXISTING TREE TO REMAIN
- EXISTING TREE TO BE REMOVED
- TREE INVENTORY TAG REFER TO ARBORIST REPORT & INVENTORY SCHEDULE
- TREE PROTECTION ZONE (MIN. DISTANCE)
- EXISTING CHAIN LINK FENCE

GENERAL NOTES:

- THIS PLAN TO BE USED FOR TREE PRESERVATION AND REMOVAL PURPOSES ONLY.
- DATE INFORMATION OBTAINED FROM RUDY WAK SURVEYING.
- FOR TREE PRESERVATION NOTES AND DETAILS REFER TO DWG: TP-2
- FOR TREE INVENTORY LIST REFER TO ARBORIST REPORT
- CONTRACTOR TO PROVIDE 48 HOURS NOTICE TO LANDSCAPE ARCHITECT PRIOR TO COMMENCEMENT OF WORKS

no.	revision	date	by
R3	ISSUED FOR SUBMISSION	OCT 07 24	DB
R2	ISSUED FOR SUBMISSION	JUL 10 24	YS
R1	ISSUED FOR SUBMISSION	NOV 27 23	NM
R0	ISSUED FOR REVIEW	SEPT 08 23	DB

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Client:
YORK 1

Project Title:
529 TIFFIN STREET

CITY OF BARRIE, ON

Drawing Title:
TREE PROTECTION
PLAN

Reviewed: DB Drawn: SS

Scale: 1:400 Date: JUL 10, 2024

Project Number: 2871

Drawing Number
TP1

THE CONTRACTOR WILL BE CAREFULLY AND THOROUGHLY INFORMED BY THE LANDSCAPE ARCHITECT OR REGISTERED FORESTER OF HIS CONTRACTUAL OBLIGATIONS REGARDING TREE AVOIDANCE AND PRESERVATION. AS WELL AS MAINTENANCE MEASURES TO BE UNDERTAKEN PRIOR TO COMMENCEMENT OF ANY SITE WORK.

THE DEVELOPER IS REQUIRED TO BE INFORMED ABOUT THE WILDLIFE ACT AND MIGRATORY BIRD CONVENTION ACT, 1954 (M-T-O-C-R-C, C-1235 GENERAL REGULATIONS, SECTION 6) REQUIREMENTS TO ENSURE CONFORMANCE WITH PROVINCIAL AND FEDERAL REGULATIONS. IT IS AN OFFENCE TO DESTROY ACTIVE NESTS AND/OR EGGS DURING BIRD NESTING PERIODS. COMMON NESTING PERIODS EXTEND FROM APRIL 1ST TO JUNE 31ST FOR MOST BIRDS. NESTING CAN OCCUR AT OTHER TIMES AS WELL. LARGE SCALE CLEARING OPERATIONS ARE PROHIBITED DURING THIS PERIOD, UNLESS APPROPRIATE MONITORING IS UNDERTAKEN. SHOULD TREE REMOVAL DURING BIRD NESTING SEASON BE UNAVOIDABLE, THE DEVELOPER IS REQUIRED TO CONDUCT A NESTING SURVEY. IN ADDITION, THE DEVELOPER IS ALSO REQUIRED TO PROVIDE ON-SITE MONITORING BY A REGISTERED PROFESSIONAL BIOLOGIST TO ENSURE NESTS WILL NOT BE DAMAGED.

THE LANDSCAPE ARCHITECT WILL BE RETAINED ON SITE BY THE DEVELOPER WITH A HARD COPY OF THE APPROVED TREE PRESERVATION PLAN DURING CRITICAL STAGES OF GRADING AND CONSTRUCTION TO ENSURE STRICT ADHERENCE TO ITS RECOMMENDATIONS AND TO SUPERVISE THOSE ELEMENTS OF THE PROJECT THAT RELATE TO THE PRESERVATION OF THE TREES.

CONTRACTORS ARE RESPONSIBLE TO IMPLEMENT ALL TREE PRESERVATION MEASURES TO SATISFACTION OF THE LANDSCAPE ARCHITECT AND THE MUNICIPALITY.

PROTECTIVE FENCING

- THE CONTRACTOR WILL PROVIDE PROTECTIVE FENCING PRIOR TO COMMENCEMENT OF ANY SITE WORK TO ALL EXISTING INDIVIDUAL TREES AND ASSOCIATED UNDERSTOREY AND GROUNDCOVER, WHICH ARE TO REMAIN. GROUPS OF TREES AND OTHER EXISTING PLANTINGS TO BE PROTECTED WILL BE DONE IN A LIKE MANNER WITH FENCING AROUND THE ENTIRE CLUMP(S). THE FENCING WILL BE LOCATED 360 DEGREES AROUND SINGLE OR CLUMP(S) OF PROTECTED TREES.
- PROTECTIVE TREE FENCING WILL BE DEFINED AS PER THE CITY OF BARRIE STANDARD, REFER TO DETAIL 1/P2.
- THE LANDSCAPE ARCHITECT WILL INSPECT AND THE CONTRACTOR WILL MAINTAIN PROTECTIVE FENCING REGULARLY IN GOOD REPAIR. PROTECTIVE FENCING SHALL REMAIN IN PLACE THROUGHOUT THE DURATION OF CONSTRUCTION AND SHALL NOT ALLOW TRAFFIC, VEHICLES, FOOT TRAFFIC OR EQUIPMENT TO COME IN CONTACT WITH THE TREE PROTECTION ZONES. ACCESS ROUTES SHOULD BE ESTABLISHED AWAY FROM PROTECTED AREAS.

- INSTALLATION OF PROTECTIVE FENCING WILL BE COMPLETED PRIOR TO THE COMMENCEMENT OF SITE CLEARANCE, DEMOLITION OR ANY OTHER TYPE OF CONSTRUCTION, TO THE SATISFACTION OF THE LANDSCAPE ARCHITECT OR REGISTERED FORESTER, AND REMAIN INTACT THROUGH THE COMPLETION OF CONSTRUCTION WORKS. ANY PROTECTIVE FENCING INSTALLED IS THE RESPONSIBILITY OF THE CONTRACTOR. ONCE CONSTRUCTION WORKS HAVE BEEN COMPLETED, THE CONTRACTOR IS RESPONSIBLE FOR THE COMPLETE REMOVAL OF THE PROTECTIVE FENCING.
- AREAS WITHIN THE PROTECTIVE FENCING WILL REMAIN UNDISTURBED AND WILL NOT BE USED FOR STORAGE OF BUILDING MATERIALS OR EQUIPMENT. WRITTEN AUTHORIZATION TO REMOVE PRESERVATION FENCING BY THE CITY'S PARKS PLANNING DEPARTMENT IS REQUIRED.

7. NO WORK SHALL OCCUR WITHIN A DEFINED PRESERVATION ZONE. FAILURE TO ADHERE TO THE PRESERVATION LIMITS CAN RESULT IN FINES, COMPENSATION AND EQUIVALENT REQUIREMENTS FOR RESTORATION/PLANTING ON SITE.

3. SHOULD THE ROOT SYSTEM OR ABOVE GROUND COMPONENTS, OF ANY TREES DESIGNATED TO REMAIN SUSTAIN MINOR DAMAGE, AS DETERMINED BY AN ISA CERTIFIED ARBORIST, REMEDIATION OF THE DAMAGE WILL BE THE RESPONSIBILITY OF THE CONTRACTOR AND AT THE ADVICE OF THE ISA CERTIFIED ARBORIST. IF IRREPARABLE DAMAGE HAS OCCURRED, THE TREE BECOMES UNSAFE OR LIABILITY IS QUESTIONABLE, THE CONTRACTOR WILL BE REQUIRED TO REMOVE THE TREE(S) AND RE-ESTABLISH THE TREE(S) TO THE SATISFACTION OF THE LANDSCAPE ARCHITECT/REGISTERED FORESTER AND THE CITY.

- IN THE EVENT THAT IT IS ESSENTIAL FOR LARGE (10CM TO 80CM DIAMETER) ROOTS TO BE CUT, EXCAVATED OR INJURED DURING CONSTRUCTION, THE ROOTS WILL BE CUT FLUSH UNDER THE LANDSCAPE ARCHITECT/ REGISTERED FORESTERS SUPERVISION AND IN ACCORDANCE WITH APPROVED ARBORICULTURAL PRACTICES.

- PROTECTIVE MEASURES
- SANITATION, PRUNING, ROOT FEEDING, WATERING DURING DRY SEASON, AND OTHER TREE PROTECTIVE MEASURES SHOULD BE CARRIED OUT DURING CONSTRUCTION OF OPTIMUM RESULTS, AS FOLLOWS:

- ALL LIMBS DAMAGED OR BROKEN DURING THE COURSE OF CONSTRUCTION WILL BE PRUNED CLEANLY UTILIZING CLEAN, SCISSOR ACTION (NOT ANVIL TYPE) SECATEURS IN ACCORDANCE WITH APPROVED ARBORICULTURAL PRACTICES.

- ROOTS OF EXISTING TREES THAT ARE DISTURBED BY EXCAVATION OR ANY OTHER CONSTRUCTION ACTIVITY WILL BE CLEANLY PRUNED, AS DIRECTED BY THE LANDSCAPE ARCHITECT. TOOLS MUST BE DISINFECTED AFTER PRUNING A TREE AND WHEN PRUNING ANY MEMBERS OF THE SAME GENERA, TO PREVENT THE SPREAD OF DISEASE.

- ALL PRUNING CUTS WILL BE MADE TO A GROWING POINT SUCH AS A BUD, TWIG OR BRANCH. NO STUBS SHOULD BE LEFT. POOR CUT LOCATION, POOR CUT ANGLE AND TORN CUTS ARE NOT ACCEPTABLE. PRUNING OF THOSE TREES, WHERE HEAVY BLEEDING MAY OCCUR, IS TO BE POSTPONE UNTIL IN FULL LEAF. DO NOT DAMAGE LEAD BRANCHES OR REMOVE SMALLER TWIGS ALONG MAIN BRANCHES.

- PRUNING SHOULD INCLUDE THE CAREFUL REMOVAL OF:
 - DEADWOOD
 - BRANCHES THAT ARE WEAK, DAMAGED, OR DISEASED

- SECONDARY LEADERS OF CONIFERS
- TRUNK AND ROOT SUCKERS
- TRUNK WATERSPOUTS
- TIGHT V-SHAPED OR WEAK CROTCHES
- BRANCHES THAT RUB CAUSING DAMAGE TO BARK

- THE DEVELOPER/OWNER MAY BE REQUIRED TO UNDERTAKE PRESERVATION TECHNIQUES DRY WELLING AND ROOT FEEDING.

- EXCAVATION TO BE PERFORMED ON ONLY ONE SIDE OF THE TREE. ALL OTHER GRADE CHANGES WILL BE MADE OUTSIDE OF THE DRIP LINE. CUT SLOPE FROM MINIMUM PROTECTION DISTANCE TO DRIFLINE REQUIRED IN TABLE 1: TREE PROTECTION ZONES FOR INDIVIDUAL SPECIMEN TREES TO NEW GRADE LEVEL. BUILD A TOPSOIL DYKE AROUND DRIFLINES TO WATER AS REQUIRED.

- IF EXCAVATION THROUGH ROOTS IS REQUIRED, EXCAVATE BY HAND AND PRUNE ROOTS W/ SHARP AXE, TREE LOOPER OR SAW. CONDUCT ROOT PRUNING ACCORDING TO AFOREMENTIONED GUIDELINES ON PRUNING.

- THE AREAS SURROUNDING THE ROOT SYSTEM SHALL BE BACKFILLED IMMEDIATELY WITH MATERIAL AFTER DAMAGE OCCURS TO PREVENT DRYING AND/OR DIE-BACK.

12. CLEARING OPERATIONS SHOULD BE IDENTIFIED IN AREAS INCLUDING BUILDING SITINGS, PARKING LOTS, RIGHT OF WAYS AND CUT/FILL EARTHWORK ZONES. ANY TREES LOCATED DOWNHILL OF WATER FLOW WILL BE PROTECTED FROM SILTATION BY STRAW BALES AND/OR SILTATION FENCE.

13. AFTER CONSTRUCTION, ALL PRESERVATION VEGETATION SHOULD BE INSPECTED FOR ITS STATE OF HEALTH BY THE LANDSCAPE ARCHITECT AND THE CITY OF BARRIE.

14. THE AREA WITHIN DRIFLINE OF ALL EXISTING TREES AND/OR AREAS TO BE PROTECTED WILL BE PROPERLY PROTECTED WITH FENCING AS DETAILED. ALL EXISTING TREES WHICH ARE TO REMAIN ON SITE, OR ON ADJACENT PROPERTIES WHICH MAY BE AFFECTED, WILL BE FULLY PROTECTED WITH PROTECTIVE FENCING ERECTED 10m OUTSIDE THE "DRIP LINE" OF TREES, OR IN THE CASE OF INDIVIDUAL SPECIMEN TREES, AS PER TABLE 1: TREE PROTECTION ZONES FOR INDIVIDUAL SPECIMEN TREES, PRIOR TO COMMENCEMENT OF CONSTRUCTION.

15. AREAS WITHIN THE PROTECTIVE FENCING WILL REMAIN UNDISTURBED, AND WILL NOT BE USED FOR THE STORAGE OF BUILDING MATERIALS, EQUIPMENT, SURPLUS SOIL, OR CONSTRUCTION DEBRIS. THIS WILL BE COMPLETED PRIOR TO THE COMMENCEMENT OF SITE CLEARANCE, DEMOLITION, OR ANY OTHER TYPE OF CONSTRUCTION WORKS TO THE SATISFACTION OF THE LANDSCAPE ARCHITECT/ISA CERTIFIED ARBORIST, AND THE CITY OF BARRIE.

16. NO CONSTRUCTION ACTIVITY, GRADE CHANGES, SURFACE TREATMENT OR EXCAVATIONS OF ANY KIND ARE PERMITTED WITHIN THE TREE PROTECTION ZONE.

17. NO RIGGING CABLES SHALL BE WRAPPED AROUND OR INSTALLED IN TREES AND/OR PROTECTED AREAS.

18. NO CONTAMINANTS SHALL BE DUMPED OR FLUSHED WHERE FEEDER ROOTS OF PROTECTED TREES AND/OR AREAS EXIST.

19. THE DEVELOPER AND/OR CONTRACTOR WILL TAKE EVERY PRECAUTION NECESSARY TO PREVENT DAMAGE TO TREES, SHRUBS OR OTHER PLANTS TO BE RETAINED.

20. WHERE LANDSCAPE ARCHITECT/ISA CERTIFIED ARBORIST APPROVES, LIMBS OR PORTIONS OF TREES ARE TO BE REMOVED TO ACCOMMODATE CONSTRUCTION WORK, THEY SHALL BE REMOVED CAREFULLY IN ACCORDANCE WITH ACCEPTED ARBORICULTURAL PRACTICE AND MEASURES WILL BE TAKEN TO PREVENT ANY FURTHER DAMAGE

- 21) IF GRADES AROUND THE TREES TO BE PROTECTED ARE LIKELY TO CHANGE, PRECAUTIONS MUST BE UNDERTAKEN TO THE SATISFACTION OF THE ISA (CERTIFIED ARBORIST) AND THE CITY. THESE PRECAUTIONS ARE THE RESPONSIBILITY OF THE DEVELOPER AND/OR THE CONTRACTOR. THESE PRECAUTIONS MAY INCLUDE DIRT WELLS AND ROOT FEEDING, AND MUST BE IN ACCORDANCE WITH THE AFOREMENTIONED TREE PRESERVATION GUIDELINES.

22. TREES THAT HAVE DIED OR BEEN DAMAGED BEYOND REPAIR WILL BE REPLACED BY THE CONTRACTOR AT HIS OWN EXPENSE BY TREES OF A SIMILAR SIZE AND SPECIES OR SUCH SIZE AND SPECIES AS MAY BE APPROVED BY THE ISA CERTIFIED ARBORIST AND THE CITY OF BARRIE.

23. ANY TREES DESIGNATED FOR REMOVAL SHALL HAVE THE STUMPS COMPLETELY EXCAVATED AND REMOVED UNLESS SUCH REMOVAL WILL ADVERSELY AFFECT EXISTING TREES/ECOLOGY TO REMAIN, IN WHICH CASE TRUNKS WILL BE CUT TO EXISTING GRADES.

24. ALL WOODY MATERIAL REMOVED WILL BE RECYCLED AS DIRECTED BY THE CITY OF BARRIE, AND USED FOR FENCE POSTS, SAW LOGS, FIREWOOD OR WOODCHIPS WHERE APPROPRIATE.

1. LANDSCAPE ARCHITECT TO CERTIFY AND CONFIRM LAYOUT WITH SURVEYOR
2. SITE MEETING WITH CONTRACTOR, LANDSCAPE ARCHITECT, SITE REPRESENTATIVES AND CITY STAFF FOR PART 1 CLEARANCE.
3. FOLLOWING CERTIFICATION BY THE LANDSCAPE ARCHITECT

