

79 GOWAN ST. BARRIE, RESIDENTIAL DEVELOPMENT

TREE INVENTORY, ANALYSIS, PRESERVATION REPORT (TIPP)



79 GOWAN STREET,
BARRIE, ONTARIO, COUNTY OF SIMCOE

JANUARY 2020
CITY OF BARRIE FILE: D28-018-2019
OUR FILE: LA 429-19

PREPARED BY:



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1.0 Scope/Assignment:

The Landmark Environmental Group Ltd. (LEGroup) (Jim Hosick, OALA, ISA Arborist # 1098A) is retained by **Mr. Mario Lampert Holding Ltd.** to provide Consulting Arboriculture services to lands on the south side of Gowan Street, west of Bayview Drive in the City of Barrie, municipally known as 79 Gowan Street.

The assignment is to prepare a Tree Inventory, Analysis & Preservation (TIPP) Report and Plan in support of a multi-residential housing development. LEGroup is requested to create a tree inventory, assessment and preservation report to assess the existing trees on the subject site, indicate those trees that can be preserved and the methods for protecting the same. Further, those trees that cannot be preserved either by poor or declining health, structural deficiencies or to facilitate the proposed development on the site, are indicated to be removed.

Specifically, LEGroup is assigned to provide the following services:

- Review site data including survey, site plan drawings and engineering plans, to provide for a site visit and correspond with City staff and the Lake Simcoe Region Conservation Authority (LSRCA) as applicable (although the subject lands are located outside the Regulated area);
- Conduct a field review to inventory tree specimens, tree groupings, boundary trees visually assessing and identifying the type, location, size and quality of any trees on site within the developable area and indicating the presence of any Butternut (in accordance with the *Endangered Species Act 2007*);
- Provide a Tree Inventory, Analysis and Preservation Report that sets out the methodology, observations, criteria, analysis and conclusions of our review and area conditions;
- Indicate on a Tree Inventory and Protection Plan, those trees that are suitable for preservation or removal and providing the methods of protecting the same;

It is the intent in the undertaking of this Report, to comply with the City of Barrie tree preservation by-laws and policies and any requirements of the Lake Simcoe Region Conservation Authority.

2.0 Proposed Development:

The subject site is located on the south side of Gowan Street in Barrie and legally described as Part 2, Registered Plan 40 in the City of Barrie, County of Simcoe, Ontario. The site is an unbuilt treed lot, .092 ha in area and the Owner is proposing to submit a Zoning Amendment application to construct a four (4) storey walk-up apartment comprising of seven (7) units on a site that is currently vacant. The proposed development layout can be seen on the Proposed Grading Plan in **Appendix A**.

LEGroup staff also undertook a Level 1 (visual) structural assessment for trees on the subject site and those trees crossing over the fenceline from outside its boundaries.

The subject property is bounded by Gowan Street to the north and Go Transit rail line beyond, residential lands (83 Gowan St) to the east; residential lands to the south (81 Cumberland St) and residential lands to the west (75 Gowan St), respectively. The limits of the Arborist study were confined to the site boundaries.

This Tree Inventory, Analysis, Preservation Report is submitted in support of and intended to accompany those planning application documents submitted to the City of Barrie for their approval for the development of the site.

Below, is an air photo illustrating the location of the subject site (red lines show the site boundaries):



Figure 1: Airphoto of Subject Site (Boundary Highlighted) and Surrounding Area (Courtesy Simcoe County GIS)

3.0 Method:

A summary of the inventory, observations and assessments that were determined in the field can be found in **Appendix C** at the end of this Report.

The tree assessments were identified in accordance with the detailed typical criteria used in best arboricultural practices to indicate the merits of tree preservation including the species (*Latin* and common names), size diameter at breast height (dbh), maturity, biological health, structural concerns (if any), condition rating and recommendations for preservation or removal of existing specimen trees.

Condition ratings applied to overall tree assessments using the above-noted criteria range from 1 (poor) to 5 (excellent). Typically, those trees being assessed a condition rating of 1-3 are recommended for removal while those trees being assessed a condition rating of 4-5 are recommended for preservation unless there are extenuating circumstances regarding the development of the site. The criterion is also applied to assist in assessment of their potential for survival in-situ post construction.

For the purposes of this Report, only those trees over 10cm dbh were captured. No shrubs or low understory perennials were captured in the data.

Each tree was assigned a key number (1-35) tagged on site and observations relating to each tree were tabulated in the Tree Inventory (**Appendix C**). Each tree was also located on a Tree Inventory and Preservation Map corresponding to the number assigned and can be seen in the Tree Inventory, Assessment and Preservation Plans (**ARB-1, ARB-2 and ARB-3**) as shown in **Appendix B**.

4.0 Observations:

On November 15, 2019, LEGroup staff (J. Grice) under the direction of J. Hosick who is a qualified Arborist (ISA), visited the subject site with the intent to provide an inventory and assessment of individual tree species present within the subject site.

A total of thirty-five (35) trees were observed at a DBH (diameter breast height) greater than 10cm on the subject site and are recorded in **Appendix C**. This tree inventory contains trees that are considered both ornamental and native/indigenous to the area. LEGroup staff also observed that the site ground has a relatively flat grade. The existing cedar hedge extending from the west lot line into the site is not captured in this inventory as it is under 10cm dbh.

The following woody plant species were observed on the subject site during fieldwork that gives an indication of the species make-up of the site:

Latin name	Common Name	% of Total Trees
<i>Acer negundo</i>	Manitoba Maple	40%
<i>Acer platanoides</i>	Norway Maple	14.3%
<i>Juglans nigra</i>	Black Walnut	45.7%
Total Trees (subject to rounding)		100%

Table 1 List of Observed Woody Plant Species on the Subject Site

As shown in **Table 1** above, Black Walnut (Tree Nos. 3-5, 7, 8, 11, 12, 19, 22, 24, 25, 28, 32-35), and Manitoba Maple (Tree Nos. 1, 2, 6, 9, 10, 13-18, 20, 21 & 27) make up the largest composition of the trees on the subject site at 45.7 and 40 percent, respectively (see **Photos, Appendix D**). The next largest tree component identified was Norway Maple, making up the final 14.3 percent of all trees on the site.

LEGroup Staff observed that the trees appeared to be generally located in two distinct rows oriented north-south at the centreline and east boundaries of the site. The trees at the centre/north end of the site (Tree Nos. 1-22) appear to be in poor to marginal condition with health concerns including corrected leans, trunk wounds, interior decay and cavities (see **Photo D** in **Appendix D**). Trees along the east boundary (Tree Nos. 26-34) are also in poor to marginal health with health concerns including dieback, included bark, growth into the existing board/chain link fence fabric and presence of Riverbank Grape vines (*Vitis riparia*) spreading through their canopies (see **Photos C & E** in **Appendix D**) contributing to their dieback and health condition.

LEGroup staff also made a cursory review of existing trees exterior to the subject property to visually assess the quality of the vegetation and noted that they are in marginal to good health with poor to good form. The off-site trees are mixed species: Norway Maple (*Acer platanoides*), Black Walnut (*Juglans nigra*), and Manitoba Maple (*Acer negundo*). All are growing in very close proximity to the common property boundary and in particular, the Manitoba Maple appears to have a significant lean and offset canopy which crosses over the boundary of the subject site. These trees are illustrated on **ARB-1, ARB-2** and **ARB-3** in **Appendix B**, showing the location of canopies.

LEGroup staff did not identify any Butternut (*Juglans cinerea*) on the subject parcel during the on-site inventory in accordance with the requirements of the *Endangered Species Act, 2007*.

5.0 Study Criteria

Tree observations were recorded individually, as set out in the Tree Inventory and Assessment Table (**Appendix C**), in accordance with the criteria established by common arboricultural practice including:

- ✓ Latin/Common Name of tree;
- ✓ Size (mm cal);
- ✓ Condition/Comments; and
- ✓ Recommendation for Preservation or Removal

Tree locations on the Tree Inventory and Preservation Plans were recorded and adjusted, however the locations are approximate as shown on **Drawing ARB-1, ARB-2 and ARB-3** in **Appendix B**. A GPS data
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collector device (Trimble) was used to establish the locations of the inventoried trees and is accurate to 30cm.

6.0 Analysis and Recommendations

6.1 Analysis

The following analysis criteria were generally applied to measure the merits of tree preservation:

- Species (including native & non-native)
- Size/Maturity
- Structure
- Health
- Location
- Areas of proposed development.

These criteria were applied to the tree assessments to determine the extent of preservation and removal. In addition, the criterion is applied to assess of their potential for survival in-situ post construction.

LEGroup staff are of the opinion that 22 (Tree Nos. 1-22) of the 35 existing trees on site are located toward the centre of the site, are in poor to marginal condition, conflict with the proposed development, and are of limited aesthetic value to be retained for the development. The majority of these trees are not significant in size and have other defects as outlined in the Tree Inventory table (**Appendix C**). Additionally, many have signs of interior decay, cavities and create concerns over their structural soundness. We therefore recommend that these trees be removed.

We note that Tree Nos. 23 (Norway Maple) and 24 (Black Walnut) located on the south border along with two offsite trees, encroach over the south and west property lines however are in minimal conflict with the proposed development. Their canopies are located outside of the building footprint of the proposed structure. However, Tree Nos. 23 & 24 have a minor conflict with a proposed soak-away pit in the amenity area south of the proposed building. It is recommended that Tree Nos. 23 & 24 and the two offsite trees be preserved to the extent possible accordance with City detail BSD 1232 (see **Dwg D-1**, in **Appendix B**).

LEGroup staff note that Tree Nos. 25-34 are growing close to the east boundary fenceline of the site and many of their canopies conflict with either the proposed building footprint, walkway and/or stormwater swales. Two of the trees (Nos. 31 & 33) are recommended to be retained due to their smaller canopies and be monitored for health post-construction. The remaining trees (Nos. 26-30, 32 & 34) either are in poor condition or their canopy is conflicted to the degree that there will be health compromise as a result of the construction works and these are recommended for removal. The owner may consider providing additional trees along the south property line to mitigate any visual impacts and provide appropriate buffering.

In addition, one offsite/boundary tree to the east is to be minimally affected by the development and recommended to be retained/protected with tree preservation fencing, as shown on Dwg **ARB-2 & ARB-3** in **Appendix B**.

6.2 Summary and Recommendations

In summary, as a result of a proposed multi-residential housing development at 79 Gowan Street subject to Zoning amendment application, the City of Barrie has required that the Owner submit a Tree Inventory, Assessment and Preservation Report and Plan for their review.

The summarized recommendations noted above are as follows:

- Trees 1-22, 26-30, 32, 35 on the Project Site are to be removed as shown on **ARB-2 and ARB-3 in Appendix B**. and Trees No. 23-25, 31 & 33 are to be retained for reasons set out in the Report above;
- That all trees on or off site be protected to the extent possible and that tree preservation fencing be provided at the dripline of each tree which represents the tree preservation zone. Where tree preservation fencing cannot be established at the dripline, the tree preservation fence should be installed as far as practical from the trunk. The Arborist/Landscape Architect or qualified personnel shall be on site during the erection of the tree preservation fencing for guidance;
- That tree preservation signage (see dwg **D-1, Appendix B**) be erected at the time of the hoarding installation (tree preservation fencing) attached to the preservation fencing;
- No equipment storage or refueling is to take place within the tree preservation zone as established by the preservation fencing;
- Tree preservation fencing is to be removed only after construction on the site is complete;
- Existing tree branching that interferes with the development works may be lightly pruned by qualified personnel;
- For other preservation methods, please refer to the Tree Preservation Notes on drawing **D-1 in Appendix B**.

7.0 Arborist's Declaration

It is the policy of Landmark Environmental Group Ltd to attach the following clause regarding the limitations:

The Consulting Arborist's visual assessment and recommendations, made in this Report, have been completed based on accepted arboricultural practices and represents a fair and accurate assessment of the number, type, size and condition of trees on the subject property. Such visual assessments of all tree components could include scars, bark damage, external decay, insect infestations, discoloured foliage, crown dieback, an excessive degree of lean from the vertical and above-ground root defects. In addition, environmental conditions, which could affect overall health of the trees such as damaging maintenance practices, have also been taken into consideration where appropriate. However, no tree was dissected, cored or rooting systems assessed through excavation.

I hereby certify that I, James (Jim) Hosick have:

- Personally performed a visual inspection of the trees and property referred to in this letter report and have stated my findings accurately in accordance with accepted arboricultural practices without personal interest or bias;
- No current or prospective interest in the property that is the subject of this Report and have no personal interest or bias with respect to the parties involved;
- That my analysis, opinions and conclusions stated are my own and based on commonly accepted arboricultural practices;
- That my compensation is not contingent on the reporting of a predetermined conclusion that favours the client; and

- That I am a member in good standing with the International Society of Arboriculture (ISA), the American Association of Consulting Arborists (ASCA) and the Ontario Association of Landscape Architects (OALA).

I trust the above-noted recommendations are of assistance. If there are any questions regarding the 70 Gowan St. Residential Tree Inventory, Analysis, Preservation Report please feel free to contact our Firm at (705) 796-1122.

Prepared by,



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Landscape Architect-Principal,
ISA Certified Arborist No. 1098-A
Tree Appraisal Qualified TPAQ
Member, American Association of Consulting Arborists
MNR Butternut Health Assessor # 451

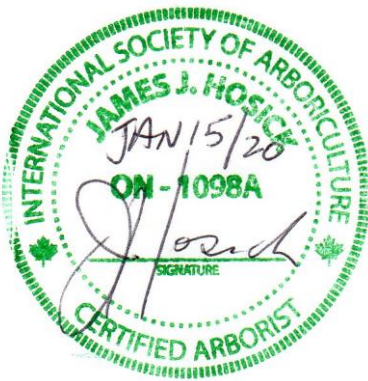
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Prepared by



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8.0 Glossary of Arboricultural Terms

Adventitious – arising from parts of the root of stem and having no connection to apical meristems.

Arboriculture – practice and study of the care of trees and other woody plants in the landscape.

Bleeding – flow of sap from plant wounds, injuries, or pathogen invasion.

Branch – stem arising from a larger stem. A subdominant stem.

Canopy – collective branches and foliage of a tree or a group of trees' crowns.

Cavity – open or closed hollow within a tree stem, usually associated with decay.

Chlorosis – whitish or yellowish leaf discolouration caused by lack of chlorophyll. Often caused by nutrient deficiency.

Co-dominant branches/stems – forked branches nearly the same size in diameter, arising from a common junction and lacking a normal branch union.

Conk – fruiting body or non-fruiting body (sterile conk) of a fungus. Often associated with decay.

Crown – upper part of the tree, measured from the lowest branch, including all the branches and foliage.

DBH – acronym for tree diameter at breast height. Measured 1.4 meters above ground.

Dieback – condition in which the branches in the tree crown die from the tips toward the centre.

Drip-line – imaginary line defined by the branch spread of a single plant or group of plants.

Epicormic Shoot – Shoot arising from a latent or adventitious bud (growth point).

Girdling Root – root that encircles all or part of the trunk of a tree or other roots and constricts the vascular tissue and inhibits secondary growth and the movement of water and photosynthates.

Included Bark – bark that becomes embedded in a crotch (union) between branch and trunk or between codominant stems. Causes a weak structure.

Leader – primary terminal shoot or trunk of a tree. Large, usually upright stem. A stem that dominates a portion of the crown by suppressing lateral branches.

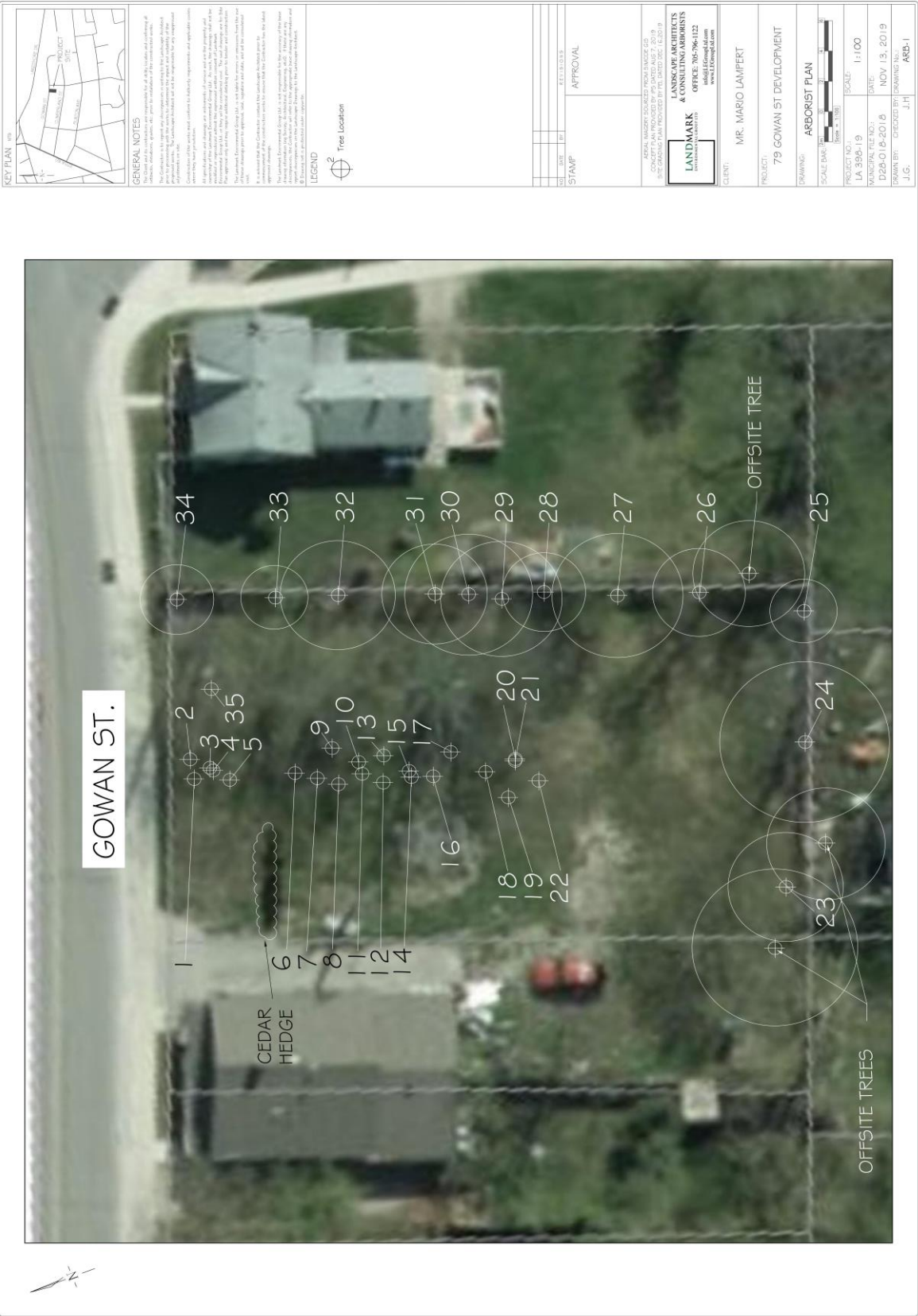
Pruning – removing branches from a tree or other plants to achieve a specified objective.

Tree Protection Zone (TPZ) – Defined area within which certain activities are prohibited or restricted to prevent or minimize potential injury to designated trees, especially during construction or development.

Appendix A: Proposed Grading Plan



Appendix B: Tree Inventory Preservation Plan (ARB-1, ARB-2, ARB-3, D-1)



Tree Inventory/Preservation Airphoto Layover Plan (ARB-2)



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Appendix C: Tree Inventory and Assessment Table

KEY	Latin Name	Common Name	DBH (cm)	Notes	Assessment	Canopy (Radius)	Preserve /Remove
1	<i>Acer negundo</i>	Manitoba Maple	11.9, 14.1	corrected lean, dual leader, cavity in crotch, wounded trunk, suspected interior decay, leader absent	1 Poor	3.2	Remove
2	<i>Acer negundo</i>	Manitoba Maple	20.1	corrected lean, cavities, interior decay, vines, leader absent	1 Poor	3.3	Remove
3	<i>Juglans nigra</i>	Black Walnut	17.8	corrected lean, branch crossover, bark peeling	2 Marginal	3.3	Remove
4	<i>Juglans nigra</i>	Black Walnut	25.6	utility wires, lower branch dieback, trunk crossover/wound, interior decay	1 Poor	4.2	Remove
5	<i>Juglans nigra</i>	Black Walnut	12.5	cavity, leader absent, branch crossover, dieback, epicormic shoots	1 Poor	1	Remove
6	<i>Acer negundo</i>	Manitoba Maple	12.5	winding trunk, cavity, epicormic shoots, dieback	1 Poor	2.8	Remove
7	<i>Juglans nigra</i>	Black Walnut	19.8	nails embedded, wounded trunk [healing], one sided branching, suspected interior decay	2 Marginal	4.4	Remove
8	<i>Juglans nigra</i>	Black Walnut	22.4	wounded trunk [healing], branch crossover	2 Marginal	3.3	Remove
9	<i>Acer negundo</i>	Manitoba Maple	15	corrected lean, lower branch dieback, vines, wounded trunk, offset canopy	1 Poor	4.5	Remove
10	<i>Acer negundo</i>	Manitoba Maple	17.7	corrected lean, cavity, vines, suspected interior decay	1 Poor	3.7	Remove
11	<i>Juglans nigra</i>	Black Walnut	23.6	large wound on trunk, nails embedded, large dead shoot, interior decay	1 Poor	4.5	Remove
12	<i>Juglans nigra</i>	Black Walnut	18	wounded trunk, interior decay, multiple leader	1 Poor	3.7	Remove
13	<i>Acer negundo</i>	Manitoba Maple	11.8, 12.5	dual trunk, cavities, significant interior decay, corrected lean, significant dieback	1 Poor	2.5	Remove
14	<i>Acer negundo</i>	Manitoba Maple	10.6	significant corrected lean, wounded trunk, dieback, offset canopy	1 Poor	3.2	Remove
15	<i>Acer negundo</i>	Manitoba Maple	12.2, 16.5	dual leader, included bark, cavities, rubber nailed to trunk, significant corrected lean	1 Poor	4.1	Remove
16	<i>Acer negundo</i>	Manitoba Maple	12.7	poor branch structure, corrected lean, suspected interior decay	2 Marginal	2.2	Remove
17	<i>Acer negundo</i>	Manitoba Maple	15.1	wounded basal flare, significant corrected lean, lower branch dieback, offset canopy	1 Poor	3.3	Remove
18	<i>Acer negundo</i>	Manitoba Maple	11.9	significant corrected lean, wounded basal flare, wounded trunk, interior decay, lower branch dieback	1 Poor	3.6	Remove
19	<i>Juglans nigra</i>	Black Walnut	26.4, 26.0	dual trunk, included bark, multiple leaders	2 Marginal	6.1	Remove
20	<i>Acer negundo</i>	Manitoba Maple	14	significant corrected lean, wounded trunk, cavities, interior decay, lower branch dieback, offset canopy	1 Poor	3.9	Remove
21	<i>Acer negundo</i>	Manitoba Maple	11	corrected lean, small cavities, dieback	1 Poor	3.6	Remove
22	<i>Juglans nigra</i>	Black Walnut	31.9	wounded lower trunk [healed], suspected interior decay, significant dieback, borer damage	1 Poor	6.1	Remove
23	<i>Acer platanoides</i>	Norway Maple	11.4	wounded basal flare, minor corrected lean, epicormic shoots	2 Marginal	3.6	Preserve
24	<i>Juglans nigra</i>	Black Walnut	40.5	lower branch dieback, utility wires, bark peeling	2 Marginal	6.5	Preserve
25	<i>Juglans nigra</i>	Black Walnut	10	enlarged basal flare, basal cavity, branch dieback, utility wires	1 Poor	2.1	Preserve
26	<i>Acer platanoides</i>	Norway Maple	10.8	codominant stems, included bark, lower branch dieback	2 Marginal	2.9	Remove
27	<i>Acer negundo</i>	Manitoba Maple	30.5	inhibited by fence, dual leader, included bark, cavities, interior decay, enlarged basal flare	1 Poor	4.1	Remove
28	<i>Juglans nigra</i>	Black Walnut	11.3	multiple leader, lower branch dieback, vines	2 Marginal	2.6	Remove
29	<i>Acer platanoides</i>	Norway Maple	11.8	lower branch dieback, vines, one sided branching	2 Marginal	3.8	Remove
30	<i>Acer platanoides</i>	Norway Maple	15.6, 14.4	multiple trunk, corrected leans, vines, target neighbors shed	2 Marginal	4	Remove
31	<i>Acer platanoides</i>	Norway Maple	16.4	branch crossover, dual leader, included bark	2 Marginal	3.3	Preserve
32	<i>Juglans nigra</i>	Black Walnut	16.4, 17.0	dual trunk, included bark, grown through fence, lower branch dieback	1 Poor	3.6	Remove
33	<i>Juglans nigra</i>	Black Walnut	10.6	vines, canopy dieback	2 Marginal	2.1	Preserve
34	<i>Juglans nigra</i>	Black Walnut	18.9	vines, dieback	2 Marginal	2.3	Remove
35	<i>Juglans nigra</i>	Black Walnut	12.1, 11.2	multiple trunk, vines, winding trunk, branch crossover	2 Marginal	2.9	Remove

Appendix D: Selected Site Photos



Photo A: Looking Southwest from Gowan St into the site, showing two distinct 'rows' of trees, their canopies and spacing.



Photo B: Looking Northeast from the rear of the site showing tree canopies and spacing. Tree No. 23 (Norway Maple) in foreground.



Photo C: Showing several trees to be removed (Nos. 30, 32, 34) on the right, and trees to be removed (No. 1-22) in the centre of photo. Trees to remain (Nos. 31, 33) shown among grouping on the right.



Photo D: Showing row of trees along centre of property from the west side.



Photo E: Showing vines in tree, typical for trees No 33-35.