



Arborist Report: 20 Scott St, Grand Valley

Prepared for Daniel Hrycyna

February 21st, 2019

North-South Environmental Inc.



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Project Study Team

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1.0 Introduction

North-South Environmental Inc. (NSE) was contracted by Daniel Hrycyna to complete works on the 20 Scott Street Property in Grand Valley, Ontario (subject property) to support a scoped Environmental Assessment. The Town of Grand Valley has contracted R.J. Burnside & Associates Limited (R.J. Burnside) to speak on their behalf. During consultation with R.J. Burnside Lorraine Adderley stated in an email on the 19th of December 2017 “If there are any town or county by-laws regarding tree removal, they should also be applied to this site”. The Town of Grand Valley has By-law 2019-10 “Protecting and Enhancing Grand Valley’s Tree Canopy and Natural Vegetation” (Tree By-law). This Tree By-law does not prohibit the removal of privately-owned trees but discourages clear-cutting. The Tree By-law encourages replacement of trees removed from private property with native species. The Tree By-law does prohibit injury or destruction of trees located upon “any highway or located partially upon any highway within the Town, unless the authority of the Council of the Town of Grand Valley is obtained by resolution.” The County of Dufferin (Grand Valley falls within the County of Dufferin) does not have a Private Tree By-law.

The Existing Tree By-law does not require an arborist report or tree preservation plan. However, Carley Dixon, P. Eng from R.J. Burnside provided comments on the development 12th September 2018 stating, “A tree preservation and compensation planting plan including the means of protection of identified trees to be preserved should be provided.” Tree preservation and compensation plans are an industry standard, and an arborist inventory and assessment were completed for trees on site and trees that could be impacted by the proposed development.

One hundred and ninety-six (196) trees were inventoried, ten (10) trees and a cedar row share a property boundary and twelve (12) trees surveyed are located adjacent to the subject property. This report should be read in conjunction with all other design plans for the project including the Tree Preservation Plan and any other drawings and detailed designs prepared by Weston Consulting.

1.1 Existing Conditions

The subject property is currently a single dwelling residential lot with one outbuilding. The subject property borders Crozier Street on the west, Scott Street on the south, a residential property on the east, and natural heritage lands on the north. Majority of the site is cultural or anthropogenic; most of the site is dominated by Scots Pine (*Pinus sylvestris*) and manicured (lawn) understory. In the northeast corner, a patch of non-Scots Pine trees occurs. The northeastern patch has Black Cherry (*Prunus serotina*), Manitoba Maple (*Acer negundo*), Apple (*Malus sp.*), and Dogwood (*Cornus sp.*).

1.2 Proposed Development

The proposed residential development will be made up of Condominium Townhouses (one block, 14 units) and Condominium Single Detached Dwellings (two blocks, nine units). Scott Street will be extended into the development. The Development Concept Plan by Weston Consulting (Received 21st February 2019) is dated 20th February 2019.

2.0 Methods

The tree inventory was completed on 5th December 2018 by Samantha Hughes, ISA Certified Arborist ON-2260A. All standing trees greater than 10 cm in diameter at breast height (DBH) that could be impacted by the proposed development were inventoried (Appendix 1). Trunk integrity, crown structure, and crown vigour were evaluated, and the canopy width was estimated. Following the examination of these parameters, the tree vigour class was determined to categorize the condition of the tree. These classes range from excellent (1) to dead (6). These criteria are provided in Appendix 2. Individual trees (i.e., not in cedar rows or plantation stands) on the subject property in good health and without significant lean were tagged with aluminum tree tags. Tree locations were GPS'd with a handheld device.

Due to the timing of the survey (i.e., after leaves have started to senesce and full canopy health is difficult to assess) species and tree vigour were estimated to the best of the arborist's ability. Instances where vigour class is uncertain the healthier of the classes is chosen. Where it was possible buds and twigs were used to confirm identification further. Where the buds were inaccessible, the bark and surrounding leaf litter were used to determine tree species.

3.0 Results

This tree inventory surveyed a total of 196 trees. Majority of the trees surveyed were in excellent health (Class 1), Table 1. Four (4) non-native species were inventoried: Norway Maple (*Acer platanoides*), Apple species (likely *Malus pumila*), Austrian Pine (*Pinus nigra*), and Scots Pine. One species, Manitoba Maple (*Acer negundo*) is native to parts of Ontario but readily spreads and is considered invasive in some locations and contexts. The most common species inventoried was Scots Pine (Figure 1), which is not surprising as the subject property is dominated by Scots Pine plantation. No species at risk were found on site.

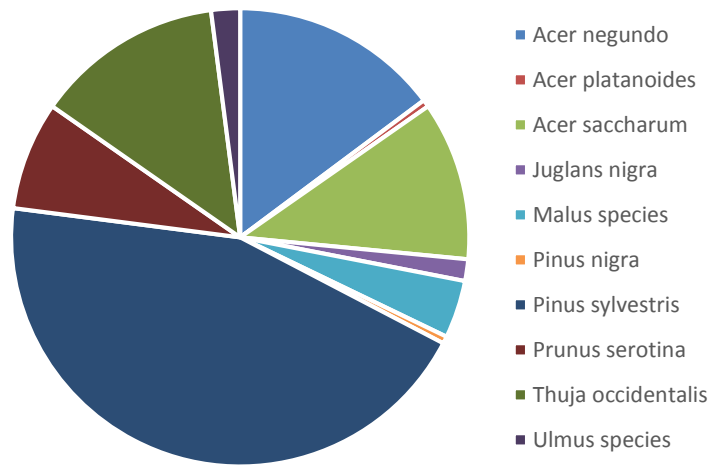


Figure 1: Tree diversity at 20 Scott Street

Table 1. Summary of Tree Vigour Class for Trees Surveyed.

Scientific Name	Common Name	Tree Vigour Class*						Total of species surveyed
		1	2	3	4	5	6	
<i>Acer negundo</i>	Manitoba Maple	4	15	10				29
<i>Acer platanoides</i>	Norway Maple		1					1
<i>Acer saccharum</i>	Sugar Maple	6	8	3	3	2		22
<i>Juglans nigra</i>	Black Walnut	1	1	1				3
<i>Malus species</i>	Apple species	3	2	3				8
<i>Pinus nigra</i>	Austrian Pine	1						1
<i>Pinus sylvestris</i>	Scots Pine	72	7	1	4	2	1	87
<i>Prunus serotina</i>	Black Cherry	6	6	1	2			15
<i>Thuja occidentalis</i>	Eastern White Cedar	26						26
<i>Ulmus species</i>	Elm species	2		2				4
Total Vigour Class		121	40	21	9	4	1	196

* 1 = excellent condition, 2 = good condition, 3 = fair condition, 4 = poor condition, 5 = very poor condition, 6=dead.

3.1 Trees to be Injured or Removed

With the proposed plan 124 trees will be removed. Trees to be removed for the proposed development are trees that fall directly in the development footprint or impacts in the root system will compromise tree stability and health. It may be necessary to confirm tree removal/retention during construction activities as tree locations were not surveyed. Due to the limited accuracy of handheld GPS devices (± 3 to 5 m), additional trees may be removed to accommodate construction. Similarly more trees may be retained.

Furthermore, construction activities can injure trees and a change from a permeable landscape to nonpermeable landscapes may impact retained trees. A follow-up survey by a certified arborist to inventory trees retained and to ensure that damage potentially resulting in tree mortality has not occurred to trunk or canopy is recommended.

Table 2. Summary of Trees to be Removed/Injured

Scientific Name	Common Name	Number to be Removed
<i>Acer negundo</i>	Manitoba Maple	10
<i>Acer saccharum</i>	Sugar Maple	17
<i>Juglans nigra</i>	Black Walnut	2
<i>Malus species</i>	Apple species	5
<i>Pinus nigra</i>	Austrian Pine	1
<i>Pinus sylvestris</i>	Scots Pine	82
<i>Prunus serotina</i>	Black Cherry	7
Total Removed		124

3.2 Arborist Recommendations

1. 3:1 compensation planting for trees removed is recommended (Section 4.0)
2. Retain boundary trees on the north and east limits.
3. The large Sugar Maples along Crozier Street should be removed due to declining health and proximity to proposed buildings.
4. To ensure retention of as many trees as possible appropriate Tree Protection measures must be implemented (Section 5.0)
5. Adjacent property owners should be made aware of the proposed development and potential effects on boundary trees.
6. Permissions from Grand Valley need to be obtained to remove any tree on or sharing a boundary with Town property.

4.0 Tree Compensation

Tree Compensation for the 124 trees removed should be discussed with the Town of Grand Valley. The industry standard is either 3:1 replacement (3 trees for every 1 removed), a 1:1 calliper replacement, or cash-in-lieu. Trees planted in compensation should be native, suitable for the site to be planted and indigenous to the area. A site visit to ensure appropriate trees have been planted should occur.

5.0 Tree Preservation

The removal of trees has the potential to impact other trees in the area via soil compaction, excavation, or increasing erosion potential in the surrounding area. Ninety percent of fine roots that absorb water and minerals occur in the top few inches of soil (Matheny and Clark 1998, and Lilly, 2010) and therefore activities that change the characteristics of this shallow layer of soil can result in immediate water stress, which can weaken tree health and cause death in the long term. Injury to trees is cumulative and usually irreversible as there are limited effective options to improve tree health once damaged by construction activities occur. Furthermore, mature trees do not respond well to disturbances compared to young trees.

Impacts to retained trees can be caused as root systems can extend 1-3 times the crown width, and therefore soil compaction from heavy machinery will decrease water infiltration and aeration, and restrict root elongation (Lilly, 2010), which is why a Tree Protection Zone is so important.

5.1 Recommended Mitigation Measures

To protect retained trees from the potential impacts of tree removal the following mitigation measures are recommended:

- Tree Protection Fencing should protect retained trees in a Tree Protection Zone (TPZ). The Minimum TPZ should be the dripline plus 1 meter.
- The TPZ should be installed before the start of any construction activities. The TPZ should remain erect and in good condition throughout construction. Additionally:
 - No construction activities or altering of grade should take place within the TPZ.
 - No fill or holding areas should be contained within the TPZ.
 - No disposal of liquids or refuelling.
 - No movement of vehicles, equipment or pedestrians.
 - No parking of personal vehicles or machinery.
 - No directional drilling or boring.
- Fencing should be a barrier at least 1.2 m in height made from high visibility orange safety fencing framed with T-bar posts and 2"x4"s for top rails. The spacing of vertical posts are to be no further apart than 2.4 m. The posts must be firmly driven

into the ground but should not disturb roots. Where fill or excavate is to be stored near the TPZ, a plywood barrier will be used. Stockpiles will be fenced with sediment control fencing installed to Ontario Provincial Standards (OPSD-219).

- Signage should be mounted on the TPZ to inform all workers of the tree protection barrier. Minimum size is 10"x14".
- The standards of a TPZ should be continued outside of the TPZ where roots zones are located. To negate impacts to retained trees caused by soil compaction (which will decrease water infiltration and aeration, and restrict root elongation (Lilly, 2010)) from heavy machinery which will need to access the area over a root zone the following Root Zone Compaction Protection (RZCP) is recommended:
 - Limited non-vehicular access, light RZCP can be applied in the following layers:
 - medium weight non-woven geotextile fabric (e.g., landscape cloth),
 - 150mm of wood chips over the fabric area, and
 - installation of ½" plywood over wood chips.
 - Moderate non-vehicular access, medium RZCP can be applied in the following layers:
 - medium weight non-woven geotextile fabric,
 - 100mm of granular clear stone over fabric area,
 - medium weight non-woven geotextile fabric over stone,
 - 150mm of wood chips over the fabric area, and
 - installation of ½" plywood over wood chips.
 - Frequent non-vehicular access OR long-term storage, heavy RZCP can be applied in the following layers:
 - medium weight non-woven geotextile fabric,
 - three staked and joined courses of 4"x4" including cross-members or joists for structural integrity,
 - wood chips, and
 - installation of 2 layers of plywood (¾" or ½") OR a steel plate over wood chips.
 - Access roads and heavier use will require a robust RZCP. This type of RZCP should be developed on a site-specific basis but may include any addition of the above and should focus on weight-dissipating materials or modular geocellular systems (e.g., Permavoid ArborRaft).
- It is also recommended that if compaction occurs aerating the area post-construction will assist in maintaining tree health.
- Proper root and branch pruning should be done in advance of anticipated damage, root zone excavation, or immediately afterwards if such injury was unforeseen. If tree roots are damaged during soil excavation or branches during construction activities, it is required that damaged roots be pruned with clean and sharp hand tools. A certified arborist must cut roots. It is recommended that prolonged exposure (3+ hours) of roots be avoided. If necessary exposed cut edges of roots should be kept moist by covering them with moist backfill, mulch, irrigation, or layers of moist burlap. Pruning damaged roots and branches can facilitate healing and minimize the risk of infection.

5.2 Other Recommended Mitigation Measures

- Vegetation removal should occur outside of breeding bird season for Nesting Zone C2 (April 1- August 31) (Government of Canada, 2017). Should removal occur during nesting season, a qualified biologist should be consulted to conduct presence/absence nest surveys.
- Clearing equipment and vehicles should be cleaned to prevent the introduction of non-native species. Ash species removed should be mulched and disposed of on site.
- Monitoring pre, during, and post-construction should be completed to provide adaptive management recommendations.

6.0 Conclusion

The proposed works will require the removal of 124 existing trees, predominately Scots Pine. Some trees to be removed share property with the Town. The Town must provide authority to remove said trees as well as compensation requirements. If appropriate preservation measures are followed retained trees should not be negatively impacted. Site inspections should occur to document removed trees and injuries to retained trees.

7.0 References

Government of Canada. 2017. General nesting periods of migratory birds (Zone C2). https://www.canada.ca/en/environment-climate-change/services/avoiding-harm-migratory-birds/general-nesting-periods.html#_03

Lilly, Sharon. 2010. Arborists' Certification Study Guide. International Society of Arboriculture.

Matheny, N. and Clark, J. R. (1998). Trees and Development. Champaign: International Society of Arboriculture.

Appendix 1: Tree Inventory Data

Table 1: Tagged Trees and Cedar Row

Tree Number or Stand Number	Eastings	Northing	Scientific Name	Common Name	DBH (cm)	Condition	Class	Canopy Width (m)	Notes	Preservation Status	Ownership
126	555160	4861207	<i>Acer saccharum</i>	Sugar Maple	34.5	st, scales	2	8	off property	Remove	Shared with Grand Valley
127	555166	4861235	<i>Acer saccharum</i>	Sugar Maple	27.3	d,w	4	6		Remove	Subject Property
128	555152	4861234	<i>Acer negundo</i>	Manitoba Maple	32.3	ab,st	2	2+3		Remove	Subject Property
129	555148	4861243	<i>Pinus nigra</i>	Black Pine	55.5	wh,cutlimbs	1	8	needles don't break	Remove	Subject Property
130	555195	4861305	<i>Acer negundo</i>	Manitoba Maple	65	st,ab,l,dl,bl	3	4		Retain	Subject Property
131	555196	4861294	<i>Acer negundo</i>	Manitoba Maple	18.5	st,ab,l,dl,bl	2	1.5+4		Retain	Subject Property
132	555189	4861290	<i>Acer negundo</i>	Manitoba Maple	22.9	st, ab,vines	3	8		Remove	Subject Property
133	555171	4861284	<i>Juglans nigra</i>	Black Walnut	14.4		1	6	WP off	Remove	Subject Property
134	555172	4861286	<i>Juglans nigra</i>	Black Walnut	27.2	bl	2	4+3		Remove	Subject Property
135			<i>Acer negundo</i>	Manitoba Maple		st (dead), ab	3	10		Remove	Subject Property
136	555172	4861303	<i>Acer negundo</i>	Manitoba Maple	ab		2			Remove	Subject Property
137	555173	4861305	<i>Malus species</i>	Apple species	20.4	wh, Acer negundo fallen on top	3	0+3		Remove	Subject Property
138	555177	4861312	<i>Malus species</i>	Apple species	27	st,ab,dl	3	8		Retain	Subject Property
139	555179	4861313	<i>Malus species</i>	Apple species	27.9*2	st,wh,dl,bt	3	8		Retain	Subject Property
140	555169	4861321	<i>Acer platanoides</i>	Norway Maple	37.2	w,rw	2	4+1	on prop edge	Retain	Shared with Grand Valley
141	555181	4861316	<i>Prunus serotina</i>	Black Cherry	33.3	rw, dl	2	0+3		Retain	Subject Property
142	555180	4861315	<i>Prunus serotina</i>	Black Cherry	27.5+10	st, soot	1	6		Retain	Subject Property
143	555183	4861311	<i>Acer negundo</i>	Manitoba Maple	14.8	ab,w	2	10+3		Retain	Subject Property
144	555182	4861309	<i>Prunus serotina</i>	Black Cherry	40.7	soot,d	2	3		Retain	Subject Property
145	555182	4861309	<i>Ulmus species</i>	Elm species	12.1		1	3		Retain	Subject Property
146	555183	4861311	<i>Acer negundo</i>	Manitoba Maple	26.5	ab,w	2	0+4		Retain	Subject Property
147	555186	4861308	<i>Acer negundo</i>	Manitoba Maple	14	ab	2	0+3		Retain	Subject Property
148	555193	4861301	<i>Juglans nigra</i>	Black Walnut	16	vines,dl	3	4		Retain	Subject Property
149	555194	4861311	<i>Acer negundo</i>	Manitoba Maple	42.6	ab, d	3	9		Retain	Subject Property
150	555200	4861307	<i>Prunus serotina</i>	Black Cherry	21.5	st, d	3	3		Retain	Subject Property
151	555193	4861320	<i>Acer negundo</i>	Manitoba Maple	19.5	st	2			Retain	Subject Property
152	555193	4861324	<i>Acer negundo</i>	Manitoba Maple	23	ab	2			Retain	Subject Property
153	555186	4861322	<i>Pinus sylvestris</i>	Scots Pine	47	w,fence,dl	2	8		Retain	Subject Property
154	555182	4861325	<i>Pinus sylvestris</i>	Scots Pine	25.8	rw,w,l,d?	3	N/A		Retain	Subject Property
155	555184	4861320	<i>Malus species</i>	Apple species	25.7	ab,dl	2	8		Retain	Subject Property

Tree Number or Stand Number	Easting	Northing	Scientific Name	Common Name	DBH (cm)	Condition	Class	Canopy Width (m)	Notes	Preservation Status	Ownership
156	555158	4861319	<i>Pinus sylvestris</i>	Scots Pine	35.8	st*2,bl,dl	2	10	share boundary	Retain	Shared with Grand Valley
157	555160	4861321	<i>Pinus sylvestris</i>	Scots Pine	26.5*2	st,dl	2	8	share boundary	Retain	Shared with Grand Valley
158	555156	4861316	<i>Pinus sylvestris</i>	Scots Pine	30.2*3	st	1	10	share boundary	Retain	Shared with Grand Valley
159	555131	4861269	<i>Pinus sylvestris</i>	Scots Pine	37.8	bend @ top	2	6		Remove	Subject Property
160	555134	4861257	<i>Acer negundo</i>	Manitoba Maple	50	st,ab	2	11		Remove	Subject Property
161	555117	4861307	<i>Acer saccharum</i>	Sugar Maple	56.5	ib,	1	10		Retain	Grand Valley
162	555100	4861300	<i>Ulmus species</i>	Elm species	15.7*3	st,d,ib	3	0+3	corky bark, no buds	Retain	Grand Valley
163	555099	4861298	<i>Ulmus species</i>	Elm species	30+20 +20	w,ib,f,d,st	3	6	pics of bark	Retain	Grand Valley
164	555093	4861297	<i>Acer saccharum</i>	Sugar Maple	30.2		2	8	holding leaves	Retain	Grand Valley
164	555096	4861297	<i>Prunus serotina</i>	Black Cherry	35	w @ base, ib	2	6	off prop, right beside 164	Retain	Grand Valley
165	555074	4861287	<i>Prunus serotina</i>	Black Cherry	32.2	w, crowded	2	0+5		Retain	Subject Property
166	555078	4861290	<i>Acer saccharum</i>	Sugar Maple	70	st, dl	2	10		Retain	Subject Property
167	555072	4861285	<i>Acer saccharum</i>	Sugar Maple	13.6*3	st	1	6	species?	Retain	Shared with Grand Valley
168	555073	4861277	<i>Acer saccharum</i>	Sugar Maple	79		5	N/A		Remove	Shared with Grand Valley
169	555073	4861272	<i>Acer saccharum</i>	Sugar Maple	80		1	8	shared property	Remove	Shared with Grand Valley
170	555073	4861272	<i>Acer saccharum</i>	Sugar Maple	17.2	crowded	2	6	species?	Remove	Shared with Grand Valley
171	555075	4861267	<i>Acer saccharum</i>	Sugar Maple	80	st(one bl),bt	3	N/A	shared property	Remove	Shared with Grand Valley
172	555074	4861265	<i>Acer saccharum</i>	Sugar Maple	80	w,bl,f,bt	4	0+5 (N/A)		Remove	Shared with Grand Valley
173	555080	4861252	<i>Acer saccharum</i>	Sugar Maple	100	bt, dl	2	10	off property	Remove	Grand Valley
174	555081	4861242	<i>Acer saccharum</i>	Sugar Maple	50	bl,st(w)	3	10		Remove	Shared with Grand Valley
175	555082	4861214	<i>Acer negundo</i>	Manitoba Maple	47.8	ab,st	3	8		Remove	Shared with Grand Valley
176	555090	4861196	<i>Acer saccharum</i>	Sugar Maple	22.8		1	8		Remove	Shared with Grand Valley
177	555093	4861198	<i>Malus species</i>	Apple species	21.1+4 +17*2	st	1	8	on property line, south/bottom	Remove	Shared with Grand Valley

Tree Number or Stand Number	Easting	Northing	Scientific Name	Common Name	DBH (cm)	Condition	Class	Canopy Width (m)	Notes	Preservation Status	Ownership
178	555104	4861189	<i>Pinus sylvestris</i>	Scots Pine	32.2		1	6	on property line, south/bottom	Remove	Shared with Grand Valley
179	555113	4861279	<i>Pinus sylvestris</i>	Scots Pine	25	wh	1	6		Remove	Subject Property
180	555124	4861285	<i>Pinus sylvestris</i>	Scots Pine	22.6	w	1	6		Remove	Subject Property
181	555110	4861291	<i>Pinus sylvestris</i>	Scots Pine	28.2		1	6		Remove	Subject Property
182	555086	4861287	<i>Malus species</i>	Apple species	20+10*3	st,ab	1	0+3		Remove	Subject Property
183	555090	4861283	<i>Acer saccharum</i>	Sugar Maple	12.8	crowded	1	0+3		Remove	Subject Property
184	555088	4861281	<i>Pinus sylvestris</i>	Scots Pine	35.5	wh	1	6		Remove	Subject Property
185	555088	4861286	<i>Malus species</i>	Apple species	20+15+12+12+5*2	st,ab	1	6		Remove	Subject Property
186	555087	4861288	<i>Acer saccharum</i>	Sugar Maple	15+5	crowded, st	1	2.5		Remove	Subject Property
187	555089	4861287	<i>Pinus sylvestris</i>	Scots Pine	23	crowded,wh,d	6	N/A		Remove	Subject Property
188	555077	4861281	<i>Malus species</i>	Apple species	15*2+20	st, wind blown	2	6		Remove	Subject Property
189	555078	4861275	<i>Acer saccharum</i>	Sugar Maple	16.4	w	3	4		Remove	Subject Property
190	555077	4861273	<i>Acer saccharum</i>	Sugar Maple	12.6	w	4	4		Remove	Subject Property
191	555080	4861270	<i>Pinus sylvestris</i>	Scots Pine	23.5	crowded	2	0+3		Remove	Subject Property
192	555084	4861257	<i>Pinus sylvestris</i>	Scots Pine	24.7		2	6		Remove	Subject Property
193	555085	4861258	<i>Pinus sylvestris</i>	Scots Pine	27.5	wh, thin	2	6		Remove	Subject Property
194	555088	4861241	<i>Pinus sylvestris</i>	Scots Pine	22.2	bt, thin	5	N/A		Remove	Subject Property
195	555083	4861236	<i>Pinus sylvestris</i>	Scots Pine	14.8	crowded	5	N/A		Remove	Shared with Grand Valley
196	555087	4861230	<i>Acer saccharum</i>	Sugar Maple	17.5	crowded @ base	2	1+3		Remove	Subject Property
Cedar Row			<i>Thuja occidentalis</i>	Eastern White Cedar	50	st	1		off property.	Retain	Adjacent Owner (shared)
Cedar Row			<i>Thuja occidentalis</i>	Eastern White Cedar	12		1			Retain	Adjacent Owner (shared)
Cedar Row			<i>Acer negundo</i>	Manitoba Maple	25	1	1			Retain	Adjacent Owner (shared)
Cedar Row			<i>Thuja occidentalis</i>	Eastern White Cedar	50	st	1			Retain	Adjacent Owner (shared)
Cedar Row			<i>Thuja occidentalis</i>	Eastern White Cedar	20		1			Retain	Adjacent Owner (shared)

Tree Number or Stand Number	Easting	Northing	Scientific Name	Common Name	DBH (cm)	Condition	Class	Canopy Width (m)	Notes	Preservation Status	Ownership
Cedar Row			<i>Thuja occidentalis</i>	Eastern White Cedar	20		1			Retain	Adjacent Owner (shared)
Cedar Row			<i>Acer negundo</i>	Manitoba Maple	35	st, l	1			Retain	Adjacent Owner (shared)
Cedar Row			<i>Thuja occidentalis</i>	Eastern White Cedar	25		1			Retain	Adjacent Owner (shared)
Cedar Row			<i>Thuja occidentalis</i>	Eastern White Cedar	25		1			Retain	Adjacent Owner (shared)
Cedar Row			<i>Thuja occidentalis</i>	Eastern White Cedar	25		1			Retain	Adjacent Owner (shared)
Cedar Row			<i>Thuja occidentalis</i>	Eastern White Cedar	25		1			Retain	Adjacent Owner (shared)
Cedar Row			<i>Thuja occidentalis</i>	Eastern White Cedar	20		1			Retain	Adjacent Owner (shared)
Cedar Row			<i>Thuja occidentalis</i>	Eastern White Cedar	20		1			Retain	Adjacent Owner (shared)
Cedar Row			<i>Thuja occidentalis</i>	Eastern White Cedar	35	st	1			Retain	Adjacent Owner (shared)
Cedar Row			<i>Acer negundo</i>	Manitoba Maple	40	st,l	1			Retain	Adjacent Owner (shared)
Cedar Row			<i>Thuja occidentalis</i>	Eastern White Cedar	20		1			Retain	Adjacent Owner (shared)
Cedar Row			<i>Thuja occidentalis</i>	Eastern White Cedar	25	st	1			Retain	Adjacent Owner (shared)
Cedar Row			<i>Thuja occidentalis</i>	Eastern White Cedar	<10		1			Retain	Adjacent Owner (shared)
Cedar Row			<i>Acer negundo</i>	Manitoba Maple	65	st, ab,vines	1			Retain	Adjacent Owner (shared)
Cedar Row			<i>Thuja occidentalis</i>	Eastern White Cedar	<10		1			Retain	Adjacent Owner (shared)
Cedar Row			<i>Thuja occidentalis</i>	Eastern White Cedar	15		1			Retain	Adjacent Owner (shared)
Cedar Row			<i>Thuja occidentalis</i>	Eastern White Cedar	25	st	1			Retain	Adjacent Owner (shared)
Cedar Row			<i>Thuja occidentalis</i>	Eastern White Cedar	20		1			Retain	Adjacent Owner (shared)
Cedar Row			<i>Thuja occidentalis</i>	Eastern White Cedar	15		1			Retain	Adjacent Owner (shared)

Tree Number or Stand Number	Easting	Northing	Scientific Name	Common Name	DBH (cm)	Condition	Class	Canopy Width (m)	Notes	Preservation Status	Ownership
Cedar Row			<i>Thuja occidentalis</i>	Eastern White Cedar	25	st	1			Retain	Adjacent Owner (shared)
Cedar Row			<i>Thuja occidentalis</i>	Eastern White Cedar	<10	st	1			Retain	Adjacent Owner (shared)
Cedar Row			<i>Thuja occidentalis</i>	Eastern White Cedar	20		1			Retain	Adjacent Owner (shared)
Cedar Row			<i>Thuja occidentalis</i>	Eastern White Cedar	15		1			Retain	Adjacent Owner (shared)
Cedar Row			<i>Thuja occidentalis</i>	Eastern White Cedar	20		1			Retain	Adjacent Owner (shared)
Cedar Row			<i>Thuja occidentalis</i>	Eastern White Cedar	<10		1			Retain	Adjacent Owner (shared)

Table 2: Stands

Stand Number or Row Number	Scientific Name	Common Name	Approximate Average of DBH (cm)	Class	Number of Trees	Preservation Status	Ownership
Stand 1	<i>Pinus sylvestris</i>	Scots Pine	30	4 in Class 30 in Class 1	34 trees	Remove	Subject Property
Stand 2	<i>Pinus sylvestris and Prunus serotina</i>	Scots Pine and Black Cherry	30	1	8 trees	Remove	Subject Property
Stand 3	<i>Pinus sylvestris</i>	Scots Pine	30	1	4 trees	Remove	Subject Property
Stand 4	<i>Pinus sylvestris</i>	Scots Pine	30	1	28 trees	Remove	Subject Property

Table 3: Not Tagged Trees

Waypoint	Easting	Northing	Scientific Name	Common Name	DBH (cm)	Condition	Class	Canopy Width (m)	Notes	Preservation Status	Ownership
762	555178.75	4861301.5	<i>Acer negundo</i>	Manitoba Maple	30	l,dl,f	3			Retain	Subject Property
763	555178.87	4861306.2	<i>Acer negundo</i>	Manitoba Maple	30	l,dl,f	3			Retain	Subject Property
764	555171.87	4861307.7	<i>Acer negundo</i>	Manitoba Maple	30	l,dl,f	3			Retain	Subject Property
776	555184.49	4861306.2	<i>Acer negundo</i>	Manitoba Maple		1	2			Retain	Subject Property
781	555190.6	4861315.8	<i>Acer negundo</i>	Manitoba Maple			2		1 @ top	Retain	Subject Property

Waypoint	Easting	Northing	Scientific Name	Common Name	DBH (cm)	Condition	Class	Canopy Width (m)	Notes	Preservation Status	Ownership
784	555194.68	4861327.1	<i>Acer negundo</i>	Manitoba Maple	25	1	2		right at top property stake	Retain	Shared with Grand Valley/Adjacent Owner
788	555181.69	4861325.1	<i>Acer negundo</i>	Manitoba Maple	30	1	2		this is at edge	Retain	Shared with Grand Valley
806	555138.88	4861306.3	<i>Acer saccharum</i>	Sugar Maple	45	w, scale	2	10	off property	Retain	Grand Valley
806	555138.88	4861306.3	<i>Prunus serotina</i>	Black Cherry	45	l, dl, f	2	0+5	off property	Retain	Grand Valley
807	555133.75	4861304.1	<i>Ulmus species</i>	Elm species	45		1	10	off property	Retain	Grand Valley
808	555129.36	4861301.4	<i>Prunus serotina</i>	Black Cherry	40	bl	1	10	off property	Retain	Grand Valley
823	555076.84	4861262.1	<i>Acer negundo</i>	Manitoba Maple	20	1	2		off property	Remove	Grand Valley
825	555078.37	4861251.7	<i>Acer saccharum</i>	Sugar Maple	17		5	0+2	off property	Remove	Grand Valley
826	555080.79	4861241.4	<i>Prunus serotina</i>	Black Cherry	20		2	0+3	off property	Remove	Grand Valley
828	555078.73	4861237.8	<i>Acer negundo</i>	Manitoba Maple	20	ab, w, dl	3		off property	Remove	Grand Valley
828	555078.73	4861237.8	<i>Prunus serotina</i>	Black Cherry	25	l, w	4		off property	Remove	Grand Valley
828	555078.73	4861237.8	<i>Prunus serotina</i>	Black Cherry	20	w	4		off property	Remove	Grand Valley
829	555080.12	4861224.6	<i>Acer saccharum</i>	Sugar Maple	25	ab grown up?	2	5	off property	Remove	Grand Valley
830	555080.78	4861223.2	<i>Acer negundo</i>	Manitoba Maple	30*2	st, ab, bl, cuts	3	8	off property	Remove	Grand Valley
833	555084.63	4861194	<i>Acer negundo</i>	Manitoba Maple	22*2	st	2		off property	Remove	Grand Valley

Appendix 2: Tree Vigour Class Criterion

Trunk Integrity:

r	root damage or decay
st	split stem/weak crotch
br	butt rot
l	excessive lean (e.g. 30° to 45°)
h	upper stem holes/decay
w	wound (bark damage, large pruning cuts)
f	fungus (conks)
ib	insect borers
b	burl
wh	woodpecker holes
s	seam or cracks
c	cankers

Crown Structure:

bt	broken top
bl	broken or severed primary limbs
p	pollarded (severe and improper pruning)
ab	adventitious branching (clusters of new shoots on main trunk)

Crown Vigour:

dl	moderate dead wood (e.g. 11 to 35% secondary branches mostly)
d	significant crown dieback (e.g. >35% dead wood in primary limbs)
u	undersized leaves
fc	foliar chlorosis/yellowing
fn	foliar necrosis/browning
id	insect defoliators (species if known)
di	disease (species if known)

Tree Vigour Classes:

Class 1 Excellent Condition, No Risk Trees

Sound, thrifty, full crowned trees of natural shape with no dead limbs in the top of the crown and no significant evidence of decline.

Class 2 Good Condition, Low Risk Trees

Full to medium crowned trees of natural shape with a live crown ratio $\geq 40\%$ that exhibit no more than minor dead wood (e.g. up to 10% secondary branches only and mainly in the lower crown) and no more than one moderate trunk defect or indicator of decline.

Class 3 Fair Condition, Medium Risk Trees

Full to small crowned trees with a live crown ratio $\geq 25\%$ that exhibit no more than moderate dead wood (e.g. 11 to 35% secondary branches mostly) and no more than two moderate trunk defects or indicators of decline.

Class 4 Poor Condition, High Risk Trees

Medium to very small crowned trees (e.g. live crown ratio < 25%) that exhibit one or more of the following conditions.

- a) Trees with significant foliage of poor colour and less than normal size.
- b) Trees with significant crown dieback (e.g. > 35% dead wood in primary limbs).
- c) Trees with major trunk defects or decay (e.g. one extensive problem, or 3 or more distinct but moderate decline indicators).

Class 5 Very Poor Condition, Very High Risk Trees

Dying trees with very little live crown.

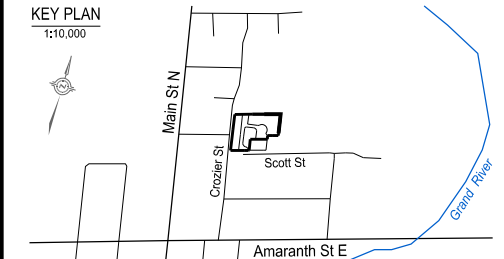
Appendix 3: Development Concept Plan, Weston Consulting

DEVELOPMENT CONCEPT PLAN

ALL OF LOTS A AND B AND PART OF LOT C
 REGISTERED PLAN 29A
 (FORMERLY IN THE VILLAGE OF GRAND VALLEY)
 TOWNSHIP OF EAST LUTHER GRAND VALLEY
 COUNTY OF DUFFERIN



KEY PLAN
 1:10,000



□ SUBJECT PROPERTY

OWNER'S CERTIFICATE:

I authorize Weston Consulting Group Inc. to prepare and submit this plan for draft approval.

 DANIEL HRVYCHNA Date: _____

HRVCHNA LAW PROFESSIONAL CORPORATION
 200-1011 BLOOR STREET WEST
 TORONTO, ONTARIO M6H 1M5
 TEL: 416-532-8006

SURVEYOR'S CERTIFICATE:

I hereby certify that the boundaries of the lands being subdivided and their correct relationship to the adjacent lands are accurately and correctly shown on this plan.

 P.J. WILLIAMS, O.L.S. Date: _____

ONTARIO LAND SURVEYOR
 606286 RIVER ROAD, RR#3
 SHELburnE, ONTARIO L0N1S7
 TEL: (519) 841-8231 FAX: (519) 825-4010

ADDITIONAL INFORMATION:

[Section 51(17) of the Planning Act, R.S.O. 1990, c. P.13], as amended to December 03, 2018.

- a), b), e), f), g), & j) - on plan.
- c) - on key plan
- d) - see statistics
- h) - piped water to be installed by developer
- i) - loam
- k) - all services to be made available by developer
- l) - subject to easement as in instrument DC75735

DEVELOPMENT STATISTICS:

	UNITS	AREA(HA)
Residential - Condominium Townhouses [Blk 1]:	14	0.236
Residential-Condominium Single Detached Dwellings [Blks 2-3]:	9	0.547
Common Elements:		0.273
Cul-de-Sac Right of Way:		0.024
TOTAL	23	1.080
Overall Density (based on area of 1.080 ha):		21.3 uph
Visitor Parking requirement (townhouses):		3.5 spaces
Visitor Parking provided (townhouses):		4 spaces



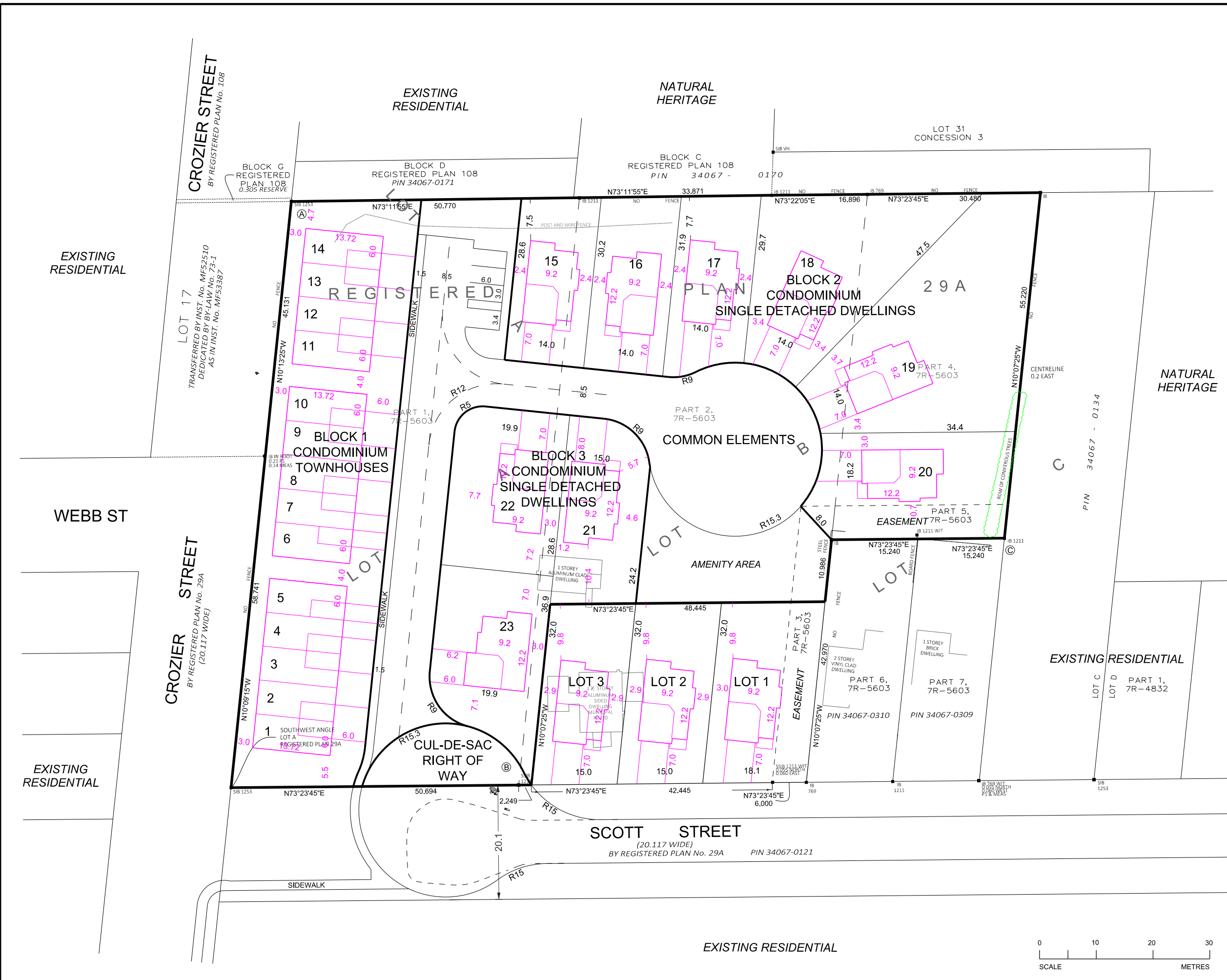
Vaughan
 201 Midway Ave., Suite 19
 Vaughan, Ontario L4K 5K8
 T: 905.738.8080 F: 905.738.6637

Toronto
 268 Berrisley St.
 Toronto, Ontario M5A 2X5
 T: 416.640.9917 F: 905.738.6637

REVISIONS LIST

Date	Description
20 FEB 2019	Revise Lot 23 building design
20 DEC 2018	Revise condo road, blocks and lots.
08 AUG 2018	D1 revised to reflect Site Plan dated 17,04,2018

File Number: 8947
 Drawn By: SM
 Planner: JS
 Scale: 1:300
 CAD: 8947/draft plans/C2.3.dgn



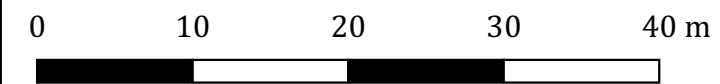
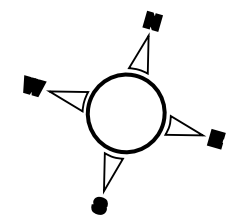
Appendix 4: Figure of Approximate Tree Locations and Approximate Development Plan

20 Scott Street Arborist Inventory

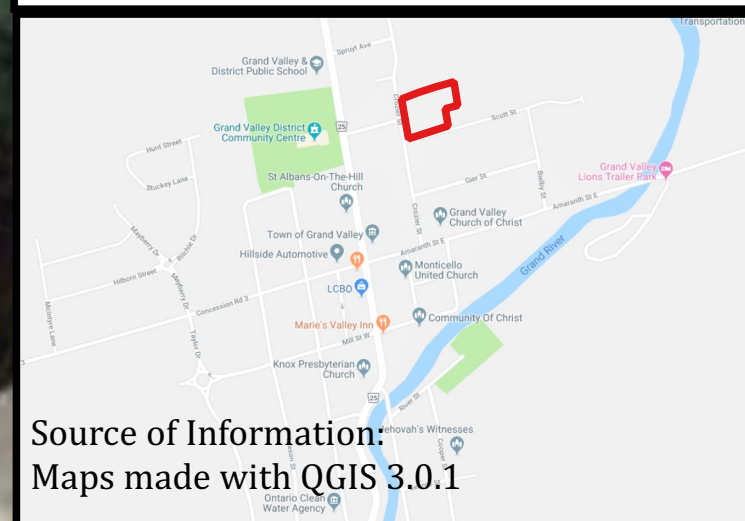
Accuracy is approximate for tree locations and proposed development

Legend

-  Tagged Trees
-  Non Tagged Trees
-  Cedar Hedgerow
-  Stand 1
-  Stand 2
-  Stand 3
-  Stand 4
-  Proposed Lots
-  Approximate Property Boundary



21 February 2019



Source of Information:
Maps made with QGIS 3.0.1

