

February 13, 2015

BEL 213436

Walter Broos  
Sarah Properties Ltd.  
2 Prince Edward Road  
Woodstock, ON  
N4V 1G7

**Re: Tree Inventory and Preservation Plan – Waldemar Property**

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Dear Mr. Broos:

This report presents the findings of a tree inventory and preservation plan that was completed for the subject property located west of 10<sup>th</sup> Line and south of the Upper Grand Trailway in the community of Waldemar, Town of Grand Valley, Ontario (see **Figure 1**). The report characterizes the trees on and immediately adjacent to the subject property, including standalone trees and tree groupings and provides recommendations for tree protection during construction. Trees located off the property within the road allowances for the Main St and Church St extensions were not included in the inventory.

The tree inventory was conducted on March 7 and May 7, 2014 by an Ecologist and ISA Certified Arborist from Beacon Environmental. Individual trees on the subject property were tagged with numbered aluminum forestry tags. Trees were measured to determine their trunk diameter (DBH), identified to species, and their condition was assessed. Trees located on neighbouring properties were documented but not tagged. Where trees occurred in groupings, the entire grouping was characterized in terms of species composition, size class, and the general condition.

Tree condition was assessed in terms of overall health and structural integrity based on indicators such as live buds, dead wood, decay, structural defects, and presence of disease. Each tree was assigned a condition rating of good, fair, poor, or dead, based on the following criteria:

- **Poor** – Severe dieback, significant lean, missing leader, major defects, significant decay and/or disease presence
- **Fair** – Moderate dieback and/or lean, limb defects, multiple stems, moderate foliage damage from stress
- **Good** – Healthy vigorous growth, minor visible defects or damage

- **Dead** – No live growth

## Findings

A total of 39 trees were individually tagged and assessed (see **Table 1**). Additionally, where the property boundary was unclear, additional trees were assessed but not tagged. A summary and evaluation of the individual trees is presented in **Table 2**, appended to this report. The locations of trees that were inventoried and assessed are shown on **Figure 2**.

A single tree resembling Butternut (*Juglans cinerea*) was observed from the adjacent property (tree 964). Butternut is a provincially endangered species and is protected under the Endangered Species Act, 2007 (ESA). The specimen exhibited several characteristics typical of a hybrid or Japanese Walnut (*Juglans ailantifolia*) and appears to have been planted as there is a white plastic collar guard around its base. Butternut hybrids and planted specimens are exempt from protection under the ESA.

In addition to the individual trees that were inventoried and assessed, 10 tree groupings that were delineated and characterized. The tree groupings are generally situated at the periphery of the subject property (see **Figure 2**). A description of the tree groupings is provided below.

### Tree Group A

This small tree grouping is situated at the south end of the subject property and consists entirely of Trembling Aspen (*Populus tremuloides*) regeneration. The grouping extends onto the property to the south. The group contains a total of 87 trees. Fifty-six trees are located on the subject property, ranging in size from less than 5 cm DBH to 33 cm DBH (see **Table 1**). The majority of trees are less than 10 cm DBH (see **Table 1**).

**Table 1. Size range of trees in Group A on Subject Property**

DBH Range	Number of Trees
< 5 cm	18
5-9.5 cm	17
10-14.5 cm	9
15-19.5 cm	6
20-29.5 cm	5
30-40 cm	1
<b>Total</b>	<b>56</b>

Thirty-one Trembling Aspen trees in this grouping were recorded on the property to the south, including:

- 15 trees less than 5 cm DBH
- 14 trees 5-9.5 cm DBH
- 2 trees 10-14.5 cm DBH

The trees in this grouping were observed to be in generally fair to good condition. Four dead trees were also recorded.

### **Tree Group B**

This tree grouping is situated on the east side of the subject property and consists entirely of regenerating White Poplar (*Populus alba*). White Poplar is a non-native species that can be invasive. A total of 15 trees were recorded in this grouping. Trees range in diameter from 5 to 13 cm DBH, with a median DBH of 10 cm. Trees in this grouping are generally in good condition.

### **Tree Group C**

This tree grouping is located near the subject property boundary and consists of eight trees including four spruce, three White Pine, and one maple. Tree diameters range from 20 to 45 cm DBH and all trees appeared to be in good condition.

### **Tree Group D**

This tree grouping is comprised of 13 spruce trees. Tree diameters range from 15-20 cm DBH and all trees are in good condition.

### **Tree Group E**

This tree grouping consists of a row of young planted multi-stem Silver Maples (8-12 cm DBH) and several small White Cedars.

### **Tree Group F**

This tree grouping consists of a row of young planted trees including three Silver Maples (8-14 cm DBH), two Sugar Maples (7 cm DBH), one White Pine (5 cm DBH), and eight spruce trees (10-15 cm DBH). Trees are good condition.

### **Tree Group G**

This tree grouping consists of approximately 30-40 young White Cedar trees, all less than 10 cm DBH

### **Tree Group H**

The tree grouping consists of approximately 20 spruce trees and several Scotch Pines ranging in size from 10-15 cm DBH as well as about 25-30 young White Cedar. A single poplar with a DBH of 20 cm is located at the north end of the grouping. With the exception of a few dead spruce, all trees were observed to be in good condition.

### **Tree Group I**

The group includes four spruce trees in good condition, ranging in size from 20-25 cm DBH.

### **Tree Group J**

This group is comprised of four spruce trees and four White Pine in good condition, ranging in size from 10-20 cm DBH.

## **Recommendations**

Based on a review of the proposed Draft Plan of Subdivision and Preliminary Grading Plan, as well as discussions with the consulting engineers (Crozier and Associates), it may be possible to protect many of trees growing along the property boundary. The feasibility of retaining trees along the boundary of the site will be confirmed at detailed design.

All trees internal to the proposed development will require removal to accommodate site grading, lots, and infrastructure, including 14 individual trees and four tree groupings (A, B, F and G). An additional three (3) trees are recommended for removal because they are dead or in poor health (see **Table 2**).

Trees to be retained shall be protected through the establishment of a Tree Protection Zone (TPZ). The TPZ shall be established at the dripline of individual trees and one meter from the edge of tree groupings (see **Table 2** and **Figure 2**).

Erosion and Sediment Control (ESC) fencing, which will be established at the limit of development, shall also function as tree protection fencing for those trees and tree groupings identified for preservation. The limit of the ESC fencing will demarcate the TPZ (see **Figure 2**).

It is strongly recommended that there be no grading, soil disturbance, or surface treatments within the TPZ. No equipment or materials shall be stored inside the TPZ.

In addition to the establishment of the TPZ, the following specifications are recommended to ensure the health and survival of any retained trees:

- Before the beginning of work, the contractor and Beacon Environmental, or other qualified arborist, should meet on site to review work procedures, access routes, storage areas and the TPZ or other tree protection measures.

- Where underground utilities are to be installed, the route shall be outside any TPZ, or use tunnelling or boring methods for installation.
- Any root damage occurring during construction should be cut cleanly with a hand saw or pruning shears
- Any injury to a tree during construction should be evaluated by a qualified arborist.
- Any pruning of trees for construction clearance shall be performed by a qualified arborist.

Report prepared by:  
**Beacon Environmental**



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Report reviewed by:  
**Beacon Environmental**



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<b>Site Location</b>		<b>Figure 1</b>	
Waldemar TIPP			
First Base Solutions Web Mapping Service 2010			
UTM Zone 17 N, NAD 83			
		1:12,000	
		Project 213436 June 2014	



# Tree Locations

## Figure 2a

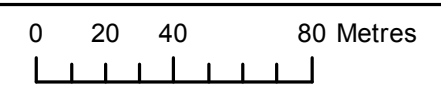
Waldemar TIPP

### Legend

- Subject Property
- Development Plan
- Individual Trees
- Tree Protection Zone
- Tree Groups

First Base Solutions  
Web Mapping Service 2010

UTM Zone 17 N, NAD 83



1:2,200



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# Tree Locations

## Figure 2b

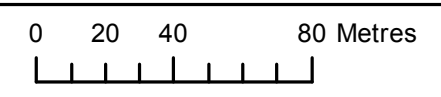
Waldemar TIPP

### Legend

- Subject Property
- Individual Trees
- Tree Protection Zone
- Tree Groups
- Development Plan

First Base Solutions  
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UTM Zone 17 N, NAD 83



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# Tree Locations

## Figure 2c

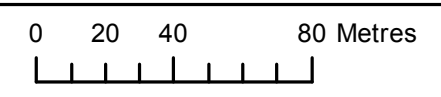
Waldemar TIPP

### Legend

- Subject Property
- Individual Trees
- Tree Protection Zone
- Tree Groups
- Development Plan

First Base Solutions  
Web Mapping Service 2010

UTM Zone 17 N, NAD 83



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**Table 2. Tree Inventory and Evaluation**

Tag	Species	Common Name	DHB (cm)	Condition	Comments	Recommendation
19	<i>Acer saccharum</i>	Sugar Maple	60	Good	Good form and vigour; slightly asymmetric crown	Protect
20	<i>Ulmus americana</i>	White Elm	22	Fair	Codominant leaders; forked at 8 m, asymmetric crown due to crowding	Protect
21	<i>Acer saccharum</i>	Sugar Maple	32/32	Fair-Good	forked at base, approx 0.5 m of included bark, large partially healed wound on upper trunk	Protect
22	<i>Acer saccharum</i>	Sugar Maple	75	Fair-Good	small cavity at branch stub, one dead branch	Protect
23	<i>Acer saccharum</i>	Sugar Maple	55	Fair	Asymmetrical crown due to crowding	Protect
24	<i>Acer saccharum</i>	Sugar Maple	63	Fair-Good	Asymmetrical crown due to crowding, growing into fence	Protect
25	Dead		26/26/20	Dead		Remove
26	Dead		28/25	Dead		Remove
27	<i>Prunus serotina</i>	Black Cherry	20	Poor	Major lean, 2 large broken/hanging limbs, poor form	Remove
28	<i>Ulmus americana</i>	White Elm	52	Fair	Codominant stems with included bark; many small dead branches; over extended lower branch	Protect
29	<i>Acer saccharum</i>	Sugar Maple	65	Good	small trees/offshoots growing around base; good form and vigour	Protect
30	<i>Acer saccharum</i>	Sugar Maple	90	Fair-Good	one broken leader	Protect
31	<i>Ulmus americana</i>	White Elm	30/30/20/15/15	Poor	Mostly dead; few live buds	Remove
32	<i>Acer saccharum</i>	Sugar Maple	70	Fair	Codominant leaders; large cavity in upper trunk; grown into fence; asymmetric crown; 6 dead/broken branches	Protect
33	<i>Acer saccharum</i>	Sugar Maple	70	Fair	cavity in mid-trunk (20 cm), one leader recently snapped off and hanging (20 cm); other leader broken off--old wound	Protect
34	<i>Ulmus americana</i>	White Elm	48/36/36	Fair	stressed; extensive epicormic branching; corrected bend in trunk; moderate lean toward east	Protect
35	<i>Prunus sp.</i>	Cherry species	20/15/15	Fair	large area of exfoliated bark up lower trunk - unknown damage	Protect
36	<i>Ulmus americana</i>	White Elm	25/30	Fair	Extensive epicormic branches; fair form	Protect
37	<i>Ulmus americana</i>	White Elm	27/25/15	Fair-Good	Extensive epicormic branches; grown into fence; good form	Protect
38	<i>Acer negundo</i>	Manitoba Maple	18/15/13	Good	Good vigour; minor winter storm damage; one small broken branch; several arching branches	Remove
39	<i>Acer negundo</i>	Manitoba Maple	15	Poor	Main trunk split in crotch and hanging	Remove
40	<i>Acer negundo</i>	Manitoba Maple	20/10/10/10	Fair		Remove
41	Dead		15			Remove
42	<i>Pinus sylvestria</i>	Scotch Pine	15		Good vigour	Protect
43	<i>Picea glauca</i>	White Spruce	25	Good	Good form and vigour	Remove
44	<i>Picea glauca</i>	White Spruce	25	Good	good form and vigour	Remove
45	<i>Ulmus americana</i>	White Elm	45	Fair	Extensive epicormic branches; asymmetric crown; six small dead lower branches; codominant leaders	Protect

Tag	Species	Common Name	DHB (cm)	Condition	Comments	Recommendation
46	<i>Ulmus americana</i>	White Elm	15-20	Good	Five trunks between 15 and 20 cm; some epicormic branches	Protect
47	<i>Malus pumila</i>	Common Apple	20-30	Fair	multi-stem, shrub form, extensive epicormic branching	Protect
48	<i>Populus sp.</i>	Poplar species	15	Good		Protect
49	<i>Populus tremuloides</i>	Trembling Aspen	13.5	Good		Remove
50	<i>Acer saccharinum</i>	Silver Maple	14/10/10/8	Good		Protect
51	<i>Acer negundo</i>	Manitoba Maple	20/14	Poor	Main trunk split in crotch and hanging	Remove
52	<i>Picea sp.</i>	Spruce species	24	Good		Remove
53	<i>Picea sp.</i>	Spruce species	24	Good		Protect
54	<i>Picea sp.</i>	Spruce species	20	Good		Protect
55	<i>Salix sp.</i>	Willow species	25/25	Good		Remove
56	<i>Acer negundo</i>	Manitoba Maple	24/18/15	Good		Remove
57	<i>Picea sp.</i>	Spruce species	18	Good		Protect
<b>Untagged Trees</b>						
893	<i>Picea sp.</i>	Spruce species	15	Good		Protect
896	<i>Acer saccharinum</i>	Silver Maple	100	Good		Protect
897	<i>Picea abies</i>	Norway Spruce	50	Good		Protect
964	<i>Juglans cinerea/Juglans ailantifolia</i>	Butternut hybrid/Japanese Walnut	8	Good	Japanese walnut or Butternut showing hybrid characteristics, planted on neighbouring property	Protect
965	<i>Juglans nigra</i>	Black Walnut	30	Good	on neighbouring property	Protect
969	<i>Acer saccharinum</i>	Silver Maple	20/20	Good	on neighbouring property	Protect