CENTRAL TREE CARE LTD

ELISSA CHU ISA CERTIFIED ARBORIST
48 St. Quentin Avenue, Toronto, ON M1M 2M8
P: 416 285 4750 **F:** 416 285 4749
elissa@centraltreecare.com

Since 1996

centraltreecare.com

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City of Vaughan Forestry Department
Attn: Forestry Planner
#2800 Rutherford Rd.
Vaughan ON. L4K 2N9
T (905) 832-8577
E parks@vaughan.ca

Bobbi-jo Mackinnon
Ian Robertson Design
20 Rivermede Rd**.**
Vaughan, ON L4K 3N3
T: 905-669-2111
E: bobbi-jo@ianrobertsondesign.ca

Re: #79 Valleyview Drive

Arborist Report – Construction Proposal/Tree Protection Plan

Central Tree Care Ltd. has been retained by Ian Robertson Design to provide a professional arborist report for the proposed work at 79 Valleyview Drive.

The nature of the work includes the demolition of existing dwelling and driveway/hardscape structures. The construction proposal includes a new two-story dwelling, wrap around driveway/hardscape structures, septic bed, rear pool, rear gazebo, rear cabana, rear landscaped garden terraces, perimeter retaining wall feature and grading. The existing rear tennis court and it's 3-meter perimeter fence is to remain as is.

To facilitate the proposed construction:

	Privately-Owned	Privately-Owned Neighbouring / Boundary Trees	City-Owned Trees
Injury	4	2	2
Removal	11	2	-
Exemption	-	-	-

This arborist report and the attached Tree Protection Plan assumes that *no additional permit sized trees will be injured or removed*.

LIMITATIONS

Inspection of the trees on site was limited to a visual assessment from the ground only, unless stated otherwise. No inspection via climbing, exploration below grade, probing, or coring were conducted. Any observations and data collected from site are based on conditions at the time of inspection. Diameters of trees located on neighbouring properties were estimated to avoid trespassing. It must be noted that trees are living organisms and their conditions are subject to change.

This report was prepared using the site plan prepared by **Ian Robertson Design titled "Site Grading Plan – 79 Valleyview Drive" dated May 6, 2019**. If there are any changes to the noted site plan, the consulting arborist must be notified immediately. It is the assumption that no further work, other than what has been presented in the attached site plan, has been proposed.

ATTACHMENT 8

TREE INVENTORY

Permit-sized trees located within 6.0m of the work area were inspected on June 10, 2019.

Tag #	*Species*	*Latin Name*	*Base (cm)*	*DBH (cm)*	*Health*	*Structure*	*TPZ (m)*	*Category*	*Assessment*	*Comments*
1341	Silver maple	*Acer saccharinum*	70	44	Good	Good	3	1	Deadwood throughout	Protected
1372	Cedar	*Thuja occidentalis*	27	22	Good	Good	1.2	2	Healthy	Protected
1374	Cedar	*Thuja occidentalis*	26	16	Good	Good	1.2	1	Healthy	Protected
1347	Cedar	*Thuja occidentalis*	27	17	Good	Good	1.2	2	Healthy	Protected
1370	Austrian pine	*Pinus nigra*	65	35	Fair	Fair	2.4	1	Poor live crown ratio.	Protected
1343	Norway maple	*Acer platanoides*	26	16.5	Good	Good	1.2	2	Healthy	Protected
1400	Cedar	*Thuja occidentalis*	26	16	Good	Good	1.2	1	Healthy	Protected
1344	Cedar	*Thuja occidentalis*	38	18	Good	Good	1.2	2	Healthy	Protected
1361	Cedar	*Thuja occidentalis*	38	17	Good	Good	1.2	2	Healthy	Injury
1379	Colorado spruce	*Picea pungens*	45	26	Poor	Fair	1.2	1	Poor crown ratio. Deadwood throughout.	Remove
1391	Austrian Pine	*Pinus nigra*	75	51	Fair	Fair-Good	3.6	1	Poor live crown ratio.	Remove
1391A	Sugar maple	*Acer saccharum*	~50	~35	Good	Good	2.4	2	Healthy	Protected
1384	Cedar	*Thuja occidentalis*	29	12	Good	Good	1.2	2	Healthy	Remove
1373	Norway Spruce	*Picea abies*	100	49	Good	Good	3	1	Lots of internal deadwood.	Remove
1357	Cedar	*Thuja occidentalis*	28	14	Good	Good	1.2	2		Remove
1364	Norway Spruce	*Picea abies*	65	38	Good	Fair-Good	2.4	1	Low deadwood, sparse crown.	Remove
1355	cedar	*Thuja occidentalis*	27	16	Fair	Good	1.2	1	Very sparse crown.	Remove
1375	Austrian pine	*Pinus nigra*	90	47	Fair	Good	3	1	Poor crown ratio.	Remove
1375A	Ash	*Fraxinus spp.*	~85	~55	Dead		3.6	2	100% Dead	Retain as habitat
1375B	Colorado Spruce	*Picea pungens*	65	~35	Poor	Fair	2.4	2	Very poor live crown ratio.	Protected
1353	Austrian Pine	*Pinus nigra*	80	42	Fair	Good	3	4	Sparse crown	Protected
1345	Austrian Pine	*Pinus nigra*	40	33	Poor	Poor	2.4	4	65% dead	Injury
1356	Austrian Pine	*Pinus nigra*	85	55	Good	Good	3.6	4	Healthy specimen.	Injury
1380	Scots pine	*Pinus sylvestris*	23	20	Poor	Poor	1.2	1	90% dead	Remove
1380A	Crabapple	*Malus spp.*	~65	~40	Good	Good	2.4	2	Healthy	Protected
1380B	Common buckthorn	*Rhamnus cathartica*	~40	~25	Good	Good	1.8	2	Healthy	Protected
1380C	Ash	*Fraxinus spp.*	~45	~30	Good	Good	1.8	2	Healthy	Protected
1385	Cedar	*Thuja occidentalis*	~22	14	Good	Good	1.2	1	Healthy	Injury
1342	Cedar	*Thuja occidentalis*	~22	14	Good	Good	1.2	2	Healthy	Injury

Tag #	Species	Latin Name	Base (cm)	DBH (cm)	Health	Structure	TPZ (m)	Category	Assessment	Comments
1342A	Common buckthorn	*Rhamnus cathartica*	~35	~20	Good	Good	1.2	2	Healthy	Protected
1342B	Common buckthorn	*Rhamnus cathartica*	~50	~35	Good	Good	2.4	2	Healthy	Protected
1342C	Common buckthorn	*Rhamnus cathartica*	~30	~15	Good	Good	1.2	2	Healthy	Protected
1342D	Common buckthorn	*Rhamnus cathartica*	~40	~25	Good	Good	1.8	2	Healthy	Protected
1342E	Common buckthorn	*Rhamnus cathartica*	~50	~35	Good	Good	2.4	2	Healthy	Protected
1342F	Common buckthorn	*Rhamnus cathartica*	~25	~15	Good	Good	1.2	2	Healthy	Protected
1342G	Common buckthorn	*Rhamnus cathartica*	~25	~15	Good	Good	1.2	2	Healthy	Protected
1348	cedar	*Thuja occidentalis*	25	15	Good	Good	1.2	2	Healthy	Protected
1392	cedar	*Thuja occidentalis*	26	16	Good	Good	1.2	2	Healthy	Protected
1392A	Ash	*Fraxinus spp.*	~25	~15	Good	Good	1.2	2	Healthy	Protected
1392B	Common buckthorn	*Rhamnus cathartica*	~55	~30	Good	Good	1.8	2	Healthy	Protected
1392C	Norway Maple	*Acer platanoides*	~65	~45	Good	Good	3	2	Healthy	Protected
1390	Manitoba Maple	*Acer negundo*	95	65	Poor	Poor	4.2	2	Two of three stems missing. Very poor crown ratio. Leaning.	Protected
1387	Sugar Maple	*Acer saccharum*	150	57	Fair	Good	3.6	2	Epicormic growth.	Protected
1378	Norway Spruce	*Picea abies*	32	21	Fair	Good	1.2	1	Poor live crown ratio	Protected
1371	Norway Spruce	*Picea abies*	27	17	Fair	Good	1.2	1	Poor live crown ratio	Protected
1388	Norway Spruce	*Picea abies*	22	15	Fair	Good	1.2	1	Poor live crown ratio	Protected
1350	Norway Spruce	*Picea abies*	21	15	Fair	Good	1.2	1	Poor live crown ratio	Protected
1360	Norway Spruce	*Picea abies*	130	51	Fair	Good	3.6	1	Poor live crown ratio	Protected
1365	Ash	*Fraxinus spp.*	60	45	Poor	Poor	3	1	EAB	Retain as habitat
1363	Sugar Maple	*Acer saccharum*	140	55	Fair-Good	Good	3.6	1	Fruiting bodies at base	Protected
1382	Ash	*Fraxinus spp.*	45	39	Poor	Poor	2.4	1	EAB	Retain as habitat
1397	Colorado Spruce	*Picea pungens*	50	26	Good	Good	1.2	1	Interior deadwood	Protected
1376	Colorado Spruce	*Picea pungens*	29	18	Good	Good	1.2	1	Interior deadwood	Protected
1396	Colorado Spruce	*Picea pungens*	49	29	Good	Good	1.2	1	Interior deadwood	Protected
1394	Ash	*Fraxinus spp.*	52	41	Poor	Poor	3	1	EAB	Retain as habitat

Tag #	Species	Latin Name	Base (cm)	DBH (cm)	Health	Structure	TPZ (m)	Category	Assessment	Comments
1354	Ash	*Fraxinus spp.*	67	44	Poor	Poor	3	1	EAB. 95% dead.	Retain as habitat
1352	Black cherry	*Prunus serotina*	34	23	Good	Good	1.2	2	Healthy	Protected
1351	Basswood	*Tilia americana*	65	44	Good	Good	3	1	Healthy	Protected
1398	Sugar Maple	*Acer saccharum*	170	51	Good	Good	3.6	1	Healthy	Protected
1346	Ash	*Fraxinus spp.*	105	75	Poor	Poor	4.8	1	EAB	Retain as habitat
1381	Hawthorn	*Crataegus spp.*	36	20	Good	Good	1.2	1	Healthy	Protected
1362	Black Maple	*Acer nigrum*	75	44	Good	Good	3	1	Epicormic growth. Mechanical damage on surface roots.	Protected
1367	Basswood	*Tilia americana*	85	40	Fair	Fair	2.4	1	codominant. One stem close to failure, large cavity.	Protected
1386	Sugar Maple	*Acer saccharum*	21	14	Good	Good	1.2	1	Healthy	Protected
1395	Common buckthorn	*Rhamnus cathartica*	29	13	Good	Good	1.2	2	Healthy	Protected
1368	Black cherry	*Prunus serotina*	55	22	Good	Good	1.2	1	Healthy	Protected
1359	Sugar maple	*Acer saccharum*	50	27	Good	Good	1.2	1	Healthy	Protected
1393	Sugar maple	*Acer saccharum*	110	47	Good	Good	3	1	Healthy	Protected
1383	Sugar Maple	*Acer saccharum*	26	17	Good	Good	1.2	1	Healthy	Protected
1389	Sugar Maple	*Acer saccharum*	140	65	Good	Good	4.2	1	Healthy	Protected
1399	Basswood	*Tilia americana*	39	29	Good	Good	1.2	1	Healthy	Protected
1366	Sugar Maple	*Acer saccharum*	27	13	Good	Good	1.2	1	Healthy	Protected
1377	Ash	*Fraxinus spp.*	120	46,46	Poor	Poor	6	1	EAB	Retain as habitat
1369	Sugar Maple	*Acer saccharum*	110	50	Good	Good	3	1	Healthy	Protected
1358	Common buckthorn	*Rhamnus cathartica*	30	20	Good	Good	1.2	1	Healthy	Protected
1401	Sugar Maple	*Acer saccharum*	70	33	Fair	Fair	2.4	1	Missing main leader	Protected
1402	Sugar Maple	*Acer saccharum*	96	36	Fair	Fair	2.4	1	Missing main leader	Protected
1403	Basswood	*Tilia americana*	100	47	Fair	Fair	3	1	One leader missing. Large cavities near main union.	Protected
1403A	American Beech	*Fagus grandifolia*	~25	~17	Fair	Fair	1.2	2	Beech bark borer disease. Neighboring.	Protected
1403B	American Beech	*Fagus grandifolia*	~100	~45	Fair	Fair	3	2	Beech bark borer disease. Neighboring.	Protected
1403C	American Beech	*Fagus grandifolia*	~40	~25	Fair	Fair	1.8	2	Beech bark borer disease. Neighboring.	Protected
1404	Sugar	*Acer saccharum*	170	48	Good	Good	3	1	Healthy	Protected

Tag #	Species	Latin Name	Base (cm)	DBH (cm)	Health	Structure	TPZ (m)	Category	Assessment	Comments
	Maple									
1405	Sugar Maple	*Acer saccharum*	65	38	Good	Good	2.4	1	Healthy	Protected
1406	Ash	*Fraxinus spp.*	38	22	Dead	-	1.2	1	100% dead	Retain as habitat
1407	Sugar Maple	*Acer saccharum*	96	51	Good	Good	3.6	1	Healthy	Protected
1409	Ash	*Fraxinus spp.*	52	28	Dead	-	1.2	1	100% dead	Retain as habitat
1410	Sugar maple	*Acer saccharum*	38	17	Good	Good	1.2	1	Healthy	Protected
1408	Sugar maple	*Acer saccharum*	100	37	Good	Good	2.4	1	Healthy	Protected
1411	Sugar Maple	*Acer saccharum*	27	14	Good	Good	1.2	1	Healthy	Protected
1412	Sugar maple	*Acer saccharum*	49	19	Good	Good	1.2	1	Healthy	Protected
1413	Sugar Maple	*Acer saccharum*	72	28	Good	Good	1.2	1	Healthy	Protected
1414	Basswood	*Tilia americana*	30	16	Good	Good	1.2	1	Healthy	Protected
1415	Sugar maple	*Acer saccharum*	36	18	Good	Good	1.2	1	Healthy	Protected
1416	Ash	*Fraxinus spp.*	55	33	Poor	Poor	2.4	1	EAB	Retain as habitat
1417	Ash	*Fraxinus spp.*	105	38	Dead	-	2.4	1	100% dead	Retain as habitat
1418	Ash	*Fraxinus spp.*	60	42	Dead	-	3	1	100% dead	Retain as habitat
1419	Sugar maple	*Acer saccharum*	120	52	Good	Good	3.6	1	Healthy	Protected
1420	Ash	*Fraxinus spp.*	55	35	Dead	-	2.4	1	100% dead	Retain as habitat
1420A	Colorado Spruce	*Picea pungens*	~65	~40	Good	Good	2.4	2	Healthy	Protected
1421	Ash	*Fraxinus spp.*	85	52	Dead	-	3.6	1	EAB. 100% dead.	Retain as habitat
1422	American elm	*Ulmus americana*	22	12.5	Good	Good	1.2	1	Healthy	Protected
1423	European beech	*Fagus sylvatica*	16	12	Good	Good	1.2	1	Healthy	Protected
1424	Colorado Spruce	*Picea pungens*	23	15	Fair	Good	1.2	2	Sparse crown	Protected
1425	Colorado Spruce	*Picea pungens*	44	25	Fair-Poor	Good	1.2	2	Poor crown ratio	Protected
1426	Norway maple	*Acer platanoides*	42	25	Good	Good	1.2	2	Healthy	Protected
1427	Norway Maple	*Acer platanoides*	40	25	Good	Good	1.2	2	Healthy	Protected
1428	Basswood	*Tilia americana*	29	18	Fair	Good	1.2	2	Significant epicormic growth.	Protected
1429	White Spruce	*Picea glauca*	44	24	Poor	Poor	1.2	2	Top missing at 30ft.	Protected
1430	White Spruce	*Picea glauca*	22	15	Fair	Fair	1.2	2	Poor crown ratio.	Protected

Tag #	Species	Latin Name	Base (cm)	DBH (cm)	Health	Structure	TPZ (m)	Category	Assessment	Comments
1431	Norway Maple	*Acer platanoides*	34	28	Good	Good	1.2	2	Healthy	Protected
1432	Norway Maple	*Acer platanoides*	39	25	Good	Good	1.2	2	Healthy	Protected
1433	Norway maple	*Acer platanoides*	37	25	Good	Good	1.2	2	Healthy	Protected
1434	Ash	*Fraxinus spp.*	23	19	Fair	Fair	1.2	2	EAB	Protected
1435	Ash	*Fraxinus spp.*	20	13	Fair	Fair	1.2	2	EAB	Protected
1436	Norway Maple	*Acer platanoides*	58	33	Good	Good	2.4	1	Healthy	Protected
1437	Norway Maple	*Acer platanoides*	25	16	Good	Good	1.2	1	Healthy	Protected
1438	Norway Maple	*Acer platanoides*	31	21	Good	Good	1.2	1	Healthy	Protected
1439	Norway Maple	*Acer platanoides*	50	29	Good	Good	1.2	1	Healthy	Protected
1440	Hawthorn	*Crataegus spp.*	28	18,14	Poor	Poor	2.4	1	Two stemmed. 90% dead.	Protected
1441	Manitoba maple	*Acer negundo*	38	26	Good	Fair	1.2	1	Lean north.	Protected
1442	Ash	*Fraxinus spp.*	38	30	Dead	-	1.8	1	100% dead	Retain as habitat
1443	Common buckthorn	*Rhamnus cathartica*	22	14	Good	Good	1.2	1	Healthy	Protected
1444	Common buckthorn	*Rhamnus cathartica*	14	20	Good	Good	1.2	1	Healthy	Protected
1445	Norway Maple	*Acer platanoides*	62	29	Good	Good	1.2	1	Healthy	Protected
1446	Ash	*Fraxinus spp.*	70	31,23	Fair	Good	3.6	1	Codominant. EAB	Protected
1447	Norway Maple	*Acer platanoides*	26	14	Good	Good	1.2	1	Healthy	Protected
1448	Norway Maple	*Acer platanoides*	46	19	Good	Good	1.2	1	Healthy	Protected
1449	Norway Maple	*Acer platanoides*	30	16	Good	Good	1.2	1	Healthy	Protected
1450	Norway Maple	*Acer platanoides*	22	13	Good	Good	1.2	1	Healthy	Protected
1451	Norway Maple	*Acer platanoides*	23	12	Good	Good	1.2	1	Healthy	Protected
1452	Norway Maple	*Acer platanoides*	37	25	Good	Good	1.2	1	Healthy	Protected
1453	White Spruce	*Picea glauca*	30	19	Fair	Good	1.2	2	Poor crown ratio	Protected
1454	White Spruce	*Picea glauca*	20	15	Fair	Good	1.2	1	Poor crown ratio	Protected
1455	White Spruce	*Picea glauca*	52	25	Fair	Good	1.2	1	Poor crown ratio	Protected
1456	White Spruce	*Picea glauca*	30	21	Fair	Good	1.2	1	Poor crown ratio	Protected
1457	Silver Maple	*Acer saccharinum*	150	85	Good	Good	5.4	1	Three stemmed	Protected
1458	Silver maple	*Acer saccharinum*	160	70	Good	Good	4.2	1	Healthy	Remove
1459	Norway	*Picea abies*	93	45	Good	Good	3	1	Healthy	Remove

Tag #	Species	Latin Name	Base (cm)	DBH (cm)	Health	Structure	TPZ (m)	Category	Assessment	Comments
	spruce									
1460	Norway Spruce	*Picea abies*	52	24	Fair	Fair	1.2	1	Deadwood throughout crown.	Remove
1461	Norway maple	*Acer platanoides*	105	50	Good	Good	3	1	Slightly sparse crown.	Remove
1462	Ash	*Fraxinus spp.*	31	23	Fair	Fair	1.2	1	Mechanical damage at main stem. EAB.	Protected
1463	Cedar	*Thuja occidentalis*	20	12	Fair	Good	1.2	1	Sparse canopy.	Protected
1464	Norway Spruce	*Picea abies*	44	22	Fair	Good	1.2	1	Poor crown ratio	Protected
1465	Norway Spruce	*Picea abies*	93	41	Fair	Good	3	1	Poor crown ratio	Injury
1466	Cedar	*Thuja occidentalis*	40	21	Fair	Fair	1.2	1	very sparse crown	Protected
1467	Honey Locust	*Gleditsia triacanthos*	95	49	Good	Good	3	1	Low deadwood	Injury
1468	Honey Locust	*Gleditsia triacanthos*	75	36	Good	Good	2.4	1	Deadwood throughout	Protected
1469	Honey Locust	*Gleditsia triacanthos*	103	49	Good	Good	3	1	Low deadwood	Injury
1470	Honey Locust	*Gleditsia triacanthos*	73	28,21	Good	Good	3	2	Low deadwood. Codominant.	Protected
1471	Norway Spruce	*Picea abies*	125	47	Good	Good	3	1	Healthy	Protected
1471A	Austrian Pine	*Pinus nigra*	78	41	Good	Good	3	2	Healthy	Protected
1471B	Austrian Pine	*Pinus nigra*	82	39.5	Fair	Good	2.4	2	Sparse canopy. Low deadwood.	Protected
1471C	Norway Spruce	*Picea abies*	50	31.5	Good	Good	2.4	2	Healthy	Protected

Category #: 0. Tree NOT regulated under City of Vaughan Tree by-laws
1. Trees with diameter at breast height (DBH) or basal diameters of 20cm or more, situated on private property on the subject site.
2. Trees with diameter at breast height (DBH) or basal diameters s of 20cm or more, on private property, within 6m of subject site.
3. Trees of all diameters situated on City owned parkland within 6m of subject site.
4. Trees of all diameters situated within the City road allowance adjacent to the subject site.
5. Trees of all diameters situated within the City road allowance adjacent a neighbouring property.

DISCUSSION

Please refer to "Recommendations" section for further details on tree preservation and how to conduct work within a Tree Protection Zone (TPZ).

Removals - The following trees will require a **permit to remove** as they either fall within the footprint of the proposed dwelling, driveway, septic bed, retaining wall feature, or are located within the anticipated overdig: 1391, 1379, 1384, 1373, 1357, 1364, 1355, 1375, 1380, 1458, 1459, 1460, 1461

- **Tree Removal Cost - to remove all proposed permit sized trees (**1391, 1379, 1384, 1373, 1357, 1364, 1355, 1375, 1380, 1458, 1459, 1460, 1461) is **$25,550.00** The is a quote for the removal of brush and wood off site, only. The quote does not include pruning or stump removal. This is a working budget, limited to annual quarterly price adjustment models, and the quoted tree removal cost is subject to change within a three-month period as of January 21, 2020. HST is not included.

Injuries - The following trees will require a **permit to injure** because their Tree Protection Zone (TPZ) overlap with the proposed driveway/septic bed, or the removal of the existing driveway: 1356, 1345, 1361, 1469, 1342, 1385, 1467, 1465

Tree to be Retained as Habitat – The following trees; 1375A, 1365, 1382, 1394, 1354, 1409, 1406, 1417, 1416, 1418, 1420, 1421, 1442, 1377, 1346 are Ash specie (Fraxinus spp.) with conditions ranging from almost dead to dead. These trees **require no further action or comment**.

Neighbor consent - Shared boundaries tree(s) which **require a letter of consent prior to injury or removal**, are: 1361(injury), 1342(injury), 1384(remove), 1357(remove)

Root exploratory - Tree 1356 is a city owned tree growing within the city road allowance. The septic bed's encroachment is within 33% of this tree's TPZ. Since this is a city owned tree the **feasibility of this level of encroachment shall be evaluated by performing a root exploratory**. If the root loss is considered to much for the tree to survive well, an addendum to this report shall be submitted to the City of Vaughan, changing the permit status of this tree from an injury to a removal. To assess the impact of the proposed work, the following must be adhered:

1.Root exploration is to be conducted by an Arborist or under the supervision of an arborist **prior to the start of construction** as per "Recommendations for Excavation within a TPZ" detailed below with the additional caveat:

a. If significant root(s) measuring a minimum diameter of 5cm or if dense root mat is encountered, the septic bed must either be altered to accommodate the tree, OR the tree will need to be proposed for removal with required permit and replacement planting.

Arborist supervision – Tree(s) that require Arborist supervision while excavating within their TPZ are: 1345, 1342, 1361, 1385, 1469, 1467, 1465

1. Excavation is to be completed under arborist supervision as per "Recommendations for Excavation within a TPZ" detailed below, along with the following caveats:

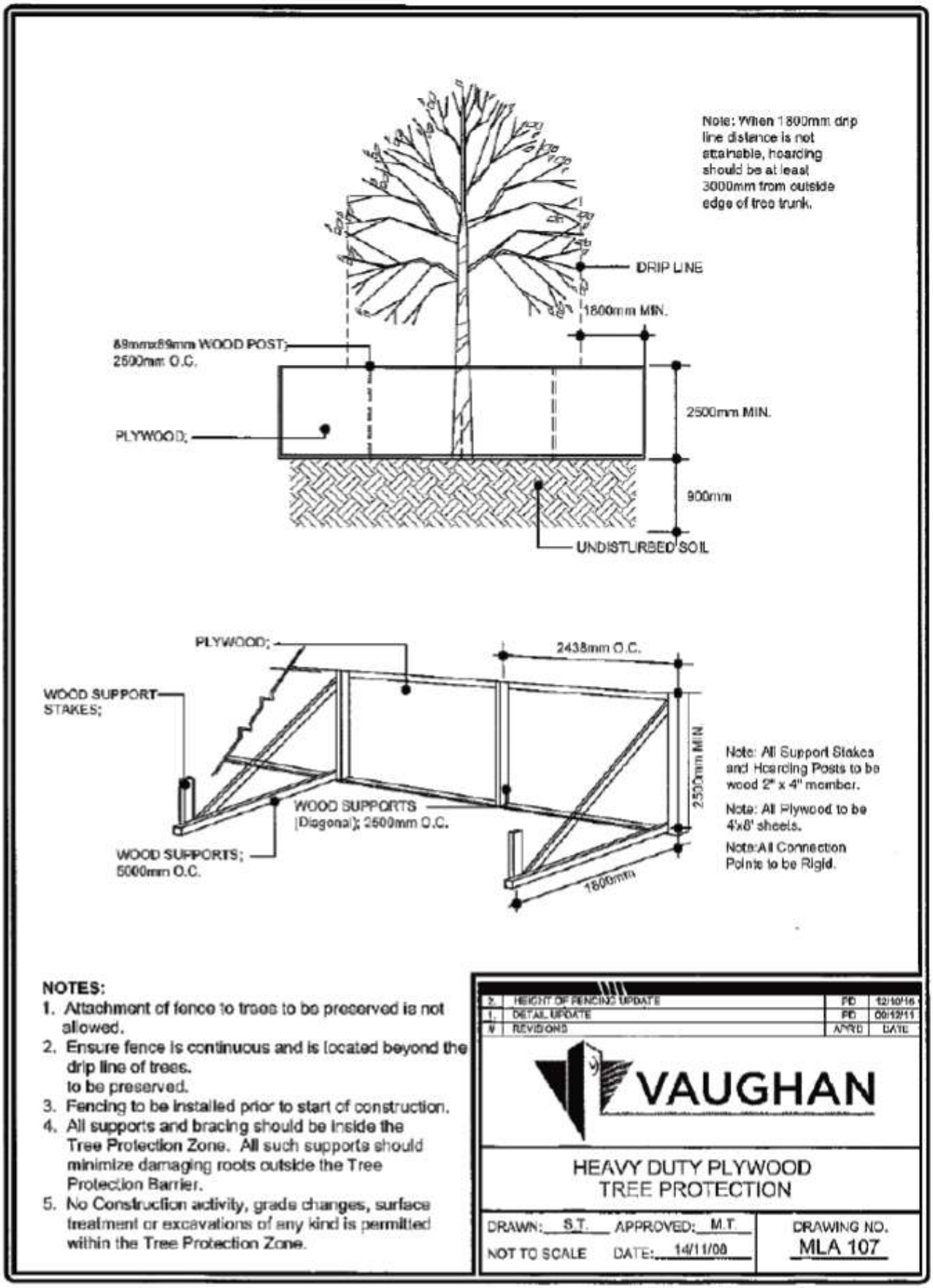
   a. If significant roots measuring a minimum diameter of 5cm or a root mat is encountered, roots shall be pruned in accordance with proper arboricultural practices.

   b. If multiple roots measuring a minimum of 5 cm or dense root mat is encountered all work shall stop. Once work has stopped the level of encroachment must either be altered to accommodate significant root mass, OR the tree will need to be proposed for removal with the associated permit to remove and replacement planting.

   c. If no significant roots or root mat are encountered, the work can proceed as originally proposed

RECOMMENDATIONS

Recommendations for Hoarding



NOTES:

1. Attachment of fence to trees to be preserved is not allowed.
2. Ensure fence is continuous and is located beyond the drip line of trees. to be preserved.
3. Fencing to be installed prior to start of construction.
4. All supports and bracing should be inside the Tree Protection Zone. All such supports should minimize damaging roots outside the Tree Protection Barrier.
5. No Construction activity, grade changes, surface treatment or excavations of any kind is permitted within the Tree Protection Zone.

2.	HEIGHT OF FENCING UPDATE	PD	12/10/16
1.	DETAIL UPDATE	PD	09/12/11
N	REVISIONS	APPD	DATE

VAUGHAN

HEAVY DUTY PLYWOOD
TREE PROTECTION

DRAWN: S.T. APPROVED: M.T.
NOT TO SCALE DATE: 14/11/08

DRAWING NO.
MLA 107

Hoarding must be installed by a qualified contractor and put in place as accurately as possible using the scale plan as the reference. It must conform to the recommendation put forth by the City of Vaughan and recommendations within this report. All the protective fencing must be maintained throughout the construction project and its removal must be approved by the Forestry planner. All hoarding must be installed before demolition or construction commences and approved by the Forestry planner.

The TPZ is established on construction sites to help protect the trees from

- Alteration of existing grades
- Changes in grade by excavating and scraping
- Movement of construction vehicles and people
- Disposal of foreign materials
- Storage of waste of construction materials

The tree protection barriers can be constructed from:

- 4ft. high plywood hoarding that can be lowered around limbs, with the supports on the outside
- 4ft. high orange plastic snow fence on a 2”X 4” frame work, this is recommended were visibility is an issue This is recommended for city trees
- If fill or excavates are going to be placed near the plastic fence a plywood barrier must be used to stop these materials from entering the TPZ.
- For more information on the construction of a tree protection zone please see the City of Vaughan’s forestry’s web site and go to By-laws and Policies.

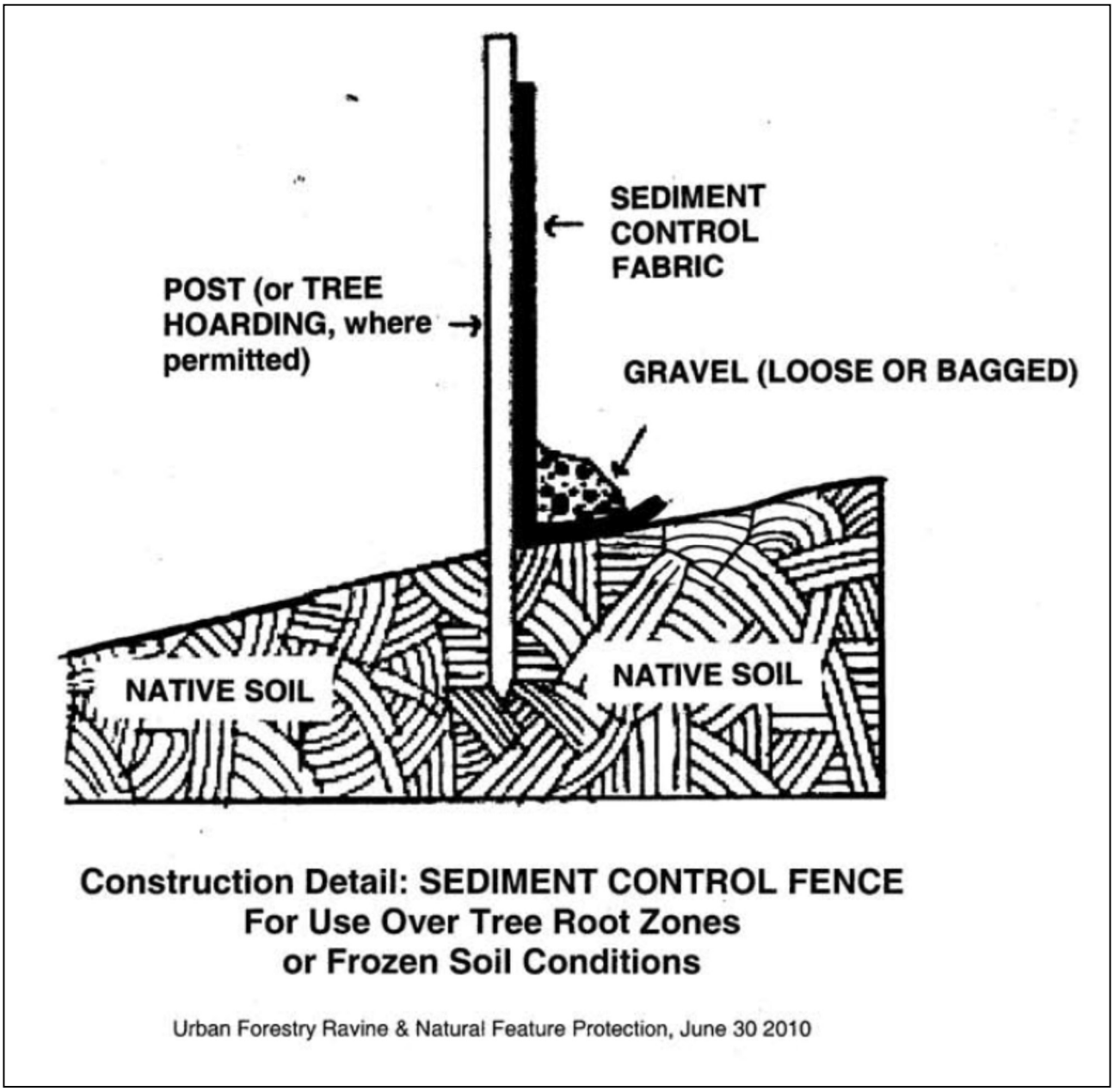
Tree protection signage:

- This sign will be mounted on each TPZ, and should be a minimum of 40cm x 60cm and made on white gator board. The sign must say in bold letters as a heading: Tree Protection Zone (TPZ) the rest of the text is as follows: No grade changes, storage of materials or equipment is permitted within this TPZ. Tree protection barriers must not be removed without written authorization of the City of Vaughan, Forestry Department. For info call Forestry Department at (905) 832-8577 or the project consultant at 647-500-9669.

Implementation of protection:

- All TPZ must be erected before any type of construction commences on the subject site.
- Before construction begins the TPZ must be inspected by city forestry staff and the consulting arborist.
- Before any digging commences around a tree subject to injury by permit, the consulting arborist must be informed.
- To dig near a tree subject to injury by permit the consulting arborist must be on site to supervise the excavation.
- Hoarding cannot be removed until all construction is finished

Recommendations for Erosion and Sediment Control (ESC) Barrier



The following Erosion and Sediment Control (ESC) barrier recommendations must be followed to minimize the loss silt and is a require site control feature by the TRCA. Hoarding, hoarding + ESC and stand-alone ESC must be installed by a qualified contractor and put in place as accurately as possible using the scale plan as the reference. Please see TPP for the location to install the required hoarding, hoarding + ESC and stand-alone ESC. It must conform to the recommendation put forth by the City of Vaughan and recommendations within this report. All the protective fencing must be maintained throughout the construction project and its removal must be approved by the Forestry planner. All hoarding must be installed before demolition or construction commences and approved by the Forestry planner.

Tree Protection Cost, includes and is limited to:

- Cost of materials; Plywood, 2X4 lumber, Orange construction fence, ESC barrier, gravel bags and fasteners.
- The cost related to the construction and installation of 176 meters of plywood hoarding with ESC barrier attached at the bottom, 33 meters of snow fencing (without ESC) and 41.5 meters of ESC. The 41.5 meter of ESC shall be attached to the existing tennis court fence.
- This cost ensures that the TPZ hoarding is constructed in the correct location, outlined in the Tree Protection Plan (TPP).

- This is a working budget, limited to annual quarterly price adjustment models, and the quoted tree compensation cost is subject to change within a three-month period as of January 21, 2020. HST is not included.
- Once hoarding has been installed as per the TPP and arborist report to the satisfaction and approval of the Forestry Planner, we are not responsible for maintaining the hoarding throughout the duration of the construction project. Any additional visits to maintain or fix damaged hoarding will be billed at an additional cost.

The total Tree Protection Cost, is $18,700 + HST

Recommendations for Exploratory Excavation

The following recommendations must be followed to minimize the damage to the tree:

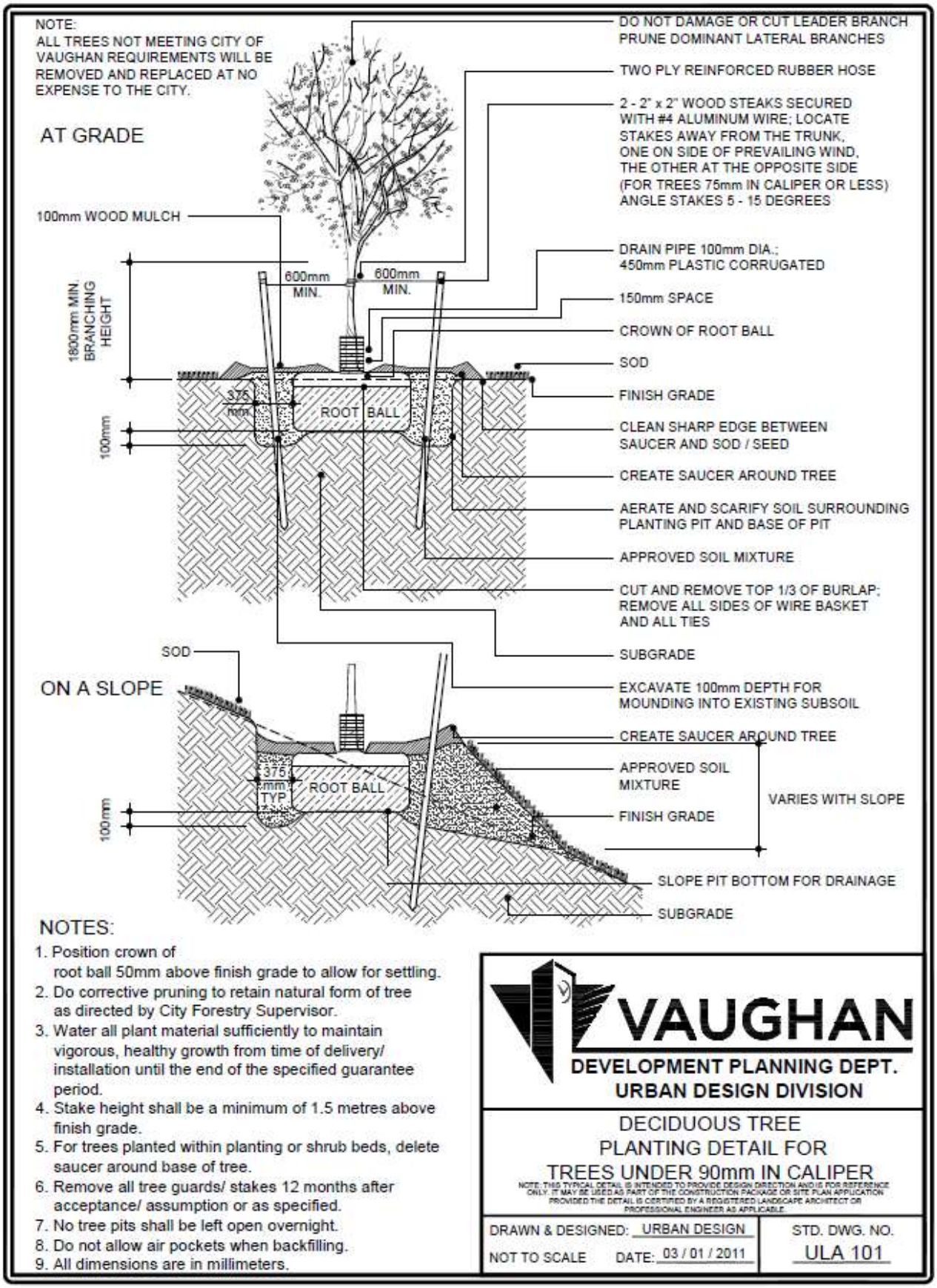
- A qualified arborist must be on site for the complete duration of each excavation. It is the arborist's duty to instruct the laborers and minimize damage to the tree.
- The arborist is also responsible for all root pruning, and to promote 'working around' roots whenever possible.
- Roots within the proposed work area shall first be exposed prior any root pruning is to take place
- All root pruning is to be conducted to proper arboricultural standards with sharp, sanitized tools and exposed roots to be recovered with parent soil
- All excavation/digging is to be done by hand or air spade to the required depth of the proposed work
- If roots measuring a minimum of 5cm in diameter or if a large mass of roots are found, the impact of the proposed work shall be evaluated with Urban Forestry, and the structures must be moved away from the affected trees until a tolerable level of impact is found
- All excavation within the minimum TPZ of a protected tree is to be documented; a report of the findings should then be submitted to Urban Forestry

Recommendations for Remedial Care

Prior to the start of construction, all trees slated for preservation located within the work area are to receive a deep root fertilization treatment to prepare the trees for the impact of the proposed work. Stela Maris®, a seaweed-based extract, is recommended to be used to help improve overall plant health, improve root growth and development, improve plant vigor, and to help trees overcome periods of stress.

To aid in the affected trees' recovery, the subject trees should be consistently watered enough to have the soil kept moist, but not wet, as too much water can suffocate the root system and cause anaerobic conditions.

REPLACEMENT PLANTING



NOTES:

1. Position crown of root ball 50mm above finish grade to allow for settling.
2. Do corrective pruning to retain natural form of tree as directed by City Forestry Supervisor.
3. Water all plant material sufficiently to maintain vigorous, healthy growth from time of delivery/ installation until the end of the specified guarantee period.
4. Stake height shall be a minimum of 1.5 metres above finish grade.
5. For trees planted within planting or shrub beds, delete saucer around base of tree.
6. Remove all tree guards/ stakes 12 months after acceptance/ assumption or as specified.
7. No tree pits shall be left open overnight.
8. Do not allow air pockets when backfilling.
9. All dimensions are in millimeters.

VAUGHAN

DEVELOPMENT PLANNING DEPT.
URBAN DESIGN DIVISION

DECIDUOUS TREE
PLANTING DETAIL FOR
TREES UNDER 90mm IN CALIPER

NOTE: THIS TYPICAL DETAIL IS INTENDED TO PROVIDE DESIGN DIRECTION AND IS FOR REFERENCE ONLY. IT MAY BE USED AS PART OF THE CONSTRUCTION PACKAGE OR SITE PLAN APPLICATION PROVIDED THE DETAIL IS CERTIFIED BY A REGISTERED LANDSCAPE ARCHITECT OR PROFESSIONAL ENGINEER AS APPLICABLE

DRAWN & DESIGNED: URBAN DESIGN	STD. DWG. NO.
NOT TO SCALE DATE: 03 / 01 / 2011	ULA 101

TREE REPLACEMENT PLAN

The replacement ratio for the Vaughan is as follows:

Tree #	Base Diameter of Tree to be Removed (cm)	Replacement Trees Required	Total Replacements
1384, 1357, 1355,1380	20cm - 30cm	1:1	4
N.A.	31cm - 40cm	1:2	-
1379	41 – 50cm	1:3	3
1458, 1391, 1373, 1364, 1375, 1459, 1460, 1461	Diameter over 50cm	1:4	32
		Total Replacements Required:	**39**

* denotes a city-owned tree with a basal diameter under 20cm in diameter. It has been assumed that a 1:1 replacement ratio will be required for city-owned trees.

The following trees are the proposed replacement trees and specie type, chosen from the City of Vaughan approved replacement tree species list**. Please refer to the planting plan, Landscape Site Plan produced by FOSSIL LANDSCAPES for the replacement tree locations.**

Quantity	Size	Common Name	Botanical Name
9	50mm Caliper	Sugar Maple	*Acer sacchurum*
6	50mm Caliper	Blue Beech	*Carpinus caroliniana*
6	50mm Caliper	Red Oak	*Quercus palustris*
6	50mm Caliper	Basswood	*TIlia american*
6	200cm Tall	White Spruce	*Picea glauca*
6	200cm Tall	White Pine	*Pinus strobus*

All 39-replacement trees shall be planted on site. Please see the landscape site plan produced by **FOSSIL LANDSCAPES for the replacement tree locations.** If replacement tree(s) are to be planted off site, a cash $550.00 per replacement tree shall be made payable to the Treasurer at the City of Vaughan.

The Tree Compensation Cost includes and is limited to:

- The cost of the above listed plant stock (quantity, specie type and size of the plant material) based of current price listing. Prices per unit were source from Uxbridge Nurseries Ltd., 2020 Catalogue
- Labour cost associated with plant installation on site.
- This is a working budget, limited to annual quarterly price adjustment models, and the quoted tree compensation cost is subject to change within a three-month period as of January 21, 2020. HST is not included.

The total Tree Compensation Cost for the 39 replacement trees to be planted on site, is $29,000 + HST.

Please note that planting stock shall be acquired from a nursery that grows stock from a local seed source and must meet the following specifications:

- Plant Material will be introduced to Environmentally Significant Areas or jurisdiction regulated by the TRCA and therefore must be Native to Southern Ontario, originating from Southern Ontario populations.
- Preference for plant material source is from Ministry of Natural Resources Seed Zone 34 (OMNR 1996) for Toronto Region.
- If plants grown from propagules originating from Zone 34 are not available from any supplier, then zones 37, 32 and 33 will be considered as acceptable secondary sources (zones are listed in order of preference).
- Plant material must be true to name and not be substituted with ornamental cultivars

Watering Guidelines for Newly Planted Trees

To improve the chances of survival for newly planted trees, they must be watered with at least 20 gallons of water at the time of planting. The following guidelines should be followed:

- Irrigate planted trees 2 to 3 times a week for the first two months, and twice a week thereafter until the rainy season. It may be necessary to increase watering intervals during hot and dry weather
- Soil is to be kept moist, not wet, as too much water can suffocate the root system and cause anaerobic conditions
- During the second year, watering should occur on a weekly basis. Water the soil area under the dripline, allowing enough time for the water to penetrate the soil a depth of 6" to 12"
- It may be necessary to make adjustments to the watering frequency and duration depending on soil type, weather, drainage, and tree species

De-Compaction of Soil

If the proposed planting area has been compacted due to construction, the area must be de-compacted prior to planting. The use of radial trenching using a pneumatic air compressor, such as an air spade, may be employed to de-compact the soil. Vertical mulching may be another option that can be used to de-compact the soil. The trenches may then be filled with compost to increase pore space and to compensate for the nutrients that were lost during the construction process.

SUMMARY

The owner of **79 Valleyview Drive** is proposing to demolish the existing dwelling and driveway/hardscape structures. The construction proposal includes a new two-story dwelling, wrap around driveway/hardscape structures, septic bed, rear pool, rear gazebo, rear cabana, rear landscaped garden terraces, perimeter retaining wall feature and grading. The existing rear tennis court with its 3-meter perimeter fence is to remain as is.

To facilitate the proposed work:

	Privately-Owned	Privately-Owned Neighbouring / Boundary Trees	City-Owned Trees
Injury	**4** (1385, 1465, 1467, 1469)	**2** (1342, 1361)	**2** (1356, 1345)
Removal	**11** (1355, 1364, 1373, 1375, 1379, 1380, 1391, 1458, 1459, 1460, 1461)	**2** (1357, 1384)	-
Exemption	-	-	-

Total Tree Removal Cost is $25,550.00 +HST.

Total Tree Compensation Cost for the 39 replacement trees to be planted on site, is $29,000 + HST.

The total Tree Protection Cost is $18,700 + HST. Please see TPP for the where the hoarding is to be installed on site.

The above quotes are a working budget, which is subject to change within a three-month period as of January 21, 2020.

If there are questions or concerns regarding the contents of this report, please contact me at wesley@centraltreecare.com.

Thank you,

c/o Wesley Sutherland ON-2149A
Mike Spencley ON-1379A
Central Tree Care Ltd.

CERTIFIED ARBORIST ISA
ON-1379A

SITE PHOTOS

Photo 1 – Facing south

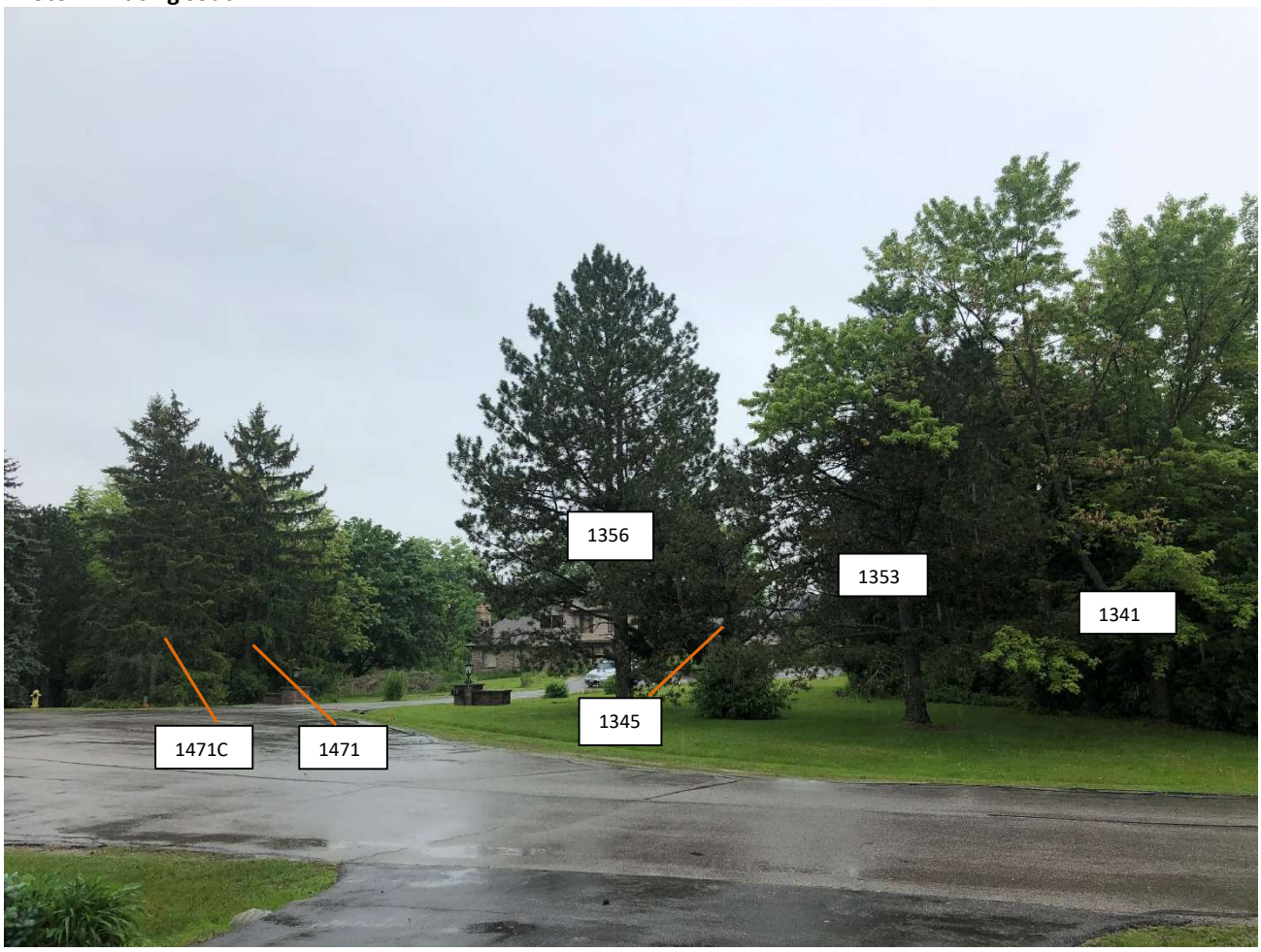


Photo 2 – Facing south-east

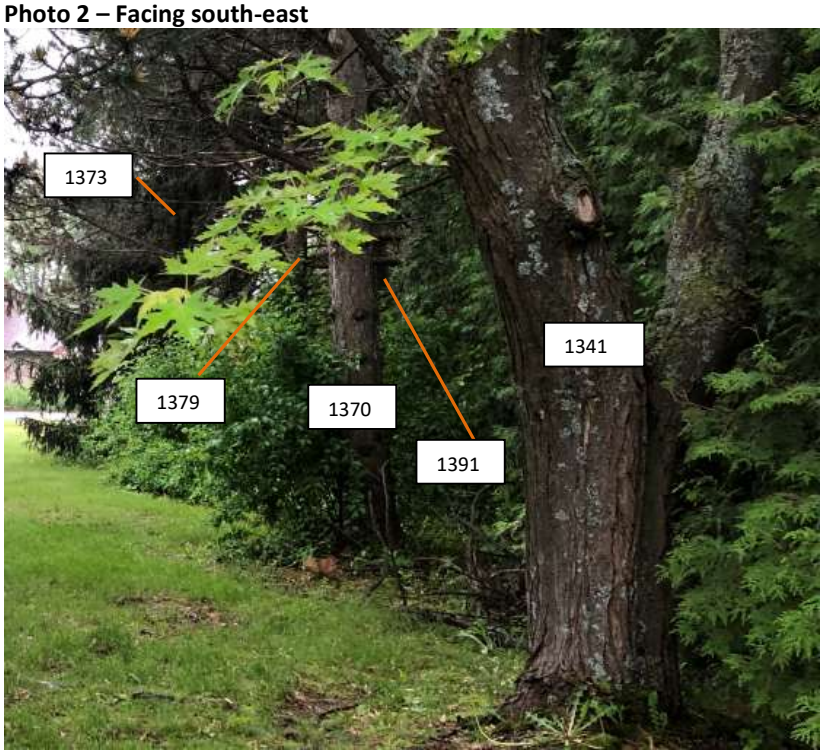


Photo 3 – Facing north-west

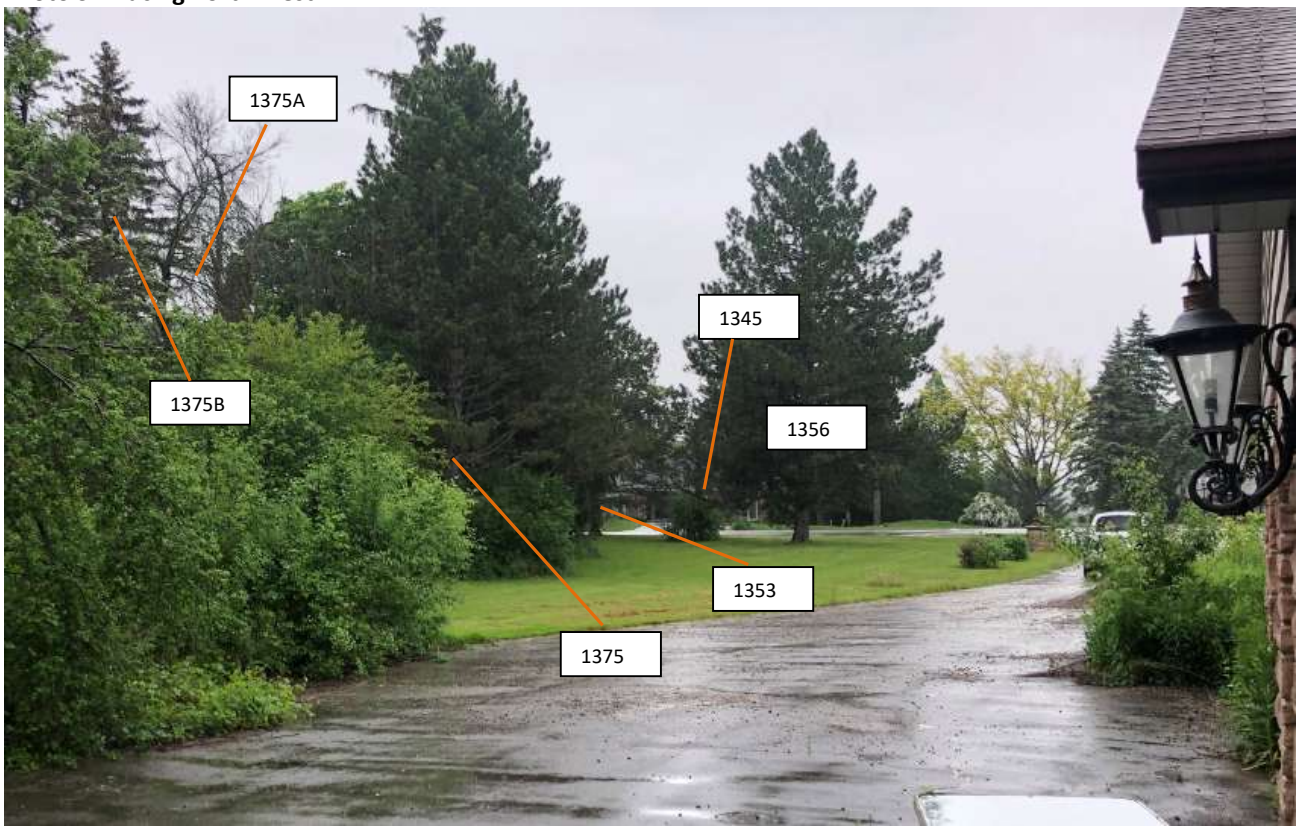


Photo 4 – Facing south-east

Photo 5 – Facing west

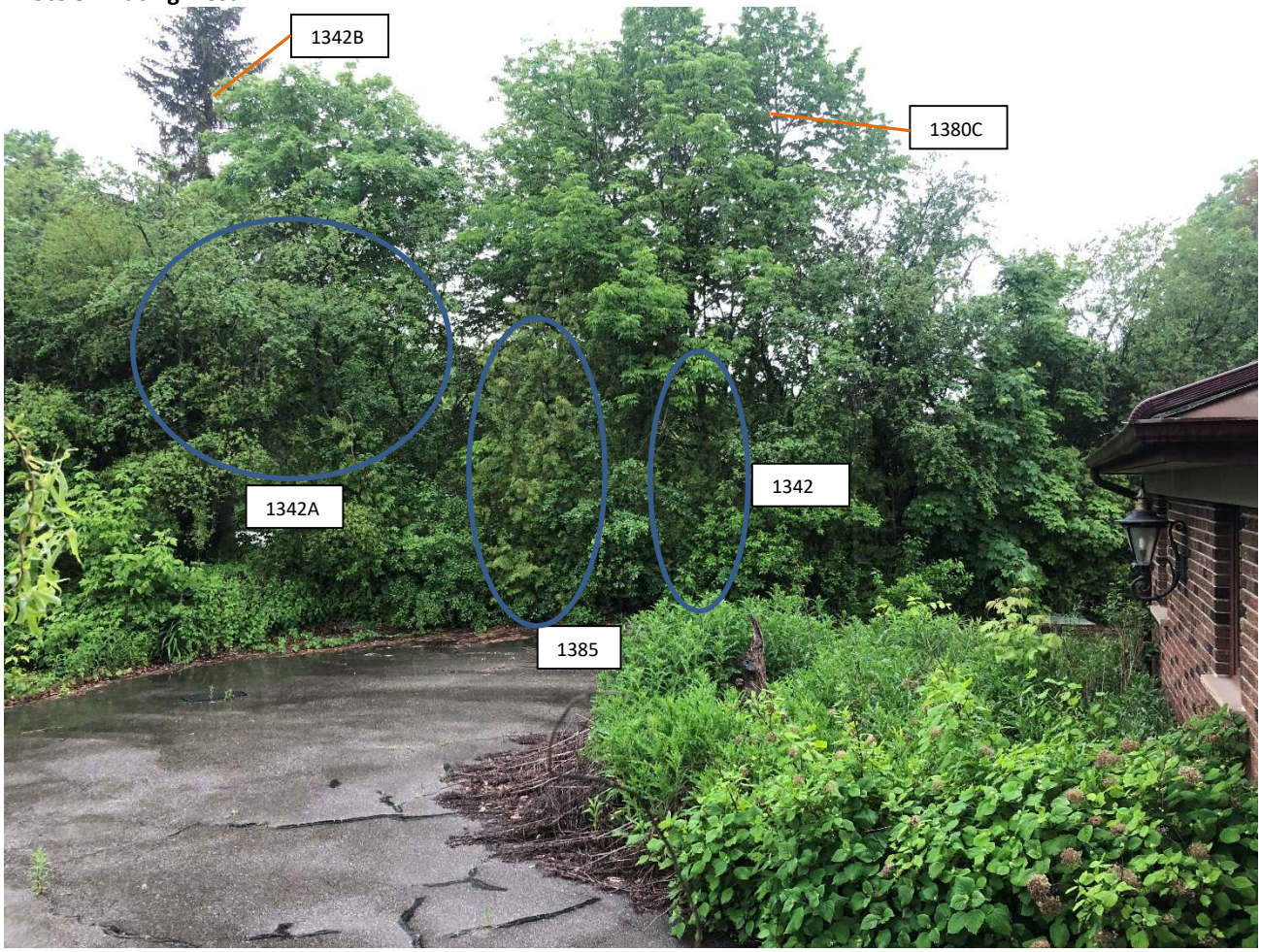


Photo 6 – Facing south

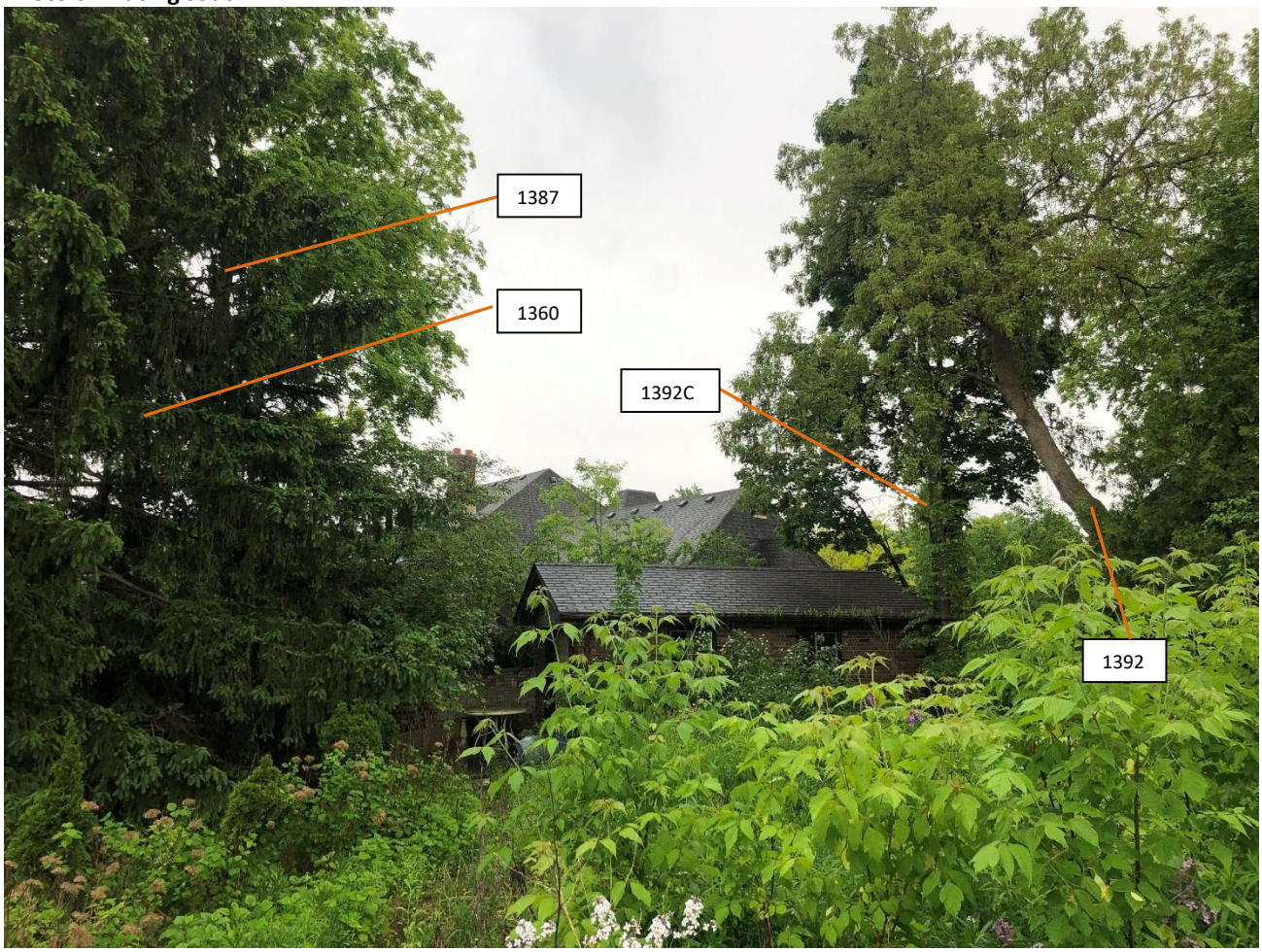


Photo 7 – Facing north-east

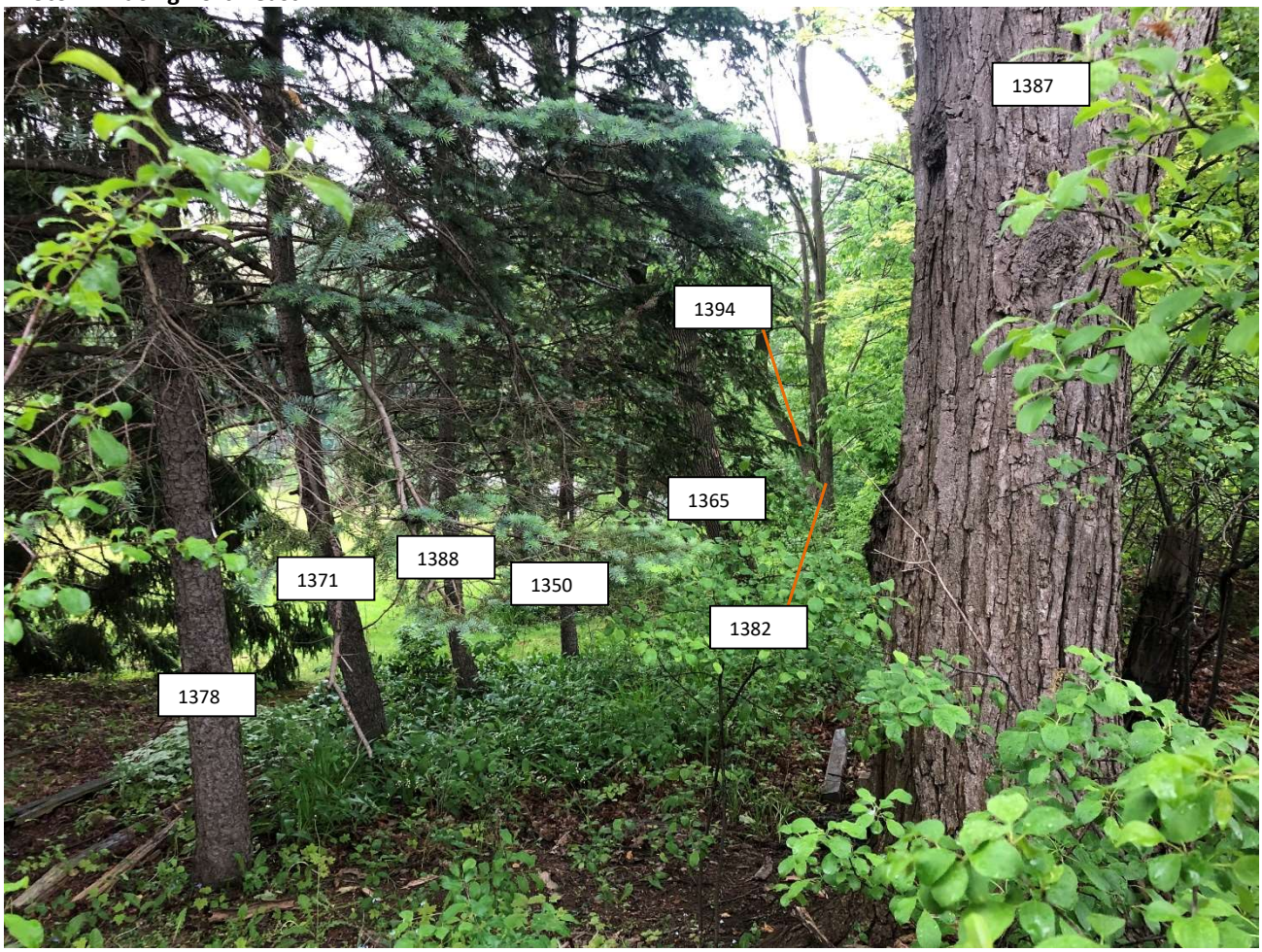


Photo 8 – Facing east

Photo 9 – Facing north-east

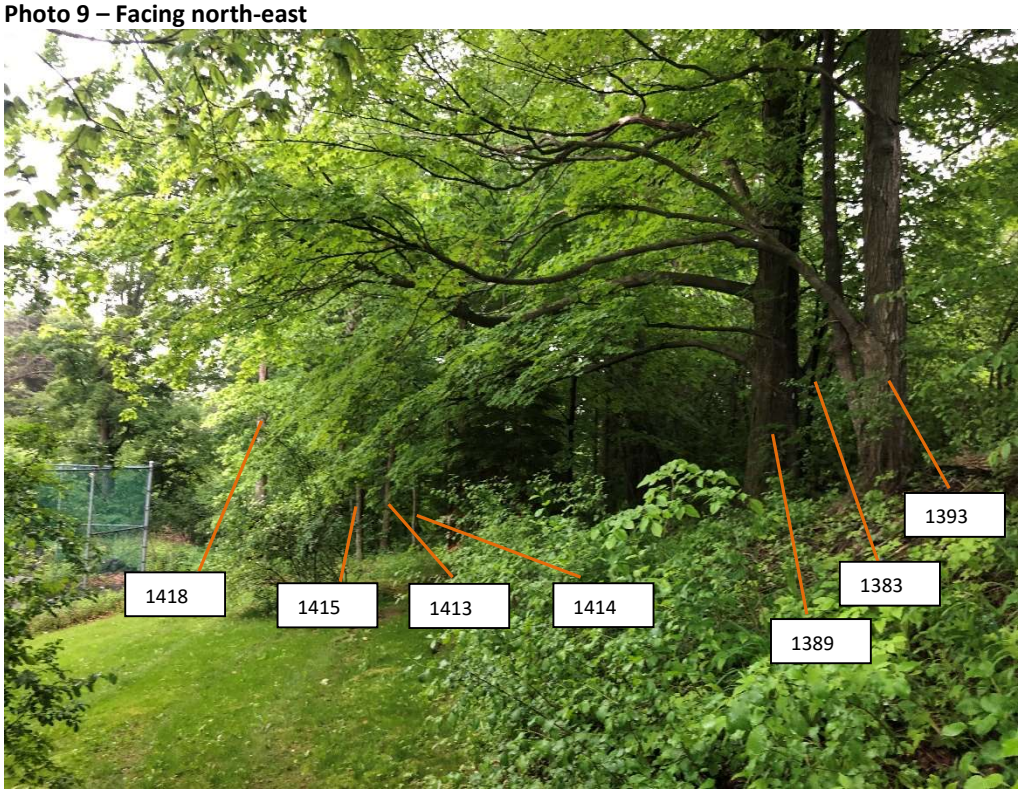


Photo 10 – Facing north

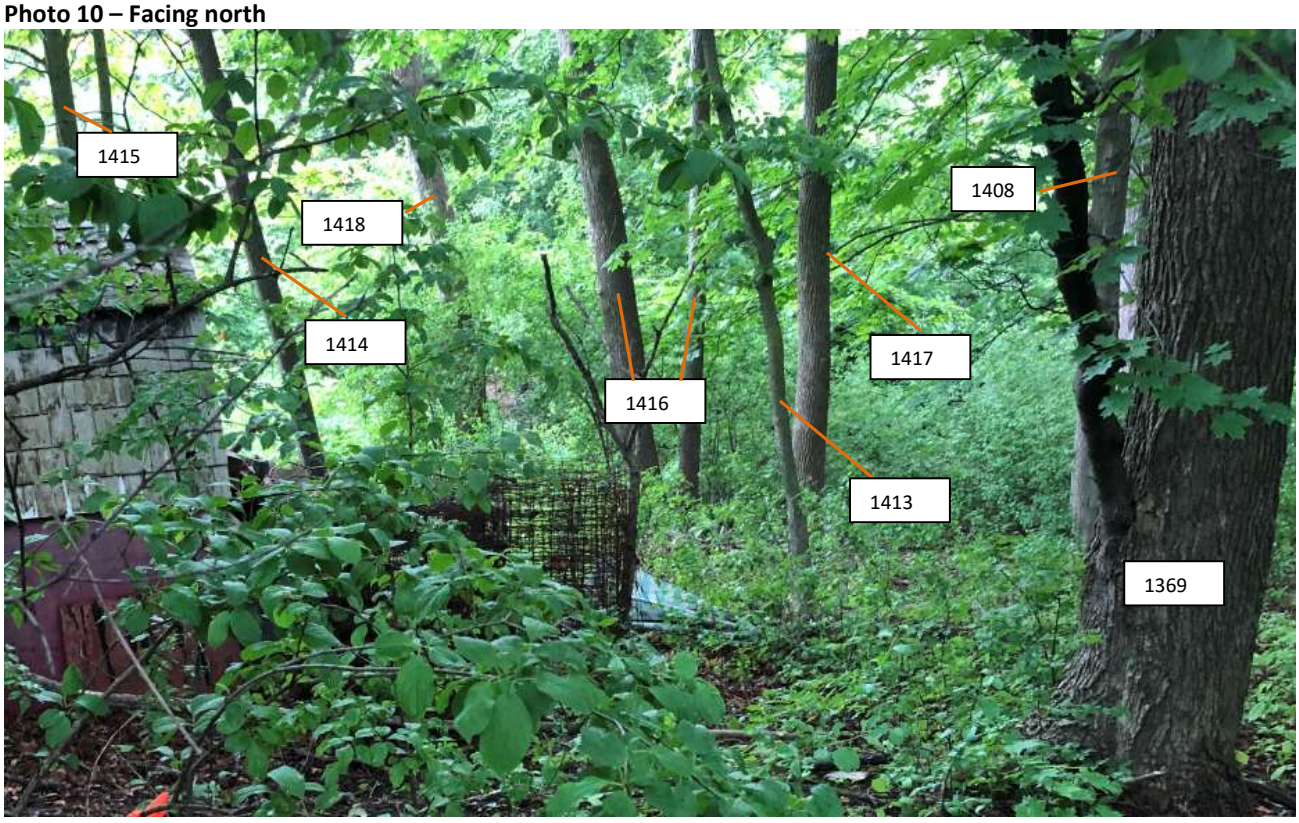


Photo 11 – Facing north

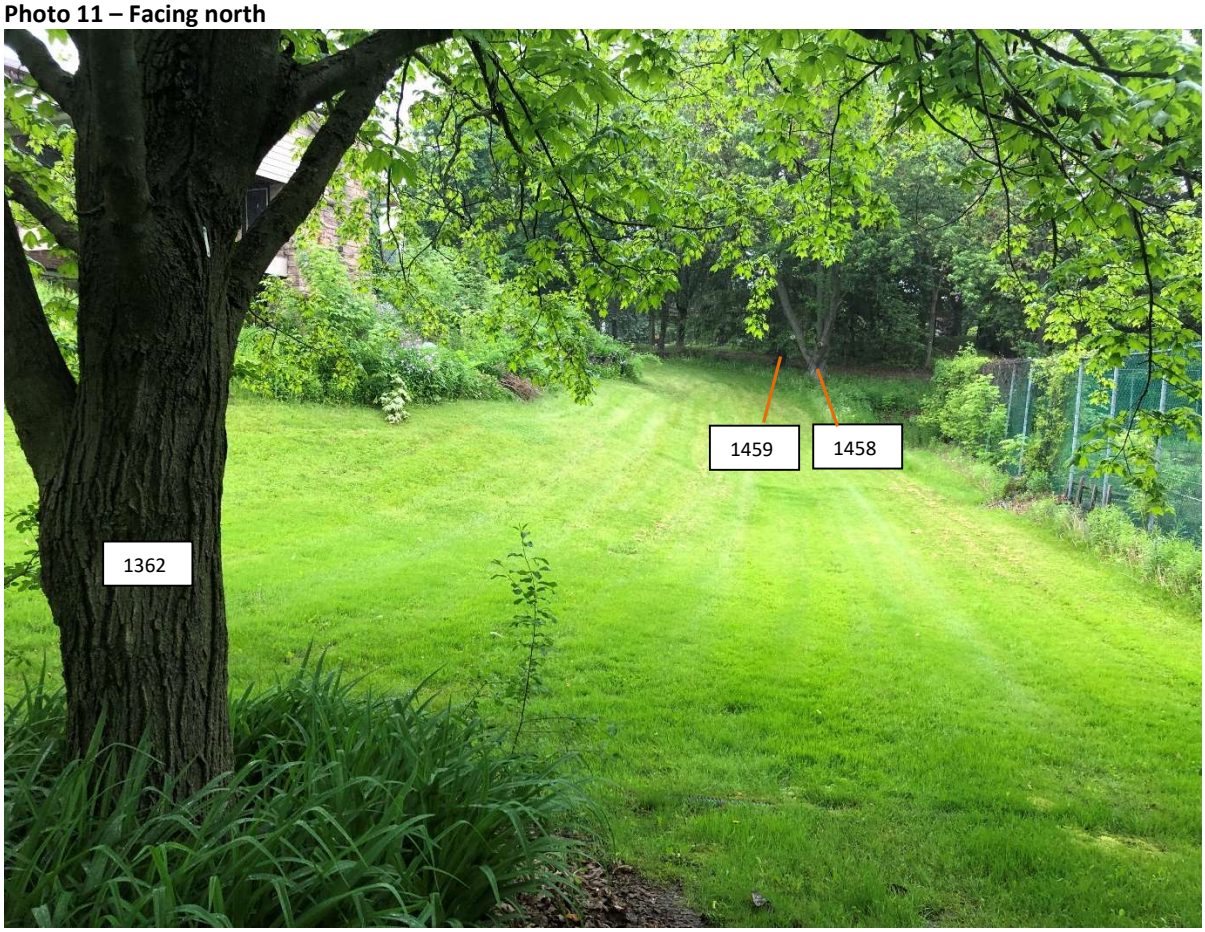


Photo 12 – Facing south

Photo 13 – Facing east

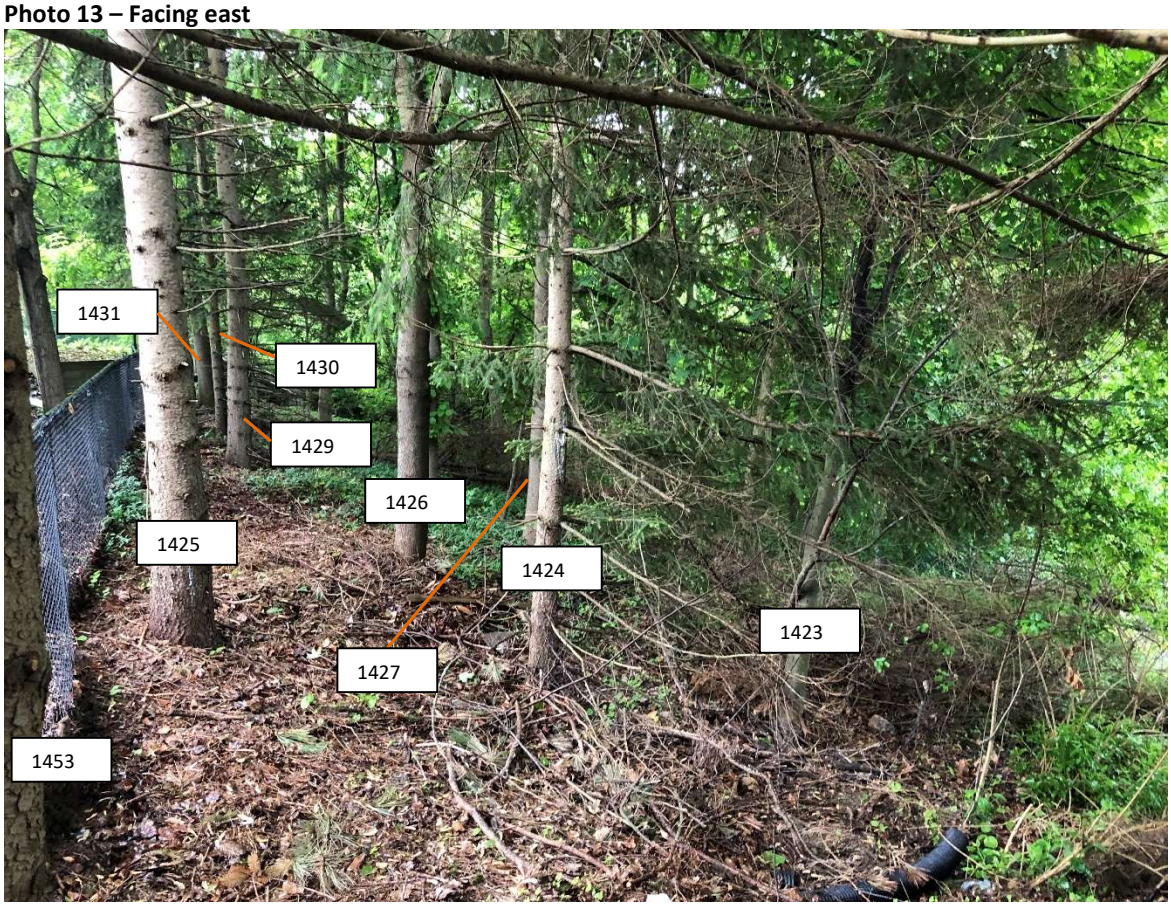


Photo 14 – Facing south

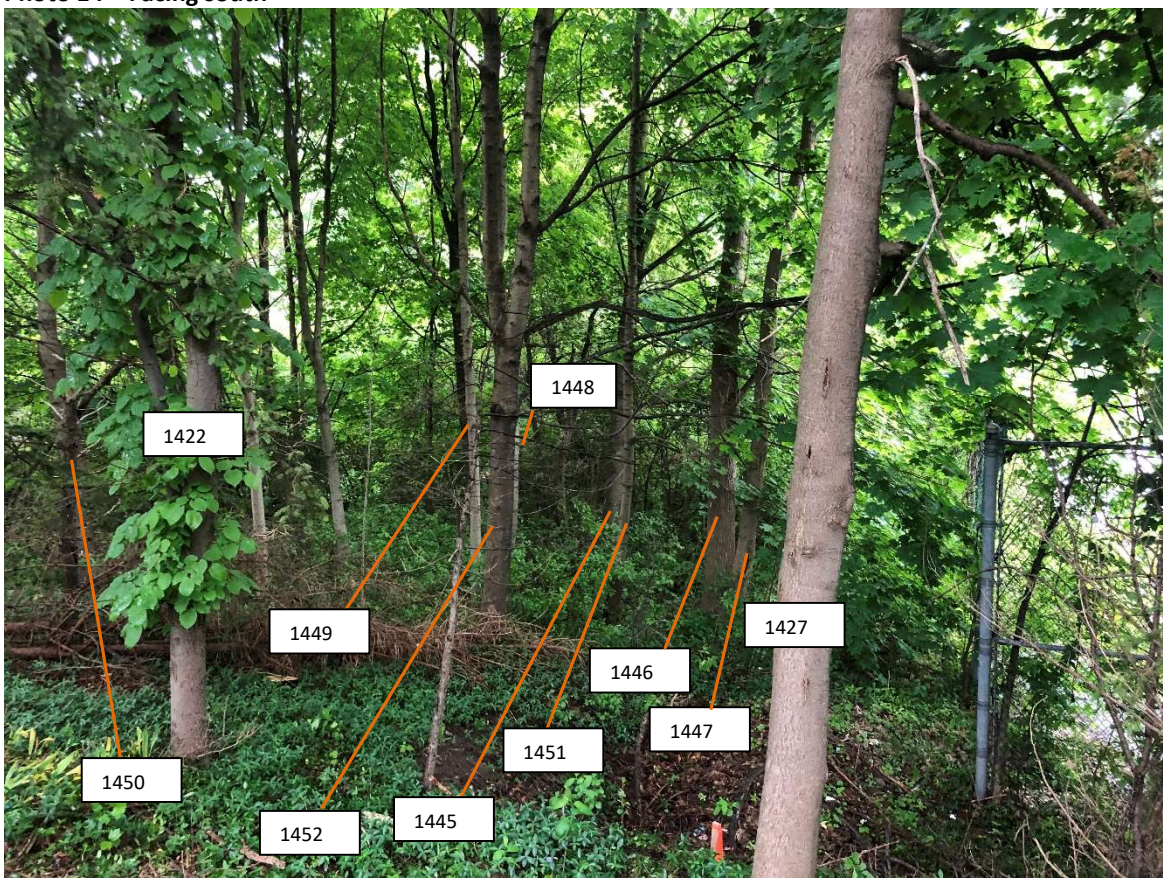


Photo 15 – Facing south

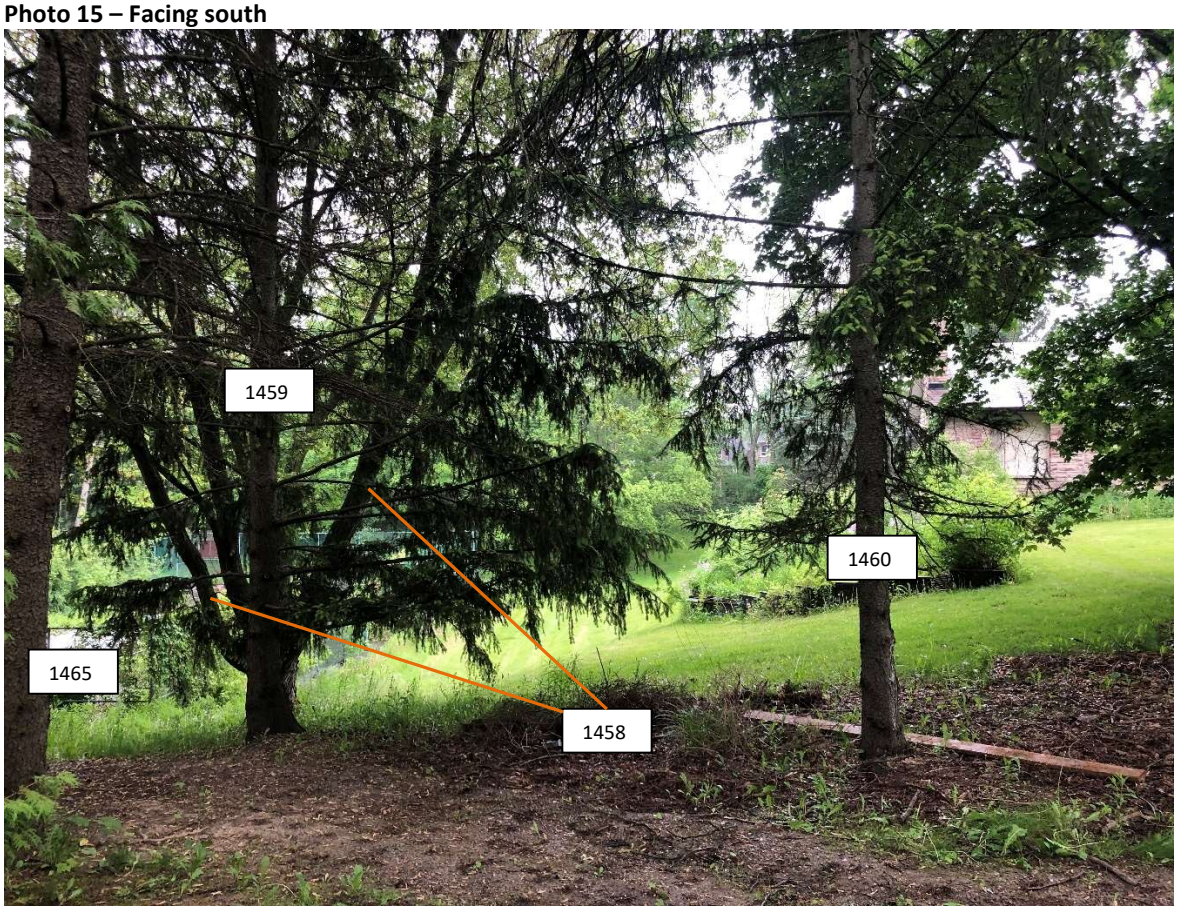


Photo 16 – Facing east

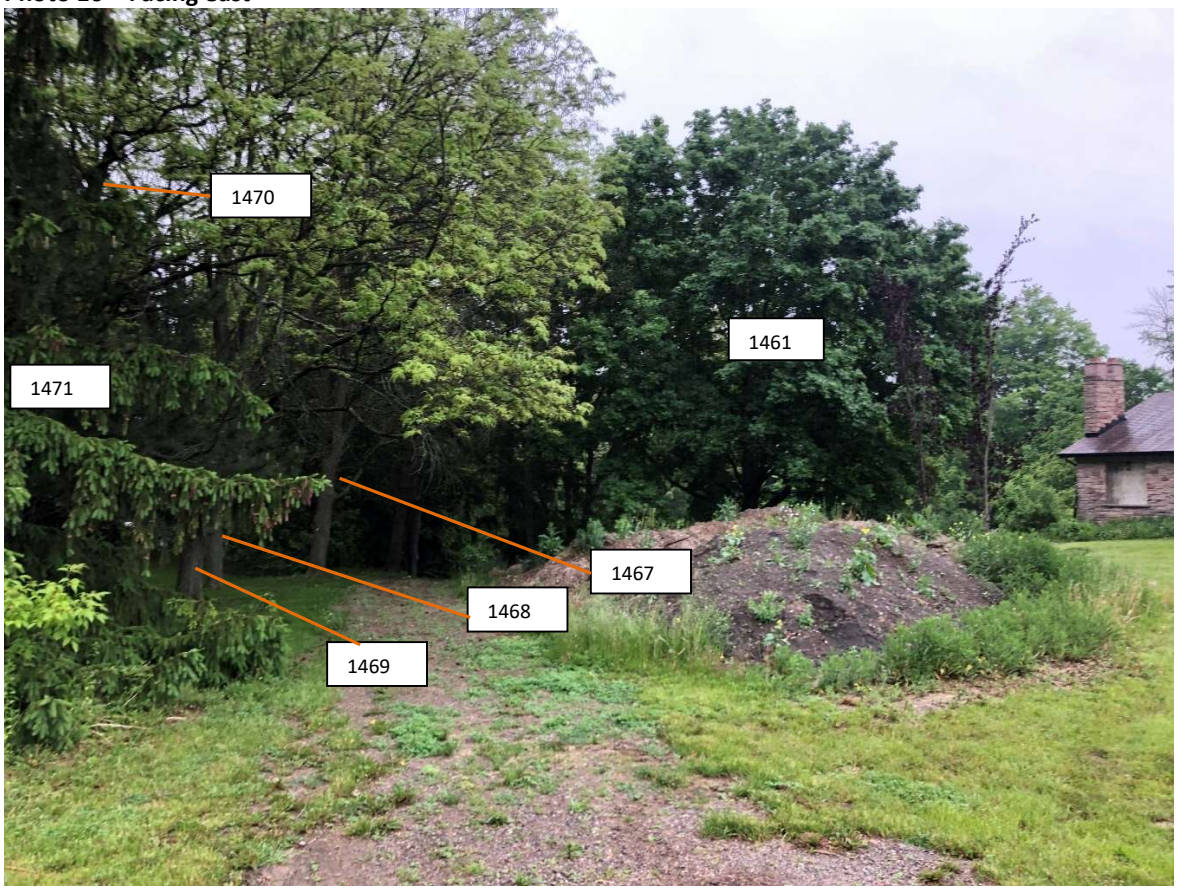


Photo 17 – Facing north-east