COHEN & MASTER™

TREE AND SHRUB SERVICES

ARBORIST REPORT
&
TREE PROTECTION PLAN

39 PINE STREET

Port Hope, ON,
L1A 3G5

Date: July 2, 2024

Cohen and Master Tree and Shrub Services Ltd.
42 Guardsman Road
Thornhill, Ontario, L3T 6L4
416-932-0622

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Introduction

Cohen & Master Tree and Shrub Services was retained by Mr. Janus Hsu on behalf of Globe Cambridge High School, in May 2024 to complete an arborist report and Tree Protection Plan for 39 Pine St., Port Hope. The report was requested relative to the construction of a new student dormitory on the property.

The purpose of this report is to:

- Establish species, size and condition of trees located on the subject site and adjacent to the site that may be affected by the proposed work.
- Provide a prescription for trees to be protected during the project and identifying trees proposed for removal.
- Provide a Tree Protection Plan showing the location of tree protection measures and protection notes based on the design.

Key Item

As a result of the proposed design, the following inventoried trees will be affected,

Action	Tree #	Ownership	Total
Injure	3, 4, 5, 6	Subject site	4
	11, 36-50, 54, 55, 57, 59	Neighbouring	20
Remove	56, 58, 60	Subject site	3
	12 (dead), 13 (dead), 14-18, 20-33	Neighbouring or Boundary	21

Trees were identified for removal in this report, as they are located within the footprint of proposed excavation, such that the expected damage the tree's root system is likely to impact the stability of the tree or the long-term survival. Trees were identified for injury in this report, based on proposed activities within the Tree Protection Zone of the tree. Details on the proposed impacts to individual trees are provided in the Tree Inventory (Appendix II). For trees proposed for injury, a prescription to minimize damage to the tree is provided on the Tree Protection Plan (Appendix III). Measures outlined to minimize damage to trees include root sensitive excavation, arborist supervision, tree protection barriers and an assessment of root pruning.

Method

1. The subject site was assessed by Shree Gautam, ISA Certified arborist with Cohen & Master on March 25, 2024.

2. Photos were taken at the time and the most representative are attached as Appendix I.

3. Trees were assessed as per Port Hope's Tree Planting & Protection Policy (Mar. 16, 2021).

4. Trees 10 cm diameter at breast height and greater located on the subject site and within 6 meters of the subject site were included in the tree inventory.

5. Trunk diameter was measured using a calibrated diameter tape. The measurement was taken at 1.37 meters above ground level, generally referred to as the diameter at breast height (DBH). Trees located on adjacent private property were viewed from the subject site and DBH was estimated.

6. Trees were assessed by external visual inspection from the ground and assigned a condition rating ranging from good to poor in consideration of biological and structural condition.

7. At this time, the municipality of Port Hope does not have guidelines for acceptable distances of protection during construction, therefore, the construction guidelines, including minimum Tree Protection Zones (TPZ) prescribed by the City of Toronto were used for this report.

8. The tree inventory is attached as Appendix II.

9. Cohen & Master prepared a Tree Protection Plan by adding tree protection comments to a Grading Plan prepared by WPE dated Apr. 12, 2024, and survey information prepared by Elliott and Parr dated Jun. 24, 2024. Reference was made to Servicing Plans prepared by WPE dated Apr. 12, 2024, and a site plan prepared by Wang Architects Inc. provided Apr. 11, 2024. The Tree Protection Plan is found in Appendix III.

10. Limitations of the assessment applicable to this report are described in Appendix IV.

Tree Inventory

See Appendix II.

Tree Protection Prescription

Tree Regulations

Municipal Authorization

The municipality of Port Hope requires authorization for the injury or removal of private trees associated with a Development Application, through issuance of a Certificate of Compliance, as per By-law No. 75/2-21. Tree planting and protection on municipal boulevards is directed through the municipality's Tree Planting & Protection Policy (2021).

Ontario Endangered Species Act

Tree 51 and Tree 59 are identified as butternut trees (*Juglans nigra*). Butternut trees are listed under the E*ndangered Species Act, 2007* (ESA) as an endangered species. It is an offence under the ESA to kill, harm, or take a live butternut tree. It is also an offence to possess, transport, collect, buy, or sell butternut, or products made from a butternut tree. Exemptions can be made under the ESA for particular actions. An authorization (a permit or agreement) or a conditional exemption under Ontario Regulation 242/08 or 830/21 may be obtained for certain activities that may harm or removal butternut trees.

On this site, there are no proposed impacts to Tree 51. The existing retaining wall north of Tree 59 is to be removed and the site is to be graded to meet the municipal sidewalk. Tree 59 is exhibiting symptoms of severe butternut canker disease. The owner has been made aware of the Provincial regulation of butternut. The property owner is aware of the Provinicial requirements and any further actions regarding butternut regulation is beyond the scope of this report.

Summary of Tree Impacts

The project design involves construction of a new dormitory building within the footprint of the existing rear playground area of the school. To service the building, sanitary, storm sewer and watermain lines are proposed to serve the new building, as well as associated grading and drainage. The site slopes from west to east, with existing retaining walls around the perimeter

of the property. The existing retaining wall offset from the west side of the property is to be demolished and a new retaining wall is to be installed along the west property line.

To facilitate the design, the following actions to trees are proposed,

Proposed Action/Tree Number	Action
Injure: 3, 4, 5, 6, 54, 55	To facilitate site servicing (watermain, sanitary and associated asphalt removal and replacement).
Injure: 38, 39, 40 – 50, 57, 59 Remove: 56, 58	To facilitate site drainage and associated grading.
Injure: 36, 37, 11 Remove: 12 (dead), 13 (dead), 14-18, 20-33	Relative to removal of the west retaining wall and new retaining wall along west property line.
Remove: Tree 60	Relative to new driveway/parking area.

Total number of tree injuries: 24
Total number of tree removals: 24

The above proposed actions to trees are to be authorized by the municipality prior to work on the site that may affect trees.

The tree inventory (Appendix II) classifies the ownership of trees as 'boundary' trees if trees if the stem was located by the surveyor to fall on the property line, or if the tree appeared by the arborist to be growing over the property line. A more precise survey of ownership may be required to confirm exact ownership. It is to be noted that any injury to, or removal of, trees located on/over shared property lines ('boundary trees') must be consented to by all owners of the tree, regardless of size or municipal approval. 'Boundary' trees (in which any part of the tree from the ground to the first branch crosses over a property boundary), are protected under the Provincial Forestry Act, and the consent of all owners for the removal or injury of shared trees is required.

General Tree Protection Comments

1. The Tree Protection Plan, Appendix III, must be provided to the site supervisor prior to any work commencing on the site.

2. Tree protection is specified to prevent damage to existing trees. Damage to trees is cumulative and often irreversible. Mature trees are especially sensitive to injury or changes in the environment.

3. Disturbance inside of the Tree Protection Zone of trees is not permitted without authorization from the municipality of Port Hope. Disturbance includes, but is not limited to, soil compaction from foot traffic and construction materials, excavation, trenching, grade changes, or storage or disposal of materials, including those toxic to plants.

4. The minimum TPZ radius is provided in the table below (adopted from the City of Toronto):

Trunk Diameter (DBH) Measured at 1.4m Above Grade	Minimum Tree Protection Zone (TPZ)
< 10cm	1.2m
10-29cm	1.8m
30-40cm	2.4m
41-50cm	3.0m
51-60cm	3.6m
61-70cm	4.2m
71-80cm	4.8m
81-90cm	5.4m
91-100cm	6.0m
> 100cm	6cm protection /1cm of diameter

5. The Tree Protection Zone radius must be measured from the outside edge of the base of the trunk.

6. Any work proposed inside the TPZ of a tree is to be overseen by a qualified arborist, or as specified on the Tree Protection Plan. A qualified arborist is an arborist qualified by the Ontario Ministry of Training, Colleges and Universities, a certified Arborist with the International Society of Arboriculture, a consulting Arborist registered with the American Society of Consulting Arborists, a Registered Professional Forester or a Person with other similar qualifications as approved by the Director.

7. Protective barriers are to be installed as shown on the Tree Protection Plan (Appendix III). The barriers are to be 1.2m (4 feet) high and built to the standards set out in Detail TP-1 (adapted from the City of Toronto). Detail TP-1 is found on the Tree Protection Plan, (Appendix III). Alternative materials may be used with permission from the municipality.

8. No construction activity that may affect existing trees is permitted prior to approval from the municipality.

9. It is the responsibility of the site supervisor to inspect the condition of the tree protection measures outlined on the Tree Protection Plan and within this report each morning. If disturbance is observed, it is to be repaired prior to work commencing on site that day.

10. During construction, if any tree roots are exposed or disturbed *outside* the tree protection barriers, care is to be taken to minimize their disturbance. If roots must be removed outside the TPZ, they must be cleanly pruned. Tearing roots hinders wound closure and can increase risk of disease and root rot.

11. Root sensitive excavation by AirSpade or by hand is proposed on this project to minimize impacts to trees. Details on root sensitive excavation are outlined on the Tree Protection Plan, Appendix III.

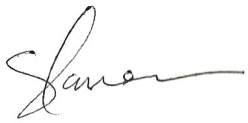
Specific Tree Protection Comments

Refer to the Tree Protection Plan Notes (Appendix III) for specific tree protection measures.

Compensation

Compensation planting is beyond the scope of this report.

On behalf of **Cohen and Master Tree and Shrub Services**,



Sarah Lamon, HBSc, MFC
Consulting Arborist - ISA Certification: ON 1220A
Cohen and Master Tree and Shrub Services Ltd.
sarah@cmtrees.com

Appendices
Attached

Appendix I – Photographs

Photo 1. Tree 1.

Photo 2. Tree 2.

Photo 3. Trees 3-6.

Photo 4. Trees 6 and 7.

Photo 5. Trees 8 – 10.

Photo 6. Trees 11 – 18.

Photo 7. Trees 16 – 36.

Photo 8. Trees 34 – 39.

Photo 9. Trees 40 -50.

Photo 10. Base of Tree 51, adjacent property separated by wall.

Photo 11. Tree 52 and 53.

Photo 12. Tree 54 and 55.

Photo 13. Trees 56 and 57.

Photo 14. Tree 58.

Photo 15. Tree 59.

Photo 16. Tree 60.

Photo 17. Tree 61.

Appendix II – Tree Inventory

Inventory date: March 25, 2024

Chart Details:

Tree #: Inventoried trees were assigned an identification number.

Common Name: Regional species name

Botanical Name: Latin/scientific species name

DBH: Diameter in cm measured at 1.37 meters from the ground (diameter at breast height). Trees with a range are estimated, located on adjacent property not accessible. For multi-stem trees, the square root of the sum of the squares is provided in brackets.

Trunk Integrity - an assessment of the trunk for structural defects. Measured on a scale of Good, Fair, Poor.

Crown Structure - an assessment of the scaffold branches and the crown of the tree. Measured on a scale of Good, Fair, Poor.

Vitality - a visual inspection of canopy health based on live buds/foliage, shoot growth, colour, etc.

Overall Rating - an assessment of the overall condition of genetic vigour, biological condition and structural integrity. Measured on a scale of Good, Fair, Poor.

Location: Private (subject site); Neighbour; Municipal.

Drip Line Diameter (m): Farthest extent of the canopy/branches.

TPZ: Minimum required tree protection zone radius in meters adopted from City of Toronto guidelines.

Condition Comments - condition comments pertinent to supporting trunk, crown, and canopy ratings and/or decisions to protect, injure or remove.

Action: Protect, injure or remove recommendations based on the site plans, and other actions to be taken.

Tree #	Common Name	Botanical Name	DBH (cm)	Trunk Integrity	Crown Structure	Vitality	Overall Rating	Location	Drip Line Diameter (m)	TPZ (m)	Condition Comments	Action
1	White Birch	*Betula papyrifera*	43	Good	Good	Good	**Good**	Private	12	3	Codominant stems, bark included, dead branches ~5%	Protect
2	Silver Maple	*Acer saccharinum*	88	Good	Good	Good	**Good**	Municipal	10	5.4	Codominant stems, bark included, dead branches ~5%, burls	Protect

Tree #	Common Name	Botanical Name	DBH (cm)	Trunk Integrity	Crown Struc-ture	Vitality	Overall Rating	Location	Drip Line Diameter (m)	TPZ (m)	Condition Comments	Action
3	Eastern White Cedar	*Thuja occidentalis*	58	Fair	Fair	Fair	**Fair**	Private	10	3.6	Missing bark at the base, topped crown, fair health	Injure: excavation for water chamber at edge of TPZ; removal and replacement of asphalt driveway 0.8m from tree, 34% of TPZ.
4	Eastern White Cedar	*Thuja occidentalis*	42, 37 [56]	Fair	Fair	Fair	**Fair**	Private	9	3.6	Double stems, slight lean, multiple dead branches	Injure: excavation for water chamber at edge of TPZ; removal and replacement of asphalt driveway 0.8m from tree, 34% of TPZ.
5	Eastern White Cedar	*Thuja occidentalis*	52	Fair	Fair	Good	**Good**	Private	8	3.6	Lean, topped crown, fair health	Injure: excavation for water chamber at edge of TPZ; removal and replacement of asphalt driveway 0.65m from tree, 34% of TPZ.
6	Eastern White Cedar	*Thuja occidentalis*	45, 40 [64]	Fair	Poor	Poor	**Poor**	Private	8	4.2	Significant dieback, dead branches, chlorosis	Injure: excavation for water chamber at edge of TPZ; removal and replacement of asphalt driveway 0.35m from tree, 45% of TPZ.
7	White Birch	*Betula papyrifera*	45	Good	Good	Good	**Good**	Private	10	3	Minor dead branches	Protect
8	Norway Maple	*Acer platanoides*	39	Good	Good	Good	**Good**	Neighbour	9	2.4	Minor dead branches	Protect
9	Red oak	*Quercus rubra*	70	Good	Good	Good	**Good**	Neighbour	13	4.2	Minor dead branches	Protect

Tree #	Common Name	Botanical Name	DBH (cm)	Trunk Integrity	Crown Structure	Vitality	Overall Rating	Location	Drip Line Diameter (m)	TPZ (m)	Condition Comments	Action
10	Red oak	*Quercus rubra*	41	Good	Good	Good	**Good**	Neighbour	**8**	3	Minor dead branches	Protect
11	White Spruce	*Picea glauca*	46	Good	Good	Good	**Good**	Neighbour	**6**	3	Minor dead branches	Injure: Retaining wall removal and replacement 2.1m from tree, 7% of TPZ.
12	Elm	*Ulmus sp.*	20	NA	NA	NA	**Dead**	Neighbour		n/a		Remove (**dead**): retaining wall excavation up to base of tree.
13	Elm	*Ulmus sp.*	15	NA	NA	NA	**Dead**	Boundary		n/a		Remove (**dead**): retaining wall excavation up to base of tree.
14	American Elm	*Ulmus americana*	45	Good	Good - Fair	Good	**Good**	Boundary	9	3	Codominant stem, bark included	Remove: retaining wall excavation up to base of tree.
15	Norway Maple	*Acer platanoides*	17	Good	Good	Good	**Good**	Neighbour	4	1.8	Minor dead branches	Remove: retaining wall excavation 0.8m to tree, close to base.
16	Eastern White Cedar	*Thuja occidentalis*	22	Fair	Fair	Fair	**Fair**	Neighbour	5	1.8	Close to the fence.	Remove: retaining wall excavation 0.25m to tree, up to base.
17	White Ash	*Fraxinus americana*	17	Fair	Fair	Fair	**Fair**	Boundary	4	1.8	Girdled with metal fence.	Remove: retaining wall excavation up to base of tree.
18	White Ash	*Fraxinus americana*	18	Fair	Good	Good	**Good**	Boundary	5	1.8	Minor dead branches	Remove: retaining wall excavation up to base of tree.
19	White Pine	*Pinus strobus*	21	Fair	Fair	Poor	**Poor**	Neighbour	5	1.8	Declining health, appears to have fungal infection.	Protect

Tree #	Common Name	Botanical Name	DBH (cm)	Trunk Integrity	Crown Struc-ture	Vitality	Overall Rating	Location	Drip Line Diameter (m)	TPZ (m)	Condition Comments	Action
20	Eastern White Cedar	*Thuja occidentalis*	10	Good	Good	Good	**Good**	Neighbour	4	1.8	Minor dead branches	Remove: retaining wall excavation up to base of tree.
21	Eastern White Cedar	*Thuja occidentalis*	18	Good	Good	Good	**Good**	Neighbour	5	1.8	Minor dead branches	Remove: retaining wall excavation up to base of tree.
22	American Elm	*Ulmus americana*	56	Good	Good	Good	**Good**	Neighbour	9	3.6	Codominant stems, minor dead branches	Remove: retaining wall excavation up to base of tree.
23	American Elm	*Ulmus americana*	17	Good	Good	Good	**Good**	Neighbour	5	1.8		Remove: retaining wall excavation 0.25m to tree, close to base.
24	American Elm	*Ulmus americana*	10	Good	Fair	Fair	**Fair**	Neighbour	5	1.8		Remove: retaining wall excavation up to base of tree.
25	Sugar Maple	*Acer saccharum*	69	Good	Good	Good	**Good**	Neighbour	12	4.2		Remove: retaining wall excavation up to base of tree.
26	Eastern White Cedar	*Thuja occidentalis*	13	Good	Good	Good	**Good**	Neighbour	4	1.8		Remove: retaining wall excavation 0.35m to tree, close to base.
27	Eastern White Cedar	*Thuja occidentalis*	10	Good	Good	Good	**Good**	Neighbour	4	1.8		Remove: retaining wall excavation up to base of tree.
28	Eastern White Cedar	*Thuja occidentalis*	12	Good	Good	Good	**Good**	Neighbour	5	1.8		Remove: retaining wall excavation up to base of tree.
29	White Spruce	*Picea glauca*	33	Good	Good	Good	**Good**	Neighbour	6	2.4		Remove: retaining wall excavation up to base of tree.

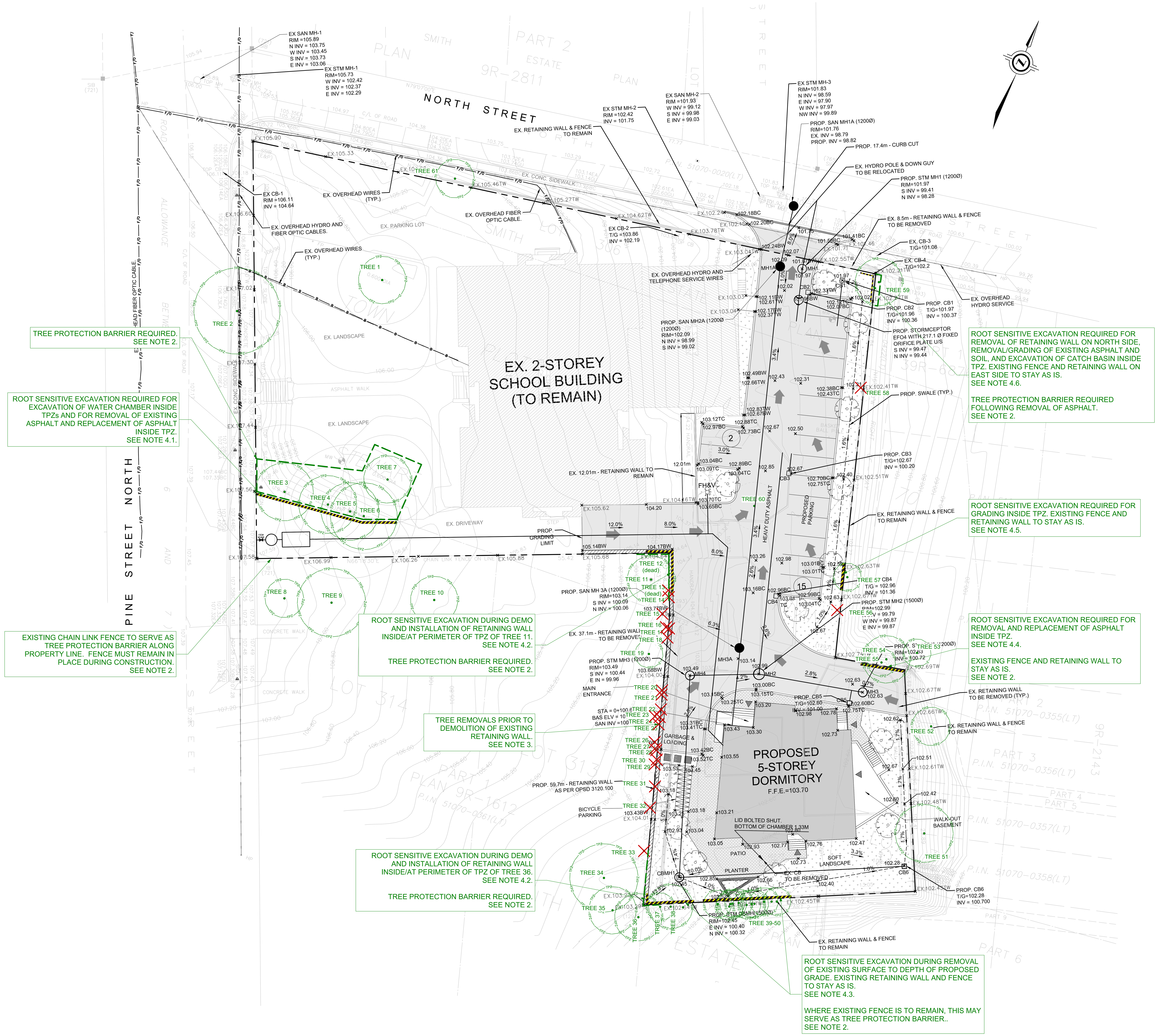
Tree #	Common Name	Botanical Name	DBH (cm)	Trunk Integrity	Crown Struc-ture	Vitality	Overall Rating	Location	Drip Line Diameter (m)	TPZ (m)	Condition Comments	Action
30	Sugar Maple	*Acer saccharum*	11	Good	Good	Good	**Good**	Boundary	4	1.8		Remove: retaining wall excavation up to base of tree.
31	Sugar Maple	*Acer saccharum*	13	Good	Good	Good	**Good**	Boundary	4	1.8		Remove: retaining wall excavation up to base of tree.
32	White Spruce	*Picea glauca*	29	Good	Good	Good	**Good**	Neighbour	6	1.8		Remove: retaining wall excavation up to base of tree.
33	Chokecherry	*Prunus virginiana*	12	Fair	Fair	Fair	**Fair**	Neighbour	4	1.8	Minor dead branches	Remove: retaining wall excavation 0.5m to tree, close to base.
34	Black Walnut	*Juglans nigra*	70	Good	Good	Good	**Good**	Neighbour	14	4.2		Protect
35	Norway Maple	*Acer platanoides*	40-45	Good	Good	Good	**Good**	Neighbour	11	3		Protect
36	White Spruce	*Picea glauca*	45-50	Good	Good	Good	**Good**	Neighbour	9	3		Injure: Retaining wall removal and replacement 1.7m from tree, 6% of TPZ.
37	Elm	*Ulmus sp.*	22	Good	Good	Good	**Good**	Neighbour	6	1.8		Injure: Retaining wall removal and replacement 1.6m from tree, 2% of TPZ.
38	Norway Maple	*Acer platanoides*	41, 30	Good	Good	Good	**Good**	Neighbour	13	3		Injure: removal of retaining wall, grading; no disturbance to retaining wall on south p. line.
39	Eastern White Cedar	*Thuja occidentalis*	2-5	Good	Good	Good	**Good**	Neighbour	2	1.2		Injure: removal of retaining wall, grading; no disturbance to retaining wall on south p. line.

Tree #	Common Name	Botanical Name	DBH (cm)	Trunk Integrity	Crown Struc-ture	Vitality	Overall Rating	Location	Drip Line Diameter (m)	TPZ (m)	Condition Comments	Action
40	Eastern White Cedar	*Thuja occidentalis*	10-15	Good	Good	Good	**Good**	Neighbour	5	1.8		Injure: removal of retaining wall, grading; no disturbance to retaining wall on south p. line.
41	Eastern White Cedar	*Thuja occidentalis*	10-15	Good	Good	Good	**Good**	Neighbour	5	1.8		Injure: removal of retaining wall, grading; no disturbance to retaining wall on south p. line.
42	Eastern White Cedar	*Thuja occidentalis*	10-15	Good	Good	Good	**Good**	Neighbour	5	1.8		Injure: removal of retaining wall, grading; no disturbance to retaining wall on south p. line.
43	Eastern White Cedar	*Thuja occidentalis*	10-15	Good	Good	Good	**Good**	Neighbour	6	1.8		Injure: removal of retaining wall, grading; no disturbance to retaining wall on south p. line.
44	Eastern White Cedar	*Thuja occidentalis*	10-15	Good	Good	Good	**Good**	Neighbour	5	1.8		Injure: removal of retaining wall, grading; no disturbance to retaining wall on south p. line.
45	Eastern White Cedar	*Thuja occidentalis*	15-20	Good	Good	Good	**Good**	Neighbour	5	1.8		Injure: removal of retaining wall, grading; no disturbance to retaining wall on south p. line.
46	Eastern White Cedar	*Thuja occidentalis*	10-15	Good	Good	Good	**Good**	Neighbour	5	1.8		Injure: removal of retaining wall, grading; no disturbance to retaining wall on south p. line.
47	Eastern White Cedar	*Thuja occidentalis*	15-20	Good	Good	Good	**Good**	Neighbour	5	1.8		Injure: removal of retaining wall, grading; no disturbance to retaining wall on south p. line.
48	Eastern White Cedar	*Thuja occidentalis*	10-15	Good	Good	Good	**Good**	Neighbour	5	1.8		Injure: removal of retaining wall, grading; no disturbance to retaining wall on south p. line.
49	Eastern White Cedar	*Thuja occidentalis*	15-20	Good	Good	Good	**Good**	Neighbour	5	1.8		Injure: removal of retaining wall, grading; no disturbance to retaining wall on south p. line.

Tree #	Common Name	Botanical Name	DBH (cm)	Trunk Integrity	Crown Struc-ture	Vitality	Overall Rating	Location	Drip Line Diameter (m)	TPZ (m)	Condition Comments	Action
50	Eastern White Cedar	*Thuja occidentalis*	20-25, 15-20 [29]	Good	Good	Good	**Good**	Neighbour	6	1.8		Injure: removal of retaining wall, grading; no disturbance to retaining wall on south p. line.
51	Butternut	*Juglans cinerea*	45-50 20-25 [53]	Good	Good - Fair	Good	**Good**	Neighbour	9	3.6	Codominant stems, bark included	Protect
52	Black Walnut	*Gleditsia triacanthos*	30-35, 20-25 [40]	Good	Good - Fair	Good	**Good**	Neighbour	8	2.4	Codominant stems, bark included	Protect
53	Eastern White Cedar	*Thuja occidentalis*	15-20	Good	Good	Good	**Good**	Neighbour	4	1.8		Protect
54	Norway Maple	*Acer platanoides*	40-45	Good	Good	Good	**Good**	Neighbour	9	3		Injure: remove and replace asphalt. Work 1m from base; existing wall and fence to remain.
55	Norway Maple	*Acer platanoides*	15-20	Fair	Fair	Fair	**Fair**	Neighbour	4	1.8		Injure: remove and replace asphalt. Work 0.3m from base; existing wall and fence to remain.
56	Mulberry	*Morus alba*	18,14	Good	Good	Good	**Good**	Private	4	1.8		Remove: within footprint of proposed grading for swale.
57	Crabapple	*Malus sp.*	22	Fair	Fair	Fair - Poor	**Fair**	Neighbour	5	1.8	Multiple dead branches, declining health	Injure: grading on subject site; existing retaining wall and fence to remain.
58	Black Locust	*Robinia pseudoacacia*	13	Good	Good	Good	**Good**	Private	4	1.8		Remove: within footprint of proposed grading for swale; future conflict with wall.
59	Butternut	*Juglans cinerea*	41	Poor	Poor	Poor	**Poor**	Neighbour	5	3	Significant cracks, canker, declining health	Injure: grading on subject site; existing retaining wall and fence to remain.
60	Norway Maple	*Acer platanoides*	49	Good	Good	Good	**Good**	Private	11	3	Balanced crown, minor dead branches	Remove: within footprint of proposed driveway/parking area and servicing.

Tree #	Common Name	Botanical Name	DBH (cm)	Trunk Integrity	Crown Struc-ture	Vitality	Overall Rating	Location	Drip Line Diameter (m)	TPZ (m)	Condition Comments	Action
61	Siberian Elm	*Ulmus americana*	32	Fair	Fair	Fair	**Fair**	Private/ Municipal	7	2.4	Growing in restricted space, dead branches	Protect

Appendix III – Tree Protection Plan



SUMMARY OF TREE IMPACTS

TREES PROPOSED FOR REMOVAL	
TREE # (inclusive)	TOTAL
12 - 18, 20-33, 56, 58, 60	24
TREES PROPOSED FOR INJURY	
TREE # (inclusive)	TOTAL
3 - 6, 11, 36 - 50, 54, 55, 57, 59	24

#401 Inventoried tree

Minimum required Tree Protection Zone (TPZ)

Tree to be removed

Tree protection barrier

Root Sensitive Excavation

GENERAL NOTES

1. This plan is to be read in conjunction with the arborist report prepared by Cohen & Master.

2. Cohen & Master provided the tree numbers, tree removal icons, tree protection zones and tree protection notes. All other information was provided on a grading plan prepared by WPE dated Apr. 12, 2024. Survey information prepared by Elliott and Parr dated Jun. 24, 2024.

No.	DATE
1	Jul. 2, 2024

COHEN & MASTER TREE AND SHRUB SERVICES
42 Guardsman Road
Thornhill, ON L3T 6L4
416-932-0622 info@cmtrees.com
CMTREES.COM BE GOOD TO YOUR TREES.

SITE
39 PINE STREET, PORT HOPE

TITLE
TREE PROTECTION PLAN

SCALE 1:250

SHEET 1/2

TPP-1

Tree Protection Notes

1. TREE PROTECTION ZONES

1.1 REFER TO THE TREE INVENTORY FOR TREE SPECIFIC DETAILS.

1.2 THE TREE PROTECTION ZONE (TPZ) IS AN' AREA AROUND A TREE WHERE THE LIKELIHOOD OF FINDING TREE ROOTS CRITICAL TO THE STRUCTURE AND HEALTH IS HIGH. THE TPZ IS BASED ON TRUNK DIAMETER. THE TPZ RADIUS CAN BE FOUND IN THE TREE INVENTORY TABLE.

1.3 THE TPZ MUST BE MEASURED FROM THE OUTSIDE EDGE OF THE BASE OF THE TRUNK. TPZ SIZES PROVIDED IN THE INVENTORY.

1.4 WITHIN THE TPZ THERE IS TO BE NO SOIL DISTURBANCE, EXCAVATION, COMPACTION, MOVEMENT OR STORAGE OF MATERIALS, MACHINERY OR FOOT TRAFFIC, WITHOUT APPROVAL FROM THE MUNICIPALITY.

1.5 ANY ROOTS EXPOSED BY EXCAVATION OR TRENCHING *OUTSIDE* OF THE TREE PROTECTION ZONE (TPZ) OF TREES MUST BE CLEANLY CUT. NO TEARING BY MACHINERY IS PERMITTED.

2. TREE PROTECTION FENCING

2.1 TREE PROTECTION FENCING MUST BE INSTALLED AS SHOWN ON THE TREE PROTECTION PLAN.

- FENCING IN THE MUNICIPAL BOULEVARD OR NEAR DRIVEWAYS MUST BE 4' (1.2 m) HIGH AND CONSTRUCTED OF PLASTIC SNOW FENCING ON A 2X4 FRAME AS PER DETAIL TP-1, UNLESS OTHERWISE APPROVED BY THE MUNICIPALITY.
- TREE PROTECTION ON PRIVATE PROPERTY MUST BE 4' (1.2 m) HIGH AND CONSTRUCTED OF PLYWOOD OR WAFERBOARD ON A 2X4 FRAME AS PER DETAIL TP-1, OR OTHER AS APPROVED BY THE MUNICIPALITY.

2.2 ON THIS SITE, THE EXISTING CHAIN LINK FENCE AND RETAINING WALL ALONG THE EAST AND SOUTH PROPERTY LINES ARE TO BE RETAINED. THESE STRUCTURES MAY SERVE AS THE TREE PROTECTION BARRIERS ALONG THESE SIDES OF THE PROPERTY. IF THE CHAIN LINK FENCE MUST BE DISMANTLED, TREE PROTECTION BARRIERS MUST IMMEDIATELY BE INSTALLED TO PROTECT ADJACENT TPZs.

2.3 TREE PROTECTION SIGNS ARE TO BE MOUNTED ON THE CONSTRUCTION-FACING SIDE OF THE TREE PROTECTION BARRIERS FOR THE DURATION OF THE PROJECT.

2.4 IT IS THE RESPONSIBILITY OF THE SITE SUPERVISOR TO INSPECT THE CONDITION OF THE TREE PROTECTION MEASURES OUTLINED ON THE PLAN AND WITHIN THE ARBORIST REPORT EACH MORNING. IF DISTURBANCE IS OBSERVED, IT IS TO BE REPAIRED PRIOR TO WORK COMMENCING ON SITE THAT DAY.

2.5 UPON PROJECT COMPLETION (INCLUDING ALL LANDSCAPING) THE CITY IS TO BE NOTIFIED BY THE CONTRACTOR, PRIOR TO REMOVAL OF THE TREE PROTECTION FENCING ON THE SITE. WITH APPROVAL, THE FENCING MAY BE DISMANTLED.

3. TREE REMOVALS

3.1 TREES SPECIFIED AND APPROVED FOR REMOVAL MUST BE REMOVED PRIOR TO WORK INSIDE THE TPZs. THIS IS CRITICAL WHERE TREES ARE GROWING PROXIMATE TO RETAINING WALLS THAT ARE TO BE DEMOLISHED, AS STABILITY WILL BE AFFECTED. REFER TO THE TREE INVENTORY FOR TREES TO BE REMOVED.

3.2 TREES SPECIFIED FOR REMOVAL THAT ARE LOCATED ON ADJACENT PROPERTY, OR TREES SPECIFIED FOR INJURY OR REMOVAL THAT ARE IDENTIFIED AS 'BOUNDARY' TREES (LOCATED ON/OVER SHARED PROPERTY LINES) MUST BE CONSENTED TO BY ALL OWNERS OF SAID TREES BEFORE THESE ACTIONS TAKE PLACE.

4. TREE INJURIES

4.1 WATER CHAMBER EXCAVATION, REMOVAL AND REPLACEMENT OF ASPHALT DRIVEWAY: TREES 3, 4, 5, 6

A WATER CHAMBER IS PROPOSED IN THE EXISTING DRIVEWAY ON THE WEST SIDE OF THE PROPERTY. INSIDE THE TPZs OF TREES 3, 4, 5, 6, REMOVAL OF THE EXISTING ASPHALT IS TO BE CARRIED OUT AS FOLLOWS:

4.1.1 UNDER THE SUPERVISION OF A QUALIFIED ARBORIST
4.1.2 THE ASPHALT DRIVEWAY MUST REMAIN IN PLACE, AS IS, INSIDE THE TPZs OF THE ADJACENT TREES, UNTIL CONSTRUCTION OF THE NEW BUILDING AND ALL SITE GRADING IS COMPLETE. THE DRIVEWAY WILL SERVE TO DISPERSE LOADS ABOVE AND PROTECT ANY TREE ROOTS BELOW THE ASPHALT.
4.1.3 THE ASPHALT IS TO BE CLEANLY CUT AT THE PERIMETER REQUIRED FOR INSTALLATION OF THE CHAMBER. ANY EXPOSED ROOTS ARE TO BE REVIEWED BY THE ARBORIST AND IF THE ARBORIST DETERMINES THAT THE HEALTH AND STRUCTURAL INTEGRITY OF THE TREES WILL NOT BE COMPROMISED, THE ROOTS ARE TO BE CLEANLY CUT.
4.1.4 FOLLOWING INSTALLATION OF THE CHAMBER AND SERVICES, THE ENTIRE DRIVEWAY, INCLUDING INSIDE THE TPZs MAY BE REMOVED AND REPLACED.
4.1.5 INSIDE OF TPZs, THE EXISTING ASPHALT IS TO BE REMOVED BY HAND DUE TO THE PROXIMITY TO THE BASE OF THE TREES. SCREENINGS BELOW MAY BE REMOVED BY HAND OR REMAIN IN PLACE. THERE IS TO BE NO CHANGE IN GRADE INSIDE THE TPZs.
4.1.6 THERE IS TO BE NO CONSTRUCTION ACCESS ON TOP OF BARE SOIL OR SCREENINGS INSIDE OF TPZs. IF ACCESS IS REQUIRED THROUGH THE DRIVEWAY PRIOR TO INSTALLING THE NEW ASPHALT SURFACE, THEN HORIZONTAL TREE PROTECTION MUST BE PLACED ON THE GROUND TO PROTECT TPZs. HORIZONTAL TREE PROTECTION MAY CONSIST OF INDUSTRIAL MATS, STEEL PLATES, BIAXIAL GEOGRID, OR OTHER AS APPROVED BY THE MUNICIPALITY.

4.2 RETAINING WALL REMOVAL AND REPLACEMENT: TREE 11 AND 36.

THE EXISTING RETAINING WALL ALONG THE WEST SIDE OF THE PROPERTY IS TO BE REMOVED AND REPLACED. THE TPZs OF TREES 11 AND 36 EXTEND OVER THE WALL. REMOVAL AND REPLACEMENT OF THE WALL INSIDE THE TPZ IS TO BE CARRIED OUT AS FOLLOWS:

4.2.1 REMOVAL OF THE WALL INSIDE THE TPZs MUST BE COMPLETED UNDER ARBORIST SUPERVISION.
4.2.2 REMOVAL OF THE WALL IS TO BE CARRIED OUT USING A BUCKET TO PULL THE WALL FROM THE ADJACENT SOIL. AT NO POINT IS THE BUCKET TO DIG INTO THE ADJACENT SOIL.
4.2.3 THE ARBORIST IS TO ASSESS IF THE ROOT DISTURBANCE IS LIKELY TO AFFECT THE HEALTH OR STRUCTURAL STABILITY OF THESE TREES. IF THE DETERMINATION IS THAT THE TREES CAN BE RETAINED, ANY EXPOSED ROOTS ARE TO BE CLEANLY PRUNED. IT IS RECOMMENDED THAT ANY EXPOSED ROOTS ARE IMMEDIATELY COVERED WITH 4-6" OF SOIL OR WET BURLAP, AND COVERED/SECURED IN PLACE TO PREVENT DRYING.

4.3 RESURFACING AND MINOR GRADING ALONG SOUTH PROPERTY LINE AND PLANTER INSTALLATION: TREES 37 - 50.

THE EXISTING RETAINING WALL/CURB ALONG THE SOUTH PROPERTY LINE AND THE CHAIN LINK FENCE ARE TO REMAIN IN PLACE. MINOR RESURFACING AND RE-GRADING, AND INSTALLATION OF A PLANTER ARE PROPOSED INSIDE OF TPZs. WORK INSIDE TPZs IS TO BE COMPLETED AS FOLLOWS:

4.3.1 NORTH OF THE RETAINING WALL AND INSIDE TPZs, REMOVAL OF THE EXISTING SURFACE, MINOR GRADING AND INSTALLATION OF THE NEW PLANTER MUST BE CARRIED OUT USING ROOT SENSITIVE METHODS EITHER BY HAND OR AIRSPADE. ROOT SENSITIVE METHODS ARE TO BE CARRIED OUT ALONG THE NORTH SIDE OF THE EXISTING RETAINING WALL TO THE DEPTH OF THE NEW GRADE AND ALONG THE PERIMETER OF THE PROPOSED PLANTER TO THE DEPTH OF THE PLANTER FOOTING.
4.3.2 THIS WORK IS TO BE COMPLETED UNDER QUALIFIED ARBORIST SUPERVISION.
4.3.3 THE ARBORIST IS TO ASSESS IF THE ROOT DISTURBANCE IS LIKELY TO AFFECT THE HEALTH OR STRUCTURAL STABILITY OF THESE TREES. IF THE DETERMINATION IS THAT THE TREES CAN BE RETAINED, SMALL DIAMETER ROOTS (UNDER 5 cm DIA.) ARE TO BE CLEANLY PRUNED. IF LARGER ROOTS ARE ENCOUNTERED, THEY ARE TO BE ACCOMMODATED (I.E., GRADING MUST NOT DISTURB THE ROOTS, AND THE PLANTER DESIGN MUST ACCOMMODATE THE ROOTS).

4.4 REMOVAL AND REPLACEMENT OF ASPHALT: TREES 54 AND 55.

A NEW MANHOLE IS PROPOSED OUTSIDE THE TPZs OF TREES 54 AND 55, REQUIRING REMOVAL AND REPLACEMENT OF ASPHALT INSIDE THE TPZ. THE EXISTING RETAINING WALL AND FENCE ARE TO REMAIN IN PLACE. WORK INSIDE THE TPZs IS TO BE CARRIED OUT AS FOLLOWS:

4.4.1 SEE NOTES 4.1.1 - 4.1.6

4.5 REMOVAL AND GRADING OF ALONG EAST RETAINING WALL: TREE 57.

THE SOIL ON THE SUBJECT SITE ALONG THE EAST RETAINING WALL INSIDE THE TPZ OF TREE 57 IS TO BE REMOVED AND GRADED FOR SITE DRAINAGE. THIS TREE IS AT A LOWER ELEVATION THAN THE SUBJECT SITE AND SEPARATED BY A RETAINING WALL, THEREFORE SIGNIFICANT ROOT DISTURBANCE IS NOT ANTICIPATED. HOWEVER, IT IS POSSIBLE THERE ARE TREE ROOTS GROWING ONTO THE SUBJECT SITE. WORK INSIDE THE TPZ IS TO BE CARRIED OUT AS FOLLOWS:

4.5.1 ALONG THE PERIMETER OF THE RETAINING WALL, THE SOIL IS TO BE REMOVED TO THE PROPOSED GRADE USING ROOT SENSITIVE METHODS (AIRSPADE OR BY HAND).
4.5.2 INSIDE THE TPZ, ALL WORK MUST BE OVERSEEN BY A QUALIFIED ARBORIST.
4.5.3 THE ARBORIST IS TO ASSESS IF ROOT DISTURBANCE IS LIKELY TO AFFECT THE HEALTH OR STRUCTURAL STABILITY OF THE TREE. IF THE DETERMINATION IS THAT THE TREE CAN BE RETAINED, ANY EXPOSED ROOTS ARE TO BE CLEANLY PRUNED. IF THE STABILITY OF THE TREE IS DETERMINED TO BE COMPROMISED, NO FURTHER EXCAVATION INSIDE THE TPZ IS PERMITTED AND THE TREE MAY REQUIRE REMOVAL PENDING MUNICIPAL APPROVAL.

4.6 REMOVAL NORTH RETAINING WALL, ASPHALT, AND CATCHBASIN EXCAVATION INSIDE TPZ: TREE 59

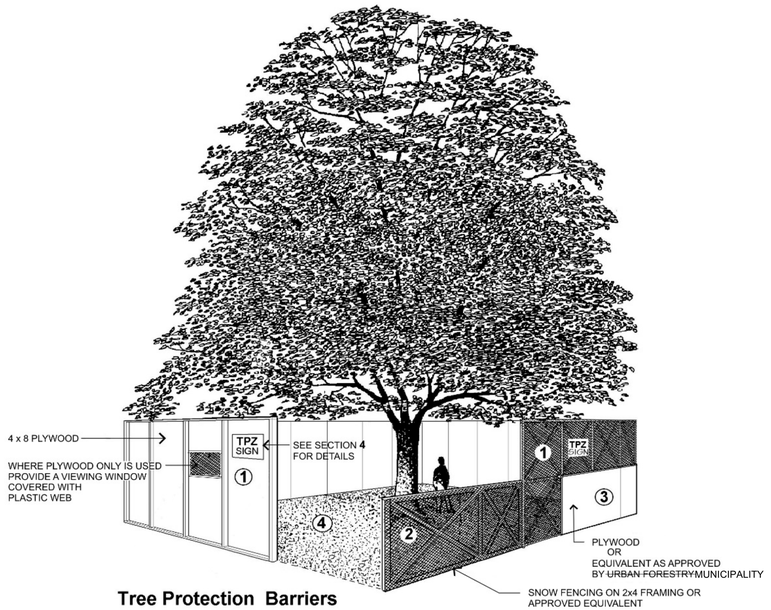
THE NORTH RETAINING WALL IS TO BE REMOVED (THE RETAINING WALL TO THE EAST IS TO REMAIN). THE EXISTING ASPHALT SURFACE IS TO BE REMOVED AND SITE IS TO BE GRADED TOWARDS A NEW CATCH BASIN. THE EXISTING ASPHALT SURFACE IS AT A APPROXIMATELY 1 m HIGHER GRADE THAN THE TREE AND SEPARATED BY A CONCRETE RETAINING WALL; THEREFORE, IT IS NOT ANTICIPATED THAT TREE ROOTS WILL BE DISTURBED DURING WORK ON THE SITE. HOWEVER, THIS IS A PROVINCIALLY REGULATED SPECIES. ALL WORK INSIDE THE TPZ OF TREE 59 IS TO BE CARRIED OUT AS FOLLOWS:

4.6.1 ALL WORK MUST BE COMPLETED UNDER THE SUPERVISION OF A QUALIFIED ARBORIST.
4.6.2 THE EXISTING NORTH RETAINING WALL IS TO BE DEMOLISHED USING A BUCKET TO PULL THE WALL FROM THE ADJACENT SOIL. AT NO POINT IS THE BUCKET TO DIG INTO THE ADJACENT SOIL.
4.6.3 THE ARBORIST IS TO ASSESS IF THE ROOT DISTURBANCE IS LIKELY TO AFFECT THE HEALTH OR STRUCTURAL STABILITY OF THE TREE. IF THE DETERMINATION IS THAT THE TREE CAN BE RETAINED, ANY EXPOSED ROOTS MUST NOT BE DISTURBED.
4.6.4 INSIDE THE TPZ, REMOVAL OF THE EXISTING ASPHALT, GRADING, AND EXCAVATION FOR THE CATCH BASIN MUST BE CARRIED OUT BY HAND OR AIRSPADE TO THE PROPOSED DEPTH. ANY EXPOSED ROOTS MUST NOT BE DISTURBED AND REMAIN COVERED IN SOIL. IF TREE ROOTS ARE ENCOUNTERED, THE PROJECT ARCHITECT IS TO BE CONTACTED AND NO FURTHER WORK IN THE VICINITY OF THE TREE IS TO BE CARRIED OUT. IN SUCH A CASE, THE DESIGN IS TO BE MODIFIED TO ACCOMMODATE THE TREE, OR THE TREE MAY REQUIRE REMOVAL, PENDING APPROVAL BY AUTHORITIES.

5. CLEARANCE PRUNING

5.1 PRIOR TO WORK ON THE SITE, THE SITE SUPERVISOR IS TO MEET WITH A QUALIFIED ARBORIST TO DETERMINE PRUNING REQUIREMENTS FOR CLEARANCE ON THE SITE. ALL PRUNING IS TO BE CARRIED OUT BY A QUALIFIED ARBORIST USING PROPER ARBORICULTURAL METHODS.

Tree Protection Barrier Detail



Tree Protection Barriers

1. **Tree protection barriers must be constructed with a solid wood frame clad with plywood**/WAFERBOARD, **or approved equivalent. Height of hoarding may be less than 8 ft. to accomodate any branches that may be lower.** 4 ft. hoarding on this site is acceptable.
2. **Tree protection barriers for trees situated on the City road allowance where visibility must be maintained can be 1.2m (4ft.) high and consist of orange plastic web snow fencing on a wood frame made of 2 x 4s .**
3. **Where some excavate or fill has to be temporarily located near a tree protection barrier, plywood must be used to ensure no material enters the Tree Protection Zone.**
4. **No construction activity, grade changes, surface treatment or excavations of any kind is permitted within the Tree Protection Zone.**

Note:
Sediment control fencing shall be installed in locations indicated in an Urban Forestry approved Tree Protection Plan. The sediment control fencing must be installed to Ontario Provicial Standards (OPSD-219.130) heavy duty silt fence barrier and to the satisfaction of Urban Forestry. See Detail TP- 2

TORONTO
Parks, Forestry and Recreation
Urban Forestry
February 2016 **Detail TP-1**

GENERAL NOTES

1. This plan is to be read in conjunction with the arborist report prepared by Cohen & Master.

2. Cohen & Master provided the tree numbers, tree removal icons, tree protection zones and tree protection notes. All other information was provided on a grading plan prepared by WPE dated Apr. 12, 2024. Survey information prepared by Elliott and Parr dated Jun. 24, 2024.

No.	DATE
1	Jul. 2, 2024

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CMTREES.COM BE GOOD TO YOUR TREES.

SITE
39 PINE STREET,
PORT HOPE

TITLE
TREE PROTECTION PLAN

SCALE 1:250

SHEET 2/2

TPP-2

Appendix IV - LIMITATIONS OF ASSESSMENTS

It is the policy of Cohen and Master Tree and Shrub Services to attach the following clause in regards to limitations. This is to ensure that the client is fully aware of what is technically and professionally realistic in the preservation and assessment of trees in the urban environment.

The assessment of the trees in this report has been done in conjunction with and according to accepted arboriculture methods and techniques. These include an examination of the above ground parts of the tree for structural defects, scars, cracks, the overall condition of the root structures, the severity and direction of lean (if any), the general condition of the trees and the surrounding environment, external indications of decay such as fungal fruiting bodies, evidence of attack by insects, symptoms of infestation and pathogens, discoloured foliage, and the proximity of potential targets should a tree fail. Except where specifically noted, the trees were not cored, probed or climbed and there was no detailed inspection of the root crowns involving excavations, or samples taken to be scientifically tested.

Notwithstanding the recommendations and conclusions presented in this report, it must be acknowledged that trees are living organisms. They are not immune to changes in site conditions, dramatic weather events or seasonal variations in climate. Therefore it should always be recognized that trees are ever evolving and their health and vigour constantly vary over time. While all reasonable efforts have been made to ensure that the subject trees are healthy, no guarantees are offered or implied that these trees or part(s) of any trees will remain intact.

It is professionally and practically impossible to predict with absolute certainty the behaviour of any tree or its component parts under all circumstances and variables. Most trees have the potential for failure under adverse weather conditions and the risk can only be completely eliminated if the tree is removed. Inherently, a standing tree will always pose some level of risk. Although every effort has been made to ensure that this assessment is reasonably accurate, trees should be re-assessed periodically. The assessment presented in this report is valid at the time of inspection.

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