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August 26, 2022

Tree Protection & Plan Review

Toronto and East York District
50 Booth Ave, Booth Yard.
Toronto, ON M4M 2M2
T (416) 392-7391
E tpprsouth@toronto.ca

17 Elm GP Inc.

c/o: lyle@foradevelopments.com
17 Elm Street
Toronto, ON M5G 1H1
T (416) 464 4322
E lyle@foradevelopments.com

Re: 17 Elm St (Ward 11)

Arborist Report

Central Tree Care Ltd. has been retained by 17 Elm GP Inc. to provide a professional arborist report for the proposed work at the 17 Elm St.

The nature of the work includes development of a residential building.

To facilitate the proposed construction, the below TPPR permits are anticipated to be required:

	Privately-Owned	Privately-Owned Neighbouring / Boundary Trees	City-Owned Trees
Injury	-	-	1
Removal	-	-	3
Exemption	-	-	-

If there are any questions, please contact me at curtis@centraltreecare.com

Thank you,

c/o Curtis Ha
Central Tree Care Ltd.

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 neighboring properties were estimated to avoid trespassing.

This report was completed using the following documents:

- Site plan package prepared by Partisans., dated November 24, 2021.
- Landscape plan prepared by Studio tla., dated August 22, 2022
- Survey prepared by KRCMAR., dated May 25, 2022.

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.

Tree Inventory

Table 1. A visual inspection from the ground only was completed on June 21, 2022. The location of trees marked with asterisk was approximated on the TPP; if there are any disputes regarding the location of the tree then an official survey should be conducted.

#	Species	Latin Name	DBH (cm)	TPZ (m)	Health	Structure	Assessment	Comment	Category
1	Green ash	<i>Fraxinus pennsylvanica</i>	21	1.8	Fair Poor	Fair	Sparse canopy. Codominant 2m. Deadwood throughout canopy. Epicormic growth throughout canopy. Electrical wire and lights in mainstem and canopy.	Permit to remove	5
2	Elm	<i>Ulmus spp.</i>	16	1.8	Fair	Fair Poor	Multi-stem 2m with included unions. Moderately sparse canopy. Epicormic throughout canopy. Electrical wire and lights in mainstem and canopy. Deadwood throughout canopy including large limb ~10cm dia.	Permit to remove	5
3	Green ash	<i>Fraxinus pennsylvanica</i>	26.5	1.8	Fair	Fair	Moderately sparse canopy. Codominant 2.5m with included union. Electrical wire and lights around mainstem and canopy. Epicormic growth present throughout. Minor deadwood present throughout. Decay present near main union with reaction wood present, unlikely to seal fully.	Permit to remove	5
4	Elm	<i>Ulmus spp.</i>	13	1.8	Fair Poor	Poor	Sparse canopy overall, significant epicormic growth throughout canopy. Previously Codominant 2.5m with failure at union, limited to no reaction wood present. Canopy dieback present, small deadwood present throughout	Fully Protect	5
5*	Green ash	<i>Fraxinus pennsylvanica</i>	26	1.8	Fair	Fair	Moderately sparse canopy. Epicormic growth throughout. Small deadwood present. Codominant 3m. Decay present near union with reaction wood present. Electrical wires around stem.	Permit to injure	5

#	Species	Latin Name	DBH (cm)	TPZ (m)	Health	Structure	Assessment	Comment	Category
6*	Honey Locust	<i>Gleditsia triacanthos</i>	11	1.8	Fair Good	Fair	Some Epicormic growth present, some dieback present. Minor deadwood present. Canopy growing on lean towards road. Asymmetrical canopy.	Fully Protect	5

- Category #:
1. Trees with diameters of 30cm or more, situated on private property on the subject site.
 2. Trees with diameters of 30cm or more, situated 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 lands designated under City of Toronto Municipal Code, Chapter 658, Ravine Protection.
 5. Trees of all diameters situated within the City road allowance adjacent to the subject site.

Discussion

Please refer to “Recommendations” section for details on tree preservation and tree protection zone (TPZ) hoarding.

Proposed development

The development of a new residential building is proposed within the subject property and will require excavation up to the subject property lines and into the adjacent city road allowance.

City owned Trees 1 (21cm DBH Green Ash), **2** (16cm DBH Elm) and **3** (26cm DBH Green Ash) will require **permits to remove** to facilitate site access, utility servicing and the landscape plan.

Excavation associated with the proposed landscape plan is expected to occur as close as 1.40m’s to the base of **City owned Tree 5** (26cm DBH Green Ash). Due to the presence of the existing hardscape surrounding Tree 5, significant roots from the tree are not expected to be encountered within the limit of work and impact from the excavation is expected to be within the tolerance range of tree 5. To minimize impact to Tree 5, the following recommendations shall be adhered throughout construction:

- Excavation within the TPZ of a protected tree shall follow the details outlined below in the “Recommendations for Excavation within a TPZ” section below.
- Excavation within the TPZ of a protected tree shall be performed using hand tools, air spade or hydro-vac wherever possible, under the supervision of a qualified arborist.
- Roots impacted during the excavation shall be pruned by the supervising arborist following the latest arboricultural standards
- Limestone subbase material is not recommended for use during construction within the TPZ of a protected tree as it can affect soil pH, instead an inert material such as high-performance bedding (HPB) is recommended for use.

A **permit to injure** Tree 5 is requested to facilitate the proposed development.

Tree appraisals for City owned trees proposed for removal

The value of each city-owned tree proposed for removal was determined using methodology as described in the “Council of Tree and Landscape Appraisers Guide to Plant Appraisal 10th Edition”.

The Trunk Formula Technique (TFT) was used to determine the basic reproduction costs of each tree being proposed for removal. This method was chosen as local southern Ontario nurseries do not have plant stock available to directly replace each tree proposed for removal and the TFT can be used to extrapolate the cost of available plant stock to infer the cost of a larger plant.

Tree 1 was determined to have a basic reproduction cost of \$2450.00.

Tree 2 was determined to have a basic reproduction cost of \$1380.00.

Tree 3 was determined to have a basic reproduction cost of \$3900.00.

For additional information regarding the methodology used to determine the basic reproduction costs for the above trees, please contact the arborist who prepared this report.

Tree protection hoarding

The proposed work will not encroach into the TPZ of the remaining trees on or within 6.0m of the subject property, which will be fully protected. Hoarding shall be installed as per the provided TPP prior to the start of construction and shall remain standing during the construction process. After construction is complete, written permission from Urban Forestry must be granted before tree protection hoarding can be modified or removed.

Due to the presence of existing sidewalks and hardscape surrounding Trees 4 and 5, tree protection hoarding is recommended for installation along the planting bed around each tree to avoid disrupting pedestrian traffic. No tree protection hoarding is proposed for Tree 6 as the tree is sufficiently far enough away from the proposed development.

It is recommended that a certified arborist is available to inspect the installed tree protection hoarding at regular intervals during development to ensure that the tree protection hoarding is properly maintained throughout the duration of the development and to provide recommendations on tree protection modifications if required.

Tree Replacement

For the removal of a tree to facilitate construction in TPPR governed jurisdiction, the typical replacement ratio for the removal of a city owned tree to facilitate construction is 1:1 with additional compensation required in the form of a tree loss payment equal to the appraised value of the tree. The replacement trees must be a large growing shade tree with a minimum planting caliper of 50mm.

Tree #	Quantity	Jurisdiction	Reason	Replacement ratio	Replacement Trees Required
1, 2, 3	3	City-Owned	Construction Removal	1:1	3
Total TPPR Replacement Trees Required:					3

For the removal of three (3) city owned trees, three (3) replacement trees are required as compensation. Due to the limited available planting space, 3 cash in lieu payments are proposed.

The following is proposed:

Quantity	Type	Amount	Total
3	Cash in lieu	\$583.00/tree	\$1749.00

Recommendations

Recommendations for excavation within a TPZ

To minimize the impact of the proposed work, the following must be adhered to:

- 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 other methods of construction must be considered in order to preserve the subject tree.
- 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.

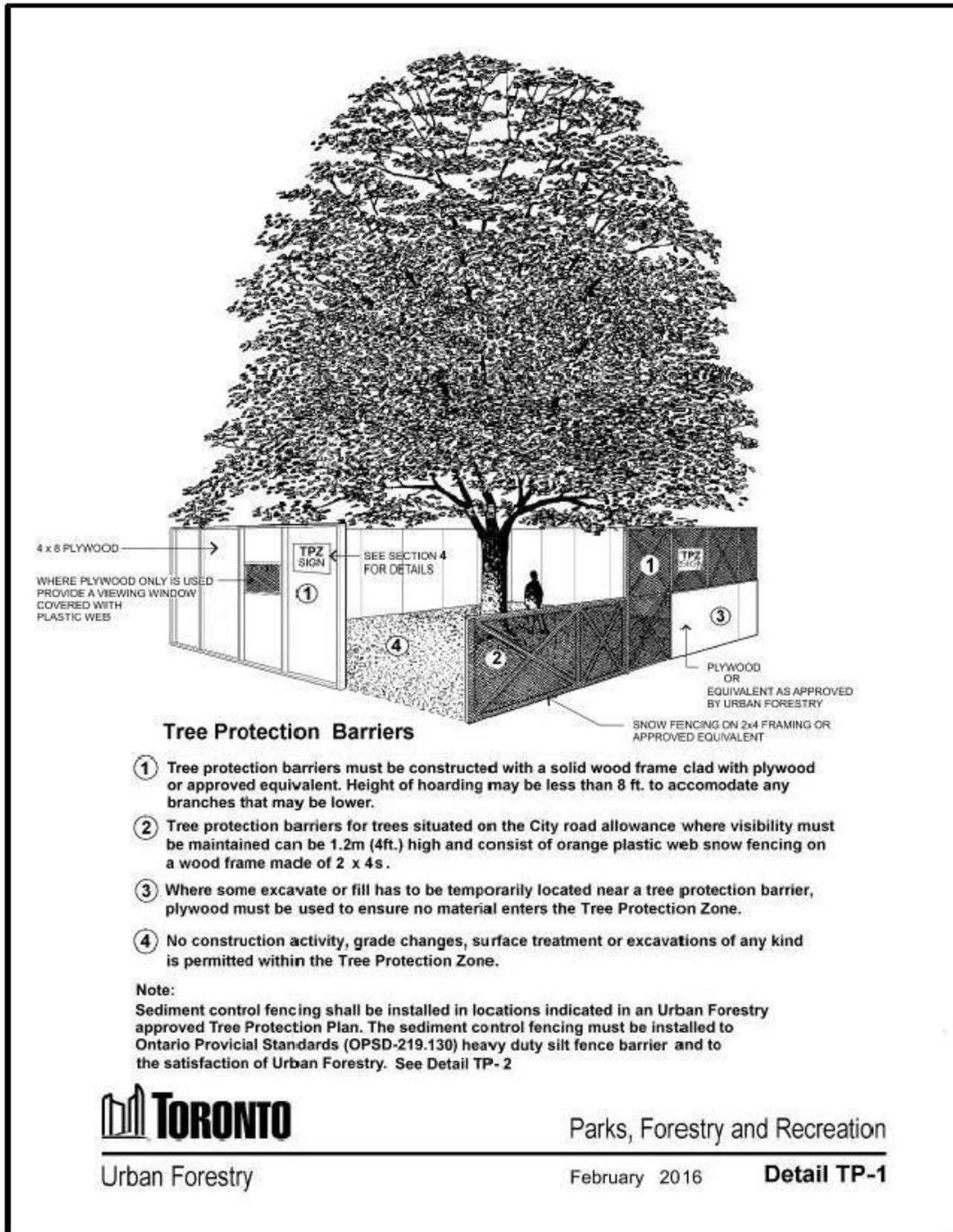
Recommendations for Remedial Care

To aid in the affected trees' recovery, the subject trees should be consistently watered throughout the construction process. The soil should be kept moist but not wet, as too much water can cause anaerobic conditions and suffocate the root system. Additionally, a layer of mulch approximately 1-2 inches thick should be applied to the softscape area within the TPZ of impacted trees before and after construction, avoiding direct contact with the base of the trees. Composted pine mulch is recommended for this application, which will assist with water retention and supply additional organic matter to the surrounding soil.

Following the site supervision, further remedial care measures, such as radial trenching and deep root fertilization, may be recommended by the supervising arborist. Radial trenching helps improve aeration in compacted soil and encourages root growth. Furthermore, Stela Maris®, a seaweed-based extract, may be recommended to better the overall health of the tree, enhance root growth and development, improve plant vigor, and help the impacted trees overcome a period of stress.

Recommendations for tree protection installation:

Tree protection hoarding installation specifications are outlined by the City of Toronto within the “*Tree Protection Policy and Specifications for Construction Near Trees*” document which can be accessed at <https://www.lbna.ca/wp-content/uploads/Toronto-Tree-Protection-Policy.pdf>



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" framework, this is recommended where 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.

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 Toronto, Urban Forestry Services. For info call Urban Forestry Services at (416) 338-5566, or the project consultant.



Parks, Forestry & Recreation

Tree Protection Zone (TPZ)

All construction related activities, including grade alteration, excavation, soil compaction, any materials or equipment storage, disposal of liquid and vehicular traffic are NOT permitted within this TPZ.

This tree protection barrier must remain in good condition and must not be removed or altered without authorization of City of Toronto, Urban Forestry.

**Concerns or inquiries regarding this TPZ can be directed to:
311 or 311@toronto.ca**

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
- For more information on the construction of a tree protection zone please see the City of Toronto's forestry's web site and go to By-laws and Policies.

Photographic documentation (June 21 2022)



Figure 1: Front section of subject property (facing south).



Figure 2: Front section of subject property (facing southwest).



Figure 3: Tree 1 (facing southeast).



Figure 4: Tree 2 (facing south).



Figure 5: Tree 3 (facing southwest).



Figure 6: Trees 3 and 4 (facing south).

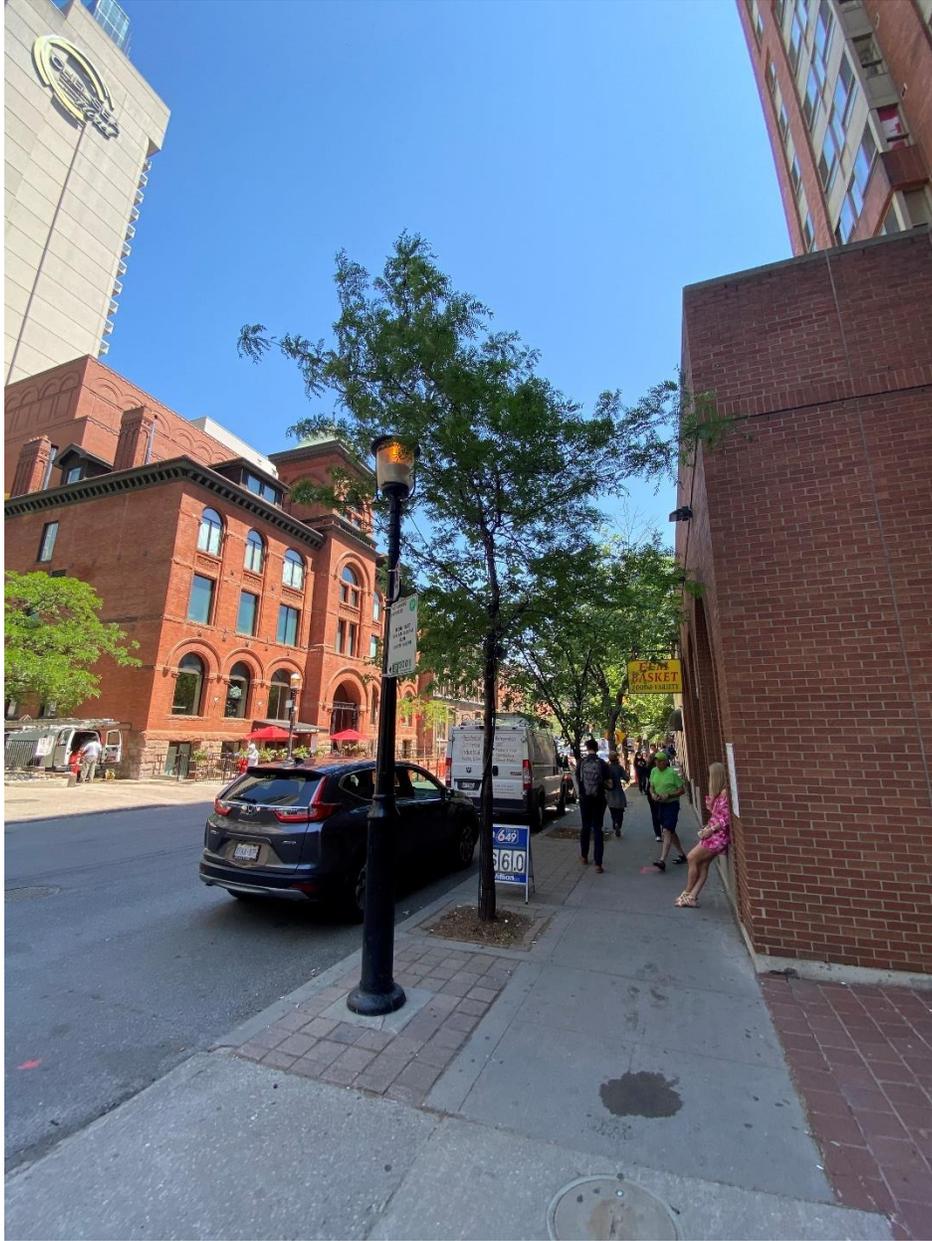


Figure 7: Tree 5 (facing northeast).



Figure 8: Tree 6 (facing south).



Figure 9: Alleyway leading to rear of subject property (facing south).



Figure 10: Rear of subject property (facing north).



Figure 11: Rear of subject property (facing west).



Figure 12: Rear of subject property (facing north).



Figure 13: Rear of subject property (facing northwest).