

To: Queensgate Homes (Barrie) Inc.
3800 Steeles Avenue W., Suite 400W
Woodbridge, ON L4L 4G9
Subject: Tree preservation plan

From: Norman Blais, ISA ON-1175A

In 2019 our company has been retained by Queensgate Homes (Barrie) Inc. to prepare a tree inventory/ preservation (see attached TP-1) and a landscaping plan that have been dated September 16, 2019.

One of the main objectives was the preservation of 8 Walnuts located on the adjacent property to the North of your future development.

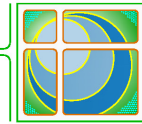
Based on the tap root morphology of the walnut species, any proposed encroachment into the dripline of those trees must be followed by:

- mitigation measures to reduce the construction impact on the roots network
- tree maintenance plan and
- monitoring for a period of min. 5 years after construction, reassessment and report at the end of each year of the monitoring period

MITIGATION MEASURES

The following mitigation measures have been proposed to minimize the construction impact on the subject trees:

- changes to the construction of the building envelope such as offsetting the underground parking wall to follow the trees dripline.
- digging a 0.5m wide preliminary trench using a vacuum truck between the limit of the future underground parking wall and the shoring posts (tree preservation fence).
- clean cutting the tree roots and the overhanging branches under the supervision of the certified arborist; the leaning limbs should be cut near the trunk and the branches less than 3cm diameter should be pruned up to max. 15m ht. and approx. 6m to the property line (min. 1.5m to the future building).
- changes to the above ground parking spaces, using permeable pavers instead of asphalt under the dripline, with a max. 0.3m depth, and a base of CU-Structural soil instead of the regular granular. The structural soil and the grass pavers will ensure a continuous air and water exchange between the surface and the roots.
- Total cut into the existing grade will be max. 13cm.
- if required, the removal of the existing cedars under the dripline shall be done by cutting the trees at the ground level without removing the cedar stumps as not to disturb the roots of the walnuts.



- the installation of the fence along the property line under the dripline shall be done manually to minimize the impact on the roots of the walnuts.

TREE MAINTENANCE PLAN

As a result of the proposed changes, the trees will have their root system protected under the dripline with a minor impact due to the construction of the proposed development. To ensure a full recovery of those trees, a proper ratio between the aerial part of the trees and their root system should be achieved in the next five years.

Frequent watering (irrigation) and proper fertilization will provide trees with the necessary nutrients. Mulching and anti-desiccants will minimize the evaporation to compensate the root loss after construction and, as consequence, the unbalanced ratio between the root system and existing tree canopy; pruning should continue as required.

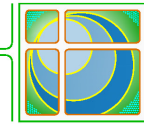
All maintenance work to be done by a hands-on arboricultural practitioner Certified Arborist

IRRIGATION

It is essential that irrigation be deep enough to assure wetting of the whole feeding roots volume.

- Water the tree regularly for the next five years after construction.
- Method: - slow drip irrigation system is recommended
- Frequency: - once a week for a few hours to ensure deep soil saturation.
 - avoid the area near the trunk.
 - water early in the morning.
- Quantity: - water for minimum 4hrs and then check if minimum 10-12 inches of soil are soaked.
 - an average of 110 gallons of water per tree should be used (10 gallons of water per inch of trunk diameter for each watering).
- Check for water penetration throughout the root zone after watering and for drainage the day prior to irrigation. These findings shall be entered into a log with the dates and initials of person verifying the drainage. Watering amounts and schedule are estimates and are subject to change by the certified arborist after reviewing the log and observing the field.
 - increase frequency during dry periods and decrease during wet periods.
 - irrigation is not adequate if the trees have wilted foliage or show slow, stunted growth.
- Watering should taper off a few weeks before the first frost.

FERTILIZING



- Method: - apply fertilizer in a band around the tree starting about two feet from the trunk and extending several feet beyond the ends of the branches. Scatter fertilizer evenly over this area, and apply water liberally to wash it into the ground.
- Frequency: - once a year except the first year after construction damage.
- at the beginning of the growing season (early spring)
- Quantity: - an average of 22 pounds/tree of 5-10-5 (2 pounds of 5-10-5 per inch of trunk diameter)
- Avoid heavy fertilization (especially with nitrogen).
- Follow the manufacturer's recommendations for application method and rate.
- The fertilizers shall NOT contain weed controlling herbicides.

MULCHING

- Method: - spread composted cedar mulch around the trees dripline between the green pavers and the fence.
- Frequency: - reapply every year.
- Quantity: - the mulch layer should be approximately 7 cm deep (2-4 inches).

ANTI-DESICCANT TREATMENT

- This treatment is recommended only if the roots are to be trimmed during the summer months when the evapotranspiration is at a maximum.
- The aim of anti-desiccant treatment application is to reduce the water loss, and stress associated with water loss of the trees as a result of the partially root loss.
- Apply an adequate film over trunks, branches, twigs, and/or foliage using an approved power sprayer.
- Apply anti-desiccant at least 24 hours prior to the excavation.
- The standard rate of application is 1:4 (one part one part anti-desiccant to four parts of water); check with the manufacturer's specification.

TREE MONITORING

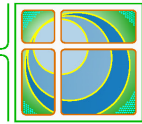
The Certified Arborist will monitor the trees for symptoms of decline (smaller and fewer leaves, dieback in the crown of the tree, and premature fall color), signs of possible hazards (cracks in the trunk, split or broken branches, and dead limbs), indications of internal decay (cavities, carpenter ants, soft wood, and mushroom-like structures growing on the trunk, root crown, or along the major roots), and signs of insects or diseases.

A report will be provided to the client and the owner of the trees at the end of each year outlining additional measures required for the full recovery of the impacted trees.

An appraisal of the 8 walnuts based on the City of Barrie tree appraisal methodology has been attached for future references.

JDB Associates Ltd.

Landscape Architects, Urban Designers, Arborists, Butternut Assessors



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