



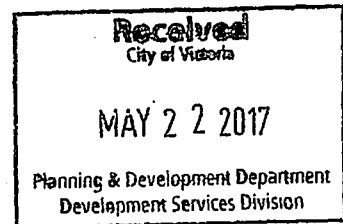
**Talbot Mackenzie & Associates**

Consulting Arborists

May 22, 2017

Turnbull Holdings Ltd.  
1648 Wilmot Place  
Victoria, BC V8R 5S4

Attention: Brad Schaffer



Re: Arborist report for 1358 and 1360 Thurlow Road

**Summary:** From the information that was compiled during our site visit and visual examination of the tree resource we determined that:

- Municipal Flowering plum #6 on the Durban Street frontage is infected with a *Ganoderma* wood decay pathogen, is located within the proposed driveway access to Lot B and is proposed to be removed and replaced.
- The remaining Municipal trees, flowering cherries #1 and #2 are on the Thurlow Road frontage, and flowering plums #6 and 8 and Horse chestnut #7 on the Durban Street frontage can be protected and retained. In addition, Western Red cedar #4, located on the adjacent property at 414 Durban Street, is to be protected and retained.
- The proposal is to remove the three trees not protected under the municipal tree protection bylaw, Western Red cedar #94, and Austrian pines #95 and 97.

The remaining three Douglas-fir trees #96, 98 and 99 are a species that have a low tolerance to root disturbance and other construction impacts and are located where there will be a significant impact to their health and stability. In our opinion, these three trees will be unsuitable to retain the impacts, and cannot be mitigated sufficiently to have a reasonable expectation that they will survive in the landscape long term. Therefore, we recommend that they be removed and replaced with trees of a suitable species to replicate the function of these removed trees eventually becoming a permanent part of the urban forest canopy.

**Assignment:** Provide arborist services to:

- Examine and document the tree resource on the 1358/1360 Thurlow Road property and the municipal frontages of this property.
- Assess the potential impacts on the resource of bylaw-protected and municipal trees related to the proposed subdivision of the property into two lots.
- Outline mitigation strategies to reduce the impacts on the bylaw-protected and municipal trees during the subdivision and subsequent construction on these lots.

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**Tree resource:** Of the 14 trees that were documented:

- Four are bylaw protected: Douglas-fir #96, 98 and 99 located within the property boundaries, and one Western Red cedar #4 located on the adjacent property at 414 Durban Street.
- Five are located on the municipal frontages: two flowering cherries #1 and 2 are on the Thurlow Road frontage, and two Flowering plums #6 and 8 and one Horse chestnut #7 on the Durban Street frontage.
- The five remaining trees on this property, two Austrian pine, one Western Red cedar and one English holly and one Flowering plum on the adjacent 1346 Thurlow Road property are not protected under the municipal tree protection bylaw.

**Potential Impacts:** The proposal, as outlined in the plans that were supplied, is to construct a new single family house on each of the two strata lots. In our opinion, only one of the bylaw-protected and four of the municipal trees are located where they can be isolated from construction and where there is a reasonable expectation that they will survive these impacts:

- Western Red cedar #4 located on the adjacent property at 414 Durban Street.
- Municipal Flowering cherry trees #1 and #2 on the Thurlow Road frontage.
- Horse chestnut #7 and Flowering plum #8 on the Durban Street frontage

The garage footprint on Lot B and the proposed patio area on Lot A encroach within the defined critical root zone of Western Red cedar #4, but, in our opinion where the impacts to these trees can be mitigated sufficiently to have a reasonable expectation that the tree can be protected and will survive long term.

The proposal is to remove the non-protected trees including English Holly #4, Western Red cedar #94, and Austrian pines #95 and 97.

Douglas-fir #99 is located within the house footprint on Lot A where it cannot be protected and retained.

The remaining two Douglas-fir trees #96 and 98 are located where they will be heavily impacted, and, in our opinion, the impacts cannot be mitigated sufficiently to assure their retention long term. The building footprints and required excavation will encroach extensively into the critical root zones, while the underground storm, sanitary and underground hydro and communication lines, that run between these footprints and the Thurlow Road frontage, will bisect the root zones close to the trunks of the trees increasing the impacts on their future health and potentially their stability.

One Flowering plum #6 is located within the proposed driveway access to Lot B. This tree is infected with a *Ganoderma* wood decay pathogen and is proposed to be removed and replaced.

**Tree Retention Guidelines and General recommendations:** We recommend the following procedures be implemented to reduce the impacts on the bylaw-protected and municipal trees that are to be retained.

**Barrier fencing:** The areas, surrounding the one bylaw-protected tree and the municipal trees that are to be retained must be isolated from the construction activity by erecting protective barrier fencing. Where possible, this fencing should be erected at the edge of the critical root zones, as defined in the tree resource spreadsheet. In areas where the building and driveway footprints encroach within these defined zones, the fencing should be erected 2 metres off the building footprint and one half metre off the driveway footprint, or in a location defined by the project arborist, once the building and construction locations have been surveyed on the site.

- To protect Western Red cedar #4, erect fencing on the property side of the trunk 5.5 metres from the property boundary or 1.0 metre out from the proposed house footprint on Lot A, and extend the fence 7.0 metres out to the west. On the east side of the trunk, erect fencing 1.0 metre out from the proposed garage footprint on Lot B.
- The municipal trees must be protected by erecting barrier fencing that runs along the street and sidewalk edge on each side of the tree extending out to the edge of the canopy spread on each side of the tree.

The barrier fencing to be erected must be a minimum of 4 feet in height, of solid frame construction that is attached to wooden or metal posts. A solid board or rail must run between the posts at the top and the bottom of the fencing. This solid frame can then be covered with plywood, or flexible snow fencing (see attached diagram). The fencing must be erected prior to the start of any construction activity on site (i.e. house demolition, lot clearing, excavation, and construction), and remain in place through completion of the project. Signs must be posted around the protection zone to declare it off limits to all construction related activity. The project arborist must be consulted before this fencing is removed or moved for any purpose. Solid hording material may also be required to protect the trunks of trees from mechanical injury where vehicles or machinery are permitted close to tree trunks.

**Building footprints:** The project arborist must supervise the excavation for the north side of the house footprint on Lot A, and the west side of the garage footprint on Lot B where they fall within the critical root zone of Western Red cedar #4. The arborist will prune all non-critical roots and expose and retain any critical root structures that are encountered. It has been determined by the architect that it will be possible to use grade beam construction for the garage footings and floor to bridge critical roots.

A patio area is shown on the north side of the building footprint for Lot A where it falls within the critical root zone of Western Red cedar # 4. The patio should be constructed at a grade that permits it to float over the critical root structures over a geotextile base fabric layer. Any excavation in this location must be supervised by the project arborist.

**Driveway footprints:** The driveway access for Lot B on the Durban Street side of the property will require the removal of infected Flowering plum #6. The driveway footprints are located where they should not impact any of the other municipal or bylaw-protected trees to be retained. The driveway for Lot A may encroach within the root zone of the non-protected plum tree located on the adjacent property at 1346 Thurlow Road.

**Servicing:** The site services, with the exception of the water line for Lot B including the water service for Lot A, and the storm, sanitary, and the hydro/communications for both lots, will connect along the Thurlow Road. We have determined that the bylaw-protected and other trees on this side of the property cannot be retained; therefore, we have recommended that all the trees within the property boundary in this location be removed. These service corridors will be located where they will not encroach within the root zones of the municipal trees. The barrier fencing must be erected to protect these municipal trees prior to the commencement of any service installations.

**Work area and material storage:** It is important that the issue of storage of excavated soil, construction material, and site parking be reviewed prior to the start of construction. All construction related activity and the storage of soil and other construction materials must be located outside of the critical root zones of the municipal trees that are to be retained. We recommend that all the construction staging and storage of construction materials be located on the east side of the property and the building footprints.

**Clients responsibility:** It is the responsibility of the client or his/her representative to contact the project arborist for the purpose of:

- Locating the barrier fencing
- Reviewing the arborist reports and retention plans with the project foreman or site supervisor
- Locating work zones, where required, Supervising excavation, blasting and other construction activities where they encroach within critical root zones of the bylaw-protected, municipal and other trees that are to be retained.

Please do not hesitate to call us at (250) 479-8733 should you have any further questions. Thank You.

Yours truly,

Talbot Mackenzie & Associates



Tom Talbot & Graham Mackenzie

ISA Certified, & Consulting Arborists

**Enclosures:** Tree resource spreadsheet, tree location and barrier fencing diagram

**Disclosure Statement**

Arborists are professionals who examine trees and use their training, knowledge and experience to recommend techniques and procedures that will improve the health and structure of individual trees or group of trees, or to mitigate associated risks. Trees are living organisms, whose health and structure change, and are influenced by age, continued growth, climate, weather conditions, and insect and disease pathogens. Indicators of structural weakness and disease are often hidden within the tree structure or beneath the ground. It is not possible for an arborist to identify every flaw or condition that could result in failure nor can he/she guarantee that the tree will remain healthy and free of risk.

Remedial care and mitigation measures recommended are based on the visible and detectable indicators present at the time of the examination and cannot be guaranteed to alleviate all symptoms or to mitigate all risk posed.

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