DUNSTER & ASSOCIATES

Environmental Consultants Ltd.

September 29, 2020

Scott Davies,
Cube Project Management Ltd.,
1605 - 728 Yates St., Victoria BC
V8W 0C8

Dear Mr. Davies.

As requested I have visited the site and reviewed the trees on site. Figure 1 is a survey plan of the trees. Table 1 provides details about each tree.

There are 11 bylaw sized trees on site. One tree (# 2074) is on City property. There is also a bylaw sized sequoia tree on the adjacent property in the south west corner. Two trees straddle the property line. One of those (# 2073) is between the site and City land. The other (# 2090) is at the west end of the site. The proposed works will require removal of all but four of the trees on site. That means removal of 16 trees, of which 8 are not protected trees, and 8 are protected trees. The four trees to be retained are one Garry Oak (# 2082), and 3 hawthorns ((#2089, #2090, #2091).

Table 1 provides details about the trees located. Specific actions for the trees to be retained are described below.

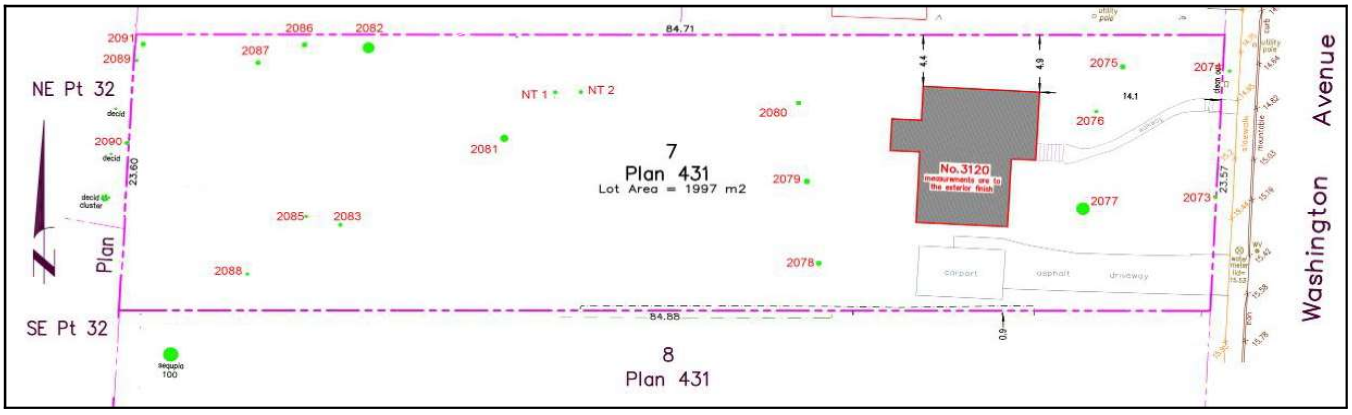

Figure 1. Location of trees on site.

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Table 1. Details about the trees.

Table 1. Details of the trees on site.

Tag #	Species	Trunk Diameter (cm)	TPZ radius (m)	Protected Tree (PT) Unprotected (UP)	Retain Y / N	Reason for removal	Comments
2073	Purple Leaf Plum	22	3.96	UP	N	Engineering upgrades	Street Tree. Poor condition
2074	Purple Leaf Plum	22	3.96	UP	N	Engineering upgrades	Straddles property line. Fair condition
2075	Blue spruce	35	6.30	PT	N	Within footprint of new design	Good condition
2076	Pine	22	3.96	UP	N	Within footprint of new design	
2077	Douglas-fir	67/40	16.38	PT	N	Within footprint of new design	Twin stems joined at 70 cm
2078	Pine	39	7.02	PT	N	Within footprint of new design	
2079	Pine	34	6.12	PT	N	Within footprint of new design	
2080	Pine	34	6.12	PT	N	Within footprint of new design	
2081	Pear	56	10.08	PT	N	Within footprint of new design	
NT 1	Apple	18	3.24	UP	N	Within footprint of new design	Poor condition
NT 2	Apple	16	2.88	UP	N	Within footprint of new design	Poor condition
2082	Garry Oak	74	13.32	PT	Y		
2083	Apple	27	4.86	UP	N	Within footprint of new design	
2085	Apple	18	4.86	UP	N	Within footprint of new design	
2086	Western Redcedar	36	6.48	PT	N	Within footprint of new design	
2087	Pear	29 / 12	6.52	PT	N	Within footprint of new design	
2088	Apple	20	3.60	UP	N	Within footprint of new design	
2089	Hawthorn	22/14	2.26	PT	Y		Multiple stems
2090	Hawthorn	18/14/9	5.72	PT	Y		Multiple stems - straddles property line
2091	Hawthorn	30	5.40	PT	Y		
138	Sequoia	105	18.90	PT	Y		Off site - considered for development impact

The Development Proposed

Figure 2 shows the footprints of the eight units planned. I have also included the tree protection zones for the trees to be retained. The three hawthorn trees along the west boundary (#2089, #2090, #2091) are all small and are also being retained. There may be a need to prune back some parts of them to clean them up after many years of bramble growth. Since that part of the site is a rear yard there will not be a major disturbance affecting them.

Figure 2. Proposed design with building footprints.

ACTION - install tree protection fencing

Before any other site work commences the hawthorn trees to be retained shall be fenced o at a distance of 1.0 metres from the base of trees # 2091. This fence shall extend to a distance of 1.5 metres to the south of trees 2089, and 2 metres north and south of tree # 2090. The oak tree shall be fenced fenced off at a distance 4 metres to the east, 4 metres to the south, and 3 metres to the north. The fencing plan is shown in Figure 3.

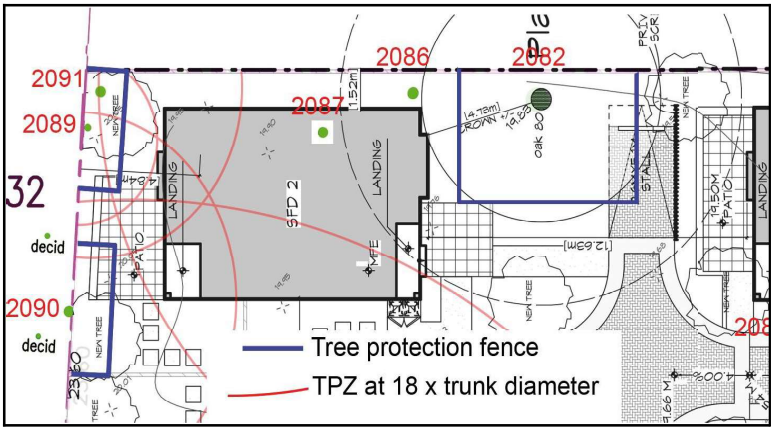

Figure 3. Fencing plan.

ACTION

The main focus for tree retention is on the oak tree, and how best to work around it. The unit in the northwest corner has been moved back to better accommodate the oak tree to be retained. The distance from the edge of the building to the oak tree is 4.73 metres. The fence is set at 3 metres so this will provide a working space of 1.73 metres between the fence and the new building. In order to minimise the disturbance to the ground and roots in this area, the following actions shall be implemented.

1 Prior to any other site preparation, the oak tree shall be fenced off at as shown in detail in Figure 4.

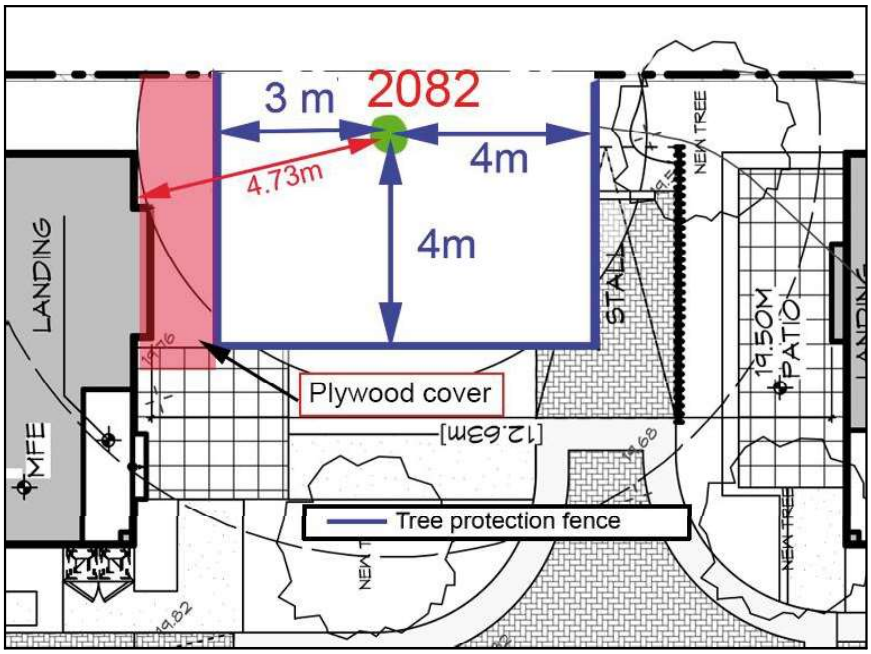

Figure 4. Fence detail by Oak tree.

Once the protection fence is in place around the oak tree, the east edge of the building footprint shall be laid out on site. Prior to excavation of any other disturbance in the area just beyond the west side of the tree fence, there shall be a double layer of 5/8 plywood installed between the fence and the edge of the excavation. The west edge of that plywood layer can be no more than 10 centimetres back from the edge of the wall. The footing design in this area shall be an L shape not a T shape, and the footing shall be formed as a blind form along the west edge, with the intention to leave the plywood form in place after the concrete has been poured. That means that the excavation shall be limited to the edge of the wall plus 10 centimetres and no more. See Figure 5. This treatment shall extend along the east edge for a distance of 4 metres as shown in Figure 4 (red area).

The plywood between the fence and the new building shall be retained in place right through the construction work until all of it is completed. At that point the plywood shall be removed and the final landscape can commence. Note that the final landscape shall retain the original soil grade and no additional fill can be placed on top nor can the original soil grade be lowered within the fenced area in general, and up to the house wall on the west side.

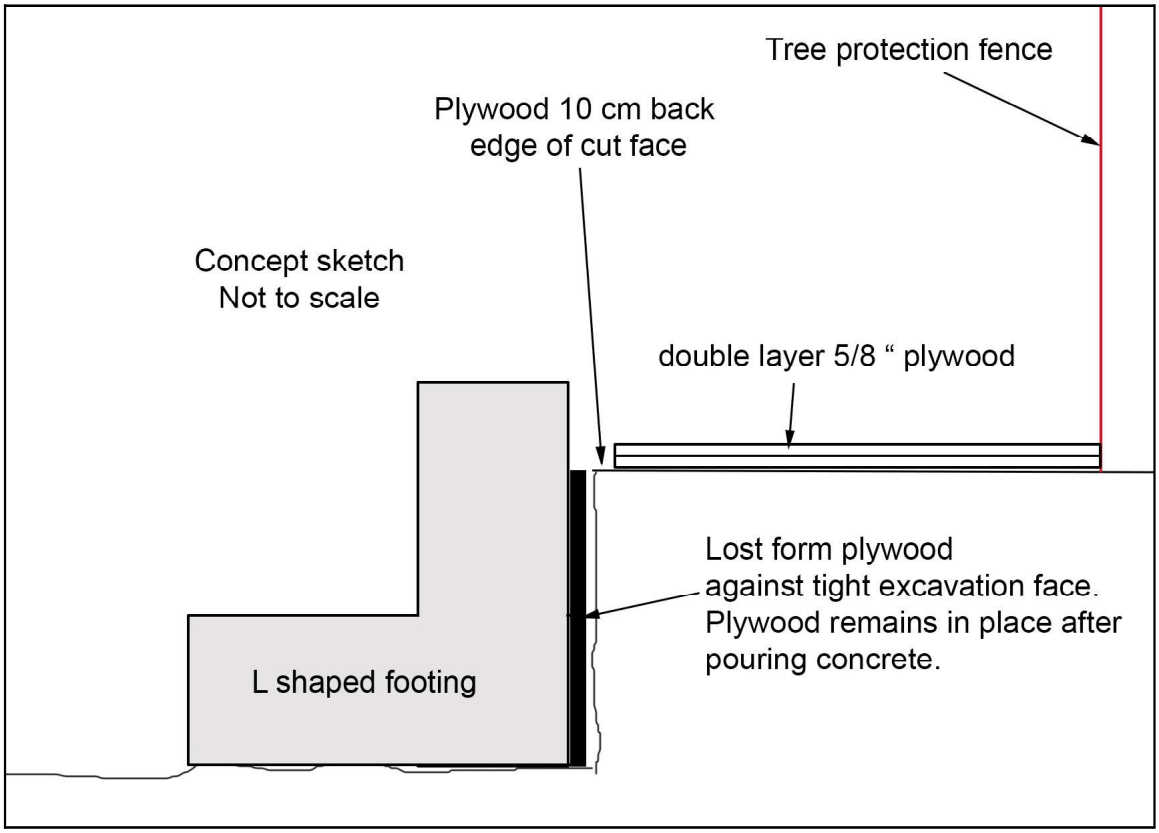

Figure 5. Concept sketch showing detail of foundation and ground plywood cover.

It is possible that once the new building's location is laid out on site, there may be a need for some pruning of the oak tree canopy to create a minimum distance of 2 metres between the walls or roof and the oak tree. The exact extent of pruning required will not be known until the project is underway. Preliminary investigations suggest that it will not be extensive. Any such work is to be reviewed on site by the project arborist and conducted under that person's supervision.

Finally, it is noted that there is a large sequoia tree on the property to the south. It is located about five metres from the property line. The construction of the new unit in that area will not cause damage to this tree at this distance.

This report shall form part of the materials to be read and implemented by the contractor, and said contractor shall be solely responsible for ensuring that the items listed above are implemented as specified. If there are any questions please let me know.

DUNSTER & ASSOCIATES

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Yours truly,

On Behalf of Dunster & Associates Environmental Consultants Ltd.

Dr. Julian A. Dunster, R.P.F., R.P.P., ISA Certified Arborist

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ISA Tree Risk Assessment Qualified

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