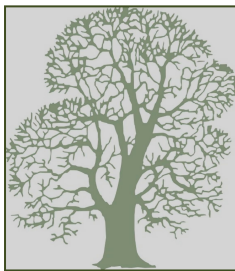


Application LUC.2015.507 Review  
Removal of Tawhairaunui (T663)  
8 Kilgour St, Dunedin



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**GreenTrees Ltd**

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23.02.16

Craig Smith  
9 Flora Dora Parade  
Lake Hawea  
Wanaka 9382

**Review of application LUC-2015-507 in relation to STEM & Tree Risk reports**

Dear Craig,

Thank you for asking me to review the above application vis-a-vis the STEM & Tree Risk reports, contained within the application by you to remove a large Tawhairaunui (T663).

**Review**

Two main points arise from my reading of the application:

**Point 1.**

I hold by my STEM (Standard Tree Evaluation Method) report, since my form is specifically designed to calculate a monetary value. Consequently, each field attribute is assessed conservatively because the total points are then multiplied by an actuarial factor of 75, and with additional inputs arrive at a final negotiable dollar value.

Such a valuation maybe used in a dispute, where it will be scrutinised intensely, and therefore each incremental part has to be assessed accurately.

**Comment**

In this instance, I would draw your attention to my STEM form 'Occurrence' & 'Visibility' fields.

In a quick tour of the vicinity looking for mature Tawhairaunui (*Nothofagus fusca*) I noted 8 trees (see attached map) within a 200m radius of 8 Kilgour St. Three of these trees are listed and stand within a 150m radius of T663. My estimation as 'common' (30%\_9pt) or frequent in the locality is accurate, I believe.

Equally, from my perspective I was unable to support a viewing distance greater than 0.5km (10%\_3pt) since the tree is surrounded by houses and stands in a hollow 3 metres below road level. (See STEM report)



NZ-0039BTM

p/i, map, risk

**Point 2.**

My Tree Risk Assessment report is not in conflict with the DCC arborist's report; they actually concur, in fact. The report writer has seemingly missed the section on mitigation measures, which would reduce the 'High' risk rating to 'Low', if these remedial measures were pursued. This is exactly the same as the recommendation by the DCC arborist.

However, the remedial treework requires a large initial cost input, plus ongoing maintenance, which the landowner is bound to carry.

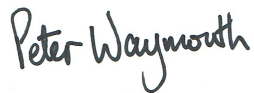
**Conclusion**

In my opinion, the Tawhairaunui (T663) does not achieve the requisite number of 147 points required for inclusion as a DCC significant tree. Furthermore, it is taken as given that the structural integrity of the tree has led to a high risk rating, due to a poorly attached major branch. This large branch has a high failure probability, in 100kph+ storms. *(see tree risk form)*

These are the salient facts to consider in respect of the current application LUC-2015-507 for removal of Tawhairaunui (T663).

This brief review covers several contentious points in the application and I hope they are explained clearly for you. Please do not hesitate to contact me if you require any further information.

Yours sincerely,



Peter Waymouth



STEM: Standard Tree Evaluation Method (NZ)  
(Adapted from RNZIH - www.rnzih.org.nz - Ron Flook 1996)

Date: 13 / 10 / 15

Tree Evaluation for: Craig Smith, 9 Flora Dora Parade, Lake Hawea, Wanaka 9382 E hatchfishing@me.com.  
Property : 8 Kilgour St, Dunedin Tree : Tawhairaunui (*Fuscospora fusca*) T663 M 027 646 9419  
GPS: Lat -45.870785°S Lon 170.484915°E P 03.443 8446

|                                                        |          |           |            |             |            |       |             |  |
|--------------------------------------------------------|----------|-----------|------------|-------------|------------|-------|-------------|--|
| Species: Tawhairaunui ( <i>Fuscospora fusca</i> ) T663 | H ≤ 18m  |           | S ≤ 10m    |             | DBH ≤ 0.8m |       | Age ≤ 75yrs |  |
| 1. Condition of tree (points)                          | 3 (10%)  | 9 (30%)   | 15 (50%)   | 21 (70%)    | 27 (90%)   | Score |             |  |
| Form (structure / appearance)                          | inferior | average   | superior   | fine        | superb     | 15    |             |  |
| Occurrence (frequency in locality)                     | frequent | common    | isolated   | scarce      | rare       | 9     |             |  |
| Vigour/Vitality (health)                               | poor     | fair      | favourable | good        | excellent  | 15    |             |  |
| Function (usefulness)                                  | small    | practical | important  | significant | major      | 15    |             |  |
| Age (years)                                            | 10 yrs+  | 20 yrs+   | 40 yrs+    | 80 yrs+     | 100yrs+    | 15    |             |  |
| Subtotal Points                                        |          |           |            |             |            | 69    |             |  |

| 2. Amenity Values (points)            | 3 (10%) | 9 (30%)  | 15 (50%)  | 21 (70%) | 27 (90%) | Score |
|---------------------------------------|---------|----------|-----------|----------|----------|-------|
| Stature (greater of height or spread) | 3m - 8m | 9m -14m  | 15m -20m  | 21m -26m | 27m+     | 15    |
| Visibility (from unseen to landmark)  | 0.5km   | 1.0km    | 2.0km     | 4.0km    | 8.0km    | 3     |
| Proximity (presence of other trees)   | forest  | woodland | group 10+ | group 3+ | solitary | 21    |
| Role (as landscape element)           | lesser  | modest   | prime     | crucial  | notable  | 9     |
| Climate (Micro-ecological effect)     | slight  | normal   | valuable  | vital    | critical | 15    |
| Subtotal Points                       |         |          |           |          |          | 63    |

| 3. Valuation (based on replacement cost equivalent) ✖                  | Σ | Calculations     |             |
|------------------------------------------------------------------------|---|------------------|-------------|
| a. Total Points (1. + 2.)                                              | a | 69 + 63 = 132    | TP = 132    |
| b. Unit cost -10 x 1yr tree (H = 0.4m, S = 0.2m,DBH = 0.02mø) ★        | b | ∴(132 TP x 75)=  | \$9,900.00  |
| c. Cost of planting (10 tree-holes 0.5mø x 0.25m depth, plant & mulch) | c | 3hr@\$40/hr      | \$120.00    |
| d. Maintenance period (over equivalent period to approx tree age) †    | d | (75x10x4)=       | \$3,000.00  |
| e. Wholesale value (gst incl)                                          | e | (a x b)+(c +d)=e | 13,020.00   |
| f. Retail Value (2e) #                                                 | f |                  | \$26,040.00 |



Explanation of terms used above

✖ Flook formula for wholesale value (a x b) + (c + d) = e. Ref. ISA - Journal of Arboriculture 28(1) Jan 2002

★ Unit cost based on 10 replacement trees @\$7.50 each = \$75.00

† Maintenance equivalent = Age of tree x 10 replacements x \$4.00 p.a.

# Retail Value is twice wholesale ⇒ (2 x e) = f. Ref. ISA - Journal of Arboriculture 28(1) Jan 2002

NZ-0039BTM

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Application LUC-2015-507 for removal of *Nothofagus fusca* (T663) at 8 Kilgour St, Dunedin 22.02.16

With reference to Greentrees STEM report regarding the Condition of Tree\_ '*Occurrence*' rating there are 8 mature *Nothofagus fusca* (*Tawhairaunui*) trees shown on the DCC rates map below, leading to a 9 point (30%) score as 'common' in the locality.

Equally, the Amenity Values\_ '*Visibility*' rating is 3 points (10%) since T663 cannot be seen further away than 0.5km, largely because the tree stands in a hollow about 3 metres below Kilgour street level.



8 Mature Red Beech trees within a 200m radius of T663 at 8 Kilgour St

Legend:

 = 10m+ *Nothofagus fusca*

 = 5m+ *Nothofagus fusca*

Explanation of 2 points contained in the STEM report for T663 compiled by:

Peter Waymouth  
Consulting Arborist  
ISA \_ NZ-0039BTM  
[www.greentrees.co.nz](http://www.greentrees.co.nz)

Reference material:

'A Standard Tree Evaluation Method'  
written by Ron Flook

Publisher: Ron Flook, September 1996

ISBN: 0-473-04039-5



|                                                                                                                                                     |                                                             |                       |             |                                                   |                                                                          |                                                                                                                                                                                                                                                                                        |                     |                             |               |                    |          |
|-----------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------|-----------------------|-------------|---------------------------------------------------|--------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|-----------------------------|---------------|--------------------|----------|
| <b>Tree Characteristics</b>                                                                                                                         |                                                             |                       |             | <b>Client:</b> Craig Smith                        |                                                                          | 9 Flora Dora Parade, Lake Hawea, Wanaka 9382                                                                                                                                                                                                                                           |                     |                             |               |                    |          |
| <b>Genus</b>                                                                                                                                        | Fuscospora                                                  |                       |             | E hatchfishing@me.com                             |                                                                          |                                                                                                                                                                                                                                                                                        |                     |                             |               |                    |          |
| <b>Species</b>                                                                                                                                      | fusca                                                       |                       |             | <b>Address of Tree:</b> 8 Kilgour St, Dunedin     |                                                                          | M 027 646 9419 P 03 443 8446                                                                                                                                                                                                                                                           |                     |                             |               |                    |          |
| <b>Common name</b>                                                                                                                                  | Tawhairaunui                                                |                       |             | <b>Tools:</b> Camera, Probe, Mallet (as required) |                                                                          | <b>Time Frame:</b> 1 Year                                                                                                                                                                                                                                                              |                     |                             |               |                    |          |
| <b>Age (approx)</b>                                                                                                                                 | 75 yrs                                                      |                       |             | <b>Tree location</b> (GPS / remote sensor)        |                                                                          | <b>Latitude</b>                                                                                                                                                                                                                                                                        | - 45.870785°S       |                             |               |                    |          |
| <b>Live crown ratio (LCR)</b>                                                                                                                       | ≤ 60%                                                       |                       |             | <b>Assessor:</b> Peter Waymouth                   |                                                                          | <b>Longitude</b>                                                                                                                                                                                                                                                                       | 170.484915°E        |                             |               |                    |          |
| <b>DBH</b>                                                                                                                                          | ≤ 0.8mØ                                                     |                       |             | (see over for details)                            |                                                                          |                                                                                                                                                                                                                                                                                        |                     |                             |               |                    |          |
| <b>Height</b>                                                                                                                                       | ≤ 18m                                                       |                       |             | <b>Risk</b>                                       | Low                                                                      | High                                                                                                                                                                                                                                                                                   | <b>Risk Rating</b>  |                             |               |                    |          |
| <b>Spread</b>                                                                                                                                       | ≤ 10m                                                       |                       |             | <b>Options</b>                                    | Moderate                                                                 | Extreme                                                                                                                                                                                                                                                                                | <b>High</b>         |                             |               |                    |          |
| <b>No.</b>                                                                                                                                          | <b>Target Description &amp; Assessment</b>                  |                       |             |                                                   |                                                                          | <b>Z1</b>                                                                                                                                                                                                                                                                              | <b>Z2</b>           | <b>Z3</b>                   | <b>O</b>      | <b>M</b>           | <b>R</b> |
| 1                                                                                                                                                   | Neighbour's house at 10 Kilgour St & garage at 8 Kilgour St |                       |             |                                                   |                                                                          |                                                                                                                                                                                                                                                                                        | 100%                |                             | 3             | NO                 | NO       |
| 2                                                                                                                                                   |                                                             |                       |             |                                                   |                                                                          |                                                                                                                                                                                                                                                                                        |                     |                             |               |                    |          |
| 3                                                                                                                                                   |                                                             |                       |             |                                                   |                                                                          |                                                                                                                                                                                                                                                                                        |                     |                             |               |                    |          |
| Target Zones: Z1 = 100% Dripline, Z2 = 100% Height, Z3 = 150% Height, M = Move Target, R = Restrict Access? Yes/No                                  |                                                             |                       |             |                                                   |                                                                          |                                                                                                                                                                                                                                                                                        |                     |                             |               |                    |          |
| O = Occupancy Rate, 1 = Rare, 2 = Occasional, 3 = Frequent, 4 = Constant                                                                            |                                                             |                       |             |                                                   |                                                                          |                                                                                                                                                                                                                                                                                        |                     |                             |               |                    |          |
| <b>Site Factors</b>                                                                                                                                 |                                                             |                       |             |                                                   |                                                                          | <b>Topography</b>                                                                                                                                                                                                                                                                      |                     | <b>Aspect</b>               |               |                    |          |
| <b>History of failures</b>                                                                                                                          |                                                             | None apparent to date |             |                                                   |                                                                          | Flat                                                                                                                                                                                                                                                                                   |                     | Slope.....%                 |               | south              |          |
| <b>Site Changes</b>                                                                                                                                 |                                                             | None                  | Grade       | Clearing                                          | Hydrology                                                                | Root Cuts                                                                                                                                                                                                                                                                              | Describe:           |                             |               |                    |          |
| <b>Soil Conditions</b>                                                                                                                              |                                                             | Low Volume            | Saturated ? | Shallow                                           | Compacted                                                                | Paved over roots...%                                                                                                                                                                                                                                                                   | Describe: Springs ? |                             |               |                    |          |
| <b>Prevailing Wind: Sou'west</b>                                                                                                                    |                                                             | Common Weather        |             | High winds                                        | Ice                                                                      | Snow                                                                                                                                                                                                                                                                                   | Heavy rain          | Describe:                   |               |                    |          |
| <b>Tree Health &amp; Species Profile</b>                                                                                                            |                                                             |                       |             |                                                   |                                                                          |                                                                                                                                                                                                                                                                                        |                     |                             |               |                    |          |
| <b>Vigour</b>                                                                                                                                       | Low                                                         | Normal                | High        | <b>Foliage</b>                                    | Leafoff                                                                  | Dead                                                                                                                                                                                                                                                                                   | Normal.....%        | Chlorotic...%               | Necrotic ...% |                    |          |
| <b>Pests</b>                                                                                                                                        |                                                             |                       |             | <b>Abiotic</b>                                    |                                                                          |                                                                                                                                                                                                                                                                                        |                     |                             |               |                    |          |
| <b>Species Failure Profile</b>                                                                                                                      |                                                             | Branches              | Trunk       | Roots                                             | Describe: Included bark & susceptibility to root rot (Armillaria mellea) |                                                                                                                                                                                                                                                                                        |                     |                             |               |                    |          |
| <b>Load Factors</b>                                                                                                                                 |                                                             |                       |             |                                                   |                                                                          |                                                                                                                                                                                                                                                                                        |                     |                             |               |                    |          |
| <b>Wind Exposure</b>                                                                                                                                | Protected                                                   | Partial               | Full        | Funneling                                         | <b>Crown Size</b>                                                        | Small                                                                                                                                                                                                                                                                                  | Medium              | Large                       |               |                    |          |
| <b>Crown Density</b>                                                                                                                                | Sparse                                                      | Normal                | Dense       | <b>Interior</b>                                   | Few                                                                      | Normal                                                                                                                                                                                                                                                                                 | Dense               | <b>Vines/Moss</b>           |               |                    |          |
| <b>Recent or planned changes in load factors</b>                                                                                                    |                                                             |                       |             |                                                   |                                                                          |                                                                                                                                                                                                                                                                                        |                     |                             |               |                    |          |
| <b>Tree Defects &amp; Conditions Affecting the Likelihood of Failure</b>                                                                            |                                                             |                       |             |                                                   |                                                                          |                                                                                                                                                                                                                                                                                        |                     |                             |               |                    |          |
| <b>Crown &amp; Branches</b>                                                                                                                         |                                                             |                       |             |                                                   |                                                                          |                                                                                                                                                                                                                                                                                        |                     |                             |               |                    |          |
| Unbalanced Crown                                                                                                                                    |                                                             | Dead Branches 30mmØ   |             | Cracks                                            |                                                                          |                                                                                                                                                                                                                                                                                        |                     | Lightning Damage            |               |                    |          |
| Broken / Hangers                                                                                                                                    |                                                             | Number .....          |             | Codominant:                                       |                                                                          |                                                                                                                                                                                                                                                                                        |                     | Included Bark               |               |                    |          |
| Over Extended Branches                                                                                                                              |                                                             | Epicormics            |             | Weak Attachments - Major spar with included bark  |                                                                          |                                                                                                                                                                                                                                                                                        |                     | Cavity/Nest hole.....% circ |               |                    |          |
| <b>Pruning History</b>                                                                                                                              |                                                             | Lion Tailed           |             | Previous Branch Failures - none apparent          |                                                                          |                                                                                                                                                                                                                                                                                        |                     | Similar Branches            |               |                    |          |
| Cleaning                                                                                                                                            |                                                             | Thinned               |             | Dead /Missing Bark                                |                                                                          | Cankers /Galls / Burls                                                                                                                                                                                                                                                                 |                     | Sapwood Damage / Decay      |               |                    |          |
| Reduced                                                                                                                                             |                                                             | Topped                |             | Conks                                             |                                                                          |                                                                                                                                                                                                                                                                                        |                     |                             |               |                    |          |
| Flush Cuts                                                                                                                                          |                                                             | Raised                |             | <b>Response Growth:</b> Healthy crown & foliage   |                                                                          |                                                                                                                                                                                                                                                                                        |                     |                             |               |                    |          |
| Other:                                                                                                                                              |                                                             |                       |             |                                                   |                                                                          |                                                                                                                                                                                                                                                                                        |                     |                             |               |                    |          |
| <b>Main Concerns:</b> One (possibly two) weakly attached spars support ≤25% of the canopy, which could fail after heavy rain followed by high winds |                                                             |                       |             |                                                   |                                                                          |                                                                                                                                                                                                                                                                                        |                     |                             |               |                    |          |
|                                                                                                                                                     |                                                             |                       |             |                                                   |                                                                          |                                                                                                                                                                                                                                                                                        |                     |                             |               |                    |          |
| <b>Load on Defect</b>                                                                                                                               |                                                             | N/A                   | Minor       | Moderate                                          | Significant                                                              |                                                                                                                                                                                                                                                                                        |                     |                             |               |                    |          |
| <b>Likelihood of Failure</b>                                                                                                                        |                                                             | Improbable            | Possible    | Probable                                          | Imminent                                                                 |                                                                                                                                                                                                                                                                                        |                     |                             |               |                    |          |
| <b>Trunk</b>                                                                                                                                        |                                                             |                       |             |                                                   |                                                                          | <b>Roots &amp; Root Collar</b>                                                                                                                                                                                                                                                         |                     |                             |               |                    |          |
| Dead / Missing Bark                                                                                                                                 |                                                             | Codominant Stems      |             | Cankers/Galls/Burls                               |                                                                          | Collar Buried / Not Visible                                                                                                                                                                                                                                                            |                     | Depth.....cm                |               | Stem Girdling      |          |
| Abnormal Bark Color                                                                                                                                 |                                                             | Included Bark         |             | Conks/Mushrooms                                   |                                                                          | Conks / Mushrooms                                                                                                                                                                                                                                                                      |                     | Decay                       |               | Dead               |          |
| Sapwood Decay                                                                                                                                       |                                                             | Trunk Cracks          |             | Poor Trunk Taper                                  |                                                                          | Cavity.....% circ                                                                                                                                                                                                                                                                      |                     | Sap Ooze                    |               | Cracks             |          |
| Heartwood Decay                                                                                                                                     |                                                             | Sap ooze              |             | Lightning Damage                                  |                                                                          | Distance from trunk.....m                                                                                                                                                                                                                                                              |                     | Cut/damaged Roots           |               | Root Plate Lifting |          |
| Cavity/Nest Hole .....% circ                                                                                                                        |                                                             | Depth.....cm          |             | Lean .....degrees                                 |                                                                          | Soil Weakness                                                                                                                                                                                                                                                                          |                     |                             |               |                    |          |
| <b>Response Growth: n/a</b>                                                                                                                         |                                                             |                       |             |                                                   |                                                                          | <b>Response Growth: n/a</b>                                                                                                                                                                                                                                                            |                     |                             |               |                    |          |
| <b>Main Concerns:</b> Trunk is sound but may have a small amount of decay due to a branch structure resulting from 'topping' as young tree.         |                                                             |                       |             |                                                   |                                                                          | <b>Main Concerns:</b> No decay bracket fungi present. NB Armillaria mellea does not produce brackets & may be possibly be present. Outwardly, the roots & root collar appear healthy & sound. 'Topping' nearly always causes severe root dieback, providing fungal decay entry points. |                     |                             |               |                    |          |
| <b>Defect Load</b>                                                                                                                                  |                                                             |                       |             |                                                   |                                                                          | <b>Defect Load</b>                                                                                                                                                                                                                                                                     |                     |                             |               |                    |          |
| N/A                                                                                                                                                 |                                                             | Minor                 | Moderate    | Significant                                       |                                                                          | N/A                                                                                                                                                                                                                                                                                    |                     | Minor                       | Moderate      | Significant        |          |
| <b>Likeli..Fail</b>                                                                                                                                 |                                                             | Improbable            | Possible    | Probable                                          | Imminent                                                                 | <b>Likeli..Fail</b>                                                                                                                                                                                                                                                                    |                     | Improbable                  | Possible      | Probable           | Imminent |

| Risk Categories |            |                       |       |      |     |      |            |   |   |   |          |   |   |   |          |   |   |   |         |      |   |    |      |
|-----------------|------------|-----------------------|-------|------|-----|------|------------|---|---|---|----------|---|---|---|----------|---|---|---|---------|------|---|----|------|
|                 |            |                       |       |      |     |      | LIKELIHOOD |   |   |   | Matrix 1 |   |   |   | Matrix 2 |   |   |   |         |      |   |    |      |
|                 |            |                       |       |      |     |      |            |   |   |   | FAILURE  |   |   |   | CONSE-   |   |   |   | RISK    |      |   |    |      |
|                 |            |                       |       |      |     |      | FAILURE    |   |   |   | IMPACT   |   |   |   | & IMPACT |   |   |   | QUENCES | Rate |   |    |      |
| C               |            |                       |       |      |     | TAR- | i          | p | p | i | v        | m | h | u | s        | l | v | n | m       | s    | s | of |      |
| O               |            | CONDITIONS            |       |      |     | TAR- | m          | o | r | m | l        | l | e | i | n        | o | i | l | e       | i    | i | e  | Part |
| N               | TREE       | OF                    | PART  | FALL | GET | PRO  | p          | s | o | m | o        | o | d | g | l        | m | k | i | g       | n    | g | v  |      |
| D               | PART       | CONCERN               | SIZE  | DIST | No  | TECT | r          | s | b | i | w        | w | i | h | i        | e | e | k | l       | o    | n | e  |      |
| CD              | TRP        | COC                   | PS    | FD   | TN  | TGP  | A          | B | C | D | E        | F | G | H | I        | J | K | L | M       | N    | O | P  | RRP  |
| 1               | Major Spar | Failure of attachment | 250mm | 2m   | 1   | N/A  |            |   |   |   |          |   |   |   |          |   |   |   |         |      |   |    | High |
| 2               |            |                       |       |      |     |      |            |   |   |   |          |   |   |   |          |   |   |   |         |      |   |    |      |
| 3               |            |                       |       |      |     |      |            |   |   |   |          |   |   |   |          |   |   |   |         |      |   |    |      |
| 4               |            |                       |       |      |     |      |            |   |   |   |          |   |   |   |          |   |   |   |         |      |   |    |      |

CODES

### Matrix 1. Likelihood matrix

| Likelihood of Failure | Likelihood of Impacting Target |          |          |             |
|-----------------------|--------------------------------|----------|----------|-------------|
|                       | Very Low                       | Low      | Medium   | High        |
| Imminent              | Unlikely                       | Somewhat | Likely   | Very Likely |
| Probable              | Unlikely                       | Unlikely | Somewhat | Likely      |
| Possible              | Unlikely                       | Unlikely | Unlikely | Somewhat    |
| Improbable            | Unlikely                       | Unlikely | Unlikely | Unlikely    |

### Matrix 2. Risk rating matrix

| Likelihood  | Consequences of Failure |          |             |          |
|-------------|-------------------------|----------|-------------|----------|
| Fail&Impact | Negligible              | Minor    | Significant | Severe   |
| Very Likely | Low                     | Moderate | High        | Extreme  |
| Likely      | Low                     | Moderate | High        | High     |
| Somewhat    | Low                     | Low      | Moderate    | Moderate |
| Unlikely    | Low                     | Low      | Low         | Low      |

### Notes, Explanations & Descriptions:

While all outward appearances indicate a healthy tree, the architecture suggests 'topping' was the preferred pruning practice early in the life of this Tawhairaunui. There are 5 or 6 spars but no central leader, which would be the normal habit of this species. 'Topping' is a discredited practice because it severely disrupts the foliage to feeding root ratio by causing dieback in the root system & overall stress. The weakened defences leave the root system open to pathogenic fungi. A root crown excavation is the only method to examine this part of the tree. The decay process is very gradual over many years, within the roots & trunk.



≤25% Canopy supported by 2 spars shown below



Included Bark & Shear Forces Fulcrum

### Mitigation Options

|                                                                                                                                                                                                                                            |               |     |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|-----|
| 1. Reduction - via - thinning (RVT) of the canopy by 20% & cabling of the main 5 / 6 spars to distribute wind loading evenly throughout the branch structure & trunk to the root system, thereby dissipating the peak wind loading forces. | Residual Risk | Low |
|                                                                                                                                                                                                                                            |               |     |
|                                                                                                                                                                                                                                            |               |     |

### Tree Risk Rating

|                          |       |             |                            |         |                                     |                                           |     |   |   |  |  |  |  |  |
|--------------------------|-------|-------------|----------------------------|---------|-------------------------------------|-------------------------------------------|-----|---|---|--|--|--|--|--|
| Overall Tree Risk Rating | Low   | Moderate    | High                       | Extreme | Work Priority                       | 1                                         | 2   | 3 | 4 |  |  |  |  |  |
| Overall Residual Risk    | Low   | Moderate    | High                       | Extreme | Recommended Inspection Interval of: | 1 Year                                    |     |   |   |  |  |  |  |  |
| Data                     | Final | Preliminary | Advanced Assessment needed | No      | Yes                                 | Type / Reason                             | n/a |   |   |  |  |  |  |  |
| Inspection Limitations   | None  | Visibility  | Access                     | Vines   | Root Collar Buried                  | Describe: Shrubs at trunk base (sou'east) |     |   |   |  |  |  |  |  |



**P1090804.JPG**

15.VTA,12.RVT,18.Consult,17.Trees



**P1090811.JPG**

15.VTA,12.RVT,18.Consult,17.Trees



**P1090814.JPG**

15.VTA,12.RVT,18.Consult,17.Trees



**P1090815.JPG**

15.VTA,12.RVT,18.Consult,17.Trees

# POLICY SCHEDULE

Mr P & M Waymouth  
C/- Aon New Zealand - Albany

Client No

6001566

Policy No

6106106

Reference No

2-1



## Professional Indemnity

POLICY NUMBER HO-LPI-6106106

WORDING VL POL PI-0903 

INSURED P & M Waymouth

BUSINESS DESCRIPTION Arborculture Consultant

PERIOD OF INSURANCE From: 31 July 2015 at 4pm  
To: 31 July 2016 at 4pm

RETROACTIVE DATE Unlimited

TERRITORY New Zealand

JURISDICTION New Zealand

LIMIT OF INDEMNITY \$ 500,000 any one claim / in the aggregate during the Period of Insurance including costs and expenses  
EXCESS \$ 1,000 each and every claim including costs and expenses

### COVERAGE

|                                   |          |
|-----------------------------------|----------|
| Defamation                        | Included |
| Past Liabilities                  | Excluded |
| Loss of Documents                 | Included |
| Amendment to Dishonesty Exclusion | Excluded |
| Fidelity                          | Excluded |
| Automatic Reinstatement           | Included |

ENDORSEMENTS PI1010 Fair Trading Act Extension  
The Company agrees to indemnify the Insured against any claim which may be made against the Insured during the Period of Insurance and reported to the Company during that period in respect of any liability of the Insured in the course of conduct of the Business of the Insured arising out of orders in the nature of monetary compensation under the Fair Trading Act 1986 made by a court of competent jurisdiction, unless such liability was brought about or contributed to by any criminal or malicious act, error, omission or statement of the Insured.