

Tree Report

Prepared for Far North District Council

by Roger Gale, Treeskills



Figure 1: showing the *Metrosideros excelsa*.

Subject: Assess the options for clearing repeatedly blocked sewer pipes.

Overview

In response to a request from Estee Rapatini Roger Gale, Treescills, prepared a report to examine the options available to clear the sewer to 35 Raihara Street in Kaikohe. This *Metrosideros excelsa* (Pohutukawa) is in a relatively exposed situation in that it stands clear of any neighbouring trees of significant size. There are two other trees adjacent of smaller size. This tree has good soil and the permeable surface abundant.

The fieldwork was performed on foot.

Inspection Details

Date/Time of Inspection: 10 December, 1235hrs.

Weather conditions: Fine and cloudy.

Address: 5 Memorial Avenue, Kaikohe.

General Health

This tree is of excellent health, perhaps in part due to intermittent supplies of nutrient rich sewage. The foliage density is good with a 90% crown ratio. There is minimal sign of chlorosis or predation.

Tree Characteristics

The diameter at breast height is approximately 1.8meters.

The height is approximately 23 meters.

The crown is approximately 23 meters wide.

The root plate for this very large tree will encompass both the main sewer line running from memorial drive and the sideline running to 35 Raihara street. Any effective root pruning to clear these lines will severely affect the health of this tree with potential dieback, decay and crown collapse. Taking the tree's drip line as an initial indication, some roots of this tree can be assumed to reach within 3 meters of the Council building. However, given the size of some roots that can be seen within the root rise area that head in that direction, large roots are likely to have come within 1.5 metres of the building.

The form of this tree is extraordinarily poor.

Its main features are that it is multi-stemmed with a weak central main stem, around which four basal shoots emerged during its early days. These shoots have gradually grown into stems that spiral or twist around either each other or the main stem, and which now are

approaching the same diameter as the original stem. The nature of their growth (from weak attachments and with poor occlusions and crowding) combined with their long, leaning spans means that in any major wind event they could unravel or peel one or more away from the main trunk. Three of these leaning spans when falling, will damage either the adjacent fences of 35 and 37 Raihara St, and the building in 37 Raihara St which is closest to that section's back fence.



Figure 2: Showing the multiple stems.

- A. The original stem, whose growth has been constrained by the growth of other stems around it, has decay intruding into its centre from a severed branch stump.
- B. The stem with a heavy lean towards the Council building has had to grow two 1metre aerial roots down into the lawn in order to achieve some degree of stability.
- C. The stem that extends for more than half its length out over the fence and into 35 Rahara St has already lost a large branch and has some evidence of branchlet dieback. Its area of union with the original stem is minimal, as Stem D has outcompeted it for space around the original Stem A.
- D. The stem that extends over the fence boundary with 35 and 37 Rahara St has evidence of branchlet dieback.



Figure 3: Showing a large rotting wood.

This pair of 2 limbs were attached to stem A and are channeling decay back down into the center of the root plate. This decay will also spread into the adjoining stems.



Figure 5: Showing the size of this large decay ingress.



Figure 6: Showing stem B over the council building.

This large stem is an outlier in that it will catch any South Easterly blow.



Figure 7: Showing stem B.

When this branch falls it can only fall on the building.



Figure 8: Showing the way stem B wraps around stem A.

The propping root will not hold it up but act as a hinge due to its placement,

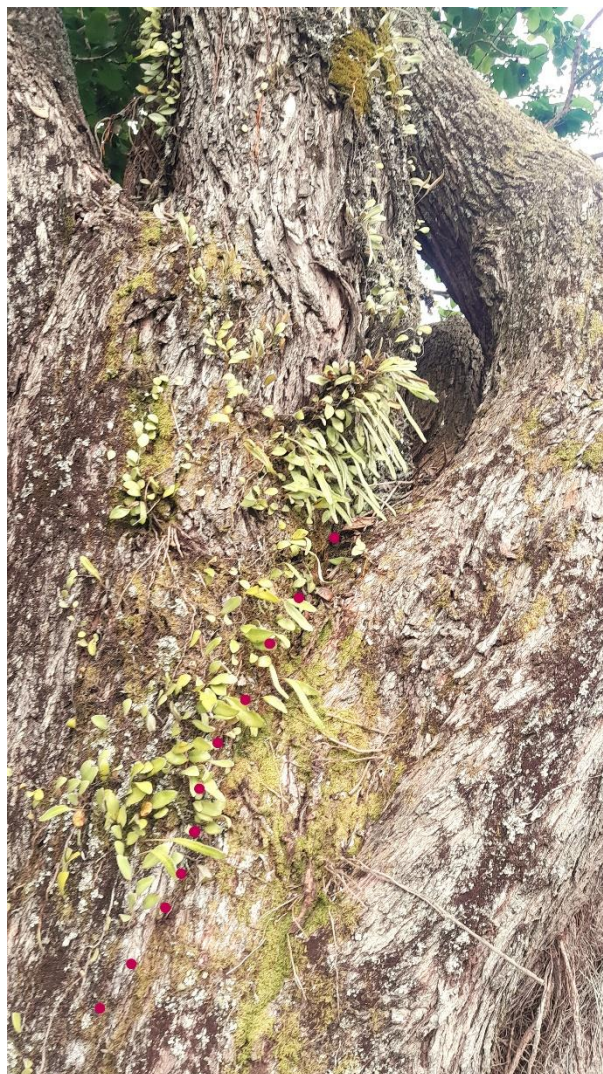


Figure 9: Showing the compressed union between A and B.

This tree has mostly formed tight unions. As stem diameters increase, the parallel stems inevitably begin to run out of space, their sides connect and then build up pressure which can increase until the xylem flow especially is reduced and then cut off causing dead tissue and decay. Also, the connecting grain between stems is compromised allowing stems to drop out of the tree more easily.



Figure 10: Showing more poor unions.

This problem is exacerbated when the stem is rotated around the other stem.



Figure 11: Showing stems C and D.

Stem C has already lost a significant limb creating a weak point, if it fell it would impact a building on Raihara street. Stem D would also fall into a neighbors' property.

Summary of Conclusions:

1. The extensive root plate makes root pruning of sewer diversion impracticable.
2. The extremely poor form of this tree means it becomes more likely to fail as it grows larger and increases the pressure and damage occurring in the unions of most of its limbs.

Recommendations:

1. Remove this tree.

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Disclaimer: The trees referred to in this report are living entities and therefore subject to natural processes, and changes to their environment caused by human activities and by exceptional weather conditions. The inspection undertaken relies on the visual attributes of tree health and form, as ascertained from a visual inspection. Hidden defects which are not readily visible may not be detected. The condition and safety of the trees inspected cannot be guaranteed beyond what can be reasonably assessed from the procedures used. It is recommended that all significant trees are regularly inspected. Treeskills can advise on the suitable frequency of these inspections.