

7. TREE MAINTENANCE AND REPLACEMENT STRATEGY RAWHITI GOLF LINKS

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The purpose of this report is to advise the Board of the need to undertake significant tree maintenance work over the next five years at the Rawhiti Golf Links.

The Greenspace Unit has undertaken the following review of the trees in this area and has identified the need for a programme of replacement to ensure the overall character of the golf course area of the domain is maintained. The report focuses on the replacement of the trees on the northern boundary and provides a programme of replacement for the next five years.

There have been a number of requests from residents adjacent to these trees for removal and maintenance work because of concern at the risk they pose to their properties. This report was as a result of one of these requests and has identified the need for programmed removal and replacement for health and safety reasons as well as good management of the golf course.

The report also highlights the necessity for future maintenance to other areas of the golf course and domain and in particular the large shelterbelt in between the golf course and Thomson Park. The programme to be undertaken by the golf course does not include these trees at this point in time.

PUBLIC CONSULTATION

To ensure that there has been public consultation on the programme of replacement for the trees on the northern boundary of the golf course, it is intended to hold a "walk around" at the Golf Links on Wednesday 24 March at 4.00 pm, followed by a public forum in the golf clubrooms. A pamphlet drop will be done to the neighbouring properties (Bowhill Road, Keyes Road and Rawhiti Avenue) and a copy will be sent to the North New Brighton Residents' Association and other residents' groups in the surrounding area notifying them of this forum.

The plan identifies the ageing tree population in the park and the necessity for a restoration programme. The problem faced in this park is similar to that of our other major parks where the ever-increasingly aging tree population has also been identified and reported. The forum will enable members of the public to put forward their ideas and thoughts on the suggested list of replacement species, tree sizes and locations.

SUMMARY

Over-maturity, structural decline, and diseases, make the replacement of at least 390 trees located throughout Rawhiti Domain, a high priority over the next five years. It is vital to initiate a tree replacement strategy to reduce the accumulation of declining trees. Proactive management decisions are needed to prevent loss of amenity value and shelter and prevent costly and unpleasant mass removal in the future.

INTRODUCTION

Rawhiti Domain is a very important link in the chain of coastal parks along the City's shoreline called 'The Blue Edge'. The park is situated in the suburb of New Brighton approximately 4 km northeast of the central city. The total land area is more than 63 hectares, with approximately 2,379 trees on the property. The collection is made up of young, semi-mature and mature trees in shelterbelts, wood lots and as individuals in a park like setting. Species such as Pine, Macrocarpa, Eucalyptus, Poplar and Oaks make up the mainframe work of the collection.

A particular inspection of all the trees located along the northern boundary of Rawhiti Domain, between Tonks Street and Keyes Road, revealed that a number of trees require urgent replacement due to their state of decline or structural defects, causing a safety concern to residents and park users alike.

The aim of this survey is to ensure that the collection of trees in Rawhiti Domain is maintained and replaced through timely and appropriate tree replacements, based on sustainable tree management principles. This will ensure the overall vitality of the collection and maximise the benefit of shelter and amenity value these trees provide, especially also for future generations.

All 183 trees along the northern boundary were individually inspected for their sustainable life expectancy, including overall condition, structural integrity and signs of insect infestation and/or fungal growth.

This report suggests removing and where possible replacing a minimum of 60 of these trees. To reduce the impact of such replacements programmes, a phased approach is suggested, rectifying a smaller number of trees over a five-year period.

Trees are marked with felt pen numbers on their trunks approximately 1-1.5 metres above the ground facing south-southeast. Numbers continue from 1-97, starting from 39 Tonks Street towards Keyes Road.

Trees are grouped into three different categories highlighted in various colours on the landscape plan circulated separately to Board members:

- Red - Poor condition.
- Blue - Fair condition.
- Green - Good condition.

Total number of specimens inspected: 183

- 60 trees, or 32.78% (highlighted red on the plan), are classed as in poor condition and should be replaced, where appropriate, over the next five years.
- 113 trees, or 61.74% (highlighted blue on the plan), are classed as in fair condition with a life expectancy of 20+ years (with some exceptions as noted below).
- 10 trees, or 5.46% are classed as in good condition with a life expectancy of 50+ years.

EXCEPTIONS

Trees have been evaluated on an individual basis. In some instances trees classed as in fair condition might be surrounded or close to trees in poor condition. Under such circumstances it is sometimes advisable to replace the remainder, to prevent failure due to sudden exposure, and other associated problems that may occur. This approach will also be for the benefit of the overall new design.

ADDITIONAL INSPECTIONS

An additional inspection was undertaken for one mature macrocarpa grove located between fairway number 1 and 2, north of the sport fields. This particular grove is made up of approximately 358 specimens. Of these, 130 trees located mainly in the centre of the grove are either dead, diseased, or in strong decline. To reduce the accumulation of dying trees and risk the loss of the whole grove in the future, it is advisable to replace a minimum of 130 stems from the central core of this planting. The remaining outer wall of mature trees would provide sufficient shelter to establish a second generation of trees, inside this clearance.

A stocktake of the remaining 2,196 trees on the property identified a further 331 mainly mature trees as in strong decline.

The second shelterbelt running parallel to Marine Parade, dividing Thomson Park from Rawhiti Park, on the axis of Tonks Street and Rawhiti Avenue is made up of 159 trees, in various stages of maturity and senescence. Of these specimens, 30 or 18.8% are either dead or in very strong decline.

REVIEW RECOMMENDATIONS

1. Inspect the whole collection of trees on the property and establish a long-term sustainable tree replacement strategy.
2. That, over a five-year period, a minimum of 60 declining trees located along the northern boundary between Tonks Street and Keyes Road are removed, and replaced where appropriate.
3. Due to the close proximity to private properties, replacement trees should be planted far enough away from the boundaries, and should be of smaller habit, to minimise the associated problems with trees along boundaries in the future.

4. Replace a minimum of 130 either dead, or strongly declining trees from the macrocarpa grove between fairway 1 and 2.
5. Due to the decline of approximately 171 other trees in the wider park area, it is recommended to continue and advance the replacement programme to reduce the accumulation of over mature and dying trees in the future.
6. Replace a minimum of 30 trees distributed throughout the second shelterbelt dividing Thomson Park from Rawhiti Domain.
7. Remove 38 existing tree stumps of various sizes dotted along the northern boundary between Tonks Street and Keyes Road, for public safety and soil hygiene.
8. Some of the semi-mature specimens in the park show signs of bark damage due to the impact of golf balls. Accumulated impacts can lead to decline and/or death of the specimen. Consideration should be given to providing effective protection for the trunks to reduce such damage (plastic tubing etc).

MAINTENANCE/REPLACEMENT PERIOD: 2003/04

Total number of replacements: 13

Trees considered for replacement are prioritised according to their state of decline or lack of structural integrity. Trees with the abbreviation s-m behind their Botanical description are classed as semi-mature specimens.

Tree No.	Species	Condition	Comment
3	Cedrus deodara (s-m)	poor	
4	Cedrus deodara (s-m)	poor	Root problem
46	Populus nigra 'Italica'	poor	
62	Populus nigra	poor	
63	Populus nigra	poor	
64	Populus nigra (5 stems)	poor	
65	Populus nigra	poor	
66	Populus nigra	poor	
67	Cupressus macro. (s-m)	poor	Suppressed
68	Populus nigra	poor	Decay in fork^
69	Populus nigra	fair	
70	Cupressus macro.	poor	Cancer
74	Pinus radiata (s-m)	poor	Suppressed

MAINTENANCE/REPLACEMENT PERIOD: 2004/05

Total number of replacements: 14

Tree No.	Species	Condition	Comment
42	Populus nigra 'Italica'	fair	
43	Populus nigra 'Italica'	fair	
44	Populus nigra 'Italica'	fair	
45	Populus nigra 'Italica'	fair	
46	Populus nigra 'Italica'	poor	
47	Populus nigra 'Italica'	poor	
48	Populus nigra 'Italica'	fair	
49	Populus nigra 'Italica'	poor	
50	Populus nigra 'Italica'	poor	Stump sprout
51	Populus nigra	poor	
52	Populus nigra	poor	Suppressed
53	Populus nigra	fair	
54	Populus nigra	fair	
55	Populus nigra	poor	

MAINTENANCE/REPLACEMENT PERIOD: 2005/06

Total number of replacements: 12

Tree No.	Species	Condition	Comment
2	Populus alba	fair	Group of 150 smaller stems
14	Cupressus macro.	poor	Cancer
15	Cupressus macro.	poor	Cancer
16	Cupressus macro.	poor	
17	Pinus radiata	poor	Suppressed
18	Cupressus macro.	poor	
19	Pinus radiata	poor	
20	Cupressus macro.	poor	
21	Pinus radiata	poor	
56	Populus nigra	fair	
57	Populus nigra	poor	
58	Populus nigra	poor	

MAINTENANCE/REPLACEMENT PERIOD: 2006/07

Total number of replacements: 9

Tree No.	Species	Condition	Comment
5	Pinus radiata	fair	
6	Pinus radiata	fair	
7	Pinus radiata	fair	
26	Populus nigra (s-m)	poor	Bark canker
27	Pinus radiata	poor	Included bark
28	Cupressus macro (s-m)	poor	Cancer/included bark
32	Salix caprea	poor	Stump sprout
35	Cupressus macro.	fair	
37	Ulmus sp. (s-m)	poor	Seedling

MAINTENANCE/REPLACEMENT PERIOD: 2007/08

Total number of replacements: 31

Tree No.	Species	Condition	Comment
13	Cupressus macro.	poor	Cancer
22	Populus alba	fair	
36	Populus nigra	fair	
38	Pinus radiata	fair	
39	Pinus radiata x 46	fair	Remove 15 individuals, corrective prune remaining trees.
79	Populus nigra 'Italica'	fair	
80	Populus nigra 'Italica'	poor	Hollow trunk
81	Populus nigra 'Italica'	poor	Hollow trunk
82	Populus nigra 'Italica'	fair	
83	Populus nigra 'Italica'	poor	Hollow trunk
84	Populus nigra 'Italica'	poor	
85	Populus nigra 'Italica'	fair	
87	Populus nigra 'Italica'	poor	Hollow
88	Populus nigra 'Italica'	poor	Stump sprout
89	Populus nigra 'Italica'	fair	
90	Pinus radiata (s-m)	poor	Deformed
91	Populus nigra 'Italica'	poor	Hollow trunk

REPLACEMENT SPECIES

The following are a list of possible suitable replacement species for planting within the golf course boundaries:

Species	Common Name
Cupressus macrocarpa	Macrocarpa
Cupressus leylandi	Leyland Cypress
Eucalyptus botrioides	Southern Mahogany
Quercus robur	English Oak
Quercus cerris	Turkey Oak
Pinus radiata	Pine
Sorbus aria	Whitebeam
Quercus ilex	Holm Oak
Abies pinsapo	Spanish Fir
Tilia vulgaris	Common Lime tree

These trees are all large trees, which will provide clearance under the branches once fully established. These larger trees will continue to provide protection to neighbouring properties from golf balls and with strategic location and subject to regular maintenance will avoid future problems with regards to risk to neighbouring properties.

CONCLUSION

Trees like all living organisms have a natural finite life expectancy. The situation of removing and replacing over-mature and hazardous trees has to be faced frequently. It is therefore important that if any plant collection is to survive, a constant maintenance and replanting process takes place.

Information gathered during a complete survey should be summarised and evaluated to suit the conditions and any desirable improvements towards the overall concept of the new management plan for Rawhiti Domain presently under development.

Periodic review and updating of this document are vital to keep the strategy a working document.

It is expected that the overall improvement and rejuvenation of the collection of trees in the park will have a positive effect on the planting and the design as a whole, but over-mature specimens will always require to be evaluated for replacement.

Staff

- Recommendations:**
1. That the information be received.
 2. That the Board support the proposed consultation on the tree replacement programme for Rawhiti Golf Links.

Chairperson's

Recommendation: That the abovementioned recommendations be adopted.