

14 February 2014

Arboricultural Report

Christchurch Hospital Acute Services Building Development Project



LAURIE GORDON

ARBOR VITAE LTD

PO BOX 36 488

MERIVALE

CHRISTCHURCH

Contents

1.0	Executive Summary	1
2.0	Site Details	2
3.0	Tree Survey Summary	3
3.1	Inspection Methodology	3
3.2	Trees on Hospital Land (Area A)	4
3.3	Former CCC Trees (Area B)	4
3.4	CCC Trees, North Hagley Park (Area C)	5
3.5	Former Hospital Trees (Area D)	5
4.0	Tree Protection Requirements	6
5.0	Replacement Tree Planting	6
6.0	Conclusions	7
7.0	Recommendations	8

Appendix 1 – Aerial Photographs

Appendix 2 – Trees on Hospital Land (Area A)

Appendix 3 – Former CCC Trees (Area B)

Appendix 4 – CCC Trees, North Hagley Park (Area C)

Appendix 5 – Former Hospital Trees (Area D)

Appendix 6 – Trees Potentially Affected by Site Access

1.0 Executive Summary

This report was commissioned by Sally Falls, Project Manager, Thinc Health NZ, and is intended to assist with providing an assessment of environmental effects for the proposed Christchurch Hospital Acute Services Building Project.

The Christchurch Hospital Acute Services Building Project will involve the construction of a multi-storey building at the Christchurch Hospital site. Some of the land where the new building is to be constructed forms part of a land exchange between Christchurch Hospital and Christchurch City Council (CCC), and the building will extend into former CCC land within North Hagley Park.

A previous arboricultural report was produced by Arbor Vitae Limited in April 2010 for CCC to assist with quantifying the value of trees on Hospital and CCC land that were included in the land exchange.

The purpose of this report is to quantify the potential effects that the proposed Acute Services Building development will have on trees on Hospital and CCC land. A survey of trees that may be affected by the works was carried out in January 2014, and the results are provided in this report.

Trees that were included in the April 2010 report that will require removal for the proposed building development works are included in this report. This report also includes trees on the areas of hospital land that were not part of the land exchange, and additional trees on CCC land that will be directly or indirectly affected by the works. The survey included specimen trees, such as trees that were identified as individual tree assets by CCC and similar trees on Hospital land. Shrubs and young or insignificant trees were not included.

Based upon the proposed design, it is expected that the new building will result in the removal of forty-five (45) specimen trees plus groups of mixed native and exotic smaller trees and shrubs (located on Hospital land and CCC land) for construction purposes.

A further eleven (11) trees on North Hagley Park may also require removal in the future due to their position, condition and the potential for structural failures following the removal of nearby trees and the construction of the new building. The removal or retention, maintenance and monitoring of these trees may be determined via discussions with CCC.

Works within the vicinity of trees that are to be retained near the new building will occur, and the physical protection of these trees will be required. Pruning of some of these trees will be required to provide adequate clearance for construction and for the new building.

Trees within the vicinity of the Rolleston Avenue bridge (intersection of Cashel Street) and the Riccarton Avenue entrance to the Hospital may also be affected during building construction, depending upon site access requirements.

It is recommended that any tree removals, pruning and replacement planting is carried out by suitably experienced and qualified personnel, to accepted international modern Arboricultural standards.

Tree removals could be mitigated via a comprehensive replacement tree planting and establishment programme, and this should be developed in consultation with CCC staff. It is expected that the removal and pruning of any trees that are located on CCC land and former Hospital land will only occur following approval from CCC.

2.0 Site Details

The new building is to be constructed in the north-western section of Christchurch Hospital, on existing Hospital land and within the former CCC land that forms part of the land exchange.

Figure 1 below shows the approximate locations of the new boundary. The Christchurch City Council land that is subject to the land exchange is located in the south-eastern corner of North Hagley Park. The part of the Hospital grounds that is subject to the land exchange is located in the northern corner of the Hospital site, on the southern side of the Avon River. In addition to these boundary changes, Christchurch City Council requires access to the new park land via an easement adjacent to the Rolleston Avenue.

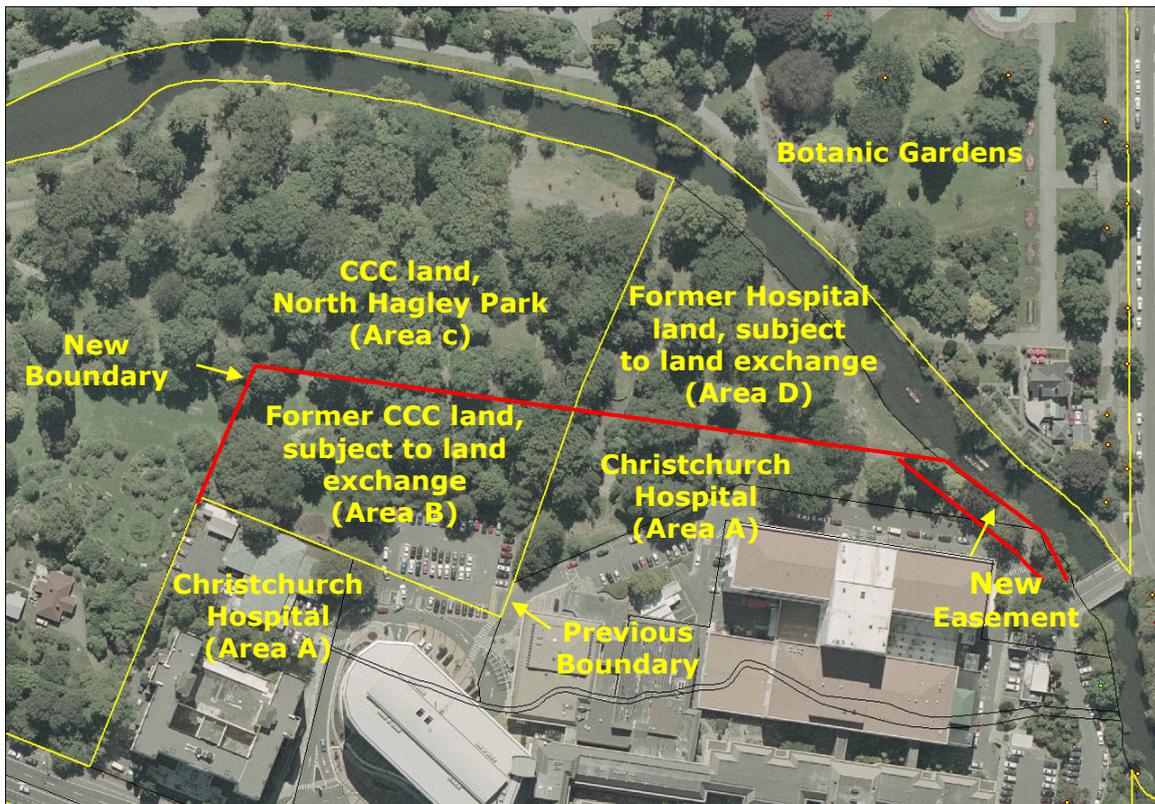


Figure 1: Areas subject to land exchange.

Trees within the building footprint and within the vicinity of the new building will require removal. This includes trees on existing CCC land in North Hagley Park that are located within the vicinity of the new boundary. Two trees that are located on former Hospital land that is subject to the land exchange will also require removal due to the proximity of the new building.

Depending upon access requirements, trees within the vicinity of the Rolleston Avenue bridge and the Riccarton Avenue entrance to the Hospital may also be affected by the works.

Trees that are likely to be adversely affected by the construction works and long-term changes to the environmental conditions of the site were included in the survey. Although some trees are well clear of the works, the potential for structural failures within the vicinity of the new building was considered, and their removal recommended where trees could cause risks to the safety of the new building and the public.

3.0 Tree Survey Summary

3.1 Inspection Methodology

The tree survey for this report was carried out from the ground using non-invasive visual tree assessment techniques. All measurements are approximate.

Trees have been identified with individual identification numbers (Tree ID). The aerial photographs contained within Appendix 1 of this report show the identification numbers, and therefore the approximate locations of the trees. No identification numbers were attached to trees on site.

The trees within the existing and former North Hagley Park land are included in the CCC asset management system. Information relating to CCC trees and aerial photographs were supplied by CCC. The information included tree asset identification numbers, species identification, and relevant history.

Aerial photographs were taken in 2010, and some changes to the site have occurred.

The Christchurch City Council tree survey and condition rating system was used for this report. The following table relates to the attributes included in the condition survey.

Field	Description
Tree ID	Asset or survey identification numbers
Tree Species	Scientific and common tree names
Age Class	Y = young SM = semi-mature M = mature OM = over mature
Height (m)	Estimated tree height in metres
Canopy Width (m)	Average canopy width in metres
DBH (cm)	Trunk diameter(s) at 1.4 metres above ground
Health, Form, Condition	1 = excellent 2 = good 3 = average 4 = poor 5 = very poor
Comments	Descriptions and tree details and expected outcomes

3.2 Trees on Hospital Land (Area A)

The following trees are located on Hospital land, and are within the new building footprint or within the vicinity of the new building and require removal.

Tree ID	Species	Comments
CH-21	Blue Atlas Cedar	Tree requires removal
CH-22	Blue Atlas Cedar	Tree requires removal
CH-23	Sycamore	Tree requires removal
CH-24	2 x Alder	Tree requires removal
CH-25	English Oak	Tree requires removal
CH-26	Sycamore	Tree requires removal
CH-27	Japanese Maple	Tree requires removal
CH-28	Turkey Oak	Tree requires removal
CH-29	Maple	Tree requires removal
CH-30	Red Beech	Tree requires removal
Nil	Groups of various smaller trees and shrubs	Require removal

3.3 Former CCC Trees (Area B)

The following trees are located on former North Hagley Park (CCC) land and are within the new building footprint or within the vicinity of the new building and require removal.

Tree ID	Species	Comments
106450	Pink Horse Chestnut	Tree requires removal
106451	Yoshino Cherry	Tree requires removal
106452	Yoshino Cherry	Tree requires removal
106453	Baumann's Horse Chestnut	Tree requires removal
106454	Horse Chestnut	Tree requires removal
106455	Indian Horse Chestnut	Tree requires removal
106456	Silver Birch	Tree requires removal
106457	Yoshino Cherry	Tree requires removal
106458	Yoshino Cherry	Tree requires removal
106460	English Elm	Tree requires removal
106461	English Ash	Tree requires removal
106462	Persian Ironwood	Tree requires removal
106463	Weeping Ash	Tree requires removal
106464	Golden Indian Bean Tree	Tree requires removal
106465	Caucasian Wingnut	Tree requires removal
106466	Bird Cherry	Tree requires removal
106467	River Birch	Tree requires removal
106468	River Birch	Tree requires removal
106469	River Birch	Tree requires removal
106472	Falcate Yellowwood	Tree requires removal
106478	Common Hornbeam	Tree requires removal
106484	English Ash	Tree requires removal
106485	English Ash	Tree requires removal
106486	English Ash	Tree requires removal
106487	English Ash	Tree requires removal
106494	English Oak	Tree requires removal

3.4 CCC Trees, North Hagley Park (Area C)

The following trees are located on North Hagley Park (CCC) land, and outside the new boundary. Seven (7) of these trees will require removal due to their location within the immediate vicinity of the proposed works, and eleven (11) may require removal due to their position, current over-mature or poor structural condition and the potential for significant structural failures as a result of changes to the site. Trees that are retained will require physical protection during the building construction. Some retained trees will also require clearance pruning.

Tree ID	Species	Comments
106471	Sweet Buckeye	Requires removal due to proximity to boundary
106474	Double White Hawthorne	Requires removal due proximity to boundary
106477	English Elm	Requires removal due proximity to boundary
106483	Oak	Requires removal due proximity to boundary
106489	Yoshino Cherry	Requires removal due proximity to boundary
106488	Yoshino Cherry	Requires removal due proximity to boundary
106493	Turkey Oak	Requires removal due proximity to boundary
112926	English Ash	May require removal due to tree condition
112907	English Elm	May require removal due to tree condition
112908	English Elm	May require removal due to tree condition (existing failure)
112901	English Ash	May require removal due to tree condition
112886	English Ash	May require removal due to tree condition
112479	English Ash	May require removal due to tree condition, pruning required
112480	English Ash	May require removal due to tree condition
112481	English Ash	May require removal due to tree condition
106482	English Ash	May require removal due to tree condition, pruning required
106490	English Ash	May require removal due to tree condition, pruning required
106492	English Oak	Requires removal due to potential for failures
112912	Baumann's Horse Chestnut	Retain and protect, clearance pruning required
10670	White Mulberry	Retain and protect, may require clearance pruning
112938	Sweetgum	Retain and protect
106475	English Elm	Retain and protect
106491	English Oak	Retain and protect

3.5 Former Hospital Trees (Area D)

The following tree is located on former Hospital land and outside the new boundary, but will require removal due to its proximity to the new building and changes to the park use as a result of the Hospital development.

Tree ID	Species	Comments
CH-10	English Oak	Requires removal due proximity to boundary

4.0 Tree Protection Requirements

Trees that are located within the vicinity of the building construction works and access areas to the site will require physical protection for the duration of the works.

A suitably experienced and qualified Arborist should be engaged to liaise with the project manager, supervisory staff and the contractors carrying out the works to ensure that the protection of trees occurs for the duration of the works.

Temporary protective fencing (such as 1.8 metre high) steel frame and wire mesh panels should be used to isolate trees from construction activities and vehicle movements. Temporary protective fencing should be positioned as recommended by the Arborist.

Construction materials and machinery should not be stored or operated within the vicinity of trees.

Where trees require pruning, this should only be carried out by suitably experienced and qualified arboricultural contractors.

5.0 Replacement Tree Planting

It is recommended that a tree planting and establishment programme is developed in consultation with CCC staff to mitigate tree removals. Tree planting should compliment the existing woodland nature of North Hagley Park.

Woodland planting generally refers to groups of exotic trees with species of differing heights and an open group canopy. There is a wide variety of tree species in the park. The larger dominant trees that will require removal include English Oak (*Quercus robur*), English Ash (*Fraxinus excelsior*) and English Elm (*Ulmus procera*). However, smaller woodland species will be more appropriate in close proximity to the new building and areas with high public use.

Replacement trees should be at least 35 litre grade, and replacement planting should be carried out by suitably experienced and qualified personnel, to accepted international modern Arboricultural standards.

6.0 Conclusions

Based upon the proposed design, it is expected that the new building will result in the removal of a total of forty-five (45) specimen trees plus groups of mixed native and exotic smaller trees and shrubs (located on Hospital land and CCC land) for construction purposes.

This includes eleven (11) trees on existing Hospital land, twenty-six (26) trees on former CCC land, one (1) tree on former Hospital land, and seven (7) trees on North Hagley Park (CCC land), plus groups of mixed native and exotic smaller trees and shrubs will also require removal.

The seven (7) trees on North Hagley Park (CCC land) will be within the immediate vicinity of the proposed construction works. The canopies and/or root systems of these trees will be compromised during the works, and therefore the trees will require removal prior to or during the building construction.

In addition to the above, it is possible that eleven (11) additional trees on North Hagley Park (CCC land) may also require removal due their position, current over-mature or poor structural condition and the potential for significant structural failures following the removal of nearby trees and the construction of the new building within their vicinity. There may be risks to the building or public safety if these trees are retained, due to the proposed changes to the site use. The removal or retention, maintenance and monitoring of these trees may be determined via discussions with CCC.

To minimise potential adverse effects and construction related damage, the physical protection of trees that are to be retained will be required where the proposed works occur within their vicinity. A suitably experienced and qualified Arborist should be engaged to assist with this process. Also, protective fencing should be used to isolate trees that are to be retained from the works and vehicle movements.

Pruning of some of these trees will be required to provide adequate clearance for construction and for the new building. This should only be carried out by suitably experienced and qualified arboricultural contractors.

The removal and pruning of trees on existing North Hagley Park land and former Hospital land is expected to require consultation with, and approval from CCC.

It is recommended that a tree planting and establishment programme is developed in consultation with CCC staff to the mitigate tree removals. Tree planting should compliment the existing woodland nature of the area, and address the expected changes in site use.

7.0 Recommendations

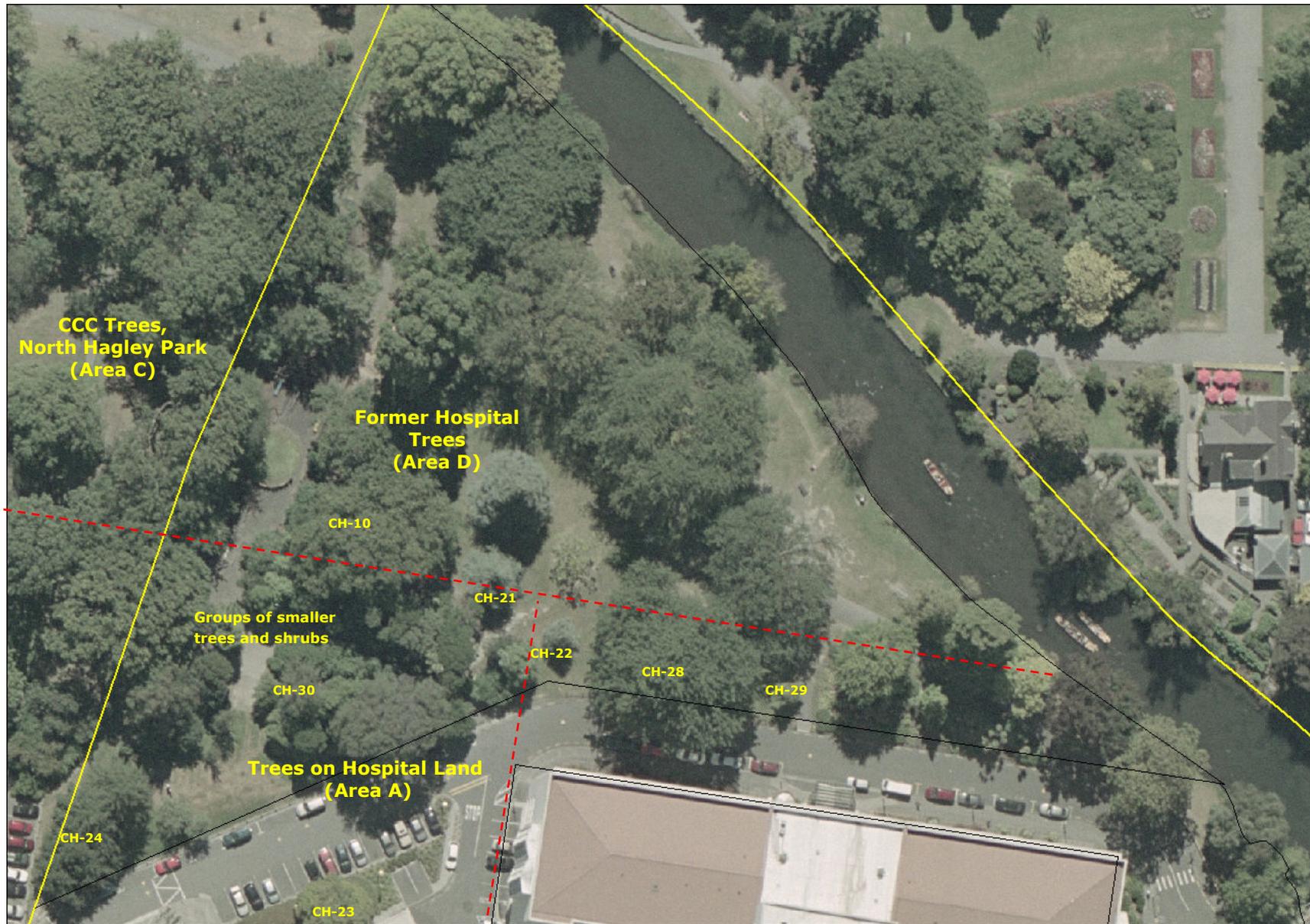
It is recommended that the removal and pruning of trees on existing North Hagley Park and former Hospital land is carried out in consultation with CCC.

It is recommended that trees on CCC land and the Hospital site that are retained within the vicinity of the works and site access areas receive adequate physical protection for the duration of the works, and a suitably experienced and qualified Arborist is engaged to assist with this process. Protective fencing should be used to isolate trees that are to be retained from construction activities and vehicle movements.

It is recommended that a tree planting and establishment programme is developed in consultation with CCC staff to mitigate tree removals, and the tree planting should compliment the existing woodland nature of the area and address the expected changes in site use.

It is recommended that any tree removals, pruning and replacement planting is carried out by suitably experienced and qualified personnel, to accepted international modern Arboricultural standards.

Laurie Gordon
Arborist



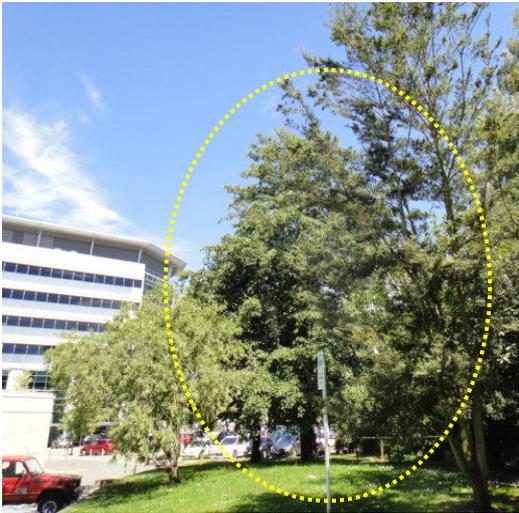
ARBORICULTURAL REPORT – CHRISTCHURCH HOSPITAL ASB PROJECT

Tree ID:	CH-21	
Tree Species:	Blue Atlas Cedar <i>(Cedrus atlantica glauca)</i>	
Protection Status:	Nil	
Age Class:	Semi-Mature	
Height:	13.0m	
Canopy Spread:	11.0m	
DBH:	0.4m	
Health:	3 (Average)	
Form:	3 (Average)	
Overall Condition:	3 (Average)	
Comments:	Tree to be removed. Within vicinity of new building.	

Tree ID:	CH-22	
Tree Species:	Blue Atlas Cedar <i>(Cedrus atlantica glauca)</i>	
Protection Status:	Nil	
Age Class:	Semi-Mature	
Height:	11.0m	
Canopy Spread:	9.0m	
DBH:	0.35m	
Health:	3 (Average)	
Form:	3 (Average)	
Overall Condition:	3 (Average)	
Comments:	Tree to be removed. Within vicinity of new building and loading dock.	

ARBORICULTURAL REPORT – CHRISTCHURCH HOSPITAL ASB PROJECT

Tree ID:	CH-23	
Tree Species:	Sycamore <i>(Acer pseudoplatanus)</i>	
Protection Status:	Nil	
Age Class:	Mature	
Height:	16.0m	
Canopy Spread:	17.0m	
DBH:	0.65m	
Health:	3 (Average)	
Form:	3 (Average)	
Overall Condition:	3 (Average)	
Comments:	Tree to be removed. Within vicinity of new building.	

Tree ID:	CH-24	
Tree Species:	2 x Alder <i>(Alnus sp)</i>	
Protection Status:	Nil	
Age Class:	Mature	
Height:	16.0m	
Canopy Spread:	12.0m	
DBH:	0.65m	
Health:	3 (Average)	
Form:	3 (Average)	
Overall Condition:	3 (Average)	
Comments:	Trees to be removed. Within new building footprint.	

ARBORICULTURAL REPORT – CHRISTCHURCH HOSPITAL ASB PROJECT

Tree ID:	CH-25	
Tree Species:	English Oak (<i>Quercus robur</i>)	
Protection Status:	Nil	
Age Class:	Over-Mature	
Height:	20.0m	
Canopy Spread:	23.0m	
DBH:	1.35m	
Health:	3 (Average)	
Form:	3-4 (Average to Poor)	
Overall Condition:	3-4 (Average to Poor)	
Comments:	Tree to be removed. Within new building footprint.	

Tree ID:	CH-26	
Tree Species:	Sycamore (<i>Acer pseudoplatanus</i>)	
Protection Status:	Nil	
Age Class:	Mature	
Height:	12.0m	
Canopy Spread:	13.0m	
DBH:	0.8m	
Health:	3 (Average)	
Form:	3 (Average)	
Overall Condition:	3 (Average)	
Comments:	Tree to be removed. Within new building footprint.	

ARBORICULTURAL REPORT – CHRISTCHURCH HOSPITAL ASB PROJECT

Tree ID:	CH-27	
Tree Species:	Japanese Maple (<i>Acer palmatum</i>)	
Protection Status:	Nil	
Age Class:	Over-Mature	
Height:	7.0m	
Canopy Spread:	11.0m	
DBH:	0.6m (at tree base)	
Health:	3 (Average)	
Form:	4 (Poor)	
Overall Condition:	4 (Poor)	
Comments:	Tree to be removed. Within immediate vicinity of new building.	

Tree ID:	CH-28	
Tree Species:	Turkey Oak (<i>Quercus cerris</i>)	
Protection Status:	Nil	
Age Class:	Mature	
Height:	22.0m	
Canopy Spread:	28.0m	
DBH:	1.2m	
Health:	2 (Good)	
Form:	3 (Average)	
Overall Condition:	3 (Average)	
Comments:	Tree to be removed. Within vicinity of new loading dock.	

ARBORICULTURAL REPORT – CHRISTCHURCH HOSPITAL ASB PROJECT

Tree ID:	CH-29	
Tree Species:	Maple (<i>Acer sp.</i>)	
Protection Status:	Nil	
Age Class:	Mature	
Height:	8.0m	
Canopy Spread:	6.0m	
DBH:	0.25m	
Health:	3 (Average)	
Form:	3 (Average)	
Overall Condition:	3 (Average)	
Comments:	Tree to be removed. Within vicinity of new loading dock.	

Tree ID:	CH-30	
Tree Species:	Red Beech (<i>Nothofagus fusca</i>)	
Protection Status:	Nil	
Age Class:	Over-Mature	
Height:	7.0m	
Canopy Spread:	11.0m	
DBH:	0.6m (at tree base)	
Health:	3-4 (Average to Poor)	
Form:	3-4 (Average to Poor)	
Overall Condition:	3-4 (Average to Poor)	
Comments:	Tree to be removed. Dieback in central stems and sparse foliage density.	

Groups of Smaller Trees and Shrubs

Within the area surrounding the existing temporary Fletchers Construction yard, there are groups of mixed native and exotic trees and shrubs, including species such as; *Maytenus*, *Ilex*, *Rhododendron*, *Fuscospora* (*Nothofagus*), *Podocarpus*, *Dodonaea*, *Sophora*, *Cordyline* and *Pittosporum*.

These trees and shrubs will be within the new building footprint and will require removal.



ARBORICULTURAL REPORT – CHRISTCHURCH HOSPITAL ASB PROJECT

Tree ID:	106450	
Tree Species:	Pink Horse Chestnut <i>(Aesculus x carnea)</i>	
Protection Status:	Nil	
Age Class:	Mature	
Height:	10.0m	
Canopy Spread:	11.0m	
DBH:	0.42m	
Health:	2 (Good)	
Form:	3 (Average)	
Overall Condition:	3 (Average)	
Comments:	Tree to be removed. Within new building footprint.	

Tree ID:	106451	
Tree Species:	Yoshino Cherry <i>(Prunus x Yedoensis)</i>	
Protection Status:	Nil	
Age Class:	Mature	
Height:	6.0m	
Canopy Spread:	7.0m	
DBH:	0.31m	
Health:	3 (Average)	
Form:	3 (Average)	
Overall Condition:	3 (Average)	
Comments:	Tree to be removed. Within new building footprint.	

ARBORICULTURAL REPORT – CHRISTCHURCH HOSPITAL ASB PROJECT

Tree ID:	106452	
Tree Species:	Yoshino Cherry (<i>Prunus x Yedoensis</i>)	
Protection Status:	Nil	
Age Class:	Mature	
Height:	6.0m	
Canopy Spread:	7.0m	
DBH:	0.32m	
Health:	3 (Average)	
Form:	3 (Average)	
Overall Condition:	3 (Average)	
Comments:	Tree to be removed. Within new building footprint.	

Tree ID:	106453	
Tree Species:	Baumann's Horse Chestnut (<i>Aesculus hippocastanum</i> 'Baumannii')	
Protection Status:	Nil	
Age Class:	Mature	
Height:	16.0m	
Canopy Spread:	15.0m	
DBH:	0.76m	
Health:	3 (Average)	
Form:	3 (Average)	
Overall Condition:	3 (Average)	
Comments:	Tree to be removed. Within new building footprint.	

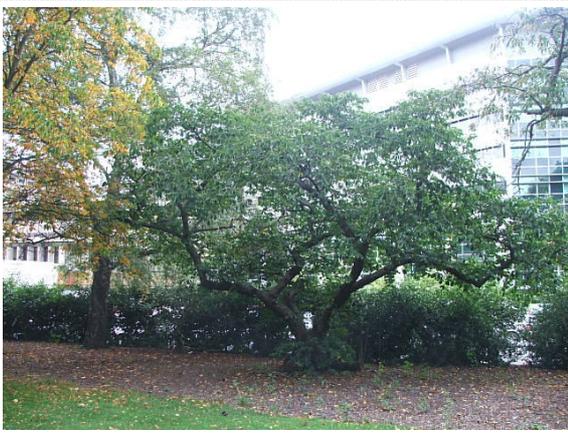
ARBORICULTURAL REPORT – CHRISTCHURCH HOSPITAL ASB PROJECT

Tree ID:	106454	
Tree Species:	Horse Chestnut (<i>Aesculus hippocastanum</i>)	
Protection Status:	Nil	
Age Class:	Mature	
Height:	15.0m	
Canopy Spread:	13.0m	
DBH:	0.55m	
Health:	2 (Good)	
Form:	3 (Average)	
Overall Condition:	3 (Average)	
Comments:	Tree to be removed. Within new building footprint.	

Tree ID:	106455	
Tree Species:	Indian Horse Chestnut (<i>Aesculus indica</i>)	
Protection Status:	Nil	
Age Class:	Mature	
Height:	9.0m	
Canopy Spread:	8.0m	
DBH:	0.29m	
Health:	3 (Average)	
Form:	3 (Average)	
Overall Condition:	3 (Average)	
Comments:	Tree to be removed. Within new building footprint.	

ARBORICULTURAL REPORT – CHRISTCHURCH HOSPITAL ASB PROJECT

Tree ID:	106456	
Tree Species:	Silver Birch <i>(Betula pendula)</i>	
Protection Status:	Nil	
Age Class:	Mature	
Height:	14.0m	
Canopy Spread:	12.0m	
DBH:	0.55m	
Health:	3 (Average)	
Form:	3 (Average)	
Overall Condition:	3 (Average)	
Comments:	Tree to be removed. Within new building footprint.	

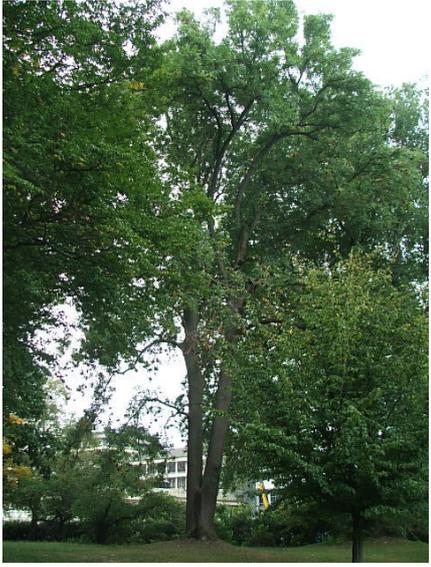
Tree ID:	106457	
Tree Species:	Yoshino Cherry <i>(Prunus x Yedoensis)</i>	
Protection Status:	Nil	
Age Class:	Over-Mature	
Height:	6.0m	
Canopy Spread:	11.0m	
DBH:	0.62m	
Health:	3 (Average)	
Form:	3 (Average)	
Overall Condition:	3 (Average)	
Comments:	Tree to be removed. Within new building footprint.	

ARBORICULTURAL REPORT – CHRISTCHURCH HOSPITAL ASB PROJECT

Tree ID:	106458	
Tree Species:	Yoshino Cherry (<i>Prunus x Yedoensis</i>)	
Protection Status:	Nil	
Age Class:	Over-Mature	
Height:	6.0m	
Canopy Spread:	12.0m	
DBH:	0.90m	
Health:	4 (Poor)	
Form:	4 (Poor)	
Overall Condition:	4 (Poor)	
Comments:	Tree to be removed. Within new building footprint.	

Tree ID:	106460	
Tree Species:	English Elm (<i>Ulmus procera</i>)	
Protection Status:	Nil	
Age Class:	Mature	
Height:	N/A	
Canopy Spread:	N/A	
DBH:	N/A	
Health:	5 (Very-Poor)	
Form:	5 (Very-Poor)	
Overall Condition:	5 (Very-Poor)	
Comments:	Tree to be removed. Within new building footprint. Tree trunk failed structurally during recent high wind conditions.	

ARBORICULTURAL REPORT – CHRISTCHURCH HOSPITAL ASB PROJECT

Tree ID:	106461	
Tree Species:	English Ash (<i>Fraxinus excelsior</i>)	
Protection Status:	Nil	
Age Class:	Over-Mature	
Height:	24.0m	
Canopy Spread:	17.0m	
DBH:	1.06m	
Health:	3 (Average)	
Form:	3 (Average)	
Overall Condition:	3 (Average)	
Comments:	Tree to be removed. Within new building footprint.	

Tree ID:	106462	
Tree Species:	Persian Ironwood (<i>Parrotia persica</i>)	
Protection Status:	Nil	
Age Class:	Mature	
Height:	7.0m	
Canopy Spread:	7.0m	
DBH:	0.26m	
Health:	2 (Good)	
Form:	3 (Average)	
Overall Condition:	3 (Average)	
Comments:	Tree to be removed. Within new building footprint.	

ARBORICULTURAL REPORT – CHRISTCHURCH HOSPITAL ASB PROJECT

Tree ID:	106463	
Tree Species:	Weeping Ash (<i>Fraxinus excelsior</i> Pendula)	
Protection Status:	Nil	
Age Class:	Over-Mature	
Height:	18.0m	
Canopy Spread:	11.0m	
DBH:	0.71m	
Health:	3 (Average)	
Form:	3 (Average)	
Overall Condition:	3 (Average)	
Comments:	Tree to be removed. Within new building footprint.	

Tree ID:	106464	
Tree Species:	Golden Indian Bean Tree (<i>Catalpa bignonioides</i> 'Aurea')	
Protection Status:	Nil	
Age Class:	Mature	
Height:	8.0m	
Canopy Spread:	8.0m	
DBH:	0.26m	
Health:	3 (Average)	
Form:	3 (Average)	
Overall Condition:	3 (Average)	
Comments:	Tree to be removed. Within new building footprint.	

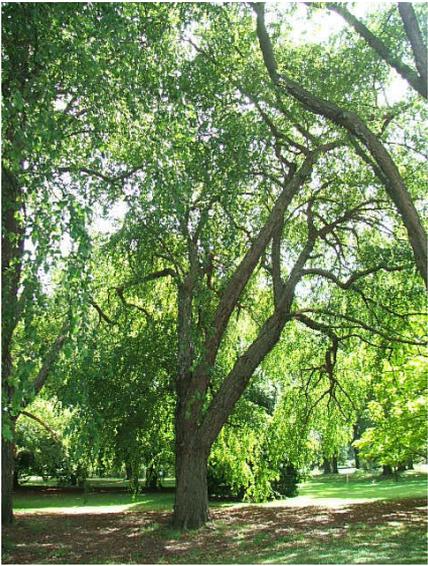
ARBORICULTURAL REPORT – CHRISTCHURCH HOSPITAL ASB PROJECT

Tree ID:	106465	
Tree Species:	Caucasian Wingnut (<i>Pterocarya fraxinifolia</i>)	
Protection Status:	Nil	
Age Class:	Mature	
Height:	15.0m	
Canopy Spread:	15.0m	
DBH:	0.85m	
Health:	2 (Good)	
Form:	3 (Average)	
Overall Condition:	3 (Average)	
Comments:	Tree to be removed. Within new building footprint.	

Tree ID:	106466	
Tree Species:	Bird Cherry (<i>Prunus padus</i>)	
Protection Status:	Nil	
Age Class:	Mature	
Height:	18.0m	
Canopy Spread:	14.0m	
DBH:	0.85m	
Health:	2 (Good)	
Form:	3 (Average)	
Overall Condition:	3 (Average)	
Comments:	Tree to be removed. Within new building footprint.	

ARBORICULTURAL REPORT – CHRISTCHURCH HOSPITAL ASB PROJECT

Tree ID:	106467	
Tree Species:	River Birch (<i>Betula nigra</i>)	
Protection Status:	Nil	
Age Class:	Mature	
Height:	18.0m	
Canopy Spread:	20.0m	
DBH:	0.96m	
Health:	3 (Average)	
Form:	3 (Average)	
Overall Condition:	3 (Average)	
Comments:	Tree to be removed. Within new building footprint.	

Tree ID:	106468	
Tree Species:	River Birch (<i>Betula nigra</i>)	
Protection Status:	Nil	
Age Class:	Mature	
Height:	18.0m	
Canopy Spread:	18.0m	
DBH:	0.87m	
Health:	3 (Average)	
Form:	3 (Average)	
Overall Condition:	3 (Average)	
Comments:	Tree to be removed. Within new building footprint.	

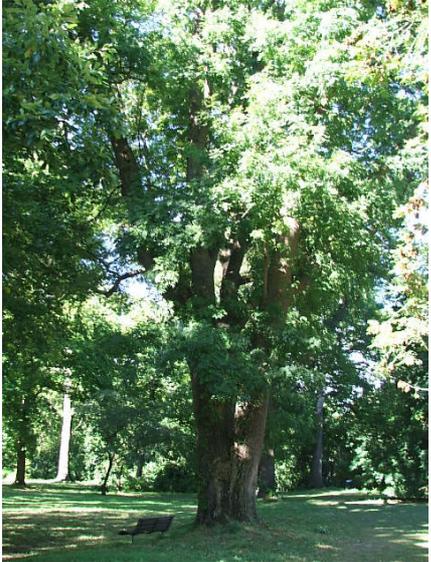
ARBORICULTURAL REPORT – CHRISTCHURCH HOSPITAL ASB PROJECT

Tree ID:	106469	
Tree Species:	River Birch (<i>Betula nigra</i>)	
Protection Status:	Nil	
Age Class:	Mature	
Height:	17.0m	
Canopy Spread:	16.0m	
DBH:	0.88m	
Health:	3 (Average)	
Form:	3 (Average)	
Overall Condition:	3 (Average)	
Comments:	Tree to be removed. Within new building footprint.	

Tree ID:	106472	
Tree Species:	Falcate Yellowwood (<i>Podocarpus henkelii</i>)	
Protection Status:	Nil	
Age Class:	Mature	
Height:	8.0m	
Canopy Spread:	8.0m	
DBH:	0.37m	
Health:	2 (Good)	
Form:	3 (Average)	
Overall Condition:	3 (Average)	
Comments:	Tree to be removed. Within new building footprint.	

ARBORICULTURAL REPORT – CHRISTCHURCH HOSPITAL ASB PROJECT

Tree ID:	106478	
Tree Species:	Common Hornbeam <i>(Carpinus betulus)</i>	
Protection Status:	Nil	
Age Class:	Mature	
Height:	13.0m	
Canopy Spread:	13.0m	
DBH:	0.61m	
Health:	3 (Average)	
Form:	3 (Average)	
Overall Condition:	3 (Average)	
Comments:	Tree to be removed. Within new building footprint.	

Tree ID:	106484	
Tree Species:	English Ash <i>(Fraxinus excelsior)</i>	
Protection Status:	Nil	
Age Class:	Over-Mature	
Height:	25.0m	
Canopy Spread:	17.0m	
DBH:	1.34m	
Health:	3 (Average)	
Form:	3 (Average)	
Overall Condition:	3 (Average)	
Comments:	Tree to be removed. Within new building footprint.	

ARBORICULTURAL REPORT – CHRISTCHURCH HOSPITAL ASB PROJECT

Tree ID:	106485	
Tree Species:	English Ash <i>(Fraxinus excelsior)</i>	
Protection Status:	Nil	
Age Class:	Over-Mature	
Height:	25.0m	
Canopy Spread:	20.0m	
DBH:	1.01m	
Health:	3 (Average)	
Form:	3 (Average)	
Overall Condition:	3 (Average)	
Comments:	Tree to be removed. Within new building footprint.	

Tree ID:	106486	
Tree Species:	English Ash <i>(Fraxinus excelsior)</i>	
Protection Status:	Nil	
Age Class:	Over-Mature	
Height:	23.0m	
Canopy Spread:	12.0m	
DBH:	0.95m	
Health:	3 (Average)	
Form:	4 (Poor)	
Overall Condition:	4 (Poor)	
Comments:	Tree to be removed. Within new building footprint.	

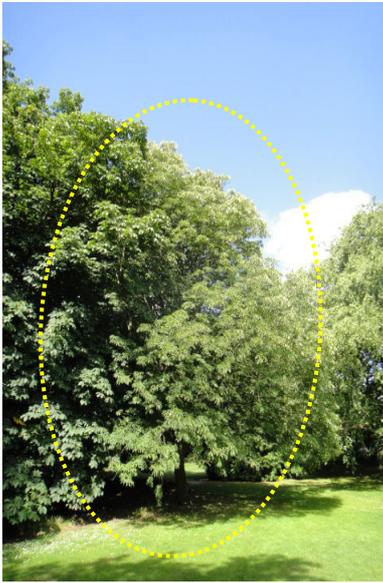
ARBORICULTURAL REPORT – CHRISTCHURCH HOSPITAL ASB PROJECT

Tree ID:	106487	
Tree Species:	English Ash (<i>Fraxinus excelsior</i>)	
Protection Status:	Nil	
Age Class:	Over-Mature	
Height:	25.0m	
Canopy Spread:	16.0m	
DBH:	1.0m	
Health:	3 (Average)	
Form:	3 (Average)	
Overall Condition:	3 (Average)	
Comments:	Tree to be removed. Within new building footprint.	

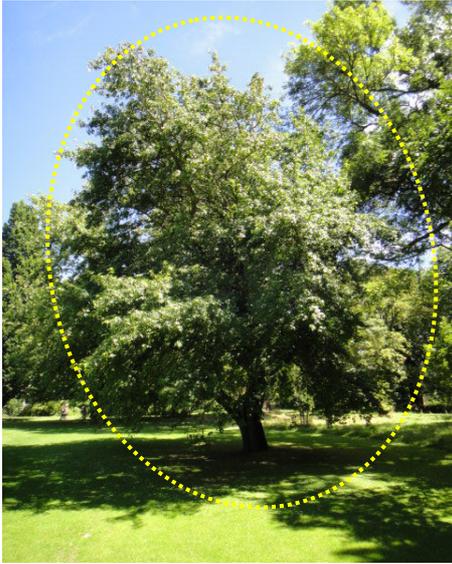
Tree ID:	106494	
Tree Species:	English Oak (<i>Quercus robur</i>)	
Protection Status:	Nil	
Age Class:	Over-Mature	
Height:	24.0m	
Canopy Spread:	24.0m	
DBH:	1.3m	
Health:	3 (Average)	
Form:	4 (Poor)	
Overall Condition:	4 (Poor)	
Comments:	Tree to be removed. Within new building footprint.	

ARBORICULTURAL REPORT – CHRISTCHURCH HOSPITAL ASB PROJECT

Tree ID:	106470	
Tree Species:	White Mulberry (<i>Morus alba</i>)	
Protection Status:	CCC Asset	
Age Class:	Mature	
Height:	9.0m	
Canopy Spread:	14.0m	
DBH:	0.56m	
Health:	3 (Average)	
Form:	3 (Average)	
Overall Condition:	3 (Average)	
Comments:	Retain and protect during construction works. Tree within vicinity of new boundary, and may require minor lateral boundary reduction pruning to provide adequate clearance.	

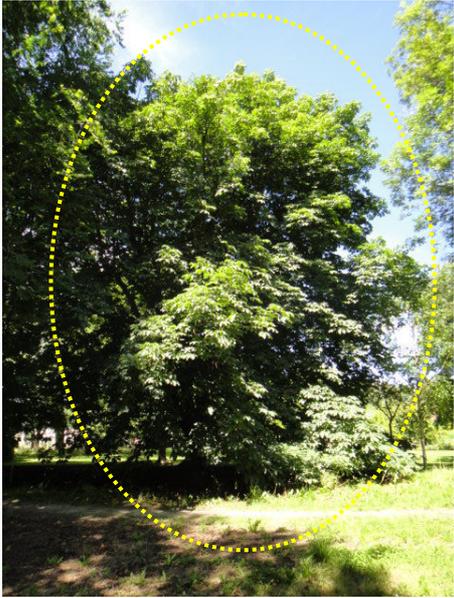
Tree ID:	106471	
Tree Species:	Sweet Buckeye (<i>Aesculus flava</i>)	
Protection Status:	CCC Asset	
Age Class:	Mature	
Height:	11.0m	
Canopy Spread:	10.0m	
DBH:	0.41m	
Health:	3 (Average)	
Form:	3 (Average)	
Overall Condition:	3 (Average)	
Comments:	Tree to be removed. Tree base within 2.0 metres of boundary line.	

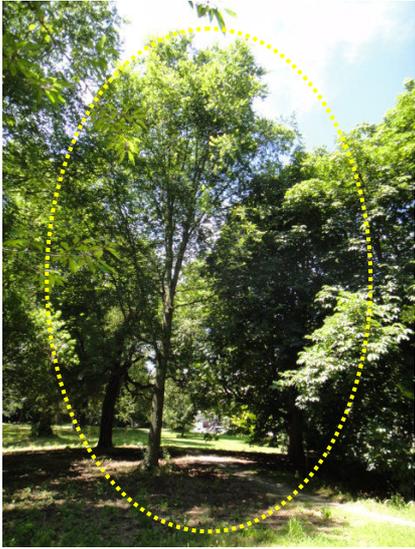
ARBORICULTURAL REPORT – CHRISTCHURCH HOSPITAL ASB PROJECT

Tree ID:	112938	
Tree Species:	Sweetgum (<i>Liquidambar styraciflua</i> Worpleston)	
Protection Status:	CCC Asset	
Age Class:	Over-Mature	
Height:	12.0m	
Canopy Spread:	16.0m	
DBH:	0.85m	
Health:	3 (Average)	
Form:	3 (Average)	
Overall Condition:	3 (Average)	
Comments:	<p>Retain and protect during construction works.</p> <p>Tree within vicinity of new boundary.</p> <p>Tree has an old stem failure wound at 1.5 metres above ground, and decay in trunk and branch structure. Two historic cable braces in mid canopy. Tree may be prone to structural failures.</p>	

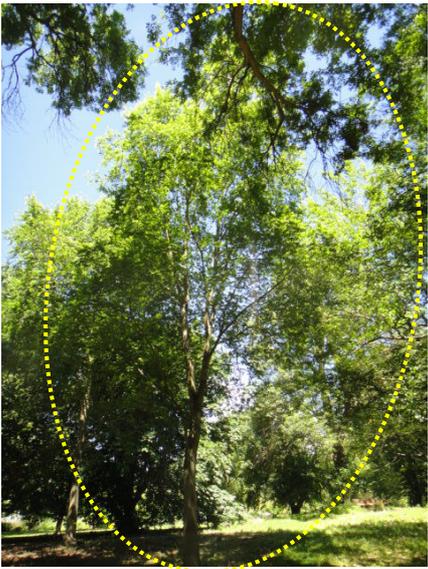
Tree ID:	112926	
Tree Species:	English Ash (<i>Fraxinus excelsior</i>)	
Protection Status:	CCC Asset	
Age Class:	Over-Mature	
Height:	25.0m	
Canopy Spread:	18.0m	
DBH:	0.9m	
Health:	3 (Average)	
Form:	3 (Average)	
Overall Condition:	3 (Average)	
Comments:	<p>Tree should be removed due to change in park use.</p> <p>Tree within vicinity of new boundary.</p> <p>Tree has decay in trunk and branch structure, and may be prone to structural failures within vicinity of new building.</p>	

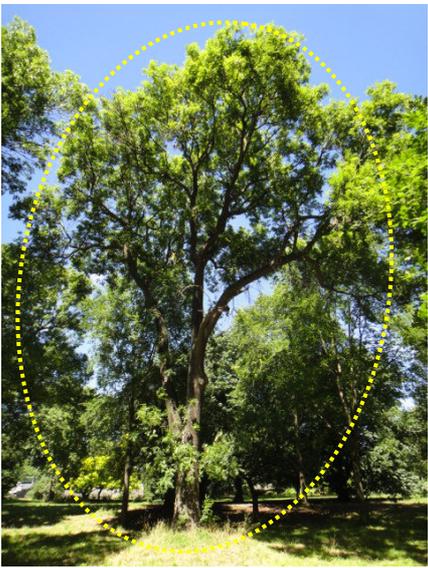
ARBORICULTURAL REPORT – CHRISTCHURCH HOSPITAL ASB PROJECT

Tree ID:	112912	
Tree Species:	Baumann's Horse Chestnut (<i>Aesculus hippocastanum Baumannii</i>)	
Protection Status:	CCC Asset	
Age Class:	Mature	
Height:	18.0m	
Canopy Spread:	14.0m	
DBH:	0.5m	
Health:	3 (Average)	
Form:	3 (Average)	
Overall Condition:	3 (Average)	
Comments:	<p>Retain and protect during construction works (if possible). Tree within near vicinity of new boundary. It may be possible to retain this tree during development. The canopy extends approximately 2.0 metres over the new boundary line, and boundary reduction pruning will be required.</p>	

Tree ID:	112907	
Tree Species:	English Elm (<i>Ulmus procera</i>)	
Protection Status:	CCC Asset	
Age Class:	Mature	
Height:	18.0m	
Canopy Spread:	14.0m	
DBH:	0.5m	
Health:	3 (Average)	
Form:	3 (Average)	
Overall Condition:	3 (Average)	
Comments:	<p>Tree should be removed due to change in park use. Tree within vicinity of new boundary. Ongoing conflicts between the tree and new building are likely to occur as the tree develops and matures within the vicinity of the building.</p>	

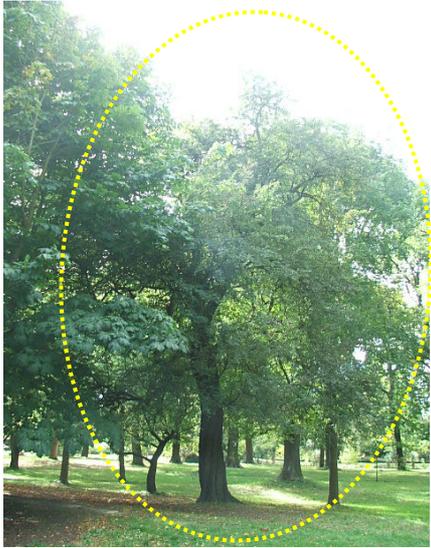
ARBORICULTURAL REPORT – CHRISTCHURCH HOSPITAL ASB PROJECT

Tree ID:	112908	
Tree Species:	English Elm (<i>Ulmus procera</i>)	
Protection Status:	CCC Asset	
Age Class:	Mature	
Height:	18.0m	
Canopy Spread:	13.0m	
DBH:	0.45m	
Health:	3 (Average)	
Form:	4 (Poor)	
Overall Condition:	4 (Poor)	
Comments:	<p>Tree should be removed due to change in park use.</p> <p>This tree was found to have a failed (included) stem union, and should be removed.</p>	

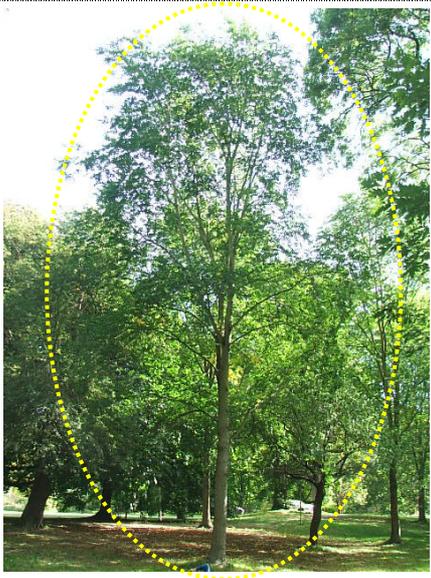
Tree ID:	112901	
Tree Species:	English Ash (<i>Fraxinus excelsior</i>)	
Protection Status:	CCC Asset	
Age Class:	Over-Mature	
Height:	25.0m	
Canopy Spread:	25.0m	
DBH:	1.0m	
Health:	3 (Average)	
Form:	3 (Average)	
Overall Condition:	3 (Average)	
Comments:	<p>Tree should be removed due to change in park use.</p> <p>Although not within the immediate vicinity of the new building, the tree has decay in trunk and branch structure and may be prone to structural failures following changes to the site.</p> <p>There is an open area within the vicinity of this tree that would be suitable for replacement trees to be planted.</p>	

ARBORICULTURAL REPORT – CHRISTCHURCH HOSPITAL ASB PROJECT

Tree ID:	112886	
Tree Species:	English Ash (<i>Fraxinus excelsior</i>)	
Protection Status:	CCC Asset	
Age Class:	Over-Mature	
Height:	25.0m	
Canopy Spread:	21.0m	
DBH:	1.1m	
Health:	3 (Average)	
Form:	3 (Average)	
Overall Condition:	3 (Average)	
Comments:	<p>Tree should be removed due to change in park use.</p> <p>Although not within the immediate vicinity of the new building, the tree has decay in trunk and branch structure and may be prone to structural failures following changes to the site.</p> <p>There are three semi-mature emerging trees within the vicinity of the subject tree that would eventually assist with mitigating the loss in tree cover.</p>	

Tree ID:	106474	
Tree Species:	Double White Hawthorn (<i>Crataegus laevigatus</i> Plena)	
Protection Status:	CCC Asset	
Age Class:	Over-Mature	
Height:	18.0m	
Canopy Spread:	12.0m	
DBH:	0.74m	
Health:	3 (Average)	
Form:	4 (Poor)	
Overall Condition:	4 (Poor)	
Comments:	<p>Tree should be removed.</p> <p>Tree located within vicinity of new boundary line, and would require significant pruning if retained.</p> <p>Tree has extensive decay and structural decline.</p>	

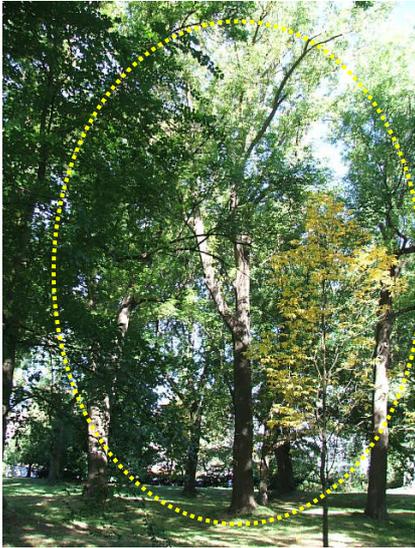
ARBORICULTURAL REPORT – CHRISTCHURCH HOSPITAL ASB PROJECT

Tree ID:	106475	
Tree Species:	English Elm (<i>Ulmus procera</i>)	
Protection Status:	CCC Asset	
Age Class:	Mature	
Height:	19.0m	
Canopy Spread:	7.0m	
DBH:	0.37m	
Health:	3 (Average)	
Form:	3 (Average)	
Overall Condition:	3 (Average)	
Comments:	<p>Retain and protect during construction works.</p> <p>Tree is near the new boundary, but is in reasonably good condition and should be retained.</p>	

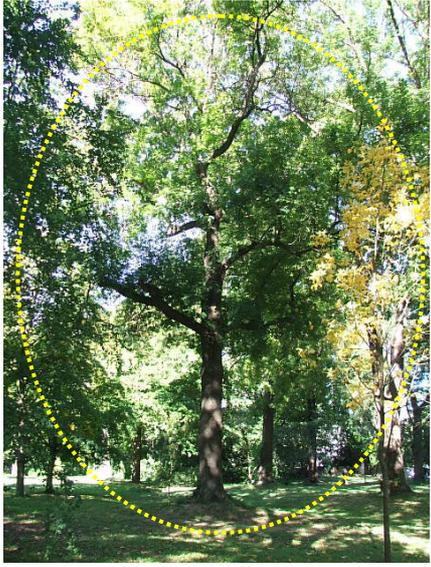
Tree ID:	106477	
Tree Species:	English Elm (<i>Ulmus procera</i>)	
Protection Status:	CCC Asset	
Age Class:	Over-Mature	
Height:	25.0m	
Canopy Spread:	18.0m	
DBH:	1.0m	
Health:	3 (Average)	
Form:	3 (Average)	
Overall Condition:	3 (Average)	
Comments:	<p>Tree should be removed.</p> <p>Tree located within near vicinity of new boundary line, and would require significant pruning if retained.</p> <p>The root system of the tree is also likely to be compromised during the construction works.</p>	

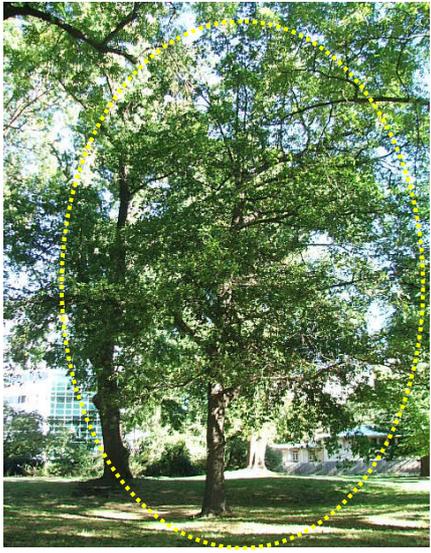
ARBORICULTURAL REPORT – CHRISTCHURCH HOSPITAL ASB PROJECT

Tree ID:	106479	
Tree Species:	English Ash <i>(Fraxinus excelsior)</i>	
Protection Status:	CCC Asset	
Age Class:	Over-Mature	
Height:	25.0m	
Canopy Spread:	18.0m	
DBH:	0.86m	
Health:	3 (Average)	
Form:	3 (Average)	
Overall Condition:	3 (Average)	
Comments:	<p>Tree should be removed due to change in park use.</p> <p>The canopy of this tree extends over the new boundary line.</p> <p>There is decay in the trunk and branch structure, and the tree may be prone to structural failures following changes to the site.</p>	

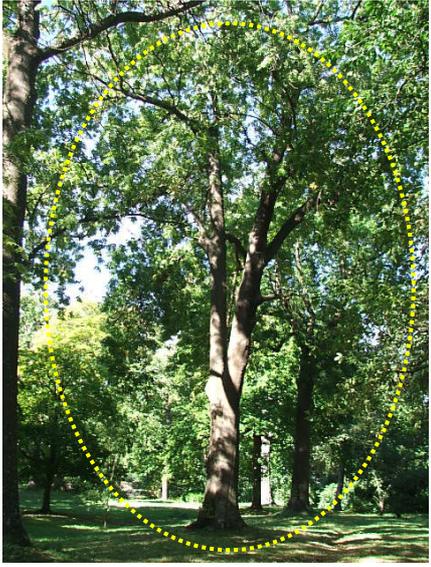
Tree ID:	106480	
Tree Species:	English Ash <i>(Fraxinus excelsior)</i>	
Protection Status:	CCC Asset	
Age Class:	Over-Mature	
Height:	23.0m	
Canopy Spread:	18.0m	
DBH:	1.0m	
Health:	3 (Average)	
Form:	3 (Average)	
Overall Condition:	3 (Average)	
Comments:	<p>Tree should be removed due to change in park use.</p> <p>The tree will be within the vicinity of the new building, and has decay in the trunk and branch structure and may be prone to structural failures following changes to the site.</p>	

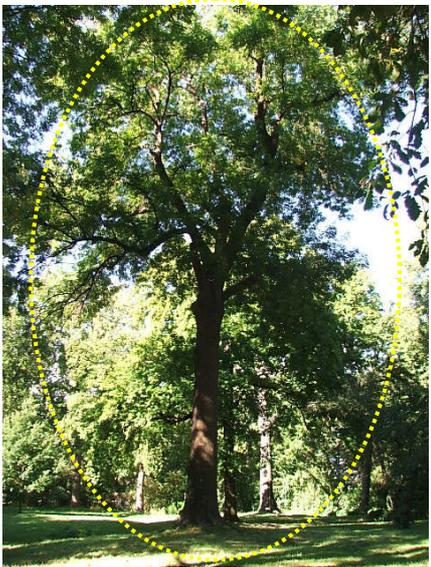
ARBORICULTURAL REPORT – CHRISTCHURCH HOSPITAL ASB PROJECT

Tree ID:	106481	
Tree Species:	English Ash (<i>Fraxinus excelsior</i>)	
Protection Status:	CCC Asset	
Age Class:	Over-Mature	
Height:	23.0m	
Canopy Spread:	17.0m	
DBH:	0.92m	
Health:	3 (Average)	
Form:	3 (Average)	
Overall Condition:	3 (Average)	
Comments:	<p>Tree should be removed due to change in park use.</p> <p>Although not within the immediate vicinity of the new building, the tree has been partially suppressed by tree ID 106480, with decay in the trunk and branch structure and may be prone to structural failures following changes to the site.</p>	

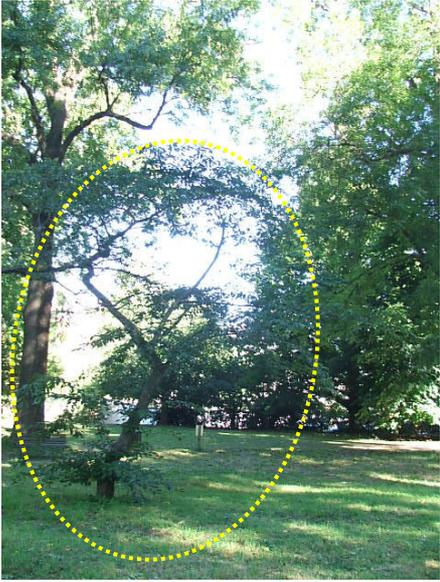
Tree ID:	106483	
Tree Species:	Oak (<i>Quercus sp.</i>)	
Protection Status:	CCC Asset	
Age Class:	Mature	
Height:	19.0m	
Canopy Spread:	17.0m	
DBH:	0.58m	
Health:	3 (Average)	
Form:	3 (Average)	
Overall Condition:	3 (Average)	
Comments:	<p>Tree to be removed.</p> <p>Within immediate vicinity of the new boundary line and building.</p>	

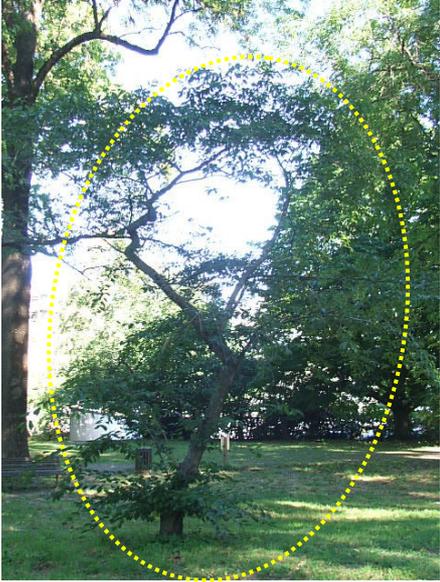
ARBORICULTURAL REPORT – CHRISTCHURCH HOSPITAL ASB PROJECT

Tree ID:	106482	
Tree Species:	English Ash <i>(Fraxinus excelsior)</i>	
Protection Status:	CCC Asset	
Age Class:	Over-Mature	
Height:	25.0m	
Canopy Spread:	23.0m	
DBH:	1.16m	
Health:	3 (Average)	
Form:	3 (Average)	
Overall Condition:	3 (Average)	
Comments:	<p>Tree should be removed due to change in park use.</p> <p>The canopy of this tree extends over the new boundary line.</p> <p>There is decay in the trunk and branch structure, and the tree may be prone to structural failures following changes to the site.</p>	

Tree ID:	106490	
Tree Species:	English Ash <i>(Fraxinus excelsior)</i>	
Protection Status:	CCC Asset	
Age Class:	Over-Mature	
Height:	24.0m	
Canopy Spread:	17.0m	
DBH:	1.15m	
Health:	3 (Average)	
Form:	3 (Average)	
Overall Condition:	3 (Average)	
Comments:	<p>Tree should be removed due to change in park use.</p> <p>The canopy of this tree extends over the new boundary line.</p> <p>There is decay in the trunk and branch structure, and the tree may be prone to structural failures following changes to the site.</p>	

ARBORICULTURAL REPORT – CHRISTCHURCH HOSPITAL ASB PROJECT

Tree ID:	106489	
Tree Species:	Yoshino Cherry (<i>Prunus x Yedoensis</i>)	
Protection Status:	CCC Asset	
Age Class:	Over-Mature	
Height:	7.0m	
Canopy Spread:	8.0m	
DBH:	0.26m	
Health:	4 (Poor)	
Form:	4 (Poor)	
Overall Condition:	4 (Poor)	
Comments:	Tree to be removed. Within immediate vicinity of the new boundary line and building. Tree in poor condition.	

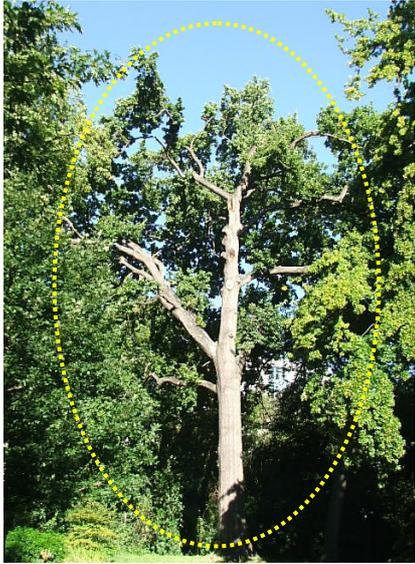
Tree ID:	106488	
Tree Species:	Yoshino Cherry (<i>Prunus x Yedoensis</i>)	
Protection Status:	CCC Asset	
Age Class:	Over-Mature	
Height:	8.0m	
Canopy Spread:	8.0m	
DBH:	0.26m	
Health:	4 (Poor)	
Form:	3 (Average)	
Overall Condition:	4 (Poor)	
Comments:	Tree to be removed. Within immediate vicinity of the new boundary line and building. Tree in poor condition.	

ARBORICULTURAL REPORT – CHRISTCHURCH HOSPITAL ASB PROJECT

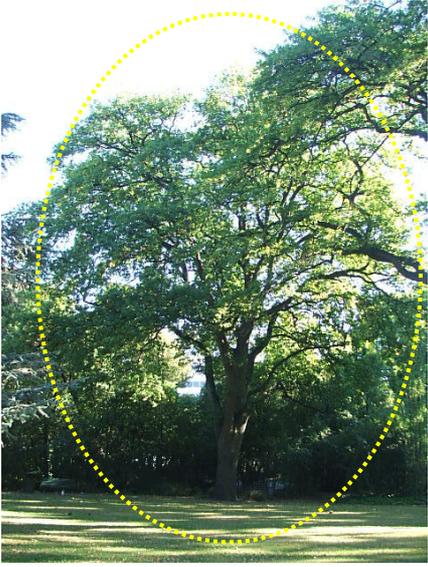
Tree ID:	106491	
Tree Species:	English Oak (<i>Quercus robur</i>)	
Protection Status:	CCC Asset	
Age Class:	Over-Mature	
Height:	21.0m	
Canopy Spread:	20.0m	
DBH:	0.81m	
Health:	2 (Good)	
Form:	3 (Average)	
Overall Condition:	3 (Average)	
Comments:	Retain and protect during construction works.	

Tree ID:	106493	
Tree Species:	Turkey Oak (<i>Quercus cerris</i>)	
Protection Status:	CCC Asset	
Age Class:	Over-Mature	
Height:	20.0m	
Canopy Spread:	18.0m	
DBH:	0.75m	
Health:	3 (Average)	
Form:	3 (Average)	
Overall Condition:	3 (Average)	
Comments:	<p>Tree should be removed due to change in park use.</p> <p>The base of the tree is approximately 7.0 metres from the new boundary line, and the tree would require extensive clearance pruning if retained.</p> <p>Also, the tree lean and canopy weight is towards the boundary.</p>	

ARBORICULTURAL REPORT – CHRISTCHURCH HOSPITAL ASB PROJECT

Tree ID:	106492	
Tree Species:	English Oak (<i>Quercus robur</i>)	
Protection Status:	CCC Asset	
Age Class:	Over-Mature	
Height:	23.0m	
Canopy Spread:	18.0m	
DBH:	1.25m	
Health:	3 (Average)	
Form:	4 (Poor)	
Overall Condition:	4 (Poor)	
Comments:	<p>Tree should be removed due to change in park use.</p> <p>Although not within the immediate vicinity of the new building, the tree has had multiple previous structural failures and further failures are likely.</p>	

ARBORICULTURAL REPORT – CHRISTCHURCH HOSPITAL ASB PROJECT

Tree ID:	CH-10	
Tree Species:	English Oak (<i>Quercus robur</i>)	
Protection Status:	Nil	
Age Class:	Mature	
Height:	21.0m	
Canopy Spread:	25.0m	
DBH:	1.05m	
Health:	3 (Average)	
Form:	3 (Average)	
Overall Condition:	3 (Average)	
Comments:	<p>Tree should be removed due to change in use of area.</p> <p>The tree is located within the vicinity of the new building, and lateral reduction pruning would be required if the tree is retained.</p> <p>Tree as previous structural failures, and further failures are likely following changes to the site.</p>	

Northern Site Access



Tree ID:	CH-28	
Tree Species:	Turkey Oak (<i>Quercus cerris</i>)	
Protection Status:	Nil	
Age Class:	Mature	
Height:	22.0m	
Canopy Spread:	28.0m	
DBH:	1.2m	
Health:	2 (Good)	
Form:	2 (Good)	
Overall Condition:	2 (Good)	
Comments:	<p>This tree is in good condition and should be retained and protected if possible. If possible works within the drip line (canopy spread) should be limited to the existing carriageway.</p> <p>A bridging platform on pile foundations could be constructed within the drip line for a vehicle turning circle. However, damage to the root system of the tree and potential adverse effects on tree health may still occur.</p> <p>It may be possible to construct a turning bay east of this tree, outside the tree drip line, resulting in the removal of tree CH-29.</p> <p>Minor pruning may be required over the carriageway to increase clearance for over-height loads.</p>	

ARBORICULTURAL REPORT – CHRISTCHURCH HOSPITAL ASB PROJECT

Tree ID:	CH-29	
Tree Species:	Maple (<i>Acer sp.</i>)	
Protection Status:	Nil	
Age Class:	Mature	
Height:	8.0m	
Canopy Spread:	6.0m	
DBH:	0.25m	
Health:	3 (Average)	
Form:	3 (Average)	
Overall Condition:	3 (Average)	
Comments:	This tree may require removal for vehicle access (truck turning bay).	

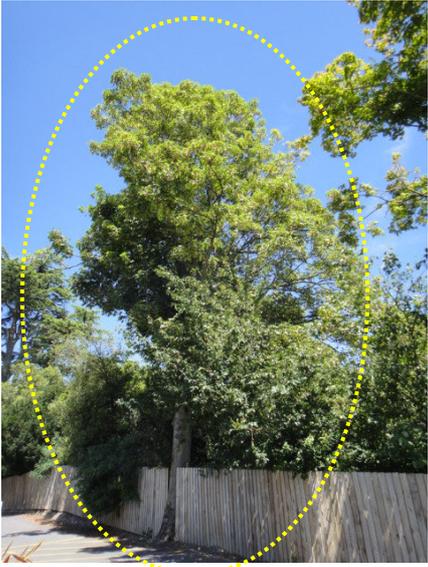
Riccarton Avenue Access



Tree ID:	112931	
Tree Species:	Deodar Cedar <i>(Cedrus deodara)</i>	
Protection Status:	CCC Asset	
Age Class:	Mature	
Height:	24.0m	
Canopy Spread:	17.0m	
DBH:	1.3m	
Health:	3 (Average)	
Form:	3 (Average)	
Overall Condition:	3 (Average)	
Comments:		

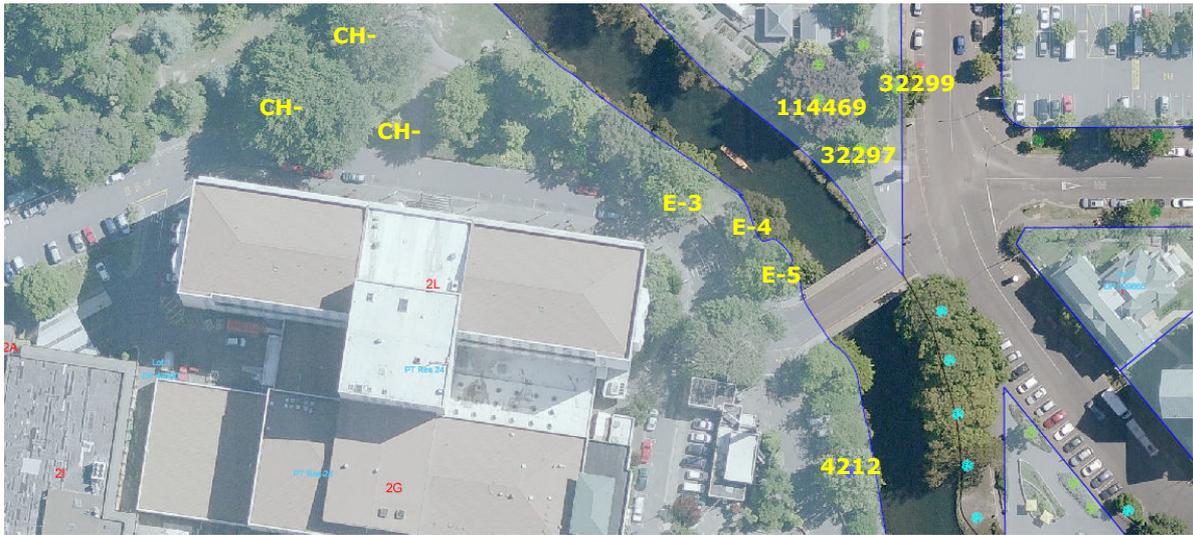


ARBORICULTURAL REPORT – CHRISTCHURCH HOSPITAL ASB PROJECT

Tree ID:	112927	
Tree Species:	Sycamore (<i>Acer pseudoplatanus</i>)	
Protection Status:	CCC Asset	
Age Class:	Mature	
Height:	14.0m	
Canopy Spread:	11.0m	
DBH:	0.45m	
Health:	3 (Average)	
Form:	3 (Average)	
Overall Condition:	3 (Average)	
Comments:		



Rolleston Street Bridge



Tree ID:	32297	
Tree Species:	Ginkgo biloba	
Protection Status:	CCC Asset	
Age Class:	Mature	
Height:	8.0m	
Canopy Spread:	14.0m	
DBH:	0.42m	
Health:	3 (Average)	
Form:	3 (Average)	
Overall Condition:	3 (Average)	
Comments:		

ARBORICULTURAL REPORT – CHRISTCHURCH HOSPITAL ASB PROJECT

Tree ID:	32299	
Tree Species:	Ginkgo biloba	
Protection Status:	CCC Asset	
Age Class:	Mature	
Height:	10.0m	
Canopy Spread:	16.0m	
DBH:	0.6m	
Health:	3 (Average)	
Form:	3 (Average)	
Overall Condition:	3 (Average)	
Comments:		

Tree ID:	114469	
Tree Species:	Fagus sylvatica Purpurea	
Protection Status:	CCC Asset	
Age Class:	Mature	
Height:	15.0m	
Canopy Spread:	18.0m	
DBH:	0.8m	
Health:	3 (Average)	
Form:	3 (Average)	
Overall Condition:	3 (Average)	
Comments:		

Bridge Area – Hospital Side

Tree ID:	E-03	
Tree Species:	Species: English Oak (<i>Quercus robur</i>)	
Protection Status:		
Age Class:	Over-Mature	
Height:	17.0m	
Canopy Spread:	18.0m	
DBH:	0.8m	
Health:	4 (Poor)	
Form:	4 (Poor)	
Overall Condition:	4 (Poor)	
Comments:	The lowest branch on the southern side of the tree may require clearance pruning for over-height loads to access the site.	

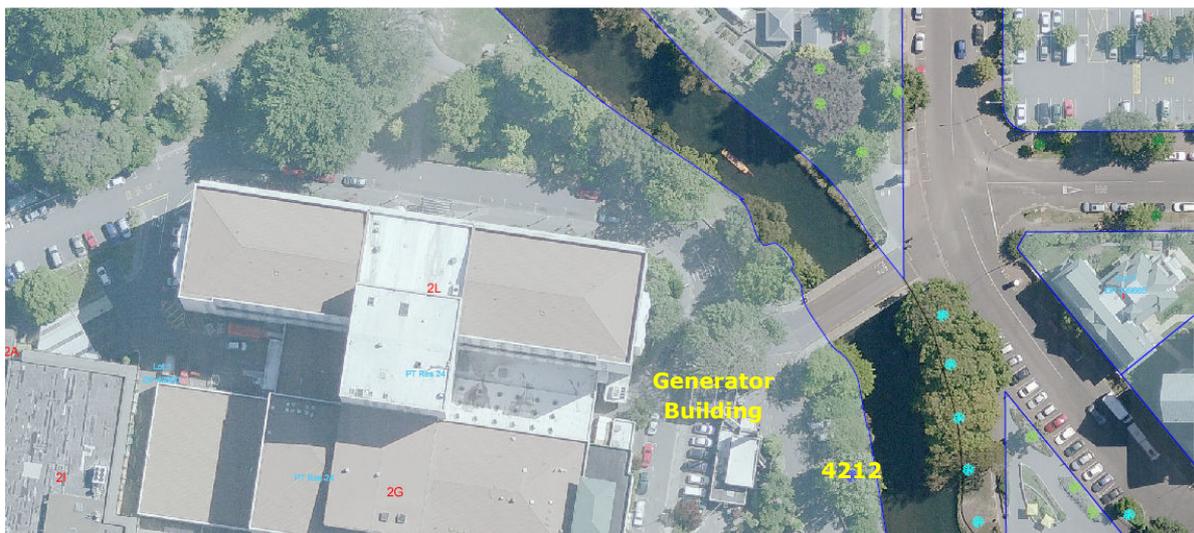
Tree ID:	E-04	
Tree Species:	X3 Silver Birch (<i>Betula pendula</i>)	
Protection Status:		
Age Class:	Mature	
Height:	Up to 14.0m	
Canopy Spread:	Up to 10.0m	
DBH:	Up to 0.4m	
Health:	3 (Average)	
Form:	3 (Average)	
Overall Condition:	3 (Average)	
Comments:		

ARBORICULTURAL REPORT – CHRISTCHURCH HOSPITAL ASB PROJECT

Tree ID:	E-05	
Tree Species:	4X Sweet Gum <i>(Liquidambar styraciflua)</i>	
Protection Status:	Nil	
Age Class:	Mature	
Height:	Up to 14.0m	
Canopy Spread:	Up to 10.0m	
DBH:	Up to 0.4m	
Health:	3 (Average)	
Form:	3 (Average)	
Overall Condition:	3 (Average)	
Comments:		

Pruning of Protected Tree

Tree ID:	4212	
Tree Species:	London Plane <i>(Platanus x acerifolia)</i>	
Protection Status:	Resource Consent	
Age Class:	Mature	
Height:	11.0m	
Canopy Spread:	16.0m	
DBH:	0.6m	
Health:	3 (Average)	
Form:	3 (Average)	
Overall Condition:	3 (Average)	
Comments:	<p>This tree requires maintenance pruning to improve clearance over the drive and car parking area.</p> <p>This will involve the removal of three branches that are up to 12.5cm in diameter (measured at the stem attachments) and other minor branches.</p> <p>It is expected that this work will improve the form and appearance of the tree, and that less than 20% of the existing canopy will be removed.</p> <p>The proposed pruning is to be carried out by a suitably experienced and qualified arboricultural contractor.</p>	



Generator Building

Groups of Smaller Trees and Shrubs

Within the area surrounding Generator Building, there are groups of mixed native and exotic trees and shrubs, including species such as; *Cordyline*, *Pittosporum*, *Dodonaea* and *Ailanthus*.

Some of these trees and shrubs may be affected by site access, and may require pruning or removal.

