HORNBY LIBRARY, SERVICE CENTRE AND SW LEISURE CENTRE KYLE PARK

Landscape and Visual Assessment

Christchurch City Council

6 March 2019

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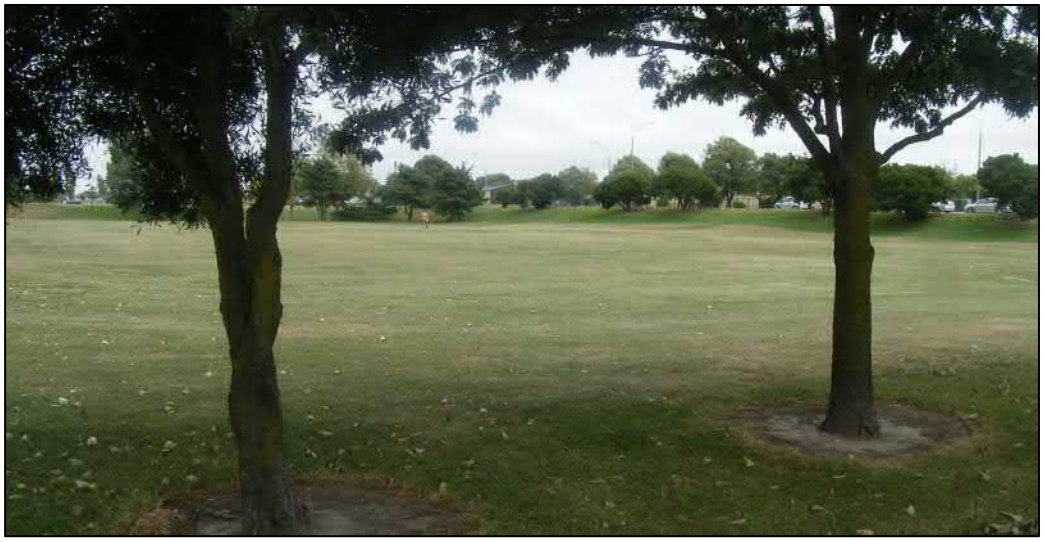

Kyle Park

PREPARED BY THE TECHNICAL SERVICES AND DESIGN TEAM, Vertical Capital Delivery & Professional Services

CHRISTCHURCH CITY COUNCIL

March 2019

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1.0 EXECUTIVE SUMMARY

The proposed Hornby Library, Service Centre and SW Leisure Centre (the centre) was originally proposed to be located within Denton Park. However following public submissions, Council have since approved the north eastern most corner of Kyle Park as the preferred location for the centre.

The purpose of this review is to provide a 'proposal driven' landscape assessment which describes the existing landscape values of the site and how these landscape values will be impacted by the proposed new centre. Based on this, design and mitigation measures have been suggested as a means of improving the integration of the proposed new centre into the site and its immediate surroundings.

This landscape and visual assessment should be read in conjunction with the Kyle Park South West Leisure Centre Preliminary CPTED Review[1] and the Kyle Park Tree Survey [2]which has been prepared in tandem with this assessment.

Based on this review, the proposal to locate the new centre in this general location within the north-eastern most corner of Kyle Park is generally supported from a landscape character and visual amenity perspective.

In terms of the positive effects of this proposal, the development of this prominent corner site will activate this corner of Kyle Park, creating a safer environment. There are opportunities for the centre to create a good interface with the adjacent roads, and build positive relationships with the nearby schools. The remainder of Kyle Park will retain the existing open landscape character with expanses of grass and trees.

Key landscape mitigation and design measures are summarised in Appendix 1 of this review. Tree removals will be carefully considered to allow views into the site, while retaining some sense of the existing character. Past formative processes and historical uses of the site could be referenced through building design, landscape treatment, art work, signage and interpretation. The proposed new centre would also provide an opportunity to integrate with and enhance the existing roading, path and cycleway networks.

[1] (Christchurch City Council, 2019)

[2] (Arbor-Vitae, 2019)

A high quality design and build of the proposed new centre gives opportunities to integrate the building into the Kyle Park landscape and could potentially provide a new aesthetic quality to the site, while adding to the character of the neighbourhood.

2.0 INTRODUCTION

A. BACKGROUND

Through the Council's Long Term Plan 2015-2025 funds were set aside to build a community facility to fill a need in the southwest area of Christchurch which has seen significant population growth.

The proposed Hornby Library, Service Centre and SW Leisure Centre was originally proposed to be located within Denton Park. However following public submissions, Council have since approved the north eastern most corner of Kyle Park as the preferred location for the centre.

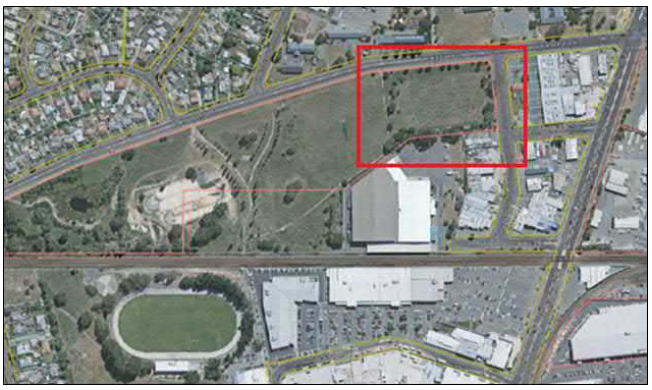
Boffa Miskell was engaged in March 2018 to provide a Comprehensive Safety Audit of the receiving environment around Denton Park and Kyle Park, and key connections to the wider context, including a refined Safety Map, building upon previous reviews undertaken by Christchurch City Councils' Crime Prevention Team.

B. PURPOSE AND SCOPE

The purpose of this review is to provide a 'proposal driven' landscape assessment which describes the existing landscape values of the receiving environment, and to understand how these landscape values will be impacted by the proposed new facility. The existing landscape (and its existing visual context) all contribute to the existing 'baseline' for landscape and visual effects assessment.

In addition, design and mitigation measures will be suggested as a means of improving the integration of the proposed new facility into the landscape character and visual amenity of the site and its immediate surroundings.

For the purposes of this review, the geographical extent of the site is the north eastern most corner of Kyle Park, bounded by Waterloo Road to the north (a collector road) and Smarts Road (a local Road) to the east.



Kyle Park site of the new Hornby Library, Service Centre and SW Leisure Centre – Geographical extent.

A range of bulk and location options are currently being considered, each providing differing opportunities and constraints. Rather than assessing each option on an individual basis, a generic set of landscape related guidelines will be discussed in this review.

This landscape and visual assessment should be read in conjunction with the Hornby Library, Service Centre and SW Leisure Centre, Kyle Park, Preliminary CPTED Review[3] and the Kyle Park Tree Survey[4] which have been prepared in tandem with this assessment.

The following documents have been reviewed in preparation of this report;

- Southwest Library and Service Facility Supplementary CPTED Review, Christchurch City Council (February 2015).
- Hornby Library, Customer Services and South West Leisure Centre CPTED Comments, Christchurch City Council (January 2017).
- Hornby Library, Customer Service Centre and South West Leisure Centre CPTED Assessment Prepared for Christchurch City Council, Boffa Miskell (10 April 2018).
- Kyle Park Management Plan (April 1993), Christchurch City Council.
- Hornby Library and Customer Services, South West Leisure Consultation Document, Christchurch City Council (April 2017).

[3] (Christchurch City Council, 2019)

[4] (Arbor-Vitae, 2019)

C. METHODOLGY

The preparation of this landscape assessment is as follows;

a. A desk top audit of the relevant documents, plans, drawings and aerials;
b. Discussions and consultation with relevant stakeholders;

In addition, this landscape assessment was prepared recognising the statutory framework of the Resource Management Act accordance with Schedule 4, clause 2(b) 4 which seeks in any assessment of a proposed activity consideration of landscape and visual effects as follows;

a. Preparation of a description of the landscape and visual context within which the proposal is located including the potential viewing audience. This description will include the site and the surrounding area that could be affected by the proposal (the receiving environment).
b. An assessment of the physical changes to the landscape that will result from the proposal;
c. A description and analysis of the impact that physical changes will have on identified landscape values, visual impacts from key locations and cumulative effect of the proposed activity;
d. An assessment of the extent to which the changes will affect the existing landscape character and visual amenity values.
e. Identification of proposed design and mitigation measures required to counter the more significant effects on landscape character and amenity.

The Reserves Act is also recognised. The assessment includes positive and adverse effects. (The significance of potential adverse effects in relation to statutory requirements has not yet been undertaken as a part of this review).

3.0 DESCRIPTION OF PROPOSAL

The proposed centre is to provide a library, community services, community governance services, and a recreation and sport centre (including swimming pools). The entrance to the centre is to be at street level, and will be designed as an attractive, inclusive and accessible space. The operational and service requirements of the swimming pools could potentially be accommodated by the portion of Kyle Park which is below surrounding street level, reducing the amount of excavation and fill required. The building footprint is to be approximately 3240m² and the total site area with car parking and landscaping is to be 15,200m².

The intention is to design the centre to integrate into the existing landscape character of the park, while also providing a safe and attractive environment. The centre is also to provide a good relationship to the street, and will enclose an important corner which sits opposite the Hornby High School and Hornby

Primary School. Existing road boundary trees are to be retained where possible, as well as the trees on the shared internal boundaries. The interface of the centre with the remainder of Kyle Park will be considered carefully to maximise the benefits of the adjacent attractive green space.

Car parking will be provided for up to 210 vehicles, parking for scooters and cycles, and charging stations for electric vehicles. Safe vehicle access into the car park area will be provided from the surrounding road network. The car park area will also allow for significant tree planting, and areas of landscaped stormwater swales. Pedestrian connections will also be accommodated within the landscaped areas.

The existing Kyle Park path network will be enhanced to provide safe connections to the new centre, and ultimately to join into the major cycleway network. Following a CPTED review, improvements are planned for the pedestrian railway underpass to provide for safer movement south to the Hornby Hub shopping centre.

Railway underpass viewed from the southern approach.

4.0 RELEVANT STATUTORY CONTEXT

A. THE CHRISTCHURCH DISTRICT PLAN

The proposed site of the new centre is within a portion of area zoned Open Space Community Parks Zone. This zone enables formal and informal recreation activities, while complementing and enhancing neighbourhood amenity values, including:

a. Smaller public spaces with landscaping and seating located and designed to promote interaction within the local community;

b. Accessible neighbourhood parks with a predominance of open space and relatively flat topography capable of accommodating tree planting, landscaping, small scale public amenities, playground equipment and informal playing fields;
c. Larger parks accommodating minor sports facilities, public amenities, landscaping, large trees and potential capacity for multifunctional use; and
d. Heritage and urban parks having important scenic, botanical, educational, heritage, and recreational values and providing for entertainment.

Built form Standards (18.4.2) for this zone include those relating to Road boundary setbacks (5.0m), Internal boundary Setbacks (10.0m), Building Heights (8.0m), as well as standards relating to Building Footprint, site coverage and impervious surfaces.

B. THE RESERVES ACT

The proposed use of the majority part of Kyle Park by some of the proposed activities is inconsistent with the current reserve classification (recreation reserve) and is also inconsistent with the current Kyle Park Management Plan (1993). Therefore, changing the use of parts of Kyle Park will require a change of reserve classification (to Local Purpose (Community Buildings) Reserve) and a change to the Management Plan.

Approval is being sought from the Halswell-Hornby-Riccarton Community Board to change reserve classification of parts of Kyle Park to Local Purpose (Community Buildings) Reserve under the Reserves Act (1977) and a change to the Management Plan.

5.0 DESCRIBING THE LANDSCAPE – KYLE PARK

A. DEFINING "LANDSCAPE"

The New Zealand Institute of Landscape Architects describes landscape as *"… the cumulative expression of natural and cultural features, patterns and processes in a geographical area, including human perceptions and associations"* [5]

[5] (New Zealand Institute of Landscape Architects, 2010)

A landscape can also be described as an expression of environmental processes, human activity and regional identity, and can be further complicated by the ways in which people experience, use and value it. Everyone sees, feels and understands the landscape differently.

Landscape attributes are commonly grouped into three broad categories as follows;

1. Geographic/Biophysical (Natural and Cultural Features, patterns and processes).
2. Perceptual/Sensory (Legibility, visibility, aesthetic qualities, coherence)
3. Associative (Historical Associations, Tangata Whenua associations, Recreational, Transient aspects)

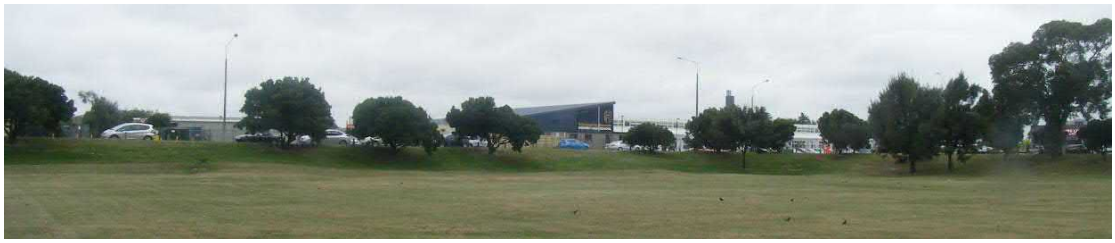
B. DESCRIBING THE KYLE PARK LANDSCAPE

1. Description of the Receiving Environment.

The CCC consultation documents of 2017 contains the following description of Kyle Park, which is being adopted for the purposes of this review;

> *"The site of Kyle Park is irregular in shape – a narrow wedge shape, with both flat and hilly areas. The park contains a wetland, BMX track, open flat areas and landscaped areas with mature and semi-mature trees. There is no formalised vehicle access within the site, but there are a series of pedestrian and cycle connections to and through the site. The park has an extensive street frontage which is open to Waterloo Road and allows a high degree of visibility into the park. The total area is approximately 87,201 square metres (including BMX track and retention basin).*
>
> *Waterloo Road forms the northwest boundary of the site. Hornby Primary School, Hornby High School and a residential area are immediately to the north-northwest of Waterloo Road. The school fronts onto Waterloo Road, as do the residential properties. The residential area was recently rezoned from a Residential Suburban zone to Residential Medium Density zone, with future increases in housing density anticipated.*
>
> *The industrial area on Smarts Road comprises the eastern boundary of Kyle Park, with the front generally comprising close-boarded fences and landscaping. The railway is also located to the south, dividing Kyle from Denton Park, with the only connection between the parks being the underpass beneath the railway line.*
>
> *The Hornby commercial centre is also located to the south of Kyle Park. The commercial centre provides a wide range of retail, commercial and service activities as well access to public transport. However, the railway line means there is no safe, direct connection from*

the commercial centre to Kyle Park. The interface between the park and commercial centre is comprised of fencing, car parking, businesses and large retail stores".[6]



Looking north over Kyle Park with Hornby High School in the background.

2. Geographic/Biophysical Landscape Attributes

Biophysical processes which form a landscape can include formative processes such as geomorphological, hydrological, climate, vegetation, coastal and cultural. The site of Kylie Park is underlain by deep alluvial gravels washed down from the Southern Alps over thousands of years, forming as the braided river network that still exists. A light stony soil developed over the deposited gravels, which are very free draining. The original land cover was likely to be tussock land.

Smarts Pit (1884-1968) operated in the area for nearly a century, with extraction taking place to 9.0m below the surrounding ground level. The pit then operated as a landfill, and has since been partially backfilled, bringing the quarry floor back up to approximately 3.0m below the surrounding ground level. The quarry floor was then capped with soil and grassed, and the quarry faces have been shaped to an approximately 1:3 gradient slope and are also grass covered. The upper slopes have since been planted in exotic trees which are mostly well established.

3. Perceptual/Sensory Landscape Attributes

a. Legibility. The degree to which the processes are actively displayed in the landscape, is described as the degree of 'legibility' of a landscape. Legibility need not necessarily relate to 'attractiveness', but clarity of the formative processes. Some landscapes (or natural features) clearly express past natural and cultural processes.

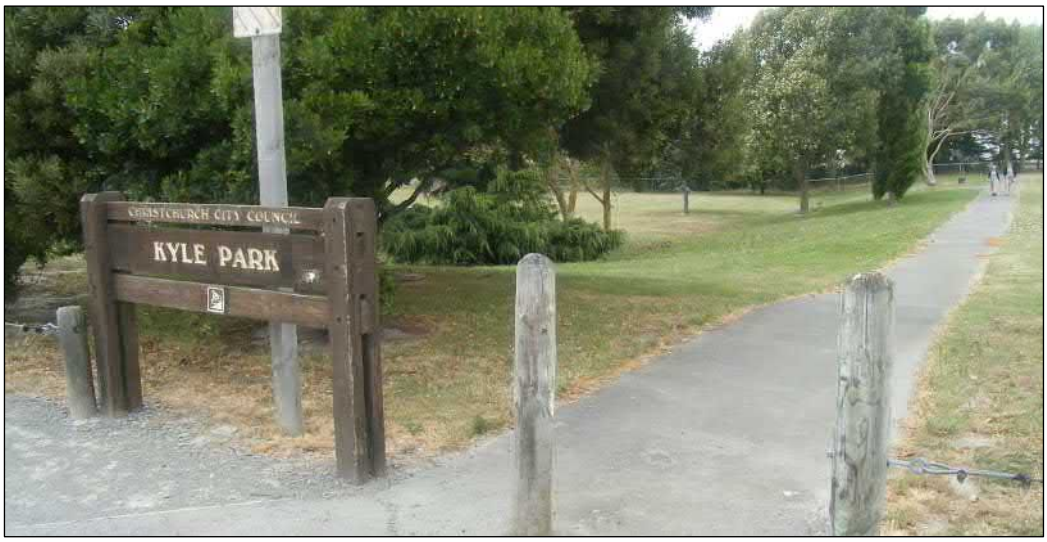
   The Canterbury Plains have a strong sense of legibility as their geomorphological formation can be easily read and understood. The operation of Smarts Pit is a clear example of a cultural

[6] (Christchurch City Council, 2017)

process that has over-laid the original topography of the site. The legibility of the Kyle Park landscape is reasonably high.

b. Visibility. All site boundaries are scattered with established tree groupings, however, between the tree canopies, the site has clear visibility from its road boundaries to the north and east, and from the remainder of Kyle Park which adjoins the site on the western boundary. As a result of the lower ground level within the site, visibility into the centre of the site is reduced from further afield. In other words, it is not possibe to see into the centre of the site from the opposite side of the road for example, because the ground level is 3.0m below the surrounding road network.

   There is also more limited visibility at the southern boundary, which is shared with Industrial zoned premises, due to distance and intervening fencing and trees. The entire surrounding area is typically flat, meaning there are no particular vantage points from which to gain views of the site.



Pedestrian footpath to the west of the proposed site.

c. Aesthetic Qualities. People experience an aesthetic response to a landscape based on their own memories, emotions and associations. A local resident with memories of Smarts Pit may appreciate the current landform as a reminder of its past. Another might consider it the remnants of an unsightly quarry and landfill. The quarry pit has since been partially filled and overlain with grass and trees which are now reaching a mature stage. The quarry floor has been left open to allow for a sports field, and the open grassed area combines with the large trees on its periphery to create a 'picturesque 'landscape, inspired by nature. This 'open' and

'closed' landscape of trees and open grass is often valued for its framing of views, and sense of perspective. The relative sense of naturalness composed of areas of grass and trees, while still a modified landscape, adds to people's aesthetic appreciation of the landscape.

d. Coherence. Coherence describes the way in which the visual elements or components of any landscape come together, where the patterns of land cover and land use are largely in harmony with the underlying natural landform pattern. People generally respond positively to a landscape they can read and understand. The Kyle Park landscape is generally coherent, without discordant elements.

4. Associative Landscape Attributes

a. Historical Associations. The local settlement patterns were influenced from the establishment of the railway, Smarts Pit, and two nearby meat works at Islington and Hornby. Some of Hornby's houses date back to the 1920s and '30s, but most development has occurred since 1950 associated with the growth of industry in the surrounding area. The existing topography and landuse overlay displays strong historical connotations and a distinctive sense of place.
b. A path network leads from Waterloo Road to the railway underpass to the south;this path leads directly past the proposed site. Immediately adjacent to the path, on the opposite side is the Kyle Park Cricket Oval. With the establishment of rugby fields, cricket ovals, hockey fields and the nearby BMX track, Kyle Park is valued by local school communities and sports groups for its recreational facilities.

5. Additional Site Attributes

The CCC Consultation document[7] also includes the following site strengths;

a. Kyle Park would offer a facility within good general proximity to the Hornby community and will offer opportunity for reasonable outlook and integration with surrounding activities including the schools and park.
b. Its location is on the route of a proposed major cycleway, and it currently offers pedestrian access via the underpass to Denton Park to the bus interchange. The site is also located near schools, retail, healthcare and cultural activity centres, creating opportunities for multi-purpose trips.

[7] (Christchurch City Council, 2017)

c. *The site has reasonable visibility and passing traffic, and can provide relative ease of access for visitors despite constraints such as the railway. It may promote membership and community participation levels.*

d. *An extensive and open street frontage to the site allows for clear visibility, and the opportunity to provide an environment with good views.*

In terms of site challenges, the same document includes the following;

a. *This area of Hornby is already an extremely busy hub. NZTA has a specific interest due to the proximity to State Highway 1 (a high volume national road) and the junction with Waterloo Road. The extra traffic generated by the facility would add to congestion when school is starting and finishing.*

b. *Kyle Park suffers from elevated rates of crime and some areas have poor visibility, particularly the underpass through to Denton Park. Although this is a challenge, the project provides an opportunity to improve and mitigate these issues and would also potentially improve the approaches to the underpass.*

6.0 EVALUATING THE LANDSCAPE – LANDSCAPE AND VISUAL EFFECTS

A 'proposal-driven' landscape assessment is a qualitative assessment, using professional judgement to assess the actual, potential and cumulative landscape and visual effects of a proposal upon a landscape. The assessment should also include a determination as to whether landscape and visual effects are positive, negative or in some cases neutral. Landscape and visual assessments are separate procedures but are closely linked[8]. The types of effects considered within proposal-driven landscape assessments can be summarised as follows:

- Landscape effects derive from changes in the physical landscape, which may give rise to changes in its character and how this is experienced. This may in turn affect the perceived value ascribed to the landscape.
- Visual effects relate to the changes that arise in the composition of available views as a result of changes to the landscape, to people's responses to the changes, and to the overall effects with respect to visual amenity. (Amenity values are defined within the RMA as *"those natural or physical qualities and characteristics of an area that contribute to people's appreciation of*

[8] (Quality Planning, 2016)

its pleasantness, aesthetic coherence, and cultural and recreational attributes". Visual amenity is a subset of "amenity" and relates to the aspects of amenity that are visible or that can be seen by the viewer).

A. PHYSICAL CHANGES OF THE PROPOSED NEW CENTRE ON THE EXISTING LANDSCAPE

The building footprint is to be approximately 3240m², with a maximum height of 8-10.0m. Cladding materials are yet to be decided. The carpark area is to be approximately 6750m², to accommodate up to 210 car park spaces and vehicle aisles. This leaves approximately 5200m² for landscaping (grass, trees, and amenity planting).

There are currently upwards of 70 existing trees, mostly planted around the periphery of the site. The quantity of trees to be removed will be dependent on the final building design, however it is anticipated that there will be some tree removals.

The land contours currently display the past land use of the site as a partially backfilled quarry. The base of the swimming pool is likely to sit at the existing ground level (i.e. quarry floor level), with the building to sit around the finished level of the surrounding road and footpath network. The car park area is likely to be lifted by up to 2.0m from the quarry floor level, using fill from elsewhere within Kyle Park as well as imported fill.

B. KEY LANDSCAPE EFFECTS OF THE PROPOSAL ON THE LANDSCAPE

1. Topography. The proposed new centre will cover a good portion of the site, impacting on the existing landscape character and legibility. The main landscape effect would be the resultant change to the existing modified topography of the site. The ground level of the existing quarry floor would be raised in the car park area. The new building would be built at approximately the same ground level as the surrounding area. This change would conceal the existing landform associated with the former quarry and would return the topography to its pre-quarry height.
2. Open space character. The development of the site and change in land use and activity would remove the open space character of the area. However, the remainder of Kyle Park, particularly the adjacent cricket oval area, would remain un-developed and would still display the open space character, in contrast to the developed site. In addition, the increased activity in the area may provide opportunities to upgrade existing path networks and other facilities, and provide a safer environment for park users.

Peter has lived locally for 63 years and loves the open space of Kyle Park.

3. Historical associations. The development of the site may mean that the historical association with the Smarts Pit Quarry would potentially be diluted. There would still be some change in ground level at the car park signifying the previous associations with quarrying in the area. There would also be opportunities for interpretation with signage or art pieces.
4. Braided Rivers. The hydrological processes of braided river systems of the Canterbury Plains, which have since been overlain by more recent land-uses, are no longer discernible at the Kyle Park site. The new centre would further mask the original processes, but there would be opportunities to reveal these as a part of the design of the building and its surrounding landscape.
5. Land cover. There will be over 5000m² remaining for landscaping. Plant materials, tussocks and grassed areas could be specified to make a reference back to the pre-existing ground cover.
6. Aesthetic Qualities. The degree of natural character, usually determined by the proportion of natural elements of grass and trees (and water), will be reduced by the development of the site. The degree of natural character of a site usually adds to people's aesthetic appreciation. However, there are opportunities here for quality building design and associated landscape treatment, which will integrate the building into the Kyle Park landscape. The new development could potentially provide a new aesthetic quality to the site, while adding to the character of the neighbourhood.
7. Trees. It is anticipated that there will be removal of a portion of the trees which are currently present on the site. However, a tree assessment is being undertaken, and trees of particular significance will be identified (e.g. the line of *Arbutus unedo* (strawberry tree) which line the Waterloo Road frontage), and where practicable, incorporated into the overall site design. There are also opportunities for further tree planting, particularly where associated with;

a. The streetscape - there are opportunities to retain trees on the street frontage, or to plant new trees. Trees may be used to signify entrances, to mitigate building bulk, to frame views, or to generally add to the landscape character of the area.
b. With the internal boundary shared with the park - tree retention and new tree planting will aid in integration of the new centre into the park by blurring the line between the developed and un-developed areas, by framing views from the building into the park, by reducing building bulk, and be generally adding shade and amenity.
c. Amenity areas within the site - tree retention and tree planting will add to the amenity on-site, with opportunities to create pleasant landscaped areas within the car park area and around the new centre.
d. Car-park trees – tree planting for structure and way-finding within the car park area (e.g. tree planting at the ends of the rows of car park bays), for shade, and for general amenity in visually breaking up the large areas of sealed surface.

8. Visibility. The site will still have clear visibility from its road boundaries, with the development of the site giving it further visual prominence. Carefully considered tree removals and tree planting will allow view-shafts into the site. The lifting of the internal ground level of the car-park area by potentially up to 2.0m will improve visibility into the site.
9. Streetscape/Site Layout. Currently the streetscape character is composed of open grass frontages interspersed with groupings and informal li centre nes of trees. This character will be completely changed by the construction of the new facility. The extent of change will be determined by the chosen site layout. The site layout options are;
    a. To locate the new centre close to the street frontage or the corner of the site, with the carparking to the rear of the site.

       This will have the advantage of creating a closer relationship of the building to the street, allowing close surveillance from the building to the street, and also giving a good view of the centre from the street. This will also allow for a closer relationship with the nearby schools.
    b. Locate the new centre to the rear of the site, with car parking to the front.

       This will have the advantage of retaining an open frontage and allowing for further tree planting on the road boundaries. It would also allow for greater surveillance of the car park areas from the street.
10. Interface with western boundary/Kyle Park. A footpath sits immediately adjacent to the site, and beyond this, the cricket oval. The footpath leads from Waterloo Road south to the railway underpass. The cricket oval and the path would potentially need to be moved westwards to

allow for the new centre. The changing landscape character of the centre site will impact on the openness enjoyed by the park users. However the development of the centre and change in activity and use of the area provides opportunities to make the park a safer place. The interface between the new centre and the park would benefit from;

a. Existing path network which already directs pedestrians to the site of the proposed new centre.
b. Existing path network could be integrated easily into new major cycleway network.
c. Opportunity to enhance the existing path network and cricket oval, while also providing for enhanced park furniture and other elements.
d. Glazing on the western most elevation of the building will give articulation to the built form, softening and enlivening the western side of the building, and providing increased surveillance of Kyle Park.
e. Site layout and vehicle access will need to be considered carefully. A vehicle entry point at Waterloo Road could potentially create a physical barrier between the new centre and Kyle Park. Methods of alleviating this would include – a narrow (3.0-4.0m wide) one way vehicle access, high quality surfacing, safe crossing points, tree planting and amenity planting.
f. Existing activities within the park will add to the general use and safety of the area.

11. Vehicle access. Options are to provide vehicle access from Waterloo Road, Smarts Road, or both. In terms of landscape character, the adverse effects of vehicle access ways can be mitigated by;
    a. Reducing the width of the access ways (where practicable).
    b. Providing for a high quality paved surface.
    c. Providing safe crossing points.
    d. Tree and amenity landscape planting.
    e. Street furniture where practicable.
    f. Lighting.

C. KEY VISUAL EFFECTS OF THE PROPOSAL FROM KEY VIEWPOINTS

Visual effects relate to the changes in the visual amenity that arise as a result of changes to the landscape. The key viewpoints that have been identified within this review are the following;

1. Smarts Road. The key visual effects will be the change in landscape composition from essentially a modified natural landscape of a grass covered hollow surrounded by well-established trees, to a developed site with the built form dominating the site. While the

modification will be obvious to the viewer, the effect on individual viewers will differ, depending on individual perception and bias. The most immediate neighbours are commercially zoned and therefore less sensitive to visual effects. Depending on the arrangement of the site layout, there will still be opportunities to provide for trees along this frontage, mitigating effects on visual amenity.

2. Waterloo Road. The key visual effects will be similar to that for Smarts Road, however it is more likely that the site layout and building design will present the building frontage (front elevation) and main entrances to the Waterloo Road frontage. The modification of the site will be obvious to the viewer, however again, the perception of the change to the visual amenity will differ from viewer to viewer. The most immediately affected viewers will be the two schools on the opposite side of Waterloo Road, and passing motorists who will have fleeting views of the facilities. There will still be opportunities to provide for aspects of the building design and also landscape treatment and trees along this frontage, which will aid in the mitigating of potential adverse effects on visual amenity.

Kyle Park from Hornby Road – tree lined road boundary.

3. Kyle Park Western Boundary. Change in views from grass and trees to a developed site and sealed car park areas. A number of trees already line the edge of the site, with gaps in the trees allowing views. There is also a park bench mid-way along the footpath. The most immediately affected viewers are the walkers and the cricket players and passing motorists (oblique view). There are opportunities here for retention of existing trees, path and furniture enhancement, and building design and tree and landscape treatment to mitigate adverse visual effects.

4. Southern boundary. A large sealed area sits on the neighbouring side of the shared southern boundary. Views are possible through intervening groupings of large trees. The land on this boundary commercially zoned land, and generally less sensitive to change. Tree plantings should be retained where practicable and view-shafts encouraged for safety. Further visual mitigation planting may be required to screen commercial activities from the new centre.

D. KEY LANDSCAPE MITIGATION MEASURES

See Appendix 1: Hornby Library, Service Centre and SW Leisure Centre, Kyle Park - Landscape Effects and CPTED Matters.

7.0 APPENDICES

Appendix 1: Hornby Library, Service Centre and SW Leisure Centre, Kyle Park - Landscape Effects and CPTED Matters Summary Table.

Appendix 2: Kyle Park Tree Survey (2019).

Appendix 3: Hornby Library, Service Centre and SW Leisure Centre, Kyle Park, Preliminary CPTED Review (2019).

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Arbor-Vitae. (2019). *Kyle Park Tree Survey.* Christchurch: Christchurch City Council.

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Prepared by: Jennifer Dray (Senior Landscape Architect, CCC)

Peer Reviewed: Nicki Williams (Landscape Architect, CCC)

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APPENDIX 1: Hornby Library, Service Centre and SW Leisure Centre, Kyle Park - Landscape Effects and CPTED Matters Summary Table.

Landscape and Visual Effects	Landscape Attribute	Effect	Planned Design and Mitigation Measures
Landscape Effects	Topography. The proposed earthworks will change the existing landform and topography, and mask previous hydrological processes (formation of braided rivers).	• Topography returned in part to the original alluvial plains landform. • Historical associations with Smarts Pit are less legible.	• Retain some sense of level change by retaining car park area at a level below surrounding road network. • Opportunities for signage, interpretation and art works to reference past historical use of the site, and past formative processes.
	Open Space Character. The development of the site and change in land use and activity would remove the open space character of the immediate area, however the remainder of Kyle Park will retain its open qualities.	• Sense of open space removced from the immediate area where the centre is to be lcoated.	• Opportunities for new centre to create a good interface with adjacent street. Also other benefits in terms of community hub, and positive relationships with nearby schools. • The remainder of adjacent green open space at Kyle Park and cricket oval area will remain un-developed. • Opportunities to upgrade existing path network and cricket oval. • Increased surveillance and activity will provide a safer environment for park users.
	Land cover. The existing open grassed area would be replaced by the building footprint and car park areas, with a resulting loss in garss and tree cover. However, the remainder of grassed areas within Kyle Park would remain unchanged.	• Some loss of grass cover and trees in the immediate site where the new centre is to be located.	• There will be over 5000m² remaining for landscaping. • A portion of landscaped area could be used for integrated stormwater treatment as well as for landscaped amenity areas. • Plant materials, tussocks and grassed areas could be specified to make a reference back to the pre-existing ground cover.
	Aesthetic Qualities. The development of the site will affect people's aesthetic appreciation of the natural character of the green open space predominated by grass and trees.	• The degree of natural character, usually determined by the proportion of natural elements of grass and trees (and water), will be reduced by the development of the site.	• Quality design and build of the facility gives opportunities to integrate the building into the Kyle Park landscape. • The new development could potentially provide a new aesthetic quality to the site, while adding to the character of the neighbourhood.
	Trees. It is anticipated that there will be removal of a portion of the trees which are currently present on the site.	• The reduction in number of existing large trees will reduce the tree canopy and impact on the landscape character of the immediate area.	• A tree assessment has been completed and trees, and groups of trees, of particular significance identified. • There are also opportunities for further tree planting as follows; ○The streetscape – Trees may be used to signify entrances, to mitigate building bulk, to frame views, or to generally add to the landscape character of the area. ○ The internal boundary shared with the park – tree retention and new tree planting will aid in integration of the new facility into the park, framing views from the building into the park, reducing building bulk, and generally adding shade and amenity. ○ Amenity areas within the site- tree retention and tree planting will add to the amenity on-site, create pleasant landscaped areas within the car park area and around the new facility. ○ Stormwater swales within the car park area – tree planting within and around the swales for displaying on-site stormwater treatment. ○ Car-park trees – tree planting for structure and way-finding within the car park area, for shade, and for general amenity in visually breaking up the large areas of sealed surface.
	Visually prominent location. The prominent corner site will still have clear visibility from its road boundaries, with the development of the site giving it further visual prominence.	• Development of this prominent corner site will activate this corner of Kyle Park and create a safer environment. • There will be a good general proximity to the Hornby community and will offer opportunity for reasonable outlook and integration with surrounding activities including the schools and park. • The proposed location is on the route of a proposed major cycleway, and it currently offers pedestrian access via the underpass to Denton Park to the bus interchange. The site is also located near schools, retail, healthcare and cultural activity centres, creating opportunities for multi-purpose trips. • There will be a reasonable level of visibility from passing traffic. • The location will provide relative ease of access for visitors as it will be possible to provide fully accessible entrances and car parking areas. • The prominent site, due to its high visibility, may promote membership and community participation levels. • THe will be an opportunity to provide good views into the site, as well as from within the centre across the park and further afield.	• Carefully considered tree removals and tree planting will allow view-shafts into the site. • The lifting of the internal ground level of the car-park area by potentially up to 2.0m will improve visibility into the site.

Landscape Effects	Streetscape. Currently the streetscape character is composed of open grass frontages interspersed with groupings and informal lines of trees.	• The landscape character and visual amenity is likely to be changed by the construction of the new centre.	• There is an opportunity here to provide a close relationship of the new building to the street. • The finished floor level of the new centre is likely to be at (or just above) the street level, creating a direct relationship, and a universally accessible entrance. • There is an opportunity to retain some of the eixsitng mature trees on the road boundaries and integrate them into the building design and landscape treatment.
	Site Layout. The extent of change will be determined by the chosen site layout. Options are • To locate the new facility close to the street frontage or the corner of the site, with the carparking to the rear of the site. • Locate the new facility to the rear of the site, with car parking to the front.		• Locating the facility on the road frontage will have the advantage of creating a closer relationship of the building to the street, allowing close surveillance from the building to the street, and also giving a good view of the facility from the street. This will also allow for a closer relationship with the nearby schools. • Locating the facility to the rear of the site will have the advantage of retaining an open frontage and allowing for further tree planting on the road boundaries. It would also allow for greater surveillance of the car park areas from the street.
	Interface with Park boundary. The changing landscape character of the facility site will impact on the openness enjoyed by the park users.	• Positive effect - the development of the facility and change in activity and use of the area provides opportunities to make the park a safer place. In addition, the existing path network already directs pedestrians to the site of the proposed new facility. • Negative effect - the changing landscape character of the facility site will impact on the openness enjoyed by the park users.	• Existing path network could be integrated easily into new major cycleway network. • Enhancement of the existing path network and cricket oval, while also providing for enhanced park furniture and other elements. • Glazing on the western most elevation of the building will give articulation to the built form, softening and enlivening the western side of the building, while providing increased surveillance of Kyle Park. • Site layout and vehicle access will need to be considered carefully. A vehicle entry point at Waterloo Road could potentially create a physical barrier between the new facility and Kyle Park. Methods of alleviating this would include – a narrow (3.0-4.0m wide) one way vehicle access, high quality surfacing, safe crossing points, tree planting and amenity planting. • Existing activities within the park will add to the general use and safety of the area.
	Vehicle Access.	• Negative effect - associated effects of vehicle movements and car park areas. • Negative effect. This area of Hornby is already an extremely busy hub. NZTA has a specific interest due to the proximity to State Highway 1 (a high volume national road) and the junction with Waterloo Road. The extra traffic generated by the facility would add to congestion when school is starting and finishing.	In terms of landscape character, the adverse effects of vehicle access ways can be mitigated by; • Reducing the width of the access ways (where practicable). • Providing for a high quality paved surface. • Providing safe crossing points. • Tree and amenity landscape planting. • Street furniture where practicable. • Lighting.
Visual Effects - Key View Points	Smarts Road. Change in landscape composition from essentially a modified natural landscape of a grass covered hollow surrounded by well-established trees, to a developed site with the built form dominating the site.	• Most affected will be adjacent commercially zoned premises and passing motorists.	• The most immediate neighbours are commercially zoned and less sensitive to visual effects. • Depending on the arrangement of the site layout, there will still be opportunities to provide for trees along this frontage, mitigating effects on visual amenity.
	Waterloo Road. Similar to that for Smarts Road, however it is more likely that the site layout and building design will present the building frontage (front elevation) and main entrances to the Waterloo Road frontage. The modification of the site will be obvious to the viewer, however again, the perception of the change to the visual amenity will differ from viewer to viewer.	• The most immediately affected viewers will be the two schools on the opposite side of Waterloo Road, and passing motorists who will have fleeting views of the facilities.	• Building design - bulk, height and footprint compliant with District Plan rules. • Building design - colours, cladding and glazing to relate to the street and the context of the area. • Landscape treatment and tree planting along this frontage will aid in mitigating potential adverse effects on visual amenity.
	Kyle Park Western Boundary. Change in views from grass and trees to a developed site and sealed car park areas.	• The most immediately affected viewers are the walkers and the cricket players and passing motorists (oblique view)	• Retention of existing trees. • Path and furniture enhancement. • Building design, tree planting and landscape treatment to mitigate adverse visual effects.
	Southern Boundary.		• Commercially zoned land, and generally less sensitive to change. • Opportunity to enhance contaminated area. • Tree plantings should be retained where practicable. • View-shafts through trees for surveillance and for safety. • Further visual mitigation planting may be required to screen commercial activities from the new facility.

CPTED review location	Area	Discussion/Findings	Other guidance notes
Kyle Park		• The proposed location at the corner of Waterloo and Smarts Road is a prominent corner with high visibility. • Passing traffic on Waterloo Road provides movement and activity and "eyes on the street". • Existing activity in the Park creates a reasonably high level of surveillance across the site. • The park is well used, particularly by walkers making their way south to the railway underpass. The area would experience even higher usage during the school term. • The addition of a new facility would contribute to the level of use and activity and the general safety of the area. The facility will also provide surveillance into the other areas of Kyle Park. • The site appears well maintained and well cared for – the grass is mown and the trees are well pruned and vigorous. • The gradient of the slopes down into the bottom of the site is approximately 1:3, so is not fully accessible. • The existing topography (i.e. the central depression which was the original quarry floor) makes it difficult to see the centre of the site from a distance. • There is no access to the site from the Smarts Road frontage which is contained by low post and cable, however there is an opening at the Smarts Road/Waterloo Road corner. • There is low fencing enclosing an area on the southern boundary. It is possible that this fencing is to contain an area of contaminated fill.	1. Ensure safe pedestrian connections are provided through the site and along the periphery of the site. Ensure the path network is well integrated into existing networks and the surrounding landscape, and that there are a series of exit route options for safe entry and exit. 2. Ensure all car park areas are visible from the new facility and surrounding road network to ensure good surveillance. The car park area should be lit during the hours of building occupation. 3. Pedestrian connections should be separated from the vehicle areas so that illegitimate use of the car park is reduced. 4. Ensure all pedestrian paths are at a grade that are fully accessible. 5. Place seating areas close to entrances and the reception area to ensure good surveillance of these areas. 6. Ensure sightlines across the entire site are retained/provided for. 7. Also ensure that there are no blind corners, areas for concealment, or entrapment areas within the building or car park area. 8. Ensure all ground cover planting is no higher than 1.0m and tree canopies are at least 2.5m above ground level to allow for sightlines. This may need to be reviewed on-site to allow for slope gradients and changes in ground level. 9. Provide a quality edge with adjacent commercial developments. Encourage activation of the boundaries, use of permeable fencing, careful tree placements, and retention of sight-lines. 10. Provide cycle parks close to entrances and in view of reception for easy surveillance of the cycles. Provide parking also for E-bikes (larger) and scooters.
Railway Underpass	General	• No site-wide signage strategy in place. • The underpass was well used during the daylight hours of the site visit. • Substandard levels of lighting and maintenance. • Lack of investment in amenities. • Low quality and un-cared for environment. • Night time lighting could be improved, requires proper investigation. • Slotted drain at the northern end often becomes blocked with leaves, causing flooding. • Evidence of tagging.	1. Improve lighting within the underpass and the two pathway approaches to the underpass. (Lighting should be LED 4000k warm lighting, and should be even along the route with a gradual blend into the surrounding context – this may need to be confirmed). 2. Carry out earthworks to improve the sightlines to both sides of the underpass, but particularly the northern approach. (There is an opportunity to retain the potentially contaminated spoil on site as fill in the proposed new car park area). 3. Remove all fencing which is currently enclosing landscape areas on the northern approach to the underpass. 4. Ensure all new paths are fully accessible. 5. Consult with adjacent business owners regarding shortening the security fence which lines the southern approach. 6. Investigate escape route opportunities for the southern approach. 7. Re-evaluate and replace planting on both sides of the underpass with planting materials which have the following qualities a. Fire resistant; b. Drought resistant and low maintenance; c. Grows to a maximum 1.0m in height at time of planting. 8. Engage local community to develop a strategy for improving the visual quality of the underpass including lighting, community lead art projects, and higher quality material treatments. 9. Monitor leaf litter and drainage within the underpass area to reduce incidence of surface flooding.
	Northern Approach	• Low wire netting fence completely encloses areas of grass and shrubs. The maintenance of vegetation has since become severely restricted. • Evidence of arson. • Complete absence of way-finding signage. • Sightlines restricted by topography. • The slotted drain at the northern end often becomes blocked with leaves, causing flooding.	
	Southern Approach	• The rugby/velodrome car park and route to the underpass seemed to be completely “un-maintained”. • Difficulty in locating the southern approach without local knowledge. This is due to lack of signage, the length of the approach, and the tunnel entrance being obscured. • Sub-standard quality of the sealed area leading to the tunnel entrance. • Possibly sub-standard level of lighting on the approach and within the tunnel. • Complete absence of wayfinding signage. • Security fence at carpark on eastern boundary which reduces escape opportunities. • Escape opportunities unclear to the west of the approach, behind the velodrome.	
Site Wide			1. Prepare and implement a site-wide lighting strategy. The facility will be an important destination, particularly for young people from the adjacent schools. The facility will be open during hours of darkness, and the environment should be made safe for night time use. The lighting of the facility should be integrated with other lighting elsewhere throughout the path and the adjacent footpath and cycleway network. 2. Prepare and implement a site-wide signage strategy for place-naming, wayfinding and interpretation. 3. Engage local communities and schools in aspects of design and implementation to identify community requirements, and to encourage a sense of ownership and care. 4. Make use of materials that are of a high quality and provide a dis-incentive for vandalism and graffiti (e.g. Graffiti proof paint systems). Also ensure a high level of maintenance and a prompt response to maintenance issues. 5. Embed CPTED practice during all phases of the design and implementation of the facility, and also post occupation at agreed intervals (e.g. 6 months, 12 months and 24 months post occupation).

This tree assessment was commissioned by Jennifer Dray, Senior Landscape Architect, Christchurch City Council. The assessment provides information relating to the existing trees within the eastern end of Kyle Park, to inform the design for the redevelopment of the site.

The site address is 197 Waterloo Road, Islington, and the tree survey area is shown in Figure 1 below.

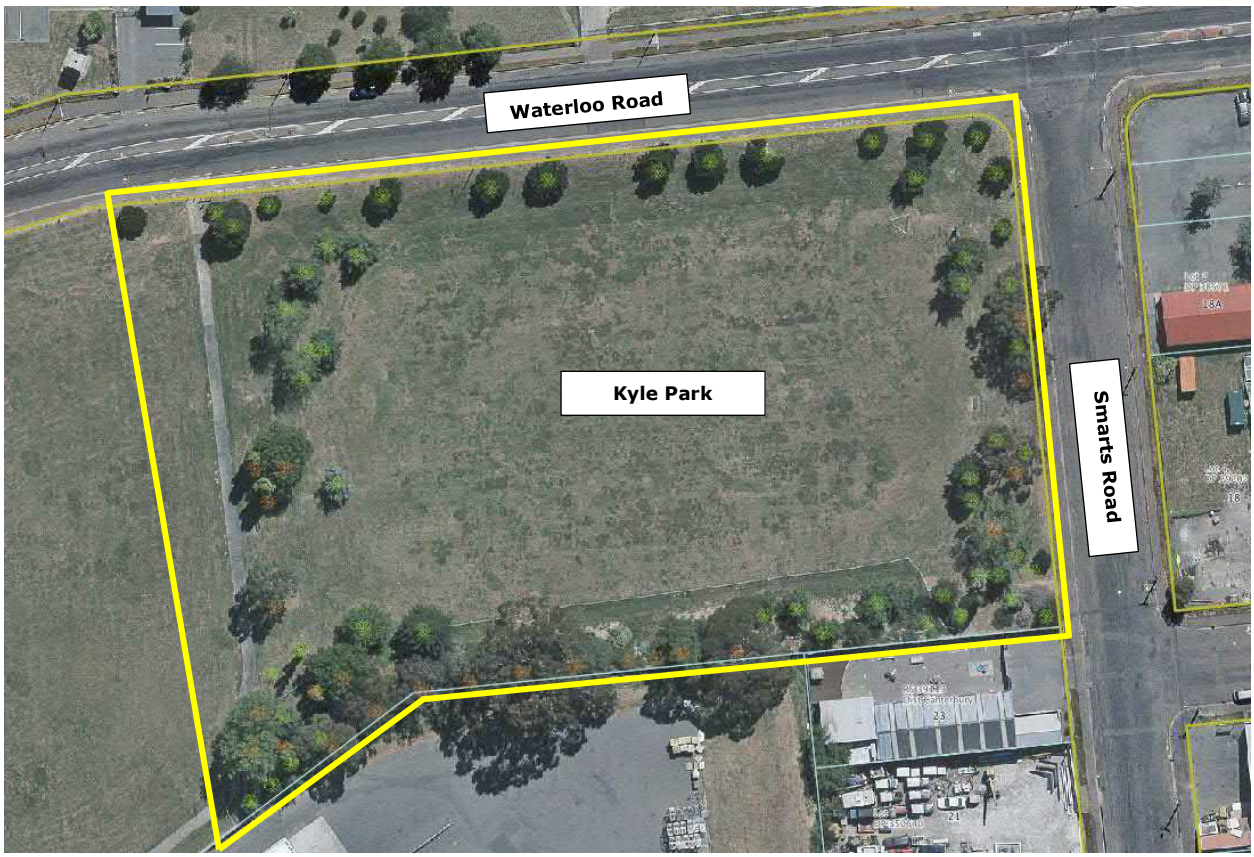


Figure 1: Site and tree survey area.

The tree inspections for this assessment were carried out in February 2019, and included non-invasive visual tree assessment methods. All measurements are approximate, and trunk diameter measurements for multi-stemmed trees were taken at ground level.

The condition of each tree was scored using the Christchurch City Council tree assessment method (April 2017 version). Trees are scored as Very Good (1), Good (2), Fair (3), Poor (4) or Very Poor (5). This relates to the health and form/structural integrity of a tree. The overall condition rating provided is the worst score for either Health or Form (e.g. if a tree scores good for health and poor for form, the condition rating will be poor).

There were 77 trees within the survey area. The tree survey results are provided in tables (spreadsheet format), the approximate location and condition rating of each tree is shown on the tree survey map, and photographs of the trees are included below.

At the time of the tree survey the results included the following:

- 3 trees were found to be in good condition;
- 49 trees in fair condition;
- 22 trees in poor condition; and,
- 3 trees in very poor condition.

The condition of the trees in poor and very poor condition related to a decline in tree health and/or structural integrity. Some of the trees in poor condition could be retained where maintenance pruning can improve the structural integrity of trees and where healthy growth is regenerating. The remaining trees in poor condition and the trees in very poor condition should be removed.

In relation to tree asset information:

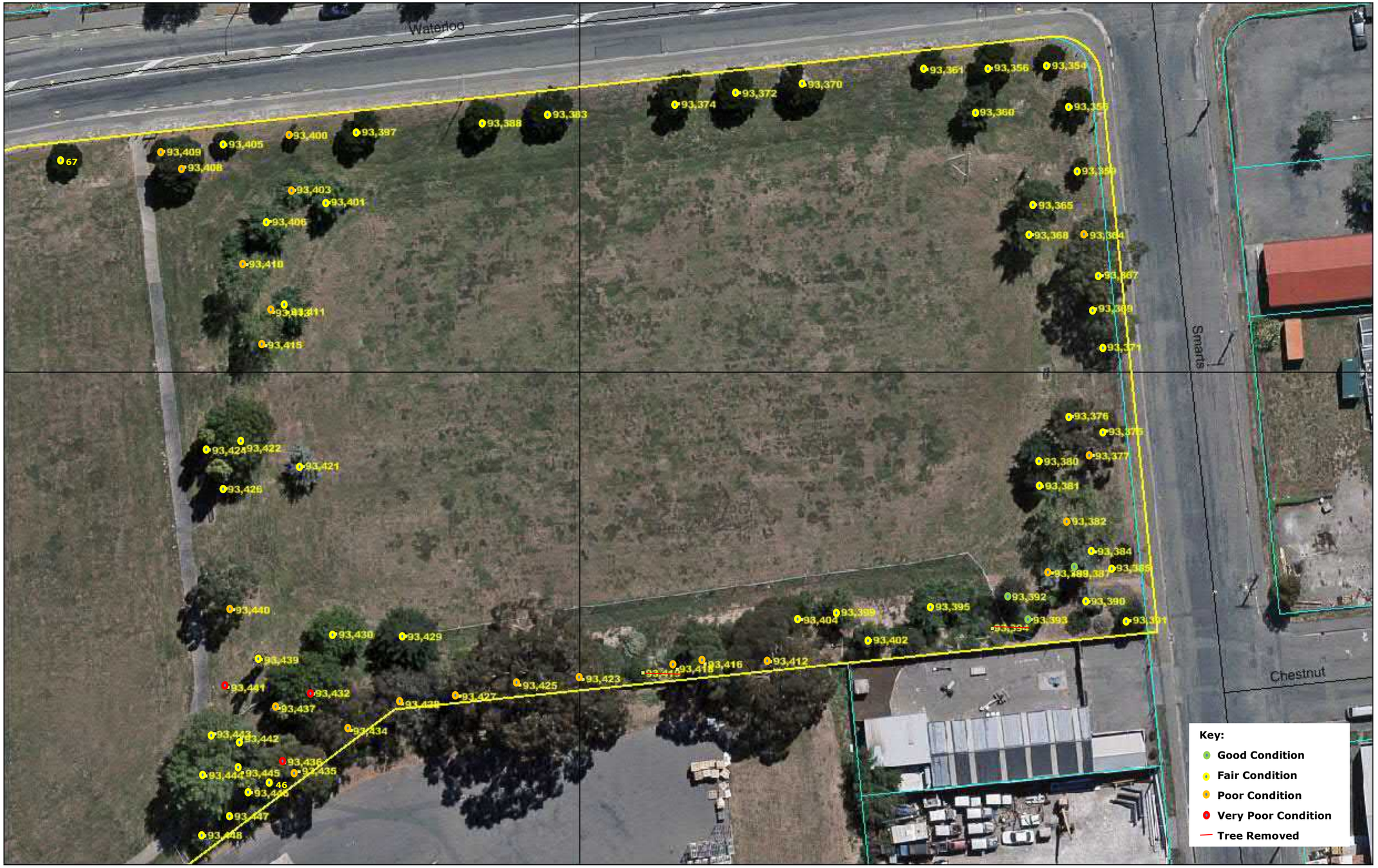
- All except two of the existing trees had tree identification numbers. The trees without identification numbers are numbered 46 and 67 in this report; and,
- Two former trees (that no longer exist) within the site had tree identification numbers and asset information still listed within the asset database, including one with remaining stump regrowth. This included 93394 and 93419.

It may be possible to relocate (transplant) some of the trees within the site if required. This will depend upon existing ground conditions within the immediate vicinity of the trees, species characteristics, and seasonal constraints, and further investigations will be required to determine translating viability.

Tree maintenance is recommended within the survey area due to the structural condition of some trees.

Laurie Gordon
Arborist

Tree Survey Map



Tree Assessment Results

Survey Number	Tree ID	Species	Common Name	Height	Canopy Spread	DBH	Tree Health	Tree Form	Overall Condition	Comments
1	93361	Arbutus unedo	Irish Strawberry Tree	3.0	5.0	0.30	2	3	3	Reasonably good foliage density, broken branch stub on southern side. Multiple stems near base, and canopy to near ground level.
2	93356	Arbutus unedo	Irish Strawberry Tree	5.0	7.0	0.35	2	3	3	Reasonably good foliage density, previous branch failures on western side. Multiple stems near base, and canopy to near ground level.
3	93360	Quercus cerris	Turkey Oak	6.0	7.0	0.2	2	3	3	Previous branch failures, and extensive decay.
4	93354	Arbutus unedo	Irish Strawberry Tree	4.0	5.0	0.3	2	3	3	Reasonably good foliage density, previous branch failures on the south-western side. Multiple stems near base, and canopy to near ground level.
5	93355	Arbutus unedo	Irish Strawberry Tree	5.0	6.0	0.45	2	3	3	Reasonably good foliage density. Multiple stems near base, and canopy to near ground level.
6	93359	Arbutus unedo	Irish Strawberry Tree	4.0	3.0	0.3	3	3	3	Areas of isolated dieback, with less than 30% foliage density loss overall. Previous branch failures on the south-western side.
7	93365	Casuarina cunninghamiana	She Oak	9.0	9.0	0.35	3	3	3	Slightly sparse crown density, and previous branch failures.
8	93368	Casuarina cunninghamiana	She Oak	8.0	9.0	0.3	3	3	3	Slightly sparse crown density, and previous branch failures.
9	93364	Arbutus unedo	Irish Strawberry Tree	4.0	4.0	0.18	3	4	4	Slightly sparse foliage density, less than 30% foliage density loss overall. Included unions and previous structural failures. Further structural failures likely.

Survey Number	Tree ID	Species	Common Name	Height	Canopy Spread	DBH	Tree Health	Tree Form	Overall Condition	Comments
10	93367	Eucalyptus gunnii	Cider Gum	10.0	14.0	0.8	2	3	3	Reasonably good foliage density, no significant structural defects. One dead branch over footpath.
11	93369	Arbutus unedo	Irish Strawberry Tree	3.5	4.0	0.2	3	3	3	Slightly sparse crown density, and previous branch failures.
12	93371	Eucalyptus gunnii	Cider Gum	7.0	8.0	0.4	2	3	3	Reasonably good foliage density, and minor deadwood. No significant structural defects.
13	93375	Arbutus unedo	Irish Strawberry Tree	3.0	4.0	0.2	2	3	3	Reasonably good foliage density. Previous branch failures on the south-western side.
14	93376	Quercus cerris	Turkey Oak	5.0	5.0	0.18	2	3	3	Reasonably good foliage density. Previous branch failures on the eastern side. Squat form due to crown suppression.
15	93377	Eucalyptus delegatensis	Alpine Ash	12.0	12.0	0.9	2	4	4	Three stems originating from the tree base with included unions. Decay present within the main stems. Multiple previous branch failures, further structural failures likely.
16	93380	Quercus cerris	Turkey Oak	8.0	8.0	0.28	2	3	3	Reasonably good foliage density. No significant structural defects. Minor mower damage to base.
17	93381	Acacia melanoxylon	Tasmanian Blackwood	7.0	6.0	0.2	2	3	3	Reasonably good foliage density. Included unions, and partial suppression.
18	93382	Populus nigra	Black Poplar	12.0	12.0	0.38	4	4	4	Sparse crown, more than 30% decline.
19	93385	Arbutus unedo	Irish Strawberry Tree	3.5	3.5	0.2	2	3	3	Reasonably good foliage density. Multiple stems near base, canopy to near ground level.
20	93384	Cedrus atlantica	Atlas Cedar	6.0	6.0	0.2	2	3	3	Reasonably good foliage density. Asymmetrical form. Minor bark wound, but no significant structural defects.

Survey Number	Tree ID	Species	Common Name	Height	Canopy Spread	DBH	Tree Health	Tree Form	Overall Condition	Comments
21	93391	Arbutus unedo	Irish Strawberry Tree	4.0	6.5	0.25	2	3	3	Reasonably good foliage density. Multiple stems near base, and canopy to near ground level.
22	93387	Cedrus atlantica	Atlas Cedar	9.5	6.0	0.3	2	2	2	Reasonably good condition.
23	93390	Cedrus atlantica Glauca	Blue Atlas Cedar	5.5	6.0	0.18	2	3	3	Reasonably good foliage density. Asymmetrical form. No significant structural defects.
24	93389	Cedrus atlantica Glauca	Blue Atlas Cedar	5.5	5.0	0.18	2	4	4	Reasonably good foliage density. Asymmetrical form. A large bark wound at the tree base on the eastern side, but no significant structural defects.
25	93393	Populus nigra Italica	Lombardy Poplar	9.5	2.0	0.18	2	2	2	Reasonably good foliage density. No significant structural defects.
26	93392	Quercus robur	English Oak	9.5	8.0	0.2	2	2	2	Reasonably good foliage density. No significant structural defects.
	93394	Quercus cerris	Turkey Oak							No tree.
27	93395	Cedrus deodara	Deodar Cedar	5.0	11.0	0.35	2	3	3	Reasonably good foliage density. Multiple stems from near ground level, and canopy to ground. No apical dominance. No significant structural defects.
28	93402	Casuarina cunninghamiana	She Oak	7.5	7.0	0.2	2	3	3	Reasonably good foliage density. Asymmetrical from. No significant structural defects.
29	93399	Casuarina cunninghamiana	She Oak	8.5	7.5	0.3	2	3	3	Reasonably good foliage density. Asymmetrical from. No significant structural defects.
30	93404	Casuarina cunninghamiana	She Oak	7.0	7.0	0.3	2	3	3	Reasonably good foliage density. Crown suppression, and asymmetrical from. No significant structural defects.

Survey Number	Tree ID	Species	Common Name	Height	Canopy Spread	DBH	Tree Health	Tree Form	Overall Condition	Comments
31	93412	Eucalyptus nicholii	Narrow-leaved Black Peppermint Gum	15.0	13.0	1.3	4	4	4	More than 30% decline. Potential for structural failures.
32	93416	Eucalyptus	Gum	13.0	12.0	0.4	4	4	4	Dieback in central leader, more than 30% decline.
33	93418	Eucalyptus saligna	Sydney Blue Gum	18.0	12.0	0.6	3	4	4	A large trunk wound from 1.5-3.5m above ground level, possible decay present. Canopy imbalance.
	93419	Eucalyptus nicholii	Narrow-leaved Black Peppermint Gum							Stump regrowth.
34	93423	Eucalyptus	Gum	16.0	8.0	0.7	4	4	4	Decline in central leader, more than 30% decline. Significant suppression on the southern side.
35	93425	Eucalyptus nicholii	Narrow-leaved Black Peppermint Gum	22.0	25.0	2.3	3	4	4	Five main stems originating from near ground level. Included stem and branch unions. Previous large stem failures and the potential for further significant structural failures.
36	93427	Eucalyptus	Gum	9.0	8.0	0.6	4	4	4	More than 30% decline. Multiple stems from 1m.
37	93428	Eucalyptus	Gum	10.0	11.0	0.7	4	3	4	Canopy becoming sparse, with possibly more than 30% foliage density loss. No significant structural defects.
38	93429	Quercus cerris	Turkey Oak	10.0	11.0	0.45	2	3	3	Reasonably good foliage density, included branch unions.
39	93430	Fraxinus americana	White Ash	6.5	9.0	0.2	2	3	3	Reasonably good foliage density. Multiple stems from 1.0m. Minor bark wound at the base and on one stem. No significant structural defects.

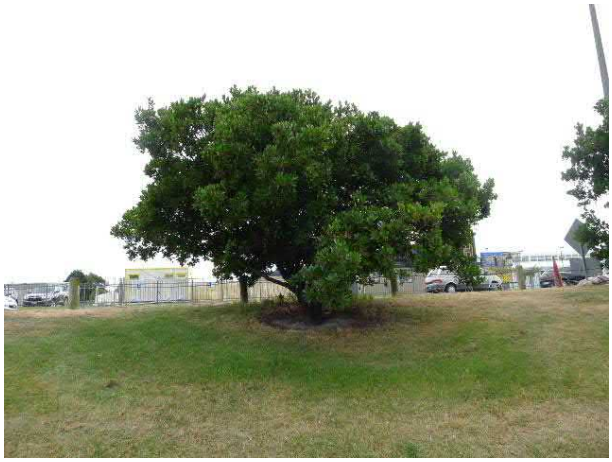
Survey Number	Tree ID	Species	Common Name	Height	Canopy Spread	DBH	Tree Health	Tree Form	Overall Condition	Comments
40	93432	Populus yunnanensis	Chinese Poplar	10.5	14.0	0.35	5	4	5	More than 70% decline.
41	93434	Eucalyptus	Gum	10.5	16.0	0.1	3	4	4	Isolated dieback, currently less than 30% of the canopy affected. Co-dominant near base. Previous and recent structural failures and further failures likely.
42	93437	Populus nigra Italica	Lombardy Poplar	11.5	2.5	0.25	4	3	4	More than 30% decline, but no significant structural defects.
43	93435	Eucalyptus	Gum	10.0	14.0	0.6	3	4	4	Foliage density becoming sparse on the southern side, currently less than 30% of the canopy affected. Co-dominant near base, with included unions. Previous structural failures, and further failures likely.
44	93436	Populus nigra Italica	Lombardy Poplar	4.5	0.5	0.1	5	5	5	Dead tree.
45	93442	Cedrus libani	Cedar of Lebanon	10.0	7.5	0.3	2	3	3	Reasonably good foliage density. Co-dominant from 4.0m with included unions.
46	46	Populus nigra Italica	Lombardy Poplar	8.0	2.0	0.1	3	3	3	Partial suppression, but fair condition overall.
47	93445	Populus nigra Italica	Lombardy Poplar	12.0	4.0	0.3	3	3	3	Sparse mid canopy. Basal wound on the western side, with possible decay. No significant structural defects.
48	93446	Cedrus deodara	Deodar Cedar	8.0	8.0	0.35	3	3	3	Slightly sparse lower canopy. Asymmetrical form due to suppression. No significant structural defects.
49	93447	Cedrus deodara	Deodar Cedar	5.5	4.0	0.18	3	3	3	Slightly sparse lower canopy. Asymmetrical form due to suppression. No significant structural defects.

Survey Number	Tree ID	Species	Common Name	Height	Canopy Spread	DBH	Tree Health	Tree Form	Overall Condition	Comments
50	93448	Cedrus deodara	Deodar Cedar	8.0	5.0	0.25	2	3	3	Some suppression on the north-western side of the canopy. No significant structural defects.
51	93444	Populus nigra	Black Poplar	14.5	11.0	0.45	3	3	3	Slightly sparse foliage density, currently less than 30% foliage density loss. Minor deadwood. Previous branch failures.
52	93443	Populus yunnanensis	Chinese Poplar	14.5	9.0	0.4	2	3	3	Reasonably good foliage density. Co-dominant from 2.0m with included unions.
53	93441	Cedrus atlantica Glauca	Blue Atlas Cedar	2.0	2.5	0.08	5	4	5	Small, stunted tree in very poor condition due to lack of live growth, a large bark wound at the trunk base, and multiple previous branch failures.
54	93439	Populus nigra Italica	Lombardy Poplar	13.0	2.0	0.18	3	3	3	Reasonably good foliage density, slight yellowing of leaves. No significant structural defects.
55	93440	Eucalyptus pulchella	White Peppermint Gum	11.0	10.0	0.55	3	4	4	Slightly sparse foliage density, but less than 30% decline. Multiple stems at 1.5m, and multiple included unions in main trunk and scaffold branches.
56	93426	Populus nigra Italica	Lombardy Poplar	11.0	2.5	0.3	2	3	3	Reasonably good foliage density. One-sided crown due to lateral suppression from an adjacent tree, but no significant structural defects.
57	93421	Cedrus atlantica Glauca	Blue Atlas Cedar	5.0	8.0	0.25	3	3	3	Slightly sparse foliage density, but less than 30% decline. A minor bark wound on lower trunk, but no significant structural defects.
58	93424	Populus nigra Italica	Lombardy Poplar	11.0	3.0	0.3	2	3	3	Reasonably good foliage density. One-sided crown due to lateral suppression from an adjacent tree, but no significant structural defects.

Survey Number	Tree ID	Species	Common Name	Height	Canopy Spread	DBH	Tree Health	Tree Form	Overall Condition	Comments
59	93422	Populus yunnanensis	Chinese Poplar	11.0	12.0	0.35	3	3	3	Reasonably good foliage density slightly sparse crown, but less than 30% decline. Minor lateral suppression on the western side.
60	93415	Populus nigra	Black Poplar	10.0	11.0	0.25	4	4	4	Sparse crown, approximately 50% decline, and an old basal wound with decay.
61	93413	Populus nigra	Black Poplar	10.0	11.0	0.3	4	3	4	Sparse crown, approximately 50% decline.
62	93411	Cedrus atlantica	Atlas Cedar	7.0	7.0	0.25	2	3	3	Reasonably good foliage density. Multiple stems from ground level and multiple girdling roots. Slight lateral suppression from an adjacent tree, but no significant structural defects.
63	93410	Cedrus atlantica	Atlas Cedar	2.5	9.0	0.2	2	4	4	Reasonably good foliage density, crown to ground level. Central leader lost, and heavily suppressed under adjacent trees.
64	93406	Cedrus atlantica	Atlas Cedar	7.0	10.0	0.35	2	3	3	Reasonably good foliage density. Multiple recent branch failures on the western side of the canopy.
65	93403	Cedrus atlantica	Atlas Cedar	3.5	5.0	0.2	3	4	4	Reasonably good foliage density. Central leader lost some time ago, and heavily suppressed by adjacent trees. Multiple previous branch failures.
66	93401	Cedrus atlantica	Atlas Cedar	6.0	8.0	0.4	2	3	3	Reasonably good foliage density. Asymmetrical form. No significant structural defects, but multiple branch failures in the lower crown.
67	67	Arbutus unedo	Irish Strawberry Tree	3.5	6.0	0.5	2	3	3	Reasonably good foliage density. Multiple stems from base, and canopy to near ground level. Broken branch stub on western side.

Survey Number	Tree ID	Species	Common Name	Height	Canopy Spread	DBH	Tree Health	Tree Form	Overall Condition	Comments
68	93408	Acacia melanoxylon	Tasmanian Blackwood	8.0	8.0	0.6	3	4	4	Multiple stems from ground level, multiple included unions. Several delaminated branches.
69	93409	Arbutus unedo	Irish Strawberry Tree	3.0	3.0	0.2	3	4	4	Reasonably good foliage density. Multiple stems near base, and canopy to near ground level. Heavily suppressed by adjacent trees.
70	93405	Arbutus unedo	Irish Strawberry Tree	3.0	4.0	0.35	2	3	3	Reasonably good foliage density. Multiple stems near base, and canopy to near ground level.
71	93400	Arbutus unedo	Irish Strawberry Tree	2.5	4.0	0.25	2	4	4	Reasonably good foliage density. Multiple stems near base, and canopy to near ground level. Previous branch failures in the mid canopy.
72	93397	Arbutus unedo	Irish Strawberry Tree	4.0	7.0	0.4	2	3	3	Reasonably good foliage density. Multiple stems near base, and canopy to near ground level. Previous branch failures on the north-western side and mid canopy.
73	93388	Arbutus unedo	Irish Strawberry Tree	4.0	6.0	0.45	2	3	3	Reasonably good foliage density. Multiple stems near base, and tree has had minor canopy lift.
74	93383	Arbutus unedo	Irish Strawberry Tree	4.5	7.0	0.35	3	3	3	Slightly sparse crown. Multiple stems near base, and tree has had minor canopy lift.
75	93374	Arbutus unedo	Irish Strawberry Tree	5.0	7.5	0.45	2	3	3	Reasonably good foliage density. Multiple stems near base, and canopy to near ground level. Delaminated limb in canopy, and several branches/stems have had bark removed but have good reactive growth.
76	93372	Arbutus unedo	Irish Strawberry Tree	4.0	6.5	0.4	2	3	3	Reasonably good foliage density. Multiple stems near base, and canopy to near ground level.
77	93370	Arbutus unedo	Irish Strawberry Tree	4.5	6.0	0.35	2	3	3	Reasonably good foliage density. Multiple stems near base, canopy to near ground level. Previous branch failures on the north-eastern side.

Tree Survey Photographs



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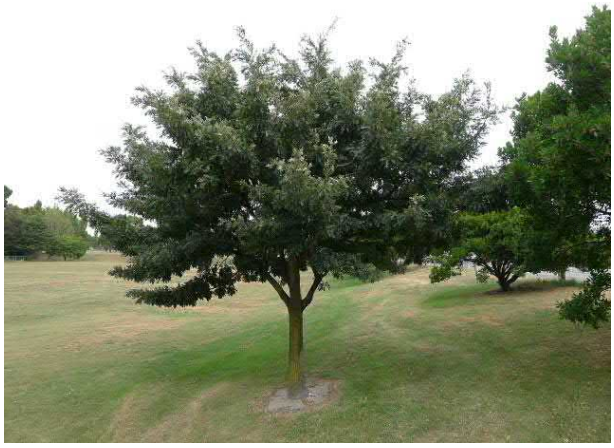

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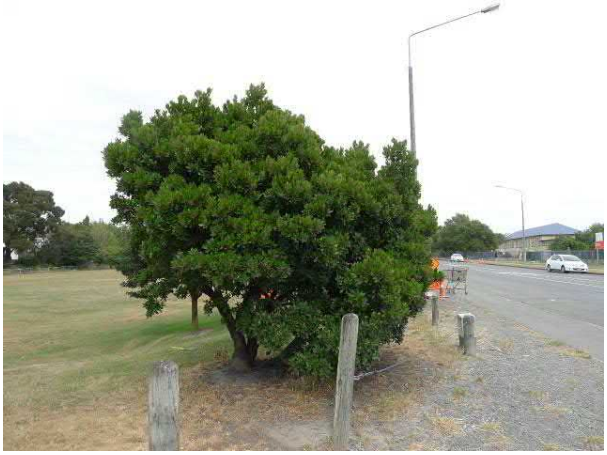

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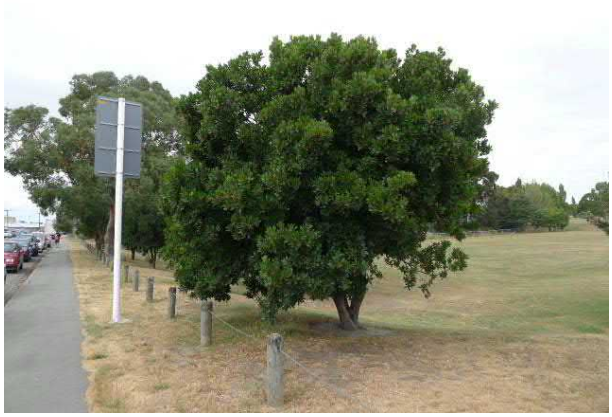

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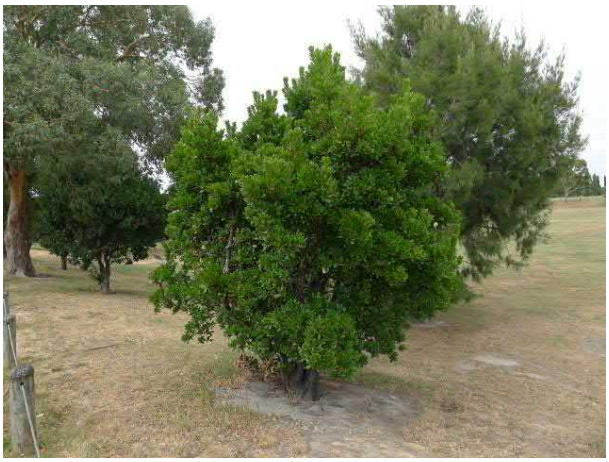

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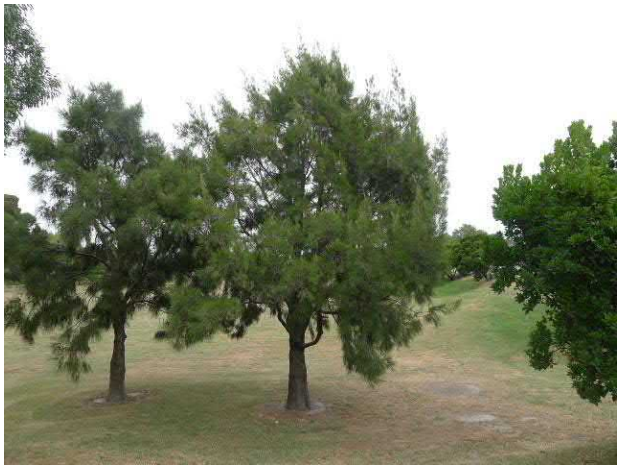

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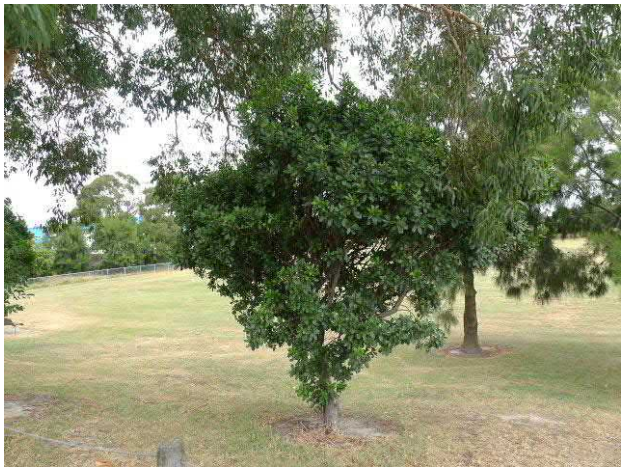

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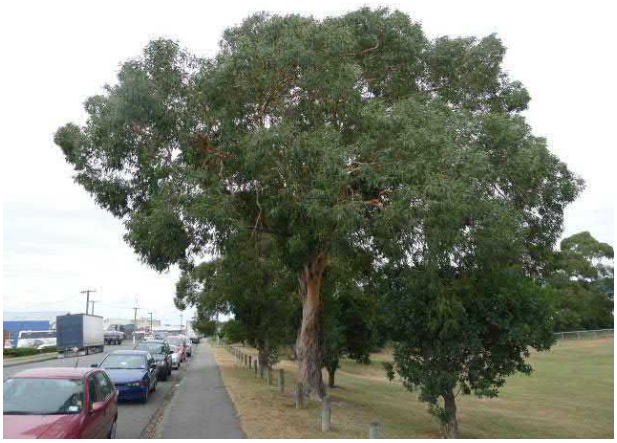

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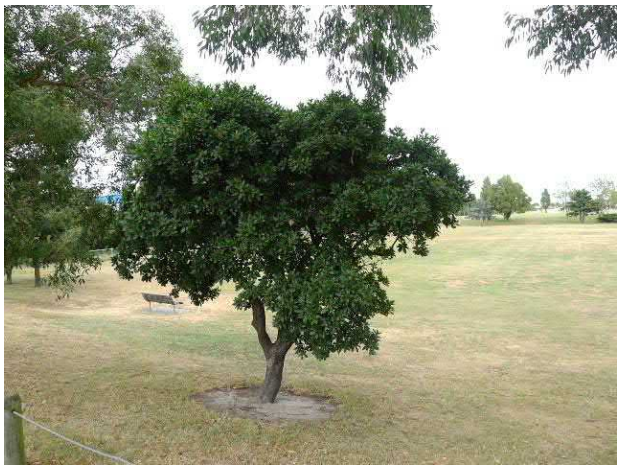

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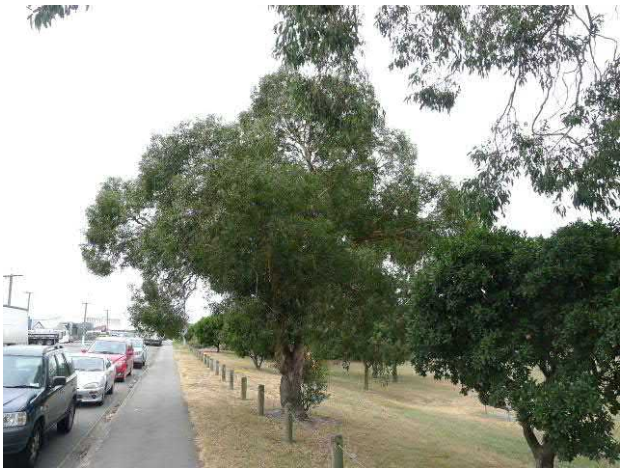

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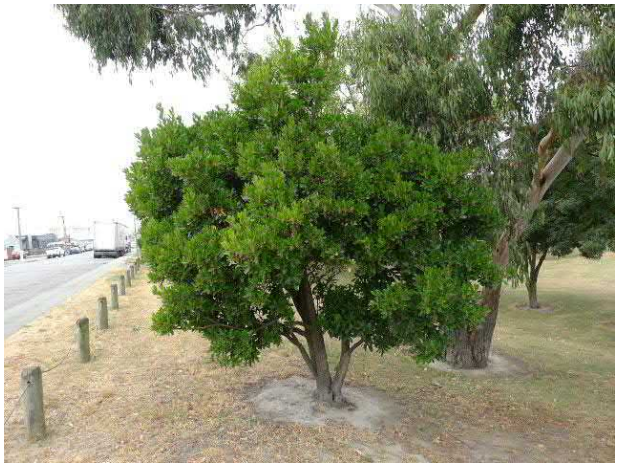

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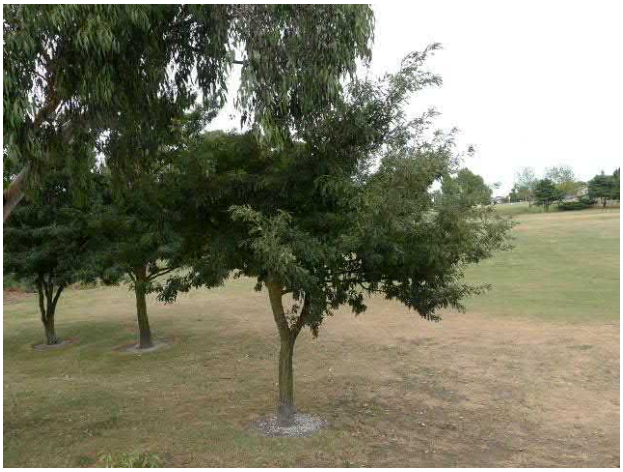

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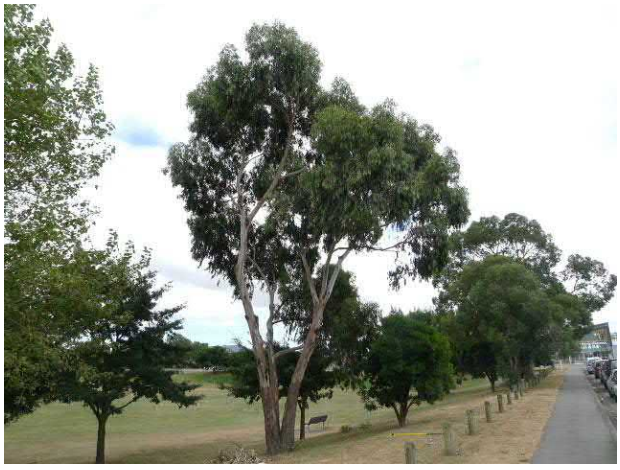

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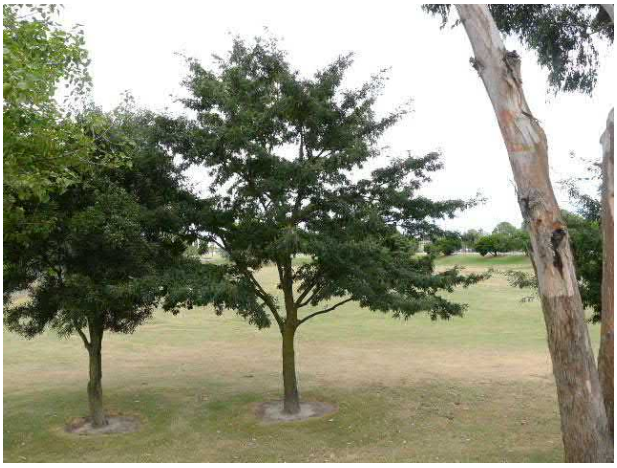

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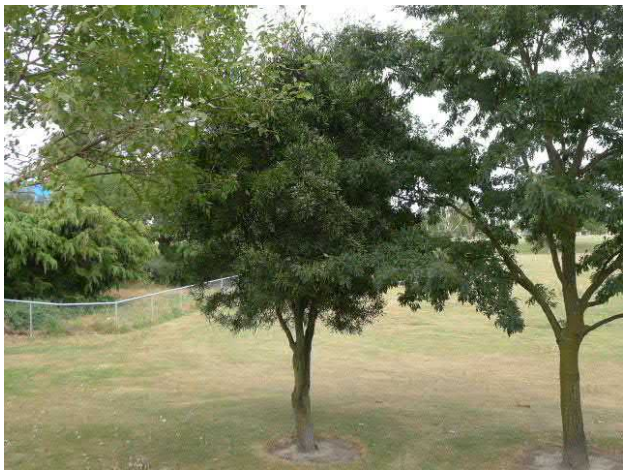

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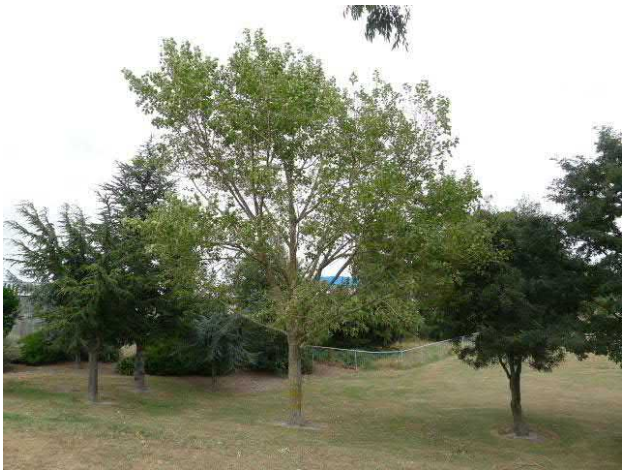

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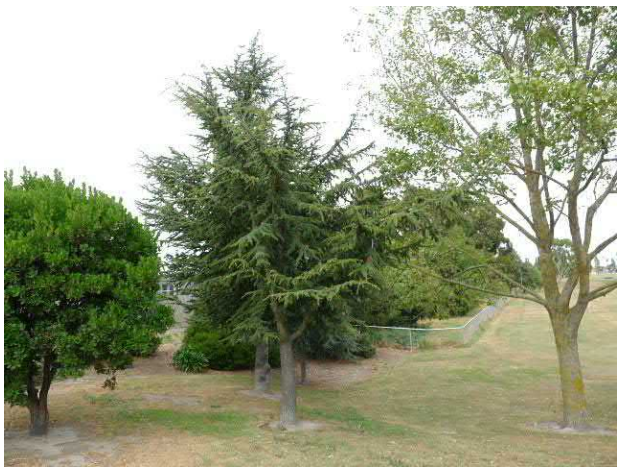

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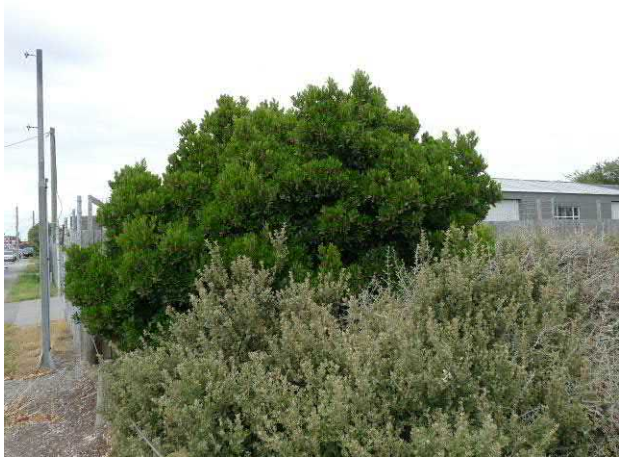

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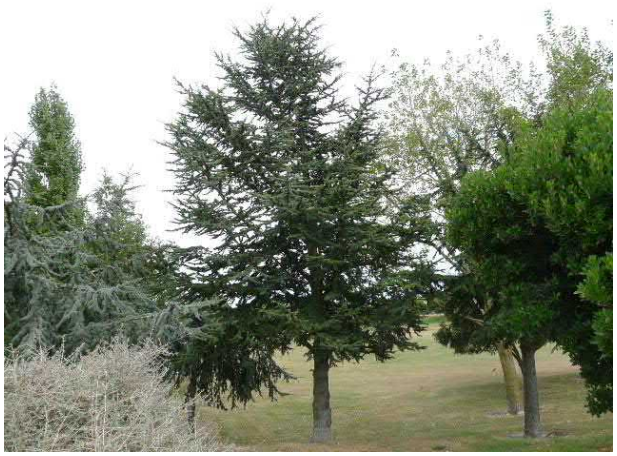

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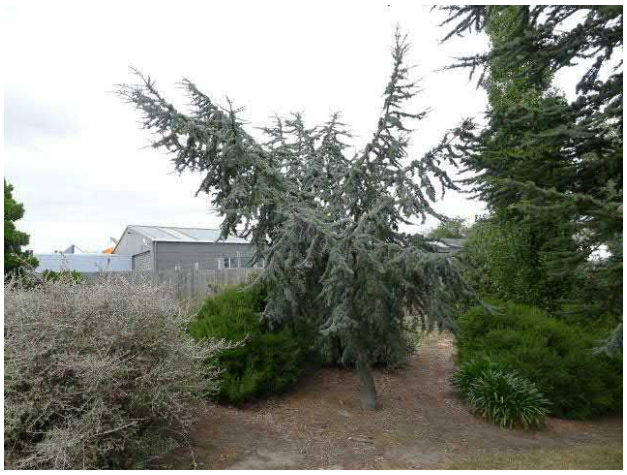

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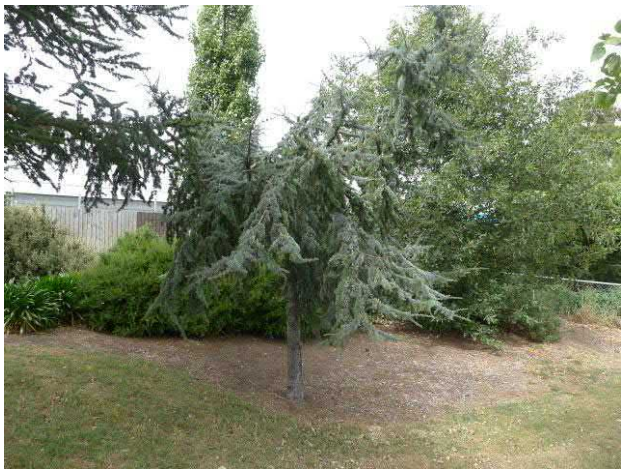

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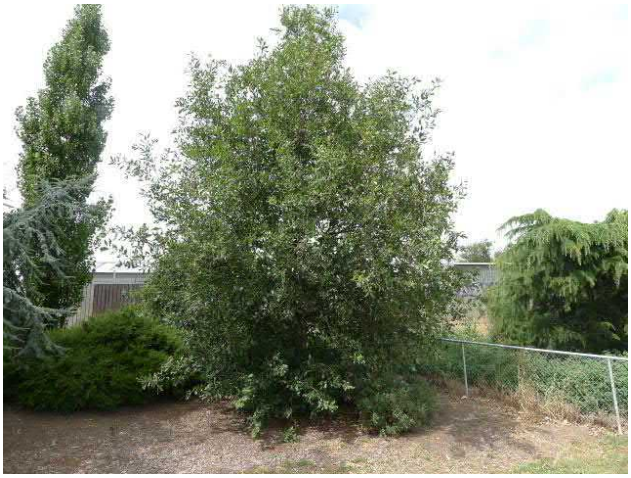

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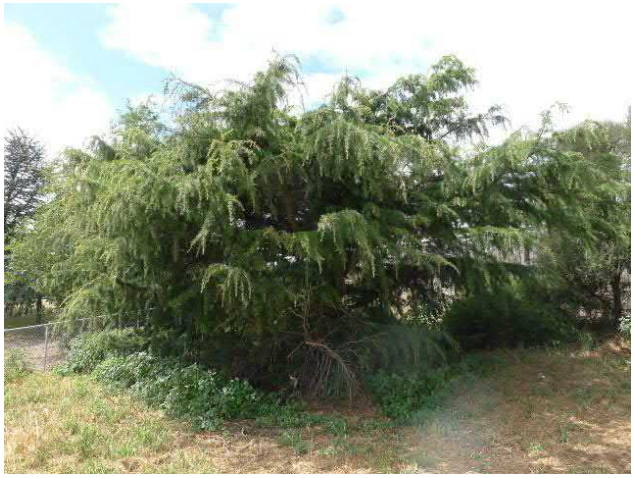

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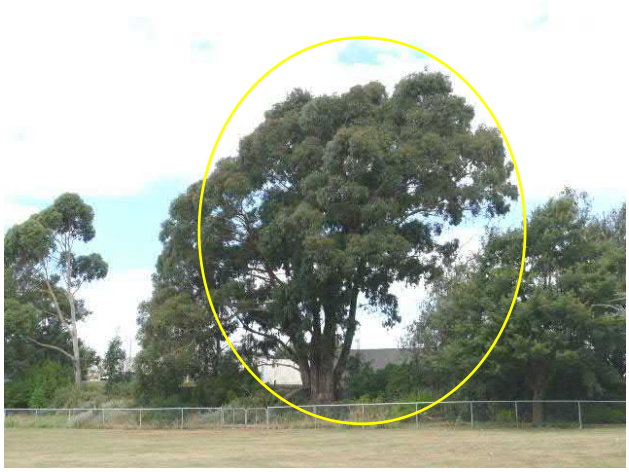

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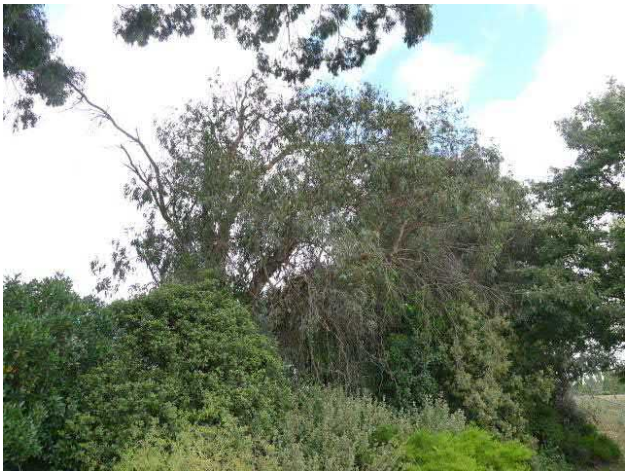

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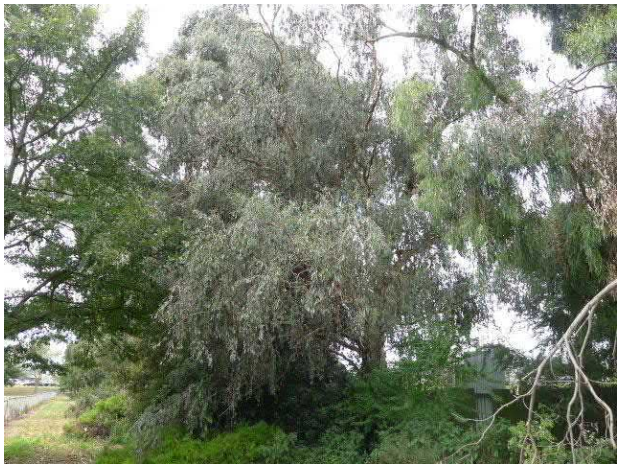

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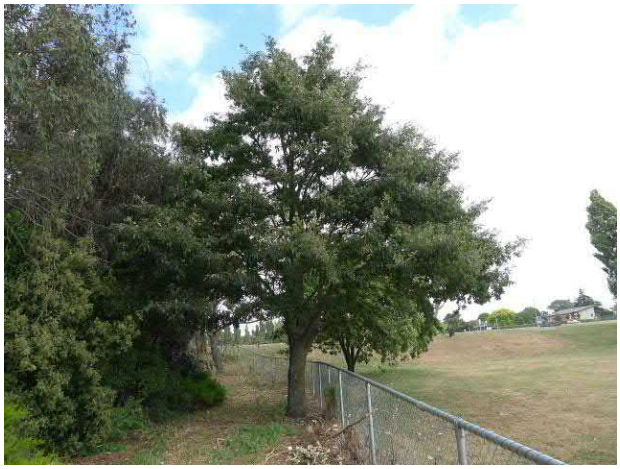

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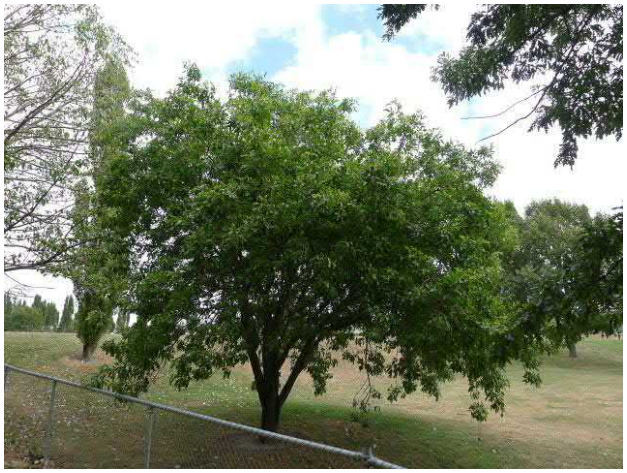

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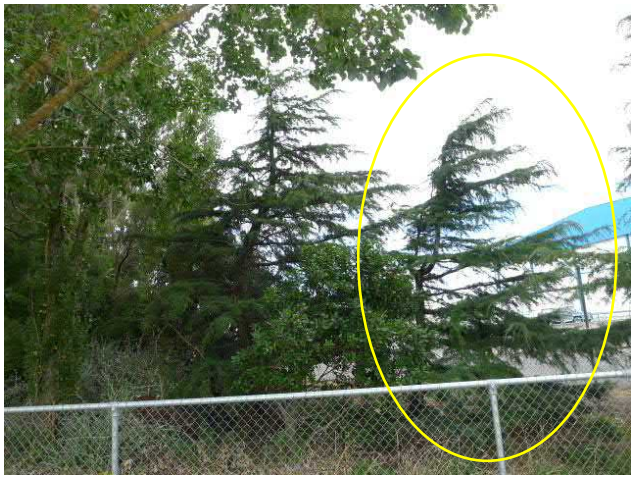

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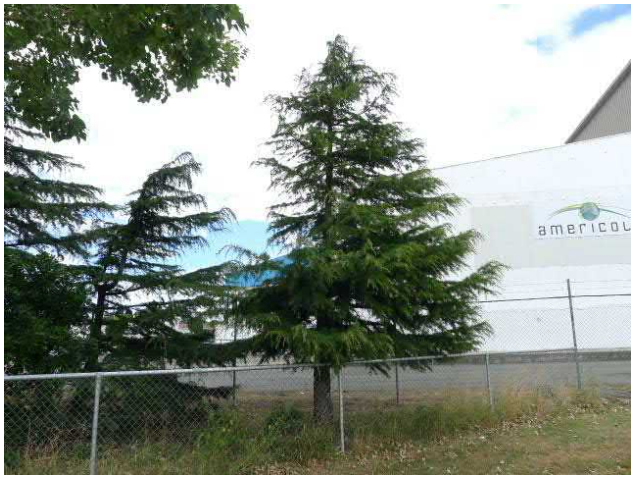

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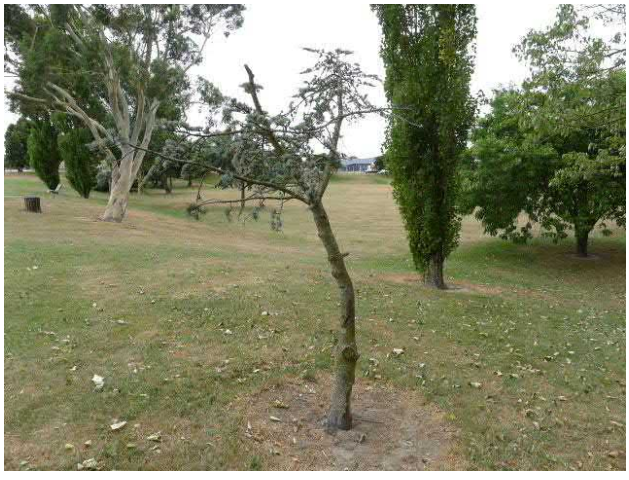

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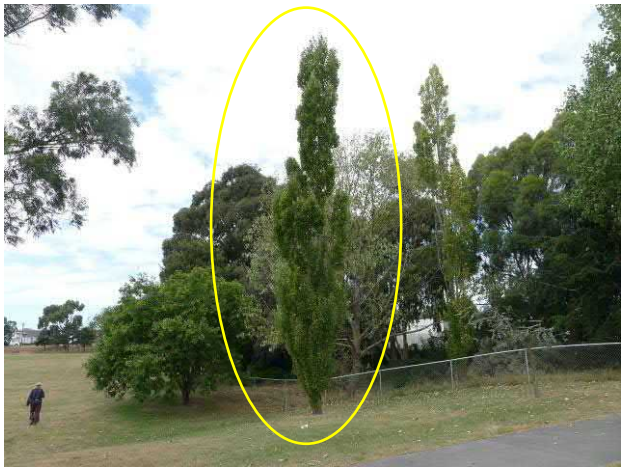

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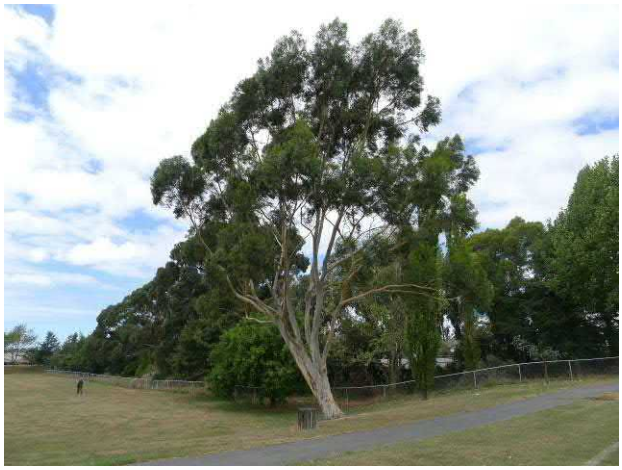

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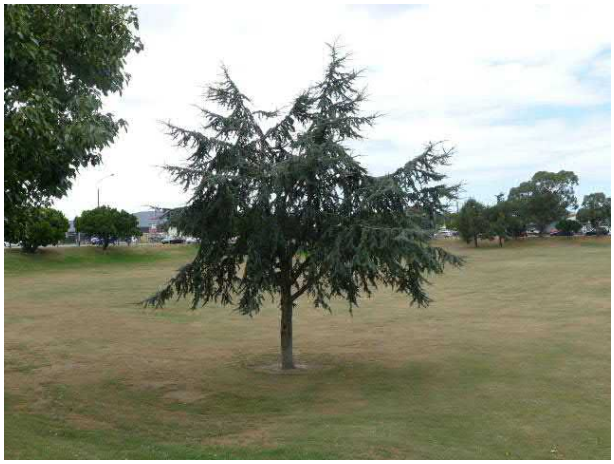

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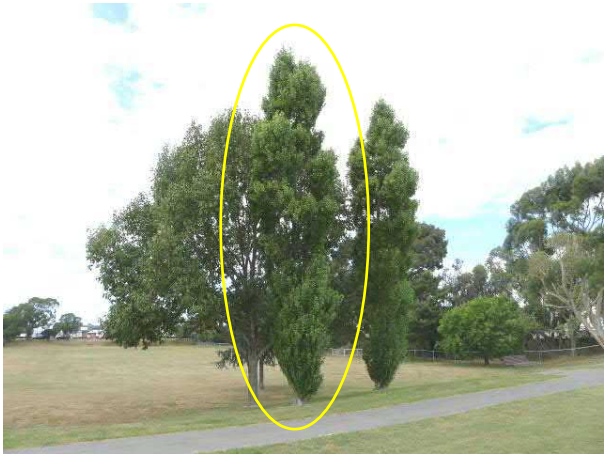

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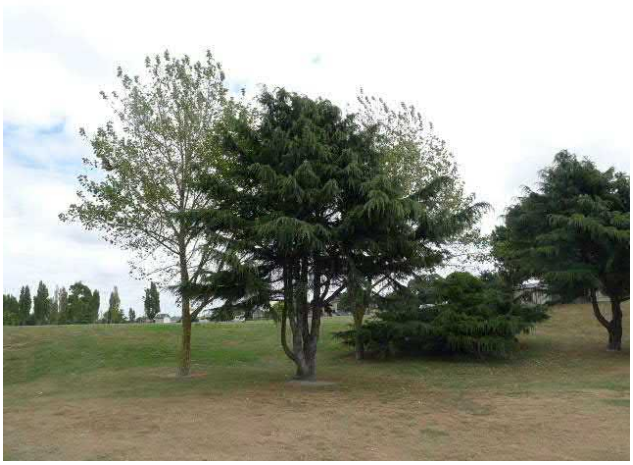

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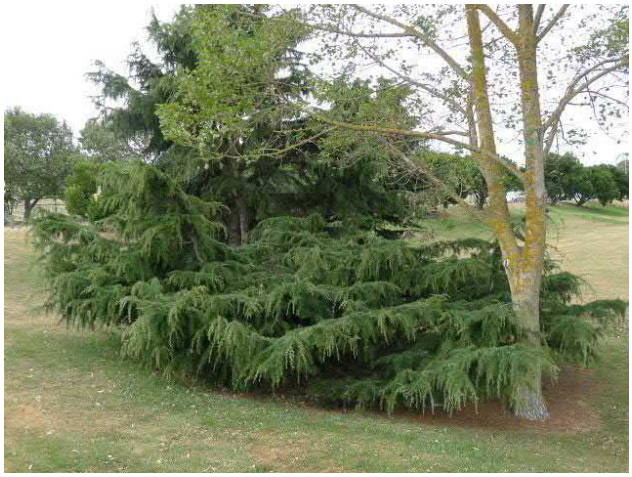

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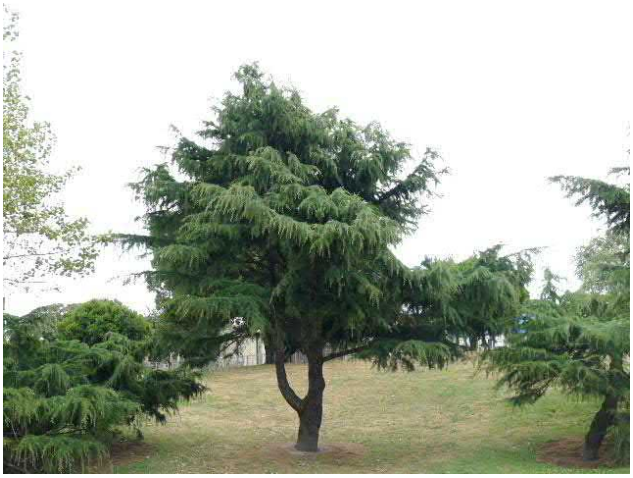

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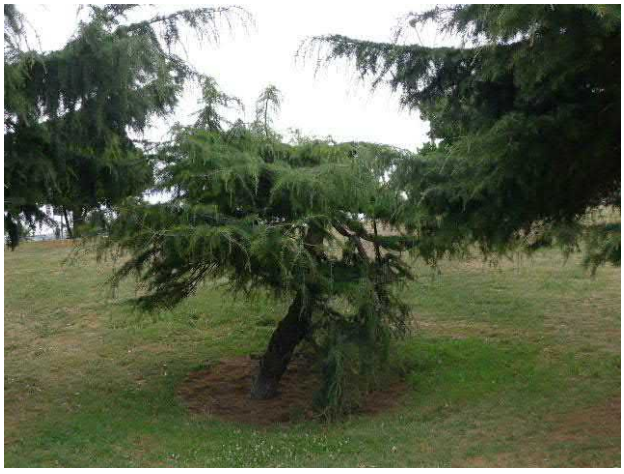

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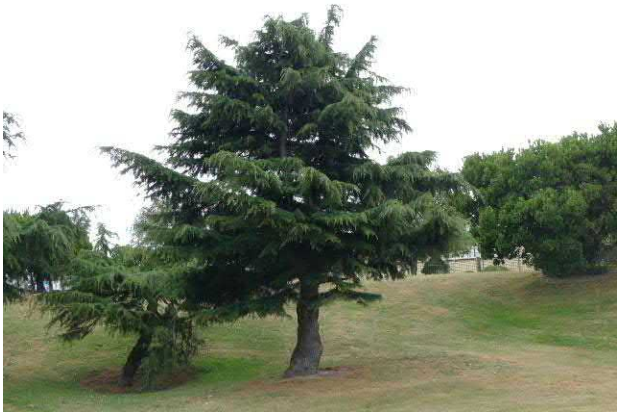

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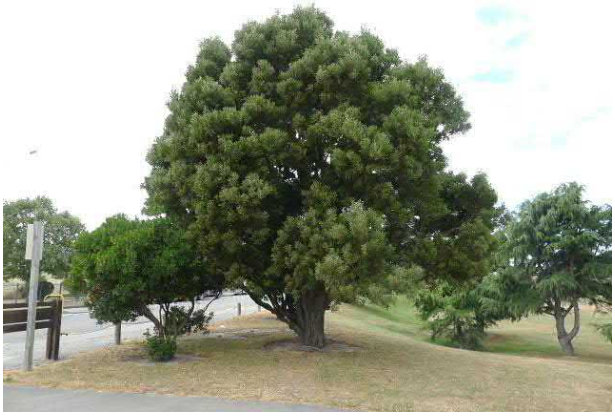

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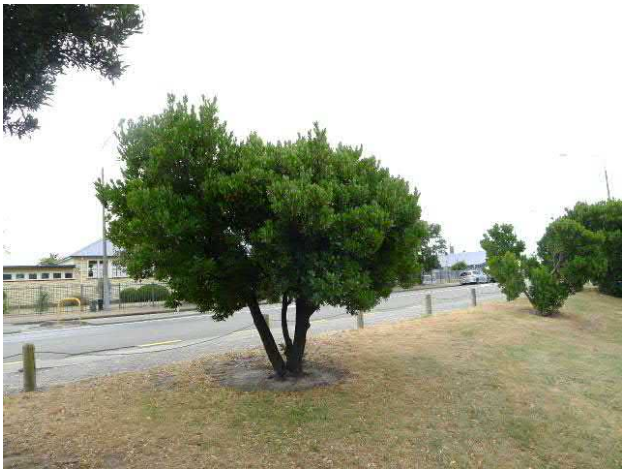

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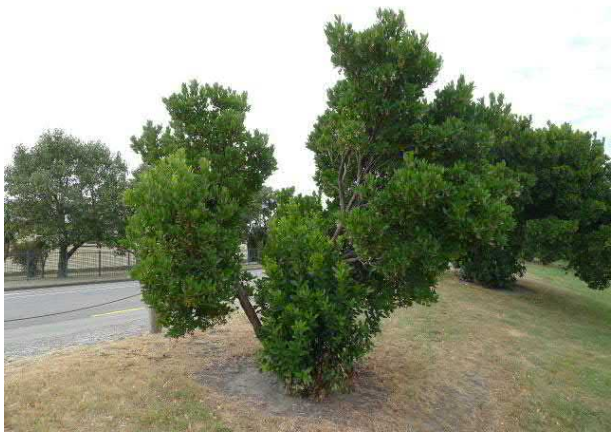

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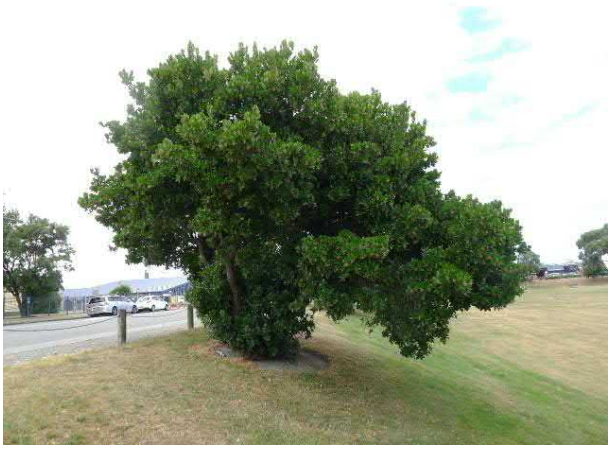

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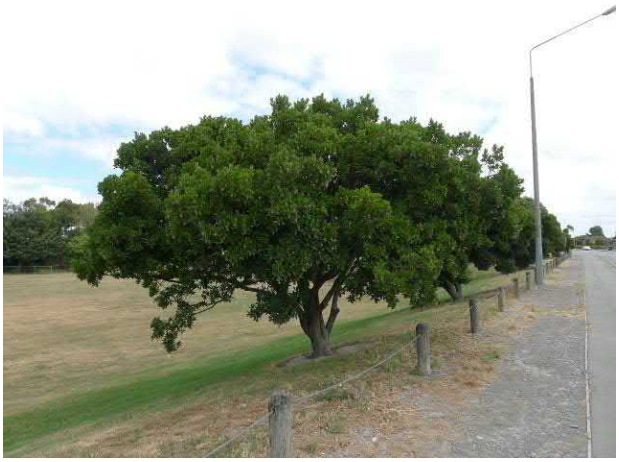
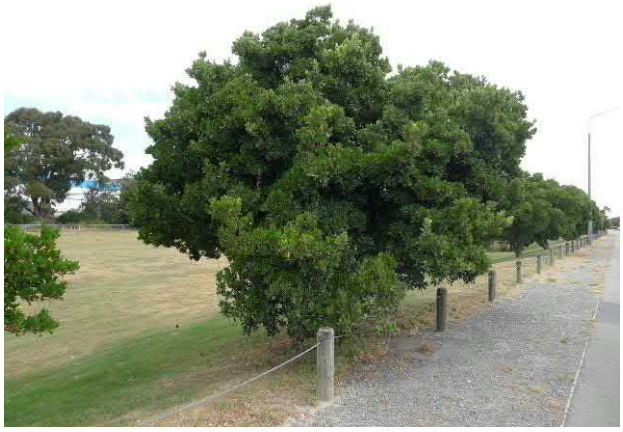
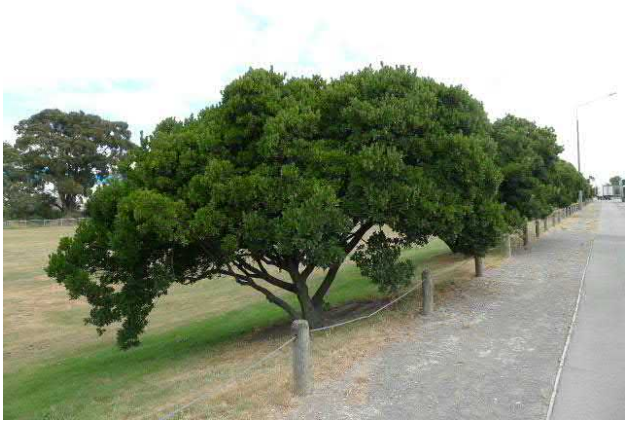


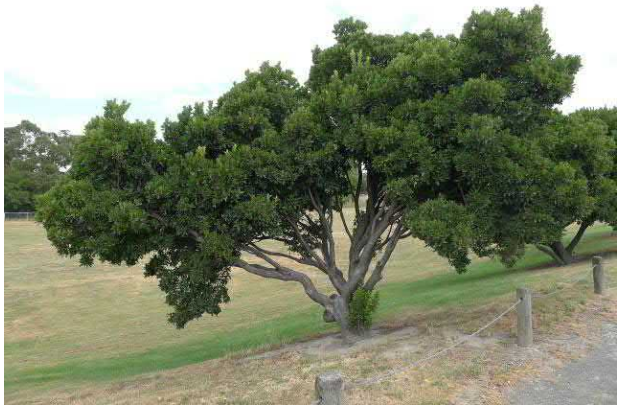
74 - 93383



75 - 93374



76 - 93372



77 - 93370