

# St James Park, Hawthorn

Heritage Advice

Prepared for  
City of Boroondara  
December 2021



**Acknowledgement of Country**

We respect and acknowledge the Wurundjeri Woi Wurrung Cultural Heritage Aboriginal Corporation, their people, their lands and waterways, their rich cultural heritage and their deep connection to Country, and we acknowledge their Elders past and present. We are committed to truth-telling and to engaging with First Peoples to support the protection of their culture and heritage. We strongly advocate social and cultural justice and support the Uluru Statement from the Heart.

**Quality assurance**

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# 1 Background

GML Heritage Victoria Pty Ltd (formerly trading as Context) was engaged by the City of Boroondara in September 2021 to provide heritage advice in relation to St James Park, Hawthorn. The heritage advice was requested to inform the proposed renewal of the three avenue plantings of elm trees in St James Park and potential re-use options for the southern-most bowling green, which is not currently in use.

The City of Boroondara is developing a tree renewal program for senescing elm trees in St James Park and contemplating the future use of the currently disused bowling green. The tree renewal program and future use of the bowling/pétanque green are to be incorporated into a master plan being prepared concurrently for St James Park, Hawthorn, by the City of Boroondara.

## 1.1 Objectives and scope

This heritage advice is provided to inform the planned tree renewal process in a way that best ensures change associated with landscape succession is managed without compromising the heritage values, landscape character and community enjoyment of the place, while also recognising the imperatives associated with a changing climate.

Similarly, the heritage advice is intended to provide direction to Council in relation to heritage constraints and opportunities associated with the southern-most bowling/former pétanque green.

The outcomes of this heritage advice will be used in forthcoming community engagement about the development of the St James Park master plan.

## 1.2 The study area

First laid out in 1861, St James Park forms an important part of the heritage of Hawthorn and the City of Boroondara. Like other nineteenth century public parks and gardens in metropolitan Melbourne, St James Park retains evidence of its original Victorian-era layout and early planting phases, as well as other layers of change accrued over time, including interwar improvements, a war memorial and a recent children's playground. The park provides valuable space for passive and active recreation for the community.

This heritage advice is primarily concerned with the three elm avenues and the disused former pétanque green shown in Figure 1.1.



Figure 1.1 Study area map. (Source: Nearmap with GML overlay)

## 1.3 Approach and methodology

The approach and methodology for this project were informed by the principles, guidelines and methodologies in the following documents:

- *The Burra Charter: The Australia ICOMOS Charter for Places of Cultural Significance, 2013*
- *Australia ICOMOS Practice Note on Heritage and Sustainability 1: Built Heritage, Version 01, August 2019*
- *ICOMOS Heritage and Climate Change Outline Report: The Future of Our Pasts, 1 July 2019.*
- *Conservation Management Plans: Managing Heritage Places—A Guide, Heritage Council of Victoria, 2010*
- *Landscapes of Cultural Heritage Significance: Assessment Guidelines, Heritage Council of Victoria, February 2015*
- *The Conservation Plan: A Guide to the Preparation of Conservation Plans for Places of European Cultural Significance, by James Semple Kerr on behalf of the National Trust of Australia (NSW), Fourth Edition, December 1996*

The methodology followed the Burra Charter process (see Figure 1.2).

Key tasks carried out in the development of this heritage advice report were:

- An inception meeting with the Council project team to understand the project background, constraints, issues, aspirations and opportunities.
- Confirmation of the history and evolution of St James Park, Hawthorn.
- Targeted desktop research into the history and evolution of the bowling club and its layout, to supplement the bowling club history in the 1992 heritage study citation.
- Site inspections and site meetings on 12 October 2021 (remotely, guided by the Boroondara project team) and 9 November 2021 (in person).
- A review of relevant background materials provided by Council.
- A review of current heritage practice: this included a review of high-level frameworks for integrating cultural heritage management and climate science, and local approaches to and practical examples of tree renewal programs for comparable parks of cultural heritage significance carried out within such frameworks.
- A review of the draft selection criteria for tree replacement by the City of Boroondara, and development of companion criteria for conservation of the park's heritage values.
- The development of a tree replacement criteria and decision-making process, bringing cultural heritage considerations alongside scientific modelling for selected replacement species, utilising background research prepared by Susan Murphy.
- Establishment of principles to guide selection of a compatible use for the dis-used green.
- Presentation of the preliminary findings to Council's project team for discussion.
- Preparation of the heritage advice report.

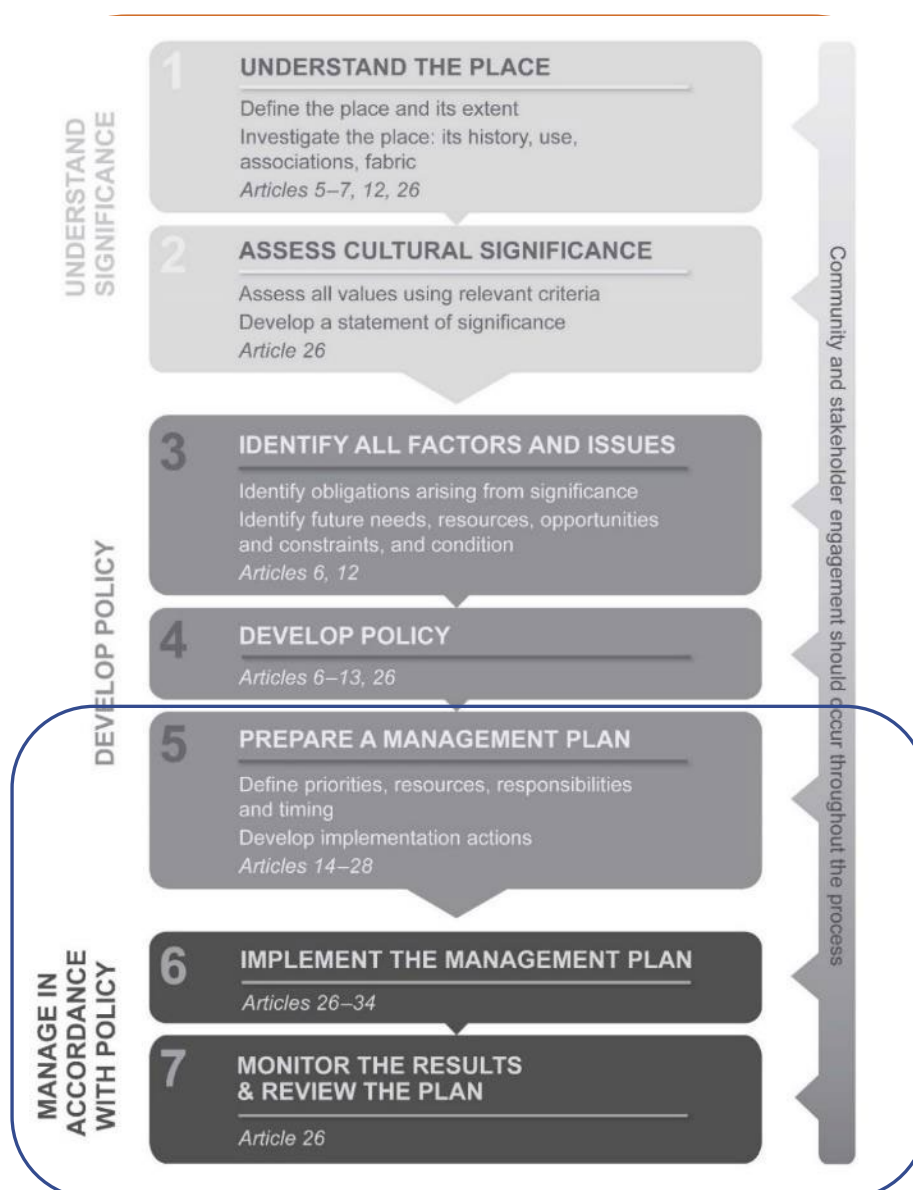


Figure 1.2 The Burra Charter process flow chart, from the Australia ICOMOS Burra Charter, 2013, p. 10 (summarised in Article 6 of the Burra Charter). Steps 1 to 4 were carried out in this project. The master plan will address steps 5 to 7.

## 1.4 Limitations

Due to restrictions associated with the Covid-19 pandemic during the first months of the project, it was not possible to view undigitised historical records in the Hawthorn Library’s local history collection. It was also not possible to view the St James Park Reserve file, or records at the Public Record Office of Victoria. As a result, the project was limited to desktop research.



The initial site inspection and meetings were carried out online.

Historic images of St James Park held in the City of Boroondara library collection and accessible online were viewed in the preparation of this heritage advice.

## **1.5 Authorship**

This report was prepared by Christina Dyson and Juliet Berry. Images are by GML Heritage unless otherwise acknowledged.

## **1.6 Acknowledgments**

We acknowledge the assistance of the City of Boroondara project team: Sue Godfrey, Susan Murphy, Michael Tanner, and Brendon Burke.

## 2 Understanding the place

### 2.1 History

The historical understanding of the place and summary chronology below has been drawn from the Meredith Gould Heritage Study, and from desktop research using accessible online primary and secondary sources.

#### 2.1.1 Chronology of key dates

The following chronology is summarised from the 1992 Hawthorn Heritage Study by Meredith Gould, other accessible secondary sources and targeted primary research.

Table 2.1 St James Park, Hawthorn; chronology.

Date	Action
1852	The land for St James Park Hawthorn was part of the Crown Land reserve for the Village of Hawthorn, laid out by Robert Hoddle in 1852. Unsold blocks became known as common land.
1861	The Reserve (historically known by various names, currently St James Park) was laid out by English-born James Scott (1819–1879), florist and nursery proprietor, using trees distributed by Melbourne Botanic Gardens director Ferdinand von Mueller (1825–1896). Scott had established a nursery in Burwood Road, Hawthorn (known as the Royal Nursery after receiving patronage during the 1867 visit of the Duke of Edinburgh) on land purchased in 1854.
1860s–70s	Plants supplied by von Mueller, including Blue Gums, WA Red Flowering Gums
1870	50 pines, 60 elms, 27 oaks planted.
1870s	Oval used from this time for cricket.
1880	Bowling club established.
1887	Some trees replaced. The 1992 citation suggests Moreton Bay Figs and Monterey (Radiata) Pines in the park in 1992 may date from this time. Other trees introduced were Peppercorn Tree ( <i>Schinus molle</i> ), Monterey Pine (then <i>Pinus insignis</i> , now <i>P. radiata</i> ) and Sweet Pittosporum ( <i>Pittosporum undulatum</i> ).
c.1887	Football was also played at the oval.
1900	By 1900, the Hawthorn Recreation Reserve was fenced, with six entry gates. There was a fountain at the centre of the park. <sup>1</sup>

<sup>1</sup> Melbourne and Metropolitan Board of Works, Detail Plan No. 1804, dated August 1900.

Date	Action
1901–45	Layout of bowling greens changed (extended to south).
1929	Freestone and granite Hawthorn War Memorial constructed, comprising the cenotaph and lawn and a symmetrical grove of Bhutan Cypress ( <i>Cupressus torulosa</i> ), dedicated Sunday 10 March 1929. Designed by M Finlayson. <sup>2</sup>
c1929	Depression era works to paths, edging, and associated plantings including Bhutan Cypress.
1930s	Extant bowling club building built.
c.1945–70	Bowling green extended to south
1998–2011	Camberwell Petanque Club commenced use of southern green, moving to Lynden Park in 2011. <sup>3</sup>
2020	Weatherboard pavilion in the northwest corner of the park (replaced c1960s with a brick building).

<sup>2</sup> *Age*, 11 March 1929, p. 10.

<sup>3</sup> Sweeney Sports, 2006. *Building Participation in Lawn Bowls*. Report prepared for Bowls Australia. Online: [www.bowls.com.au/wp-content/uploads/2018/09/Sweeney-Report.pdf](http://www.bowls.com.au/wp-content/uploads/2018/09/Sweeney-Report.pdf)

## 2.1.2 Historic maps and aerials of St James Park

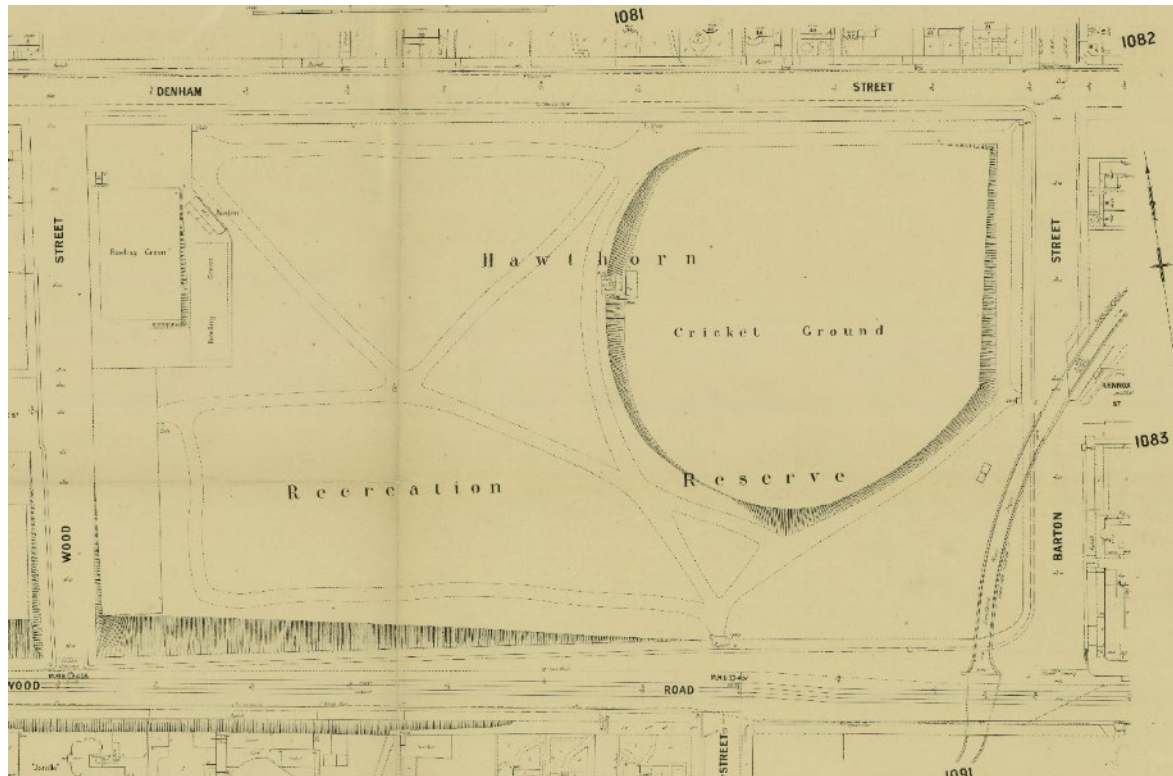


Figure 2.1 Hawthorn Recreation Reserve (now St James Park), Hawthorn; detail from MMBW plan No. 1084 dated 1900. (Source: State Library Victoria)



Figure 2.2 St James Park, Hawthorn, detail from 1945 aerial. (Source: <https://1945.melbourne/>)



Figure 2.3 St James Park, Hawthorn, detail from 1970 aerial. (Source: Landata)





Figure 2.4 St James Park, Hawthorn, detail from 1985 aerial. (Source: Landata)



Figure 2.5 St James Park, Hawthorn, 27 October 2021 aerial. (Source: Nearmap)



Figure 2.6 St James Park, Hawthorn, with 1900 MMBW detail plan of the Hawthorn Recreation Reserve overlaid onto the 2021 aerial photograph, showing how the layout of the park remains largely intact. (Source: Nearmap and State Library Victoria, with GML overlay)

Notes associated with Figure 2.6:

- A Location of fountain in 1900, no longer extant.
- B New entries into the park (steps) created by 1929.
- C Oval extended, resulting in the removal of paths in this location.
- D Bowling greens extended to the south to the extent of the former pétanque green.
- E Extension of bowling greens resulted in the realignment of a path in this location.
- F The Reserve was fully fenced in 1900, with six entry gates.





Figure 2.7 Detail from 'Hawthorn Bridge at Bridge Road showing construction work' Airspy photograph by Charles Daniel Pratt (1892–1968) dated 'ca1925–ca1940'. The image must have been taken after 1929, when the Hawthorn War Memorial monument and lawn were constructed at St James Park. (Source: Accession No: H91.160/1718, State Library Victoria)



Figure 2.8 Detail of 'Residential area of Richmond with Richmond Pony Track and parks' Airspy photograph by Charles Daniel Pratt (1892–1968), dated 'ca1925–ca1940'. This image was taken in winter, after 1929 when the Hawthorn War Memorial monument and lawn were constructed at St James Park. (Source: Accession No. H91.160/1604, State Library Victoria)





Figure 2.9 St James Park and general view of Hawthorn, postcard c.1906 (photomechanical print). By this time the park appears extensively planted, including specimen trees in lawn. The cannon is no longer in the park. (Source: State Library Victoria, Accession No: H2016.26/518)

### 2.1.3 Planting phases and planting patterns



Figure 2.10 Analysis of aerial photographs between 1945 and 2021 demonstrates how the main structural plantings and planting patterns at St James Park that remain evident in the present, were well established by 1945. (Source: Nearmap, with GML overlay)

Note A: Analysis of the planting patterns from historic aerial photographs shows that between 2009 and 2014 canopy cover in this area was reduced. This is understood to have been a result of tree decline (and removal) associated with a sustained period of drought at this time. Additional tree planting along the north side of this pathway could be contemplated as part of the Master Plan for St James Park.

Note B: From observations on-site of this lawn area, an additional specimen tree to increase shade and amenity in this part of the park could be accommodated in this area without compromising significance. The opportunity to test how a historically appropriate species that is new to the St James Park setting performs aesthetically, functionally, and biologically could be considered in the central triangle.



## 2.1.4 Bowling greens



Figure 2.12 Detail from the 1900 MMBW Detail Plan No. 1084. (Source: State Library Victoria)



Figure 2.13 The MMBW plan detail overlaid on a 2021 Nearmap aerial image to illustrate changes to the bowling green area since 1900. (Source: State Library Victoria and Nearmap)



Figure 2.14 Current green footprints overlaid on the 1945 aerial. (Source: Landata with GML overlay)



Figure 2.15 Current green footprints outlined on 2021 aerial. (Source: Nearmap with GML overlay)

The illustrations above show how the bowling greens and bowling club area in the northeast corner of St James Park have evolved over time. A new clubhouse was built after 1929, replacing the angled pavilion with verandah visible in the 1900 MMBW plan. The layout of the greens was altered between 1901 and 1945, and the overall footprint of the area was extended to the south in that period, and possibly again to the south to a much smaller degree between 1945 and 1975.

Figure 2.12 suggests that the southern-most green (the former bowling/pétanque green) may also have been extended a small distance to the south after 1945.

The extant bluestone retaining wall on the south side of the former pétanque green therefore would date from after 1945. The rockery garden may also date from c1945.

## 2.2 Description of St James Park

St James Park is described in the 1992 Heritage Study as follows:

St James Park occupies a 4.5ha and consists of sweeping lawns, several radiating paths, avenues of mature exotic trees (*Ulmus procera*, *Quercus robur*, *Cupressus torulosa*, *Schinus molle* var. *areira*), scattered specimen trees\* and remnant River Red Gums (*Eucalyptus camaldulensis*).

From the oval at the eastern end of the Park, the land rises up fairly steeply to a ridge, topped by Wood Street, Christ Church and West Hawthorn Primary School. (The other side of the ridge drops down to the Yarra River Valley.) Hawthorn Creek originally would its way along the eastern boundary of St James Park. The creek was covered over in [sic. by 1900] and the oval developed on the creek flats. The former creek banks encircle above, providing a dramatic setting for the park and the approach to the War Memorial.

\*Including *Pinus canariensis*, *Ficus macrophylla*, *Koeleraria paniculatum*, *Pittosporum undulatum*.

The mature collection of large trees—comprising strong evergreen forms of specimen trees in lawn and shaded walks of mature deciduous trees—and open lawns dotted with specimen trees are key characteristics of St James Park. They provide important evidence of the park's nineteenth century establishment and Victorian, Edwardian and interwar planting phases, alongside the largely intact pathway layout and division of the park into areas for passive and active recreation.

Defining attributes of the planting at St James Park are:

- mature large trees, extensively planted, with a rich collection of trees across the linear, avenue and specimen tree population

- exotic species generally, with exceptions: two remnant River Red Gums (*Eucalyptus camaldulensis*) and introduced Australian native trees, Silky Oak (*Grevillea robusta*) and Moreton Bay Fig (*Ficus macrophylla*)
- two main planting patterns:
  - avenue and linear plantings (single species, uniform, deciduous) along pathways and oval edge, some species diversity (avenues of elms, row of oaks, rows of Peppercorn Trees, short linear groupings of Silky Oak)
  - lawn with specimen trees – high species diversity, informal arrangement, mostly specimen trees, strong evergreen forms
- other planting patterns include paired trees at entries and plantings associated with the war memorial, of Bhutan Cypress (*Cupressus torulosa*)
- strong contrast between avenue plantings (deciduous, uniform species) and specimen tree plantings (evergreen, rich species diversity), shaded walks and open areas of lawn
- War Memorial, strong formality and symbolism to design and planting, axial view terminating in monument, backdrop of evergreen Bhutan Cypress, long, broad, open lawn setting, low formal bedding
- the east end's more open in character, largely because of the large expanse of the sports ground, and less densely shaded because of the canopy foliage of the Peppercorn Trees along the east boundary and Silky Oaks in the southeast corner, and fewer trees (other than street trees) at the east end of the north boundary.



Figure 2.16 View west along the north elm avenue. The avenue is more open where replacement trees are located (recent and c1990s), right-hand side.



Figure 2.17 North elm avenue, north row of trees (at left) and relationship to elm street trees (at right).





Figure 2.18 Open lawn between the north and central diagonal avenues, with specimen trees at the west end.



Figure 2.19 Central diagonal avenue, southeast side, showing canopy dieback



Figure 2.20 East-west section of southern avenue, looking east (Burwood Road at right). Note smaller, newer elms on right side.



Figure 2.21 South avenue showing dieback in canopy along north row.

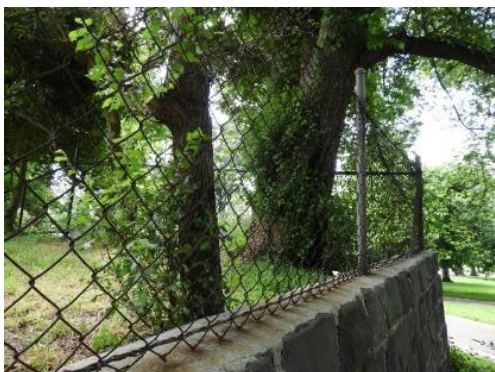


Figure 2.22 Southeast corner of former pétanque green, with self-sown elms at edge.



Figure 2.2 Bluestone retaining wall at south edge of former pétanque green, with cantilevered deck over part

## 3 Significance

### 3.1 Existing heritage significance

St James Park, Hawthorn is included in the Heritage Overlay of the Boroondara Planning Scheme within the boundary of the West Hawthorn Precinct (HO220).

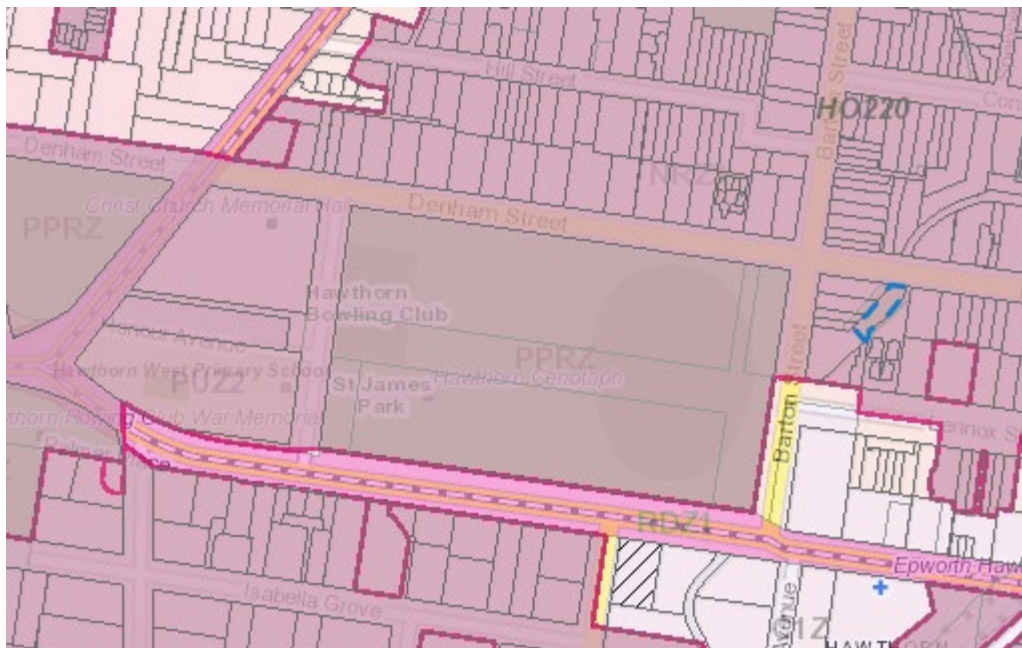


Figure 3.1 St James Park (centre of image) included within the boundary of the West Hawthorn Precinct (HO220). (Source: VicPlan version 2.3.2, generated 29 October 2021).

Within HO220, the majority of St James Park is graded Significant. The balance of the site which includes most of the bowling greens, the bowling club clubhouse and setting, is graded Contributory. (See Figure 3.2 below.)



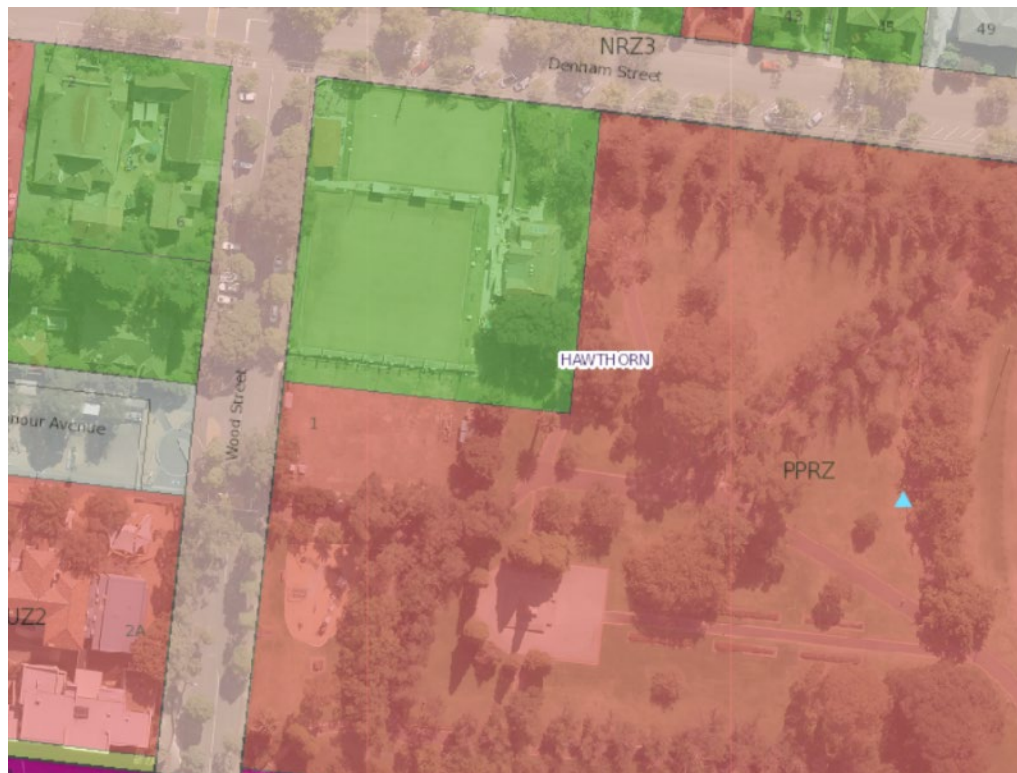


Figure 3.2 Detail of the Boroondara Planning Scheme map showing Significant (red) and Contributory (green) elements of HO220 for St James Park, Hawthorn. (Source: courtesy City of Boroondara)

The significance of the park is articulated in the 1992 Hawthorn Heritage Study as follows:

St James Park, reserved in 1861 as a Crown Land Reserve, and continuously maintained since then as a public park is of metropolitan significance:

- For its association with the original Village of Hawthorn Reserve.
- For the remnant vegetation.
- For its mature native and exotic trees, particularly the elm and oak avenues.
- For its role in providing passive and active recreation opportunities to the citizens of Hawthorn and neighbouring areas.
- For its War Memorial of cultural significance.<sup>4</sup>

<sup>4</sup> Meredith Gould Conservation Architects 1992. Hawthorn Heritage Study, Appendices Volume 1B Part 2.



Four River Red Gums in St James Park are included in Council's Significant Tree Register. The tree identification numbers are:

- 248, remnant, northeast corner of the park
- 249, remnant, northeast corner of the park
- 251, remnant, south of the War Memorial lawns, near the south avenue
- 252, in the west of the park.

One mature English Oak (*Quercus robur*) in St James Park is included in Council's Significant Tree Register. The tree identification number is:

- 250, centre of the park.

## 3.2 Analysis of significance

### 3.2.1 Planting phases

The collection of mature native and exotic trees within St James Park are noted as contributing to the significance of the park. The mature trees date from different planting phases, including the mature elms, oaks and pines from the 1870 planting, other early trees such as the Moreton Bay Figs and exotic evergreen specimen trees, the Peppercorn Trees, and plantings introduced by and in association with the 1929 war memorial. Particular mention is made in the Statement of Significance of the contribution of the remnant vegetation (River Red Gums), elms and oaks to significance. Aerial images between 1945 and 2021 were analysed and indicate that the main structural plantings and planting patterns that are evident in the park today were well established by 1945.

In 2021, in spite of the senescence or decline of some elms and the replacement of some individual trees over time, the elm avenues remain an important feature of the park's historic fabric and landscape character.

The other mature native and exotic trees in the park from c1870 into the interwar period also contribute to the park's significance and define its landscape character.

Peppercorn Trees were introduced into Victoria by Scott & Son's nursery of Hawthorn. St James Park (The Reserve) was laid out in 1861 by Scott of Scott & Son's nursery. Scott & Son may have contributed Peppercorn Trees which were recorded in St James Park in 1887. The trees in the avenue of Peppercorn Trees along the Barton Street boundary of the park, while old, do not appear to have been planted in the 1880s.<sup>1</sup> Evidence provided by the 1945 Melbourne aerial is inconclusive about whether the extant Peppercorns Trees are those that were planted in the nineteenth century, but many are mature trees. The long history of Peppercorn Trees in the park and the association of the species with Scott contributes to their significance.

### 3.2.2 Bowling greens

The bowling greens and bowling club are not expressly mentioned in the statement of significance. However, they contribute to the significance of the place as an early component of the continuously maintained public park (established in 1880) and through their role in providing 'active recreation opportunities to the citizens of Hawthorn and neighbouring areas'. As shown in the analysis in section 2.1.4 above, the bowling green area in the northeast corner of St James Park has evolved over time—reconfigured and expanded, a new clubhouse built after 1929, alteration of the green layout between 1901 and 1945, extension of the overall footprint to the south by 1945, and again to the south to a small degree between 1945 and 1975. These changes foreshadowed a wider trend in the 1950s and 1960s that saw a huge increase in the popularity of lawn bowls in Australia.<sup>5</sup> However, by the end of the twentieth century the sport of lawn bowls was in decline. The footprint of the bowling greens at their fullest extent provides evidence of the postwar period of popularity in lawn bowls.

The retaining walls to the south and east sides of the former pétanque green and the rockery garden along the east boundary of the green appear are most likely to have been constructed in association with expansion that correlated with a period of increased demand for these recreation facilities.

The elms at the south end of the bowling greens, contribute to the overall tree canopy and hence to the character of the park but appear to have originated from self-sown specimens. The self-sown elms are not of heritage significance.

## 3.3 Significance of individual elements

A synthesis of the existing understanding of the park's significance and the analysis above, confirms the following elements contribute to the significance of St James Park:

- the park boundaries, early park layout established by 1900, and improvements into the interwar period (pathways, oval, area for lawn bowls expanded in the interwar period, the war memorial)
- the landscape character of the park, defined by mature large trees, avenues planted with exotic deciduous trees, open lawn areas planted with a diverse collection of trees with strong evergreen forms
- the remnant River Red Gums

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<sup>5</sup> Hess, Rob, 2008. 'Lawn Bowls' in *Encyclopedia of Melbourne*. Produced and published by the School of Historical & Philosophical Studies, The University of Melbourne, July 2008. Online: [eMelbourne.net.au](http://eMelbourne.net.au)

- mature native and exotic trees, particularly the elm and oak avenues, but also other trees that provide evidence of early planting phases into the interwar period and which contribute to the park's landscape character
- the provision of passive and active recreation opportunities to the citizens of Hawthorn and neighbouring areas
- the footprint of the oval
- the footprints of the bowling greens
- the Hawthorn War Memorial, including the war memorial, formally arranged Bhutan Cypress trees, symmetrical landscaped setting, forecourt and paths, the east-west view corridor terminating in the monument
- hard-landscaping introduced in the interwar period, including steps and rock edging and landscaping associated with the war memorial
- the tradition of pathways lined with brick spoon drains. Some pathways have spoon drains made of early bricks which, if not early fabric, are sympathetic to the park's historic layout and contribute to understanding the significance of the park.<sup>6</sup>

Elements that are not significant are:

- self-sown trees
- modern bricks used in spoon drains and steps
- children's playground (fabric not significant)
- lamps (fabric not significant)
- seats (fabric not significant).

Intrusive elements are:

- two large water tanks.

Lost elements are:

- some density of tree canopy in the central triangle of lawn
- fountain, extant in 1900
- bandstand (replaced by the War Memorial)
- cannon, visible in early photographs.

The potential significance of the bowling club house was not investigated in the report. It is graded Contributory in HO220.

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<sup>6</sup> Although outside the scope of this study, the analysis confirmed that the pathway layout, as noted in the 1992 Heritage Study, remains largely intact. It is therefore significant, although it is not specifically noted in the Statement of Significance. The pathway layout should be retained. The brick spoon drains that edge the paths are consistent with the historic character of the park.

## 4 Managing change

The Heritage Victoria guidelines for managing heritage places state how it is recognised that changes to all heritage places are almost always needed if the place is to be retained and used into the future.

Managing change in the context of cultural landscapes and significant historic public parks such as St James Park, Hawthorn, is complex. However, work by leading landscape heritage practitioners acknowledges how, unlike the case with historic buildings, 'change is not merely tolerated; it is often an inherent and desired characteristic'.<sup>7</sup> Heritage landscapes are 'things'/places that have been developed or designed, but they are also the result of dynamic natural processes and they require ongoing management and renewal.<sup>8</sup>

The traditional, orthodox approach to significant tree replacement has been to replace like for like. Provision has typically also been made for replacement with a species that has similar values to the original. Generally, however, this approach has been applied where supported by relative degrees of significance, as contemplated in Article 5.2 of the Burra Charter:

Relative degrees of cultural significance may lead to different conservation actions at a place.

As a result of projected changes to climate and environmental conditions, the imperative to go beyond the orthodox approach to ensure culturally significant landscapes have a future has been recognised. In the local context, approaches to the conservation of significant parks and gardens, street trees and cultural landscapes in metropolitan Melbourne and elsewhere in terms of landscape succession are being re-thought and re-envisioned. As stated in the RBG Landscape Succession Strategy (2016),

Long-lived assets such as trees...take many years to reach maturity. New specimens need to be selected against the criteria of future climate change and planted now to help deliver a healthy, mature future landscape that is adapted to the conditions of the future climate.

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<sup>7</sup> Melnick, Robert 2015. 'Change over time and landscape preservation' in *Change Over Time* 5 (2), Fall 2015, pp. 174–179.

<sup>8</sup> Melnick, Robert 2015.

Such approaches are drawing on scientific research on urban trees and urban forests, climate change models and tools and species-specific data on climate suitability.<sup>9</sup>

In most settings, ensuring cultural significance is not compromised in the longer term now requires approaches that will sustain heritage values and a resilient landscape into the future.<sup>10</sup>

The like-for-like approach to replacing significant trees should still be considered; for example, if a species is favourably rated in future climate change scenarios or if the microclimate of a specific location and available water resources and soil health would adequately reduce the vulnerability of a species.

A combination of approaches to tree renewal and replacement is appropriate in the context of St James Park in Hawthorn.

Using the evidence-based studies by Kendal and Baumann (2016) and Fenner (2019), which both assessed the climate readiness of a wide range of individual species based on future climate scenarios, the City of Boroondara has assembled a list of potentially suitable climate-ready species to consider for use in the St James Park avenues. Species were also rated against relevant aesthetic criteria.

This heritage advice for St James Park has developed heritage significance-based tree replacement criteria. The findings are to be integrated with the tree selection matrix prepared by Council that synthesises data for individual species about future climate suitability and other factors.

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<sup>9</sup> See Kendal and Baumann 2016; Royal Botanic Gardens Victoria 2016; Fenner 2019; City of Melbourne 2021.

<sup>10</sup> For example, see Royal Botanic Gardens Victoria 2016. Landscape Succession Strategy Melbourne Gardens 2016–2036, p. 9.

## 5 Elm tree replacement selection criteria

### 5.1 Developing the criteria

The development of the selection criteria was informed by:

- the significance of the park as a whole
- the contribution of the avenues to the significance of the park and its landscape character
- aesthetic qualities of the trees and the experience of the avenues (including seasonal)
- historical appropriateness relative to the establishment of the park and early planting phases
- consideration of impacts of tree renewal, in response to different scenarios, on the significance of the avenues and on the landscape character and significance of St James Park as a whole
- resources available for maintaining the avenue trees
- climate considerations for the projected lifespan of the replacement tree options.

The approach is based on the following assumptions:

- the avenue trees will be irrigated
- the micro-climate of the southern avenue combined with proposed irrigation will support like for like replacement of the elms

Selection criteria

The selection criteria are grouped according to historic/aesthetic, functional and biological considerations (after Hitchmough 1994). The criteria within each grouping are listed according to importance.

#### 5.1.1 Historic characteristics

##### Primary historic characteristics

- Available at the time of the park's establishment in 1861 or subsequent early planting phases to c1929. Sources for cross-reference:
  - Margaret Brookes and Richard Barley, *Plants Listed in Nursery Catalogues in Victoria 1855–1889*, for the Garden Plant Conservation Association of Australia, second edition 2009
  - National Trust, *Planting c.1850–1900: A Guide to the Restoration, Conservation and Rehabilitation of Early Style Australian Gardens and Man-Made Landscapes*, Australian Council of National Trusts Technical Bulletin 4.1, 1982

- Roger Spencer, *Horticultural Flora of South-eastern Australia* (c1997), cultural notes about specimens
- Other research that confirms the introduction into horticultural use in Melbourne between the 1860s and 1930s (online databases APNI, IPNI, BHL).

### **Secondary historic characteristics**

- Used in historic public parks and gardens of a comparable era in Melbourne or Victoria, including as replacement planting where the replacement is based on truthful and credible sources:<sup>11</sup>
  - Victorian Heritage Database (targeted search of known comparable gardens with significant plantings or tree collections)
  - National Trust of Australia’s Significant Tree Register
  - Victoria’s Avenue of Honour database prepared for Veterans Branch by Context, 2021 (not yet publicly accessible).

### **Exclusion criteria**

- Modern variety or cultivar.

## **Aesthetic characteristics**

### **Primary aesthetic characteristics**

- Mature large trees. The existing elms at maturity are: 25–30 metres (h) x 10–20 metres (w).
- Deciduous.
- Tree form.
- Autumn colour: yellow preferred.
- Foliage texture: similar leaf size/shape and density in terms of shade provision preferred. The existing tree canopies provide lightly dappled shade.

### **Secondary aesthetic characteristics**

- Maintains the contrast between deciduous avenue plantings and bold evergreen forms of specimen plantings.
- Maintains some mix of species in linear and avenue plantings. For example, avoid overpopulating the park with linear and avenue plantings of oaks.
- For the northern avenue, consider the aesthetic relationship of replacement avenue trees to adjacent elm street trees (unified as existing, or different). The elm street

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<sup>11</sup> Operational Guidelines for the Implementation of the World Heritage Convention, UNESCO 2019, paragraph 82.

trees in Denham Street were planted later than the northern elm tree avenue in St James Park. While sympathetic to the landscape character of St James Park, they do not provide evidence of the park's important planting phases from the late nineteenth century and into the interwar period. From a heritage perspective, it is therefore not essential for the northern avenue species to be the same as the adjacent street trees.

## Functional characteristics

- Evidence in comparable historic settings that the species performs well as an avenue planting in parkland settings.
- Uniformity, so that the avenue planting reads as an avenue.

## Biological characteristics

- A: Climate appropriate and rating against other required tolerances, to be integrated with the City of Boroondara's matrix by Council.
- B: Micro-climate appropriate, per City of Boroondara's advice.

## 5.2 Recommendations

### 5.2.1 Summary of recommendations

The following table provides a summary of trees assessed in this heritage advice following detailed assessment against the criteria. The full assessment is included as Appendix A. As noted in Appendix A, the final selection of replacement trees will need to balance heritage considerations with other factors included in the City of Boroondara's tree selection matrix, such as projected climate tolerances, public safety and amenity, etc.

Table 5.1 Summary of trees recommended on heritage grounds as options for consideration for replacement of the elm avenues in St James Park, Hawthorn (listed according to strength in terms of satisfying the heritage criteria).

Species	Recommendation	Comments
<i>Tilia cordata</i>	Strongly recommended on heritage grounds	This tree rates well against almost all the heritage criteria, and on heritage grounds is strongly recommended as an option for consideration.
<i>Tilia x europaea</i>	Strongly recommended on heritage grounds	This tree rates well against almost all the heritage criteria and on heritage grounds is strongly recommended as an option for consideration. Not readily available so provision of stock would



Species	Recommendation	Comments
		require engagement of contract growers.
<i>Celtis australis</i>	Recommended on heritage grounds	This tree rates well against most of the heritage criteria and on heritage grounds is recommended as an option for consideration.
<i>Zelkova serrata</i>	Recommended on heritage grounds	This tree rates well against most of the heritage criteria and on heritage grounds is recommended as an option for consideration.
<i>Quercus castaneifolia</i>	Recommended on heritage grounds	This tree rates well against most of the heritage criteria and on heritage grounds is recommended as an option for consideration.
<i>Quercus canariensis</i>	Recommended on heritage grounds	This tree rates well against most of the heritage criteria and on heritage grounds is recommended as an option for consideration. Note that this species is already present in St James Park
<i>Quercus rubra</i>	Recommended on heritage grounds	This tree rates well against most of the heritage criteria and on heritage grounds is recommended as an option for consideration.
<i>Liriodendron tulipifera</i>	Recommended on heritage grounds	Recommended as an option for one replacement avenue, either the northern avenue or central diagonal avenue.
<i>Ginkgo biloba</i>	Recommended on heritage grounds	Recommended as an option for one replacement avenue, either the northern avenue or central diagonal avenue.  Not recommended if this tree is selected for use as a specimen tree in either of the lawn areas adjoining the northern avenue or central diagonal avenue.
<i>Melia azedarach</i> var. <i>australasica</i>	Not recommended on heritage grounds.	While Melia rated strongly against most of the heritage criteria, the tree's small size counts strongly against its use as a replacement tree for the St James Park elm avenues.
<i>Carpinus betulus</i>	Not recommended on heritage grounds	This tree at maturity would be a lot smaller than the existing elms. It therefore performs poorly in terms of

Species	Recommendation	Comments
		the large tree criteria, which is an important one in the context of St James Park.
<i>Ulmus parvifolia</i>	Not recommended on heritage grounds	This tree does not rate as well as other examples against the heritage criteria and would result in quite a different look and feel aesthetically, relative to the existing elms.

Table 5.2 Species not recommended on heritage grounds following preliminary assessment

Species	Recommendation	Comments
<i>Gleditsia</i> spp.	Not recommended on heritage grounds	This tree does not rate as well as other examples against the heritage criteria and would result in quite a different look and feel aesthetically, relative to the existing elms.
<i>Jacaranda mimosifolia</i>	Not recommended on heritage grounds	This tree does not rate as well as other examples against the heritage criteria and would result in quite a different look and feel aesthetically, relative to the existing elms.
<i>Acer</i> spp.	Not recommended on heritage grounds	Maples do not rate as well as other examples against the heritage criteria and would result in quite a different look and feel aesthetically, relative to the existing elms.
<i>Platanus</i> spp.	Not recommended on heritage grounds	This tree does not rate as well as other examples against the heritage criteria and would result in a different look and feel aesthetically, relative to the existing elms.
<i>Fraxinus</i> spp.	Not recommended on heritage grounds	Ash trees do not rate as well as other examples against the heritage criteria and would result in quite a different look and feel aesthetically, relative to the existing elms.

## 5.2.2 Specifications

- Ensure planting schedules for tree renewal will support uniform growth and form of avenue trees.
- Ensure uniform spacing between avenue trees.
- As much as possible, ensure spacing between rows is the same as or similar to the original row spacing of each avenue.
- Ensure spacing and setback take into account mature tree dimensions and ability of the trees to create a tunnel effect where the canopies meet over the path. In accordance with research presented in Fenner (2019), increasing the setback of

replacement elm trees from pathways to increase the available soil volume (to support healthy root growth) would be appropriate, providing the setback is not of such an extent that it would weaken the ability to experience the landscape feature as an avenue.

- Replacement trees should be selected from a single batch to best ensure uniformity. Where possible they should be obtained from the same grower and contract grown.

### **5.3 Whole-of-park scenarios**

Because of the uniform species and similar age (all largely planted at the same time) and decline of a large number of elm trees that make up the St James Park's avenue plantings, substantial tree renewal of the St James Park elm avenues in a relatively short space of time is required. The most urgent is the central diagonal avenue, with the northern avenue most likely needing renewal in the next 10–15 years.

A key challenge is how to minimise adverse impacts on the heritage significance of the place in the longer term while ensuring the selected replacement trees will survive and thrive into the future; ideally for the next 100 years. Change should avoid eroding the historic character of the park and ensure the avenue tree population is resilient into the future.

Impacts from the loss of such a large number of trees through entire or partial replacement of the three primary structural plantings will be substantial in the short to medium term. But an approach that considers tree renewal and the likely success of the replacement trees over longer timeframes and in relation to projected future climate scenarios is important for conserving the cultural heritage significance of the park into the future.

The renewal program offers an opportunity to enhance diversity in the park's avenue tree population, across the three avenues. The following scenarios provide a framework for thinking about the impacts of change, in particular the potential introduction of diversity to the three avenues.

#### **Scenario 1**

All avenues replaced like for like.

- Northern avenue
- Central diagonal avenue
- Southern L-shaped avenue: like for like replacement of the elms (approach supported by the micro-climate and available resources).

On face value this scenario appears the most sensitive to the heritage values of the park. Over time, as the trees grow and mature, the original character of St James Park would be returned. However, this outcome would only be achieved if the replacement elm trees survived and thrived in the projected future life expectancy of the trees (around 100 years) in the context of Melbourne's climate change future, as projected for 2030, 2070 and 2090. Elms are considered unlikely to survive, let alone thrive. The exception is Chinese Elm (*Ulmus parvifolia*).

Council's tree planners advise that replacement elms in the southern avenue would be supported by a favourable micro-climate and irrigation, and therefore are expected to survive and thrive in the long term.

## Scenario 2

One avenue would be retained as an elm avenue, two avenues would be replaced with the same new species.

- Northern avenue: new species X (ie same species as central diagonal avenue)
- Central diagonal avenue: new species X (ie same species as northern avenue)
- Southern L-shaped avenue: like-for-like replacement of the elms

If climate-ready trees that perform strongly in terms of the heritage criteria are selected for each avenue, the landscape character of St James Park would change because there would no longer be the unity provided by the three avenues, but the cultural significance of the park could still ultimately be conserved in the long term.

If climate-ready trees that perform strongly in terms of the heritage criteria are selected, there is an opportunity for the landscape character of St James Park that is derived from the uniform character of the two intersecting avenues to be conserved in the longer term.

## Scenario 3

Each avenue would be composed of a different species.

- Northern avenue: new species X (a different species from central diagonal avenue)
- Central diagonal avenue: new species Y (a different species from northern avenue)
- Southern L-shaped avenue: like-for-like replacement of the elms

If climate-ready trees that perform strongly in terms of the heritage criteria are selected for each avenue, the landscape character of St James Park would change (because there would no longer be the unity provided by the three avenues, but the cultural significance of the park could still ultimately be conserved in the long term.

Climate-ready tree species that perform well but less strongly in terms of the heritage criteria could still be considered, as long as the criteria for historical appropriateness is met (ie available at the time of significant planting phases in St James Park, and no modern cultivars).

## 6 Bowling greens

### 6.1 Recommendations

#### 6.1.1 General principles

In accordance with the Burra Charter, the following general principles should be applied to selecting a future new use for the former pétanque green:

##### Article 1 Definitions

*Compatible use* means a use which respects the *cultural significance* of the *place*. Such a use involves no, or minimal, impact on cultural significance. (Article 1.11)

##### Article 3 Cautious approach

*Conservation* is based on a respect for the existing *fabric, use, associations* and *meanings*. It required a cautious approach of changing as much as necessary but as little as possible. (Article 3.1)

Changes to a *place* should not distort the physical or other evidence it provides, nor be based on conjecture. (Article 3.2)

#### 6.1.2 Specific criteria

Because of changes to the footprint and layout of the bowling greens, in particular at the south end in the location of the former pétanque green, there is some tolerance for change in this part of the park without compromising significance, providing the following specific criteria are met:

- Maintain use of the former pétanque green as a public park.
- Maintain use for active or passive recreation.
- Retain the footprint of the former pétanque green so its historic use and association with bowls and then pétanque can be interpreted.
- Retain the bluestone retaining walls (south and east). Some change/interventions into the bluestone retaining walls and rockery to create access between the former pétanque green and the park would be appropriate as long as the footprint of the green is retained and remains legible.
- If fencing is required for a future use, ensure it is transparent to maintain views across and between the former green, other bowling greens, the club house and the park on all sides.
- Ensure vegetation planted around the edges maintains the visual relationship between the greens and the park.

- Ensure new development of the former green does not adversely impact the St James Park setting (overall landscape character, trees, public use for passive recreation).

Conservation and enhancement of the rockery and garden beds adjacent to the east end of the former pétanque green in the style of an interwar rockery or garden bed would be appropriate, re-using the extant bluestone.

The garden bed on the south side of the former pétanque green is excluded from the area of the Bowling Green graded Contributory within HO220; instead falling within the area of St James Park that is graded Significant within HO220. Currently this area does not contribute strongly to the landscape character or heritage significance of St James Park. Landscape works and planting that enhance the contribution of this garden bed to the significance of the park would therefore be desirable and appropriate.

The cantilevered decking on the south side of the former pétanque green is not significant and could be removed.

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### Primary and secondary sources

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- Tokyo Botanical Society 1903. *The Botanical Magazine*, Tokyo Botanical Society, volume 17, 1903, p. 13.
- UNESCO 2019. Operational Guidelines for the Implementation of the World Heritage Convention.

## Aerial imagery and historic plans

Melbourne and Metropolitan Board of Works, Detail Plan No. 1804, dated August 1900, State Library Victoria

City of Boroondara library, historic photographs

Landata

Melbourne 1945 aerial

Nearmap

## Online databases

Australian Plant Names Index (APNI): <https://www.anbg.gov.au/apni/>

Biodiversity Heritage Library (BHL): <https://www.biodiversitylibrary.org/>

HortFlora: <https://hortflora.rbg.vic.gov.au/>

International Plant Names Index (IPNI): <https://www.ipni.org/>

National Trusts of Australia, Register of Significant Trees: <https://trusttrees.org.au/>

Victorian Heritage Database: <https://vhd.heritagecouncil.vic.gov.au/>

## Applying the cultural heritage selection criteria

Table A.0.1 Analysis of tree replacement options against the cultural heritage criteria. The final selection of replacement trees will need to balance heritage considerations with other factors, such as those included in the City of Boroondara's tree selection matrix (projected climate tolerances, public safety and amenity, etc).

Species <sup>12</sup>	Historic Primary	Historic Secondary	Size	D/E	Form	Autumn	Foliage texture	Contrast	Diversity	Context (north avenue only)	Functional Avenue?	Biological A	Biological B
<i>Ulmus procera</i>	✓	✓	30m	D	columnar to spreading canopy	yellow	rounded, medium			same	✓	X	yes, south avenue only
<i>Celtis australis</i>	✓		✓ 15–20m	✓	✓	✓	✓	✓	✓	comparable	✓		
<i>Zelkova serrata</i>	✓	✓	✓ 20–30m (needs irrigation ?)	✓	✓	no	smaller	✓	✓	different	✓ University of Melbourne not an AoH		
<i>Carpinus betulus</i>	✓		No 10–12m	D	✓	✓	✓ though more rounded	✓	✓	differs	not an AoH		
<i>Tilia cordata</i>	✓	✓	✓✓ 20m +	D	✓	✓	close	✓	✓	differs	3 trees survive thought to be part of original Corryong Avenue of Honour		

<sup>12</sup> Species have been selected on the basis of assumptions of historical appropriateness and similar aesthetic values to the extant elms. These attributes were then confirmed with further research. Generally, selected trees are those with reasonable future climate readiness, per the research conducted by the City of Boroondara (to be integrated with the City of Boroondara data by Council).

Species <sup>12</sup>	Historic Primary	Historic Secondary	Size	D/E	Form	Autumn	Foliage texture	Contrast	Diversity	Context (north avenue only)	Functional Avenue?	Biological A	Biological B
<i>Tilia x europaea</i>	✓	✓	✓ 20m+	D	✓	✓	similar	✓	✓	differs	Yes but rare		
<i>Quercus castaneifolia</i>	✓	✓	✓ 20–30m	D	✓	no brown	larger leaves	✓	no	differs	✓		
<i>Quercus canariensis</i>	✓	✓	✓ 20m+	D	✓	no brown	larger leaves	✓	no	differs	✓		
<i>Quercus rubra</i>	✓	✓	✓ 20m+	D	✓	brown/red	larger leaves	✓	no	differs	✓		
<i>Liriodendron</i>	✓	✓	✓ 20–30m	D	✓	✓	larger leaves, flowers	✓	✓	differs	None found		
<i>Ginkgo</i>	✓	✓	✓ 30m	D	✓	✓	differs	✓	✓	differs	None found	✓	
<i>Melia adzederach</i> var <i>australasica</i>	✓	✓	No 10m	D	✓	✓	differs leaf texture seasonal interest	✓	✓	differs	Yes		

## Historical notes on selected species

### ***Celtis australis***

*Celtis australis*, or Southern Nettle Tree, from the Ulmaceae family, appears in nursery catalogues of Harris in 1865 and Lang also in 1865.<sup>13</sup> *Celtis occidentalis* was available in nursery catalogues for a longer period, in 1865–86. Spencer notes a *C. australis* specimen in the Oak Lawn, Royal Botanic Gardens Victoria (Melbourne Gardens).<sup>14</sup> No *Celtis* are identified as significant trees in the Royal Botanic Gardens Victoria CMP, however.<sup>15</sup> The National Trusts' STR includes only one listing for *Celtis australis*, for a stand of two street trees in front of the West Hawthorn Child Care Centre, 65 Church Street, Hawthorn.<sup>16</sup>

Specimens of *Celtis australis* and *Celtis occidentalis* in the gardens of Duntroon House, ACT, are understood to be early to mid-century RMC Duntroon era plantings. They are not identified as highly significant trees in the Duntroon context, but are recognised as significant for their contribution to the aesthetic character of the gardens as a whole.<sup>17</sup>

While not known to have been planted as an avenue (parkland or street tree), the species performs well (canopies intersecting) in the stand of two trees at West Hawthorn (see figures below).

Recommended on heritage grounds: This tree rates well against most of the heritage criteria and on heritage grounds is recommended as an option for consideration.

### ***Zelkova serrata***

*Zelkova serrata*, or Japanese Zelkova, in the Ulmaceae family, is not listed in the nursery catalogues in Victoria between 1855 and 1889. *Zelkova acuminata*, a synonym of *Z. serrata* and then called Keaki (see <https://www.tropicos.org/name/50127524>), was in cultivation in Victoria by the 1880s (see for example, the last item under 'Hints for Tree Planting', in the *Launceston Examiner* 28 September 1881, taken from Mueller's work which noted it as 'valuable as a shade tree in Melbourne'). Note that *Z. serrata* was, until 1903, known as *Conchorus serratus* Thunb. (*Conchorus serratus* is also not included in nursery

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<sup>13</sup> See the *Oxford Companion to Australian Gardens* entries on Joseph Harris (1833–1925) and Thomas Lang (1815–1896), for further information on their contributions to building Victoria's nursery trade (Aitken and Looker 2002, pp. 289–290 and pp. 359–360).

<sup>14</sup> Spencer 1997. 'Ulmaceae', Volume 1, Part 1.

<sup>15</sup> Context Pty Ltd 2018. Royal Botanic Gardens Victoria CMP Volume 2, Zone Assessments, November 2018.

<sup>16</sup> National Trusts of Australia, 1988 and 2001. Register of Significant Trees, [https://trusttrees.org.au/tree/VIC/Hawthorn/West\\_Hawthorn\\_Child\\_Care\\_Centre\\_65\\_Church\\_Street](https://trusttrees.org.au/tree/VIC/Hawthorn/West_Hawthorn_Child_Care_Centre_65_Church_Street)

<sup>17</sup> GML Heritage, 2014. Duntroon House Gardens Heritage Management Plan, May 2014.

catalogues between 1855 to 1889.) The first publication of the species as *Zelkova serrata* was in 1903.<sup>18</sup> The Royal Botanic Gardens Victoria (Melbourne Gardens) CMP estimates the *Zelkova serrata* in the Zelkova Bed (Tree ID 511734), Oak Lawn, to possibly have been planted by Mueller who was director of the Melbourne Botanic Gardens from 1857 to 1873.<sup>19</sup>

*Zelkova serrata* is included in the National Trust Technical Bulletin, the scope of which extends to 1900. Spencer notes a *Zelkova serrata* specimen in the Hopetoun Lawn, Royal Botanic Gardens Victoria (Melbourne Gardens) and opposite the Director's Residence entrance to be over 100 years old (if so, dating the specimen to the 1890s), with specimens in the National Herbarium of Victoria collected in 1893 and 1927.<sup>20</sup> The late nineteenth century to c1900 date for *Zelkova serrata* in horticultural use places this species within the timeframe of important planting phases at St James Park. The autumn colour would result in a different aesthetic characteristic.

Recommended on heritage grounds: This tree rates well against most of the heritage criteria and on heritage grounds is recommended as an option for consideration.

### **Carpinus betulus**

*Carpinus betulus*, or European Hornbeam, appears in nursery catalogues of Law in 1864, Lang in 1865 and 1873, G. Smith 1886.<sup>21</sup> Spencer notes a specimen in the University of Melbourne System Garden.<sup>22</sup>

Not recommended on heritage grounds: This tree at maturity would be a lot smaller than the existing elms and therefore performs poorly in terms of the large tree criteria, which is an important one in the context of St James Park. Not recommended.

### **Tilia cordata**

*Tilia cordata*, or Small-leaved Linden, appears in an early nursery catalogue of Law in 1864.<sup>23</sup> Spencer notes a specimen at Duntroon in the ACT, and in Victoria in the Wombat Hill Botanic Gardens, Daylesford.<sup>24</sup> Flowering in late spring to early summer would be a new aesthetic characteristic.

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<sup>18</sup> Tokyo Botanical Society, 1903. *The Botanical Magazine*, Tokyo Botanical Society, volume 17, 1903, p. 13.

<sup>19</sup> Context Pty Ltd 2018. Royal Botanic Gardens Victoria CMP Volume 2, Zone Assessments, November 2018, p. 40; Maroske 2002, p. 423–424.

<sup>20</sup> Spencer 1997. 'Ulmaceae' in Volume 2 Part, 1; not identified in the Royal Botanic Gardens Victoria CMP.

<sup>21</sup> Brookes and Barley 2009, p. 35.

<sup>22</sup> Spencer 1997. 'Betulaceae' in Volume 2 Part 1.

<sup>23</sup> Brookes and Barley 2009, p. 173

<sup>24</sup> Spencer 1997. 'Malvaceae' in Volume 2 Part 1.

Strongly recommended on heritage grounds: This tree rates well against almost all the heritage criteria and on heritage grounds is strongly recommended as an option for consideration.

### ***Tilia x europaea***

*Tilia x europaea*, or Common Lime, appears extensively in early nursery catalogues between 1857 and 1889.<sup>25</sup> *Tilia x europaea* is planted as an avenue in the Camperdown Botanic Gardens, noted as a rare example of this planting form for this species.<sup>26</sup> Spencer notes several examples in historic Victorian gardens, including Wombat Hill Botanic Gardens, Daylesford.<sup>27</sup> Flowering in late spring to early summer would be a new aesthetic characteristic.

Strongly recommended on heritage grounds: This tree rates well against almost all the heritage criteria and on heritage grounds is strongly recommended as an option for consideration. *Tilia x europaea* is no longer readily available. This should not prohibit its use, as it could be propagated by contract growers. Propagation by contract growers would require additional lead time and resources.

### ***Quercus castaneifolia***

*Quercus castaneifolia*, or Chestnut-leaved Oak, appears in early nursery catalogues of MR in 1877 and SC in 1889.<sup>28</sup> Spencer notes several examples in historic Victorian gardens, including nearby Grace Park, Hawthorn.<sup>29</sup>

Recommended on heritage grounds: This tree rates well against most of the heritage criteria and on heritage grounds is recommended as an option for consideration.

### ***Quercus canariensis***

*Quercus canariensis*, or Algerian Oak, does not appear in early nursery catalogues between 1855 and 1889. Spencer notes its use elsewhere in Boroondara in Canterbury Gardens, Canterbury, and Central Gardens, Hawthorn, at Melbourne Botanic Gardens, planted in 1873, and in avenue plantings including at Narre Warren (Princes Highway) planted in 1890, and the Woodend Avenue of Honour (with hybrids of *Quercus robur*), planted in 1920.<sup>30</sup>

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<sup>25</sup> Brookes and Barley 2009, p. 173.

<sup>26</sup> Victorian Heritage Database entry for Camperdown Botanic Gardens and Arboretum (VHR H2256).

<sup>27</sup> Spencer 1997. 'Tiliaceae' in Volume 2 Part 1.

<sup>28</sup> Brookes and Barley 2009, p. 141.

<sup>29</sup> Spencer 1997. 'Fagaceae' in Volume 2 Part 1.

<sup>30</sup> Spencer 1997. 'Fagaceae' in Volume 2 Part 1.

Recommended on heritage grounds: This tree rates well against most of the heritage criteria and on heritage grounds is recommended as an option for consideration.

### ***Quercus rubra***

*Quercus rubra*, or Red Oak, appears in many early nursery catalogues between 1864 and 1886.<sup>31</sup> Spencer notes specimens in other parks including the Kings Domain, and inclusion in a mixed avenue in Bright.<sup>32</sup> The autumn colour would result in a different aesthetic characteristic. While the species information states that the autumn colour is red, other examples of this tree growing in Boroondara display brown autumn colour.<sup>33</sup>

Recommended on heritage grounds: This tree rates well against most of the heritage criteria and on heritage grounds is recommended as an option for consideration.

### ***Ulmus parvifolia***

*Ulmus parvifolia*, Chinese elm. Historically the Chinese Elm tends to be used as a specimen tree than an avenue planting, although there is evidence of its successful use as a street tree in George Street, East Melbourne.

Not recommended on heritage grounds: This tree does not rate as well as other species against the heritage criteria and would result in quite a different look and feel aesthetically, relative to the existing elms.

### ***Liriodendron tulipifera***

*Liriodendron tulipifera*, or Tulip Tree, appears in many early nursery catalogues between 1855 and 1889.<sup>34</sup> Spencer records specimens in the Dandenongs ('Kenloch', 36m), Kyneton Botanic Gardens, Marysville (27m), and University of Melbourne.<sup>35</sup> The Kenloch specimen is included in the National Trust Significant Tree Register, and is noted as a remnant of a planting by JC Cole of Cole's Nursery in the 1870s and 1880s.<sup>36</sup>

Using this tree would result in a different look and feel relative to the existing elm avenues because of its softer foliage texture and showy flowers. Against other historic and aesthetic criteria, however, this tree performs strongly. The scale of this tree is a strong positive for its inclusion as an option.

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<sup>31</sup> Brookes and Barley 2009, p. 141.

<sup>32</sup> Spencer 1997. 'Fagaceae' in Volume 2, Part 1.

<sup>33</sup> Per comm, City of Boroondara Urban Tree Planner, 7 December 2021.

<sup>34</sup> Brookes and Barley 2009, p. 104.

<sup>35</sup> Spencer 1997. 'Magnoliaceae' in Volume 2, Part 1.

<sup>36</sup> National Trust STR:  
[https://trusttrees.org.au/tree/VIC/Olinda/%22Kenloch%22 487 Mt Dandenong Tourist Road](https://trusttrees.org.au/tree/VIC/Olinda/%22Kenloch%22%20487%20Mt%20Dandenong%20Tourist%20Road)



Recommended on heritage grounds as an option for one replacement avenue, either the northern avenue or central diagonal avenue.

### **Ginkgo biloba**

*Ginkgo biloba*, or Ginkgo, appears in many early nursery catalogues between 1855 and 1889.<sup>37</sup> Spencer notes its use elsewhere in Geelong Botanic Gardens, planted from seed in 1859 (18m in 1995), in Kyneton Botanic Gardens, and in Melbourne in Flagstaff Gardens (16m, planting date unknown), Royal Botanic Gardens, and Melbourne University.<sup>38</sup> Recent planting programs in Fitzroy Gardens have included stands of Ginkgo in lawn, in groups of three. The National Trust Significant Tree Register records two significant specimens in Melbourne, in Toorak planted in 1925 (23m in 2011).<sup>39</sup>

Using this tree would result in a different look and feel relative to the existing elm avenues, because of its foliage texture. Against other historic and aesthetic criteria, however, this tree performs strongly. The scale of this tree is a strong positive for its inclusion as an option.

Recommended on heritage grounds as an option for one replacement avenue, either the northern avenue or central diagonal avenue.

### **Melia azedarach**

*Melia azedarach*, or White Cedar, appears in many early nursery catalogues between 1863 and 1889.<sup>40</sup> Spencer notes its wide use as a street tree.<sup>41</sup> Medias (*Melia azedarach* var. *australasica*) were planted in Carlton Gardens in 1879 along the east-west path parallel to the promenade in front of the Royal Exhibition Building. The smaller trees were selected for this location to ensure they would not grow to a size that would interrupt the view of the Royal Exhibition Building.<sup>42</sup> A White Cedar Avenue of Honour was planted at St Peters Terrace, Willunga, South Australia, in 1915.

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<sup>37</sup> Brookes and Barley 2009, pp. 80–81.

<sup>38</sup> Spencer 1995. 'Ginkgoaceae' in Volume 1; National Trust STR: [https://trusttrees.org.au/tree/VIC/West\\_Melbourne/Flagstaff\\_Gardens\\_William\\_Street](https://trusttrees.org.au/tree/VIC/West_Melbourne/Flagstaff_Gardens_William_Street)

<sup>39</sup> National Trust STR: [https://trusttrees.org.au/tree/VIC/Toorak/8\\_Stonehaven\\_Court](https://trusttrees.org.au/tree/VIC/Toorak/8_Stonehaven_Court)

<sup>40</sup> Brookes and Barley 2009, p. 109.

<sup>41</sup> Spencer 2002. 'Meliaceae' in Volume 3; National Trust STR: [https://www.trusttrees.org.au/tree/SA/Willunga/St\\_Peters\\_Tce](https://www.trusttrees.org.au/tree/SA/Willunga/St_Peters_Tce)

<sup>42</sup> Lovell Chen 2007. Royal Exhibition Building and Carlton Gardens, Carlton Conservation Management Plan, Volume 1: Main Report, prepared for Heritage Victoria, October 2007 (updated June 2008), p. 97.

Because of its small size White Cedar does not rate as well as other trees against the heritage criteria and would result in quite a different look and feel aesthetically, relative to the existing elms.

**Gleditsia spp.**

Not recommended on heritage grounds: *Gleditsia* species do not rate as well as other trees against the heritage criteria and would result in quite a different look and feel aesthetically, relative to the existing elms.

**Jacaranda mimosifolia**

Not recommended on heritage grounds: This tree does not rate as well as other trees against the heritage criteria and would result in quite a different look and feel aesthetically, relative to the existing elms.

**Acer spp.**

Not recommended on heritage grounds: Maples do not rate as well as other trees against the heritage criteria and would result in quite a different look and feel aesthetically, relative to the existing elms.

**Platanus spp.**

Not recommended on heritage grounds: Plane trees do not rate as well as other trees against the heritage criteria and would result in a different look and feel aesthetically, relative to the existing elms.

**Fraxinus spp.**

Not recommended on heritage grounds: Ash trees do not rate as well as other trees against the heritage criteria and would result in quite a different look and feel aesthetically, relative to the existing elms.