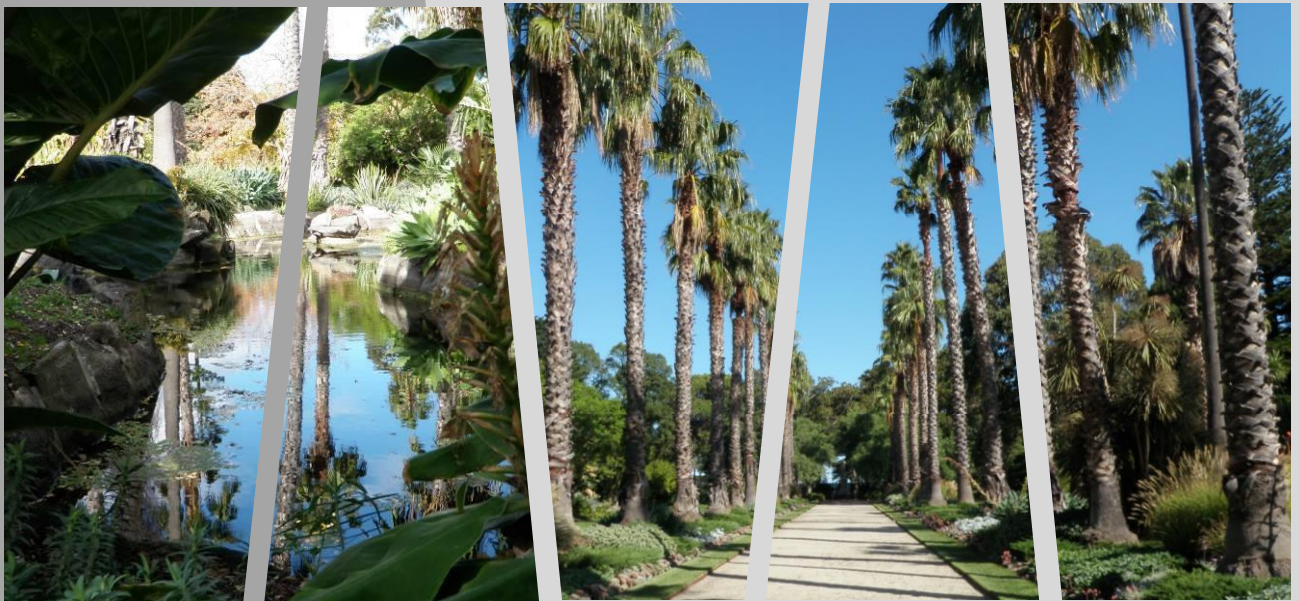


WILLIAMSTOWN BOTANIC GARDENS MASTER PLAN VOLUME 1: MASTER PLAN

May 2018

**HOBSONS
BAY CITY
COUNCIL**



LAIDLAW & LAIDLAW DESIGN

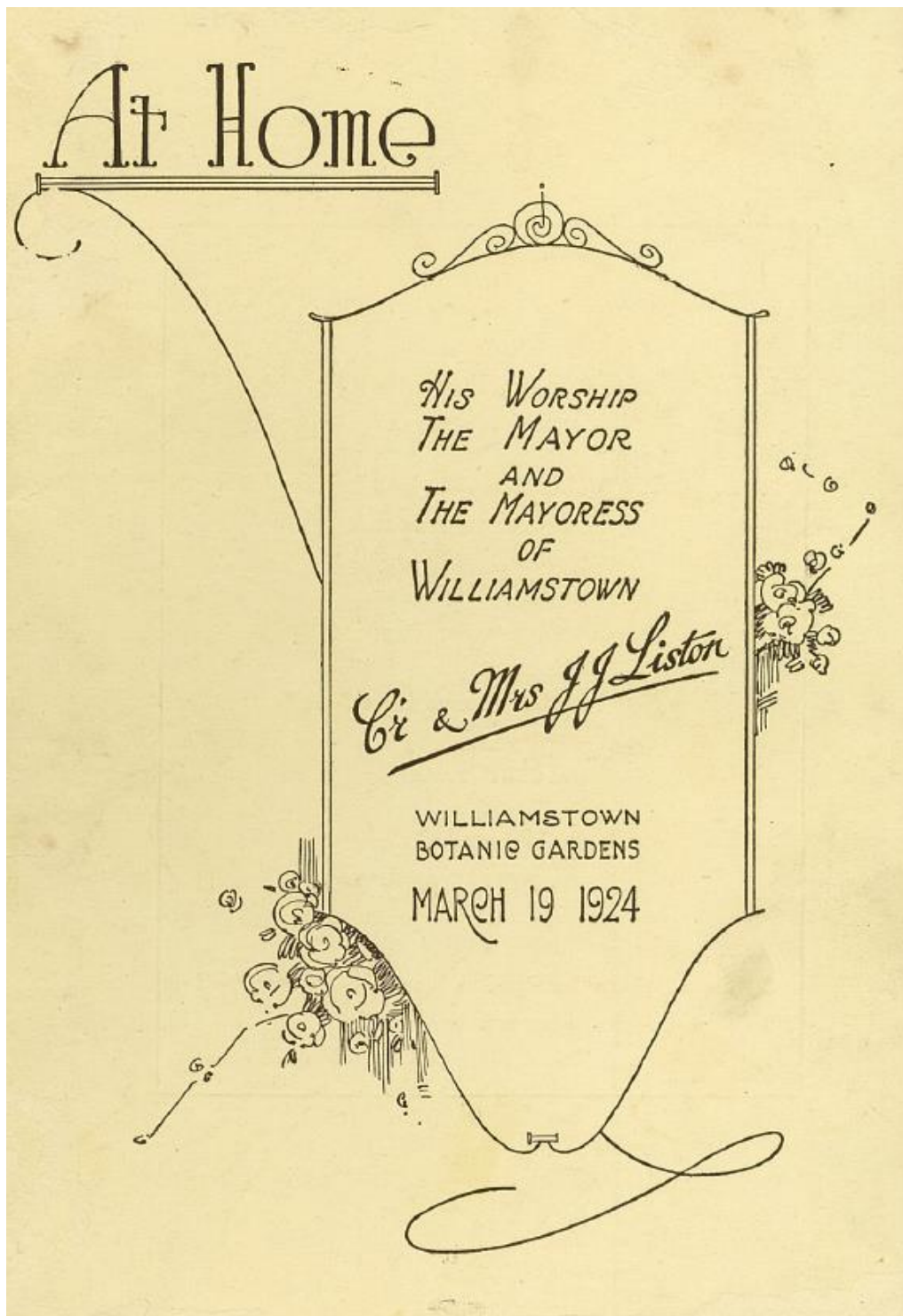


Figure 1: Garden Party Invitation, 1924
Source: Williamstown Botanic Gardens

Front Cover Left: The Pond
Front Cover Right: The Palm Avenue

WILLIAMSTOWN BOTANIC GARDENS

Est. 1856

Williamstown Botanic Gardens is one of Victoria's premier Botanic Gardens. A place of outstanding beauty and rich history, the Gardens have been an integral part of Williamstown's social and cultural life for more than 150 years.

Retaining strong Victorian and Edwardian characteristics, the Gardens are dominated by soaring palms, shady figs and a rich tapestry of under planting; complemented by graceful pathways and lawns designed by Edward La Trobe Bateman, one of Victoria's foremost 19th century garden designers.

This Master Plan builds on the good work which has gone before it, strengthening the Williamstown Botanic Gardens' position as a place of horticultural excellence, education, passive recreation, science and culture in a changing world.

Acknowledgements

Hobsons Bay City Council and Laidlaw & Laidlaw Design would like to thank everyone who took the time and effort to participate in the production of the Master Plan. In particular, we gratefully acknowledge the contribution made by the following individuals and groups:

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This report and Master Plan was produced by Laidlaw & Laidlaw Design on behalf of the Hobsons Bay City Council who commissioned the project.

Executive Summary

Williamstown Botanic Gardens is one of the oldest Botanic Gardens in Victoria. With a sweeping, arabesque path system designed by Edward La Trobe Bateman, magnificent tree canopy, rich shrubberies and a strong Edwardian character, the Gardens is an outstanding example of a 19th century Botanic Garden.

The Williamstown Botanic Gardens has a strong history of horticultural excellence with a long tradition of eminent gardeners and superintendents. This ensured the Gardens remained a showpiece and continued to be a central part of Williamstown society throughout most of the twentieth century. Following Council amalgamation in 1994 and subsequent changes in maintenance regimes and management structures, the Gardens deteriorated, until 2000 when there was a renewed focus from Council and staff. This led to a change in staffing practices and Council's 2001 commission of a Conservation Management Plan and Master Plan by John Patrick Pty Ltd. The plan provided a clear direction for the renewal of the Williamstown Botanic Gardens.

The Williamstown Botanic Gardens is now in a strong position where works identified by the previous Master Plan have been completed and the Gardens can now embark on the next stage of their development - building what is already a valuable resource into one of Victoria's premier Botanic Gardens.

With the exception of the two Royal Botanic Gardens Victoria sites, Williamstown Botanic Gardens is rivalled only by Geelong and St Kilda Botanic Gardens. The new Master Plan aims to build on this position by making recommendations to:

- Continue the reunification of the site;
- Enhance the aesthetic of the Gardens;
- Provide a basis for the scientific management of plant collections;
- Upgrade the existing irrigation system and improve water management;
- Return the former Williamstown City Council Parks Depot to Gardens use;
- Provide the facilities and services expected of a contemporary Botanic Garden.

The northern half of the Botanic Gardens is visually pleasing, with a good structural framework of arabesque paths, open lawns, mature trees, and botanically diverse garden beds. The changes proposed in the Northern Gardens are minimal – and are aimed at enhancing the already strong character of this part of the Gardens by improved planting detail and presentation to the surrounding streets.

The southern portion of the site, known as the Pinetum, also has a strong visual character and is dominated by the trunks of mature Pines and Cypresses and views to Port Phillip Bay. It is by enhancing the Pinetum and continuing to reconnect it with the Northern Gardens that the Master Plan makes its most substantial recommendations. These include removing the fence that divides the site, so the strong axial design is strengthened, and further reinforced by introducing decorative planting along the main path. Further planting will be

provided throughout the Pinetum to create a decorative ground plane and provide shelter to the Northern Gardens. This planting will not interfere with the current spatial character of the Pinetum but will simply reinforce the connection between the two spaces.

Previously Williamstown Botanic Gardens has not had the resources to significantly pursue the scientific expectations of a Botanic Garden. Activities such as maintaining plant records, labelling, collections management, plant trials and networking with other gardens are all part of a Botanic Gardens' role, and the Master Plan makes recommendations to provide the appropriate staff and facilities to support this.

In recent years the public's expectations of Botanic Gardens has changed, and to stay relevant Botanic Gardens are expected to be more than just collections of plants and places to walk and picnic. Botanic Gardens have long been popular locations for local events and educational programs – both of which require some level of infrastructure – and the demand for educational services in particular continues to grow. Furthermore, visitor services such as educational facilities, information desks and good access to public toilets are also expected, and help build the reputation and popularity of a Garden. In order to provide these resources it is recommended that the former Williamstown City Council Parks Depot be returned to the Gardens, and redeveloped into a gardens management, education and visitor centre. This area will also provide the much needed back-of-house space for staff and the Friends of Williamstown Botanic Gardens to service the Gardens and improve their quality.



Figure 2: Williamstown Gardens, c.1907

Source: O. Rippon Series Postcard, Williamstown Botanic Gardens

Introduction to Volume 1

This volume contains the working Master Plan for the Williamstown Botanic Gardens 2017, including all recommendations on future works. It should be read in conjunction with Volume 2, which provides all background documentation including site analysis, history, statutory context, findings of the consultation process and appendices.

Table of Contents

1	Introduction	1
2	Master Plan	5
2.1	Design Overview	5
2.2	Circulation and Access.....	6
2.3	Reunification of the Site	6
2.4	Pinetum Upgrade Works	8
2.5	Central Parterre	12
2.6	Northern Gardens	14
2.7	Boundaries and Fences	16
2.8	Entrances	17
2.9	Giffard Street and Osborne Street Upgrades	18
2.10	Bateman House	18
2.11	The Parks Depot.....	19
2.12	Furniture and Infrastructure	21
3	Maintenance and Management Considerations.....	22
3.1	Expansion and Future Role	22
3.2	Maintenance	24
3.3	Management and Staffing Levels	25
3.4	Friends of the Williamstown Botanic Gardens	25
3.5	Water Management and Irrigation	25
3.6	Landscape Succession Planning	27
3.7	Management of an Ageing Tree Canopy.....	27
3.8	Plant Collections and Record Keeping	29
3.9	Signage and Interpretation.....	31
3.10	Management as a Heritage Place	31
4	Review and Implementation	33
4.1	Implementation	33
4.2	Priorities.....	33
4.3	Review	34
	Bibliography.....	36
	Appendix 1: Indicative Costings.....	38
	Volume 2: Background Report	Separate Document

Figures

Figure 1: Garden Party Invitation, 1924	2
Figure 2: Williamstown Gardens, c.1907	6
Figure 3: Picnic under the Golden Elm	1
Figure 4: Williamstown Gardens, c.1908 showing the Aviary	2
Figure 5: Williamstown Botanic Gardens	5
Figure 6: 1894 MMBW Plan showing the unified path system	6
Figure 7: The Pinetum	8
Figure 8: Aloe castanea in the Royal Botanic Gardens	10
Figure 9: Williamstown Beach, 1966.....	12
Figure 10: Fig circle looking towards the palm avenue.	13
Figure 11: Decorative mixed succulent and perennial display	14
Figure 12: Silhouette of Tree Canopy	16
Figure 13: Chainlink Fence and Hedge along Osborne Street.	17
Figure 14: Reading Corner	20
Figure 15: Succulent Bed	22
Figure 16: Concert in the Gardens	23
Figure 17: "Paint the Gardens" is run annually by the Friends.....	24
Figure 18: Works in the Gardens	24
Figure 19: Palm avenue and historic drinking fountain	27
Figure 20: New Tree Planting in the Pinetum.....	28
Figure 21: Plant Collections sign at the RBG Melbourne	29
Figure 22: Examples of simple and detailed plant labels.....	30
Figure 23: Gardener in the Williamstown Botanic Gardens	31
Figure 24: "The Lodge, Williamstown" 1900-1920	35

Unless otherwise indicated photos are by Laidlaw & Laidlaw Design

Drawings

Drawing 1: Williamstown Botanic Gardens Master Plan.....	3
Drawing 2: Detail of central avenue planting in the Pinetum	9
Drawing 3: Detail through central Parterre	12
Drawing 4: Detail of new Entrance Treatment	17

Explanatory Notes

Naming conventions

For clarity, throughout this report the decorative northern half of the Gardens is referred to as the “Northern Gardens” and the southern part of the Gardens as the “Pinetum”. Any reference to “Gardens”, “Botanic Gardens” or “Williamstown Botanic Gardens” refers to the site as a whole.

Note on Master Plan Development

The Master Plan process was started in 2013 and an initial body of work was completed by mid-2014. After this time the project encountered extensive delays, coinciding with a period of internal change at the Hobsons Bay City Council. This led to a delay of three years between production of the draft Master Plan and release of the document for public consultation and formal adoption. During this three year period some works recommended in the draft Master Plan were carried out by the Hobsons Bay City Council.

Recommended works already completed between draft and final documents are still included in the Master Plan recommendations and are as follows:

- Asphalting external pathways to Giffard and Osborne Streets
- Replacement of the revolving apprentice with a full time apprentice
- Review of the wedding booking and management system
- Bulb planting beneath the Elm Avenue
- Greater access for the Botanic Gardens to the dividing shed between the works depot and Amaroo house
- Upgrading of the irrigation system to the Northern Gardens

Disclaimer

Information contained in this report, including sources of information and images, is accurate to the best of the authors' knowledge at the time of writing. Any information obtained from third parties has been taken to be correct unless evidence has indicated to the contrary. From time to time the Master Plan refers to documents produced by other parties. The use of these documents, or any recommendations made in relation to them, is done so on the basis of correct professional procedures. This does not indicate an endorsement of the content of any of these documents. Any recommendations made are based on current conditions, and should be reviewed following any substantial changes. The Master Plan is not a risk assessment document.

1 Introduction

Williamstown Botanic Gardens is one of the oldest and most outstanding Botanic Gardens in Victoria. With a sweeping, arabesque path system designed by Edward La Trobe Bateman, magnificent tree canopy, rich shrubberies and a strong Edwardian character, the Gardens is a fine example of one of Victoria's many 19th century Botanic Gardens.

The Williamstown Botanic Gardens has a strong history of eminent gardeners and superintendents who took great pride in their work and ensured the Gardens were a place of horticultural excellence. As a result the Gardens remained a showpiece and continued to be an integral part of Williamstown society throughout the twentieth century. In 1994 Council amalgamation resulted in changes in maintenance regimes and management structures, quickly leading to a deterioration in the Gardens. By the late 1990s the need for change was recognised, and Council implemented new staffing practices and commissioned a Conservation Management Plan and Master Plan. This 2001 report by John Patrick Pty Ltd provided support for management actions which, together with the commitment of Gardens' staff and Hobsons Bay City Council, have been instrumental in reversing this decline.

As a result of the good work recommended by the 2001 Master Plan and undertaken by Council and Gardens' staff all the background works have been completed and the Gardens can now embark on the next stage of their development - building what is already a valuable resource into one of Victoria's premier Botanic Gardens.

The new Master Plan builds on this already strong position by continuing the reunification of the site and enhancing the aesthetic qualities of the Gardens. A basis for the scientific management of plant collections is also provided and recommendations made for upgrading the irrigation system and improving water management. Additionally, by returning the former Williamstown City Council Parks Depot to Gardens use the facilities and services expected of a contemporary Botanic Garden can be provided.



Figure 3: Picnic under the Golden Elm
Source: Williamstown BG, L.Callow

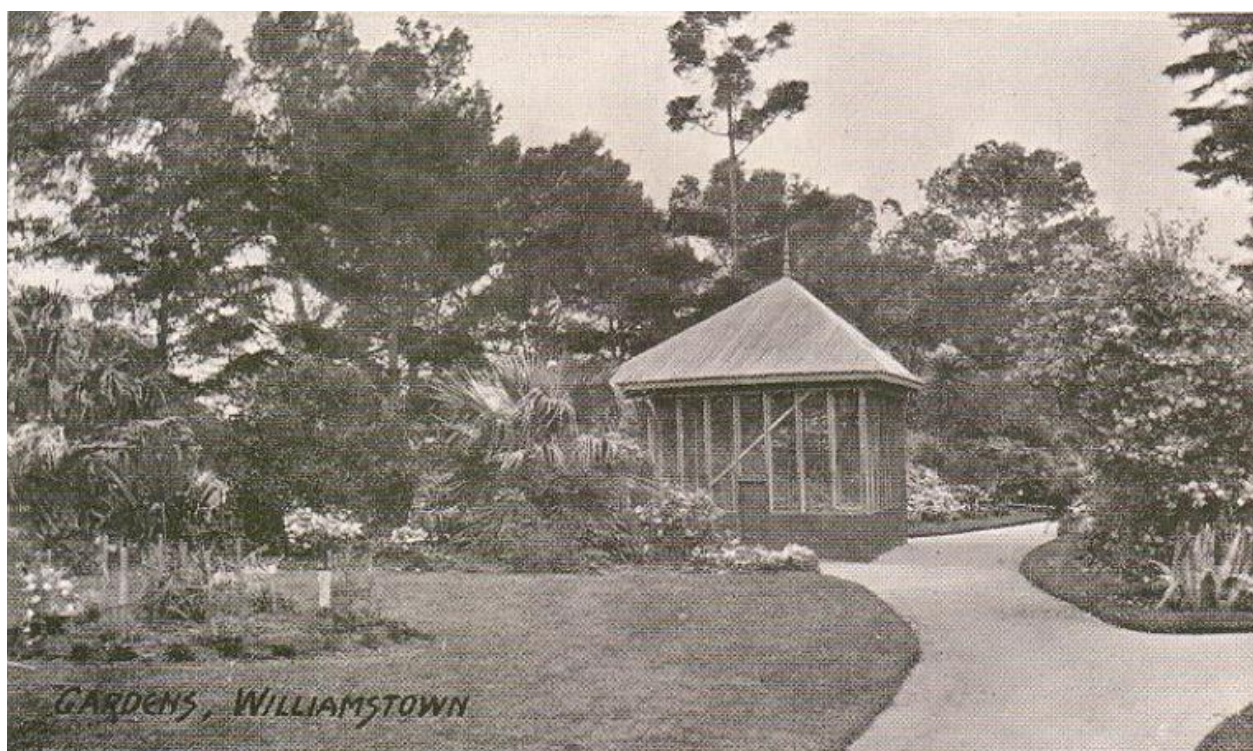


Figure 4: Williamstown Gardens, c.1908 showing the Aviary
Source: P & W Series Postcard, Williamstown Botanic Gardens

DESIGN OVERVIEW

Williamstown Botanic Gardens is one of the oldest Botanic Gardens in Victoria. With a sweeping, arabesque path system designed by Edward Latrobe Bateman, magnificent tree canopy, rich shrubberies and a strong Edwardian character, the gardens are an outstanding example of one of Victoria's many 19th century Botanic Gardens.

The Master Plan aims to enhance the Gardens' qualities by continuing the reunification of the site, enriching the aesthetic of the Gardens, providing a basis for the scientific management of plant collections and providing the facilities and services expected of a modern Botanic Garden.

The northern half of the Botanic Gardens is visually pleasing, with a good structural framework of arabesque paths, open lawns, mature trees and botanically diverse garden beds. Therefore the changes proposed by the Master Plan to these Northern Gardens are minimal – and are aimed at enhancing the already strong character by improved planting detail and presentation to the surrounding streets. This includes rationalising of the parking, adding new garden beds, and providing decorative entrances.

The southern portion of the site, known as the Pinetum, has a strong visual character and it is by enhancing this space and continuing the work of visually reunifying the Pinetum and the Northern Gardens that the Master Plan makes its most substantial recommendations.

Pinetum works include removing the fence that divides the site, therefore strengthening the strong axial design, and introducing a ground plane of decorative planting. This planting will not interfere with the current spatial character of the Pinetum but will simply reinforce the connection between the two spaces.

In recent years the public's expectations of Botanic Gardens has changed, and to stay relevant Botanic Gardens are expected to be more than just collections of plants and places to walk and picnic. Visitor services such as educational facilities, information desks and good access to public toilets are also expected, and help build the reputation and popularity of a Garden. In order to provide these resources, it is recommended that the former Williamstown City Council Parks Depot be returned to the Gardens, and redeveloped into a gardens management, education and visitor centre.

The Williamstown Botanic Gardens is in a strong position, where due to the success of previous work previously the Gardens can now embark on the next stage of their development – building what is already a valuable resource into one of Victoria's premier Botanic Gardens.



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2 Master Plan

2.1 Design Overview

The design for the Williamstown Botanic Gardens Master Plan continues the work of visually reunifying the site into a single whole. This starts at the central, Alfred Thomas Clark Statue, where the removal of the dividing fence allows for the installation of a parterre style planting which flanks the statue on all sides and anchors it as the centre point of the Gardens. From here the site reunification works radiate out with the installation of decorative planting in the Pinetum, strong emphasis of the Gardens' four main axial pathways, and the enclosure of the entire site with a consistent fencing treatment. External to the Gardens, a uniform planting treatment at the entrances and new streetscape scheme along Giffard and Osborne Streets will provide a high quality landscape treatment that is sympathetic to the heritage and beauty of the Botanic Gardens.

The addition of low level planting to the Pinetum will provide the decorative ground plane and spatial definition the Pinetum lacks while complementing the existing character. Together with the removal of the dividing fence this will help ensure that Bateman's decorative path layout reads as a continuous whole and the Pinetum is a fitting complement to the decorative Northern Gardens. Planting under the Elm Trees and at the southern end of the main north-south axial pathway will help reinforce the dominance of these lines, and further tie the two halves of the Gardens together. The new planting will vary in style throughout the Pinetum from bold exotic to indigenous coastal, but will all be selected for its ability to perform under the prevailing conditions.

The Northern Gardens is mostly in excellent condition and recommended works focus on providing increased enclosure on the eastern and western boundaries. The addition of this planting layer reinforces the feeling of enclosure and escaping into "another world" which characterises the Northern Gardens and will help preserve the distinctive character difference between it and the Pinetum.

Figure 5: Williamstown Botanic Gardens
Source: Williamstown BG, L.Callow



The Botanic Gardens currently lack good presentation to, and access from, the Osborne and Giffard Street frontages. The Master Plan remedies this by installing a new decorative landscape treatment and sealed parking areas – generally in line with Hobsons Bay City Council engineering department's plans for the streets. A new street tree scheme and decorative planting proposed for the street frontages will better advertise and reflect the quality of the Botanic Gardens, while the sealed parking bays and formal path works will provide the all abilities access which is currently lacking.

Complementing the streetscape upgrades will be the development of consistent, decorative entrance treatments to the Botanic Gardens. These will help with visitor orientation, Gardens' presentation, and will – coupled with a subtle new historically appropriate fencing treatment – help with unification of the site.

2.2 Circulation and Access

Within The Botanic Gardens

Circulation throughout the Botanic Gardens is currently very good, with Bateman's graceful path layout encouraging people to explore and enjoy the Gardens. The strong axial paths quickly draw people into the site before dispersing them along the outer pathways. This path system has a strong sense of balance – both north-south and east-west. The path layout, without actually being symmetrical, has strong axial lines and winding pathways that almost mirror each other, creating a dynamic flow that is distinctive of many of Bateman's designs.

Currently this sense of balance is interrupted by the dividing fence, which separates the Pinetum from the Northern Gardens and restricts pedestrian flow, especially around the Alfred Thomas Clark Statue at the centre of the site. The removal of this fence will visually connect the Bateman path layout, and therefore unify the site. The circulation flow will be enhanced by the installation of a subtle, decorative planting layer in the Pinetum which will encourage people to explore the site more fully.

Access to the Botanic Gardens

The main accessibility limitation to the Gardens is the lack of formal parking and pathways along the Osborne and Giffard Street frontages. This is especially problematic for users with mobility problems, including the elderly residents using Bateman House. Lack of good drainage also leads to existing parking and pathways becoming muddy and unsuitable for access.

Installing new bitumen pathways along the two street frontages, and providing sealed parking and disabled parking bays near key entrances will eliminate all access issues. The design of these areas is discussed in more detail in section 2.7.

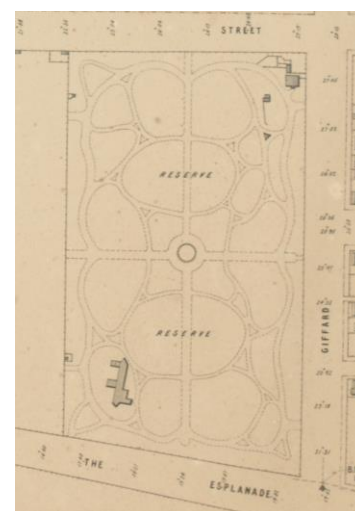
For non-car users, the bus stop in front of Bateman House will be upgraded as part of the streetscape works, with seating provided. Bicycle racks will also be provided at three entrances to the Gardens.

Figure 6: 1894 MMBW Plan showing the unified path system

Source: State Library of Victoria)

2.3 Reunification of the Site

A key recommendation of the Master Plan is the continued reunification of the Northern Gardens and the Pinetum into a single space which reads as one Botanic Garden. Currently the Pinetum appears detached and separate from the Northern Gardens. The reinstatement of the original path system in recent years has helped correct this disunity, and the Master Plan aims to complete the site reunification by removal of the central dividing fence; addition of decorative planting in the Pinetum; increasing Pinetum maintenance and infrastructure to the same level as the Northern Gardens, and enclosing the entire site in a consistent fencing treatment. Importantly, although previously known as the "L.A. Parker Reserve", the space should be consistently referred to as "The Pinetum" (as occurs in this report), in order to reinforce its role as an essential, and complementary part of the Botanic Gardens – not a separate space.



The proposed design will unify the space without diminishing the distinctive characters of the northern and southern halves of the site. It is intended that the Northern Gardens retain their distinctive, inward focus and enclosing Victorian and Edwardian character, while the Pinetum retains an outward looking, open character with uncluttered planting and broad views. Through interpretation and tree planting the Master Plan also provides links to Fearon Reserve, which was originally established as an adjunct to the Botanic Gardens, providing for active recreation while the Botanic Gardens remained ornamental pleasure grounds.

2.4 Pinetum Upgrade Works

As discussed above, considerable upgrade works are proposed for the Pinetum, with details of these as follows.

Shrub Planting

A new, decorative shrub layer is proposed throughout the Pinetum to provide spatial definition and ground plane interest, and to reference the Pinetum back to the Northern Gardens. This planting will be applied to all the triangular island beds within the path network, along the main path axes, around the Pinetum boundaries and in screening island beds near the Elm Avenue.

The boundary and triangular garden beds will be planted with low level, native and exotic coastal tolerant species that will not interfere with views into and out of the Gardens. Planting design to these beds should focus on providing a scheme that is simple, yet decorative and which is relevant to local Williamstown residents who are dealing with the challenges of gardening in a coastal location. The use of strappy plants and grasses will also provide a level of movement and interest which reinforces the open, coastal character. A broad range of species will be used to maintain botanical interest.

Six new island gardens beds are proposed to the south of the current dividing fence at its eastern and western ends. These island garden beds will be planted with taller coastal plants which will provide wind protection for the Northern Gardens while still reflecting the general planting character of the Pinetum. This is to help address potential micro-climate issues resulting from the removal of the dividing fence. It is important that these beds be well established before the dividing fence is removed, and to this end it is recommended that the dividing fence be removed in stages (see section 4.2).



Figure 7: The Pinetum

Source: Williamstown BG, L.Callow

The “bandstand” mound in the western half of the Pinetum is to be planted with a consistent but more decorative planting scheme to

encourage its use for weddings and performances. In line with its former role as a bandstand, planting on the mound should remain low so as not to obscure people standing or sitting on it. Eventually the bandstand should be able to be booked for weddings and events.



Drawing 2: Detail of central avenue planting in the Pinetum

The final planting recommendation is to plant either side of the main axial path with dramatic succulent species. This planting echoes the plants under the palms in the Northern Gardens, and is designed to provide axial dominance and reinforce the sense of a single Garden. This is especially important given the limited life span of the Monterey Cypresses that line the path, and the likely need for their removal in the short term. The new garden bed will reinforce the strong, axial path while replacement cypress trees are too small to do this – although it should be noted that if appropriate this planting can be commenced before the trees are removed.

The design should have a dominant, structural, accent plant of a single species running down both sides of the main path to echo the Palm Avenue. Under planting would be with a range of low level ground covers. The accent plants should be botanically interesting, with a size of approximately 2-3m in height and width. Suitable species would include Macdougall's *Furcraea* (*Furcraea macdougallii*), Cat's Tail Aloe (*Aloe castanea*), Fan Aloe (*Aloe plicatilis*), Century Plant (*Agave americana*) or Cycads (*Macrozamia communis*) (see Figure 8).

Planting Design, Selection and Maintenance

Planting selection and design in the Pinetum will need to be undertaken with great care as the environment is hostile, with coastal winds and a mature tree canopy of conifers which restrict plant growth. Plant establishment and the installation of a professionally designed irrigation system will also be essential to the ultimate success of the plantings. Plantings should fit in with the Gardens plant collection strategy (see 3.8 below) and be professionally designed.

The quality of the turf in the Pinetum needs to be improved, with the long term aim being to have warm season lawn of good quality throughout the space. The success of the lawn will have a direct impact on the usability of the space and will be dependent on the

choice of turf species and the quality of the maintenance and irrigation.

It must be noted that in order to undertake and maintain the new plantings in the Pinetum it will be necessary to increase the number of qualified staff employed to work in the Williamstown Botanic Gardens.

Tree Canopy

The tree canopy in the Pinetum is dominated by over mature Monterey Cypress (*Hesperocyparis macrocarpa*) and Aleppo Pines (*Pinus halepensis*). A tree replacement strategy has been partially implemented, with new conifers of more species diversity. This tree strategy was produced by Karen Olsen as part of a wider *Conservation Implementation Strategy* for the Pinetum and is now over ten years old. It is recommended that this document be reviewed and updated to produce a new, expanded tree replacement strategy which covers the Pinetum, Northern Gardens and streetscape. This is discussed in more detail in section 3.7. New planting in the Pinetum should focus on providing more diversity in the tree canopy as befits a Botanic Garden, while still limiting the selection to coniferous taxa. A new, decorative feature tree should also be planted inside the new entrance to be established on the corner of Giffard Street and the Esplanade.



Figure 8: Aloe castanea in the Royal Botanic Gardens

Infrastructure

Pathways within the Pinetum are currently edged with timber, and are not maintained to the same high level as the Northern Gardens. This edging should be replaced with mild steel, with the pathways set down slightly below the lawn level, as occurs to the north.

The worn bluestone steps to the “bandstand” mound pose a potential trip hazard and are of contributory significance to the heritage value of the Botanic Gardens. An assessment should be undertaken of the condition of all the “bandstand” mound’s rock work to determine the level of risk posed by these steps and ways to mitigate this. Any

modifications should be carried out with respect for the heritage fabric.

Furnishings

A number of picnic tables and park benches are scattered through the Pinetum. It is proposed to make only minor changes to the number of picnic facilities in the Botanic Gardens, instead funnelling excess demand across the road to foreshore area including Hatt Reserve (see below). Traditionally the Botanic Gardens were part of a wider beach front precinct, and by sharing use between these spaces it reduces the impact of excessive visitation on the Botanic Gardens and reinforces its role as a place of tranquillity and relaxation. To this end a number of new bench seats have been provided in the Gardens.

The provision of picnic facilities in the Pinetum is still appropriate, and in response to community requests it is recommended that the number of tables be increased by up to 50%.

It is recommended that a number of permanent bench seats be provided around the perimeter path of the Pinetum, and continued through the Northern Gardens to allow better access by elderly and frail users. These should be distanced at intervals of around 70m. Additionally, approximately five 'floating' bench seats should be installed in sheltered lawn areas to provide further seating. These bench seats are not shown on the Master Plan drawing, and can be regularly moved by management to reduce lawn wear and provide changing options for Gardens' visitors.

Rubbish bins should be provided at all entrances / exits to the Pinetum. Some existing rubbish bins should also be relocated in response to the new garden bed planting and to keep bins near entrances. A new, all abilities accessible drinking fountain with dog drinking bowl should be provided at the southern, major entrance to the Gardens. Bicycle racks should also be provided in discrete locations at all axial entrances.

Public Toilets

Toilet facilities for Botanic Gardens visitors are provided to the south-west of the Gardens, just inside Fearon Reserve. This toilet block is too far from the Northern Gardens and does not address the severe shortage of toilets for staff and Friends use. New staff and visitor toilets are proposed as part of the Parks Depot redevelopment, but as this is a long term project it is recommended that a publically accessible, single modular unisex all-abilities unit be provided to address the current shortage. This should be located at the edge of the Works Depot and fronting the Gardens to allow easy public access. It is important that this unit, while temporary, still be architecturally sympathetic to the Gardens. The toilet should have a discreet, modern design that recedes in the landscape and preferably should be relocatable, so that it can be reused in another Council park once depot works are completed.

Foreshore and Hatt Reserve

It is recommended that additional picnic facilities, shade trees and quality turf be provided in the foreshore area to spread use and reduce the pressure on the Pinetum as discussed above.

To access the beach front and the new picnic area a new pedestrian crossing is proposed in line with the central axial pathway. This crossing will need to be in accordance with traffic engineer and road safety requirements, but from a landscape design perspective it is recommended that bluestone rumble strips be installed, with decorative planting in front of the Gardens' entrance. The foreshore entrance should remain understated to keep the focus on the Botanic Gardens.



Figure 9: Williamstown Beach, 1966.

Traditionally the Botanic Gardens was an important part of the beach precinct
Source: State Library of Victoria, Evans, W

The foreshore area including Hatt Reserve is considered a more appropriate place than the Botanic Gardens for the installation of a rotunda / all-weather picnic shelter requested during the public consultation. It should be noted that there is no evidence that a rotunda ever existed in the Pinetum (it was instead in Fearon Reserve), and that the installation of a new one is not desirable (see Volume 2 for further details).

It is recommended that any future Master Plans for the foreshore consider strengthening the connection between the Botanic Gardens and the rest of the foreshore precinct. This may include complementary planting and should focus on increasing pedestrian connections across the Esplanade. New tree plantings in Hatt Reserve and along the Esplanade will also be critical in providing climatic protection for the Botanic Gardens, as the current trees in the Pinetum and beach frontage are at the end of their life.

2.5 Central Parterre



Drawing 3: Detail through central Parterre

With the removal of the dividing fence and the re-establishment of the strong, axial symmetry of the Botanic Gardens, the Fig Circle again becomes the central focus from which the Gardens' design radiates. This ring of c.100 year old Moreton Bay Figs (*Ficus macrophylla*) provides enclosure and shade, surrounding the Alfred Thomas Clark Statue which rises above the flat ground plane and terminates the major axial pathways. New planting beds around this Fig Circle will reinforce the axial symmetry of the design and add botanical interest.

The new planting beds under the fig trees should be of a consistent width with low level planting suited to the dry, shady microclimate of the area. This planting should become more decorative around the base of the Alfred Thomas Clark Statue, providing a fitting context for the historic marble statue.

Four new garden beds are proposed on the corners of the meandering square of paths that surround the Fig Circle. Planting in these spaces will be decorative and consistent, creating a parterre like effect that links the Pinetum with the Northern Gardens. Planting design in this area should sit comfortably with both the Pinetum's planting scheme and that of the Northern Gardens. Planting design needs to be driven by the hostile micro-climate while at the same time providing botanical and design interest. Planting should be professionally designed.



Figure 10: Fig circle looking towards the palm avenue.
The Master Plan provides details for re-establishing this as the central core of the Gardens and integrating it into the wider landscapes.
Source: Williamstown BG, L.Callow

It is not proposed to have any fixed visitor facilities in this area, although the floating seats may be placed in the parterre area from time to time (refer page 12). It is not recommended that the statue be lit at night due to the increased potential for anti-social behaviour.

The low fence around the statue should be retained as it reduces vandalism and is historically appropriate.

2.6 Northern Gardens

The highly decorative and well maintained character of the Northern Gardens means few changes are required. For the most part proposed changes focus on the installation of new planting beds to increase the feeling of enclosure and reinforce its inward looking character. Part of the delight of the Northern Gardens lies in its pleasing and colourful mix of palms, deciduous and evergreen exotics, natives, decorative shrubs and bold succulents. The Master Plan recommends that any future planting preserve and enhance this character.

Shrub Planting

New garden beds are proposed along the eastern boundary (Giffard Street) and the western boundary (Fearon Reserve). These beds are designed to provide a level of enclosure and have not been set out along historical lines, but instead with the aim of complementing the existing landscape. Along Giffard Street these beds follow the winding path of the row of Canary Island Date Palms (*Phoenix canariensis*), reinforcing its shape. Planting in this bed should be consistent with other perimeter planting in the Northern Gardens and provide a clear separation from the streetscape.

Along Fearon Reserve the planting should be lower, providing enclosure, while still maintaining views to the Reserve beyond. Where these beds wrap the works depot they should aim to screen it from the rest of the Gardens. Screening planting is also proposed for the beds surrounding Bateman House, concealing the building, but providing views to and from the private garden.



Figure 11: Decorative mixed succulent and perennial display
example as an alternative to annuals
Source: Royal Botanic Gardens, Melbourne

Two new axial garden beds are to be planted immediately under the Elm Avenue – echoing similar planting treatments on the north-south axis. These plantings are to be bulbs, reinforcing the existing bulb planting which creates a stunning, seasonal display.

One final new garden bed is proposed to the north of the Giffard Street major entrance. This bed is to partially mirror the new screening/transitional beds to be placed in the pinetum.

Annual Displays

The Williamstown Botanic Gardens has a long history of annual displays, which are often popular with the public. With reduced staffing levels and an increased focus on water conservation it is recommended that large annual displays cease and that the beds are given over to decorative mixed planting. This planting could include perennial, succulent and foliage plant material and could, if desired, still be designed to create seasonal display (see Figure 11). This new planting design should provide colour and textual contrast and excite visitors about what they can achieve in their own gardens. It is recommended that if small pockets of annuals are to be retained they be used sparingly, in less prominent parts of the Northern Gardens where the vacant beds in the "off season" are less noticeable.

Tree Canopy

The tree canopy in the Northern Gardens is dominated by Palms, with a solid mix of Victorian and Edwardian tree species and some later inappropriate or incongruous additions. The tree canopy is for the most part in good condition, but as with all Botanic Gardens of this age, is at risk of substantial change as trees senesce. A tree replacement strategy should be developed for the entire Botanic Gardens in line with section 3.7.

Infrastructure

Only one main change is proposed to the Northern Gardens infrastructure, with the realignment of the pathway in front of Bateman House and the relocation of the steel arbour. This pathway intersection is awkward and unsightly, and draws attention away from the decorative pond when first entering the Botanic Gardens from the Osborne Street entrance. These changes will need the approval of Heritage Victoria, but there is some precedence for this as the pathway intersection is a modification from the 1910 MMBW plan (see Appendix 3, Volume 2). The entire path system is considered to be of primary significance to the Gardens, as a reflection of Bateman's design, with *"subtle, sympathetic changes made by Thake during the high point of the Garden's development in the early 20th century."*¹ These turn of the century changes focused on the area around the pond and at the garden's north east entry to accommodate the Fairlie Gates.



Figure 12: Silhouette of Tree Canopy
Source: Williamstown BG, L.Callow

The other modification to the pathway system is the widening of the east-west axial path at its western end, to create a stronger entry / exit to Fearon Reserve.

Picnic and Park facilities

Picnic facilities are considered to be inappropriate within the Northern Gardens, which should retain its Edwardian character and focus on passive recreation and botanical interest. Picnics are still to be permissible if visitors wish to use the lawns, but picnic tables are not appropriate. New fixed park benches are to be provided around the perimeter path as an extension of those used in the Pinetum, and will aid access for elderly and frail visitors (see "Furnishings" on page 11 for further details). To this end a number of new seats have been added with views onto the decorative pond. Additional "floating" bench seats will be provided in the Northern Gardens as discussed on page 11.

In addition to the existing bins a new rubbish bin should be added at the Osborne Street entrance (refer to Master Plan drawing, page 3).

2.7 Boundaries and Fences

Fencing

The Botanic Gardens boundaries are currently defined with six different types of fencing, of varying levels of appropriateness. It is proposed that discordant fencing be replaced with a single consistent style. This new fence will be the same style as the Osborne Street frontage, with tubular steel and woven chain mesh enclosed within an evergreen hedge (see Figure 13). This fence should be continued at its current height which is approximately 1.5m, except around the depot area, where for security reasons it should be 1.8m high. This fencing detail is historically appropriate, will aid unification of the site and will not remove the Pinetum's outward views. It is noted that this style differs from that favoured in the Fearon Reserve Master Plan, however it is still consistent with the recommendation the report makes to maintain visibility and provide a consistent treatment.



Figure 13: Chainlink Fence and Hedge along Osborne Street.

This style of fencing is to be used as a consistent edge treatment to all boundaries.

The fence will be complemented with decorative gates at the major entrances, and shall have discrete gates at the other entrances to allow the Gardens to be closed on severe weather days. These gates should be of a simple design, and as they will rarely be closed should be as unobtrusive as possible. The existing decorative gates shall be retained at the main axial entrances, with additional decorative gates constructed as an art project at the major entrance to the Pinetum. Vehicle gates into and out of the works depot should be of a simple, functional design.

2.8 Entrances

Entrances to the Botanic Gardens currently vary from the Grand (Osborne Street, Giffard Street Corner) to the almost non-existent breaks in the fence which lead into the Pinetum. The Master Plan looks to rationalise the number of entrances, and upgrade them to provide an appropriate introduction to the Botanic Gardens. This will help visitor orientation, draw people into the site and create a strong sense of place.



Drawing 4: Detail of new Entrance Treatment

The new decorative gates installed at the Giffard Street and Osborne Street Major Entrances will be retained, together with the Fairlie Gates. To give the entrances more life, it is recommended that the new gates be repainted in an appropriate and decorative colour scheme.

New garden beds are proposed at each major entrance. Planting design is to be consistent, with minor modifications in plant selection to cater to the differing micro climates. As these garden beds are to be the first experience visitors have of the Botanic Gardens it is essential that they be carefully designed to be highly decorative, with strong botanical elements which reflect the overall character of the Gardens and help anchor the gates. The Master Plan recommends triangular beds of mixed planting that combine texture, colour, scent and botanical interest. This decorative planting scheme should be

extended to the central roundabout at the Osborne Street and Giffard Street corners, to help with visitor orientation.

In addition to the decorative planting schemes it is proposed to install fixed bench seats near all major street entrances to help with accessibility. Bicycle racks will be provided at three entrances. Both racks and seats are to be set back so they are not visually intrusive.

2.9 Giffard Street and Osborne Street Upgrades

New works are proposed by the Hobsons Bay City Council to upgrade the parking and pathways on Giffard and Osborne Streets to rectify drainage, parking and access issues. The new streetscape recommended in the Master Plan generally follows their proposals, with modifications to ensure an appropriately simple and botanically interesting boundary to the Botanic Gardens. New parking will be asphalt with bluestone drainage similar to that already on Osborne Street and the Esplanade. Gaps in the kerbing will allow water to drain from surrounding parking bays, passively watering the planting beds. Pathways are to be asphalt gravel, with an appropriate camber to allow drainage and prevent pooling of water.

Existing street tree planting on Osborne Street is in poor condition, and not sympathetic to the Botanic Gardens. Rather than compromising the design of the new streetscape to accommodate these trees, it is recommended that they be removed and replaced with a new street tree scheme. This scheme should be continued onto the other side of each of the roads.

The installation of the new street trees provides an excellent opportunity for the Botanic Gardens to fulfil part of its scientific role by trialling new species. Generally speaking, a limited list of the same tree species have been chosen for street tree planting across Melbourne for the last half century. In recent years the City of Melbourne have been reversing this trend, with the addition of new species to its street tree repertoire. The new planting along Giffard and Osborne Streets provides the opportunity for selection and trialling of new street tree species selected on the grounds of horticultural suitability, aesthetic value, botanical interest and climate appropriateness. If successful, these trees could then be used in other areas within the Hobsons Bay City Council.

Beneath the street trees blocks of decorative low plantings are proposed. These areas should be kept simple and designed to be botanically interesting and aesthetically pleasing.

2.10 Bateman House

Bateman House is currently leased to a third party and used for respite care for nursing home residents. This is an appropriate, low impact use of the facility. The use of the Gardens by elderly residents contributes to their social significance and provides much joy to their visitors.

In the event that the current tenant's lease is not extended the facility should revert to Council for Botanic Gardens use. Whatever the

function of the building it is important that it sits sensitively within the landscape.

2.11 The Parks Depot

Currently there is a severe shortage of “back of house” space for Botanic Gardens Staff and the Friends. Additionally, there is no room for the provision of visitor facilities such as toilets, teaching space and gift shop – elements expected in a garden of this calibre. Without having more land made available for the Gardens’ use the operations of the Gardens and their ability to provide a quality visitor experience is severely compromised.

The Williamstown Botanic Gardens is surrounded on three sides by roadways, and on the fourth side by the popular Fearon Reserve. There is however Council owned land between the Gardens and Fearon Reserve, in the shape of the former Williamstown City Council Parks Depot, currently leased to Mind Australia. This land is ideally placed to provide the Botanic Gardens’ with much needed extra space, and therefore it is recommended that it be made available for development as a back of house and visitor programs facility. While the provision of Mind Australia services are important, it is felt that these can take place at facilities elsewhere in the Hobsons Bay City Council.

It is recommended that the Hobsons Bay City Council negotiate for the return of the large, central shed for Botanic Gardens use in the short term (1-2 years) and return of the entire site to Botanic Gardens at the end of the next lease. In preparation for this it is recommended that a separate Development Plan be commissioned for the depot area, looking at the facilities needed by the Botanic Gardens and how the space can best fulfil this.

The new depot Development Plan should include input from landscape architects and architects and should incorporate the following elements:

- Curator's office and public liaison officer's office (could be combined)
- Large meeting space (possibly combined with the educational facility as a flexible use space)
- Storage space for the Friends of the Williamstown Botanic Gardens (FWBG)
- Storage space for Gardens education and interpretation programs
- Office space for the FWBG
- Propagation facilities for the FWBG
- Staff lunch room and associated facilities (will also cater for FWBG)
- Staff toilets (will also cater for the FWBG)
- Horticultural library for use by staff and the FWBG
- Storage for Gardens' maintenance equipment
- Space for composting and storing materials associated with Gardens' maintenance
- Parking for Gardens' staff (max. 5 spaces)
- Educational facility such as an indoor/outdoor teaching space
- Public toilets accessible from the Gardens

- Public notice board / information area accessible from the Gardens including room for a "Help Desk"
- Allowance for a holding / changing room for weddings and performances in the Gardens
- Possible allowance for future provision of a small gift shop

Design considerations for development planning of the parks depot include:

- Presentation of the facility to the Botanic Gardens and Fearon Reserve. The new facility should be attractive and sit gently in the landscape, with screening planting where appropriate.
- New buildings should be environmentally sensitive
- Not all existing buildings need to be retained, and those that are kept should be modified as appropriate to ensure they are sympathetic to the Gardens' heritage value. It is recommended that there be no net increase in the size of building footprints.
- If space permits, and Botanic Gardens use is not compromised, consideration should be given to reducing the size of the area to allow expansion of the Fearon Reserve Oval to full size (note it is currently cut off by the depot, a change which occurred in the early 1980s)
- An allowance should be made for planting between the Botanic Gardens perimeter path and the depot area (as shown on the Master Plan Drawing, page 3)
- All planting should be interesting and botanically diverse, as is fitting in the Botanic Gardens location.
- Large trees in the existing works area should be retained
- Any public / teaching space should appropriately address the Gardens



Figure 14: Reading Corner
Source: Williamstown BG, L.Callow

2.12 Furniture and Infrastructure

A consistent palette of furniture which is sympathetic to the heritage value and character of the place should be used throughout the site. This same consistency should be carried through to the pathway and edging treatments as discussed in various sections above. In order to ensure consistency it is recommended that a formal list of furniture designs and materials are compiled including all finishes and paint colours. This specification should take into consideration Hobsons Bay City Council standards, cost and maintenance requirements. It should be noted that no lighting has been recommended within the Gardens.

Elements included in the furniture and infrastructure specification should include:

- Fixed bench seats
- Relocatable bench seats
- Picnic tables
- Rubbish Bins
- Bicycle racks
- Bollards
- Drinking fountains
- Fencing
- Edging
- Pathway surfacing

¹ John Patrick Pty Ltd, 2001, pg 23

3 Maintenance and Management Considerations

Landscape design and infrastructure is only one element of the successful development of the Williamstown Botanic Gardens. Good management practices and adequate staffing levels will be essential to the success of the next stage of the Williamstown Botanic Gardens.

3.1 Expansion and Future Role

As discussed above, the Williamstown Botanic Gardens is in the strong position of having both the assets and resources to operate as a true botanic garden with a scientific and educational focus. The Gardens currently undertake this work in a limited way, but by the reverting of the former Williamstown City Council Parks Depot back to Gardens use this work can continue to expand. Additionally, it will allow the Gardens to provide the high quality visitor services expected of a current day Botanic Garden.

Scientific Role

The Williamstown Botanic Gardens should expand their scientific roles through:

- The establishment of an accession plan and keeping of proper plant records
- Development of a plant collection policy
- Focus plant acquisition on specific plant collections in line with the above policies
- Plant trialling – particularly in the new beds in the Pinetum and in the surrounding street scape
- Networking with other Botanic Gardens for the sharing of information and plant material
- Assisting other regional Botanic Gardens with management and plant collection advice (Williamstown Botanic Gardens has the capacity to be a model site for other Botanic Gardens)



Figure 15: Succulent Bed
Source: Williamstown BG, L.Callow

Education

The educational role of the Williamstown Botanic Gardens is already strong, with programs organised by the Friends of the Williamstown Botanic Gardens for high school and primary school children and 'Story Time under the Elm' in conjunction with the Hobsons Bay City Council Library service. The main hindrance to expansion of the Gardens educational role is the lack of an all-weather educational space – a problem which is to be corrected with the return of the parks depot to Gardens' use. It is recommended that the role of the Gardens' Program Development Officer (currently 0.35 position) be maintained. This role should be reviewed once the new educational space is completed to keep up with increased demand for educational and visitor services.

In addition to expanding the Gardens' work with children and teenagers, it is recommended that the Gardens move into home gardener advice and professional educational services. This could include regular garden tours and gardening workshops for visitors and home gardeners – as well as workshops, garden walks, seminars and training sessions for horticultural/landscape professionals and tertiary students.

Visitor Services

Public expectations of Botanic Gardens have expanded, so that people now like to have a full visitor experience with access to a gift shop, visitor information services and public toilets. It is recommended that a part-time visitor information / help desk staff member should be provided to answer visitor's questions, provide tourist information and horticultural advice. This could also include a gift shop. Information available to the public should also be expanded as per section 3.9, below.

With the redevelopment of the works area a 'holding room' for use during Gardens' events such as weddings, plays and concerts should also be provided, together with good access to public toilets.



Figure 16: Concert in the Gardens
Source: Williamstown BG, L.Callow

Events

Currently the Williamstown Botanic Gardens host a number of events including story time, plays, an art exhibition and small concerts. These events, while highly desirable, place pressure on the fabric of the Gardens' and can restrict general use by visitors. It is recommended that the number of events held annually generally be restricted to their current number, and consideration given to moving some events to the Pinetum to ease the load on the Northern Gardens.

Any new events held in the Gardens should be compatible with the site's primary role as a Botanic Garden – with events being about the garden setting, and aiding public engagement. Events which actively further the Gardens' aim of providing horticultural education should be particularly encouraged. Any event which is likely to lead to excessive vehicle or foot traffic should be avoided because of the pressure they place on the Gardens' fabric.

Weddings

The Williamstown Botanic Gardens has long been used for weddings and wedding photography, which are popular with the public and contribute to the social significance of the place. This use should continue, and a recent review has ensured that HBSC has greater control over the running of weddings and that participants respect the site (especially during photos). This has led to better supervision and less damage to the Gardens.

It is important that supervision by Council staff continues, and that the terms and conditions of hire be reviewed if new problems arise.

3.2 Maintenance

Williamstown Botanic Gardens has long been a place of horticultural excellence, both for its plant collections and maintenance standards. It is essential that this continues and that the Williamstown Botanic Gardens are seen as exemplary gardens which inspire the public and the horticultural industry. In order for maintenance standards to be upheld it is essential that sufficient staff are employed and that these people have the skills required to maintain a botanic garden. This includes a need to hire staff with excellent horticultural and plant identification knowledge, to ensure the valuable plant collection is cared for and protected.

Currently maintenance levels are good, but problems have arisen in the past through fluctuating skill levels in the revolving apprenticeship system and the use of temporary staff without the expertise to care for a botanic garden. It is will also be important that adequate staff are available to maintain the Gardens once projects recommended in this Master Plan start to be implemented. It is anticipated that the new planting will take place in house, requiring more staff for the construction phase, and once installed it will be imperative that there are sufficient staff in place to maintain these new areas. Comparative Botanic Gardens elsewhere in the state have staffing levels of between 0.75 and 1.3 gardeners/horticulturalists per hectare of Gardens. Currently Williamstown sits at 0.5 gardeners, including the apprentice.



Figure 17: "Paint the Gardens" is run annually by the Friends

Source: Williamstown BG, L.Callow

Figure 18: Works in the Gardens
Source: Williamstown BG, L.Callow



3.3 Management and Staffing Levels

In order for the Williamstown Botanic Gardens to be a valued and successful 21st century Botanic Garden it is essential that the appropriate number of suitably qualified gardeners are employed. This will become imperative as the recommendations outlined in the Master Plan are implemented. In order to expand the Gardens' educational, scientific and visitor services role, and to establish and maintain the new garden beds in the Pinetum, entrances and other parts of the garden it will be necessary to expand the number of Gardens' staff.

Current staffing levels include full time positions for the Head Gardener and apprentice and a part time position at the Botanic Gardens for the Curator / Team Leader Horticulture.

Upon adoption of this Master Plan it is recommended that staffing levels be reviewed to ensure that sufficient staff for maintenance, management and development of the Gardens are available at all times. This review should ensure that sufficient horticultural and public programs staff are employed to ensure a continuation of the high level of horticulture and visitor services provided by the Williamstown Botanic Gardens.

The re-establishment of the Curator's role in 2000 was one of the most successful measures undertaken to reverse the decline of the 1990s. The current high standard of the Williamstown Botanic Gardens owes a great deal to the work of the Curator over the past decade and a half, and providing a full-time Curator's role will be imperative to the successful implementation of the Master Plan and the ongoing excellence of the Gardens. To this end it is recommended that the position of Curator / Team Leader Horticulture be reviewed to ensure that adequate time can be dedicated to the Williamstown Botanic Gardens.

It is further recommended that the horticultural staffing levels be reviewed once most of the Master Plan priorities are completed to ensure that staffing levels remain sufficient. This review should occur in five to eight years time.

3.4 Friends of the Williamstown Botanic Gardens

The Friends of the Williamstown Botanic Gardens were established in 2009 and have been providing important support to the Williamstown Botanic Gardens, although their role has been limited due to lack of physical resources and office space. The Friends of the Williamstown Botanic Gardens will be looking to expand their role to the following areas once the resources are available:

- History and Research
- Garden tours
- Fundraising
- Plant propagation and plant sales

A list of physical resources required by the Friends of the Williamstown Botanic Gardens is provided in section 2.11.

3.5 Water Management and Irrigation

Water management and drought proofing the Botanic Gardens is an important component of the Master Plan. This falls into two general

categories; works that can be undertaken within the Botanic Gardens to minimise water use, and external works undertaken through a whole of Council approach to reduce the Gardens reliance on potable water.

Irrigation and In-house Management Practices

The existing irrigation system in the Botanic Gardens is twenty years old, and in need of an upgrade. As well as being unreliable, the system is extremely inefficient and replacement of the system will reduce the Gardens' water bill and maintenance costs. The new system should be designed to minimise water consumption by zoning areas to provide only the water required (requiring an understanding of micro-climate variations across the site), providing the most effective method for water delivery (e.g. trickle irrigation) and connecting the system to a local weather station to ensure it operates on local weather patterns. This system requires specialist design.

In addition to redesigning the irrigation system, planting design and landscape transition will be an important part of the Gardens' long term water management strategy. Plant selection is a critical tool in reducing the Gardens' reliance on potable water. Plants should be selected for their ability to perform and thrive under the prevailing environmental conditions (see section 3.6).

Works for the new streetscape (and where appropriate within the Gardens) should employ the principals of Water Sensitive Urban Design (WSUD), to try and retain as much water as possible on site. This reduces strain on the storm water infrastructure and provides additional water for the plants, again reducing the Gardens' dependence on irrigation. WSUD principals include providing gaps in the kerbing to allow water to drain from surrounding parking bays, passively watering the planting beds, cambering hard surfaces towards the Gardens rather than gutters, and, if appropriate, constructing rain gardens.

Reduction of Potable Water Use

Long term it is recommended that the Williamstown Botanic Gardens work with the Hobsons Bay City Council to put measures in place to drought proof the Gardens by removing their reliance on potable (mains) water. In doing this it is important that the Gardens work in conjunction with the water needs of Fearon Reserve.



Figure 19: Palm avenue and historic drinking fountain
Source: Williamstown BG, L.Callow

There are many options for providing alternative sources to potable water, and alternatives will need to be considered in a separate report commissioned from a hydrological engineer. This report can consider the water requirements of the Council, both now and in the future, and make recommendations and a business case for the most appropriate system.

3.6 Landscape Succession Planning

Landscape succession planning for Botanic Gardens looks at the gradual change of Gardens' species composition to be able to better cope with a changing climate. It is recommended that the Williamstown Botanic Gardens develops a succession plan to inform species selection and collection policies – the aim being to select species which are appropriate to Melbourne's climate both now, and under predicted climate change conditions. The Landscape Succession planning being undertaken by the Royal Botanic Gardens Victoria should be referred to as an example of a cutting-edge landscape transition program, with the City of Melbourne also undertaking similar work.

3.7 Management of an Ageing Tree Canopy

Many of Victoria's older gardens are facing the problem of a senescent tree canopy. This is due to many of the trees being planted over a short time period, leading to little variation in the age of the population and many of the trees popular during the Victorian era proving to have a life expectancy of approximately 80 to 120 years in this climate. This is especially problematic for poplars, elms and non-Araucariaceae conifers. This puts many 19th century gardens at risk of losing much of their character and charm as their trees are lost. It also puts a heavy cost burden on managers, as older trees (and their young replacements) are more expensive to maintain, especially given the increased risk posed by trees as they decline. Implementation of a tree replacement strategy reduces many of these problems.

Tree Replacement Strategy

The senescent tree canopy is less of a problem in the Northern Gardens, but the Pinetum has lost many trees and faces even more extensive canopy loss in the next ten years. A tree replacement strategy has already been commenced for the Pinetum, but it is recommended that this be reviewed and updated, with the new replacement strategy covering the Botanic Gardens as a whole – also including Fearon Reserve, Hatt Reserve and the foreshore over the road. The reason for this extension of works is that the loss of tree canopy in Hatt Reserve and the foreshore will have significant climatic implications for the Botanic Gardens. Inclusion of Fearon Reserve in the Botanic Gardens tree planting strategy is a recommendation of the Fearon Reserve Master Plan and will tie the traditionally linked spaces together and allow the Gardens to expand their tree collection.



Figure 20: New Tree Planting in the Pinetum

This tree replacement strategy must be founded on a professional arboricultural assessment that looks at the age, safe useful life expectancy and heritage significance of every tree in the Gardens. This report will then be used to develop an itemised replacement strategy that nominates an expected removal date for each tree, and locates proposed new plantings and their recommended species. This replacement strategy will also form part of the succession planning for the Botanic Gardens, and will help ensure that botanical diversity and heritage value are not lost.

The tree replacement strategy should consider the following points:

- The replacement strategy should give due consideration to the heritage value of the site. This does not necessarily mean replacing trees “same for same” (indeed this may be inappropriate), but consideration should be given for the existing character, style and species distribution. In particular, an increased diversity of species in the Pinetum would be desirable.
- The replacement strategy must consider the problems posed by the existing tree canopy. Establishment of new plantings under existing trees is not advisable, as it can lead to poor establishment.
- From time to time it may be necessary to remove a relatively healthy tree in order to establish new plantings in an area. This

is especially important for avenues and rows, where all plantings should be of a single age. Conversely, it may be appropriate to spend additional resources on preserving a particularly fine individual specimen which would otherwise have reached the end of its life.

- The replacement strategy should show tree removal over a number of time frames (e.g. immediate, 5 years, 10 years, long term retention), but should include enough flexibility to allow for changes.
- The replacement strategy should aim to establish a mixed age population in the tree canopy. Generally speaking the age break down of 10% young, 20% semi-mature, 60% mature and 10% over-mature² is considered to give a good age distribution and reduce management costs.
- Species selection should focus on trees which are botanically interesting, historically appropriate, and climatically suitable to Melbourne both now, and under projected climate change conditions
- The strategy should detail after planting maintenance including irrigation, mulching, formative pruning and other works. Good after planting maintenance is essential for the success of the replacement strategy.
- The strategy should consider the recommendations made in the Fearon Reserve Master Plan and the Williamstown Botanic Gardens Master Plan Drawing (see page 3)
- The replacement strategy should also be reviewed on either a five or ten year basis.

Once the tree replacement strategy has been produced The Hobsons Bay City Council must submit it to Heritage Victoria for approval. If approved, all works in accordance with the strategy could be undertaken without further consultation with Heritage Victoria, making the implementation of works more efficient.

Risk Management

Living with old, over-mature trees poses a risk, as these trees are more likely to fail than young, healthy trees. Regular arboricultural assessments and risk mitigation works are essential to managing these trees, both for public safety, and for the health and longevity of the trees. It is therefore important that this work is regularly undertaken for all trees within the Williamstown Botanic Gardens. Other risk mitigation works that should be considered include closing the Botanic Gardens on days with extreme weather, blocking public access from under high-risk trees, installing mulch rings to discourage use and providing temporary signage advising of the risk to the public.

Figure 21: Plant Collections sign at the RBG Melbourne



3.8 Plant Collections and Record Keeping

Plant Collections

Many of Victoria's botanic gardens established in the 19th century are now little more than pleasure grounds, with their role as scientific Botanic Gardens with living collections being largely ignored. Williamstown Botanic Gardens is now in a position where they can correct this, and place greater emphasis on management of the living plant collections. According to the Royal Botanic Gardens Melbourne Living Plant Collection Plan, "It is an essential feature of

botanic gardens that they contain accurately identified, documented and labelled collections of plants for the purposes of conservation, reference, research, interpretation, education or pleasure. This is one feature of botanic gardens which distinguishes them from other public gardens and parks, and highlights their role as a valuable scientific and cultural resource." Additionally, Botanic Gardens may have a role to play in the trialling of new species and conservation of locally rare and endangered plants.

It is recommended that the Williamstown Botanic Gardens develop a formal plant collection policy through a series of workshops held in consultation with the Gardens Advisory Group, Friends of the Williamstown Botanic Gardens, and external organisations such as the Garden Plant Conservation Association of Australia (GPCAA) and Botanic Gardens Australia and New Zealand (BGANZ). The focus of these collections are still to be determined, but consideration should be given to the following:

- *Crinums* were collected in the past, and this should be recommenced, with the eventual aim of gaining GPCAA recognition for the collection. Other existing collections that may be built on are Palms and tree Conifers
- Collections in the Pinetum should be relevant to home gardeners, where plants suitable for bayside locations can be exhibited
- Non-genera based collections can be especially relevant to Williamstown, given its specific climatic conditions
- Focusing on the rare and endangered plants of the region, especially the Western Plains Grasslands
- Consideration should be given to collection plants / genera that are not well covered in other Victorian collections

The collections policy should address all aspects of managing a plant collection, including the accession plan (see below), sourcing, networking / plant sharing, plant identification, weed management, labelling and propagation and preservation of rare plants – especially those within the Williamstown Botanic Gardens. Once a collection policy has been determined the implementation of this should be actively pursued.



Figure 22: Examples of simple and detailed plant labels
Label examples from the RBGV Melbourne Gardens

Plant Record keeping

An accession plan should be set up to manage plant locations and record keeping. BGANZ is developing a template for accession record keeping which will be appropriate for use in the Williamstown Gardens. Up to date records should be kept of the provenance,

identification and location of all plants in the Gardens. This should preferably be in electronic format (with appropriate back up)

Weed Management

As part of the plant collections policy the Williamstown Botanic Gardens should develop a simple Weed Risk Assessment Plan or WRAP. This document should be used to review all new plantings for potential weediness. Existing weeds within the Gardens, including shrub and tree species, should be gradually removed and replaced. The one exception to this is where the plants have a high heritage value and the weed risk can be managed through pruning or other means. Given the Gardens' role as an educational facility however, this should only occur in very isolated cases and should be interpreted to the general public.

3.9 Signage and Interpretation

Interpretation

There is an existing interpretation strategy produced by Room Outside in 2007 for the Williamstown Botanic Gardens which should continue to be implemented. As this document already exists, the Master Plan makes minimal recommendations on interpretation. It is however recommended that this document be internally reviewed to ensure it reflects and supports any recommendations made in the Williamstown Botanic Gardens Master Plan and the Fearon Reserve Master Plan.

Signage

Signage in the Botanic Gardens should be simple, consistent and kept to a minimum, with signs focusing on user information (e.g. orientation and restrictions) and plant labelling. While there was considerable call for more information to be available on the history of the place, it is recommended that this be done without recourse to signage, the concern being that if the Gardens are over interpreted they will lose some of their 'magic' character. Alternative ways of providing history would be through self-guided tour podcasts, information on the council website, QR codes and other digital mechanisms or a pamphlet which can be collected by interested visitors, but is less intrusive to general users than signs. It should also be noted that the Hobsons Bay City Council website for the Botanic Gardens contains limited information and could be greatly expanded.

Figure 23: Gardener in the Williamstown Botanic Gardens

Date unknown.

Source: Hobsons Bay Libraries via Picture Victoria



3.10 Management as a Heritage Place

Williamstown Botanic Gardens is classified as being of historical, aesthetic, scientific (horticultural) and social significance to the state of Victoria, and is included on the Victoria Heritage Register as H1803. It is also listed as a place of Aboriginal Cultural Heritage Sensitivity under the *Aboriginal Heritage Act 2006*. As such, it is important that the site is managed with due consideration and respect for the Indigenous and European cultural heritage of the site

Aboriginal Cultural Heritage

The entire Williamstown Botanic Gardens has been designated as an area of *Aboriginal Cultural Heritage Sensitivity*. It is recommended that the Botanic Gardens contact Aboriginal Affairs Victoria to determine if any specific places or objects have been registered under the *Aboriginal Cultural Heritage Register and Information*

System (ACHRIS) and whether a Cultural Heritage Management Plan is required. Although the Williamstown Botanic Gardens site is somewhat disturbed, for the most part there have been minimal earthworks, so care also needs to be taken that protected Aboriginal objects are not damaged.

It is important to consider that even if no artefacts are found Aboriginal cultural heritage values may still be present in the landscape, and these should be identified through working with the local Aboriginal clans themselves. Work to identify such values is currently taking place in the City of Melbourne and Royal Botanic Gardens Victoria and similar work would be desirable at the Williamstown Botanic Gardens, either as a standalone piece of work, or as part of a broader study.

European Cultural Heritage

Heritage Victoria is the responsible body for the management of European Cultural Heritage at the Williamstown Botanic Gardens, and a permit will be required for any works other than general garden maintenance. In addition to this, all works should be undertaken with consideration for the heritage assessments and management recommendations outlined in the Conservation Management Plan produced by John Patrick Pty Ltd (2001). While many of the works recommended by the 2001 report have already been completed, the report still provides valuable information which can guide the management of the heritage fabric.

A number of structures dating from the Gardens period of significance have since been removed, and it is recommended that these be recognised in some way. A number of options exist to achieve this, and it is recommended that a heritage report be commissioned to determine the best way of acknowledging the location and significance of the former fernery, aviary and caretakers house, without detracting from the aesthetic value of the Gardens.

In some instances Heritage Victoria will review and approve Master Plans so that works in accordance with the approved document are exempt from requiring a permit; subject to some restrictions. This has occurred at the Royal Botanic Gardens Victoria's Melbourne Gardens. It is recommended that Heritage Victoria be approached to discuss the possibility of doing the same for the Williamstown Botanic Gardens Master Plan.

² Royal Botanic Gardens, 1997, pg 112

4 Review and Implementation

4.1 Implementation

The Master Plan has been designed as a strategic document intended to guide the development of the Williamstown Botanic Gardens over the next ten years. Further design development work will be required to document the Master Plan recommendations. This design work should be undertaken by suitably skilled professionals and in consultation with Council.

4.2 Priorities

The following is a prioritised list of works recommended in the Master Plan. Priority has been given first to planning documents and risk mitigation works, and then to projects which provide the most benefits to the Gardens and its users.

This list of priorities will be subject to change, especially if unexpected opportunities arise, allowing the fast tracking of particular projects. It should be noted that the Master Plan drawing (page 3) and recommendations made in this report express a long term vision for the Gardens. These works will need to be staged, and will happen gradually to achieve the Master Plans' final aims.

Element	Short term (1-2 years)	Medium term (3-5 years)	Long term (5-10 years)
Background Work and Planning Documents			
Review of current staffing levels	✓		
Master Plan for the former Parks Depot	✓		
Development of a Succession Plan and Tree Replacement Strategy	✓		
Review of Interpretation Strategy	✓		
Contact AAV to determine whether a Cultural Heritage Management Plan is required	✓		
Development of a plant collection policy	✓		
Development of an Accession Plan		✓	
Development of a Weed Risk Assessment Plan		✓	
Development of standards for furniture and materials		✓	
Report on options for using non-potable water		✓	
Commission an Aboriginal Values report		✓	
Heritage report on interpretation of removed structures (e.g. fernery, aviary)			✓
Additional review of staffing levels following completion of new projects			✓
Infrastructure (Built Works)			
Remove central panel of dividing fence	✓		
Provision of single unit toilets in the Works Depot	✓		
Replacement of irrigation system	✓		

Element	Short term (1-2 years)	Medium term (3-5 years)	Long term (5-10 years)
Assessment and treatment of bluestone steps on mound	✓		
New picnic facilities in foreshore area	✓		
New bench seats and rubbish bins	✓		
Redevelopment of the Parks Depot		✓	
Steel edging to Pinetum paths and beds		✓	
Realignment of path near pond		✓	
New parking and garden beds to Osborne Street		✓	
Remove dividing fence	STAGED WORK OVER LONG TERM		
Extend wire and hedge fence around entire reserve		STAGED WORK MED – LONG TERM	
Rationalisation of entrances and pathway modification		✓	
New picnic facilities in Pinetum		✓	
New gates to Pinetum entrance			✓
New parking and garden beds to Giffard Street			✓
Rotunda in foreshore area			✓
Planting Works			
New tree planting to Hatt Reserve	✓		
New windbreak garden beds to Pinetum and Northern Gardens	✓		
Outer parterre planting to fig circle	✓		
Central avenue planting in Pinetum	✓		
New bulb planting under elm trees	✓		
Boundary and decorative planting in Pinetum		STAGED WORK MED – LONG TERM	
Planting to “bandstand” mound		✓	
Inner parterre planting to fig circle		✓	
New decorative planting to major entrances		✓	
Screening planting and works to Bateman house		✓	
New boundary and decorative garden beds in the Northern Gardens			✓
Ongoing water reduction works through planting design	STAGED WORK OVER LONG TERM		
Management and Staff			
New full time apprentice	✓		
Reinstatement of Curator’s role	✓		
New full time gardener		✓	
Increase role of Public Programs Officer		✓	
Expansion of educational role		✓	

4.3 Review

It is recommended that the Master Plan be reviewed in ten years time (2024) to allow for any changes in circumstances and to incorporate new developments.



Figure 24: "The Lodge, Williamstown" 1900-1920
Source: *Wilson P Evans Collection, State Library of Victoria*

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Appendix 1: Indicative Costings

The following is a cost estimate for works recommended in the Master Plan. These costs are based on 2017 dollar figures excluding GST and are provided as estimates only; the intention being to provide Council with approximate figures for the purpose of budgeting and applying for grants. These figures are based on works being competitively tendered and entirely implemented by external contractors. Costs are likely to decrease significantly if council chooses to undertake works "in-house" as is likely for planting. Detailed design and documentation will be required for more accurate costings.

ELEMENT	TOTAL
Background Work and Planning Documents	
Master Plan for the Works Depot	
Development of a Succession Plan and Tree Replacement Strategy	
Review of Interpretation Strategy	in house
Contact Aboriginal Affairs Victoria to determine whether a Cultural Heritage Management Plan is required	in house
Development of a plant collection policy	in house
Development of an Accession Plan	in house
Development of a Weed Risk Assessment Plan	in house
Development of standards for furniture and materials	in house
Aboriginal Values Report	
Report on options for using non-potable water	
Heritage report on interpretation of removed structures (e.g. fernery, aviary)	
TOTAL	\$104,000
Infrastructure (boundaries, fencing, pathways)	
Boundaries include new wire fence covered with hedging plants and installation of new gates to the Pinetum	
Pathways include internal pathway modifications, removal of dividing fence, new pathways to the Pinetum and assess/treatment of steps to mound	
TOTAL	\$216,000
Garden Furniture and facilities	
Introduction of wheelchair accessible picnic tables, relocation of picnic tables, new bench seats, bicycle racks and drinking fountain. Single unit toilet to works yard. Excludes service connections.	
TOTAL	\$99,000
Planting, Earthworks and new garden bed establishment	
Pinetum: design and installation of garden beds to include new boundary, windbreak, central avenue planting and decorative garden beds	
Northern Gardens: design and installation of new boundary and decorative garden beds and plantings to the new parterre garden	
Design and installation of the screen planting to Bateman House, bandstand mound and new bulb planting along Elm Avenue	
TOTAL	\$921,000

ELEMENT	TOTAL
Irrigation System	
Phase 1 – Design and installation of Northern Gardens irrigation	
Phase 2 – Design and installation of irrigation to Pinetum (including proposed new garden beds)	
TOTAL	\$560,000

SUB-TOTAL ALL WORKS (ex GST)	\$1,900,000.00
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EXCLUSION
Depot redevelopment works (subject to further design)
Service connections including water, electricity, storm water, drainage
Storm water drainage
Tree planting costs
New planting and design work to existing garden beds
Unless stated, works specified in recommended planning documents
Local and state government planning applications
Line markings to new parking
Tipping fees
Interpretation and signage
Tree protection
Tree removal
Traffic management
Management and Staff
New full time apprentice (already implemented Winter 2014)
New full time gardener
Increase role of Public Programs Officer
Expansion of educational role
Street Frontages Outside Gardens
Works to Osborne Street frontage
Works to Giffard Street frontage
Works to the Esplanade
Works to Foreshore Area
Shelter
Picnic facilities
New tree planting to Hatt Reserve