APPENDIX F: EXTRACTS FROM 2004 TREE REPORT

The following extracts have been taken from Geoff Butler & Associates 2004.

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3.1) PARKES PLACE CROSS PATHS (Avenue 1)

Description of Avenue
This is the avenue situated nearest Old Parliament House alongside a pedestrian/management path that is orientated NW – SE across Parkes Place. The path is constructed of a semi-permeable pavement and the avenue trees are planted either side of the path. The trees are located in irrigated grass.

Expected Longevity
The mature Atlas Cedars are appear in reasonable condition at present, but are likely to continue to fail and or decline in the short to medium term.

The mature Lombardy Poplar will need replacement in the medium term.

Potential for Intervention & Recommendations
Short Term (less than 5 years)

- **Recommend that consideration be given to removal of a whole row at the same time.** Remaining mature trees are relatively sound, but should removals be required in the short or medium term, it may be beneficial to remove one complete row and replace. This is to avoid the great differences is stages of growth as illustrated by the trees replaced randomly on the southern end of Avenue 1. A second option would be the removal of every second tree and replace.

- **Recommended that it would be better to replace all Poplars at "balance" points in the landscape at the same time**. This is for the reasons above.

Medium Term (5-20 years)

- Continue replacement and management as under Short Term above.

Long Term

- **Recommend leave the avenue under the current species.**

3.2) PARKES PLACE CROSS PATHS (Avenue 2)

Description of Avenue
This avenue transects Parkes Place near the eastern end of the fountains and is situated alongside a pedestrian/management path orientated NW – SE across Parkes Place. The path is constructed of a semi-permeable pavement and the avenue trees are planted either side of the paths.

Expected Longevity
The mature Lombardy Poplars and Deodar Cedars are likely to fail and/or continue to decline in the short term.

The London Planes are of varying health and appear to lack vigour and are likely to continue declining over the medium term.

The Pin Oaks appear to still be in relatively good condition, and should last well into the medium term.

Potential for Intervention & Recommendations
Short Term (less then 5 years)

- **Recommend removal of the poorly formed London Planes in the near future to allow the Pin Oaks to develop fully**. There will be a visual impact as a result of removal, but the Pin Oaks are in relatively good condition and will be able to develop more laterally than at present and hopefully re-close the canopy.

- **Recommend the removal of the Deodar Cedars is required as they are becoming dangerous, and this would eliminate a safety hazard and competition for remaining trees**. All trees should be removed at the same time so new plantings (if undertaken) develop and mature together. Replanting should be undertaken with large specimens located at least 14m from the alignment of the Pin Oaks, with 14m spacings between individual trees. Removal will create a significant and immediate and short term landscape impact (especially in winter months) by leaving only deciduous species, but is recommended to keep avenue trees at the same height and stage of development.

- **Recommend removal of the mature Lombardy Poplars and replacement with advanced specimens of the same species.**

Medium Term (5-20 years)

- **Recommend that all new plantings will need active management to develop**. The management goal would be to maintain an even appearance throughout the avenue.

Long Term

- **Recommend that avenue 2 consist of Lombardy Poplars at the ends for symmetry; Pin Oak planted and retained at 14m spacings.**

- **Recommend replacement of moribund or dead Pin Oaks as required, with an expectation that overall replacement may be required in 25-30 years.** As trees become moribund or die they are replanted with advanced stock of the same species, grown from trees of good form.

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3.5) KING GEORGE TERRACE (Avenue 1)

Description of Avenue
This avenue is orientated NW – SE. King George Terrace runs through the middle with pathways located on both sides of the road. Avenue 1 trees are those trees located on the road verge. On the western and eastern ends of the avenue a variety of species are used.

Expected Longevity
Nearly all these trees will survive into the medium term.

Potential for Intervention & Recommendations
Short term (less then 5 years)

- **Recommend replacement of missing and poorly formed trees.**
- **Recommend the removal of the White Poplars at both end ends and the planting of Pin Oak to complete the avenue.**
- **Recommend the removal of 2 Blue Gums near the car park at the western end and replant Pin Oaks to match the other side of the road.**
- The Flowering Plums could be replaced .in irrigated areas., but consider in light of mowing regime.
- Implement management and maintenance program.

Medium Term (5-20 years)

- **Recommend replacement of trees as required.**

Long Term
As for medium term.

3.6) KING GEORGE TERRACE (Avenue 2)

Description of Avenue
This avenue is orientated NW – SE. King George Terrace runs through the middle with pathways located on both sides of the road. Avenue 2 is on the eastern side of the footpath and curves around the Rose Gardens on both sides of Parkes Place.

Expected Longevity
Nearly all these trees will survive into the medium term, but competition will continue to impact.

Potential for Intervention & Recommendations

Short Term (less than 5 years)

- **Recommend removal of 5 cedars outside Lobby restaurant which are adversely affecting some of the rose beds and are far to close to the Pin Oaks.**
- **Recommend removal of poorly formed large English Elm near the Lobby Restaurant.**
- **Recommend removal of 2 London Planes from Pin Oak planting and replace with Pin Oaks.**
- **Recommend removal of London Planes between Pin Oaks and English Elm at the eastern end.**
- **Recommend removal of White Poplar and plant Cedar to complete rows on Parliament House side of road**

Medium term (5-20 years)

- Recommend the removal of 4 oaks near hedge.

Long term

- Continue management of final avenue tree components as suggested above.

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3.8) KING EDWARD TERRACE

Description of the Avenue
King Edward Terrace runs NW – SE past highly significant National buildings including the High Court, Australian National Gallery, Questacon, National Library and the John Gorton and Treasury Buildings.

Expected Longevity
The mature trees in this avenue are generally not under the same degree of competition as in other avenues and will survive into the medium term. Younger trees will survive into the long term.

Potential for Intervention & Recommendations
Short Term (less than 5 years)

- **Recommend removal of London Planes between the Pin Oaks near the Gorton Building.**
- **Recommend removal of one or other species from area opposite Questacon.**
- **Recommend removal of 5 eucalypts on roadside opposite Questacon.**
- **Recommend removal of 50% of Blue Gums near western corner of National Library carpark.**

Medium Term (5 – 20 years)

- **Recommend as remaining eucalypts near the western corner of National Library carpark need replacement, continue avenue with existing avenue species with appropriate planting centres.**

Long Term

- Continue to manage and maintain final avenue component trees.

3.9) FEDERATION MALL FROM OLD PARLIAMENT HOUSE TO COMMONWEALTH PLACE

Description of the Avenue
This avenue is part of the avenue lining the axis from New Parliament House through to the War Memorial. As such it is the most significant avenue in the Triangle. It was planted at the time of the opening of the New Parliament House.

Expected Longevity
The longevity of the stand is difficult to predict. It is expected that the River She Oaks are likely to continue to decline in these conditions. They will survive into the medium term.

The Yellow Box trees are well suited to the conditions, and will survive into the long term, though this species is known to drop large branches when mature.

The River Peppermint trees are struggling with the competition and their longevity will be determined by the management undertaken in the short term.

Potential for Intervention & Recommendations
Short Term (less than 5 years)

- **Recommend removal of poorly formed River Peppermints.**

- **Recommend removal of poorly formed and leaning Yellow Box.**
- **Recommend removal of 50% (inner row) of the She Oaks**

Medium Term (5 – 20 years)

- Manage as variable age plantation into future

Long Term

- Continue to manage and maintain the avenue.

APPENDIX G: BURRA CHARTER

The Burra Charter

The Australia ICOMOS Charter for Places of Cultural Significance

Preamble

Considering the International Charter for the Conservation and Restoration of Monuments and Sites (Venice 1964), and the Resolutions of the 5th General Assembly of the International Council on Monuments and Sites (ICOMOS) (Moscow 1978), the Burra Charter was adopted by Australia ICOMOS (the Australian National Committee of ICOMOS) on 19 August 1979 at Burra, South Australia. Revisions were adopted on 23 February 1981, 23 April 1988 and 26 November 1999.

The Burra Charter provides guidance for the conservation and management of places of cultural significance (cultural heritage places), and is based on the knowledge and experience of Australia ICOMOS members.

Conservation is an integral part of the management of places of cultural significance and is an ongoing responsibility.

Who is the Charter for?

The Charter sets a standard of practice for those who provide advice, make decisions about, or undertake works to places of cultural significance, including owners, managers and custodians.

Using the Charter

The Charter should be read as a whole. Many articles are interdependent. Articles in the Conservation Principles section are often further developed in the Conservation Processes and Conservation Practice sections. Headings have been included for ease of reading but do not form part of the Charter.

The Charter is self-contained, but aspects of its use and application are further explained in the following Australia ICOMOS documents:

- Guidelines to the Burra Charter: Cultural Significance;
- Guidelines to the Burra Charter: Conservation Policy;
- Guidelines to the Burra Charter: Procedures for Undertaking Studies and Reports;
- Code on the Ethics of Coexistence in Conserving Significant Places.

What places does the Charter apply to?

The Charter can be applied to all types of places of cultural significance including natural, indigenous and historic places with cultural values.

The standards of other organisations may also be relevant. These include the Australian Natural Heritage Charter and the Draft Guidelines for the Protection, Management and Use of Aboriginal and Torres Strait Islander Cultural Heritage Places.

Why conserve?

Places of cultural significance enrich people's lives, often providing a deep and inspirational sense of connection to community and landscape, to the past and to lived experiences. They are

historical records, that are important as tangible expressions of Australian identity and experience. Places of cultural significance reflect the diversity of our communities, telling us about who we are and the past that has formed us and the Australian landscape. They are irreplaceable and precious.

These places of cultural significance must be conserved for present and future generations.

The Burra Charter advocates a cautious approach to change: do as much as necessary to care for the place and to make it useable, but otherwise change it as little as possible so that its cultural significance is retained.

Articles	Explanatory Notes
Article 1. Definitions For the purposes of this Charter:	
1.1 *Place* means site, area, land, landscape, building or other work, group of buildings or other works, and may include components, contents, spaces and views.	The concept of place should be broadly interpreted. The elements described in Article 1.1 may include memorials, trees, gardens, parks, places of historical events, urban areas, towns, industrial places, archaeological sites and spiritual and religious places.
1.2 *Cultural significance* means aesthetic, historic, scientific, social or spiritual value for past, present or future generations. Cultural significance is embodied in the *place* itself, its *fabric*, *setting*, *use*, *associations*, *meanings*, records, *related places* and *related objects*. Places may have a range of values for different individuals or groups.	The term cultural significance is synonymous with heritage significance and cultural heritage value. Cultural significance may change as a result of the continuing history of the place. Understanding of cultural significance may change as a result of new information.
1.3 *Fabric* means all the physical material of the *place* including components, fixtures, contents, and objects.	Fabric includes building interiors and sub-surface remains, as well as excavated material. Fabric may define spaces and these may be important elements of the significance of the place.
1.4 *Conservation* means all the processes of looking after a *place* so as to retain its *cultural significance*.	
1.5 *Maintenance* means the continuous protective care of the *fabric* and *setting* of a *place*, and is to be distinguished from repair. Repair involves *restoration* or *reconstruction*.	The distinctions referred to, for example in relation to roof gutters, are: • maintenance — regular inspection and cleaning of gutters; • repair involving restoration — returning of dislodged gutters; • repair involving reconstruction — replacing decayed gutters.
1.6 *Preservation* means maintaining the *fabric* of a *place* in its existing state and retarding deterioration.	It is recognised that all places and their components change over time at varying rates.
1.7 *Restoration* means returning the existing *fabric* of a *place* to a known earlier state by removing accretions or by reassembling existing components without the introduction of new material.	
1.8 *Reconstruction* means returning a *place* to a known earlier state and is distinguished from *restoration* by the introduction of new material into the *fabric*.	New material may include recycled material salvaged from other places. This should not be to the detriment of any place of cultural significance.

Articles	Explanatory Notes
1.9 *Adaptation* means modifying a *place* to suit the existing *use* or a proposed use.	
1.10 *Use* means the functions of a place, as well as the activities and practices that may occur at the place.	
1.11 *Compatible use* means a *use* which respects the *cultural significance* of a *place*. Such a use involves no, or minimal, impact on cultural significance.	
1.12 *Setting* means the area around a *place*, which may include the visual catchment.	
1.13 *Related place* means a *place* that contributes to the *cultural significance* of another place.	
1.14 *Related object* means an object that contributes to the *cultural significance* of a *place* but is not at the place.	
1.15 *Associations* mean the special connections that exist between people and a *place*.	Associations may include social or spiritual values and cultural responsibilities for a place.
1.16 *Meanings* denote what a *place* signifies, indicates, evokes or expresses.	Meanings generally relate to intangible aspects such as symbolic qualities and memories.
1.17 *Interpretation* means all the ways of presenting the *cultural significance* of a *place*.	Interpretation may be a combination of the treatment of the fabric (e.g. maintenance, restoration, reconstruction); the use of and activities at the place; and the use of introduced explanatory material.

Conservation Principles

Article 2. Conservation and management

2.1 *Places* of *cultural significance* should be conserved.

2.2 The aim of *conservation* is to retain the *cultural significance* of a *place*.

2.3 *Conservation* is an integral part of good management of *places* of *cultural significance*.

2.4 *Places* of *cultural significance* should be safeguarded and not put at risk or left in a vulnerable state.

Article 3. Cautious approach

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

The traces of additions, alterations and earlier treatments to the fabric of a place are evidence of its history and uses which may be part of its significance. Conservation action should assist and not impede their understanding.

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

Article 4. Knowledge, skills and techniques

4.1 *Conservation* should make use of all the knowledge, skills and disciplines which can contribute to the study and care of the *place*.

4.2 Traditional techniques and materials are preferred for the *conservation* of significant *fabric*. In some circumstances modern techniques and materials which offer substantial conservation benefits may be appropriate.

The use of modern materials and techniques must be supported by firm scientific evidence or by a body of experience.

Articles	Explanatory Notes
Article 5. Values	
5.1 *Conservation* of a *place* should identify and take into consideration all aspects of cultural and natural significance without unwarranted emphasis on any one value at the expense of others.	Conservation of places with natural significance is explained in the Australian Natural Heritage Charter. This Charter defines natural significance to mean the importance of ecosystems, biological diversity and geodiversity for their existence value, or for present or future generations in terms of their scientific, social, aesthetic and life-support value.
5.2 Relative degrees of *cultural significance* may lead to different *conservation* actions at a place.	A cautious approach is needed, as understanding of cultural significance may change. This article should not be used to justify actions which do not retain cultural significance.
Article 6. Burra Charter Process	
6.1 The *cultural significance* of a *place* and other issues affecting its future are best understood by a sequence of collecting and analysing information before making decisions. Understanding cultural significance comes first, then development of policy and finally management of the place in accordance with the policy.	The Burra Charter process, or sequence of investigations, decisions and actions, is illustrated in the accompanying flowchart.
6.2 The policy for managing a *place* must be based on an understanding of its *cultural significance*.	
6.3 Policy development should also include consideration of other factors affecting the future of a *place* such as the owner's needs, resources, external constraints and its physical condition.	
Article 7. Use	
7.1 Where the *use* of a *place* is of *cultural significance* it should be retained.	
7.2 A *place* should have a *compatible use*.	The policy should identify a use or combination of uses or constraints on uses that retain the cultural significance of the place. New use of a place should involve minimal change, to significant fabric and use; should respect associations and meanings; and where appropriate should provide for continuation of practices which contribute to the cultural significance of the place.
Article 8. Setting	
Conservation requires the retention of an appropriate visual *setting* and other relationships that contribute to the *cultural significance* of the *place*.	Aspects of the visual setting may include use, siting, bulk, form, scale, character, colour, texture and materials.
New construction, demolition, intrusions or other changes which would adversely affect the setting or relationships are not appropriate.	Other relationships, such as historical connections, may contribute to interpretation, appreciation, enjoyment or experience of the place.
Article 9. Location	
9.1 The physical location of a *place* is part of its *cultural significance*. A building, work or other component of a place should remain in its historical location. Relocation is generally unacceptable unless this is the sole practical means of ensuring its survival.	
9.2 Some buildings, works or other components of *places*	

were designed to be readily removable or already have a history of relocation. Provided such buildings, works or other components do not have significant links with their present location, removal may be appropriate.

9.3 If any building, work or other component is moved, it should be moved to an appropriate location and given an appropriate *use*. Such action should not be to the detriment of any *place* of *cultural significance*.

Article 10. Contents

Contents, fixtures and objects which contribute to the *cultural significance* of a *place* should be retained at that place. Their removal is unacceptable unless it is: the sole means of ensuring their security and *preservation*; on a temporary basis for treatment or exhibition; for cultural reasons; for health and safety; or to protect the place. Such contents, fixtures and objects should be returned where circumstances permit and it is culturally appropriate.

Article 11. Related places and objects

The contribution which *related places* and *related objects* make to the *cultural significance* of the *place* should be retained.

Article 12. Participation

Conservation, interpretation and management of a *place* should provide for the participation of people for whom the place has special *associations* and *meanings*, or who have social, spiritual or other cultural responsibilities for the place.

Article 13. Co-existence of cultural values

Co-existence of cultural values should be recognised, respected and encouraged, especially in cases where they conflict.

For some places, conflicting cultural values may affect policy development and management decisions. In this article, the term cultural values refers to those beliefs which are important to a cultural group, including but not limited to political, religious, spiritual and moral beliefs. This is broader than values associated with cultural significance.

Conservation Processes

Article 14. Conservation processes

Conservation may, according to circumstance, include the processes of: retention or reintroduction of a *use*; retention of *associations* and *meanings*; *maintenance, preservation*, *restoration*, *reconstruction, adaptation* and *interpretation*; and will commonly include a combination of more than one of these.

There may be circumstances where no action is required to achieve conservation.

Article 15. Change

15.1 Change may be necessary to retain *cultural significance*, but is undesirable where it reduces cultural significance. The amount of change to a *place* should be guided by the *cultural significance* of the place and its appropriate *interpretation*.

When change is being considered, a range of options should be explored to seek the option which minimises the reduction of cultural significance.

15.2 Changes which reduce *cultural significance* should

Reversible changes should be considered

be reversible, and be reversed when circumstances permit.

temporary. Non-reversible change should only be used as a last resort and should not prevent future conservation action.

15.3 Demolition of significant *fabric* of a *place* is generally not acceptable. However, in some cases minor demolition may be appropriate as part of *conservation*. Removed significant fabric should be reinstated when circumstances permit.

15.4 The contributions of all aspects of *cultural significance* of a *place* should be respected. If a place includes *fabric*, *uses*, *associations* or *meanings* of different periods, or different aspects of cultural significance, emphasising or interpreting one period or aspect at the expense of another can only be justified when what is left out, removed or diminished is of slight cultural significance and that which is emphasised or interpreted is of much greater cultural significance.

Article 16. Maintenance

Maintenance is fundamental to *conservation* and should be undertaken where *fabric* is of *cultural significance* and its *maintenance* is necessary to retain that *cultural significance*.

Article 17. Preservation

Preservation is appropriate where the existing *fabric* or its condition constitutes evidence of *cultural significance,* or where insufficient evidence is available to allow other *conservation* processes to be carried out.

Preservation protects fabric without obscuring the evidence of its construction and use. The process should always be applied:

- where the evidence of the fabric is of such significance that it should not be altered;
- where insufficient investigation has been carried out to permit policy decisions to be taken in accord with Articles 26 to 28.

New work (e.g. stabilisation) may be carried out in association with preservation when its purpose is the physical protection of the fabric and when it is consistent with Article 22.

Article 18. Restoration and reconstruction

Restoration and *reconstruction* should reveal culturally significant aspects of the *place*.

Article 19. Restoration

Restoration is appropriate only if there is sufficient evidence of an earlier state of the *fabric*.

Article 20. Reconstruction

20.1 *Reconstruction* is appropriate only where a *place* is incomplete through damage or alteration, and only where there is sufficient evidence to reproduce an earlier state of the *fabric*. In rare cases, reconstruction may also be appropriate as part of a *use* or practice that retains the *cultural significance* of the place.

20.2 *Reconstruction* should be identifiable on close inspection or through additional *interpretation*.

Article 21. Adaptation

21.1 *Adaptation* is acceptable only where the adaptation has minimal impact on the *cultural significance* of the

Adaptation may involve the introduction of new services, or a new use, or changes to

place.

21.2 *Adaptation* should involve minimal change to significant fabric, achieved only after considering alternatives.

safeguard the place.

Article 22. New work

22.1 New work such as additions to the *place* may be acceptable where it does not distort or obscure the *cultural significance* of the place, or detract from its *interpretation* and appreciation.

New work may be sympathetic if its siting, bulk, form, scale, character, colour, texture and material are similar to the existing fabric, but imitation should be avoided.

22.2 New work should be readily identifiable as such.

Article 23. Conserving use

Continuing, modifying or reinstating a significant *use* may be appropriate and preferred forms of *conservation*.

These may require changes to significant *fabric* but they should be minimised. In some cases, continuing a significant use or practice may involve substantial new work.

Article 24. Retaining associations and meanings

24.1 Significant *associations* between people and a *place* should be respected, retained and not obscured. Opportunities for the *interpretation*, commemoration and celebration of these associations should be investigated and implemented.

For many places associations will be linked to use.

24.2 Significant *meanings*, including spiritual values, of a *place* should be respected. Opportunities for the continuation or revival of these meanings should be investigated and implemented.

Article 25. Interpretation

The *cultural significance* of many *places* is not readily apparent, and should be explained by *interpretation*. Interpretation should enhance understanding and enjoyment, and be culturally appropriate.

Conservation Practice

Article 26. Applying the Burra Charter process

26.1 Work on a *place* should be preceded by studies to understand the place which should include analysis of physical, documentary, oral and other evidence, drawing on appropriate knowledge, skills and disciplines.

The results of studies should be up to date, regularly reviewed and revised as necessary.

26.2 Written statements of *cultural significance* and policy for the *place* should be prepared, justified and accompanied by supporting evidence. The statements of significance and policy should be incorporated into a management plan for the place.

Statements of significance and policy should be kept up to date by regular review and revision as necessary. The management plan may deal with other matters related to the management of the place.

26.3 Groups and individuals with *associations* with a *place* as well as those involved in its management should be provided with opportunities to contribute to and participate in understanding the *cultural significance* of the place. Where appropriate they should also have opportunities to participate in its *conservation* and management.

Article 27. Managing change

27.1 The impact of proposed changes on the *cultural significance* of a *place* should be analysed with reference to

the statement of significance and the policy for managing the place. It may be necessary to modify proposed changes following analysis to better retain cultural significance.

27.2 Existing *fabric, use, associations* and *meanings* should be adequately recorded before any changes are made to the *place*.

Article 28. Disturbance of fabric

28.1 Disturbance of significant *fabric* for study, or to obtain evidence, should be minimised. Study of a *place* by any disturbance of the fabric, including archaeological excavation, should only be undertaken to provide data essential for decisions on the *conservation* of the place, or to obtain important evidence about to be lost or made inaccessible.

28.2 Investigation of a *place* which requires disturbance of the *fabric*, apart from that necessary to make decisions, may be appropriate provided that it is consistent with the policy for the place. Such investigation should be based on important research questions which have potential to substantially add to knowledge, which cannot be answered in other ways and which minimises disturbance of significant fabric.

Article 29. Responsibility for decisions

The organisations and individuals responsible for management decisions should be named and specific responsibility taken for each such decision.

Article 30. Direction, supervision and implementation

Competent direction and supervision should be maintained at all stages, and any changes should be implemented by people with appropriate knowledge and skills.

Article 31. Documenting evidence and decisions

A log of new evidence and additional decisions should be kept.

Article 32. Records

32.1 The records associated with the *conservation* of a *place* should be placed in a permanent archive and made publicly available, subject to requirements of security and privacy, and where this is culturally appropriate.

32.2 Records about the history of a *place* should be protected and made publicly available, subject to requirements of security and privacy, and where this is culturally appropriate.

Article 33. Removed fabric

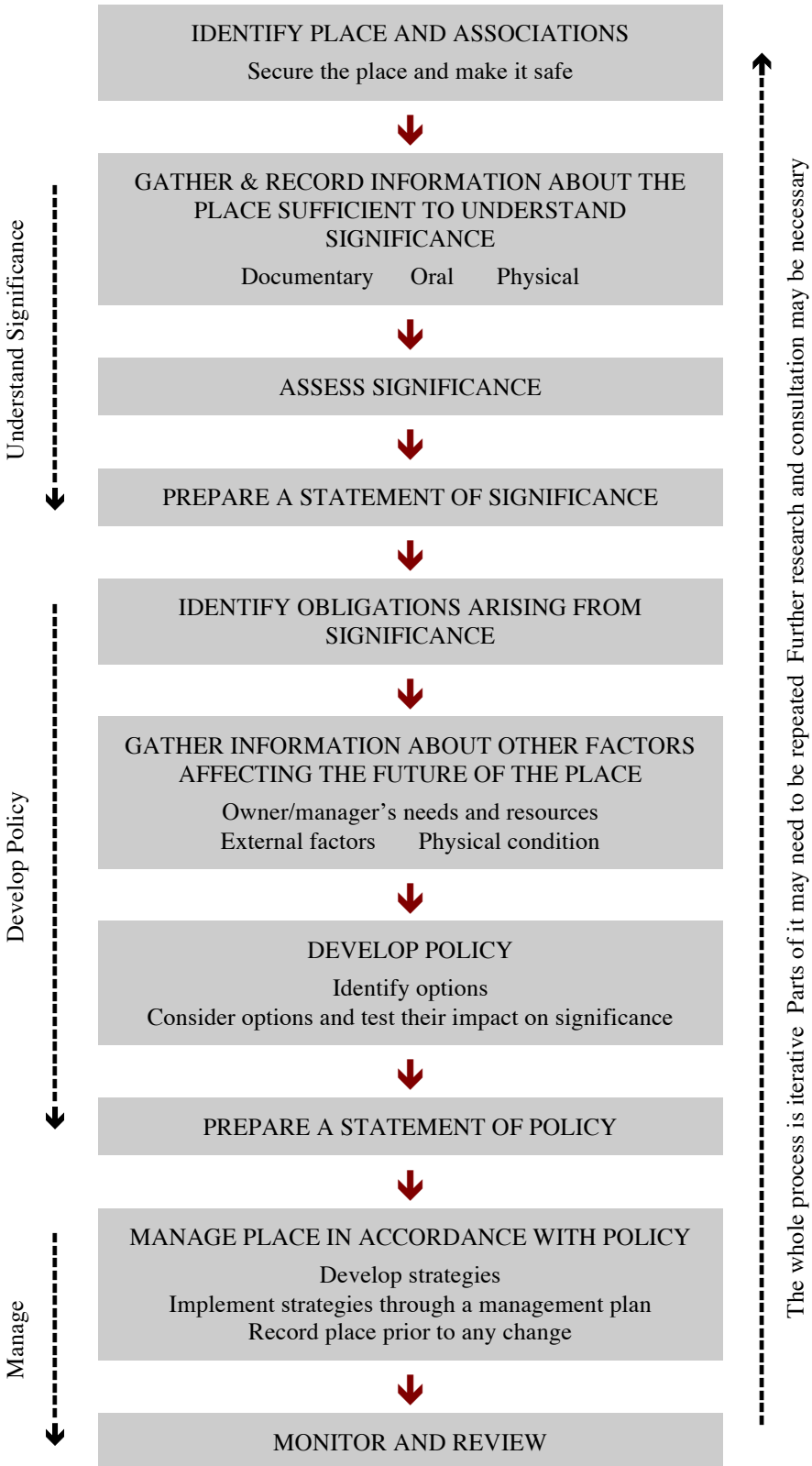
Significant *fabric* which has been removed from a *place* including contents, fixtures and objects, should be catalogued, and protected in accordance with its *cultural significance*.

Where possible and culturally appropriate, removed significant fabric including contents, fixtures and objects, should be kept at the place.

Articles	Explanatory Notes
Article 34. Resources Adequate resources should be provided for *conservation*. *Words in italics are defined in Article 1.*	The best conservation often involves the least work and can be inexpensive.

The Burra Charter Process

Sequence of investigations, decisions and actions



APPENDIX H: TREE REPLACEMENT STRATEGY

Overall Strategy

The overall strategy guiding tree replacement is to respect and conserve the character of the existing treescape as far as possible, recognising this reflects different historical periods and design intentions. Changes to this approach may be undertaken because:

- existing tree spacings are too close for the optimal development and longevity of trees (eg. Zone 3 – see the figure below);
- some relatively young plantings will close-in the rose gardens and compete with earlier plantings (Zone 4); and
- some trees are planted too close, severely inhibiting the growth of other trees deemed of greater significance (Zones 5, 9, 10 and 11).

The sequencing of change should be carefully arranged to minimise the visual impact.

General Guidelines

- All replacement trees should be advanced trees grown from suitable or selected clonal material, or if this is unavailable from trees found in similar climatic conditions to Canberra. It is important to note that some of the replacements occur early in the overall program, eg. Zones 7 and 8. Early replacement may offer little time to obtain advanced trees of these species, especially if clonal material is also a factor. It is important to arrange for trees to be pre-grown well in advance (3-4 years for some conifers – noting that Weston's original conifer plantings were grown on at Yarralumla Nursery for 10 years).

- All trees should be formatively shaped as they develop in the nursery situation. Trees should be planted in Spring, Winter or Autumn, and they should be staked for two years.

- Trees may be located on the site of former trees so long as the original tree stump is thoroughly ground out, all the vegetative debris (chips) removed and suitable clean soil media introduced. Any introduced soil should be weed free, and of a density that resembles the surrounding soil when fully settled. The use of light soils or composts will create a "sump" effect. Introduction of soil may not be an issue given the requirement to provide appropriate planting centres, which may locate new trees away from original tree locations.

- The formal plantings of this area will always appear to be haphazard if trees are continually replaced as other trees die or fall over. In principle, it is far better to replace whole avenues at one time to retain even-aged avenues. It is noted that some of the specific strategies may diverge from this approach.

- Mechanisms need to be found to protect new plantings from mower/whipper snipper damage as they develop. Young and semi-mature replantings constantly suffer from this form of damage, thus reducing the chances of successful establishment.

- Timing of removal and replacement plantings is a critical factor. Staged replacement is required over a longer period, and an 18 year period is suggested. Staging replacements

will also assist in replanting programs in the future when these new plantings go into decline.

- Should trees decline markedly prior to their scheduled removal or replacement, the overall timing of the strategy should be re-considered.

- Tree plantings and spacing should take priority over underground services, which basically can be located almost anywhere.

- An annual to biennial **monitoring program** should continue in this area. This program may indicate the need or opportunity to refine the staging of removal and replacement programs which may assist in minimising visual impacts of the replacement program.

- An annual **maintenance program** must be implemented. Such programs can mean the difference between reduced longevity and safety issues associated with tree assets.

Table 24. Detailed Tree Replacement Strategy by Zones					
Zone	**Location**	**Current Trees**	**Issues**	**Strategies**	**Sequence/Timing**
1.	Street plantings along King George Terrace and Parkes Place West	Arizona Cypress *(Cupressus arizonica)*	There are some dead and missing trees. Live trees are in need of minor tree surgery (moderate-sized dead branches (>50-75 mm) in crown).	1.1 Remove dead trees. 1.2 Undertake minor tree surgery as required. 1.3 Replace dead and missing trees with Arizona Cypress. 1.4 Spacing of new plantings to be no less than 15 metres and up to 20 metres. 1.5 Work out spacings so that they are as equal as possible to ensure appropriate avenue effect and to eliminate any competition from adjacent trees. 1.6 New plantings to be undertaken as soon as possible to enable growth of these trees which will help screen the later replacement of Zone 3.	First/Year 1
2.	Sentinel plantings at various locations	Lombardy Poplar (*Populus nigra* 'Italica')	The older (tall) trees are in poor to dangerous condition. The younger replacement plantings are in good condition.	2.1 Remove the older trees and replant with Lombardy Poplar.	First/Year 1
3.	Southwest and southeast arcs of National Rose Gardens	Atlas Cedar (*Cedrus atlantica*) London Plane (*Platanus X acerifolia*) Pin Oak (*Quercus palustris*) American Elm (*Ulmus americana*)	These trees are in decline, are generally in poor condition and have poor crown structure. They may well live for many more years but the decline will continue. The decline and poor crown structure are a direct result of the intense	3.1 These trees should be removed and replaced. 3.2 Planting centres should be increased to 12 metres for the outer row, with the inner row spacing mid-way between the outer row trees.	Fourth/Year 8

Table 24. Detailed Tree Replacement Strategy by Zones					
Zone	**Location**	**Current Trees**	**Issues**	**Strategies**	**Sequence/Timing**
			competition between individuals on the site. The centres at which they were planted are far too close to allow trees to reach their maximum potential and longevity. Removal of occasional trees will not resolve the problem. The deterioration of the crowns is such that if extra growing room was provided, they will never recover, and the aesthetics would be very poor. Resolving the replacement planting spacings has been a very difficult decision. On the one hand, the close spacings of the existing trees provides a density which has a landscape aesthetic value. On the other hand, as noted, the close spacings creates competition between trees and poor crown structure. The ideal spacing for tree health is 15-20 metres. The proposed compromise will retain to some extent the tree density while also improving the growing condition for the trees. However, tree health and longevity will be impacted as part of the compromise.	3.3 The distance between rows should be 4 metres. 3.4 The inner row should be Atlas Cedar. 3.5 The outer row should be alternate plantings of London Plane and Pin Oak. 3.6 The occasional American Elms should not be replaced. 3.7 Given the extra space involved, careful planning will be required to replant the rows to ensure a uniform effect.	
4.	Eastern edge of western rose garden and western edge of eastern rose garden	London Plane (*Platanus X acerifolia*) Pin Oak (*Quercus palustris*)	These trees are plantings from the late 1980s which anticipated the creation of a new road and the removal of adjacent trees. This plan did not proceed. The trees are planted far too closely and will eventually close-in the rose garden and compete with the adjacent	4.1 Remove as soon as possible and do not replace. The removal of these relatively small trees will have little visual impact.	First/Year 1

Table 24. Detailed Tree Replacement Strategy by Zones					
Zone	**Location**	**Current Trees**	**Issues**	**Strategies**	**Sequence/Timing**
			trees.		
5.	Western and eastern north-south paths	Roman Cypress (*Cupressus sempervirens* 'Stricta') Arizona Cypress (*Cupressus arizonica*)	There is close competition between the Roman Cypress and Arizona Cypress, and missing trees in both plantings. On the basis of the historical significance of the commemorative Roman Cypress plantings, these are considered to have precedence over the Arizona Cypress.	5.1 Remove Arizona Cypress and do not replace. 5.2 Remove Roman Cypress that have deteriorated from close competition, as these trees have no possibility of recovery where the crown has deteriorated. 5.3 Replant missing or crown-damaged Roman Cypress with the same species.	Second/Year 2
6.	Western and eastern side of Land Axis corridor	River Peppermint (*Eucalyptus elata*)	The trees are generally performing poorly, or are only average specimens. Some trees are dead, and gaps are present due to previous deaths and removals.	6.1 Remove and replace with a single row of trees. The concept is to provide a canopy that would be as wide as that produced by the two rows of River Peppermints, but by using only one line of planting. The main reason for the single row is to reduce root competition as the trees develop. The recommended species below have been selected on this basis. 6.2 The preferred replacement species is Apple Box (*Eucalyptus bridgesiana*). Other possibilities are Yellow Box (*Eucalyptus melliodora*), Candlebark (*Eucalyptus rubida*), Red Box (*Eucalyptus polyanthemos*) and Maidens Gum (*Eucalyptus maidenii*). The replacement species should be considered in the light of the future of the overall Land Axis plantings. The long timeframe for this strategy should enable this consideration to be	Sixth/Year 18

Table 24. Detailed Tree Replacement Strategy by Zones					
Zone	**Location**	**Current Trees**	**Issues**	**Strategies**	**Sequence/Timing**
				undertaken.	
7.	Southern east-west roadways	Atlas Cedar (*Cedrus atlantica*)	The trees on the western side require some minor tree surgery. Occasional gaps occur in the planting pattern. The trees on the eastern side have never performed well, with older photographs showing few or poorly performing trees. Ideally these avenues should remain as evergreen plantings if possible, reflecting original plantings. The avenues should also remain balanced by the use of the same species. However, while the cedars on the western side have performed well, the eastern avenue is a complete hotch-potch. This side of the avenue always appears to have had a chequered history. Geotechnical testing seems worthwhile to determine if there are any soil issues contributing to the poor performance. It is possible that other similar species such as Deodar Cedar may be problematic on the eastern side also. Accordingly they would not be a suitable replacement. If a geotechnical/soil problem is identified, then one option is to use hardy deciduous species instead of the evergreen trees. Certain deciduous trees (eg. London Plane) have the	7.1 Undertake minor tree surgery and replace missing Cedars on the western side. 7.2 Undertake geotech testing on the eastern side to determine whether the soil conditions may be responsible for the consistent poor performance of trees in this location. 7.3 Determine whether it is worthwhile trying to persevere with the current species, or whether they should be replaced with another species, possibly deciduous. 7.4 If the decision is taken to continue with Cedars, then replace missing/poorly performing trees on the eastern side as well. It is recognised these trees will not reach full maturity before the entire planting is re-planted. The short-term planting is considered desirable to give a sense of the avenue planting. Their removal/replacement prior to maturity is desirable to achieve an even-aged avenue effect. 7.5 When the western side trees markedly decline, or at the end of their effective life (estimated at about 2022), remove and replace.	First/Year 1 - minor tree surgery/ replacements on western side If the eastern side trees are to continue to be Cedars, then replace missing/poorly performing trees First/Year 1 Fifth/Year 13 – removal and replacement of all trees

Table 24. Detailed Tree Replacement Strategy by Zones					
Zone	**Location**	**Current Trees**	**Issues**	**Strategies**	**Sequence/Timing**
			advantage of solar access to the ground during winter, and can perform well on poor sites. Both sides of the avenue should be replaced if this option is adopted.		
8.	Northern east-west roadways	Atlas Cedar (*Cedrus atlantica*) London Plane (*Platanus X acerifolia*) Pin Oak (*Quercus palustris*)	These trees are generally in decline and/or show poor condition. The poor form is due to close competition with each other. Occasional gaps are present in the planting pattern.	8.1 Remove and replant at spacings no less than 20 metres. 8.2 The southern row should be Atlas Cedar. 8.3 The northern row should be alternate London Plane and Pin Oak. 8.4 The delayed replacement of Zone 9 will help screen the replacement of these trees.	Third/Year 3
9.	Adjacent to King Edward Terrace on eastern and western sides	Incense Cedar (*Calocedrus decurrens*) London Plane (*Platanus x acerifolia*) Pin Oak (*Quercus palustris*)	These trees are generally in poor condition and/or display poor form due to competition with each other. The planting centres are too close. There are occasional gaps in the planting pattern. The Incense Cedars are more important in this planting providing an evergreen framework.	9.1 Remove the London Plane and Pin Oak trees and do not replace. 9.2 Healthy Incense Cedars should be left, and replantings undertake to recreate the arched line of Incense Cedars. The balance must be maintained on both sides of Parkes Place. 9.3 The prior replacement of Zone 8 will help minimise the visual impact of the removal and partial replacement of this row.	Sixth/Year 18
10.	Western side of western north-south pathway, and eastern side of eastern north-	River Red Gum (*Eucalyptus camaldulensis*) Brittle Gum (*Eucalyptus mannifera*)	These are remnant plantings which anticipated the creation of a new road which never eventuated. This planting clashes with the adjacent	10.1 Remove and do not replace.	Sixth/Year 18

Table 24. Detailed Tree Replacement Strategy by Zones					
Zone	**Location**	**Current Trees**	**Issues**	**Strategies**	**Sequence/Timing**
	south pathway, adjacent to King Edward Terrace		older planting (Zone 9).		
11.	Eastern side of western north-south pathway, and western side of eastern north-south pathway, adjacent to King Edward Terrace	River Sheoak (*Casuarina cunninghamiana*) Yellow Box (*Eucalyptus melliodora*)	The River Sheoaks are generally performing well. Some gaps in the planting pattern. The eucalypts are only average. The planting centres are too close but the River Sheoaks seem to be accepting of this situation.	11.1 Remove the eucalypts and do not replace. 11.2 Replace missing River Sheoaks.	First/Year 1

Figure 92. Sequencing Plan for Tree Replacement Strategy
Source: Base plan NCA

APPENDIX I: COMPLIANCE WITH COMMONWEALTH HERITAGE MANAGEMENT PRINCIPLES AND REQUIREMENTS FOR MANAGEMENT PLANS UNDER THE EPBC REGULATIONS

The regulations under the EPBC Act 1999 provide a list of Commonwealth Heritage management principles as well as requirements for (conservation) management plans for Commonwealth Heritage places (*Environment Protection and Biodiversity Conservation Amendment Regulations 2003 (No. 1)*, Schedules 7A and 7B). While Parkes Place is not individually a Commonwealth Heritage place, the National Rose Gardens are, and this plan has been prepared consistent with the EPBC Act requirements. The following tables provide a summary of compliance with these requirements.

Table 25. Commonwealth Heritage Management Principles

No.	Requirement (Schedule 7B)	Compliance Comment
1.	The objective in managing Commonwealth Heritage places is to identify, protect, conserve, present and transmit, to all generations, their Commonwealth Heritage values.	Complies: Section 8.1. The plan effectively adopts this as the objective for the development of the conservation policy and implementation strategies.
2.	The management of Commonwealth Heritage places should use the best available knowledge, skills and standards for those places, and include ongoing technical and community input to decisions and actions that may have a significant impact on their Commonwealth Heritage values.	Complies: Chapter 8 - Policies 2, 4, 7, 8, 11, 12
3.	The management of Commonwealth Heritage places should respect all heritage values of the place and seek to integrate, where appropriate, any Commonwealth, State, Territory and local government responsibilities for those places.	Complies: Chapter 8 – Policies 1 and 4
4.	The management of Commonwealth Heritage places should ensure that their use and presentation is consistent with the conservation of their Commonwealth Heritage values.	Complies: Chapter 8 – Policies 39-43 and 56-57
5.	The management of Commonwealth Heritage places should make timely and appropriate provision for community involvement, especially by people who: (a) have a particular interest in, or associations with, the place; and (b) may be affected by the management of the place;	Complies: Chapter 8 – Policies 8, 11 and 12
6.	Indigenous people are the primary source of information on the value of their heritage and that the active participation of indigenous people in identification, assessment and management is integral to the effective protection of indigenous heritage values.	Complies: Chapter 8 - Policy 12
7.	The management of Commonwealth Heritage places should provide for regular monitoring, review and reporting on the conservation of Commonwealth Heritage values.	Complies: Chapter 8 – Policies 8, 9, 25 and 37

Table 26. Management Plan Requirements		
No.	**Requirement (Schedule 7A)**	**Compliance Comments**
(a)	establish objectives for the identification, protection, conservation, presentation and transmission of the Commonwealth Heritage values of the place; and	Generally complies through the provision of policies addressing an overall objective in Chapter 8. There is no identification objective or policy as such, as this matter is substantially addressed in Chapters 3-6.
(b)	provide a management framework that includes reference to any statutory requirements and agency mechanisms for the protection of the Commonwealth Heritage values of the place; and	Complies: Chapter 8
(c)	provide a comprehensive description of the place, including information about its location, physical features, condition, historical context and current uses; and	Complies: Chapters 2, 3 and 7
(d)	provide a description of the Commonwealth Heritage values and any other heritage values of the place; and	Complies: Chapter 6
(e)	describe the condition of the Commonwealth Heritage values of the place; and	Complies: Sections 2.2 and 7.5
(f)	describe the method used to assess the Commonwealth Heritage values of the place; and	Complies: Section 1.3, Chapter 5 and Appendix D
(g)	describe the current management requirements and goals, including proposals for change and any potential pressures on the Commonwealth Heritage values of the place; and	Complies: Section 7.4
(h)	have policies to manage the Commonwealth Heritage values of a place, and include in those policies, guidance in relation to the following:	See below
(i)	the management and conservation processes to be used;	Complies: Chapter 8
(ii)	the access and security arrangements, including access to the area for indigenous people to maintain cultural traditions;	Complies with regard to general access: Chapter 8, especially Policy 41. No specific security issues.
(iii)	the stakeholder and community consultation and liaison arrangements;	Complies: Chapter 8 – Policies 4, 8, and 10-12
(iv)	the policies and protocols to ensure that indigenous people participate in the management process;	Complies: Chapter 8 - Policy 12
(v)	the protocols for the management of sensitive information;	Not an issue
(vi)	the planning and management of works, development, adaptive reuse and property divestment proposals;	Complies: Chapter 8 – especially Policies 5, 6, 8, 13, 14-38, 40, 44-55 and 57
(vii)	how unforeseen discoveries or disturbance of heritage are to be managed;	Complies: Chapter 8 – including Policy 58
(viii)	how, and under what circumstances, heritage advice is to be obtained;	Complies: Chapter 8 – Policy 7
(ix)	how the condition of Commonwealth Heritage values is to be monitored and reported;	Complies: Chapter 8 – Policies 9, 25 and 37
(x)	how records of intervention and maintenance of a heritage places register are kept;	Complies: Chapter 8 – Policies 8 and 59
(xi)	the research, training and resources needed to improve management;	Complies: Chapter 8 generally, especially Policy 60. Training is dealt with in the NCA's Heritage Strategy.
(xii)	how heritage values are to be interpreted and promoted; and	Complies: Chapter 8 – Policies 56-57
(i)	include an implementation plan; and	Complies: Table 9, Chapter 8 – Strategy 3.1 and Section 8.4
(j)	show how the implementation of policies will be monitored; and	Complies: Chapter 8 – Policies 8, 25 and 37
(k)	show how the management plan will be reviewed.	Complies: Chapter 8 – Policy 9