

THE  STAR

ARBORICULTURAL IMPACT ASSESSMENT REPORT

PROPOSED ALTERATIONS AND
ADDITIONS (MODIFICATION 13)

THE STAR
80 PYRMONT ROAD, PYRMONT

MARCH 2018

PREPARED BY



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EXECUTIVE SUMMARY

This report has been prepared to provide an arboricultural assessment of trees located in the vicinity of The Star Casino and Entertainment Complex, located at 80 Pyrmont Road, Pyrmont. The purpose of the report is to assess the potential impact of works proposed under the Modification 13 Application on existing trees surrounding the proposed development.

A total of 72 trees are located in proximity to The Star Casino and Entertainment Complex, including nine trees within the boundaries of the property and 63 trees within the surrounding road reserves. A total of 25 new trees are proposed to be planted within the road reserve in Pirrama Road and the forecourt area of the site in order to compensate for the 24 trees that are proposed to be removed to accommodate the proposed development. The proposed trees include 13 new Sydney Red Gums to be planted within the road reserve of Pirrama Road. This species will ultimately be larger at maturity than the existing Cabbage Tree Palms that are proposed to be removed. The replacement planting will therefore compensate for the loss of amenity resulting from the removal of trees to accommodate the proposed development in the short-term (next 10 to 15 years). Given that there will be no net loss of amenity, the proposed development will have limited environmental impact.

Of the trees to be removed, 16 are assessed as being of high retention value, four are of moderate retention value and four are of low or very low retention value. The trees of high retention value have no special heritage or ecological significance, but they are mature specimens that make a positive contribution to the amenity of the site and the streetscape. There are no feasible options that can be implemented that would permit the retention of these trees given the design intent.

The remaining trees surrounding The Star are proposed to be retained and protected during construction in accordance with the recommended Tree Protection Measures (Section 10) and Tree Protection Plan (Appendix 6).

1 INTRODUCTION

This report was commissioned by Urbis on behalf of Star Entertainment Group Limited (SEGL) to assess the health and condition of seventy-two (72) trees located within or immediately adjacent The Star located at 80 Pyrmont Road, Pyrmont. The report has been prepared to aid in the assessment of a modification to Major Project Approval MP08_0098 for alterations and additions to the existing casino and entertainment complex (Modification 13) including construction of a new hotel (Ritz Carlton) and upgrade of areas of the Public Domain surrounding the property under Section 75W of the *Environmental Planning and Assessment Act 1979*.

The purpose of this report is to assess the potential impact of the proposed development on the subject trees, together with recommendations for amendments to the design or construction methodology where necessary to minimise any adverse impact. The report also provides recommended tree protection measures to ensure the long-term preservation of the trees to be retained where appropriate.

This report has been prepared in accordance with the City of Sydney Council's guidelines for preparation of Arborists Reports as outlined in Schedule 8 of the *Sydney Development Control Plan* (SDCP) 2012 and Sections 2.3.2 - 2.3.5 of the Australian Standard for *Protection of Trees on Development Sites* (AS 4970:2009).

2 THE SITE

The subject property consists of a number of allotments known as Lot 500 in Deposited Plan (DP) 1161507, Lots 301 and 302 in DP 873212 and Lot 211 in DP 870336, being The Star, 20 - 80 Pyrmont Road, Pyrmont. For the purposes of this report, the subject allotment will be referred to as "the Site".. The site contains an existing casino and entertainment complex occupying the entire allotment. A number of mature trees stand around the periphery of the site within the adjacent road reserves of Jones Bay Road, Pyrmont Road, Pirrama Road, Union Street and Edward Street. These include a variety of non-local and exotic (introduced) species, being predominantly *Ficus microcarpa* var. *hillii* (Hill's Weeping Fig), *Livistona australis* (Cabbage Tree Palm) and *Platanus x hybrida* (London Plane).

Soils of this area have been extensively disturbed and modified for urban development. The original soils of this area are typical of the GyMEA Landscape Group (as classified in the *Soil Landscapes of the Sydney 1:100,000 Sheet*), consisting of "shallow to moderately deep (300 – 1000 mm) Yellow Earths and Earthy Sands on crests and inside of benches and shallow (< 200 mm) Siliceous Sands on leading edges of benches; localised Gleyed Podzolic Soils and Yellow Podzolic Soils on shale lenses; and shallow to moderately deep (< 1000mm) Siliceous Sands and Leached Sands along Drainage Lines." Soil materials are derived Hawkesbury Sandstone and may be discontinuous with localised rock outcrop.

The original vegetation of this area consisted of open forest and woodland typical of Hawkesbury Sandstone areas, most of which has now been cleared for urban development. The dominant locally-indigenous tree species formerly occurring in this area included *Angophora costata* (Sydney Red Gum), *Corymbia gummiifera* (Red Bloodwood) and *Eucalyptus haemastoma* (Scribbly Gum). Other species occurring in this association may include *Eucalyptus botryoides* (Bangalay), *Eucalyptus punctata* (Grey Gum), *Eucalyptus sieberi* (Silvertop Ash), *Eucalyptus pilularis* (Blackbutt), *Eucalyptus tereticornis* (Forest Red Gum), *Eucalyptus globoidea* (White Stringybark) and *Banksia serrata* (Old Man Banksia). *Glochidion ferdinandi* (Cheese Tree) and *Ficus rubiginosa* (Port Jackson Fig) may also be found on sheltered sites on lower slopes. There are no locally indigenous species remaining within or in the near vicinity of the site.

3 SUBJECT TREES

The subject trees were inspected by Earthscape Horticultural Services (EHS) on the 16th February 2017. Each tree has been provided with an identification number for reference purposes denoted on the attached Tree Location Plan (Appendix 5), based on the survey prepared by Cardno, Dwg. Ref No. 115350814 [01] dated 5/10/2016. The numbers used on this plan correlate with the Tree Assessment Schedule (Appendix 3). Tree No.s T23, T27, T45 & T62 were not shown on the original survey and have been plotted on the drawing in their approximate positions

4 HEALTH AND CONDITION ASSESSMENT

4.1 METHODOLOGY

An assessment of each tree was made using the Visual Tree Assessment (VTA) procedure. All of the trees were assessed in view from the ground. No aerial inspection or diagnostic testing has been undertaken as part of this assessment.

The following information was collected for each tree:-

- Tree Species (Botanical & Common Name);
- Approximate height;
- Canopy spread; measured using a metric tape and an average taken.
- Trunk diameter (measured at 1.4 metres from ground level);
- Live Crown Size; (measured by subtracting the total height of the tree from the lowest point of the crown and multiplying by the average crown spread to give a value in square metres).
- Health & vigour; using foliage size, colour, extension growth, presence of disease or pest infestation, canopy density, presence of deadwood, dieback and epicormic growth as indicators,
- Condition; using visible evidence of structural defects, instability, evidence of previous pruning and physical damage as indicators.
- Suitability of the tree to the site and its existing location; in consideration of damage or potential damage to services or structures, available space for future development and nuisance issues.

This information is presented in a tabulated form in Appendix 3.

4.2 SAFE USEFUL LIFE EXPECTANCY (SULE)

The remaining Safe Useful Life Expectancy (SULE) of the tree is an estimate of the sustainability of the tree in the landscape, calculated based on an estimate of the average age of the species in an urban area, less its estimated current age. The life expectancy of the tree has been further modified where necessary in consideration of its current health and vigour, condition and suitability to the site. The estimated SULE of each tree is shown in Appendix 3.

The following categories have been allocated to each tree:-

- Greater than 40 years (Long)
- Between 15 and 40 years (Medium)
- Between 5 and 15 years (Short)
- Less than 5 years (Transient)
- Dead or immediately hazardous (defective or unstable)

5 LANDSCAPE SIGNIFICANCE

5.1 METHODOLOGY FOR DETERMINING LANDSCAPE SIGNIFICANCE

The significance of a tree in the landscape is a combination of its environmental, heritage and amenity values. Whilst these values may be fairly subjective and difficult to assess consistently, some measure is necessary to assist in determining the retention value of each tree. To ensure a consistent approach, the assessment criteria shown in Appendix 1 have been used in this assessment.

A rating has been applied to each tree to give an understanding of the relative significance of each tree in the landscape and to assist in determining priorities for retention, in accordance with the following categories:-

1. Significant
2. Very High
3. High
4. Moderate
5. Low
6. Very Low
7. Insignificant

5.2 ENVIRONMENTAL SIGNIFICANCE

5.2.1 Tree Management Controls

Prescribed trees within the City of Sydney Local Government Area (LGA) are protected under Section 3.5.3 of the *Sydney Development Control Plan (SDCP) 2012*, made pursuant to Clause 5.9 (2) of the *Sydney Local Environmental Plan (SLEP) 2012*. The SDCP generally protects all trees of a height of five (5) metres or greater or with a canopy spread of five (5) metres or greater, or trunk diameter of 300mm or greater (measured at ground level) or any tree listed on Council's *Significant Tree Register* and any tree on public land. Some exemptions apply. The following trees are exempt (not protected) under the provisions of the SDCP 2012:-

Tree No.	Species	Exemption
T31	<i>Gleditsia triacanthos</i> (Honey Locust)	Less than the prescribed dimensions
T37	<i>Magnolia grandiflora</i> 'Little Gem' (Little Gem Magnolia)	Less than the prescribed dimensions

5.2.2 Wildlife Habitat

All of the trees are exotic (introduced) or non-local native species that would be of some benefit to native wildlife. However, none of the trees contain cavities that would be suitable as nesting hollows for arboreal mammals or birds or other visible signs of wildlife habitation.

5.2.3 Noxious Plants & Environmental Weeds

None of the trees assessed are scheduled as Noxious Weeds under the meaning of Noxious Weeds Act (NSW) 1993. None of the subject trees are considered to be Environmental Weed Species with the City of Sydney Local Government Area (LGA).

5.2.4 Threatened Species & Ecological Communities

None of the subject trees are listed as Threatened or Vulnerable Species or form part of Endangered Ecological Communities (EECs) under the provisions of the *Threatened Species Conservation Act 1995* (NSW) or the *Environmental Protection and Biodiversity Conservation Act 1999*.

5.3 HERITAGE SIGNIFICANCE

5.3.1 Heritage Items

The former Pyrmont Power Station Administration building (also known as the Sydney Electric Light Station or 'SELS Building') located near the north-western corner of the site (near the corner of Pyrmont Street and Jones Bay Road) is listed as an item of Environmental Heritage [Item 1259] of Local Significance under Part 1, Schedule 5 of the *Sydney Local Environmental Plan (SLEP) 2012*.

The former Pyrmont Power Station Administration building ('SELS Building') is the only remaining structure of the former Pyrmont Power Station (constructed c.1904). This was the original generating station for the general reticulation of electricity throughout the Sydney area. It is considered a fine example of a Federation Arts and Crafts style building associated with City Architect, Robert Broderick. None of the subject trees have any association with this item.

5.3.2 Heritage Conservation Area

The site is not located within a Heritage Conservation Area under Part 2 of Schedule 5 of the SLEP 2012.

5.3.3 Significant Tree Register

None of the subject trees are listed on Council's *Register of Significant Trees* Volume 4 (Significant Trees under Private Ownership) or Volume 2 (Significant Street Trees). None of the subject trees have any known or suspected heritage significance.

5.4 AMENITY VALUE

Criteria for the assessment of amenity values are incorporated into Appendix 1. The amenity value of a tree is a measure of its live crown size, visual appearance (form, habit, crown density), visibility and position in the landscape and contribution to the visual character of an area. Generally the larger and more prominently located the tree, and the better its form and habit, the higher its amenity value.

6 TREE RETENTION VALUES

The Retention Values shown in Appendix 3 and Appendix 5 have been determined on the basis of the estimated longevity of the trees and their landscape significance rating, in accordance with Table One. Together with guidelines contained in Section 7 (Tree Protection Zones) this information should be used to determine the most appropriate position of building footprints and other infrastructure within the site, with due consideration to other site constraints, to minimise the impact on trees considered worthy of preservation.

TABLE 1 – TREE RETENTION VALUES – ASSESSMENT METHODOLOGY

Estimated Life Expectancy	Landscape Significance Rating						
	1	2	3	4	5	6	7
Long - Greater than 40 Years	High Retention Value			Retention			
Medium- 15 to 40 Years			Moderate Value				
Short - 5 to 15 years				Low Ret. Value			
Transient - Less than 5 Years					Very Low Retention Value		
Dead or Potentially Hazardous							

7 TREE PROTECTION ZONES

7.1 TREE PROTECTION ZONE - DEFINITION

The Tree Protection Zone (TPZ) is a radial distance measured from the centre of the trunk of the tree as specified in Appendix 4. These have been calculated in accordance with AS 4970-2009 (*Protection of Trees on Development Sites*).

The intention of the TPZ is to ensure protection of the root system and canopy from the potential damage from construction works and ensure the long-term health and stability of each tree to be retained. Incursions to the root zone may occur due to excavations, changes in ground levels, (either lowering or raising the grade), trenching or other forms or soil disturbance such as ripping, grading or inverting the soil profile. Such works may cause damage or loss of part of the root system, leading to an adverse impact on the tree.

7.2 STRUCTURAL ROOT ZONE (SRZ)

The Structural Root Zone (SRZ) provides the bulk of mechanical support and anchorage for a tree. This is also a radial distance measured from the centre of the trunk as specified in Appendix 4. The SRZ has been calculated in accordance with AS 4970-2009 (*Protection of Trees on Development Sites*).

Incursions within the SRZ are not recommended as they are likely to result in the severance of woody roots which may compromise the stability of the tree or lead to its decline and demise.

7.3 ACCEPTABLE ENCROACHMENTS TO THE TREE PROTECTION ZONE.

Where encroachment to the TPZ is unavoidable, an incursion to the TPZ of not exceeding 10% of the area of the TPZ and outside the SRZ may be acceptable. Examples of acceptable incursions are shown in Appendix 2. Greater incursions to the TPZ may result in an adverse impact on the tree.

Where incursions greater than 10% of the TPZ are unavoidable, exploratory excavation using non-destructive methods may be required to evaluate the extent of the root system affected and determine whether or not the tree can remain viable

7.4 ACCEPTABLE ENCROACHMENTS TO THE CANOPY

The removal of a small portion of the crown (foliage and branches) is generally tolerable provided that the extent of pruning required is less than 10% of the total foliage volume of the tree and the removal of branches does not create large wounds or disfigure the natural form and habit of the tree. All pruning cuts must be undertaken in accordance with AS 4373:2007. This generally involves reduction of the affected branches back to the nearest branch collar at the junction with the parent branch, rather than at an intermediate point. The latter is referred to as “lopping” and is no longer an acceptable arboricultural practice. Generally speaking, the minimum pruning as required to accommodate any proposed works is desirable. Extensive pruning can result in a detrimental impact on tree health and may lead to exposure of remaining branches to wind forces that they were previously sheltered from, leading to a greater risk of branch failure.

Clearance to between the building line and canopy should take into account any projecting structures, such as balconies, awnings and the roofline and any requirement for temporary scaffolding to be erected during construction (typically 1-1.5 metres wide). High structures should preferably be located outside the canopy dripline (as shown indicatively on the attached plans) in order to avoid or minimise canopy pruning.

8 PROPOSED DEVELOPMENT

The proposed development modification includes the alterations and additions to the existing Star Casino and Entertainment Complex (Modification 13) including construction of a new hotel (Ritz Carlton) and upgrade of areas of the Public Domain surrounding the property. This will include streetscape areas in Jones Bay Road, Pirrama Road, Pyrmont Street, Edward Street and Union Street. It will also include construction zones.

9 IMPACT ASSESSMENT

The intention of this assessment is to determine the incursions to the root zones and canopies created by the proposed development and evaluate the likely impact of the proposed works on the subject trees.

9.1 INFORMATION RELIED UPON IN THIS ASSESSMENT

Details shown on the following plans were used in this assessment:-

Dwg No.	Revision No.	Title	Author	Date
		<i>Landscape Design Report</i>	Urbis	22/09/2017
ND1464 L000	[H]	<i>Cover Sheet</i>	Urbis	22/09/2017
ND1464 L001	[E]	<i>Key Plans</i>	Urbis	22/09/2017
ND1464 L100	[F]	<i>Landscape Site Plan</i>	Urbis	22/09/2017
ND1464 L300	[H]	<i>Level B2 Landscape Plan</i>	Urbis	22/09/2017
ND1464 L301	[H]	<i>Level B2 Landscape Plan</i>	Urbis	22/09/2017
ND1464 L302	[H]	<i>Level 00 Landscape Plan</i>	Urbis	22/09/2017
ND1464 L303	[G]	<i>SELS Plaza and Pyrmont Street Parking Entry</i>	Urbis	22/09/2017

9.2 IMPACT ASSESSMENT SCHEDULE

A summary of the impact of the proposed development on each tree within the site is shown in Appendix 5. The following criteria have been examined as part of this assessment:-

- Existing Relative Levels (R.L.);
- Tree Protection Zone (TPZ);
- Structural Root Zone (SRZ);
- Footprint and envelope of the proposed development and temporary structures (scaffolding, hoardings etc);
- Incursions to the TPZ & SRZ, including estimated cut & fill beyond the building footprint;
- Incursions to the tree canopy from the building envelope and temporary structures; and
- Assessment of the likely impact of the works on existing trees.

9.3 ARBORICULTURAL IMPACT ASSESSMENT

The proposed development will necessitate the removal of four (4) trees of low and very low retention value. These include Tree No.s T10 (group of 7 x small Bangalow Palms), T21 (London Plane tree), T31 (Honey Locust) and T44 (Cabbage Tree Palm). None of these trees are considered significant or worthy of special measures to ensure their preservation. It should be noted that Trees T21 & T44 are located within the road reserve (Council's nature strip)..

The proposed development will also necessitate the removal of four (4) trees of moderate retention value. These include Tree No.s T22, T23 (London Plane trees), T37 (Little Gem Magnolia) and T71 (Hill's Weeping Fig). These trees are not considered significant, but are in good health and condition and make a fair contribution to the amenity of the site and surrounding properties. In order to compensate for loss of amenity resulting from the removal of these trees to accommodate the proposed development, consideration should be given to replacement planting with new trees accordance with Section 11.

The proposed development will also necessitate the removal of sixteen (16) trees of high retention value. These include Tree No.s T43, T45, T46, T47, T48, T49, T61, T62, T63, T64, T65 & T66 (Cabbage Tree Palms) and T67, T68, T69 & T70 (Hill's Weeping Fig), all located on the Pirrama Road frontage. These trees have no special ecological or heritage significance, but are in good health and condition and make a positive contribution to the amenity of the site and surrounding properties. The removal of trees T67-T70 (Hill's Figs) is unavoidable as this is the only acceptable location for the vehicular entry loop to the new hotel. The removal of Trees T43-T66 is sought in order to upgrade the pavement to Council's standard detail and provide alternative tree planting that will increase the amenity to pedestrians using this area (in particular increased shade to paved areas). In order to compensate for loss of amenity resulting from the removal of these trees to accommodate the proposed development, consideration should be given to replacement planting with new trees accordance with Section 11.

The existing asphalt pavement within the TPZs of Trees T1-T6 & T72 (Hill's Weeping Fig) is proposed to be demolished and replaced with new unit Granite Paving to the City of Sydney's standard detail (refer to Typical Details in the Landscape Design Report prepared by Urbis) at a similar grade to the existing pavement. Similarly, existing asphalt pavement within the TPZs of Trees T56-T60 (Cabbage Tree Palms) is proposed to be demolished and replaced with new unit granite paving to match the existing granite paving within the site (forecourt area). Demolition of the existing asphalt pavement will not result in any adverse impact on these trees, provided that all demolition work within the TPZs is undertaken in accordance with Section 10.5. Depending on the nature of the underlying soil material and the difference in pavement section (thickness) between the existing asphalt and proposed granite pavements, excavation for the new pavement sub-grade may have some potential to cause damage and severance to woody surface roots of trees T1-T6 & T72 (Hill's Weeping Fig). However, any adverse impact can be minimised by undertaking all excavations for the new pavement sub-grade within the TPZs of these trees in accordance with Section 10.6. Due to the nature of the root system of Trees T56-T60 (Cabbage Tree Palms), excavation for the new pavement sub-grade will not result in any adverse impact on these trees. Trunk protection should be installed to these trees in accordance with Section 10.4 to avoid accidental damage during construction.

Following upgrade to various entries to The Star (near corner of Jones Bay Road & Pyrmont Street [refer L302], Pyrmont Street vehicular entry [refer L302], corner of Union Street and Pyrmont Street and corner of Union Street and Edward Street [refer L303]), the existing asphalt pavement within the TPZs of T11, T20, T24, T30, T36 & T38 (all London Plane trees) and T29 (Japanese Zelkova) is proposed to be reinstated (made good). This work will not result in any adverse impact on these trees, provided that demolition (where required) of existing asphalt pavement is undertaken in accordance with Section 10.5 and all excavations for the new pavement sub-grade within the TPZs of these trees is undertaken in accordance with Section 10.6. Trunk Protection should be installed to these trees in accordance with Section 10.4.

Temporary construction hoardings will be required within the TPZs of T1-T6 & T72 (Hill's Weeping Fig) T20, T24 & T38 (all London Plane trees). Whilst most of the canopies are suppressed due to the proximity of the existing building, some pruning of these trees may be required to clear temporary hoardings and scaffolding. Whilst the extent of pruning is yet to be determined, such pruning should not result in any adverse impact on these trees provided that no branches of greater than 50mm in diameter are removed (pruned) and all such pruning work (that essential to clear temporary scaffolding) is undertaken in accordance with Section 10.11.

A proposed new outdoor seating area is proposed on the corner of Jones Bay Road and Pymont Street within the TPZ of T11 (London Plane tree). This will require some excavation for the pavement sub-grade and associated blade walls. However, the extent of encroachment to the root zone is less than 10% of the TPZ, which is within acceptable limits under AS 4970:2009. As such, the proposed works will not result in any adverse impact on this tree. In order to avoid any adverse impact on T11 all excavations for the new pavement sub-grade within the TPZs of this tree should be undertaken in accordance with Section 10.6.

No other trees will be adversely affected by the proposed development.

10 RECOMMENDED TREE PROTECTION MEASURES

10.1 TREE PROTECTION PLAN

The following Tree Protection Measures should be read in accordance with the Tree Protection Plan (Appendix 6). The Tree Protection Plan (TPP) indicates the position of tree protection devices and other recommended measures to ensure the protection of trees within the site to be retained as part of the proposed development.

10.2 PROHIBITED ACTIVITIES

The following activities should be avoided within specified Tree Protection Zones (refer Appendix 4 & 6 for extent of the TPZ for each tree):-

- Excavations and trenching (with exception of the approved remediation works, underground services, building foundations or pavement sub-grade);
- Soil disturbance, surface grading, compaction, tining, ripping or cultivation of soil;
- Mechanical removal of vegetation, including extraction of tree stumps;
- Soil level changes including the placement of fill material (excluding imported validated fill for remediation works or placement of fill for approved works)
- Movement and storage of plant, equipment & vehicles (except within defined temporary haul roads, where ground protection has been installed, or within the footprint of existing floor slabs or paved areas);
- Erection of site sheds (except where approved by the site arborist);
- Affixing of signage, barricades or hoardings to trees;
- Storage of building materials, waste and waste receptacles;
- Stockpiling of spoil or fill;
- Stockpiling of bulk materials, such as soil, sand, gravel, roadbase or the like;
- Stockpiling of demolition waste;
- Disposal of waste materials and chemicals including paint, solvents, cement slurry, fuel, oil and other toxic liquids;
- Other physical damage to the trunk or root system; and
- Any other activity likely to cause damage to the tree.

10.3 TREE PROTECTION FENCING

All trees within the site to be retained shall be protected prior to and during construction from all activities that may result in detrimental impact by erecting a suitable protective fence beneath the canopy to the full extent of the Tree Protection Zone, excluding the footprint of the proposed works and areas within adjoining properties, as indicated on the Tree Protection Plan. As a minimum, the fence should consist of temporary chain wire panels of 1.8 metres in height, supported by steel stakes as required and fastened together and supported to prevent sideways movement using corner braces where required. The fence shall be erected prior to the commencement of any work on-site and shall be maintained in good condition for the duration of construction. Where tree protection zones merge together a single fence encompassing the area is deemed to be adequate. Existing site boundary fences may form part of the enclosure.

Appropriate signage shall be installed on the fencing to prevent unauthorised movement of plant and equipment or entry to the Tree Protection Zone.

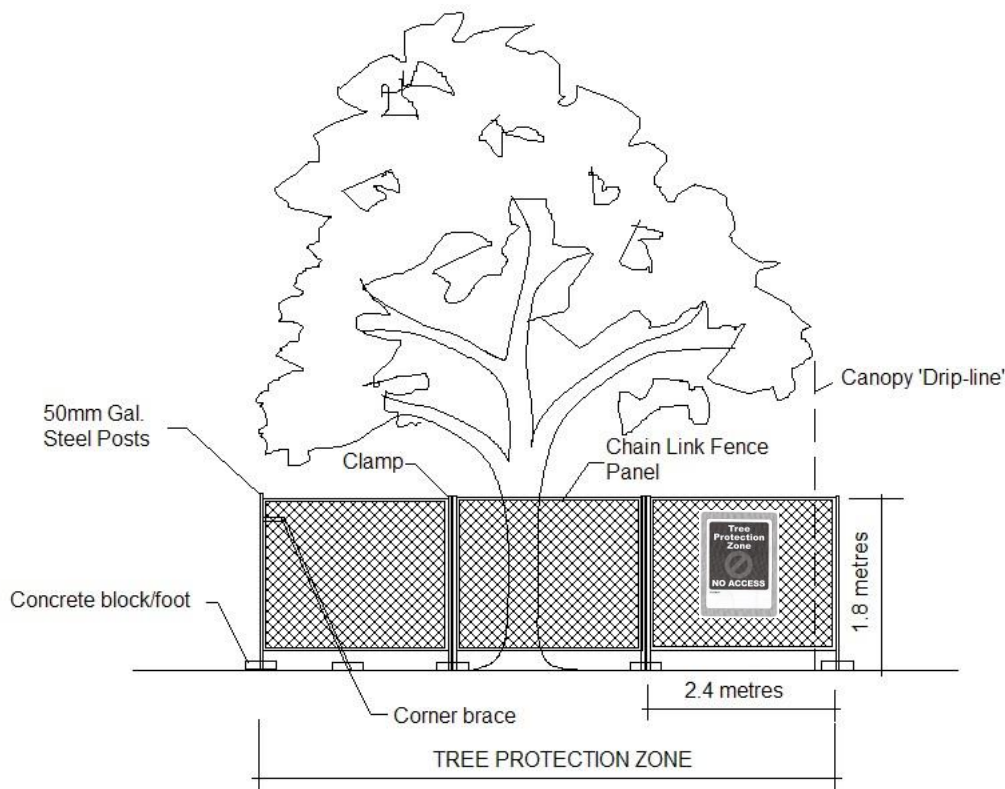


Figure 1 – Detail of Tree Protection Fence

Signs shall be installed on the Tree Protection Fence to prevent unauthorised movement of plant and equipment or entry to the Tree Protection Zone. The signs shall be securely attached to the fence using cable ties or equivalent. Signs shall be placed at minimum 10 metre intervals. The wording and layout of the sign shall comply with AS 4970-2009 as shown in Figure 2.



Figure 2 – Detail of Tree Protection Sign

10.4 TRUNK PROTECTION

Where provision of tree protection fencing is impractical due to its proximity to the proposed building footprint, trunk protection shall be erected around nominated trees to avoid accidental damage, as indicated on the Tree Protection Plan (Appendix 6). The trunk protection shall consist of a layer of carpet underfelt (or similar) wrapped around the trunk, followed by 1.8 metre lengths of softwood timbers (90 x 45mm in section) aligned vertically and spaced evenly around the trunk at 150mm centres (i.e. with a 50mm gap) and secured together with 2mm galvanised wire or galvanised hoop strap as shown in Figure 3. Recycled timber (such as demolition waste) may be suitable for this purpose, subject to the approval of the Project Arborist. The timbers shall be wrapped around the trunk (over the carpet underfelt), but not fixed to the tree to avoid mechanical injury or damage to the trunk. Trunk protection should be installed prior to any site works

and maintained in good condition for the duration of the construction period. Carpet underfelt (alone) is sufficient for trees with a trunk diameter of less than 200mm.



Figure 3 – Detail of Trunk Protection

10.5 DEMOLITION WORKS WITHIN TREE PROTECTION ZONES

Demolition of paved areas within the Tree Protection Zone (TPZ) of trees to be retained shall be undertaken under the supervision of the Site Arborist. The pavement surface and sub-base within the TPZ shall be gradually removed in layers of no greater than 50mm thick using a small rubber tracked excavator or alternative approved method to avoid damage to underlying roots and minimise disturbance and compaction of the underlying soil profile. The machine shall work within the footprint of the existing paved surfaces to avoid compaction of the underlying soil. The final layer of sub-base material shall be removed using hand tools were required to avoid compaction of the underlying soil profile and damage to woody roots.

Following removal of the pavement surface and sub-base, clean, friable topsoil shall be used to fill in the excavated area and bring flush with surrounding levels within new landscape areas. Soil shall only be imported and spread when the underlying soil conditions are dry to avoid compaction of the soil profile. Where there is insufficient recovered site topsoil for this purpose, any imported material shall be free of rocks, vegetation, heavy clay or other extraneous matter. Any imported soil material should be similar in texture to the existing site topsoil.

Demolition of existing walls, kerbs and other structures within the Tree Protection Zone of trees to be retained shall be undertaken under the supervision of the Site Arborist. The structures shall be demolished using equipment on stationed outside the TPZ where possible or within the footprint of existing hardstand areas. Care shall be taken to avoid the root systems, trunks and lower branches of trees in the vicinity of the structures during demolition works, with special attention required during demolition of the footings and other sub-surface members to avoid damage to woody roots.

10.6 EXCAVATIONS WITHIN TREE PROTECTION ZONES

Prior to any mechanical excavations for building foundations or pavement sub-grade within the Tree Protection Zone of all trees nominated for retention, exploratory excavation using non-destructive techniques shall be taken along the perimeter of the structure or pavement within the TPZ. Non-destructive excavation techniques may include the use of hand-held implements, air pressure (using an Air-spade® device) or water pressure. The exploratory excavation shall be undertaken along the perimeter of the foundation or pavement (within the TPZ) to the depth of the foundation or to a maximum of 800mm from surface levels, to locate and expose any woody roots prior to any mechanical excavation. All care shall be undertaken to preserve woody roots intact and undamaged during exploratory excavation. Any roots encountered of less than 50mm in diameter may be cleanly severed with clean sharp pruning implements at the face of

the excavation. The root zone in the vicinity of the excavation shall be kept moist following excavation for the duration of construction to minimise moisture stress on the tree.

Where large woody roots (greater than 50mm diameter) are encountered during exploratory excavations, further advice from a qualified arborist shall be sought prior to severance. Where necessary, (to avoid severing large woody roots) consideration should be given to the installation of an elevated structure (e.g. pier and beam footing, suspended slab or floor supported on piers, cantilevered slab, up-turned edge beam etc) in preference to structures requiring a deep edge beam or continuous perimeter strip footing. The beam section of any pier and beam footing should be placed above grade to avoid excavation within the SRZ. Pier footings intersecting large woody roots should be slightly offset where necessary to avoid root severance.

For masonry walls or fences it may be acceptable to delete continuous concrete strip footings and replace with suspended in-fill panels (eg steel or timber pickets, lattice etc) fixed to pillars. For paved areas, consideration should be given to raising the proposed pavement level and using a porous fill material in preference to excavation where large woody roots are found within the sub-base.

10.7 UNDERGROUND SERVICES

All proposed stormwater lines and other underground services should be located outside TPZs of trees proposed to be retained wherever possible or installed by alternative measures. Alternative measures include suspending pipelines beneath the floor of a building or structure (to avoid excavation with the TPZ), non-destructive excavation methods or Horizontal Directional Drilling (HDD). Where the installation of service lines within TPZs is unavoidable, the pipelines or conduits should be installed as follows.

Where the extent of the incursion to the root zone is less than 10% of the TPZ including any excavations for benching and shoring the trench, the pipeline or conduit may be installed by open trenching using standard construction methods (excavator or trenching machine). 10% of the TPZ is equivalent to one-third of the TPZ radius on one side (refer to Appendix 2). Refer to Appendix 4 for radial distances of TPZs for each tree.

Where the extent of the incursion to the root zone exceeds 10% of the TPZ, but is outside the SRZ, non-destructive excavation methods must be adopted in accordance with Section 10.6. Where large woody roots are encountered during excavation or trenching (root diameter greater than 50mm), these shall be retained intact wherever possible (e.g. by tunnelling beneath roots and inserting the pipeline or conduit beneath or re-routing the service etc). Where this is not practical and root pruning is the only alternative, proposed root pruning should be assessed by a qualified arborist [AQF 5] to evaluate the potential impact on the health and stability of the subject tree.

Excavations required for underground services within the Structural Root Zone of any tree to be retained should only be undertaken by sub-surface boring (Horizontal Directional Drilling). The Invert Level of the pipe, plus the pipe diameter, must be lower than the estimated root zone depth as specified. At this site a minimum depth of 1 metre to the invert level of the pipe is specified.

10.8 PAVEMENTS

Proposed paved areas within the Tree Protection Zone (TPZ) of trees to be retained should be placed at or slightly above grade where possible to minimise excavations within the root zone and avoid severance and damage of woody roots. The pavement sub-base material should be supplied and installed in accordance with Section 10.10.

10.9 PAVEMENT SUB-BASE

Pavement sub-base material within TPZs of trees to be retained shall be a coarse, gap-graded material such as 20 – 50mm crushed basalt (Blue Metal) or equivalent no-fines gravel material to provide some aeration and moisture permeation to the root zone. Note that road base or crushed sandstone or other similar material containing a high percentage of fines is unacceptable for this purpose. The fill material should be consolidated using a non-vibrating roller or similar to minimise compaction of the underlying soil. A permeable geotextile may be used beneath the sub-base to prevent migration of the stone into the sub-grade and provide greater load capacity.

10.10 PLACEMENT OF FILL MATERIAL

Placement of fill material within the Tree Protection Zone (TPZ) of trees to be retained should be avoided wherever possible. Where placement of fill is unavoidable, the material shall be a well-drained friable material, equivalent in texture to the existing site topsoil material. The fill should be free from rocks, vegetation and other extraneous material complying with AS 4419:2003 (Soils for Landscaping and Garden Use).

The fill may be lightly consolidated, but shall not be compacted to engineering standards. No fill material should be placed in direct contact with the trunk. Plant and equipment used to place and spread fill material should be stationed outside the TPZ where possible. Where not possible, suitable ground protection should be installed in accordance with Section 10.14 to avoid compaction of the underlying soil profile and root zone.

10.11 CANOPY & ROOT PRUNING

All canopy pruning work required shall be carried out in accordance with Australian Standard 4373-2007 – Pruning of Amenity Trees. Written approval from Council may be required under the Tree Preservation Order prior to undertaking this work. All pruning work shall be carried out by a qualified and experienced arborist or tree surgeon [Australian Qualification Framework Level 3] in accordance with the NSW WorkCover Code of Practice for the Amenity Tree Industry (1998). No branches of greater than 100mm in diameter should be removed or pruned without further advice from a Consulting Arborist [Australian Qualification Framework Level 5].

Where root pruning is required, roots shall be severed with clean, sharp pruning implements and retained in a moist condition during the construction phase using Hessian material or mulch where practical. Severed roots shall be treated with a suitable root growth hormone containing the active constituents Indol-3-yl-Butric Acid (IBA) and 1-Naphthylacetic Acid (NAA) to stimulate rapid regeneration of the root system.

10.12 TREE DAMAGE

Care shall be taken when operating cranes, drilling rigs and similar equipment near trees to avoid damage to tree canopies (foliage and branches). Under no circumstances shall branches be torn-off by construction equipment. Where there is potential conflict between tree canopy and construction activities, the advice of the Site Arborist must be sought.

In the event of any tree becoming damaged for any reason during the construction period a consulting arborist [Australian Qualification Framework Level 5] shall be engaged to inspect and provide advice on any remedial action to minimise any adverse impact. Such remedial action shall be implemented as soon as practicable and certified by the arborist.

10.13 TREE REMOVAL

Tree removal work shall be carried out by an experienced tree surgeon in accordance with the NSW WorkCover Code of Practice for the Amenity Tree Industry (1998). Care shall be taken to avoid damage to other trees during the felling operation.

Stumps located within the TPZs of trees to be retained shall be grubbed-out where required using a mechanical stump grinder (or by hand where less than 150mm in diameter) without damage to the root system of other trees. Where trees to be removed are within the SRZ of any trees to be retained, consideration should be given to cutting the stump close to ground level and retaining the root crown intact. Stumps within the Tree Protection Zone of other trees to be retained shall not be pulled out using excavation equipment or similar.

10.14 GROUND PROTECTION

Where construction access is proposed within TPZs of trees nominated for retention and no hard pavement exists or former pavement has been demolished, a 100mm layer of woodchip mulch or washed river sand shall be installed within designated areas of the Tree Protection Zone of nominated trees as indicated on the Tree Protection Plan (Appendix 7) to minimise compaction of the underlying soil profile during construction activity and haulage. A Geotextile fabric, such as Geotex® 'ST' Series manufactured by Synthetic Industries or an equivalent product, shall be installed beneath the mulch/sand layer to minimise compaction to the underlying soil profile and limit migration of mulch into the underlying soil profile. Mulch/sand shall be installed and spread by hand to avoid soil disturbance and compaction within the root zone.

To minimise displacement of woodchip/sand in highly trafficked areas, 20mm thick marine ply sheets or truck mats (such as Envirex Versadeck® access mats) should be placed over the top of the woodchip/sand. Ground protection shall be installed prior to any site works and maintained in good condition for the duration of the construction period. On completion of the works, ground protection shall be removed without damage or disturbance to the underlying soil profile.

10.15 TEMPORARY SCAFFOLDING

Where temporary scaffolding must be erected within the TPZ of trees to be retained (as indicated in Appendix 6), the scaffold shall be erected in accordance with Figure 5. Where foliage or branches project through the scaffold and create a safety hazard, this foliage and branches shall be temporarily excluded from the inner part of the scaffold by affixing a shade cloth screen on the outside of the scaffold (refer to Figure 5), or alternatively temporarily tying back branches where required. The pruning or removal of branches to accommodate the scaffold should be avoided wherever possible. Suitable ground protection shall be installed beneath the scaffold as shown in Figure 5 to prevent contamination, disturbance and compaction of the soil profile within the scaffold zone during construction.

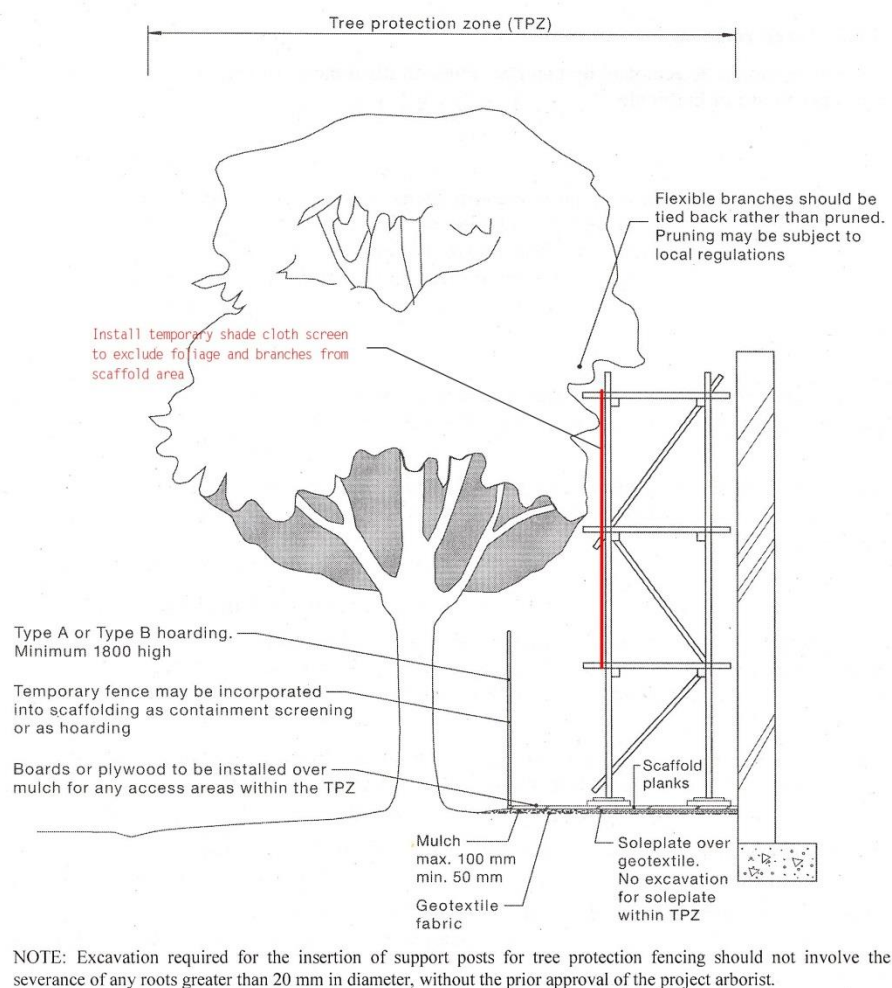


Figure 5 - Detail of Temporary scaffolding within a Tree Protection Zone

Where pruning or removal of branches to accommodate temporary scaffolding is unavoidable, all such pruning work shall be undertaken in accordance with Section 10.8.

11 REPLACEMENT PLANTING

The Landscape Plan prepared by Urbis indicates a small grove of five (5) new *Magnolia grandiflora* 'Little Gem' (Little Gem Magnolia) to be planted within the site in the forecourt area adjacent Pirrama Road. This will compensate for the loss of amenity resulting from the removal of trees within the site to accommodate the proposed development.

Council's Street Tree Master Plan (STMP) 2011 (revised 2015) [refer Precinct 15 – Pyrmont] indicates that the prescribed tree species selection for the streetscape areas surrounding the site is as follows:-

- Jones Bay Road & Edward Street - *Populus simonii* (Chinese Poplar)
- Pyrmont Street - *Zelkova serrata* (Japanese Zelkova)
- Union Street - *Koelreutaria paniculata* (Golden Rain Tree)
- Pirrama Road - *Ficus macrocarpa* var. *hillii* (Hills Weeping Fig) & *Livistona australis* (Cabbage Tree Palm).

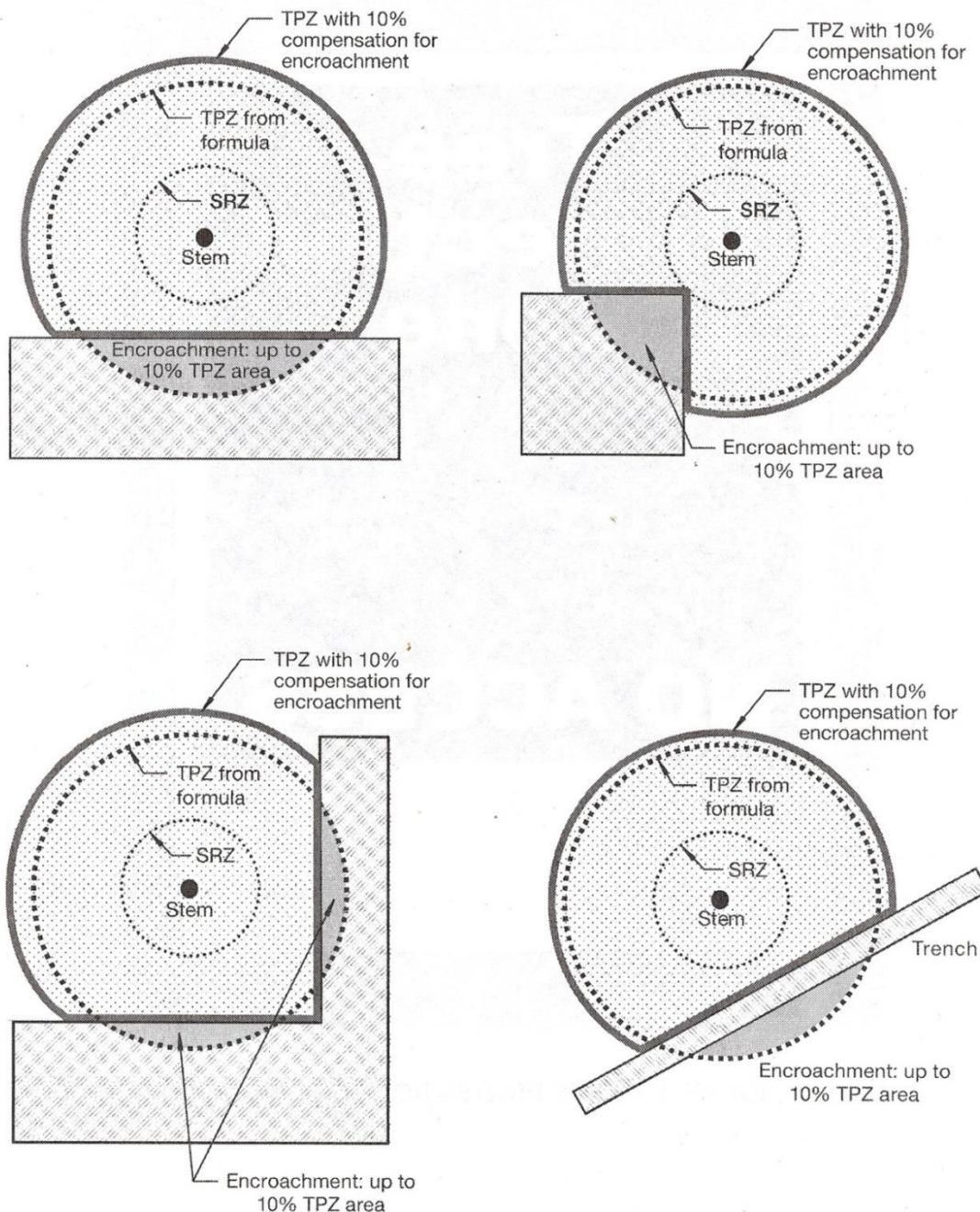
The Landscape Plan prepared by Urbis indicates a total thirteen (13) new *Angophora costata* (Sydney Red Gum) to be planted within the road reserve (public footpath area) in Pirrama Road. It is understood that the use of this species has been discussed and agreed with Council in preference to the species listed in the STMP (above). Given the relative size of this species compared with the existing Cabbage Tree Palms, the amenity to the forecourt area and streetscape in Pirrama Road will increase from the present situation as the trees grow to maturity. Six (6) Cabbage Tree Palms are also proposed to be planted at either end of the forecourt area close to the boundary. The total number of trees to be planted is therefore equivalent in number to those being removed. The proposed replacement planting will compensate for the loss of amenity resulting from the removal of trees to accommodate the proposed development in the short-term (next 10 to 15 years).

12 APPENDIX 1 – CRITERIA FOR ASSESSMENT OF LANDSCAPE SIGNIFICANCE

RATING	HERITAGE VALUE	ECOLOGICAL VALUE	AMENITY VALUE
1. SIGNIFICANT	The subject tree is listed as a Heritage Item under the Local Environment Plan (LEP) with a local, state or national level of significance or is listed on Council's Significant Tree Register	The subject tree is scheduled as a Threatened Species as defined under the Threatened Species Conservation Act 1995 (NSW) or the Environmental Protection and Biodiversity Conservation Act 1999	The subject tree has a very large live crown size exceeding 300m ² with normal to dense foliage cover, is located in a visually prominent position in the landscape, exhibits very good form and habit typical of the species
	The subject tree forms part of the curtilage of a Heritage Item (building /structure /artefact as defined under the LEP) and has a known or documented association with that item	The tree is a locally indigenous species, representative of the original vegetation of the area and is known as an important food, shelter or nesting tree for endangered or threatened fauna species	The subject tree makes a significant contribution to the amenity and visual character of the area by creating a sense of place or creating a sense of identity
	The subject tree is a Commemorative Planting having been planted by an important historical person (s) or to commemorate an important historical event	The subject tree is a Remnant Tree, being a tree in existence prior to development of the area	The tree is visually prominent in view from surrounding areas, being a landmark or visible from a considerable distance.
2. VERY HIGH	The tree has a strong historical association with a heritage item (building/structure/artefact/garden etc) within or adjacent the property and/or exemplifies a particular era or style of landscape design associated with the original development of the site.	The tree is a locally-indigenous species, representative of the original vegetation of the area and is a dominant or associated canopy species of an Endangered Ecological Community (EEC) formerly occurring in the area occupied by the site.	The subject tree has a very large live crown size exceeding 200m ² ; a crown density exceeding 70% (normal-dense), is a very good representative of the species in terms of its form and branching habit or is aesthetically distinctive and makes a positive contribution to the visual character and the amenity of the area
3. HIGH	The tree has a suspected historical association with a heritage item or landscape supported by anecdotal or visual evidence	The tree is a locally-indigenous species and representative of the original vegetation of the area and the tree is located within a defined Vegetation Link / Wildlife Corridor or has known wildlife habitat value	The subject tree has a large live crown size exceeding 100m ² ; The tree is a good representative of the species in terms of its form and branching habit with minor deviations from normal (e.g. crown distortion/suppression) with a crown density of at least 70% (normal); The subject tree is visible from the street and surrounding properties and makes a positive contribution to the visual character and the amenity of the area
4. MODERATE	The tree has no known or suspected historical association, but does not detract or diminish the value of the item and is sympathetic to the original era of planting.	The subject tree is a non-local native or exotic species that is protected under the provisions of this DCP.	The subject tree has a medium live crown size exceeding 40m ² ; The tree is a fair representative of the species, exhibiting moderate deviations from typical form (distortion/suppression etc) with a crown density of more than 50% (thinning to normal); and
			The tree is visible from surrounding properties, but is not visually prominent – view may be partially obscured by other vegetation or built forms. The tree makes a fair contribution to the visual character and amenity of the area.
5. LOW	The subject tree detracts from heritage values or diminishes the value of a heritage item	The subject tree is scheduled as exempt (not protected) under the provisions of this DCP due to its species, nuisance or position relative to buildings or other structures.	The subject tree has a small live crown size of less than 40m ² and can be replaced within the short term (5-10 years) with new tree planting
6. VERY LOW	The subject tree is causing significant damage to a heritage Item.	The subject tree is listed as an Environment Weed Species in the relevant Local Government Area, being invasive, or is a known nuisance species.	The subject tree is not visible from surrounding properties (visibility obscured) and makes a negligible contribution or has a negative impact on the amenity and visual character of the area. The tree is a poor representative of the species, showing significant deviations from the typical form and branching habit with a crown density of less than 50% (sparse).
7. INSIGNIFICANT	The tree is completely dead and has no visible habitat value	The tree is a declared Noxious Weed under the Noxious Weeds Act (NSW) 1993 within the relevant Local Government Area.	The tree is completely dead and represents a potential hazard.

Ref:- Morton, A (2006) **Determining the Retention Value of Trees on Development Sites** - TreeNet - Proceedings of the 7th National Street Tree Symposium 2006 Government of South Australia Department for Transport, Energy and Infrastructure

13 APPENDIX 2 – ACCEPTABLE INCURSIONS TO THE TREE PROTECTION ZONE (TPZ)



NOTE: Less than 10% TPZ area and outside SRZ. Any loss of TPZ compensated for elsewhere.

REF:- Council of Standards Australia (August 2009)
AS 4970 – 2009 – Protection of Trees on Development Sites
 Standards Australia, Sydney

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Council of Standards Australia (August 2009)

AS 4970 – 2009 – Protection of Trees on Development Sites

Standards Australia, Sydney

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APPENDIX 3 - TREE HEALTH AND CONDITION ASSESSMENT SCHEDULE

Tree Identification No.	Species	Height (m)	Spread (m)	Trunk Diameter (mm)	Live Crown Size (m ²)	Maturity Class	Condition	Previous Pruning	Health		Remaining Safe Useful Life Expectancy (SULE)	Landscape Significance Rating	Retention Value	Location
									Vigour	Pest & Disease				
1	<i>Ficus microcarpa</i> var. <i>hillii</i> (Hill's Weeping Fig)	8	6	255	30	SM	Appears stable with fair branching structure. Exhibits a low bark inclusion at 2 metres at junction of SLs. Prominent lean to the SW. Crown suppressed on NE side due to previous pruning.	Selectively pruned to clear building and roadway	Fair with slightly thinning crown	No Evidence	Medium 15-40 Years	4	Moderate	Nature strip
2	<i>Ficus microcarpa</i> var. <i>hillii</i> (Hill's Weeping Fig)	10	11	420	77	SM	Appears stable with fair branching structure. Exhibits multiple low bark inclusions at 2-3 metres. Moderate wound at 1.5 metres due branch loss.	Selectively pruned to clear building and roadway	Fair with slightly thinning crown	No Evidence	Medium 15-40 Years	4	Moderate	Nature strip
3	<i>Ficus microcarpa</i> var. <i>hillii</i> (Hill's Weeping Fig)	9	11	260 + 270	66	SM	Appears stable with fair branching structure. Exhibits multiple low bark inclusions at 0.5-2 metres. Minor dieback with 5% deadwood.	Selectively pruned to clear building and crown lifted to 5 metres over roadway	Fair with thinning crown	No Evidence	Medium 15-40 Years	4	Moderate	Nature strip
4	<i>Ficus microcarpa</i> var. <i>hillii</i> (Hill's Weeping Fig)	11	10	366	80	SM	Appears stable with sound branching structure. Crown suppressed on east side due building & previous pruning. Minor dieback with 5% deadwood.	Selectively pruned to clear building and roadway	Fair with thinning crown	No Evidence	Medium 15-40 Years	4	Moderate	Nature strip
5	<i>Ficus microcarpa</i> var. <i>hillii</i> (Hill's Weeping Fig)	16	14	481	182	M	Appears stable with sound branching structure. Crown suppressed on east side due building & previous pruning.	Selectively pruned to clear building east side	Very Good	No Evidence	Long - more than 40 years	3	High	Nature strip
6	<i>Ficus microcarpa</i> var. <i>hillii</i> (Hill's Weeping Fig)	15	12	392	144	SM	Appears stable with fair branching structure. Exhibits a moderate partially occluded wound on lower trunk. Moderate wound at 2 metres due previous branch loss.	Selectively pruned to clear building and crown lifted to 5 metres over roadway	Fair with thinning crown	No Evidence	Medium 15-40 Years	4	Moderate	Nature strip
7	<i>Platanus x hybrida</i> (London Plane)	16	12	318	132	SM	Appears stable with sound branching structure. Crown suppressed on SE side due building & previous pruning.	Selectively pruned to clear building SE side	Good	High foliar insect infestation (Sycamore Lace Bug)	Long - more than 40 years	3	High	Nature strip
8	<i>Platanus x hybrida</i> (London Plane)	20	10	341	150	SM	Appears stable with sound branching structure. Crown suppressed on SE side due building & previous pruning.	Selectively pruned to clear building SE side. Crown lifted to 5 metres	Very Good	High foliar insect infestation (Sycamore Lace Bug)	Long - more than 40 years	3	High	Nature strip

APPENDIX 3 - TREE HEALTH AND CONDITION ASSESSMENT SCHEDULE

Tree Identification No.	Species	Height (m)	Spread (m)	Trunk Diameter (mm)	Live Crown Size (m ²)	Maturity Class	Condition	Previous Pruning	Health		Remaining Safe Useful Life Expectancy (SULE)	Landscape Significance Rating	Retention Value	Location
									Vigour	Pest & Disease				
9	<i>Platanus x hybrida</i> (London Plane)	17	12	318	144	SM	Appears stable with sound branching structure. Crown suppressed on SE side due building & previous pruning.	Selectively pruned to clear building SE side. Crown lifted to 5 metres	Very Good	High foliar insect infestation (Sycamore Lace Bug)	Long - more than 40 years	3	High	Nature strip
10	Group of 7 x <i>Archontophoenix cunninghamii</i> (Bangalow Palm)	4 to 5	4	100	16	I	Appears stable with sound branching structure. Located in raised planter beneath glass roof. Limited space for future growth and development.	No Evidence	Very Good	No Evidence	Short 5-15 Years	5	Low	On-site
11	<i>Platanus x hybrida</i> (London Plane)	17	13	344	182	SM	Appears stable with sound branching structure. Crown suppressed on NE side due building & SW side due previous pruning.	Selectively pruned to clear building NE side & lightpole south	Very Good	Moderate foliar insect infestation (Sycamore Lace Bug)	Long - more than 40 years	3	High	Nature strip
12	<i>Platanus x hybrida</i> (London Plane)	20	15	500	240	M	Appears stable with sound branching structure. Crown suppressed on NE side due building & previous pruning. Slight lean to SW toward street.	Selectively pruned to clear building NE side & crown lifted to 4 metres	Very Good	Low foliar insect infestation (Sycamore Lace Bug)	Long - more than 40 years	3	High	Nature strip
13	<i>Platanus x hybrida</i> (London Plane)	22	16	541	256	M	Appears stable with sound branching structure. Crown suppressed on NE side due building & SW side due crowding.	Selectively pruned to clear building NE side & crown lifted to 5 metres	Good	Low foliar insect infestation (Sycamore Lace Bug)	Long - more than 40 years	3	High	Nature strip
14	<i>Platanus x hybrida</i> (London Plane)	18	11	268	143	SM	Appears stable with sound branching structure. Crown suppressed on NE side due building.	Selectively pruned to clear building NE side	Good	Low foliar insect infestation (Sycamore Lace Bug)	Long - more than 40 years	3	High	Nature strip
15	<i>Platanus x hybrida</i> (London Plane)	20	10	274	150	SM	Appears stable with sound branching structure. Exhibits a prominent lean to the SW (self-corrected). Crown suppressed on NE side due building.	Selectively pruned to clear building NE side	Good	Low foliar insect infestation (Sycamore Lace Bug)	Long - more than 40 years	3	High	Nature strip
16	<i>Platanus x hybrida</i> (London Plane)	22	11	338	187	SM	Appears stable with fair branching structure. Crown suppressed on NE side due building. Exhibits a slight bend in trunk at 5-6 metres (self-corrected)	Selectively pruned to clear building & scaffold NE side. Crown lifted to 5 metres	Good	Low foliar insect infestation (Sycamore Lace Bug)	Long - more than 40 years	3	High	Nature strip

APPENDIX 3 - TREE HEALTH AND CONDITION ASSESSMENT SCHEDULE

Tree Identification No.	Species	Height (m)	Spread (m)	Trunk Diameter (mm)	Live Crown Size (m ²)	Maturity Class	Condition	Previous Pruning	Health		Remaining Safe Useful Life Expectancy (SULE)	Landscape Significance Rating	Retention Value	Location
									Vigour	Pest & Disease				
17	<i>Platanus x hybrida</i> (London Plane)	18	8	245	96	SM	Appears stable with sound branching structure. Crown suppressed on NE side due building & previous pruning. Slight lean to SW toward street.	Selectively pruned to clear building NE side & crown lifted to 5 metres	Good	Low foliar insect infestation (Sycamore Lace Bug)	Long - more than 40 years	4	Moderate	Nature strip
18	<i>Platanus x hybrida</i> (London Plane)	22	14	334	238	SM	Appears stable with sound branching structure. Crown suppressed on NE side due building & previous pruning. Slight lean to SW toward street. Exhibits a small wound on lower trunk/butt due to mechanical injury.	Selectively pruned to clear building NE side & crown lifted to 5 metres	Very Good	Low foliar insect infestation (Sycamore Lace Bug)	Long - more than 40 years	3	Moderate	Nature strip
19	<i>Platanus x hybrida</i> (London Plane)	22	12	357	192	SM	Appears stable with sound branching structure. Crown suppressed on NE side due building & previous pruning. Slight lean to SW toward street.	Selectively pruned to clear building NE side & crown lifted to 5 metres	Very Good	Low foliar insect infestation (Sycamore Lace Bug)	Long - more than 40 years	3	High	Nature strip
20	<i>Platanus x hybrida</i> (London Plane)	18	9	229	126	SM	Appears stable with sound branching structure. Crown suppressed on NE side due building & previous pruning & NW due crowding. Prominent lean to the NW (self corrected).	Selectively pruned to clear building NE side & crown lifted to 4 metres	Very Good	Low foliar insect infestation (Sycamore Lace Bug)	Long - more than 40 years	4	Moderate	Nature strip
21	<i>Platanus x hybrida</i> (London Plane)	22	15	462	255	M	Stability suspect with fair branching structure. Very prominent lean to SW toward street (self corrected). Butt and roots growing over kerb. Exhibits multiple large wounds on trunk due to mechanical injury.	Crown lifted to 6 metres	Very Good	Low foliar insect infestation (Sycamore Lace Bug)	Short 5-15 Years	3	Low	Nature strip
22	<i>Platanus x hybrida</i> (London Plane)	20	9	258	135	SM	Appears stable with sound branching structure. Crown suppressed on the NW side due to crowding.	Selectively pruned to clear building NE side & crown lifted to 5 metres	Good	Low foliar insect infestation (Sycamore Lace Bug)	Long - more than 40 years	4	Moderate	Nature strip
23	<i>Platanus x hybrida</i> (London Plane)	16	8	226	80	SM	Appears stable with sound branching structure. Minor dieback with 5% deadwood.	Crown lifted to 5 metres	Fair with slightly thinning crown	Low foliar insect infestation (Sycamore Lace Bug)	Medium 15-40 Years	4	Moderate	Nature strip
24	<i>Platanus x hybrida</i> (London Plane)	20	10	303	160	SM	Appears stable with sound branching structure. Slight lean to SW toward street.	Crown lifted to 5 metres	Good	Low foliar insect infestation (Sycamore Lace Bug)	Long - more than 40 years	3	High	Nature strip

APPENDIX 3 - TREE HEALTH AND CONDITION ASSESSMENT SCHEDULE

Tree Identification No.	Species	Height (m)	Spread (m)	Trunk Diameter (mm)	Live Crown Size (m ²)	Maturity Class	Condition	Previous Pruning	Health		Remaining Safe Useful Life Expectancy (SULE)	Landscape Significance Rating	Retention Value	Location
									Vigour	Pest & Disease				
25	<i>Platanus x hybrida</i> (London Plane)	18	10	268	140	SM	Appears stable with sound branching structure. Crown suppressed on NE side due building & previous pruning	Selectively pruned to clear building NE side & crown lifted to 5 metres	Good	Low foliar insect infestation (Sycamore Lace Bug)	Long - more than 40 years	3	High	Nature strip
26	<i>Platanus acerifolius</i> (London Plane)	16	11	363	121	SM	Appears stable with sound branching structure. Crown suppressed on NE side due building & previous pruning	Selectively pruned to clear building NE side & crown lifted to 5 metres	Very Good	No Evidence	Long - more than 40 years	3	High	Nature strip
27	<i>Zelkova serrata</i> (Japanese Zelkova)	3	1.5	50	2.25	I	Appears stable with sound branching structure. Exhibits multiple large wounds on lower trunk from GL to 1 metres due vandalism.	Crown lifted to 1.5 metres	Good	No Evidence	Short 5-15 Years	5	Low	Nature strip
28	<i>Platanus x hybrida</i> (London Plane)	14	8	277	80	SM	Appears stable with sound branching structure. Exhibits a prominent to the SW (self-corrected). Exhibits multiple small wounds on trunk due to mechanical injury.	Crown lifted to 5 metres	Very Good	No Evidence	Long - more than 40 years	4	Moderate	Nature strip
29	<i>Zelkova serrata</i> (Japanese Zelkova)	3.5	2	70	3	I	Appears stable with sound branching structure. Exhibits a large partially occluded axial wound on trunk.	Crown lifted to 2 metres	Good	No Evidence	Long - more than 40 years	5	Moderate	Nature strip
30	<i>Platanus x hybrida</i> (London Plane)	17	15	487	195	M	Appears stable with fair branching structure. Exhibits a very prominent to the SW. Crown suppressed on NE side due building & previous pruning. Extended lateral PLs. Roots growing over kerb and displacing kerb.	Crown lifted to 5 metres. Selectively pruned to clear awning.	Good	Low foliar insect infestation (Sycamore Lace Bug)	Long - more than 40 years	3	High	Nature strip
31	<i>Gleditsia triacanthos</i> (Honey Locust)	4	4	70	16	I	Appears stable with sound branching structure. Located in small raised triangular planter. Limited soil volume for future growth and development.	No Evidence	Very Good	No Evidence	Short 5-15 Years	5	Low	On-site
32	<i>Koelreutaria paniculata</i> (Golden Rain Tree)	1.5	1	30	0.5	I	Appears stable with fair branching structure.	No Evidence	Good	No Evidence	Long - more than 40 years	5	Moderate	Nature strip
33	<i>Platanus acerifolius</i> (London Plane)	16	13	468	156	M	Appears stable with sound branching structure. Exhibits a prominent lean to the SE then south with bend in trunk at 2 metres (self-corrected).	Selectively pruned to clear building NE side & crown lifted to 4 metres	Very Good	No Evidence	Long - more than 40 years	3	High	Nature strip

APPENDIX 3 - TREE HEALTH AND CONDITION ASSESSMENT SCHEDULE

Tree Identification No.	Species	Height (m)	Spread (m)	Trunk Diameter (mm)	Live Crown Size (m ²)	Maturity Class	Condition	Previous Pruning	Health		Remaining Safe Useful Life Expectancy (SULE)	Landscape Significance Rating	Retention Value	Location
									Vigour	Pest & Disease				
34	<i>Platanus x hybrida</i> (London Plane)	12	10	350	90	SM	Appears stable with sound branching structure. Exhibits a very prominent to the east. Crown suppressed on NE side due building & previous pruning	Selectively pruned to clear building NW side. Deadwooded	Fair with thinning crown	Low foliar insect infestation (Sycamore Lace Bug)	Short 5-15 Years	4	Low	Nature strip
35	<i>Platanus x hybrida</i> (London Plane)	18	10	468	100	M	Appears stable with sound branching structure. Crown suppressed on NE side due building & previous pruning. Exhibits multiple small wounds due previous pruning with decay at branch collars. Multiple moderate wounds on lower trunk and buttress with decay.	Selectively pruned to clear building NE side & crown lifted to 5 metres	Fair with slightly thinning crown	Low foliar insect infestation (Sycamore Lace Bug)	Short 5-15 Years	3	Low	Nature strip
36	<i>Platanus acerifolius</i> (London Plane)	22	13	646	221	M	Appears stable with sound branching structure. Crown suppressed on NE side due building & previous pruning. Exhibits a low bark inclusion at 2 metres. Very prominent lean to the SW toward street.	Selectively pruned to clear building NE side & crown lifted to 5 metres	Very Good	No Evidence	Long - more than 40 years	3	High	Nature strip
37	<i>Magnolia grandiflora</i> 'Little Gem' (Little Gem Magnolia)	2	1	50	2	I	Appears stable with sound branching structure. Located within a raised planter.	No Evidence	Very Good	No Evidence	Long - more than 40 years	5	Moderate	On-site
38	<i>Platanus x hybrida</i> (London Plane)	20	11	398	165	SM	Appears stable with sound branching structure. Crown suppressed on NW side due building & previous pruning. Slight lean to the south.	Selectively pruned to clear building NW side & crown lifted to 5 metres	Very Good	Moderate foliar insect infestation (Sycamore Lace Bug)	Long - more than 40 years	3	High	Nature strip
39	<i>Platanus x hybrida</i> (London Plane)	18	9	325	117	SM	Appears stable with sound branching structure. Crown suppressed on NW side due building & previous pruning. Slight lean to the south.	Selectively pruned to clear building NW side & crown lifted to 5 metres	Good	Moderate foliar insect infestation (Sycamore Lace Bug)	Long - more than 40 years	3	High	Nature strip
40	<i>Platanus x hybrida</i> (London Plane)	18	8	334	104	SM	Appears stable with sound branching structure.	Selectively pruned to clear building NW side & crown lifted to 5 metres	Good	Moderate foliar insect infestation (Sycamore Lace Bug)	Long - more than 40 years	3	High	Nature strip

APPENDIX 3 - TREE HEALTH AND CONDITION ASSESSMENT SCHEDULE

Tree Identification No.	Species	Height (m)	Spread (m)	Trunk Diameter (mm)	Live Crown Size (m ²)	Maturity Class	Condition	Previous Pruning	Health		Remaining Safe Useful Life Expectancy (SULE)	Landscape Significance Rating	Retention Value	Location
									Vigour	Pest & Disease				
41	<i>Platanus x hybrida</i> (London Plane)	18	10	366	130	SM	Appears stable with sound branching structure. Crown suppressed on NW side due building & previous pruning. Slight lean to the south.	Selectively pruned to clear building NW side & crown lifted to 5 metres	Good	Moderate foliar insect infestation (Sycamore Lace Bug)	Long - more than 40 years	3	High	Nature strip
42	<i>Platanus x hybrida</i> (London Plane)	18	10	325	130	SM	Appears stable with sound branching structure. Crown suppressed on NW side due building & previous pruning. Slight lean to the south.	Selectively pruned to clear building NW side & crown lifted to 5 metres	Very Good	Moderate foliar insect infestation (Sycamore Lace Bug)	Long - more than 40 years	3	High	Nature strip
43	<i>Livistona australis</i> (Cabbage Tree Palm)	12	4	318	12	M	Appears stable with sound branching structure. Exhibits a prominent lean to the east (self corrected).	No Evidence	Good	Low Palm Rust infection	Long - more than 40 years	3	High	Nature strip
44	<i>Livistona australis</i> (Cabbage Tree Palm)	11	1	341	1	OM	Appears stable with poor branching structure. Exhibits a prominent lean to the east (self corrected). Acute bend in upper trunk with substantial crown dieback	No Evidence	Poor with sparse crown	Low Palm Rust infection	Transient (less than 5 years)	5	Very Low	Nature strip
45	<i>Livistona australis</i> (Cabbage Tree Palm)	13	4	293	12	M	Appears stable with sound branching structure.	No Evidence	Good	Low Palm Rust infection	Long - more than 40 years	3	High	Nature strip
46	<i>Livistona australis</i> (Cabbage Tree Palm)	12	4.5	325	13.5	M	Appears stable with sound branching structure.	No Evidence	Good	Low Palm Rust infection	Long - more than 40 years	3	High	Nature strip
47	<i>Livistona australis</i> (Cabbage Tree Palm)	12	4	303	12	M	Appears stable with sound branching structure. Exhibits a slight lean to the east (self corrected).	No Evidence	Good	Low Palm Rust infection	Long - more than 40 years	3	High	Nature strip
48	<i>Livistona australis</i> (Cabbage Tree Palm)	13	4.5	312	18	M	Appears stable with sound branching structure. Exhibits a prominent lean to the east (self corrected).	No Evidence	Good	Low Palm Rust infection	Long - more than 40 years	3	High	Nature strip
49	<i>Livistona australis</i> (Cabbage Tree Palm)	12	4	264	12	M	Appears stable with sound branching structure. Exhibits a slight lean to the east (self corrected).	No Evidence	Good	Low Palm Rust infection	Long - more than 40 years	3	High	Nature strip
50	<i>Magnolia grandiflora</i> 'Exmouth' (Exmouth Magnolia)	6	5	178	25	SM	Appears stable with sound branching structure.	Crown lifted to 1 metre	Very Good	No Evidence	Long - more than 40 years	5	Moderate	On-site

		APPENDIX 3 - TREE HEALTH AND CONDITION ASSESSMENT SCHEDULE												
Tree Identification No.	Species	Height (m)	Spread (m)	Trunk Diameter (mm)	Live Crown Size (m²)	Maturity Class	Condition	Previous Pruning	Health		Remaining Safe Useful Life Expectancy (SULE)	Landscape Significance Rating	Retention Value	Location
									Vigour	Pest & Disease				
51	<i>Magnolia grandiflora</i> 'Exmouth' (Exmouth Magnolia)	7	5	220	27.5	SM	Appears stable with sound branching structure.	Crown lifted to 1 metre	Very Good	No Evidence	Long - more than 40 years	5	Moderate	On-site
52	<i>Magnolia grandiflora</i> 'Exmouth' (Exmouth Magnolia)	7	6	210	33	SM	Appears stable with sound branching structure.	Crown lifted to 1 metre	Very Good	No Evidence	Long - more than 40 years	5	Moderate	On-site
53	<i>Magnolia grandiflora</i> 'Exmouth' (Exmouth Magnolia)	6	6	240	27	SM	Appears stable with sound branching structure.	Crown lifted to 1 metre	Very Good	No Evidence	Long - more than 40 years	5	Moderate	On-site
54	<i>Magnolia grandiflora</i> 'Exmouth' (Exmouth Magnolia)	7	5	180	27.5	SM	Appears stable with sound branching structure.	Crown lifted to 1 metre	Very Good	No Evidence	Long - more than 40 years	5	Moderate	On-site
55	<i>Magnolia grandiflora</i> 'Exmouth' (Exmouth Magnolia)	8	6	200	39	SM	Appears stable with sound branching structure.	Crown lifted to 1 metre	Very Good	No Evidence	Long - more than 40 years	5	Moderate	On-site
56	<i>Livistona australis</i> (Cabbage Tree Palm)	12	4	341	12	M	Appears stable with sound branching structure.	No Evidence	Good	No Evidence	Long - more than 40 years	3	High	Nature strip
57	<i>Livistona australis</i> (Cabbage Tree Palm)	12	3	236	9	M	Appears stable with sound branching structure.	No Evidence	Good	No Evidence	Long - more than 40 years	3	High	Nature strip
58	<i>Livistona australis</i> (Cabbage Tree Palm)	12	3	303	9	M	Appears stable with sound branching structure.	No Evidence	Good	No Evidence	Long - more than 40 years	3	High	Nature strip
59	<i>Livistona australis</i> (Cabbage Tree Palm)	12	3	328	9	M	Appears stable with sound branching structure.	No Evidence	Good	No Evidence	Long - more than 40 years	3	High	Nature strip
60	<i>Livistona australis</i> (Cabbage Tree Palm)	12	3	325	9	M	Appears stable with sound branching structure.	No Evidence	Good	No Evidence	Long - more than 40 years	3	High	Nature strip

APPENDIX 3 - TREE HEALTH AND CONDITION ASSESSMENT SCHEDULE

Tree Identification No.	Species	Height (m)	Spread (m)	Trunk Diameter (mm)	Live Crown Size (m ²)	Maturity Class	Condition	Previous Pruning	Health		Remaining Safe Useful Life Expectancy (SULE)	Landscape Significance Rating	Retention Value	Location
									Vigour	Pest & Disease				
61	<i>Livistona australis</i> (Cabbage Tree Palm)	13	4	274	20	M	Appears stable with sound branching structure.	No Evidence	Good	No Evidence	Long - more than 40 years	3	High	Nature strip
62	<i>Livistona australis</i> (Cabbage Tree Palm)	13	4	334	16	M	Appears stable with sound branching structure.	No Evidence	Good	No Evidence	Long - more than 40 years	3	High	Nature strip
63	<i>Livistona australis</i> (Cabbage Tree Palm)	14	4	296	16	M	Appears stable with sound branching structure.	No Evidence	Good	No Evidence	Long - more than 40 years	3	High	Nature strip
64	<i>Livistona australis</i> (Cabbage Tree Palm)	13	4	303	12	M	Appears stable with sound branching structure.	No Evidence	Good	No Evidence	Long - more than 40 years	3	High	Nature strip
65	<i>Livistona australis</i> (Cabbage Tree Palm)	14	4	309	12	M	Appears stable with sound branching structure.	No Evidence	Good	No Evidence	Long - more than 40 years	3	High	Nature strip
66	<i>Livistona australis</i> (Cabbage Tree Palm)	13	4	318	12	M	Appears stable with sound branching structure.	No Evidence	Good	No Evidence	Long - more than 40 years	3	High	Nature strip
67	<i>Ficus microcarpa</i> var. <i>hillii</i> (Hill's Weeping Fig)	20	20	634	320	M	Appears stable with fair branching structure. Exhibits a prominent lean to the east. Crown suppressed on the west side due to building & previous pruning. Multiple moderate bark inclusions at 3metres at junctions of PLs. Multiple small wounds at 2-3 metres due mechanical injury.	No Evidence	Very Good	No Evidence	Long - more than 40 years	2	High	Nature strip
68	<i>Ficus microcarpa</i> var. <i>hillii</i> (Hill's Weeping Fig)	20	14	602	182	M	Appears stable with sound branching structure. Exhibits a low bark inclusion at 1.5 metres (partially welded junction). Crown suppressed on the west side due to building & previous pruning. Moderate partially occluded wound and cavity at 2 metres.	Selectively pruned to clear building west side & crown lifted to 5 metres	Very Good	No Evidence	Long - more than 40 years	3	High	Nature strip

APPENDIX 3 - TREE HEALTH AND CONDITION ASSESSMENT SCHEDULE

Tree Identification No.	Species	Height (m)	Spread (m)	Trunk Diameter (mm)	Live Crown Size (m ²)	Maturity Class	Condition	Previous Pruning	Health		Remaining Safe Useful Life Expectancy (SULE)	Landscape Significance Rating	Retention Value	Location
									Vigour	Pest & Disease				
69	<i>Ficus microcarpa</i> var. <i>hillii</i> (Hill's Weeping Fig)	20	12	433	168	M	Appears stable with sound branching structure. Exhibits a low bark inclusion at 3 metres at junction of PLs. Crown suppressed on the west side due to building & previous pruning. Moderate partially occluded wound and cavity at 2 metres.	Selectively pruned to clear building west side & crown lifted to 5 metres	Very Good	No Evidence	Long - more than 40 years	3	High	Nature strip
70	<i>Ficus microcarpa</i> var. <i>hillii</i> (Hill's Weeping Fig)	18	14	490	182	M	Appears stable with sound branching structure.	Selectively pruned to clear building west side & crown lifted to 5 metres	Very Good	No Evidence	Long - more than 40 years	3	High	Nature strip
71	<i>Ficus microcarpa</i> var. <i>hillii</i> (Hill's Weeping Fig)	16	10	401	110	SM	Appears stable with poor branching structure. Exhibits a large wound from GL to 1 metre due to branch loss with decay evident.	Selectively pruned to clear building west side & crown lifted to 5 metres	Good	No Evidence	Short 5-15 Years	3	Moderate	Nature strip
72	<i>Ficus microcarpa</i> var. <i>hillii</i> (Hill's Weeping Fig)	15	13	443	130	SM	Appears stable with sound branching structure. Exhibits a very prominent lean to the NE.	Crown lifted to 5 metres	Very Good	No Evidence	Long - more than 40 years	3	High	Nature strip

APPENDIX 4 - IMPACT ASSESSMENT SCHEDULE

Tree Identification No.	Species	Construction Tolerance	Tree Protection Zone (m R)	Structural Root Zone (m R)	TPZ (m²)	Incursions To Root Zone &/or Canopy	Likely Impact	Recommendation
1	<i>Ficus microcarpa</i> var. <i>hillii</i> (Hill's Weeping Fig)	M	3.8	1.9	45.9	Existing asphalt pavement within SRZ/TPZ to be demolished & replaced with new Granite Paving to standard City of Sydney detail at similar grade. Excavations for pavement sub-grade within TPZ. Proposed new building offset 4 metres west (within footprint of existing building). No encroachment to TPZ. Some canopy pruning may be required to accomodate temporary hoardings and scaffolding.	Potential for some root damage during demolition and excavation for new pavement sub-grade. No adverse impact, provided that all works within TPZ are undertaken as recommended.	Retain in accordance with recommended Tree Protection Measures (Section 10). Install Trunk Protection boarding in accordance with Section 10.4. Install temporary hoardings & scaffold in accordance with Section 10.15. Undertake and required canopy pruning (that essential to clear temporary scaffolding) in accordance with Section 10.11. Undertake all excavations for pavement sub-grade within TPZ in accordance with Section 10.6. Demolish existing asphalt in accordance with Section 10.5.
2	<i>Ficus microcarpa</i> var. <i>hillii</i> (Hill's Weeping Fig)	M	6.3	2.3	124.9	Existing asphalt pavement within SRZ/TPZ to be demolished & replaced with new Granite Paving to standard City of Sydney detail at similar grade. Excavations for pavement sub-grade within TPZ. Proposed new building offset 4.9 metres SW (within footprint of existing building). Encroachment to TPZ = 2%. Some canopy pruning may be required to accomodate temporary hoardings and scaffolding.		
3	<i>Ficus microcarpa</i> var. <i>hillii</i> (Hill's Weeping Fig)	M	5.3	2.1	86.5	Existing asphalt pavement within SRZ/TPZ to be demolished & replaced with new Granite Paving to standard City of Sydney detail at similar grade. Excavations for pavement sub-grade within TPZ. Proposed new building offset 5.2 metres south (within footprint of existing building). No encroachment to TPZ. Some canopy pruning may be required to accomodate temporary hoardings and scaffolding.		

APPENDIX 4 - IMPACT ASSESSMENT SCHEDULE

Tree Identification No.	Species	Construction Tolerance	Tree Protection Zone (m R)	Structural Root Zone (m R)	TPZ (m²)	Incursions To Root Zone &/or Canopy	Likely Impact	Recommendation
4	<i>Ficus microcarpa</i> var. <i>hillii</i> (Hill's Weeping Fig)	M	5.5	2.2	94.8	Existing asphalt pavement within SRZ/TPZ to be demolished & replaced with new Granite Paving to standard City of Sydney detail at similar grade. Excavations for pavement sub-grade within TPZ. Proposed new building offset 4 metres SE (within footprint of existing building). Encroachment to TPZ = 8%. Some canopy pruning may be required to accomodate temporary hoardings and scaffolding.	Potential for some root damage during demolition and excavation for new pavement sub-grade. No adverse impact, provided that all works within TPZ are undertaken as recommended.	Retain in accordance with recommended Tree Protection Measures (Section 10). Install Trunk Protection boarding in accordance with Section 10.4. Install temporary hoardings & scaffold in accordance with Section 10.15. Undertake and required canopy pruning (that essential to clear temporary scaffolding) in accordance with Section 10.11. Undertake all excavations for pavement sub-grade within TPZ in accordance with Section 10.6. Demolish existing asphalt in accordance with Section 10.5.
5	<i>Ficus microcarpa</i> var. <i>hillii</i> (Hill's Weeping Fig)	M	7.2	2.4	163.4	Existing asphalt pavement within SRZ/TPZ to be demolished & replaced with new Granite Paving to standard City of Sydney detail at similar grade. Excavations for pavement sub-grade within TPZ. Proposed new building offset 1.9 metres east (within footprint of existing building). Encroachment to TPZ = 22%. Some canopy pruning may be required to accomodate temporary hoardings and scaffolding.		
6	<i>Ficus microcarpa</i> var. <i>hillii</i> (Hill's Weeping Fig)	M	5.9	2.2	108.4	Existing asphalt pavement within SRZ/TPZ to be demolished & replaced with new Granite Paving to standard City of Sydney detail at similar grade. Excavations for pavement sub-grade within TPZ. Proposed new building offset 3.6 metres east (within footprint of existing building). Encroachment to TPZ = 17%. Some canopy pruning may be required to accomodate temporary hoardings and scaffolding.		
7	<i>Platanus x hybrida</i> (London Plane)	M	6.0	2.0	113.0	No proposed works within TPZ.	No adverse impact.	To be retained - no special tree protection measures required.

APPENDIX 4 - IMPACT ASSESSMENT SCHEDULE								
Tree Identification No.	Species	Construction Tolerance	Tree Protection Zone (m R)	Structural Root Zone (m R)	TPZ (m²)	Incursions To Root Zone &/or Canopy	Likely Impact	Recommendation
8	<i>Platanus x hybrida</i> (London Plane)	M	6.0	2.1	113.0	No proposed works within TPZ.	No adverse impact.	To be retained - no special tree protection measures required.
9	<i>Platanus x hybrida</i> (London Plane)	M	6.0	2.0	113.0	No proposed works within TPZ.	No adverse impact.	To be retained - no special tree protection measures required.
10	Group of 7 x <i>Archontophoenix cunninghamii</i> (Bangalow Palm)	G	1.5	1.3	7.1	Located within footprint of proposed water feature.	Proposed works will necessitate removal	Remove trees.
11	<i>Platanus x hybrida</i> (London Plane)	M	6.0	2.1	113.0	Proposed new paved seating area and associated sloping blade wall offset 3 metres NE at RL110.44 (100mm below grade to 300mm above grade) excavations and engineered fill within TPZ. Encroachment to TPZ = 10%. Surrounding asphalt to be re-instated (made good) following construction.	Extent of encroachment to the root zone is less than 10% of the TPZ, which is within acceptable limits under AS 4970:2009. No adverse impact.	Retain in accordance with recommended Tree Protection Measures (Section 10). Install Trunk Protection boarding in accordance with Section 10.4. Undertake all excavations for pavement sub-grade and wall foundations within TPZ in accordance with Section 10.6.
12	<i>Platanus x hybrida</i> (London Plane)	M	7.5	2.5	176.6	No proposed works within TPZ.	No adverse impact.	To be retained - no special tree protection measures required.
13	<i>Platanus x hybrida</i> (London Plane)	M	8.1	2.6	207.1	No proposed works within TPZ.	No adverse impact.	To be retained - no special tree protection measures required.
14	<i>Platanus x hybrida</i> (London Plane)	M	6.0	1.9	113.0	No proposed works within TPZ.	No adverse impact.	To be retained - no special tree protection measures required.

APPENDIX 4 - IMPACT ASSESSMENT SCHEDULE								
Tree Identification No.	Species	Construction Tolerance	Tree Protection Zone (m R)	Structural Root Zone (m R)	TPZ (m²)	Incursions To Root Zone &/or Canopy	Likely Impact	Recommendation
15	<i>Platanus x hybrida</i> (London Plane)	M	6.0	1.9	113.0	No proposed works within TPZ.	No adverse impact.	To be retained - no special tree protection measures required.
16	<i>Platanus x hybrida</i> (London Plane)	M	6.0	2.1	113.0	No proposed works within TPZ.	No adverse impact.	To be retained - no special tree protection measures required.
17	<i>Platanus x hybrida</i> (London Plane)	M	5.0	1.8	78.5	No proposed works within TPZ.	No adverse impact.	To be retained - no special tree protection measures required.
18	<i>Platanus x hybrida</i> (London Plane)	M	7.0	2.1	153.9	No proposed works within TPZ.	No adverse impact.	To be retained - no special tree protection measures required.
19	<i>Platanus x hybrida</i> (London Plane)	M	6.0	2.1	113.0	No proposed works within TPZ.	No adverse impact.	To be retained - no special tree protection measures required.
20	<i>Platanus x hybrida</i> (London Plane)	M	5.0	1.8	78.5	Surrounding asphalt to be re-instated (made good) following construction of new driveway crossover and layback to the south. Minor canopy pruning may be required to clear temporary hoardings.	No adverse impact.	Retain in accordance with recommended Tree Protection Measures (Section 10). Install Trunk Protection boarding in accordance with Section 10.4. Undertake all excavations for pavement sub-grade within TPZ in accordance with Section 10.6. Install temporary hoardings within TPZ in accordance with Section 10.15. Undertake any required canopy pruning (that essential to clear temporary hoardings) in accordance with Section 10.11.

APPENDIX 4 - IMPACT ASSESSMENT SCHEDULE								
Tree Identification No.	Species	Construction Tolerance	Tree Protection Zone (m R)	Structural Root Zone (m R)	TPZ (m²)	Incursions To Root Zone &/or Canopy	Likely Impact	Recommendation
21	<i>Platanus x hybrida</i> (London Plane)	M	6.9	2.4	150.7	Located within footprint of proposed driveway crossover	Proposed works will necessitate removal	Remove tree.
22	<i>Platanus x hybrida</i> (London Plane)	M	5.0	1.9	78.5	Located within footprint of proposed driveway crossover	Proposed works will necessitate removal	Undertake replacement planting with a new tree elsewhere on the nature strip (where space permits) to compensate for loss of amenity in accordance with Section 11.
23	<i>Platanus x hybrida</i> (London Plane)	M	5.0	1.8	78.5	Located within footprint of proposed driveway crossover	Proposed works will necessitate removal	Undertake replacement planting with a new tree elsewhere on the nature strip (where space permits) to compensate for loss of amenity in accordance with Section 11.
24	<i>Platanus x hybrida</i> (London Plane)	M	6.0	2.0	113.0	Surrounding asphalt to be re-instated (made good) following construction of new driveway crossover and layback to the south. Minor canopy pruning may be required to clear temporary hoardings.	No adverse impact.	Retain in accordance with recommended Tree Protection Measures (Section 10). Install Trunk Protection boarding in accordance with Section 10.4. Undertake all excavations for pavement sub-grade within TPZ in accordance with Section 10.6. Install temporary hoardings within TPZ in accordance with Section 10.15. Undertake any required canopy pruning (that essential to clear temporary hoardings) in accordance with Section 10.11.
25	<i>Platanus x hybrida</i> (London Plane)	M	6.0	1.9	113.0	No proposed works within TPZ.	No adverse impact.	To be retained - no special tree protection measures required.
26	<i>Platanus acerifolius</i> (London Plane)	M	7.0	2.2	153.9	No proposed works within TPZ.	No adverse impact.	To be retained - no special tree protection measures required.

APPENDIX 4 - IMPACT ASSESSMENT SCHEDULE								
Tree Identification No.	Species	Construction Tolerance	Tree Protection Zone (m R)	Structural Root Zone (m R)	TPZ (m²)	Incursions To Root Zone &/or Canopy	Likely Impact	Recommendation
27	<i>Zelkova serrata</i> (Japanese Zelkova)	M	1.5	0.9	7.1	No proposed works within TPZ.	No adverse impact.	To be retained - no special tree protection measures required.
28	<i>Platanus x hybrida</i> (London Plane)	M	5.0	1.9	78.5	No proposed works within TPZ.	No adverse impact.	To be retained - no special tree protection measures required.
29	<i>Zelkova serrata</i> (Japanese Zelkova)	M	1.5	1.1	7.1	Surrounding asphalt to be re-instated (made good) following construction of new entry pavement east.	No adverse impact.	Retain in accordance with recommended Tree Protection Measures (Section 10). Install Tree Protection Fence in accordance with Section 10.3. Undertake all excavations for pavement sub-grade within TPZ in accordance with Section 10.6.
30	<i>Platanus x hybrida</i> (London Plane)	M	7.3	2.4	167.7	Surrounding asphalt to be re-instated (made good) following construction of new entry pavement east.	No adverse impact.	Retain in accordance with recommended Tree Protection Measures (Section 10). Trunk Protection boarding in accordance with Section 10.4. Undertake all excavations for pavement sub-grade within TPZ in accordance with Section 10.6.
31	<i>Gleditsia triacanthos</i> (Honey Locust)	M	2.0	1.1	12.6	Existing planter box surrounding tree to be demolished.	Proposed works will necessitate removal	Remove tree.
32	<i>Koelreutaria paniculata</i> (Golden Rain Tree)	M	1.5	0.8	7.1	No proposed works within TPZ.	No adverse impact.	To be retained - no special tree protection measures required.
33	<i>Platanus acerifolius</i> (London Plane)	M	7.0	2.4	154.8	No proposed works within TPZ.	No adverse impact.	To be retained - no special tree protection measures required.
34	<i>Platanus x hybrida</i> (London Plane)	M	5.3	2.1	86.7	No proposed works within TPZ.	No adverse impact.	To be retained - no special tree protection measures required.

APPENDIX 4 - IMPACT ASSESSMENT SCHEDULE								
Tree Identification No.	Species	Construction Tolerance	Tree Protection Zone (m R)	Structural Root Zone (m R)	TPZ (m²)	Incursions To Root Zone &/or Canopy	Likely Impact	Recommendation
35	<i>Platanus x hybrida</i> (London Plane)	M	7.0	2.4	154.8	No proposed works within TPZ.	No adverse impact.	To be retained - no special tree protection measures required.
36	<i>Platanus acerifolius</i> (London Plane)	M	9.7	2.8	295.3	Surrounding asphalt to be re-instated (made good) following construction of new entry pavement to NE.	No adverse impact.	Retain in accordance with recommended Tree Protection Measures (Section 10). Trunk Protection boarding in accordance with Section 10.4. Undertake all excavations for pavement sub-grade within TPZ in accordance with Section 10.6.
37	<i>Magnolia grandiflora</i> 'Little Gem' (Little Gem Magnolia)	M	1.5	1.0	7.1	Existing planter box surrounding tree to be demolished. Located within footprint of new pavement entry.	Proposed works will necessitate removal	Undertake replacement planting with a new tree elsewhere within the site (where space permits) to compensate for loss of amenity in accordance with Section 11.
38	<i>Platanus x hybrida</i> (London Plane)	M	6.0	2.2	112.0	Surrounding asphalt to be re-instated (made good) following construction of new entry pavement to SW. Some canopy pruning may be required to clear temporary hoardings.	No adverse impact.	Retain in accordance with recommended Tree Protection Measures (Section 10). Trunk Protection boarding in accordance with Section 10.4. Undertake all excavations for pavement sub-grade within TPZ in accordance with Section 10.6. Install temporary hoardings within TPZ in accordance with Section 10.15. Undertake any required canopy pruning (that essential to clear temporary hoardings) in accordance with Section 10.11.
39	<i>Platanus x hybrida</i> (London Plane)	M	5.5	2.1	95.0	No proposed works within TPZ.	No adverse impact.	To be retained - no special tree protection measures required.

APPENDIX 4 - IMPACT ASSESSMENT SCHEDULE								
Tree Identification No.	Species	Construction Tolerance	Tree Protection Zone (m R)	Structural Root Zone (m R)	TPZ (m²)	Incursions To Root Zone &/or Canopy	Likely Impact	Recommendation
40	<i>Platanus x hybrida</i> (London Plane)	M	5.0	2.1	79.0	No proposed works within TPZ.	No adverse impact.	To be retained - no special tree protection measures required.
41	<i>Platanus x hybrida</i> (London Plane)	M	6.0	2.2	113.0	No proposed works within TPZ.	No adverse impact.	To be retained - no special tree protection measures required.
42	<i>Platanus x hybrida</i> (London Plane)	M	6.0	2.1	113.0	No proposed works within TPZ.	No adverse impact.	To be retained - no special tree protection measures required.
43	<i>Livistona australis</i> (Cabbage Tree Palm)	G	3.8	2.0	45.9	Existing asphalt pavement within SRZ/TPZ to be demolished & replaced with new Granite Paving to standard City of Sydney detail at similar grade. Located within footprint of proposed new granite pavement.	Proposed works will necessitate removal	Undertake replacement planting with a new tree elsewhere within the site (where space permits) to compensate for loss of amenity in accordance with Section 11.
44	<i>Livistona australis</i> (Cabbage Tree Palm)	G	4.1	2.1	52.5	Existing asphalt pavement within SRZ/TPZ to be demolished & replaced with new Granite Paving to standard City of Sydney detail at similar grade. Located within footprint of proposed new granite pavement.	Proposed works will necessitate removal	Remove tree.
45	<i>Livistona australis</i> (Cabbage Tree Palm)	G	3.5	2.0	38.8	Existing asphalt pavement within SRZ/TPZ to be demolished & replaced with new Granite Paving to standard City of Sydney detail at similar grade. Located within footprint of proposed new granite pavement.	Proposed works will necessitate removal	Undertake replacement planting with a new tree elsewhere within the site (where space permits) to compensate for loss of amenity in accordance with Section 11.

APPENDIX 4 - IMPACT ASSESSMENT SCHEDULE								
Tree Identification No.	Species	Construction Tolerance	Tree Protection Zone (m R)	Structural Root Zone (m R)	TPZ (m²)	Incursions To Root Zone &/or Canopy	Likely Impact	Recommendation
46	<i>Livistona australis</i> (Cabbage Tree Palm)	G	3.9	2.1	47.7	Existing asphalt pavement within SRZ/TPZ to be demolished & replaced with new Granite Paving to standard City of Sydney detail at similar grade. Located within footprint of proposed new granite pavement.	Proposed works will necessitate removal	Undertake replacement planting with a new tree elsewhere within the site (where space permits) to compensate for loss of amenity in accordance with Section 11.
47	<i>Livistona australis</i> (Cabbage Tree Palm)	G	3.6	2.0	41.4	Existing asphalt pavement within SRZ/TPZ to be demolished & replaced with new Granite Paving to standard City of Sydney detail at similar grade. Located within footprint of proposed new granite pavement.	Proposed works will necessitate removal	Undertake replacement planting with a new tree elsewhere within the site (where space permits) to compensate for loss of amenity in accordance with Section 11.
48	<i>Livistona australis</i> (Cabbage Tree Palm)	G	3.7	2.0	44.0	Existing asphalt pavement within SRZ/TPZ to be demolished & replaced with new Granite Paving to standard City of Sydney detail at similar grade. Located within footprint of proposed new granite pavement.	Proposed works will necessitate removal	Undertake replacement planting with a new tree elsewhere within the site (where space permits) to compensate for loss of amenity in accordance with Section 11.
49	<i>Livistona australis</i> (Cabbage Tree Palm)	G	3.2	1.9	31.6	Existing asphalt pavement within SRZ/TPZ to be demolished & replaced with new Granite Paving to standard City of Sydney detail at similar grade. Located within footprint of proposed new granite pavement.	Proposed works will necessitate removal	Undertake replacement planting with a new tree elsewhere within the site (where space permits) to compensate for loss of amenity in accordance with Section 11.
50	<i>Magnolia grandiflora</i> 'Exmouth' (Exmouth Magnolia)	M	2.7	1.6	22.5	Existing pavement and tree pit within TPZ to be maintained.	No adverse impact.	Retain in accordance with recommended Tree Protection Measures (Section 10). Install Tree Protection Fence in accordance with Section 10.3.
51	<i>Magnolia grandiflora</i> 'Exmouth' (Exmouth Magnolia)	M	3.3	1.8	34.2	Existing pavement and tree pit within TPZ to be maintained.	No adverse impact.	Retain in accordance with recommended Tree Protection Measures (Section 10). Install Tree Protection Fence in accordance with Section 10.3.

APPENDIX 4 - IMPACT ASSESSMENT SCHEDULE

Tree Identification No.	Species	Construction Tolerance	Tree Protection Zone (m R)	Structural Root Zone (m R)	TPZ (m²)	Incursions To Root Zone &/or Canopy	Likely Impact	Recommendation
52	<i>Magnolia grandiflora</i> 'Exmouth' (Exmouth Magnolia)	M	3.2	1.7	31.2	Existing pavement and tree pit within TPZ to be maintained.	No adverse impact.	Retain in accordance with recommended Tree Protection Measures (Section 10). Install Tree Protection Fence in accordance with Section 10.3.
53	<i>Magnolia grandiflora</i> 'Exmouth' (Exmouth Magnolia)	M	3.6	1.8	40.7	Existing pavement and tree pit within TPZ to be maintained.	No adverse impact.	Retain in accordance with recommended Tree Protection Measures (Section 10). Install Tree Protection Fence in accordance with Section 10.3.
54	<i>Magnolia grandiflora</i> 'Exmouth' (Exmouth Magnolia)	M	2.7	1.6	22.9	Existing granite pavement within TPZ to be demolished and new garden area and edge placed within TPZ.	Potential for some root damage during demolition and excavation for new pavement sub-grade. No adverse impact, provided that all works within TPZ are undertaken as recommended.	Retain in accordance with recommended Tree Protection Measures (Section 10). Install Tree Protection Fence in accordance with Section 10.3. Undertake all excavations for pavement sub-grade & garden edge within TPZ in accordance with Section 10.6.
55	<i>Magnolia grandiflora</i> 'Exmouth' (Exmouth Magnolia)	M	3.0	1.7	28.3	A portion of existing granite pavement within TPZ to be demolished and new garden area and edge placed within TPZ.	Potential for some root damage during demolition and excavation for new pavement sub-grade. No adverse impact, provided that all works within TPZ are undertaken as recommended.	Retain in accordance with recommended Tree Protection Measures (Section 10). Install Tree Protection Fence in accordance with Section 10.3. Undertake all excavations for pavement sub-grade & garden edge within TPZ in accordance with Section 10.6.
56	<i>Livistona australis</i> (Cabbage Tree Palm)	G	4.1	2.1	52.5	Existing asphalt pavement within SRZ/TPZ to be demolished & replaced with new Granite Paving to standard City of Sydney detail at similar grade.	Potential for some root damage during demolition and excavation for new pavement sub-grade. No adverse impact, provided that all works within TPZ are undertaken as recommended.	Retain in accordance with recommended Tree Protection Measures (Section 10). Install Trunk Protection boarding in accordance with Section 10.4. Undertake all excavations for pavement sub-grade within TPZ in accordance with Section 10.6. Demolish existing asphalt pavement within TPZ in accordance with Section 10.5.

APPENDIX 4 - IMPACT ASSESSMENT SCHEDULE

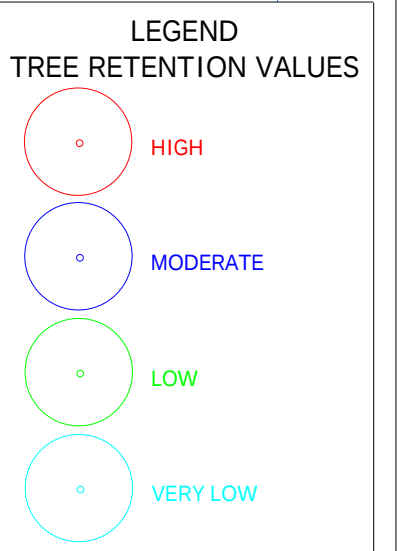
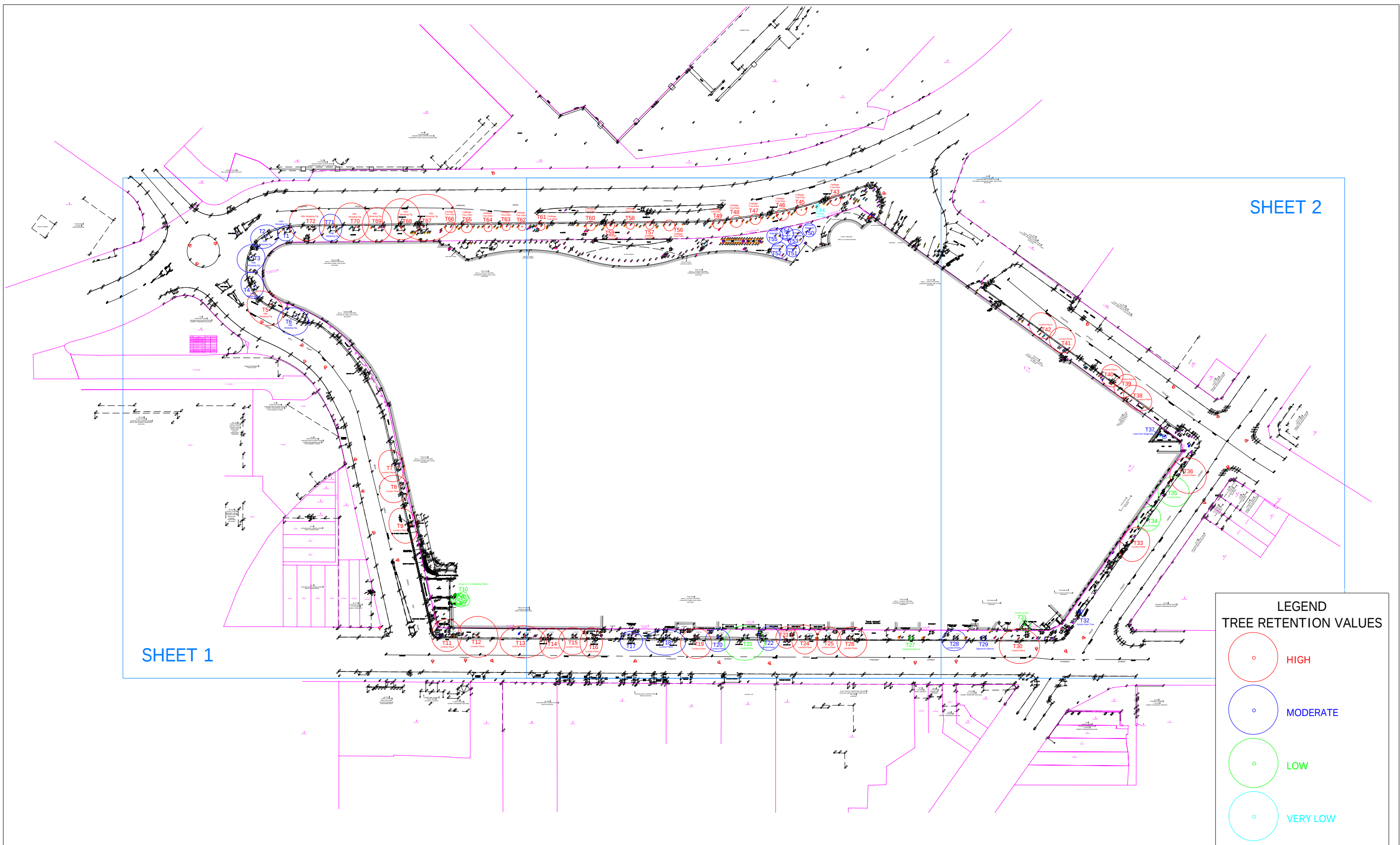
Tree Identification No.	Species	Construction Tolerance	Tree Protection Zone (m R)	Structural Root Zone (m R)	TPZ (m²)	Incursions To Root Zone &/or Canopy	Likely Impact	Recommendation
57	<i>Livistona australis</i> (Cabbage Tree Palm)	G	2.8	1.8	25.1	Existing asphalt pavement within SRZ/TPZ to be demolished & replaced with new Granite Paving to standard City of Sydney detail at similar grade.	Potential for some root damage during demolition and excavation for new pavement sub-grade. No adverse impact, provided that all works within TPZ are undertaken as recommended.	Retain in accordance with recommended Tree Protection Measures (Section 10). Install Trunk Protection boarding in accordance with Section 10.4. Undertake all excavations for pavement sub-grade within TPZ in accordance with Section 10.6. Demolish existing asphalt pavement within TPZ in accordance with Section 10.5.
58	<i>Livistona australis</i> (Cabbage Tree Palm)	G	3.6	2.0	41.4	Existing asphalt pavement within SRZ/TPZ to be demolished & replaced with new Granite Paving to standard City of Sydney detail at similar grade.	Potential for some root damage during demolition and excavation for new pavement sub-grade. No adverse impact, provided that all works within TPZ are undertaken as recommended.	Retain in accordance with recommended Tree Protection Measures (Section 10). Install Trunk Protection boarding in accordance with Section 10.4. Undertake all excavations for pavement sub-grade within TPZ in accordance with Section 10.6. Demolish existing asphalt pavement within TPZ in accordance with Section 10.5.
59	<i>Livistona australis</i> (Cabbage Tree Palm)	G	3.9	2.1	48.7	Existing asphalt pavement within SRZ/TPZ to be demolished & replaced with new Granite Paving to standard City of Sydney detail at similar grade.	Potential for some root damage during demolition and excavation for new pavement sub-grade. No adverse impact, provided that all works within TPZ are undertaken as recommended.	Retain in accordance with recommended Tree Protection Measures (Section 10). Install Trunk Protection boarding in accordance with Section 10.4. Undertake all excavations for pavement sub-grade within TPZ in accordance with Section 10.6. Demolish existing asphalt pavement within TPZ in accordance with Section 10.5.
60	<i>Livistona australis</i> (Cabbage Tree Palm)	G	3.9	2.1	47.7	Existing asphalt pavement within SRZ/TPZ to be demolished & replaced with new Granite Paving to standard City of Sydney detail at similar grade.	Potential for some root damage during demolition and excavation for new pavement sub-grade. No adverse impact, provided that all works within TPZ are undertaken as recommended.	Retain in accordance with recommended Tree Protection Measures (Section 10). Install Trunk Protection boarding in accordance with Section 10.4. Undertake all excavations for pavement sub-grade within TPZ in accordance with Section 10.6. Demolish existing asphalt pavement within TPZ in accordance with Section 10.5.

APPENDIX 4 - IMPACT ASSESSMENT SCHEDULE								
Tree Identification No.	Species	Construction Tolerance	Tree Protection Zone (m R)	Structural Root Zone (m R)	TPZ (m²)	Incursions To Root Zone &/or Canopy	Likely Impact	Recommendation
61	<i>Livistona australis</i> (Cabbage Tree Palm)	G	3.3	1.9	33.9	Existing asphalt pavement within SRZ/TPZ to be demolished & replaced with new Granite Paving to standard City of Sydney detail at similar grade. Located within footprint of proposed new granite pavement.	Proposed works will necessitate removal	Undertake replacement planting with a new tree elsewhere within the site (where space permits) to compensate for loss of amenity in accordance with Section 11.
62	<i>Livistona australis</i> (Cabbage Tree Palm)	G	4.0	2.1	50.6	Existing asphalt pavement within SRZ/TPZ to be demolished & replaced with new Granite Paving to standard City of Sydney detail at similar grade. Located within footprint of proposed new granite pavement.	Proposed works will necessitate removal	Undertake replacement planting with a new tree elsewhere within the site (where space permits) to compensate for loss of amenity in accordance with Section 11.
63	<i>Livistona australis</i> (Cabbage Tree Palm)	G	3.6	2.0	39.7	Existing asphalt pavement within SRZ/TPZ to be demolished & replaced with new Granite Paving to standard City of Sydney detail at similar grade. Located within footprint of proposed new granite pavement.	Proposed works will necessitate removal	Undertake replacement planting with a new tree elsewhere within the site (where space permits) to compensate for loss of amenity in accordance with Section 11.
64	<i>Livistona australis</i> (Cabbage Tree Palm)	G	3.6	2.0	41.4	Existing asphalt pavement within SRZ/TPZ to be demolished & replaced with new Granite Paving to standard City of Sydney detail at similar grade. Located within footprint of proposed new granite pavement.	Proposed works will necessitate removal	Undertake replacement planting with a new tree elsewhere within the site (where space permits) to compensate for loss of amenity in accordance with Section 11.
65	<i>Livistona australis</i> (Cabbage Tree Palm)	G	3.7	2.0	43.1	Located within footprint of new vehicular entry loop (Porte-cochère).	Proposed works will necessitate removal	Undertake replacement planting with a new tree elsewhere within the site (where space permits) to compensate for loss of amenity in accordance with Section 11.
66	<i>Livistona australis</i> (Cabbage Tree Palm)	G	3.8	2.0	45.9	Located within footprint of new vehicular entry loop (Porte-cochère).	Proposed works will necessitate removal	Undertake replacement planting with a new tree elsewhere within the site (where space permits) to compensate for loss of amenity in accordance with Section 11.

APPENDIX 4 - IMPACT ASSESSMENT SCHEDULE								
Tree Identification No.	Species	Construction Tolerance	Tree Protection Zone (m R)	Structural Root Zone (m R)	TPZ (m²)	Incursions To Root Zone &/or Canopy	Likely Impact	Recommendation
67	<i>Ficus microcarpa</i> var. <i>hillii</i> (Hill's Weeping Fig)	M	9.5	2.7	283.8	Located within footprint of new vehicular entry loop (Porte-cochère).	Proposed works will necessitate removal	Undertake replacement planting with a new tree elsewhere within the site (where space permits) to compensate for loss of amenity in accordance with Section 11.
68	<i>Ficus microcarpa</i> var. <i>hillii</i> (Hill's Weeping Fig)	M	9.0	2.7	256.0	Located within footprint of new vehicular entry loop (Porte-cochère).	Proposed works will necessitate removal	Undertake replacement planting with a new tree elsewhere within the site (where space permits) to compensate for loss of amenity in accordance with Section 11.
69	<i>Ficus microcarpa</i> var. <i>hillii</i> (Hill's Weeping Fig)	M	6.5	2.3	132.5	Located within footprint of new vehicular entry loop (Porte-cochère).	Proposed works will necessitate removal	Undertake replacement planting with a new tree elsewhere within the site (where space permits) to compensate for loss of amenity in accordance with Section 11.
70	<i>Ficus microcarpa</i> var. <i>hillii</i> (Hill's Weeping Fig)	M	7.4	2.5	169.9	Located within footprint of new vehicular entry loop (Porte-cochère).	Proposed works will necessitate removal	Undertake replacement planting with a new tree elsewhere within the site (where space permits) to compensate for loss of amenity in accordance with Section 11.

APPENDIX 4 - IMPACT ASSESSMENT SCHEDULE

Tree Identification No.	Species	Construction Tolerance	Tree Protection Zone (m R)	Structural Root Zone (m R)	TPZ (m²)	Incursions To Root Zone &/or Canopy	Likely Impact	Recommendation
71	<i>Ficus microcarpa</i> var. <i>hillii</i> (Hill's Weeping Fig)	M	6.0	2.3	113.8	Existing asphalt pavement within SRZ/TPZ to be demolished & replaced with new Granite Paving to standard City of Sydney detail at similar grade. Excavations for pavement sub-grade within TPZ. Proposed new entry driveway offset 1 - 2.5 metres east and south. Excavations for new kerb and pavement sub-grade within SRZ. Proposed new building offset 5.5 metres west (within footprint of existing building). Minor encroachment to TPZ. Some canopy pruning may be required to accommodate temporary hoardings and scaffolding.	Proposed driveway and kerb are likely to result in root loss and damage leading to an adverse impact.	Remove tree. Undertake replacement planting with a new tree elsewhere within the site (where space permits) to compensate for loss of amenity in accordance with Section 11.
72	<i>Ficus microcarpa</i> var. <i>hillii</i> (Hill's Weeping Fig)	M	6.6	2.4	138.4	Existing asphalt pavement within SRZ/TPZ to be demolished & replaced with new Granite Paving to standard City of Sydney detail at similar grade. Excavations for pavement sub-grade within TPZ. Proposed new building offset 5.5 metres west (within footprint of existing building). Minor encroachment to TPZ. Some canopy pruning may be required to accommodate temporary hoardings and scaffolding.	Potential for some root damage during demolition and excavation for new pavement sub-grade. No adverse impact, provided that all works within TPZ are undertaken as recommended.	Retain in accordance with recommended Tree Protection Measures (Section 10). Install Trunk Protection boarding in accordance with Section 10.4. Install temporary hoardings & scaffold in accordance with Section 10.15. Undertake and required canopy pruning (that essential to clear temporary scaffolding) in accordance with Section 10.11. Undertake all excavations for pavement sub-grade within TPZ in accordance with Section 10.6. Demolish existing asphalt in accordance with Section 10.5.

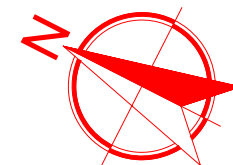


APPENDIX 5
TREE LOCATION PLAN SHOWING
TREE RETENTION VALUES
The Star - 80 Pyrmont Road, PYRMONT



Earthscape Horticultural Services
Arboricultural and Horticultural Consultants
PO Box 364
BEROWRA NSW 2081
Ph: 02 9456 4787
Fax: 02 9456 5757 e: earthscape@iinet.net.au

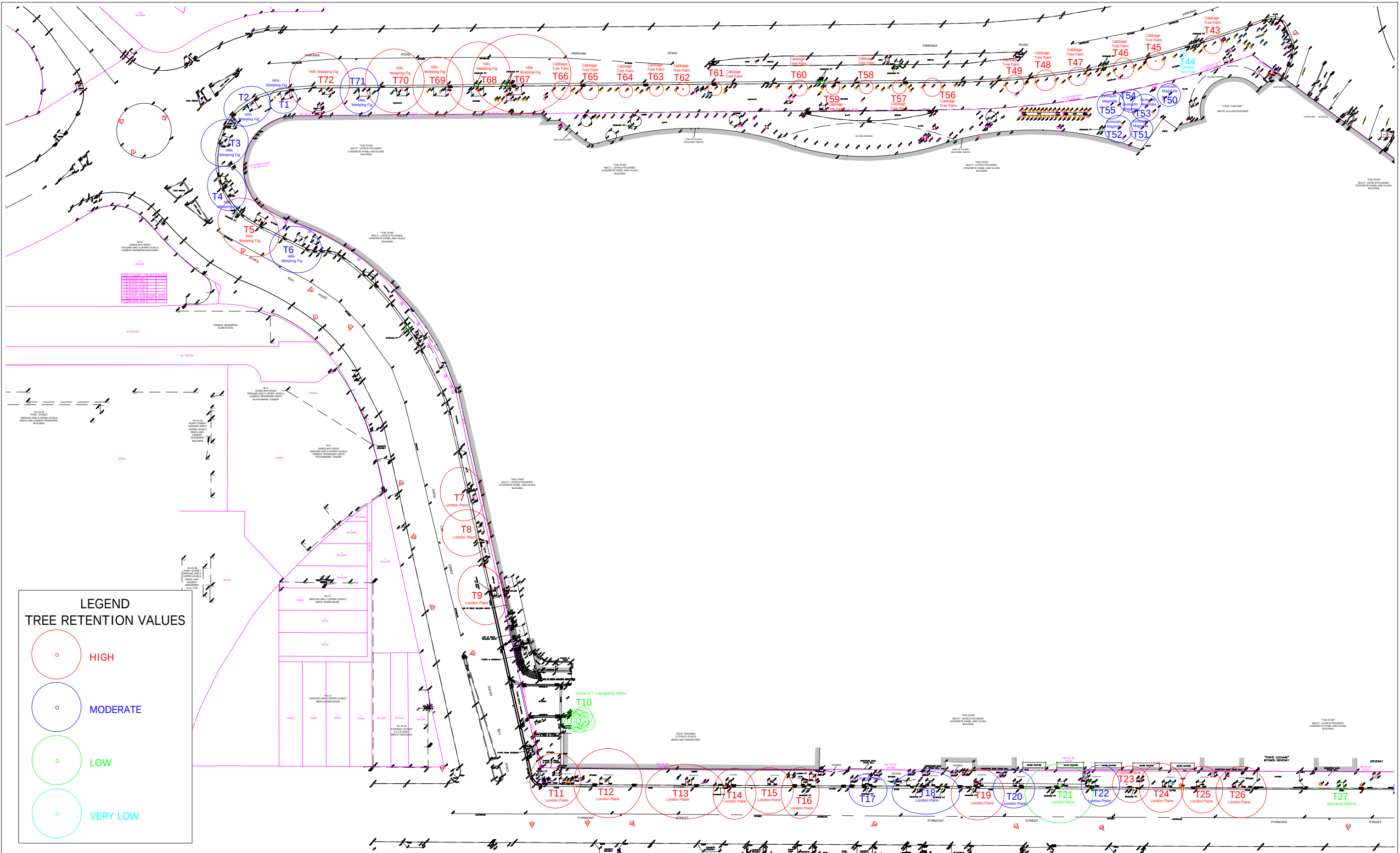
Based on the Survey Drawing
prepared by Cardno
Dwg Ref No. 115350814
Dated 5/10/2017

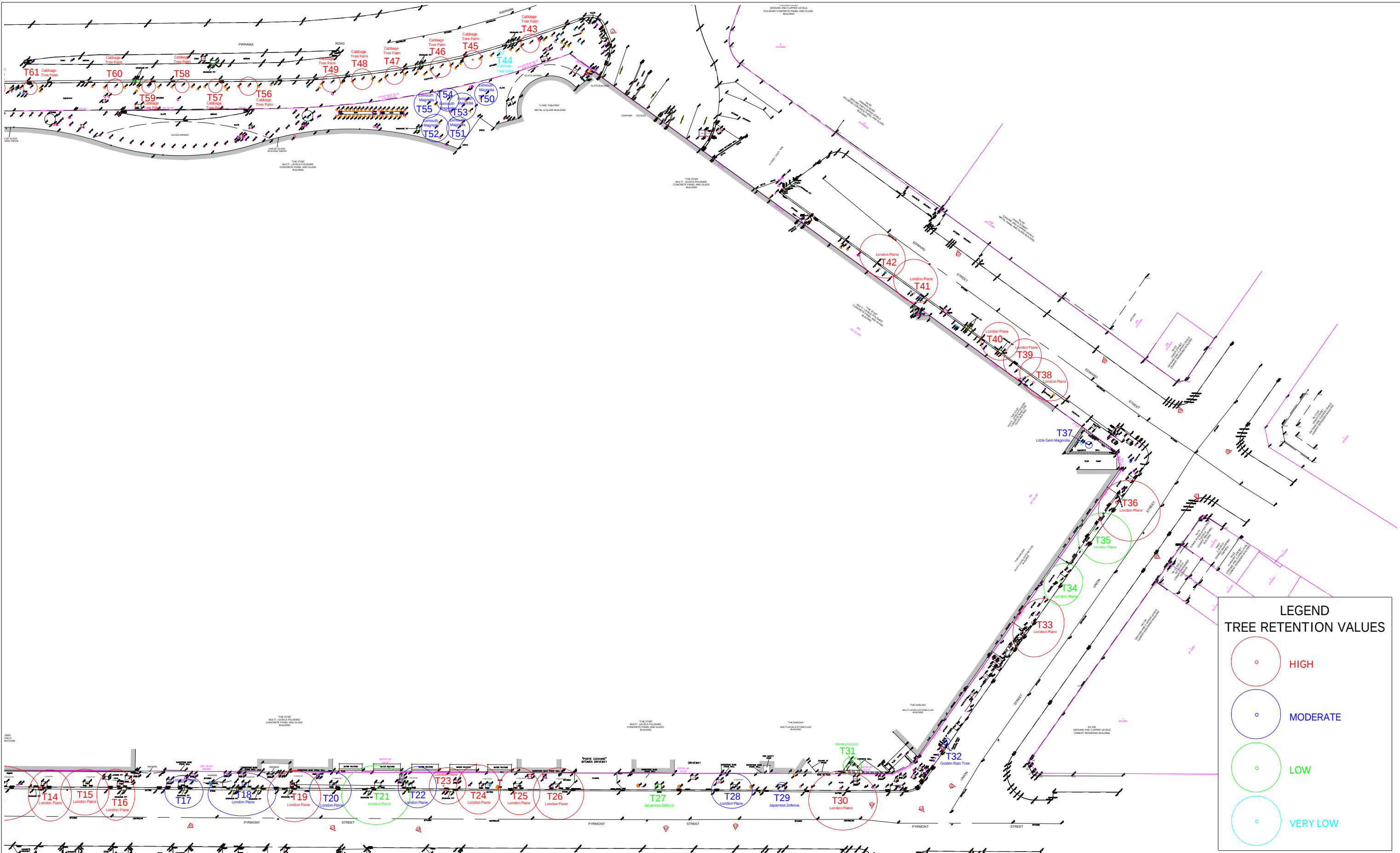


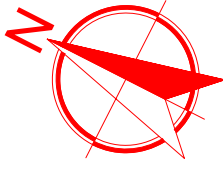
DWG No. T17-022401

KEY PLAN

DATE: 31/03/2017





APPENDIX 5 TREE LOCATION PLAN SHOWING TREE RETENTION VALUES The Star - 80 Pyrmont Road, PYRMONT	 Earthscape Horticultural Services Arboricultural and Horticultural Consultants PO Box 364 BEROWRA NSW 2081 Ph: 02 9456 4787 Fax: 02 9456 5757 e: earthscape@iinet.net.au	Based on the Survey Drawing prepared by Cardno Dwg Ref No. 115350814 Dated 5/10/2017 	DWG No. T17-022401 SHEET 2 DATE: 31/03/2017
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Tree to be retained and protected in accordance with Tree Protection Measures (Section 10)

Tree to be removed in accordance with Section 10.11

Tree to be pruned in accordance with Section 10.10

Tree Protection Zone (TPZ) [refer Section 7]

Canopy "Drip-line"

Structural Root Zone (SRZ)

Existing buildings & structures to be demolished. Demolition works within TPZ's to be undertaken in accordance with Section 10.5

New Building works. All excavations for building foundations within TPZ's to be undertaken in accordance with Section 10.6

Excavations in these areas for footings and services to be undertaken in accordance with Section 10.6

Proposed stormwater infrastructure to be installed in accordance with Section 10.7

Tree Protection Fence to be erected in accordance with Section 10.3

Install trunk protection in accordance with Section 10.4

Erect any required temporary scaffolding in these areas in accordance with Section 10.15

Install Ground Protection in Accordance with Section 10.14

APPENDIX 6

TREE PROTECTION PLAN

The Star - 80 Pyrmont Road, PYRMONT

Earthscape Horticultural Services

Arboricultural and Horticultural Consultants

PO Box 364

BEROWRA NSW 2081

Ph: 02 9456 4787

Fax: 02 9456 5757 e: earthscape@iinet.net.au

Based on the Survey Drawing

prepared by Cardno

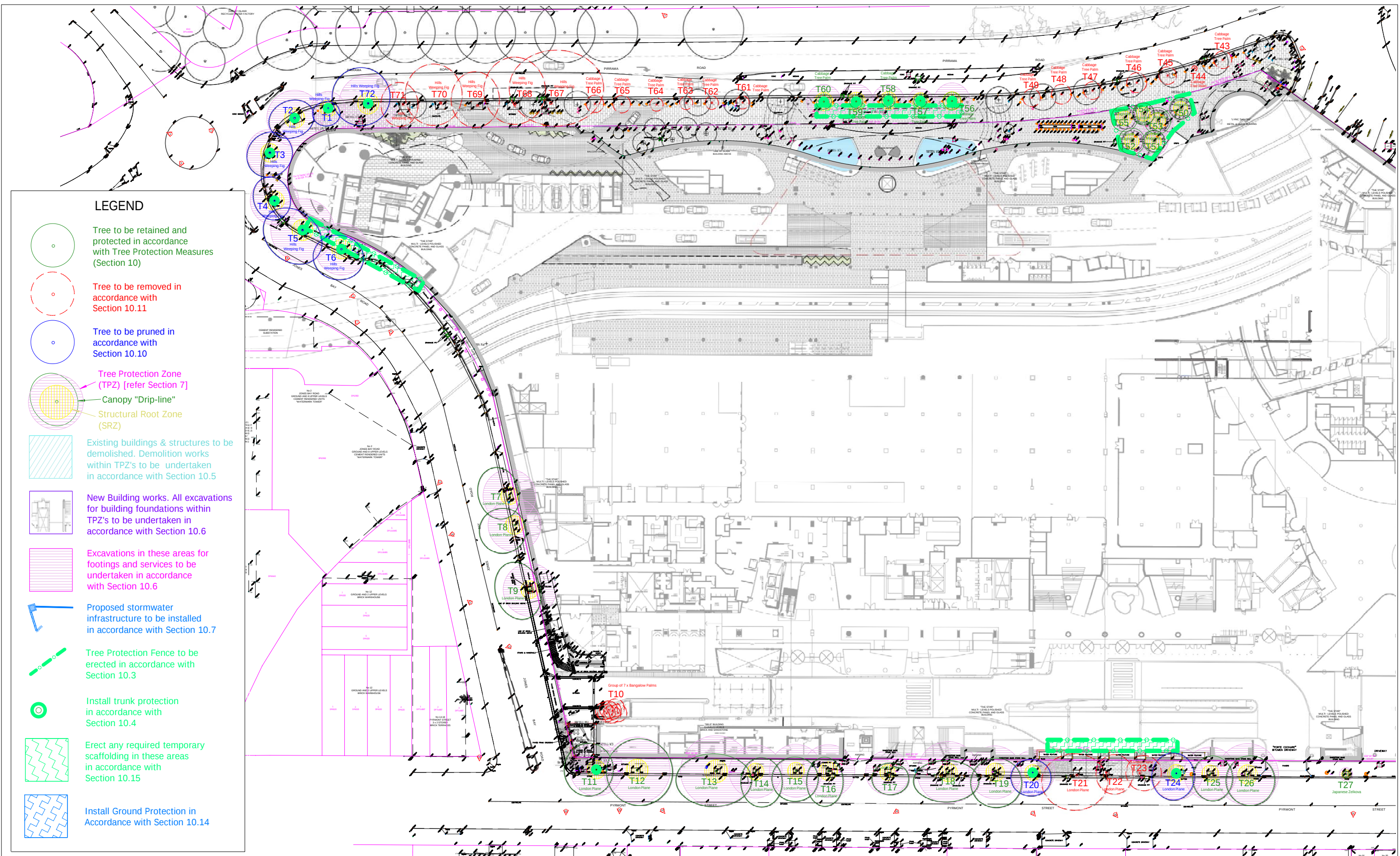
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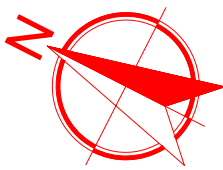
Dated 5/10/2017

DWG No. T17-022402

KEY PLAN

DATE: 28/06/2017



APPENDIX 6 TREE PROTECTION PLAN The Star - 80 Pyrmont Road, PYRMONT	 Earthscape Horticultural Services Arboricultural and Horticultural Consultants PO Box 364 BEROWRA NSW 2081 Ph: 02 9456 4787 Fax: 02 9456 5757 e: earthscape@iinet.net.au	Based on the Survey Drawing prepared by Cardno Dwg Ref No. 115350814 Dated 5/10/2017 	DWG No. T17-022402 SHEET 1 DATE: 28/06/2017
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