Project No: BOURKE/HEALTHCARE/24 Report No: BOURKE/HEALTHCARE /AIA/A

ARBORICULTURAL IMPACT ASSESSMENT
TREE PROTECTION SPECIFICATION

Bourke Integrated Primary Healthcare Centre

88-96 Mitchell Street, BOURKE

Prepared for: ACORN PROJECT ADVISORY

18th November 2024

Revision A

Authors:

Anna Hopwood
Grad. Cert (Arboriculture)
Dip. Horticulture (Arboriculture)
Dip. Horticulture (Landscape Design)

Martin Peacock
BSc (hons.) Arboriculture
Dip. Horticulture (Landscape Design)
N Dip. Horticulture

p. 0404 424 264 | f. 02 9012 0924
po box 146 summer hill 2130
info@treeiQ.com.au
abn 62 139 088 832

treeiQ.com.au

Arboriculture Australia MEMBER

INSTITUTE OF AUSTRALIAN CONSULTING ARBORICULTURISTS
IACA
MANAGING URBAN TREES™

Contents

p. 0404 424 264 | f. 02 9012 0924
po box 146 summer hill 2130
info@treeiQ.com.au
abn 62 139 088 832

treeiQ.com.au

1.0 INTRODUCTION

1.1 Background

1.1.1 This Arboricultural Impact Assessment Report (AIA) was prepared for the Acorn Project Advisory in relation to the proposed Bourke Integrated Primary Healthcare Centre at 88-96 Mitchell Street Bourke. The purpose of this AIA is to undertake a Visual Tree Assessment[1] (VTA), determine the impact of the proposed works on the trees, and where appropriate, recommend the use of sensitive construction methods and tree protection measures to minimise adverse impacts. The ecological and heritage values of the trees have not been assessed and is beyond the scope of this AIA.

1.1.2 In preparing this AIA, the authors are aware of and have considered the objectives of the following:

- *State Environmental Planning Policy - Biodiversity and Conservation (2021)*
- *Bourke Development Control Plan (2012)*
- *Australian Standard 4970 Protection of Trees on Development Sites (2009)*
- *Australian Standard 4373 Pruning of Amenity Trees (2007)*
- *Australian Standard 2303 Tree Stock for Landscape Use (2015)*
- *Safe Work Australia Guide for Managing Risks of Tree Trimming and Removal Work (2016)*

Refer to Methodology **(Appendix 1)**

1.1.3 This AIA is based on an assessment of the following supplied documentation/plans only:

- Site Plan DA -01 – prepared by DunnHillam Architecture and Urban design (dated 04.10.24)
- Ground Floor Plan DA -02 – prepared by DunnHillam Architecture and Urban design (dated 04.10.24)
- Elevations DA -03 – prepared by DunnHillam Architecture and Urban design (dated 04.10.24)
- Sections DA -04 – prepared by DunnHillam Architecture and Urban design (dated 04.10.24)
- Shadow Diagrams DA -05 – prepared by DunnHillam Architecture and Urban design (dated 04.10.24)
- Existing Trees – Retention & Removal LA002 – prepared by Taylor Brammer (dated 13.11.24)
- Site Plan LA-100 – prepared by DunnHillam Architecture and Urban design (dated 13.11.24)

Refer to Plans **(Appendix 2)**

1.2 The Proposal

1.2.1 The supplied plans show the proposed works include:

- construction of a new single storey health care centre building in a general L- shaped configuration along the Tarcoon Street and Kamilaroi Highway frontages
- construction of a linear carpark and utilities to the west of the building
- installation of a central landscape area and open space area to the western boundary
- associated works

[1] Mattheck & Breloer (2003)

p. 0404 424 264 | f. 02 9012 0924
po box 146 summer hill 2130
info@treeiQ.com.au
abn 62 139 088 832

treeiQ.com.au

2.0 RESULTS

2.1 The Site

2.1.1 The site is located at 88-96 Mitchell Street, Bourke. It is comprised of five (5) lots (Lots 6, 7, 8, 9, 10 DP35797) and falls within Bourke Shire Council's Local Government Area.

2.1.2 The site is bound by Tarcoon Street to the east, Mitchell Street to the north, residential development to the west and an informal (recently paved) vehicle access road to the south. It is not known if any tree roots were impacted during these works. Fill is present along the periphery of the southern informal road and is assumed to originate from the recent road works.

2.1.3 The site is generally level and undisturbed.

2.2 The Trees

2.2.1 Fifteen (15) trees were assessed using the Visual Tree Assessment (VTA) criteria and consist of a mix of locally indigenous and Australian native species. Six (6) species are represented including *Acacia salicina* (Cooba), *Brachychiton populneus* (Kurrajong), *Eucalyptus camaldulensis* (River Red Gum), *Eucalyptus sideroxylon* (Mugga Ironbark), *Ficus microcarpa* var. *Hilli* (Hills Fig) and *Callistemon viminalis* (Bottlebrush). *Acacia salicina* (Cooba) the dominant species at the site. Tree 5 is dead.

Refer to Tree Assessment Schedule **(Appendix 3)**

2.2.2 The trees are not listed within Schedule 5 Environmental Heritage of the *Bourke Shire Local Environmental Plan (2012)*.[2]

2.2.3 As required by Clause 2.3.2 of *Australian Standard 4970 (2009) Protection of Trees on Development Sites (AS-4970)*, each of the trees assessed has been allocated a Retention Value. TreeiQ allocates one of four Retention Value categories based on a combination of Landscape Significance and Useful Life Expectancy (ULE). The assessment of Landscape Significance and ULE involves a degree of subjectivity and there will be a range of tree quality and value within each of the Retention Value categories. The Retention Values do not consider any proposed development works and are not a schedule for tree retention or removal. The trees have been allocated one of the following Retention Values:

- Priority for Retention
- Consider for Retention
- Consider for Removal
- Priority for Removal

2.2.4 The allocation of a Retention Value to each tree is a key step in the tree management process as it helps the architect, other project consultants and the consent authority identify which are the most valuable trees on site. It may not be possible to retain all existing trees on a development site. However, the proposal should demonstrate that the retention of the higher value trees have been prioritised within the design process.

[2] Bourke Shire Council (2012)

p. 0404 424 264 | f. 02 9012 0924
po box 146 summer hill 2130
info@treeiQ.com.au
abn 62 139 088 832

treeiQ.com.au

3.0 ARBORICULTURAL IMPACT ASSESSMENT

3.1 Tree 1

3.1.1 Tree 1 was identified as *Acacia salicina* (Cooba) and is located in the south-eastern area of the site. The tree is in fair health and fair structural condition as evidenced by a crown density of 50-75% and a major included branch junction. Tree 1 is of low Landscape Significance and has been allocated a Retention Value of *Consider for Removal.*

3.1.2 The supplied plans show Tree 1 is to be removed to accommodate the proposed building.

3.2 Tree 2

3.2.1 Tree 2 was identified as *Acacia salicina* (Cooba) and is located directly adjacent to the southern boundary and the recently paved informal road. The tree is in fair health and poor structural condition as evidenced by a crown density of 50-75%, a major included branch junction and several previous branch failures. Tree 2 is of moderate Landscape Significance and has been allocated a Retention Value of *Consider for Retention.*

3.2.2 The supplied plans show Tree 2 is to be retained with construction of an outdoor plant structure and fence proposed within its Tree Protection Zone (TPZ). As the encroachment from the outdoor plant structure is less than 10% of the TPZ and outside of the Structural Root Zone (SRZ), the extent of works represents a *Minor Encroachment* as defined by AS-4970. A *Minor Encroachment* is considered acceptable by AS-4970 when it is compensated for elsewhere and contiguous within the TPZ. The encroachment should be compensated for by extending the TPZ to the west.

3.2.3 Recommendations

- Trunk protection should be installed to protect the tree from impact damage
- TPZ fencing should be established at the perimeter of the TPZ within the site, setback to accommodate the outdoor plant structure
- The existing laneway provides suitable ground protection and can be used as construction access
- Excavation for the installation of fence posts should be undertaken by hand. The location of the fence posts should be adjusted to allow for the retention of roots (>25mmø). The fence should be modified as required to ensure adequate setback from the trunk for tree growth and movement in wind

3.3 Tree 3

3.3.1 Tree 3 was identified as *Acacia salicina* (Cooba) and is located adjacent to the southern boundary. The tree is in fair health and fair structural condition as evidenced by a crown density of 0-25% with small (0-25mmø) deadwood in high volumes and large (75mm+ø) epicormic growth in moderate volumes throughout the crown. Several previous branch failures were also noted. Tree 3 is of low Landscape Significance and has been allocated a Retention Value of *Priority for Removal.*

3.3.2 The supplied plans show Tree 3 is to be retained with no works proposed within the TPZ.

3.3.3 Recommendations

- Tree 3 is recommended for removal due to its poor overall condition, irrespective of the proposed works
- TPZ fencing should be established at the perimeter of the TPZ within the site

p. 0404 424 264 | f. 02 9012 0924
po box 146 summer hill 2130
info@treeiQ.com.au
abn 62 139 088 832

treeiQ.com.au

3.4 Tree 4

3.4.1 Tree 4 was identified as *Brachychiton populneus* (Kurrajong) and is located within the property of 119 Oxley Street which is south of the site and separated by the informal road. The tree is in good health and good structural condition with no significant defects identified at the time of assessment. The recently laid asphalt is approx. 1m from the tree's base. Tree 4 is of moderate Landscape Significance and has been allocated a Retention Value of *Consider for Retention.*

3.4.2 The supplied plans show Tree 4 is to be retained with no works proposed within the TPZ.

3.4.3 Recommendations

- Trunk protection should be installed
- The existing laneway provides suitable ground protection and can be used as construction access

3.5 Tree 5

3.5.1 Tree 5 is dead and should be removed.

3.6 Tree 6

3.6.1 Tree 6 was identified as *Eucalyptus camaldulensis* (River Red Gum) and is located adjacent to the southern boundary. The tree is in good health and good structural condition with a slight phototrophic lean. Medium (25-75mmø) deadwood in moderate volumes and several storm-damaged branched were noted. Tree 6 is of moderate Landscape Significance and has been allocated a Retention Value of *Consider for Retention.*

3.6.2 The supplied plans show Tree 6 is to be retained with construction of a carparking area and fence proposed within its TPZ. The carpark represents 13% of the TPZ and is defined as a *Major Encroachment* as defined by AS-4970. The works are located outside of the SRZ and the tree is in good health. Therefore, with the implementation of best practice tree protection measures, the proposed works should not adversely impact the tree.

3.6.3 Recommendations

- TPZ fencing should be established at the perimeter of the TPZ within the site, setback to accommodate the carpark
- Preliminary hand excavation (to the depth of the proposed pavement and subbase profile) and root pruning by the Project Arborist should be undertaken prior to bulk excavation works. No over-excavation should be undertaken
- Excavation for the installation of fence posts should be undertaken by hand. The location of the fence posts should be adjusted to allow for the retention of roots (>25mmø)

3.7 Tree 7

3.7.1 Tree 7 was identified as *Eucalyptus sideroxylon* (Mugga Ironbark) and is located adjacent to the southern boundary. The tree is in good health and fair structural condition due to the multiple branch attachment (3x) at 4 metres above grade and the adaptive growth on one side. Several storm damaged branches were also noted. Tree 7 is of high Landscape Significance and has been allocated a Retention Value of *Consider for Retention.* Although Tree 7 meets the criteria to be allocated Retention Value of *Consider for Retention*, the tree has a short (5-15 years) Useful Life Expectancy.

3.7.2 The supplied plans show Tree 7 is to be removed as it falls within the footprint of the carpark driveway entry.

p. 0404 424 264 | f. 02 9012 0924
po box 146 summer hill 2130
info@treeiQ.com.au
abn 62 139 088 832

treeiQ.com.au

3.8 Tree 8

3.8.1 Tree 8 was identified as *Brachychiton populneus* (Kurrajong) and is located in the south-western corner of the site. The tree is in good health and fair structural condition and is heavily suppressed on one side by Tree 9. Tree 8 is of low Landscape Significance and has been allocated a Retention Value of *Consider for Removal.*

3.8.2 The supplied plans show Tree 8 is to be retained with construction of a shed proposed within its TPZ. The extent of works represents a *Minor Encroachment* as defined by AS-4970. The encroachment should be compensated for by extending the TPZ to the east. In addition, new permeable paving is proposed in the TPZ and represesnts a *Major Encroachment* as defined by AS-4970. Therefore, tree sensitive methods should be used to minimise adverse impacts.

3.8.3 Recommendations

- TPZ fencing should be established at the perimeter of the TPZ
- The permeable paving (including subbase) should be installed above existing grade and supported on a permeable subbase

3.9 Tree 9

3.9.1 Tree 9 was identified as *Ficus microcarpa* var. *Hilli* (Hills Fig) and is located in the south-western corner of the site. The tree is in good health and fair structural condition due to the presence of bark inclusions, typical of species. Tree 9 is of moderate Landscape Significance and has been allocated a Retention Value of *Consider for Retention.*

3.9.2 The supplied plans show Tree 9 is to be retained with construction of a shed proposed within its TPZ. The extent of works represents a *Minor Encroachment* as defined by AS-4970. The encroachment should be compensated for by extending the TPZ to the east. In addition, new permeable paving is proposed in the TPZ and represesnts a *Major Encroachment* as defined by AS-4970. Therefore, tree sensitive methods should be used to minimise adverse impacts.

3.9.3 Recommendations

- TPZ fencing should be established at the perimeter of the TPZ, setback to accommodate the shed
- The permeable paving (including subbase) should be installed above existing grade and supported on a permeable subbase

3.10 Tree 10

3.10.1 Tree 10 was identified as *Ficus microcarpa* var. *Hilli* (Hills Fig) and is located in the south-western corner of the site. The tree is in fair health and fair structural condition and is heavily suppressed on one side by Tree 9. Several dead branches extend to the east and wounding was noted on the lower stem and buttress roots. Tree 10 is of low Landscape Significance and has been allocated a Retention Value of *Priority for Removal.*

3.10.2 The supplied plans show Tree 10 is to be retained with construction of a shed, carpark, fire/water tanks proposed within its TPZ and represents 12% of the TPZ. In addition, new permeable paving is proposed in the TPZ. The extent of works represesnts a *Major Encroachment* as defined by AS-4970. Therefore, tree sensitive methods should be used to minimise adverse impacts.

p. 0404 424 264 | f. 02 9012 0924
po box 146 summer hill 2130
info@treeiQ.com.au
abn 62 139 088 832

treeiQ.com.au

3.10.3 Recommendations

- Tree 10 is recommended for removal due to its overall condition, irrespective of the proposed works
- TPZ fencing should be established at the perimeter of the TPZ, setback to accommodate the shed, carpark and fire/water tank
- Preliminary hand excavation (to the depth of the proposed carpark pavement/slabs and subbase profile) and root pruning by the Project Arborist should be undertaken prior to bulk excavation works. No over-excavation should be undertaken
- The permeable paving (including subbase) should be installed above existing grade and supported on a permeable subbase

3.11 Tree 11

3.11.1 Tree 11 was identified as *Brachychiton populneus* (Kurrajong) and is located in the western area of the site. The tree is in good health and fair structural condition due to a damaged terminal leader. Tree 11 is of low Landscape Significance and has been allocated a Retention Value of *Consider for Removal.*

3.11.2 The supplied plans show Tree 11 is to be retained with permeable paving proposed within its TPZ. The extent of works represents a *Minor Encroachment* as defined by AS-4970.

3.11.3 Recommendations

- TPZ fencing should be established at the perimeter of the TPZ
- The permeable paving (including subbase) should be installed above existing grade and supported on a permeable subbase

3.12 Tree 12

3.12.1 Tree 12 was identified as *Ficus microcarpa* var. *Hilli* (Hills Fig) and is located on the road reserve of the Mitchell Street frontage of the site. The tree is in good health and poor structural condition due to being repeatedly lopped for powerline clearance and wounds on the buttress due to mower damage. Tree 12 is of low Landscape Significance and has been allocated a Retention Value of *Consider for Removal.*

3.12.2 The supplied plans show Tree 12 is to be retained with construction of a new pedestrian ramp proposed within its TPZ. As an individual component, the extent of works represents a *Minor Encroachment* as defined by AS-4970. The encroachment should be compensated for by extending the TPZ to the east. In addition, a new pedestrian footpath is also proposed through the TPZ and SRZ and represesnts a *Major Encroachment* as defined by AS-4970. Therefore, tree sensitive methods should be used to minimise adverse impacts.

3.12.3 Recommendations

- Trunk protection should be installed
- The pedestrian footpath should either be installed above existing grade, or have the finished levels determined by preliminary excavation of the slab footprint to identify significant roots (as determined by the Project Arborist)

p. 0404 424 264 | f. 02 9012 0924
po box 146 summer hill 2130
info@treeiQ.com.au
abn 62 139 088 832

treeiQ.com.au

3.13 Tree 13

3.13.1 Tree 13 was identified as *Callistemon viminalis* (Bottlebrush) and is located adjacent to the northern boundary The tree is in fair health and fair structural condition due to a crown density 25-50% and small (<25mmø) deadwood in moderate volumes. A co-dominant inclusion and basal wounds from mower damage are also present. Tree 13 is of low Landscape Significance and has been allocated a Retention Value of *Consider for Removal.*

3.13.2 The supplied plans show Tree 13 is to be removed as it falls within the footprint of the new building.

3.14 Trees 14 & 15

3.14.1 Trees 14 and 15 are identified as *Acacia salicina* (Cooba) and are located adjacent to the northern boundary The trees are in poor health and fair structural condition with a crown density of 0-25% and poor branching structure. The trees are of low Landscape Significance and have been allocated a Retention Value of *Priority for Removal.*

3.14.2 The supplied plans show Trees 14 and 15 are to be removed as they fall within the footprint of the new building.

3.15 Pruning

3.15.1 Minor pruning may be required to provide access during construction and clearance from new structures. These works should be limited to the Crown Lifting of branches less than 100mm to provide a 3m clearance. These pruning works should not significantly impact the health, Useful Life Expectancy (ULE) or amenity value of the trees.

3.15.2 Pruning work should be undertaken in accordance with *Australian Standard 4373: Pruning of Amenity Trees (2007), Safe Work Australia Guide for Managing Risks of Tree Trimming and Removal Work (2016)* and other applicable legislation and codes. Deadwood (>30mmø) should be removed from the crowns of the trees in areas with high value targets.

3.16 Replacement Planting

3.16.1 The supplied plans show new tree planting is proposed within the carpark area to help off-set the loss of canopy cover and amenity resultant from the trees removed. The trees should be supplied as advanced size specimens (i.e. ≥ 75L) and in accordance with *Australian Standard 2303 (2015) Tree Stock for Landscape Use.*

4.0 CONCLUSION

4.1.1 Fifteen (15) trees were assessed using the VTA criteria and consist of a mix of locally indigenous and Australian native species.

4.1.2 The supplied plans show the proposed works include construction of a new single storey health care centre building in a general L-shaped configuration along the Tarcoon Street and Mitchell Street frontages with a landscaped area central to the building. A linear carpark and utilities are proposed west of the building with open space to the western boundary.

p. 0404 424 264 | f. 02 9012 0924
po box 146 summer hill 2130
info@treeiQ.com.au
abn 62 139 088 832

treeiQ.com.au

4.1.3 The supplied plans show six (6) trees (Trees 1, 5, 7 & 13-15) are proposed for removal. Of these, Trees 1 and 13 have been allocated a Retention Value of *Consider for Removal,* Tree 7 has been allocated a Retention Value of *Consider for Retention*, Trees 14 and 15 have been allocated a Retention value of *Priority for Removal.* Tree 5 is dead. The supplied plans show new tree planting is proposed within the carparking area to help off-set the loss of canopy cover and amenity resultant from the removal of trees. Trees should be supplied as advanced size specimens (i.e. ≥ 75L) and in accordance with *Australian Standard 2303 (2015) Tree Stock for Landscape Use.*

4.1.4 The supplied plans show nine (9) trees (Trees 2-4, 6 & 8-12) are proposed for retention. Tree sensitive methods will be required for Trees 2, 6 and 8-12 to minimise adverse impacts. Refer to Section 3. The trees to be retained should be protected in accordance with the Tree Protection Specification **(Appendix 5)** and Typical Tree Protection Details **(Appendix 6).**

4.1.6 Minor pruning may be required to provide access during construction and clearance from new structures. These works should be limited to the Crown Lifting of branches less than 100mm to provide a 3m clearance. Deadwood (>30mmø) should be removed from the crowns of the trees in areas with high value targets. Pruning work should be undertaken in accordance with *Australian Standard 4373: Pruning of Amenity Trees (2007), Safe Work Australia Guide for Managing Risks of Tree Trimming and Removal Work (2016)* and other applicable legislation and codes.

5.0 LIMITATIONS & DISCLAIMER

TreeiQ takes care to obtain information from reliable sources. However, TreeiQ can neither guarantee nor be responsible for the accuracy of information provided by others. Plans, diagrams, graphs and photographs in this Arboricultural Report are visual aids only and are not necessarily to scale. This Report provides recommendations relating to tree management only. Advice should be sought from appropriately qualified consultants regarding design/construction/ecological/heritage etc issues.

This Report has been prepared for exclusive use by the client. This Report shall not be used by others or for any other reason outside its intended target or without the prior written consent of TreeiQ. Unauthorised alteration or separate use of any section of the Report invalidates the Report.

Many factors may contribute to tree failure and cannot always be predicted. TreeiQ takes care to accurately assess tree health and structural condition. However, a tree's internal structural condition may not always correlate to visible external indicators. There is no warranty or guarantee, expressed or implied that problems or deficiencies regarding the trees or site may not arise in the future. Information contained in this Report covers only the trees assessed and reflects the condition of the trees at the time of inspection. Additional information regarding the methodology used in the preparation of this Report is attached as Appendix 1. A comprehensive tree risk assessment and management plan for the trees is beyond the scope of this Report.

Reference should be made to any relevant legislation including Tree Management Controls. All recommendations contained within this Report are subject to approval from the relevant Consent Authority.

p. 0404 424 264 | f. 02 9012 0924
po box 146 summer hill 2130
info@treeiQ.com.au
abn 62 139 088 832

treeiQ.com.au

6.0 BIBLIOGRAPHY & REFERENCES

Barrell (1995), 'Pre-development Tree Assessments', in *Trees & Building Sites, Proceedings of an International Conference Held in the Interest of Developing a Scientific Basis for Managing Trees in Proximity to Buildings*, International Society of Arboriculture, Illinois, USA, pp. 132-142.

Mattheck & Breloer (2019), *The Body Language of Trees: A Handbook for Failure Analysis*, The Stationary Office, London

NSW Government Spatial Services (2016), *1943 Aerial Images*

Office of Environment and Heritage (2011), *BioNet Atlas of NSW Wildlife*

Safe Work Australia (2016), *Guide for Managing Risks of Tree Trimming and Removal Work.*

Standards Australia (2009), *Protection of Trees on Development Sites AS-4970*

Standards Australia (2007), *Pruning of Amenity Trees AS-4373*

Standards Australia (2015), *Tree Stock for Landscape Use AS-2303*

p. 0404 424 264 | f. 02 9012 0924
po box 146 summer hill 2130
info@treeiQ.com.au
abn 62 139 088 832

treeiQ.com.au

7.0 APPENDICES

p. 0404 424 264 | f. 02 9012 0924
po box 146 summer hill 2130
info@treeiQ.com.au
abn 62 139 088 832

treeiQ.com.au

Appendix 1: Methodology

1.1 **Site Inspection**: This report was determined as a result of a comprehensive site inspections during August 2024. The comments and recommendations in this report are based on findings from this site inspection.

1.2 **Visual Tree Assessment (VTA)**: The subject tree(s)was assessed using the Visual Tree Assessment criteria and notes as described in *The Body Language of Trees – A Handbook for Failure Analysis.*[3]The inspection was limited to a visual examination of the subject tree(s)from ground level only. No internal diagnostic testing was undertaken as part of this assessment. Trees outside the subject site were assessed from the property boundaries only.

1.3 **Tree Dimensions**: The dimensions of the subject tree(s) are approximate only.

1.4 **Tree Locations:** The location of the subject tree(s) was determined from the supplied plans. Trees not shown on the supplied plans have been plotted in their approximate location only.

1.5 **Trees & Development**: Tree Protection Zones, Tree Protection Measures and Sensitive Construction Methods for the subject tree were based on methods outlined in *Australian Standard 4970-2009 Protection of Trees on Development Sites*.

The *Tree Protection Zone* (TPZ) is described in AS-4970 as a combination of the root area and crown area requiring protection. It is an area isolated from construction disturbance, so that the tree remains viable.

The *Structural Root Zone* (SRZ) is described in AS-4970 as the area around the base of a tree required for the tree's stability in the ground. Severance of structural roots within the SRZ is not recommended as it may lead to the destabilisation and/or demise of the tree.

In some cases it may be possible to encroach into or make variations to the theoretical TPZ. A *Minor Encroachment* is less than 10% of the area of the TPZ and is outside the SRZ. The area lost to this encroachment should be compensated for elsewhere and contiguous with the TPZ. A *Major Encroachment* is greater than 10% of the TPZ or inside the SRZ. In this situation the Project Arborist must demonstrate that the tree would remain viable. This may require root investigation by non-destructive methods or the use of sensitive construction methods.

1.6 **Tree Health**: The health of the subject tree(s) was determined by assessing:

I. Foliage size and colour
II. Pest and disease infestation
III. Extension growth
IV. Crown density
V. Deadwood size and volume
VI. Presence of epicormic growth

1.7 **Tree Structural Condition**: The structural condition of the subject tree(s) was assessed by:

I. Assessment of branching structure
(i.e co-dominant/bark inclusions, crossing branches, branch taper, terminal loading, previous branch failures)
II. Visible evidence of structural defects or instability
(i.e root plate movement, wounds, decay, cavities, fungal brackets, adaptive growth)
III. Evidence of previous pruning or physical damage
(root severance/damage, lopping, flush-cutting, lions tailing, mechanical damage)

1.8 **Useful Life Expectancy (ULE)**: The ULE is an estimate of the longevity of the subject tree(s) in its growing environment. The ULE is modified where necessary to take in consideration tree(s) health, structural condition and site suitability. The tree(s) has been allocated one of the following ULE categories (Modified from Barrell, 2001):

I. 40 years +
II. 15-40 years
III. 5-15 years
IV. Less than 5 years

[3]Mattheck&Breloer (2003)

p. 0404 424 264 | f. 02 9012 0924
po box 146 summer hill 2130
info@treeiQ.com.au
abn 62 139 088 832

treeiQ.com.au

1.9 **Landscape Significance**: Landscape Significance was determined by assessing the combination of the cultural, environmental and aesthetic values of the subject tree(s). Whilst these values are subjective, a rating of high, moderate, low or insignificant has been allocated to the tree(s). This provides a relative value of the tree's Landscape Significance which may aid in determining its Retention Value. If the tree(s) can be categorized into more than one value, the higher value has been allocated.

Landscape Significance	Description
Very High	The subject tree is listed as a Heritage Item under the *Local Environmental Plan* with a local or state level of significance.
	The subject tree is listed on Council's Significant Tree Register or meets the criteria for significance assessment of trees and/or landscapes by a suitably qualified professional. The criteria are based on general principles outlines in the Burra Charter and on criteria from the Register of the National Estate.
High	The subject tree creates a 'sense of place' or is considered 'landmark' tree.
	The subject tree is of cultural or historical importance or is widely known.
	The subject tree is a prominent specimen which forms part of the curtilage of a heritage item with a known or documented association with that item.
	The subject tree has been identified by a suitably qualified professional as a species scheduled as a Threatened or Vulnerable Species for the site defined under the provisions of the NSW *Biodiversity Conservation Act (2016)* or the Commonwealth *Environmental Protection and Biodiversity Conservation Act* (1999).
	The subject tree is known to contain nesting hollows to a species scheduled as a Threatened or Vulnerable Species for the site as defined under the provisions of the NSW *Biodiversity Conservation Act (2016)* or the Commonwealth *Environmental Protection and Biodiversity Conservation Act* (1999).
	The subject tree is an excellent representative of the species in terms of aesthetic value.
	The subject tree is of significant size, scale or makes a significant contribution to the canopy cover of the locality.
Moderate	The subject tree makes a positive contribution to the visual character or amenity of the area.
	The subject tree provides a specific function such as screening or minimising the scale of a building.
	The subject tree is a good representative of the species in terms of aesthetic value.
Low	The subject tree is a known environmental weed species or is exempt under the provisions of the local Council's Tree Management Controls
	The subject tree makes little or no contribution to the amenity of the locality.
	The subject tree is a poor representative of the species in terms of aesthetic value.

1.10 **Retention Value**: Retention Value was based on the subject tree's Useful Life Expectancy and Landscape Significance. The Retention Value was modified where necessary to take in consideration the subject tree's health, structural condition and site suitability. The subject tree(s) has been allocated one of the following Retention Values:

I. Priority for Retention
II. Consider for Retention
III. Consider for Removal
IV. Priority for Removal

<table>
<tr><th>ULE</th><th></th><th colspan="3">Landscape Significance</th></tr>
<tr><td></td><td>Very High</td><td>High</td><td>Moderate</td><td>Low</td><td>Insignificant</td></tr>
<tr><td>40 years +</td><td rowspan="3">Priority for Retention</td><td colspan="2">Priority for Retention</td><td rowspan="3">Consider for Removal</td><td rowspan="3">Priority for Removal</td></tr>
<tr><td>15-40 years</td><td>Priority for Retention</td><td>Consider for Retention</td></tr>
<tr><td>5-15 years</td><td colspan="2">Consider for Retention</td></tr>
<tr><td>Less than 5 years</td><td>Consider for Removal</td><td colspan="3">Priority for Removal</td></tr>
</table>

The above table has been modified from the Footprint Green Tree Significance and Retention Value Matrix.

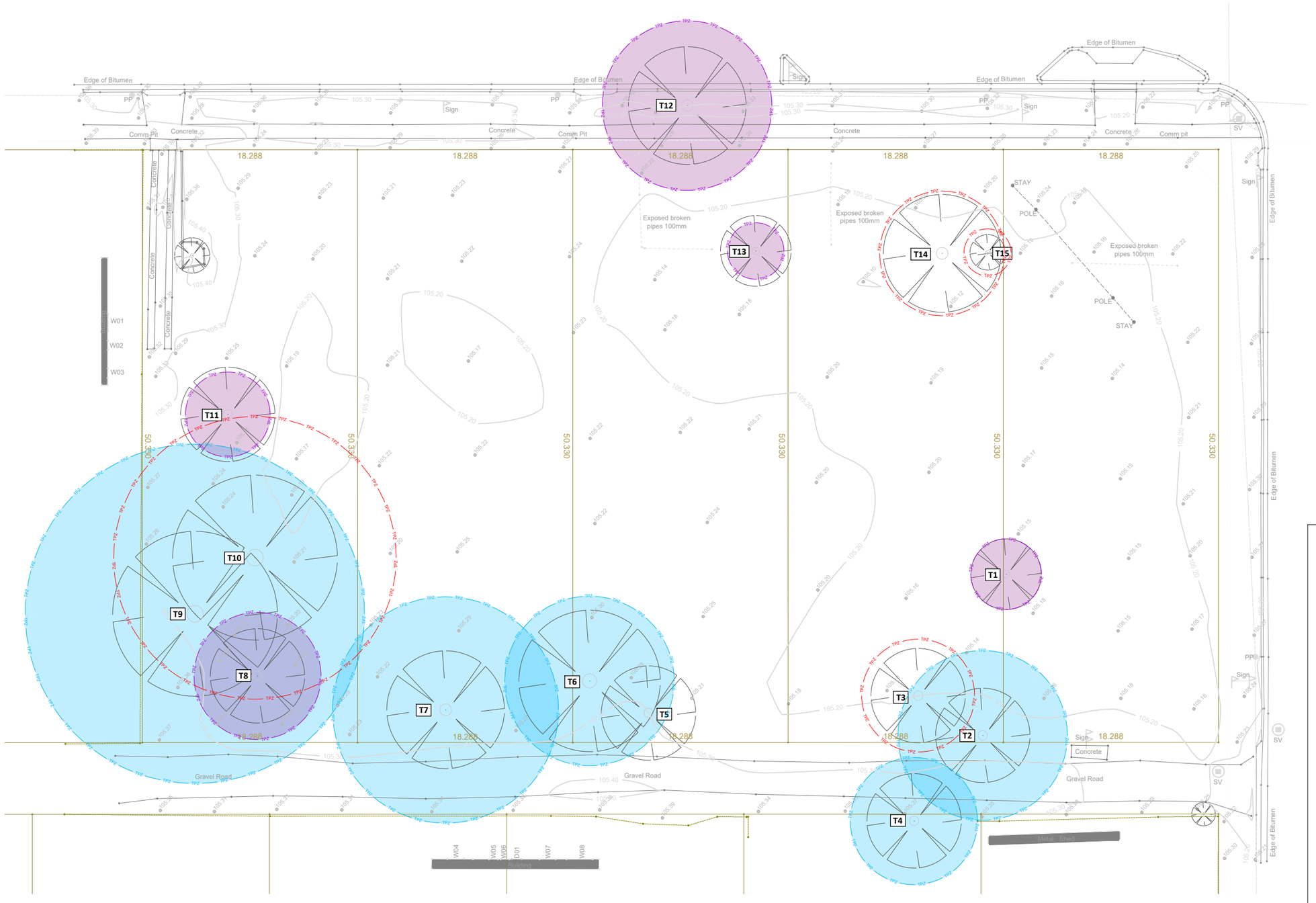
p. 0404 424 264 | f. 02 9012 0924
po box 146 summer hill 2130
info@treeiQ.com.au
abn 62 139 088 832

treeiQ.com.au

Appendix 2: Plans

p. 0404 424 264 | f. 02 9012 0924
po box 146 summer hill 2130
info@treeiQ.com.au
abn 62 139 088 832

treeiQ.com.au



LEGEND

- T1 — Crown spread as per survey; Tree number; Tree location and trunk diameter as shown on Site Survey
- *TPZ of Priority for Retention tree*
- *TPZ of Consider for Retention tree*
- *TPZ of Consider for Removal tree*
- *TPZ of 'Remove' Retention Value tree*

MUST BE READ IN CONJUNCTION WITH ARBORICULTURAL IMPACT ASSESSMENT REPORT / PRELIMINARY ADVICE ONLY - NOT FOR SUBMISSION

BASED ON SURVEY BY WESTERN SURVEY PTY LTD

REV	DESCRIPTION	DRAWN	REVIEW	DATE
A	RETENTION VALUE	KB	AH	22/08/24

treeiQ
ANNA HOPWOOD
Accredited Member of the Institute of Australian Consulting Arboriculturists
p. 0404 424 264
po box 146 summer hill 2130
info@treeiQ.com.au
abn 62 139 088 832
www.treeiQ.com.au

ADDRESS: BOURKE ABORIGINAL COMMUNITY HEALTH SERVICES

PROJECT: CNR TAROON & MITCHELL ST BOURKE

CLIENT: ACORN

DRAWING: RETENTION VALUE PLAN

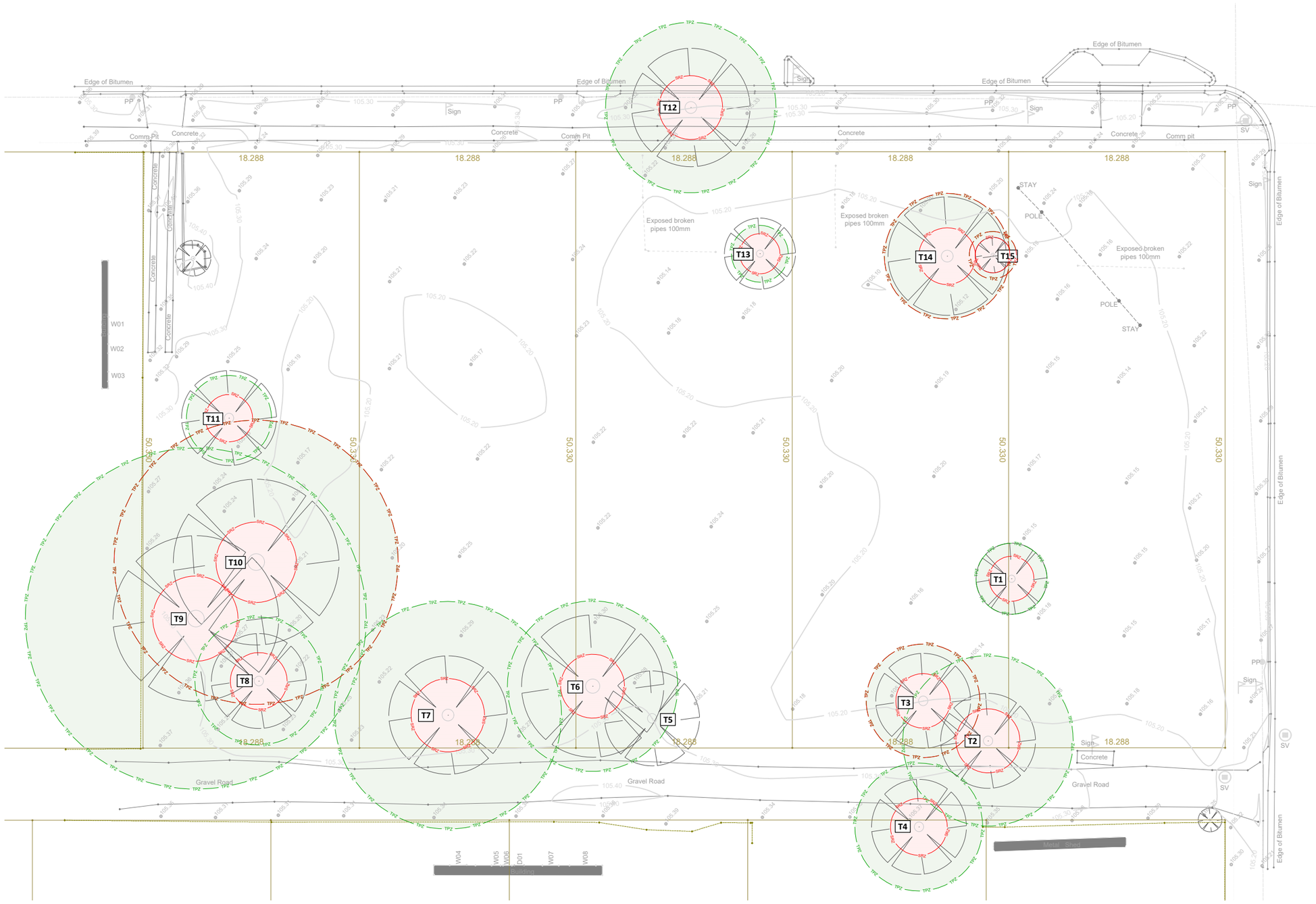
SCALE: 1:350 @ A4 | ISSUE: DA | SHEET: T - 02

DRAWN: KB | REVIEW: AH | DATE: 22/08/24

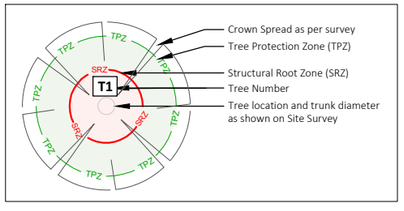
Do not scale - use dimensions & callouts on drawings & schedules. Refer discrepancies to Landscape Architect for clarification.

0 5 10 20 30

REVISION: A



LEGEND



MUST BE READ IN CONJUNCTION WITH ARBORICULTURAL IMPACT ASSESSMENT REPORT / PRELIMINARY ADVICE ONLY - NOT FOR SUBMISSION

BASED ON SURVEY BY WESTERN SURVEY PTY LTD

REV	DESCRIPTION	DRAWN	REVIEW	DATE
A	TPZ/SRZ PLAN - FOR COORDINATION	KB	AH	22/08/24

treeiQ

ANNA HOPWOOD
Accredited Member of the Institute of Australian Consulting Arboriculturists
p. 0404 424 264
po box 146 summer hill 2130
info@treeiQ.com.au
abn 62 139 088 832
www.treeiQ.com.au

ADDRESS: BOURKE ABORIGINAL COMMUNITY HEALTH SERVICES

PROJECT: CNR TAROON & MITCHELL ST BOURKE

CLIENT: ACORN

DRAWING: TPZ/SRZ PLAN

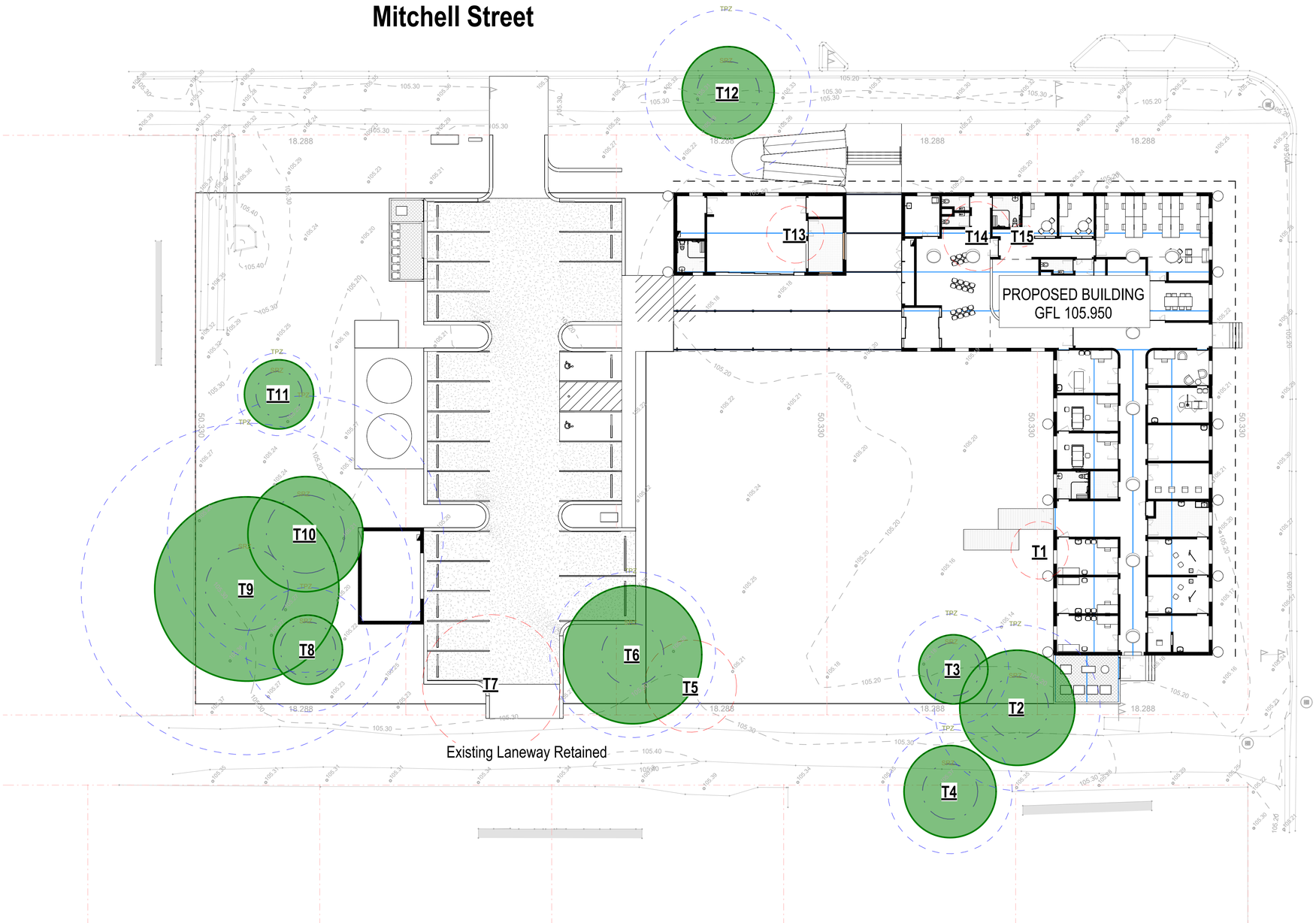
SCALE: 1:350 @ A4 | ISSUE: DA | SHEET: T - 01

DRAWN: KB | REVIEW: AH | DATE: 22/08/24

Do not scale - use dimensions & callouts on drawings & schedules. Refer discrepancies to Landscape Architect for clarification.

0 5 10 20 30

REVISION: A



Existing Trees Schedule	
Tree No.	Status
T1	REMOVED
T2	RETAINED
T3	RETAINED
T4	RETAINED
T5	REMOVED
T6	RETAINED
T7	REMOVED
T8	RETAINED
T9	RETAINED
T10	RETAINED
T11	RETAINED
T12	RETAINED
T13	REMOVED
T14	REMOVED
T15	REMOVED

Note: Tree No. 7 needs to be removed to accommodate the proposed carpark location. This will allow for a wider landscape area and facilitate the proposed direction of the drainage diversion discharge.

1 Exsiting tree plan
1 : 200

EXISTING TREES RETENTION AND REMOVAL

Bourke Healthcare Centre
DEVELOPMENT APPLICATION

LEGEND:
- BOUNDARY LINE
- TPZ- TREE PROTECTION ZONE
- SRZ- STRUCTURAL ROOT ZONE
- TXX EXISTING TREE RETAINED
- TXX EXISTING TREES REMOVED

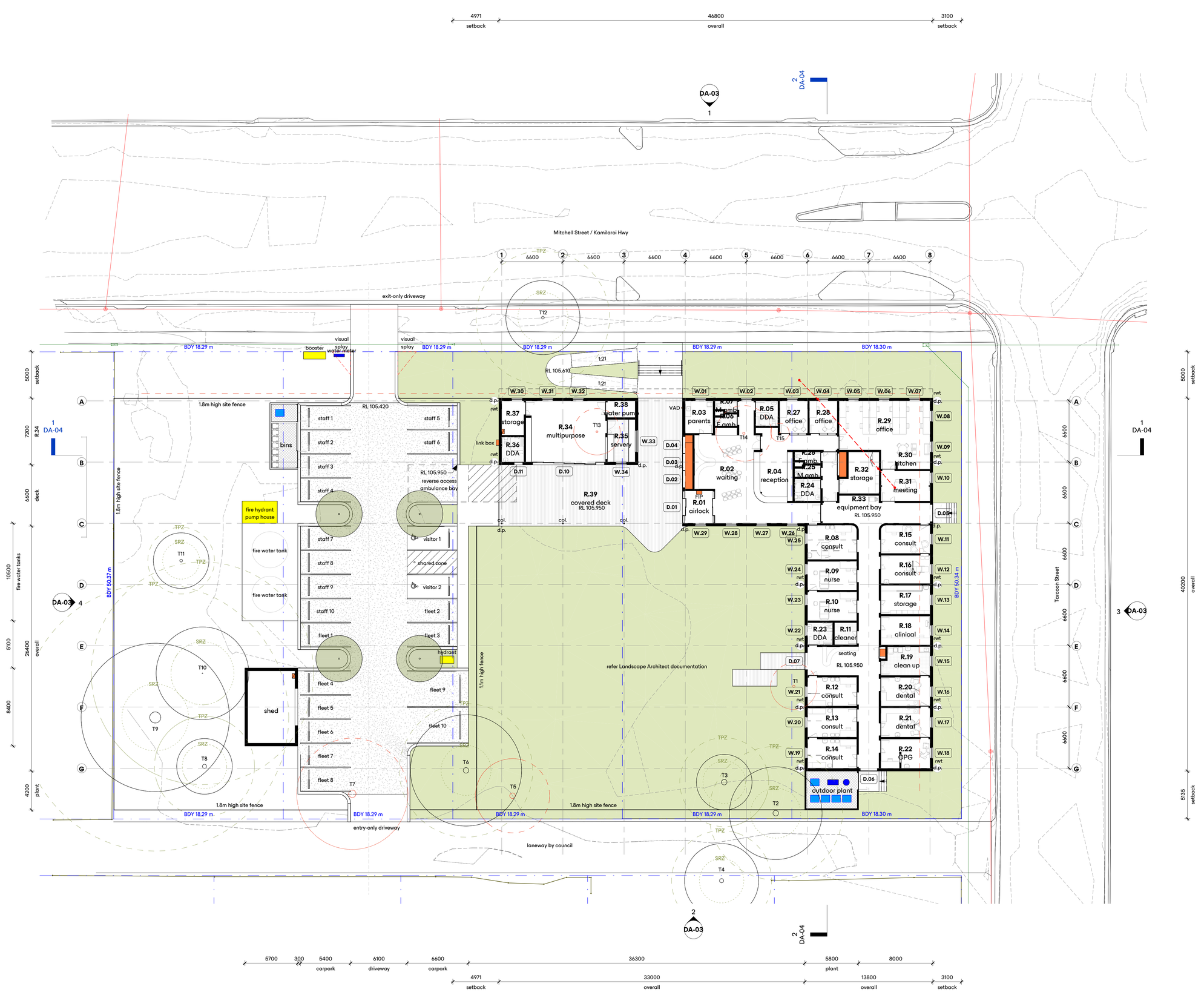
SCALE 1:200
0 10 20 m

CLIENT: BACHS
CREATED: 16.09.2024
JOB NO: 24-048a
CHECKED: I/H
DRAWN BY: BH
DESIGNED BY: BH/AL

DRAWING: LA002
REV: A
REV: DA SUBMISSION
DATE: 13.11.2024

TaylorBrammer
TAYLOR BRAMMER LANDSCAPE ARCHITECTS PTY LTD
SYDNEY STUDIO
218 OXFORD STREET
WOOLLAHRA NSW 2025
T : +61 2 9387 8855
F: +61 2 9387 8155
E: SYDNEY@TAYLORBRAMMER.COM.AU

ABN 61 098 724 988



Rev	Date	By	Notes

Notes

1. all dimensions in mm.
2. do not scale from drawing.
3. this drawing has been prepared for information purposes only and is not to be used for development approval purposes or construction.
4. clarification to be sought from the architect in the event of any discrepancies in the documentation or if further information is required.

Consultants

Structural	Cantilever 02 9565 4292
Mechanical, Electrical, Hydraulic, Civil, Acoustic, Section J	JHA Engineers 02 9437 1000
Landscape	TaylorBrammer 02 9387 8855
BCA, Access, Fire	DC Partnership 02 8399 3707
Quantity Surveyor	Genus 0428 614 184
Traffic	PDC Consultants 02 7900 6514
Planner	_planning 0437 259 581
Project Manager	Acorn 0435 868 912

DunnHillam

Workshop 1 Pty Ltd
t/a DunnHillam Architecture & Urban Design
ACN 098 309 196 **ABN** 17 098 309 196

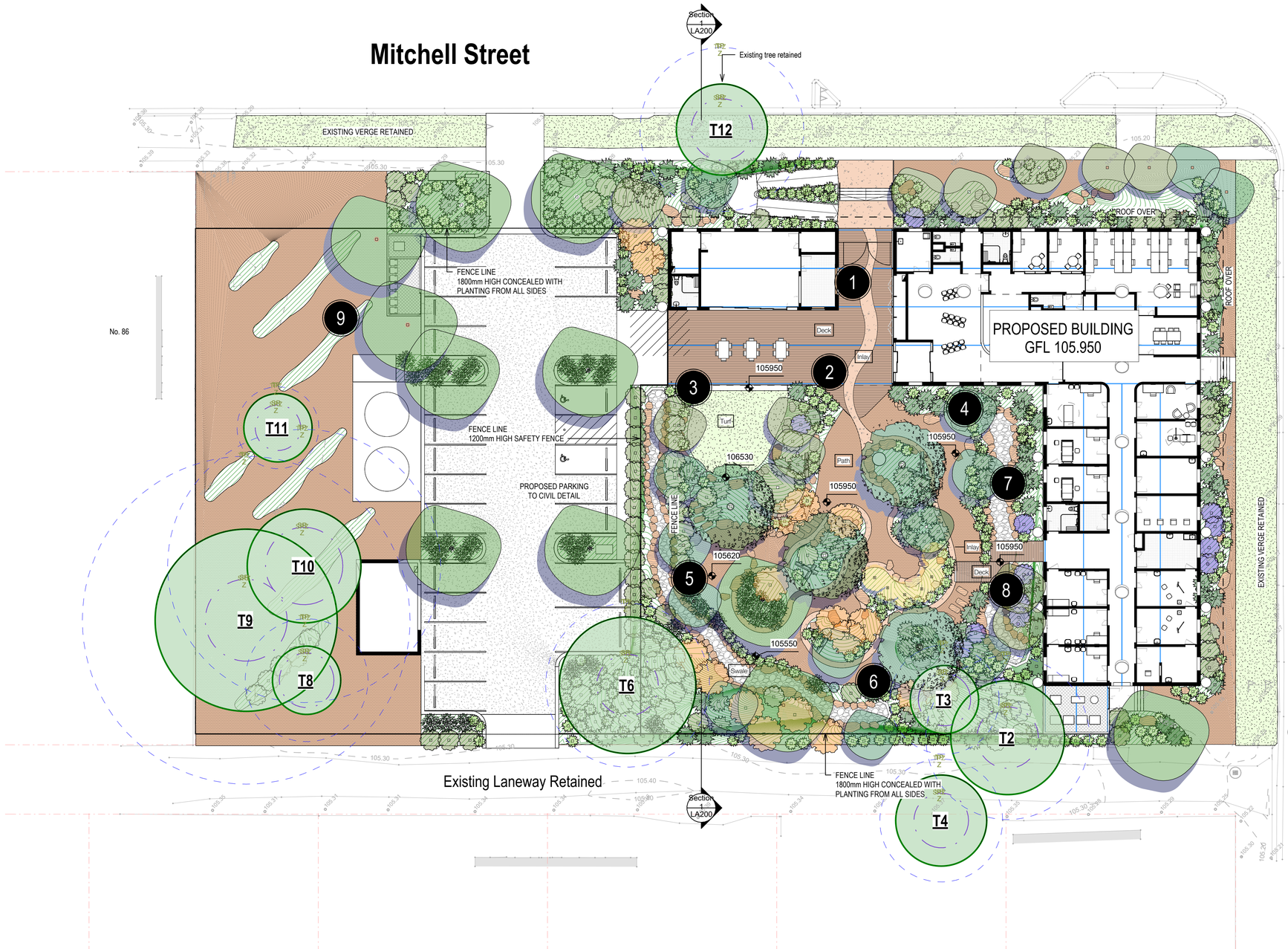
A 301/414 Gardeners Rd, Rosebery NSW 2018
T +61 2 9316 7715
E admin@dunnhillam.com.au
W dunnhillam.com.au

Nominated architects Ashley Dunn NSW ARB No. 7547 and Jonathan Temple NSW ARB No. 8526

Client	Bourke Aboriginal Corporation Health Services
Project	Bourke Integrated Primary Healthcare Centre
Issue	88-96 Mitchell Street, Bourke NSW 2840 FOR FINAL CONSULTANT COORDINATION 04.10.24
Date	4/10/2024 3:11:09 PM
Scale	1:200 **@A1**
Drawing	Ground Plan
Drw No.	DA-02 **Rev**
Job No.	22_308
Drawn	RL **Check** AD

FOR FINAL CONSULTANT COORDINATION 04.10.24

N



1 SITE PLAN
1 : 200

Design Notes

1. Proposed pedestrian entry with welcome gate and threshold paving
2. Paving inlay artwork - celebrating local community groups
3. Shaded breakout area and childs play
4. Seating and waiting areas
5. Yarning circle >8 persons
6. Bush walk with medicinal plants
7. Ephemeral creek bed with feature rocks (no ponding water)
8. Timber bridge connection over creek bed
9. Productive community garden

SITE PLAN

Bourke Healthcare Centre
DEVELOPMENT APPLICATION

LEGEND:
- Site boundary
- Existing tree retained
- Swale — New rock lined swale
- Path — New permeable paved footpath
- New garden area see planting plan
- Turf — New lawn area (irrigated)
- Inlay — New integrated artwork paving inlay
- Deck — New timber deck
- New yarning circle seating area

SCALE 1:200
0 10 20 m

CLIENT: BACHS
CREATED: 16.09.2024
JOB NO: 24-048a
CHECKED: AH
DRAWN BY: BH
DESIGNED BY: BH/AL

DRAWING: LA100
REV: A
REV: DA SUBMISSION
DATE: 13.11.2024

TaylorBrammer
TAYLOR BRAMMER LANDSCAPE ARCHITECTS PTY LTD
SYDNEY STUDIO
219 OXFORD STREET
WOOLLAHRA NSW 2025
T : +61 2 9387 8855
F: +61 2 9387 8155
E: SYDNEY@TAYLORBRAMMER.COM.AU

ABN 61 098 724 988

Appendix 3: Tree Assessment Schedule

Tree Number	Species	DBH (m)	Height (m)	Spread (m)	Health	Structural Condition	Comments	Landscape Sign	ULE (years)	Retention Value	Radial TPZ (m)	Radial SRZ (m)
1	*Acacia salicina* (Cooba)	250	10	5	Fair	Fair	Crown density 50-75%. Included branch junction, major.	Low	5-15	Consider for Removal	3	1.9
2	*Acacia salicina* (Cooba)	600	15	10	Fair	Poor	Crown density 50-75%. Included branch junction, major. Branch failures x2 with hangers. Recently laid asphalt.	Moderate	5-15	Consider for Retention	7.2	2.7
3	*Acacia salicina* (Cooba)	400	9	6	Fair	Fair	Crown density 0-25%. Small (0-25mm) deadwood in high volumes. Large (75mm+) epicormic in moderate volumes. Multiple branch failures throughout crown.	Low	<5	Priority for Removal	4.8	2.3
4	*Brachychiton populneus* (Kurrajong)	450	8	8	Good	Good	Recently laid asphalt, 1m from base.	Moderate	15-40	Consider for Retention	5.4	2.4
5	DEAD									Dead		
6	*Eucalyptus camaldulensis* (River Red Gum)	600	18	12	Good	Good	Partially suppressed. Medium (25-75mm) deadwood in moderate volumes. Storm-damaged branch. Phototropic lean, moderate with no evidence of rootplate instability. Fill within 10m from base, likely from recent roadworks.	Moderate	15-40	Consider for Retention	7.2	2.7
7	*Eucalyptus sideroxylon* (Mugga Ironbark)	800	16	12	Good	Fair	Crown density 75-100%. Medium (25-75mm) deadwood in moderate volumes. Medium (25-75mm) epicormic in moderate volumes. Storm damage. Multiple branch attachment 3x at 4 metres above grade. Adaptive growth on one side, approximately 1.5 metres from the recently laid road.	High	5-15	Consider for Retention	9.6	3.1

Tree Number	Species	DBH (m)	Height (m)	Spread (m)	Health	Structural Condition	Comments	Landscape Sign	ULE (years)	Retention Value	Radial TPZ (m)	Radial SRZ (m)
8	*Brachychiton populneus* (Kurrajong)	450	7	6	Good	Fair	Heavily suppressed on one side by adjacent fig. Some pruning over the road.	Low	5-15	Consider for Removal	5.4	2.4
9	*Ficus microcarpa* var. *Hilli* (Hills Fig)	1200	16	16	Good	Fair	Co-dominant branch attachments at 1.5 metres above grade. Included junctions, typical for the species. Several branches lopped in the lower crown.	Moderate	15-40	Consider for Retention	14.4	3.6
10	*Ficus microcarpa* var. *Hilli* (Hills Fig)	1000	10	10	Fair	Fair	Heavily suppressed by T9. Several dead branches extending out to the park area. Wounding on the lower stem and buttress roots.	Low	<5	Priority for Removal	12	3.4
11	*Brachychiton populneus* (Kurrajong)	300	5	6	Good	Fair	Storm damage, top 4 metres broken out and is a hanger.	Low	5-15	Consider for Removal	3.6	2.0
12	*Ficus microcarpa* var. *Hilli* (Hills Fig)	600	6	8	Good	Poor	Wounds on buttress roots and base, mower damage. Lopped for powerline clearance.	Low	5-15	Consider for Removal	7.2	2.7
13	*Callistemon viminalis* (Bottlebrush)	200	6	5	Fair	Fair	Crown density 25-50%. Small (0-25mm) deadwood in moderate volumes. Co-dominant inclusion. Basal wound, mower damage.	low	5-15	Consider for Removal	2.4	1.7
14	*Acacia salicina* (Cooba)	250 250 250	8	6	Poor	fair	Crown density 0-25%. Small diameter branch tissue live. No deadwood. Multiple branch attachments.	Low	<5	Priority for Removal	5.3	2.4
15	*Acacia salicina* (Cooba)	100 100	4	2	Poor	Fair	Crown density 0-25%. Both stems mature epicormic growth possibly resulted from regrowth.	Low	<5	Priority for Removal	2	1.5

Appendix 4: Plates

Plate 1: Showing Tree 1

Plate 2: Showing Trees 2 & 3

Plate 3: Showing Tree 4

Plate 4: Showing Trees 5 (L), 6 & 7

Plate 5: Showing Tree 8

Plate 6: Showing Tree 9

Plate 7: Showing Tree 10

Plate 8: Showing Tree 11

Plate 9: Showing Tree 12

Plate 10: Showing Tree 13

Plate 11: Showing Tree 14 & 15

Appendix 5: General Tree Protection Specification

1.0 Appointment of Project Arborist

A Project Arborist shall be engaged prior the commencement of work on-site and monitor compliance with the protection measures. The Project Arborist shall inspect the tree protection measures and Compliance Certification shall be prepared by the Project Arborist for review by the Principal Certifying Authority prior to the release of the Compliance Certificate.

The Project Arborist shall have a minimum qualification equivalent (using the Australian Qualifications Framework) of NSW TAFE Certificate Level 5 or above in Arboriculture.

1.1 Compliance

Contractors and site workers shall receive a copy of these specifications a minimum of 3 working days prior to commencing work on-site. Contractors and site workers undertaking works within the Tree Protection Zone shall sign the site log confirming they have read and understand these specifications, prior to undertaking works on-site.

The Project Arborist shall undertake regular site inspections and certify that the works are being undertaken in accordance with this specification.

Compliance Documentation shall be prepared by the Project Arborist following each site inspection. The Compliance Documentation shall include documentary evidence of compliance with the tree protection measures and methods as outlined within this Specification. Upon the completion of the works, a final assessment of the trees shall be undertaken by the Project Arborist and future recommended management strategies implemented as required.

1.2 Tree & Vegetation Removal

Tree removal works shall be undertaken in accordance with the *Safe Work Australia Guide for Managing Risks of Tree Trimming and Removal Work (2016)* and other applicable codes and legislation.

Tree removal shall not damage the trees to be retained. Other vegetation to be removed within a TPZ shall be carefully lifted by hand/hand tools to avoid damaging roots (>25mmø) within the surrounding soil profile.

1.3 Tree Protection Zone

The trees to be retained shall be protected prior and during construction from activities that may result in an adverse effect on their health or structural condition. The area within the Tree Protection Zone (TPZ) shall exclude the following activities, unless otherwise stated: -

- Modification of existing soil levels, excavations and trenching
- Mechanical removal of vegetation
- Movement of natural rock
- Storage of materials, plant or equipment or erection of site sheds
- Affixing of signage or hoarding to the trees
- Preparation of building materials, refueling or disposal of waste materials and chemicals
- Lighting fires
- Movement of pedestrian or vehicular traffic
- Temporary or permanent location of services, or the works required for their installation
- Any other activities that may cause damage to the tree

NOTE: If access, encroachment or incursion into the TPZ is deemed essential, prior authorisation is required by the Project Arborist.

p. 0404 424 264 | f. 02 9012 0924
po box 146 summer hill 2130
info@treeiQ.com.au
abn 62 139 088 832

treeiQ.com.au

1.4 Tree Protection Fencing

TPZ fencing shall be installed at the perimeter of the TPZ. Refer The exact location of the fencing shall be confirmed through consultation between the Head Contractor/Project Manager and the Project Arborist prior to the commencement of works. Fencing may be setback to allow for demolition/construction access and for the installation of pavements only where appropriate ground protection is installed and approved by the Project Arborist.

As a minimum, the Tree Protection Fence shall consist of 1.8m high wire mesh panels supported by concrete feet. Panels shall be fastened together and supported to prevent sideways movement. The tree shall not be damaged during the installation of the Tree Protection Fencing. Refer to Typical Tree Protection Details (3) **(Appendix 6)**.

1.5 Signage

Signs identifying the TPZ should be placed around the edge of the TPZ and be visible from within the development site. The lettering on the sign should comply with *Australian Standard - 1319 (1994) Safety signs for the occupational environment*. The signage shall be installed prior to the commencement of works on-site and shall be maintained in good condition for the duration of the development period.

1.6 Site Management

Materials, waste storage, and temporary services shall not be located within the TPZ.

1.7 Works within the Tree Protection Zones

In some cases works within the TPZ may be authorized by the determining authority. **These works shall be supervised by the Project Arborist**. When undertaking works within the TPZ, care should be taken to avoid damage to the tree's root system, trunks and lower branches.

1.8 Ground Protection

Ground protection shall be installed to any unfenced areas of the TPZ as required by the Project Arborist. Vehicular and machinery access shall be restricted to areas of existing pavement or from areas of temporary ground protection such as ground mats or steel road plates. Refer to Typical Tree Protection Details (3) **(Appendix 4).**

1.9 Trunk Protection

Trunk protection shall be installed as required by the Project Arborist by wrapping padding (either carpet underlay or 10mm thick jute geotextile mat) around the trunk and first order branches to a minimum height of 2m. Timber battens (90 x 45mm) spaced at 150mm centres shall be strapped together and placed over the padding. Timber battens must not be fixed to the trees. Refer to Typical Tree Protection Details (3) **(Appendix 4)**. Branch protection shall be installed as deemed necessary by the Project Arborist.

1.10 Structure & Pavement Demolition

Demolition of existing structures/pavement within the TPZ shall be supervised by the Project Arborist. Machinery is to be excluded from the TPZ unless operating from the existing slabs, pavements or areas of ground protection (refer to Section 1.8). Machinery shall work in conjunction with a spotter to guide the machinery operator and ensure that the ground surface/tree roots beneath the structure/pavement are not disturbed/damaged by demolition works. Machinery should not contact any part of a tree. Wherever possible, footings or elements below grade shall be retained to minimise disturbance to roots. The Project Arborist shall assess any inground structures within the SRZ prior to their removal and determine if these structures may be contributing to the stability of the tree. Where required, inground structures should be retained in situ.

Small structures to be demolished within a TPZ shall be carefully broken up in small sections using a hand-operated pneumatic/electric breaker and waste material removed by hand/hand tools. Large structures to be demolished within the TPZ shall be undertaken within the footprint of the existing structure ('top down, pull back') and away from the trees.

When removing slab/pavement sections within TPZ, machinery shall work backwards out of the TPZ to ensure machinery remains on un-demolished sections of slab at all times. Existing sub-base materials within a TPZ shall remain in-situ and (and reused) where possible. If the existing sub-base is to be removed, these works shall be undertaken by hand/hand tools ensuring that tree roots are retained and protected.

p. 0404 424 264 | f. 02 9012 0924
po box 146 summer hill 2130
info@treeiQ.com.au
abn 62 139 088 832

treeiQ.com.au

If roots (>25mmø) are encountered during the demolition works, these roots must be retained in an undamaged condition and advice sought from the Project Arborist. Exposed roots shall be protected from direct sunlight, drying out and extremes of temperature by covering with a 10mm thick jute geotextile fabric. The geotextile fabric shall be kept in a damp condition at all times. Where the Project Arborist determines that the tree is using underground elements (i.e footings, pipes, rocks etc.) for support, these elements shall be left in-situ.

1.11 Pavement/Kerb Installation

Installation of the pavements and sub-base within the TPZ shall be supervised by the Project Arborist. The new surfaces and sub-base materials shall be placed at (for areas of existing pavement only) or above grade to minimise excavations and retain roots (unless prior root mapping results show above sensitive construction to be unnecessary).

If roots (>25mmø) are encountered during the installation of the new sub-base and surfaces, these roots must be retained in an undamaged condition and advice sought from the Project Arborist. Adjustment of final levels and design shall remain flexible to enable the retention of structural roots (>25mmø) where deemed necessary by the Project Arborist. Compaction of the sub-base shall be consolidated with a pedestrian-operated plate compactor only. If possible, the pavement material shall be permeable.

Where required, new kerbs within the TPZ should be modified to bridge tree roots (>25mmø) unless root pruning is approved and undertaken by the Project Arborist.

1.12 Underground Services

Underground service installation within the TPZ shall be supervised by the Project Arborist.

The installation of underground services shall be located outside of the TPZ. Where this is not possible, they shall be installed using tree sensitive excavation methods (hand/hydrovac/airspade) with the services installed around/below roots (>25mmø, or as determined by the Project Arborist). Excavation using compact machinery fitted with a flat bladed bucket is permissible where approved by the Project Arborist. Excavation using compact machinery should be undertaken in small increments, guided by a spotter who is to look for and prevent damage to roots (>25mmø).

Alternatively, boring methods may be used for underground service installation where the obvert level (highest interior level of pipe) is greater than 1200mm below existing grade. Excavations for starting and receiving pits for boring equipment shall be located outside of the TPZ areas or located to avoid roots (>25mmø) as deemed necessary by the Project Arborist. OSD tanks (where required) should be located outside of the TPZ areas.

1.13 Excavations, Root Protection & Root Pruning

Excavations and root pruning within the TPZ shall be supervised by the Project Arborist. Excavations within the TPZ shall be avoided wherever possible.

Excavations within the TPZ shall be undertaken by hand or using hydro vacuum excavation methods (or similar approved device) to protect tree roots. If there is any delay between excavation works and backfilling, exposed roots shall be protected from direct sunlight, drying out and extremes of temperature by covering with a 10mm thick jute mat. The mat shall be kept in a damp condition at all times.

No over-excavation, battering or benching shall be undertaken beyond the footprint of any structure unless approved by the Project Arborist. Hand excavation and root pruning shall be undertaken along the excavation line prior to the commencement of mechanical excavation to prevent tearing and shattering damage to the roots from excavation equipment.

Roots (>25mmø) shall be pruned by the Project Arborist only. Roots (<25mmø) may be pruned by the Principal Contractor. Root pruning shall be undertaken with clean, sharp secateurs or a pruning saw to ensure a smooth wound face, free from tears. Damaged roots shall be pruned behind the damaged tissues with the final cut made to an undamaged part of the root.

1.15 Landscape Planting

Planting of new trees, shrubs and ground covers and the installation of turf within the TPZ areas shall be undertaken using hand tools and roots (>25mmø) shall be protected. No mechanical cultivation/ripping of soils shall be undertaken within TPZ areas. Landscape planting shall be completed in the final stage of the development works and tree protection fencing and trunk protection shall remain in place until these works are due to commence.

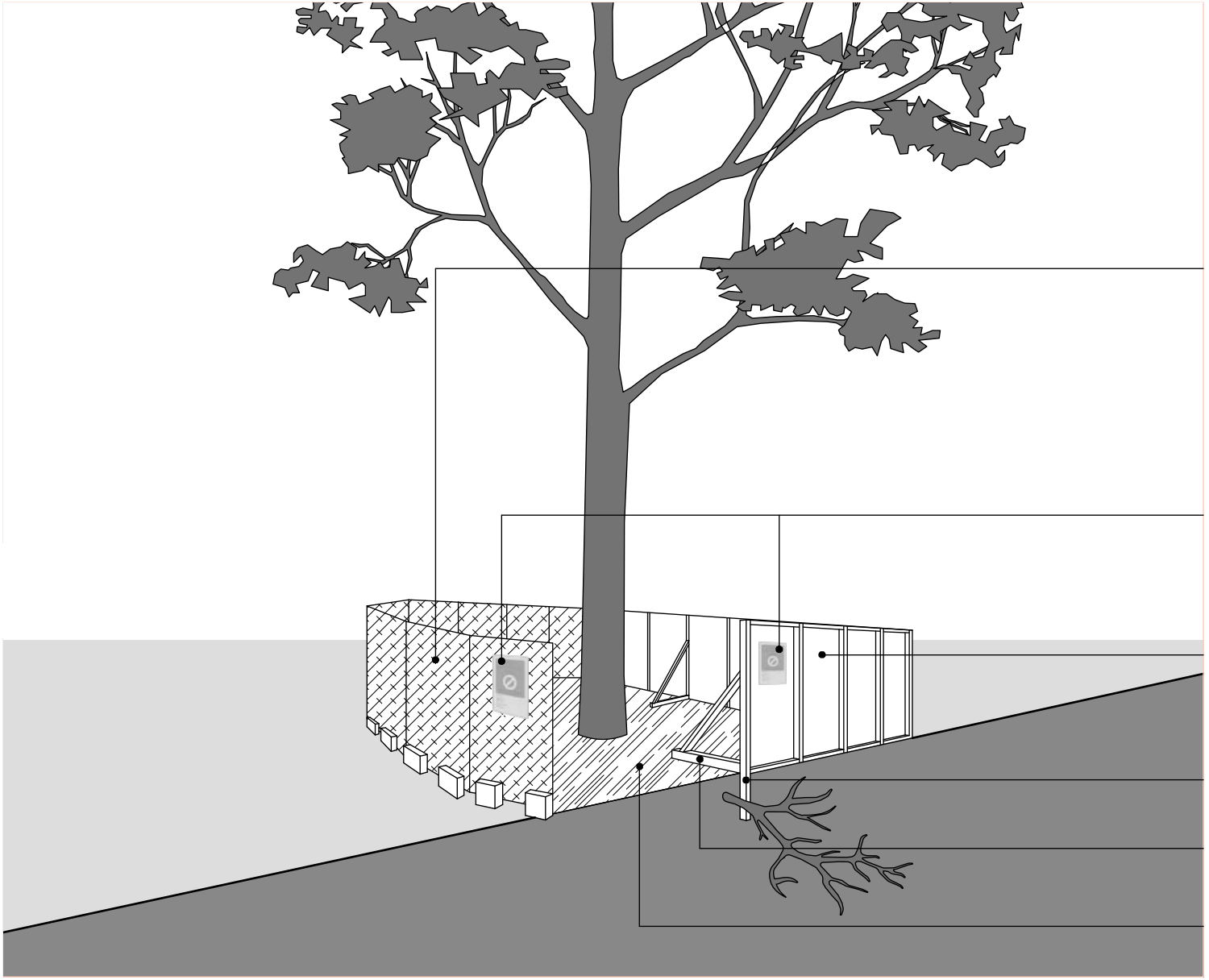
p. 0404 424 264 | f. 02 9012 0924
po box 146 summer hill 2130
info@treeiQ.com.au
abn 62 139 088 832

treeiQ.com.au

Appendix 6: Typical Tree Protection Details

p. 0404 424 264 | f. 02 9012 0924
po box 146 summer hill 2130
info@treeiQ.com.au
abn 62 139 088 832

treeiQ.com.au



Note:
No excavation, construction activity, grade changes, surface treatment or storage of materials of any kind is permitted within the TPZ.

Option 1 - Fencing
1.8m high chain wire mesh panels with shade cloth attached (if required), held in place with concrete feet.

Tree Protection Zone (TPZ) sign

Option 2 - Fencing
Plywood or wooden panel paling fence. This type of fencing material also prevents building materials or soil entering the TPZ.

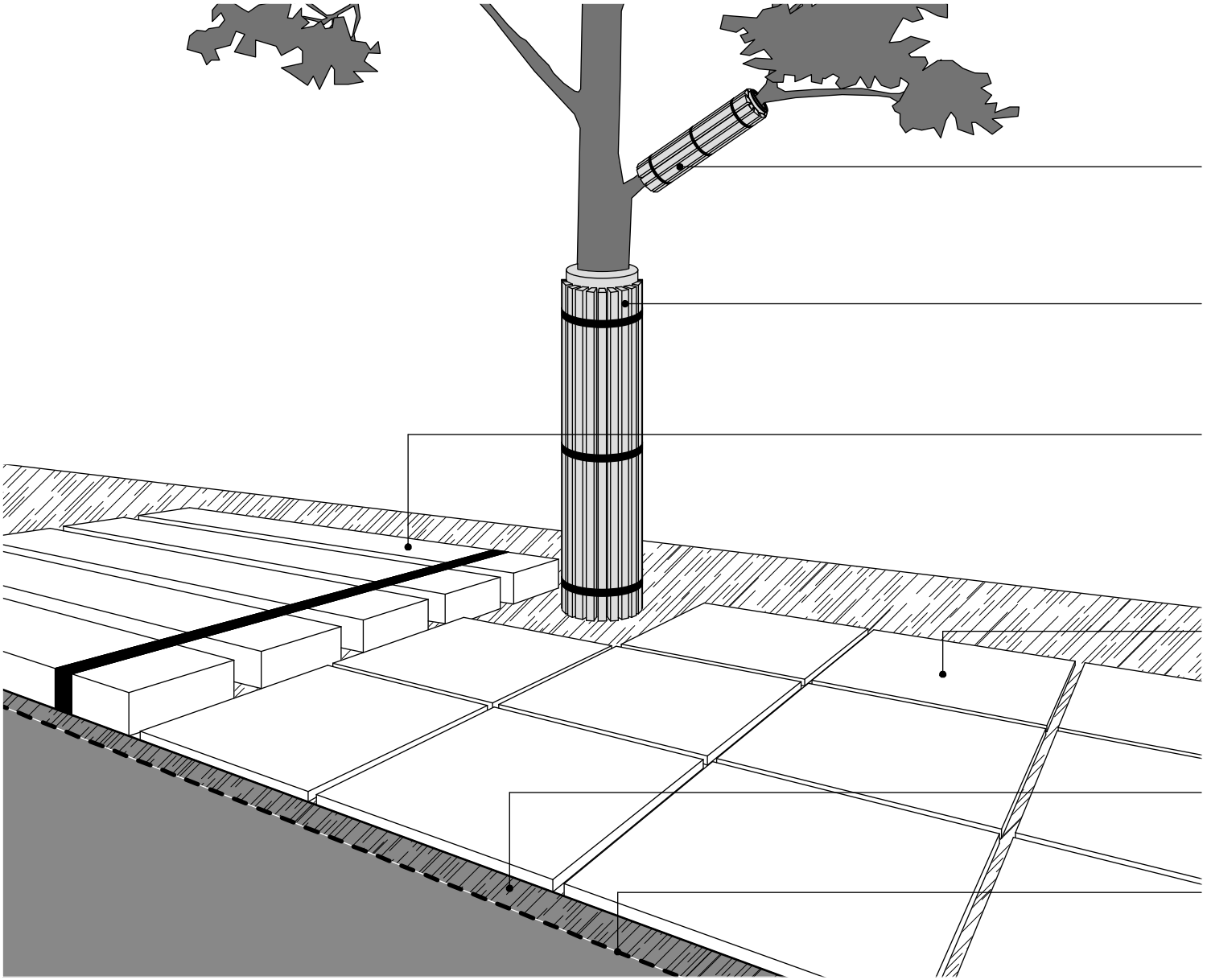
Installation of supports should avoid damaging roots.

Bracing is permissible within the TPZ.

Maximum 100mm and minimum 50mm depth mulch or aggregate layer installed across surface of TPZ.

03 Tree Protection Fencing

Not to Scale



Branch Protection - use boards and padding to prevent damage to bark on branch. Boards are to be strapped, not screwed or nailed to the branch.

Trunk Protection - use boards and padding to prevent damage to bark (minimum 2m). Boards are to be strapped, not screwed or nailed to the trunk.

Ground Protection - use device strapped over mulch or aggregate layer. Ground protection device should be of a suitable thickness to prevent soil compaction and root damage.

Steel plates (or approved equivalent) with or without mulch or aggregate layer below.

Maximum 100mm and minimum 50mm depth mulch or aggregate layer.

Geotextile fabric underneath mulch or aggregate layer.

04 Examples of Branch, Trunk and Ground Protection

Not to Scale