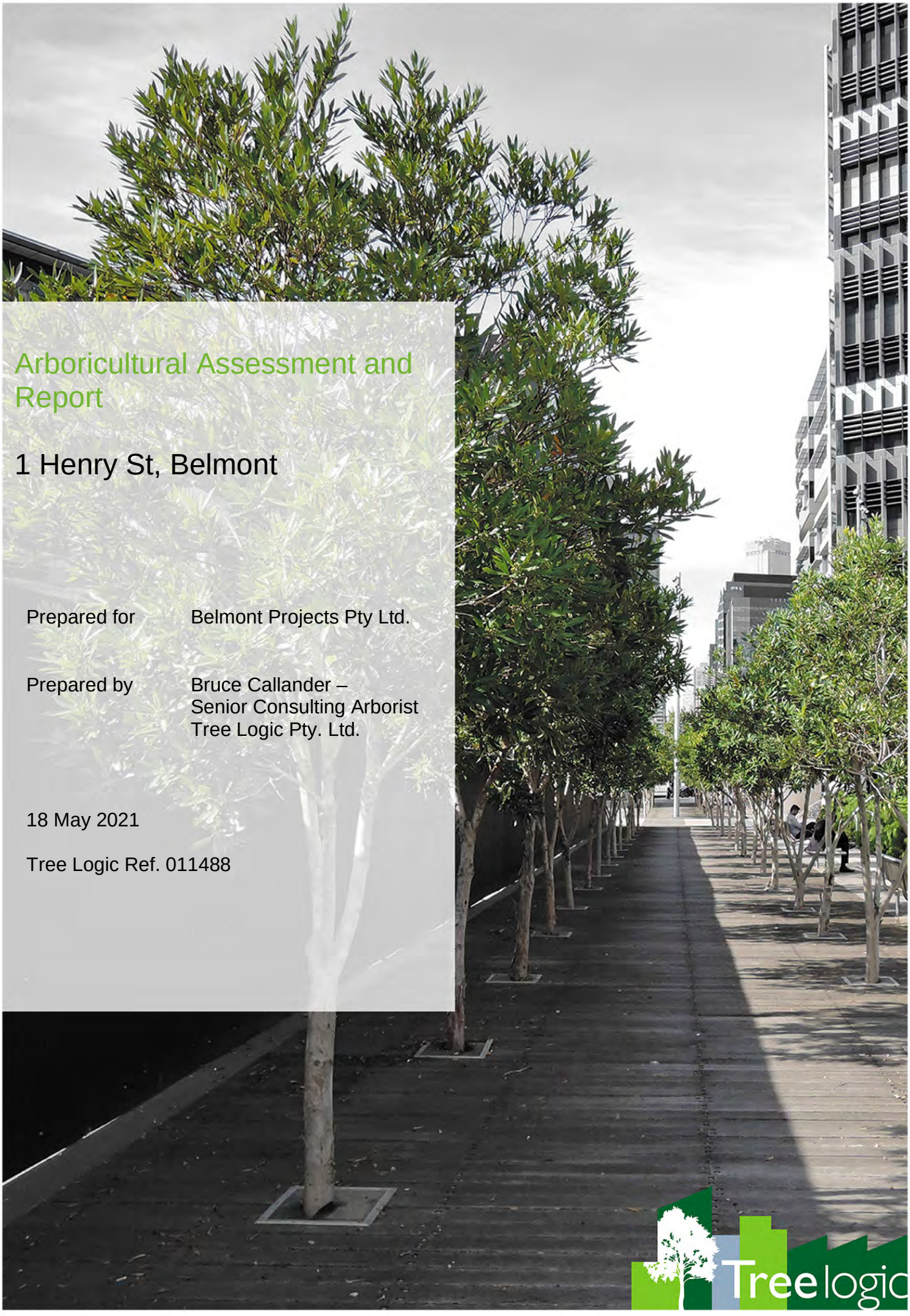

Arboricultural Assessment and Report

1 Henry St, Belmont

Prepared for	Belmont Projects Pty Ltd.
Prepared by	Bruce Callander – Senior Consulting Arborist Tree Logic Pty. Ltd.

18 May 2021

Tree Logic Ref. 011488

Contents

Tree report_011488 - 1 Henry St, Belmont-

File No.	Version	Author	Issue date	Edits	Issued by.
011488	V1	Bruce Callander	12/04/2021	Preliminary tree report	BC
011488	V2	Bruce Callander	18/05/2021	Update report to use old tree nos. from original 2014 report	BC

1 Executive Summary

Objectives

Tree Logic was engaged by Belmont Projects Pty Ltd to undertake an arboricultural assessment and prepare a preliminary arboricultural report for remaining trees associated with 1 Henry St, Belmont, former CSIRO site.

The primary objectives of the arboricultural report include;

- Ascertain the species and origin of the subject remaining trees and provide information including dimensions, health, structural condition and the arboricultural value of the trees.
- Determine appropriate tree protection zone dimensions compliant with Australian Standard AS4970 'Protection of trees on development sites'
- Identify if trees are subject to permit and / or offset requirement under various planning overlays.
- Identify potential tree impacts associated with proposed works and offer recommendations regarding the management of trees, including any tree protection modification or additional requirements for trees required to be retained.

Summary

A feature survey plan was used as the basis of the tree assessment survey. The site was the subject of a previous arboricultural assessment undertaken in 2014.
Since that time the onsite buildings and associated infrastructure have been demolished and the central areas of the site have been cleared and decontaminated.
Of the three hundred and ninety one (391) trees recorded in 2014, only two hundred and thirty three (233) trees remain. (Approximately 168 tree have been removed during demolition and decontamination works of the CSIRO buildings and infrastructure).

The tree number previously allocated in the original 2014 tree assessment report has been referenced in this updated report (2021).

Some trees have been tagged, sometimes with two differing tags. None of the tree tags bare any similarity to previous tree numbering sequence attributed to the trees in 2014 and referenced in numerous documents since.

Thirty three (33) different species were recorded including seventy one (71) planted Victorian native trees and one hundred and forty five (145) Australian native trees. The remainder were introduced exotic conifer of evergreen trees. Refer to Section 4.

Each tree feature was attributed an arboricultural rating which reflects the retention value of the trees.

- One (1) tree was attributed an arboricultural rating of High.
- One hundred and thirty seven (137) trees were attributed a Moderate arboricultural rating including,
    - Ten (10) trees attributed an arboricultural rating of Moderate A, being a prominent trees in Fair or better condition and a moderate to long useful life expectancy (ULE)
    - Forty three (43) trees rated Moderate B, being middle of the range and typical of the species worthy of retention.
    - Eighty four (84) tree features rated Moderate C, being of either small size or displaying accumulated deficiencies that are tending towards becoming of Low arboricultural value.
- Seventy one (71) trees were attributed an arboricultural rating of Low, displaying symptoms of decline and / or structural deficiencies.
- Fourteen (14) trees were attributed a rating of Very Low due to being dead or becoming hazardous.

Refer to Section 4 for trees sorted by arboricultural rating.

The site falls within the City of Greater Geelong Council Planning Scheme. However, being Commonwealth land no planning or associated tree controls apply to the trees within the site.

Naturally occurring trees native to Victoria may be subject to permit and offset requirements under Clause 52.17 - Native Vegetation if they were proposed to be removed. However, based on the species distribution, the generally linear spatial arrangement and the similar age range of the tree population it is concluded that all trees were either planted or grown as a result of direct seeding and are therefore exempt under Clause 52.17-7.

All trees located within the adjacent road reserve or neighbouring properties that are under third party ownership must be appropriately protected to ensure they remain viable.

Preliminary observations of potential tree impacts under the current design proposal for subdivision and residential development include;

- Trees within the central section of the site have mostly been removed.
- Stage 1 of the proposed development Masterplan is located within the central third of the site. Under the current design proposal
    - Forty five (45) trees exist within the construction impact zone (CIZ) and would be removed.
    - The structural root zone (SRZ) of 2 trees will be impacted by the CIZ and are unsustainable.
    - The tree protection zone (TPZ) of 5 trees will be impacted by more or less than 10% and could be sustained with appropriate TPZ management.
    - One hundred and seventy one (171) trees are not impacted under Stage 1 works.

2 Method

2.1 A site inspection was carried out on Wednesday, April 7th, 2021, during mild conditions by Bruce Callander, Senior Consultant Arborist (Dip Hort. Cert 5 Arb. NMIT, TRAQ trained and qualified) and James Cross .

2.2 Tree locations were recorded on mobile field computers equipped with GIS software displaying the level and feature survey plan of the site including all tree point data, property cadastral data, GPS and geo-referenced aerial imagery.

2.3 The tree number previously allocated in the original 2014 tree assessment report has been referenced in this updated report (2021).
Some trees have also been tagged, sometimes with two differing tags. None of the tree tags bare any similarity to previous tree numbering sequence.

2.4 Observations were made of the assessed trees to determine the species, age category, and condition with measurements taken to establish tree crown height (measured with a height meter) and crown width (paced) and trunk dimensions (measured 1.4 metres above ground level with a diameter tape unless otherwise stated).

2.5 Assessment details of individual trees are listed in Appendix 1 and a copy of the tree location plan can be seen in Appendix 2.
Descriptors used in the assessment can be seen in Appendix 3.

2.6 Photographs of some trees and the environs were taken for further reference when preparing the report.

2.7 Each of the assessed trees was attributed an ‘Arboricultural Rating’. The arboricultural rating correlates the combination of tree condition factors (health and structure) with tree amenity value. Definitions of arboricultural ratings can be seen in Appendix 3.

2.8 The assessed trees have been allocated tree protection zones (TPZ). The Australian Standard, AS 4970-2009, has been used as a guide in the allocation of TPZs for the assessed trees. This method provides a TPZ that addresses both the stability and growing requirements of a tree. TPZ distances are measured as a radius, from the centre of the trunk at (or near) ground level. All TPZ measurements for are provided in Appendix 1.

Documents reviewed:

- Previous Tree Logic Arboricultural Assessment Reports originally prepared in 2014.
- Planning Property reports for 1 Henry Street, Belmont 3216. Department of Planning & Community Development, dated 11/04/2021
    - Commonwealth Land Not Controlled By Planning Scheme (CA)
- Feature & Level Survey, CSIRO base plan (2014).
- Henry Street Belmont Urban Design Masterplan | April 2021 Prepared by Clarke Hopkins Clarke.

3 Tree Permit Requirements

3.1 The site falls within the City of Greater Geelong Council Planning Scheme.
The land is within Commonwealth Land (CA) and is not controlled by planning scheme.

3.2 Naturally occurring trees native to Victoria may be subject to permit and offset requirements under Clause 52.17 - Native Vegetation if they are proposed to be removed. However, based on the species distribution, the generally linear spatial arrangement and the similar age range of the tree population it is concluded that all trees were either planted or grown as a result of direct seeding and are therefore exempt under Clause 52.17-7.
as such, no trees within the site are expected to trigger permit or offset requirements.

3.3 All trees in adjoining land including street trees and neighbour's trees must be adequately protected to ensure they remain viable.

Refer to column titled 'Permit' in the tree assessment tables in Appendix 1 for trees that may or may not trigger permit requirement or are under third party ownership.

4 Observations

4.1 The subject study area is the old CSIRO research facility at 1 Henry Street, Belmont.
In recent years the CSIRO buildings and infrastructure has been demolished along with many of the trees located around these facilities. Refer to aerial image of subject site below.

Plate 1. Aerial view of the subject sites being 1 Henry Street, Belmont (Jan 2018).

From www.planning.vic.gov.au

4.2 Given the fragmentation of the tree population previously assessed in 2014, a new unique tree numbering sequence has been implemented during the 2021 assessment to better reflect existing tree locations. (The previously allocated tree number has been referenced in a separate column for reference if required).
Some trees have also been tagged, sometimes with two differing tags. None of the tree tags bare any similarity to previous tree numbering sequence.

The site is generally flat with a minor slope upwards from south-east corner at Corio–Waurn Ponds Road up to the north-east boundary at Reynolds Road of approximately 1:49.
While there were no creeks or natural drainage lines within the study area, the fall of the land from the west to east boundary would drain towards the east.

4.3 **Tree Origin**

Based on observations of species diversity, similar age class and general spatial arrangement within various sections of the site it is apparent that the trees within the subject sites are introduced specimens planted for visual and amenity screening, garden and amenity or windbreak purposes. Refer to Table 1.

Table 1: Tree Origin	Total	% of trees
Victorian native	71	32%
Australian native	145	65%
Exotic conifer	6	3%
Exotic evergreen	1	0%
Total	223	100%

4.4 Tree population

Two hundred and thirty three (233) trees were recorded in total.

Thirty three (33) different species were identified during the tree survey.
Refer to Table 2 for predominant 10 species and origins.

Table 2: Botanic name	Common Name	Origin	No of trees
Melaleuca styphelioides	Prickly-leaved Paperbark	Australian native	37
Corymbia citriodora	Lemon-scented Gum	Australian native	29
Corymbia maculata	Spotted Gum	Victorian native	24
Melaleuca armillaris	Bracelet Honey-myrtle	Victorian native	22
Eucalyptus cladocalyx	Sugar Gum	Australian native	20
Eucalyptus gomphocephala	Tuart	Australian native	12
Eucalyptus leucoxylon	Yellow Gum	Victorian native	11
Eucalyptus sideroxylon	Red Ironbark	Australian native	8
Angophora costata	Smooth-barked Apple	Australian native	6
Corymbia ficifolia	Red-flowering Gum	Australian native	6
Eucalyptus camaldulensis	River Red Gum	Victorian native	6
Agonis flexuosa	Willow Myrtle	Australian native	4
Casuarina glauca	Swamp She-oak	Australian native	4
Eucalyptus cornuta	Yate	Australian native	4
Eucalyptus viminalis	Manna Gum	Victorian native	4

4.5 **Tree health** was assessed based on foliage colour, size and density as well as shoot initiation and elongation where possible.

- One hundred and forty nine (149) trees displayed Fair or better health considered typical for the species growing in this location under current conditions.
- Sixty two (62) trees displayed symptoms of Fair to Poor health such as reduced foliage size and density, minor dieback, competition from adjacent trees, vine infestation, waterlogging or drought stress.
- Seven (7) tree features displayed Poor health with declining or dead main leaders
- Five (5) tree features were dead.

4.6 **Tree structure** was assessed for structural defects and deficiencies, likelihood of failures and risk to potential targets.

- Sixty one (61) trees displayed Fair and acceptable structural characteristics for the species and age of the trees.
- One hundred and thirty six (136) trees displayed Fair to Poor structure with dieback, deadwood, crown asymmetry, over-extended limbs, crossing / crowded branches, trunk or limb wounds, vine infestation, or previous lopping.
- Twenty six (26) trees displayed Poor or Very Poor structure due to factors including fungal trunk or limb decay, poor limb attachment, major asymmetry, past major limb failure or being dead / brittle.

4.7 Arboricultural Rating

The assessed trees were attributed an arboricultural rating. This rating relates to the combination of tree condition factors, including health and structure (arboricultural merit), and also conveys an amenity value.

It should be noted that the arboricultural rating is different to the conservation / ecological values placed on trees by other professions. Refer to Table 3 for tree numbers sorted by Arboricultural rating

Table 3: Arboricultural rating	Total	Tree Numbers
High	1	28
Moderate A	10	10, 47, 72, 149, 196, 297, 335, 341, 344, 365
Moderate B	43	16, 18, 24, 55, 57, 186, 203, 208, 211, 213, 215, 226, 228, 247, 248, 256, 258, 260, 261, 262, 267, 269, 271, 283, 319, 340, 342, 348, 349, 350, 351, 352, 356, 358, 360, 361, 363, 368, 374, 375, 378, 382, 394
Moderate C	84	2, 5, 6, 11, 12, 15, 17, 25, 49, 51, 59, 98, 99, 101, 123, 126, 143, 150, 150, 176, 178, 179, 181, 183, 197, 199, 204, 214, 215, 218, 219, 221, 222, 223, 224, 230, 233, 235, 249, 250, 251, 254, 255, 259, 263, 264, 265, 266, 272, 275, 275, 276, 287, 291, 298, 299, 309, 320, 326, 329, 330, 331, 332, 333, 336, 337, 338, 343, 352, 354, 357, 367, 370, 371, 373, 376, 379, 383, 384, 388, 389, 392, 393, 398
Low	71	27, 31, 105, 127, 128, 130, 131, 133, 134, 135, 136, 141, 185, 231, 232, 234, 268, 268, 270, 274, 277, 278, 279, 281, 282, 284, 286, 288, 289, 290, 292, 293, 294, 295, 296, 300, 302, 303, 304, 305, 306, 307, 310, 311, 312, 314, 315, 317, 318, 321, 322, 323, 324, 325, 328, 334, 339, 345, 346, 347, 355, 359, 364, 369, 372, 381, 386, 389, 395, 396, 397
Very Low	14	7, 94, 124, 201, 252, 313, 366, 377, 380, 385, 387, 391, 399, 400
Total	233	

- Trees rated High or Moderate A are generally prominent trees that display fair and typical condition with medium to long useful life expectancy.
- Trees rated Moderate B are generally typical of the species growing in this area under prevailing conditions and are deemed suitable to retain in conjunction with development where possible.
- Trees rated Moderate C are either established smaller trees of Fair condition or maturing trees that might be accumulating deficiencies and trending towards becoming of Low arboricultural value.
- Trees attributed an arboricultural rating of Low are generally not considered worthy of being a constraint on reasonable design intent and outcome delivery due to either health and / or structural deficiencies, being a suckering specimen or being woody weed species.
- Trees attributed an arboricultural rating of Very Low are generally unsuitable to retain in conjunction with site redevelopment.

Refer to Appendix 1 for individual tree data, Appendix 2 for Tree location plan sorted by Arboricultural rating and Appendix 3 for definitions of arboricultural ratings.

The linear arrangement of the trees within the western half of the site were generally growing in closely spaced rows where each tree has influenced the growth rate and / or form of adjacent trees.

Fragmentation of these linear plantings to selectively retain isolated or individual trees could result in more frequent branch or limb failure if trees become exposed to the influence of wind forces that they may have been previously protected from by adjacent trees.

Hence consideration should be given to retaining some intact rows of trees where possible.

5 Tree Protection Zones

The Tree Protection Zones (TPZs) provided for each tree in the Tree Assessment Table in Appendix 1 are calculated using the formula provided in the Australian Standard AS4970 where the Radial TPZ = Trunk diameter (DBH) measured at 1.4m above grade and multiplied by 12. TPZ distances are measured as a radius from the centre of the trunk at (or near) ground level. The method for calculating, applying and managing the tree protection zone is described in Appendix 4.

The TPZ forms an area around a tree or group of trees that addresses both the stability and growing requirements of a tree in which excavation or filling vehicle movements, installation of underground services and other construction activities are either excluded or controlled.

Minor encroachment, up to 10% of the TPZ area, is generally permissible provided encroachment is compensated for by recruitment of an equal area contiguous with the TPZ. Encroachment greater than 10% is considered major encroachment under AS4970 and is only permissible if it can be demonstrated that after such encroachment the tree would remain viable. Refer to Figure 2A and 2B.

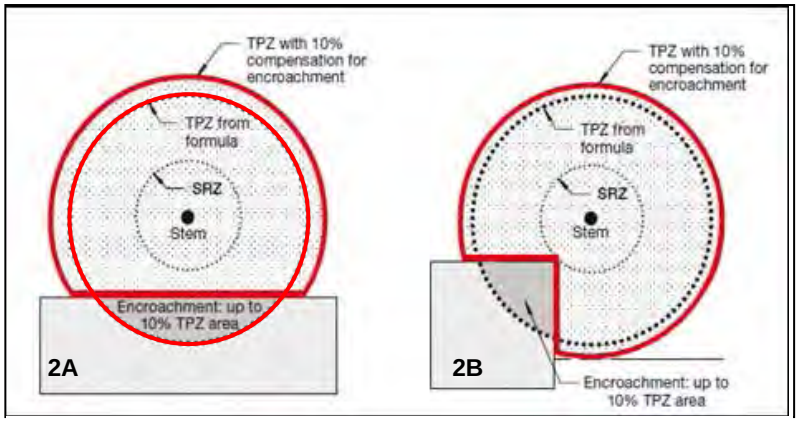

Figure 2: 2A & 2B - Examples of minor encroachment into a TPZ.

Extract from: AS4970-2009, Appendix D, pg. 30 of 32

The Structural Root Zone (SRZ) provided for each tree has been calculated using the method provided in AS4970. The SRZ is the area in which the larger woody roots required for tree stability are found close to the trunk and which then generally taper rapidly. This is the minimum area recommended to maintain tree stability but does not reflect the area required to sustain tree health. No works should occur within the SRZ radius as tree stability could be compromised.

TheTPZs for all trees to be retained must be transferred and overlaid on all design plans.

All TPZ measurements are provided in the tree assessment data in Appendix 1 and displayed on the tree location plan in Appendix 2. See Appendix 4 for TPZ establishment guidelines.

6 Design review and Tree impact assessment

The pre – development arboricultural inspection report provides planners and designers with information on whether trees are worthy or not of being a constraint on the proposed repurposing of the site.

It also provides a basis on which to identify when and where potential impacts to trees will occur from various design elements and evaluates the possible severity of the impact during the design phase of any site redevelopment.

Trees grow in a delicate balance with their environment and any changes to that balance must be minimised if a tree is to remain in a healthy state and fulfil its potential.
It is rarely possible to repair stressed and injured trees, so damage needs to be avoided during all stages of development and construction.
Tree protection cannot be achieved without a proactive approach. The planning and design stages of any construction project can be instrumental and determine the success of tree preservation.

The hierarchy of principles for tree protection are:

- Avoid damage to the subject trees
- Minimise damage to the subject trees
- Replace the subject trees and improve the landscape (as a last resort).

At the time of preparing the arboricultural report, a copy of the preliminary concept masterplan for subdivision of the land, particularly in relation to Stage 1, was provided for review.
(*Henry Street Belmont Urban Design Masterplan | April 2021 Prepared by Clarke Hopkins Clarke*)

6.1 The tree assessment data includes a column identifying the perceived impact of the construction impact zone (CIZ) on the trees and the percentage of TPZ encroachment.

6.2 The trees impacted under the current design proposal for Stage 1 - Subdivision by the works are summarised below in Table 4.

Table 4: Design review and tree impacts

Perceived impacts.	No. of trees	Tree Numbers
Within CIZ (To be removed)	42	94, 98, 99, 101, 105, 123, 124, 126, 127, 128, 130, 131, 133, 134, 135, 136, 141, 143, 149, 150, 150, 176, 178, 179, 181, 183, 197, 208, 211, 213, 214, 215, 215, 218, 219, 221, 223, 224, 233, 234, 235, 394
SRZ impacts (Unsustainable)	3	185, 226, 228
±10% TPZ impacted (Fence TPZ)	8	72, 186, 196, 203, 222, 230, 231, 232
No perceived impacts (Fence TPZ – Review in future Stages) (Note: It is unclear which of these trees are inended to be retained)	170	2, 5, 6, 7, 10, 11, 12, 15, 16, 17, 18, 24, 25, 27, 28, 31, 47, 49, 51, 55, 57, 59, 199, 201, 204, 247, 248, 249, 250, 251, 252, 254, 255, 256, 258, 259, 260, 261, 262, 263, 264, 265, 266, 267, 268, 268, 269, 270, 271, 272, 274, 275, 275, 276, 277, 278, 279, 281, 282, 283, 284, 286, 287, 288, 289, 290, 291, 292, 293, 294, 295, 296, 297, 298, 299, 300, 302, 303, 304, 305, 306, 307, 309, 310, 311, 312, 313, 314, 315, 317, 318, 319, 320, 321, 322, 323, 324, 325, 326, 328, 329, 330, 331, 332, 333, 334, 335, 336, 337, 338, 339, 340, 341, 342, 343, 344, 345, 346, 347, 348, 349, 350, 351, 352, 352, 354, 355, 356, 357, 358, 359, 360, 361, 363, 364, 365, 366, 367, 368, 369, 370, 371, 372, 373, 374, 375, 376, 377, 378, 379, 380, 381, 382, 383, 384, 385, 386, 387, 388, 389, 389, 391, 392, 393, 395, 396, 397, 398, 399, 400
Total	233	

7 Tree protection and construction guidelines.

7.1 The linear arrangement of the trees within the western half of the site were generally growing in closely spaced rows where each tree has influenced the growth rate and / or form of adjacent trees.
Fragmentation of these linear plantings to selectively retain isolated or individual trees could result in more frequent branch or limb failure if trees become exposed to the influence of wind forces that they may have been previously protected from by adjacent trees.
Hence consideration should be given to retaining some intact rows of trees where possible, such as the early mature Lemon-scented Gum trees within row 60 to 79. These could be retained as an established tree resource that could flank an internal road, even as an interim landscape feature.

7.2 Any trees that are to be retained in the vicinity of any proposed works will require Tree Protection Zones to be established prior to commencing any works onsite including demolition, bulk earthworks, trenching, construction, landscaping activity, delivery and storage of materials or placement of site sheds.

7.3 Tree protection must be incorporated into the design and appropriate construction controls, fencing and management practices must be implemented prior to commencing any construction related activity, including demolition, bulk earthworks construction of gantries, etc.

7.4 The tree protection zones for all trees to be retained within the site must be clearly shown on all design drawings and plans with appropriate notations so that all staff and contractors are aware of the responsibility to protect trees throughout the design, development and delivery of the project.

7.5 The TPZ fencing must be in the form of either temporary fencing panels with concrete block feet and locked together or water filled barriers with locking pins installed. Refer to Figure 1 for fencing example. TPZ fencing must be sufficiently robust to withstand knocks and bumps from plant and machinery, delivery vehicles, storage of materials and dumping of spoil.

Figure 1. Above left - Example of TPZ fencing above right -Example of TPZ signage.

7.6 Appropriate signage stating 'Tree protection Zone- No access' is to be fixed to the fencing to alert people as to importance of the tree protection zone. Refer to Figure 1 for signage example.

7.7 The following activities must be excluded from or controlled within the Tree Protection Zones (TPZ) unless otherwise approved by the relevant authority or the Project Arborist.

- Machine excavation (including trenching) for continuous strip footings or installation of underground services or road base
- Alteration of soil levels including placement of fill
- Storage of wastes or materials (including fuels, oils or chemicals)
- Preparation of or cleaning of any cement products
- Storage and or parking of vehicles or any plant/machinery within TPZ
- Washing down of equipment
- Installation of utilities
- Physical damage of any kind to the tree (including direct attachment of anything into the tree)
- Soil cultivation

7.8 No form of excavation for trenching for installation of underground services is permitted within the nominated TPZ areas for any retained trees without prior consultation with the council and / or site arborist, to avoid severing roots that could be vital to the stability and continued sustainability of the retained trees.

- Trenching for the installation of any and all underground services must be designed to avoid encroaching the TPZ of any retained trees.
- If it is unavoidable that an underground service must pass through a defined TPZ, the service must be installed via directional boring at a minimum depth of 750mm to the top of the bore head.
  All entry and exit points for the boring must be located beyond the TPZ radius.
- Lubricants or waste water from the boring process must not be permitted to enter or contaminate the soils within the TPZ.

7.9 Temporary facilities and site sheds may be established on existing hard stand if already present within a TPZ providing there is no physical impacts to the trees and no requirement to penetrate the surface within the TPZ for installation of footings or underground services. Access / egress to these facilities must not encroach or compact the native soil within the TPZ.

7.10 Refer to Appendix 1 for all tree data, Appendix 2 for tree location and TPZ maps and Appendix 3 for Tree Descriptors.

8 Conclusion.

8.1 In summary, two hundred and thirty three (233) trees were assessed.

8.2 Given the fragmentation of the tree population previously assessed in 2014, a new unique tree numbering sequence has been implemented during the 2021 assessment to better reflect existing tree locations. (The previously allocated tree number has been referenced in a separate column for reference if required).
Observed tree tags bare no reference to previous or current tree numbering sequences.

8.3 The majority of trees are planted Victorian or Australian native species planted for screening, garden and amenity purposes.
Refer to Table 1 at Section 4.3 for species Origin and Table 2 at Section 4.4 for indication of species diversity.

8.4 Because the site is Commonwealth Land, no specific tree controls apply under the local planning scheme.
All trees in adjoining land including street and freeway reserve trees must be adequately protected to ensure they remain viable.

Refer to column titled Permit in tree assessment data tables in Appendix 1.

8.5 The trees generally displayed health and structure considered to be typical for these species and age growing in this area under prevailing conditions. Refer to Sections 4.5 and 4.6

8.6 Each tree feature was attributed an arboricultural rating which reflects the retention value of the trees.

- One tree was attributed an arboricultural rating of High being a prominent tree displaying better than typical health & structure.
- One hundred and thirty seven (137) trees were attributed a Moderate arboricultural rating including,
    - Ten (10) trees attributed an arboricultural rating of Moderate A being prominent trees displaying fair and typical condition with medium to long useful life expectancy.
    - Forty three (43) trees rated Moderate B, being middle of the range and typical of the species worthy of retention.
    - Eighty four (84) trees rated Moderate C, being of either small size or displaying accumulated deficiencies that are tending towards becoming of Low arboricultural value.
- Seventy one (71) tree were attributed an arboricultural rating of Low, displaying symptoms of decline and structural deficiencies.
- Fourteen (14) trees were attributed a rating of Very Low due to being either in irreversible decline, dead or inappropriate weed species.

Refer to Table 3 - Section 4.7 for tree numbers sorted by arboricultural rating.

8.7 The preliminary tree assessment report provides information on the tree population associated with the site, its arboricultural value and the appropriate tree protection zones required to preserve trees in conjunction with future site redevelopment.

8.8 At the time of preparing the arboricultural report, a copy of the preliminary concept masterplan of the land was provided for review, with particular focus on Stage 1.
(*Henry Street Belmont Urban Design Masterplan* | *April 2021 Prepared by Clarke Hopkins Clarke*)

- The perceived impacts to each tree under the proposed Stage 1 subdivision and development are identified in Section 6.2 and summarised in Table 4.

8.9 Impacts to trees in future stages of the proposed development will be assessed as design plans are finalised.

8.10 Trees towards the western half of the site were generally growing in closely spaced rows where each tree has influenced the growth rate and / or form of adjacent trees.
Fragmentation of these groups to retain isolated trees can result in branch or limb failure as trees become exposed to the influence of wind forces that they may have been previously protected from by adjacent trees.

8.11 Ultimately, tree retention suitability will be dependent on the proposed landscape setting in which trees are intended to be retained.

- On the basis of future site safety and potential amenity, preference should be given to retaining trees of Moderate arboricultural value in built areas, or areas of increased target potential.
  Furthermore, trees attributed an arboricultural rating of Moderate B would be more appropriate to retain over trees attributed a rating of Moderate C.

- Trees of Low arboricultural value are generally not worthy of being a constraint on reasonable design intent and outcomes.
  However, Low rated trees can represent an established resource that can be retained as short to medium term tree cover as an interim measure or in areas where low development impacts are expected to occur.

8.12 Tree condition can change quickly in response to environmental conditions or altered landscape conditions. Retained trees should be re-inspected on a 3-5 year basis or following any locally damaging weather events and appropriate remedial works undertaken as required.

I am available to answer any questions arising from this report.

Signed 

Bruce Callander Senior Consultant Arborist Treelogic P/L

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References and bibliography:

Australian Standard (4970-2009) Protection of Trees on development sites. Standards Australia, Sydney NSW Australia

Harris, R.W, Clark, J.R. & Matheny, N.P. (2004), *Arboriculture: Integrated Management of Landscape trees, shrubs and vines*, Prentice Hall, New Jersey.

Clark, J.R. & Matheny, N.P (1998), Trees and Development: A technical guide to preservation of trees during land development. ISA, Champaign, Illinois.

Standards Australia (2007), Australian Standard (4373-2007) - Pruning of Amenity trees, Standards Australia, Homebush.

Appendix 1: Tree Assessment Data: 1 Henry St, Belmont

Refer to following 8 pages

Key: DBH = Diameter measured in centimetres at breast height (1.4m up trunk) unless otherwise indicated.

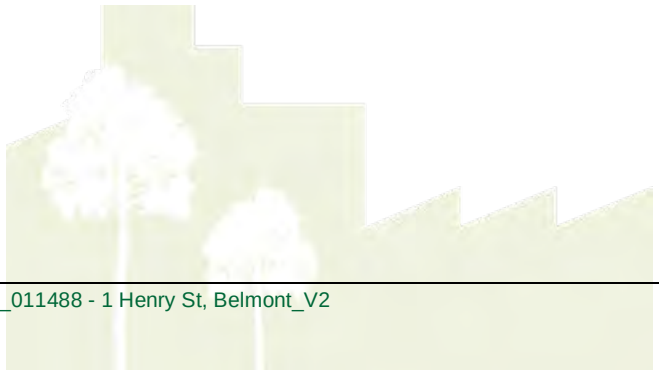
Arb. Rating = Arboricultural Rating. ULE = Useful Life Expectancy.

TPZ = Tree protection zone in radial metres. TPZ radius applies from centre of trunk.

SRZ = Structural root zone in radial metres. SRZ can be supplied on request

ULE = Useful Life Expectancy (Estimated)

Definition of the descriptor categories used in the assessment can be seen in Appendix 3.



Tree No (2014)	Tag No	Stage 1 Impact	% TPZ incursion	*Botanic name*	Common Name	Age_class	Origin	Permit	DBH_cm	Height_m	Width_m	Health	Structure	Arb_rating	ULE_yrs	Comments	TPZ_rad_m	SRZ_rad_m	Works class	Rec_works	Priority
2	No tag	None	None	*Eucalyptus robusta*	Swamp Mahogany	Early-maturity	Australian native	None	21,21,17	8	7	Fair	Fair to poor	Mod.C	6-10 y	Multi-stemmed, Stump sprout	4.1	2.8			
5	No tag	None	None	*Melaleuca nesophila*	Showy Honey-myrtle	Early-maturity	Australian native	None	22	4	5	Fair	Fair to poor	Mod.C	6-10 y	Leaning trunk	2.6	1.8			
6	70	None	None	*Melaleuca styphelioides*	Prickly-leaved Paperbark	Maturing	Australian native	None	25,25,13	6	9	Fair	Fair to poor	Mod.C	11-20 y	Acute forks	4.5	2.6			
7	14	None	None	*Eucalyptus globulus*	Tasmanian Blue Gum	Early-maturity	Australian native		52	15	8	Poor	Poor	Very Low	6-10 y	Trunk decay	6.2	2.7			
10	No tag	None	None	*Eucalyptus sideroxylon*	Red Ironbark	Early-maturity	Australian native	None	36	10	7	Good	Fair	Mod.A	11-20 y	Street tree	4.3	2.3			
11	72	None	None	*Casuarina glauca*	Swamp She-oak	Over-mature	Australian native	None	51,41	15	13	Fair	Fair to poor	Mod.C	11-20 y	Limb wounds, Past limb failure	7.9	3			
12	73	None	None	*Casuarina glauca*	Swamp She-oak	Early-maturity	Australian native	None	23	11	6	Fair	Fair to poor	Mod.C	11-20 y	Suckering	2.8	1.9	Crown maintenance	Remove suckers	Low
15	77	None	None	*Eucalyptus sideroxylon*	Red Ironbark	Early-maturity	Australian native	None	39	13	14	Fair	Fair to poor	Mod.C	6-10 y	Over-extended limb(s).	4.7	2.4			
16	No tag	None	None	*Eucalyptus leucoxylon*	Yellow Gum	Semi-mature	Victorian native	52.17.7 exempt	43	10	12	Fair	Fair	Mod.B	11-20 y	Over-extended limbs	5.2	2.5			
17	78	None	None	*Angophora costata*	Smooth-barked Apple	Early-maturity	Australian native	None	39,38	15	15	Fair to poor	Fair to poor	Mod.C	6-10 y	Abnormal lean, Partly suppressed-Crown bias East	6.5	2.6			
18	97	None	None	*Casuarina glauca*	Swamp She-oak	Early-maturity	Australian native	None	84	17	12	Fair	Fair	Mod.B	11-20 y		10.1	3.3			
24	No tag	None	None	*Eucalyptus leucoxylon*	Yellow Gum	Early-maturity	Victorian native	52.17.7 exempt	36	9	10	Fair	Fair to poor	Mod.B	11-20 y	Street tree, Over-extended limb(s)	4.3	2.2	Selective pruning	Weight reduction, Reduce over-extended branch	Med
25	No tag	None	None	*Corymbia ficifolia*	Red-flowering Gum	Semi-mature	Australian native	None	27,24	4	6	Fair to poor	Poor	Mod.C	6-10 y	Basal wounds	4.3	2.4			
27	101	None	None	*Eucalyptus viminalis*	Manna Gum	Maturing	Victorian native	52.17.7 exempt	60	13	13	Fair	Poor	Low	6-10 y	Lopped at 5m	7.2	2.7			
28	No tag	None	None	*Eucalyptus leucoxylon*	Yellow Gum	Early-maturity	Victorian native	52.17.7 exempt	87	19	20	Good	Fair	High	11-20 y	Excess end weight, Over-extended limbs	10.4	3.4	Selective pruning	Weight reduction, Reduce over-extended branch	Med
31	No tag	None	None	*Eucalyptus viminalis*	Manna Gum	Semi-mature	Victorian native	52.17.7 exempt	59	16	12	Fair to poor	Poor	Low	6-10 y	Multiple wounds, borer damage.crown bias Nth	7.1	2.7			
47	64	None	None	*Angophora floribunda*	Rough-barked Apple	Early-maturity	Australian native		79	17	15	Good	Fair to poor	Mod.A	11-20 y	Congested unions	9.5	3.2			
49	No tag	None	None	*Eucalyptus leucoxylon*	Yellow Gum	Maturing	Victorian native	52.17.7 exempt	32	14	5	Fair to poor	Fair	Mod.C	11-20 y	Limb wounds, Street tree Reduced foliage density	3.8	2			
51	No tag	None	None	*Eucalyptus leucoxylon*	Yellow Gum	Maturing	Victorian native	52.17.7 exempt	52	15	21	Fair	Fair to poor	Mod.C	11-20 y	Over-extended limb(s). Street tree	6.2	2.8			
55	63	None	None	*Corymbia maculata*	Spotted Gum	Semi-mature	Victorian native	52.17.7 exempt	56	13	11	Fair	Fair to poor	Mod.B	11-20 y	Partly suppressed - crown bias, as	6.7	2.8			
57	No tag	None	None	*Corymbia maculata*	Spotted Gum	Early-maturity	Victorian native	52.17.7 exempt	45	16	14	Fair	Fair	Mod.B	21-40 y	Street tree, Lge pruning wound, Growing outside entrance gate	5.4	2.5			
59	61	None	None	*Corymbia maculata*	Spotted Gum	Semi-mature	Victorian native	52.17.7 exempt	30	9	5	Fair	Fair to poor	Mod.C	11-20 y	Suppressed	3.6	2.2			
72	59	TPZ	2%	*Corymbia maculata*	Spotted Gum	Semi-mature	Victorian native	52.17.7 exempt	55	18	14	Fair	Fair	Mod.A	11-20 y		6.6	2.8			
94	63	Within	58%	*Eucalyptus gomphocephala*	Tuart	Maturing	Australian native	None	57	14	11	Poor	Poor	Very Low	1-5 y	Declining, Partly suppressed - crown bias, Nth	6.8	2.8			
98	No tag	Within	57%	*Eucalyptus mannifera*	Brittle Gum	Maturing	Australian native	None	52	18	12	Fair	Fair to poor	Mod.C	11-20 y	Over-extended limbs, Wounds	6.2	2.7	Selective pruning	Regular inspection (<3yr cycle)	Med
99	No tag	Within	67%	*Eucalyptus sideroxylon*	Red Ironbark	Semi-mature	Australian native	None	23,23,15	11	9	Fair	Fair to poor	Mod.C	11-20 y	Multi stemmed stump resprout	4.3	2.8	Re-inspect	Regular inspection (<3yr cycle)	Med
101	No tag	Within	60%	*Eucalyptus viridis*	Green Mallee	Semi-mature	Victorian native	52.17.7 exempt	26	9	6	Fair	Fair to poor	Mod.C	11-20 y	Partly lopped	3.1	2.2			
105	No tag	Within	57%	*Eucalyptus viridis*	Green Mallee	Early-maturity	Victorian native	52.17.7 exempt	30	14	13	Fair to poor	Fair to poor	Low	6-10 y		3.6	2.3			
123	No tag	Within	74%	*Angophora costata*	Smooth-barked Apple	Early-maturity	Australian native	None	42	16	14	Fair	Fair to poor	Mod.C	11-20 y	Epicormic crown, Lopped	5	2.5			

Tree No (2014)	Tag No	Stage 1 Impact	% TPZ incursion	*Botanic name*	Common Name	Age_class	Origin	Permit	DBH_cm	Height_m	Width_m	Health	Structure	Arb_rating	ULE_yrs	Comments	TPZ_rad_m	SRZ_rad_m	Works class	Rec_works	Priority
124	No tag	Within	100%	*Geijeria parvifolia*	Wilga	Semi-mature	Australian native	None	20,10	6	6	Poor	Fair to poor	Very Low	1-5 y	geijeria parvifolia, 3 sapplings behind specimen	2.7	1.9			
126	53	Within	72%	*Melaleuca styphelioides*	Prickly-leaved Paperbark	Semi-mature	Australian native	None	61	11	6	Fair	Poor	Mod.C	6-10 y		7.3	2.8			
127	52	Within	75%	*Melaleuca styphelioides*	Prickly-leaved Paperbark	Semi-mature	Australian native	None	35,23	11	7	Fair to poor	Fair to poor	Low	6-10 y	Partly suppressed - crown bias, Nth	5	2.5			
128	No tag	Within	73%	*Melaleuca styphelioides*	Prickly-leaved Paperbark	Semi-mature	Australian native	None	55	10	9	Fair to poor	Poor	Low	6-10 y	Included bark forks, Partly suppressed - crown bias, NW	6.6	2.6			
130	No tag	Within	100%	*Melaleuca armillaris*	Bracelet Honey-myrtle	Early-maturity	Victorian native	52.17.7 exempt	19,14	8	6	Fair to poor	Fair to poor	Low	6-10 y	Subsiding limbs, Partly suppressed - crown bias, nth	2.8	1.9			
131	No tag	Within	100%	*Melaleuca styphelioides*	Prickly-leaved Paperbark	Semi-mature	Australian native	None	19	7	3	Fair to poor	Fair to poor	Low	6-10 y	Size	2.3	1.7			
133	No tag	Within	100%	*Melaleuca styphelioides*	Prickly-leaved Paperbark	Early-maturity	Australian native	None	23	10	6	Fair to poor	Fair to poor	Low	6-10 y		2.8	1.9			
134	No tag	Within	100%	*Melaleuca armillaris*	Bracelet Honey-myrtle	Semi-mature	Victorian native	52.17.7 exempt	20,15,10	7	6	Fair to poor	Poor	Low	6-10 y		3.2	2			
135	No tag	Within	100%	*Melaleuca armillaris*	Bracelet Honey-myrtle	Maturing	Victorian native	52.17.7 exempt	21,20,20,16	10	12	Fair	Poor	Low	6-10 y	Subsiding limbs	4.6	2.5			
136	125	Within	100%	*Allocasuarina verticillata*	Drooping She-oak	Early-maturity	Victorian native	52.17.7 exempt	38	11	7	Fair	Fair to poor	Low	6-10 y	Included bark forks, Leaning trunk, Partly suppressed - crown bias	4.6	2.3			
141	No tag	Within	100%	*Melaleuca styphelioides*	Prickly-leaved Paperbark	Semi-mature	Australian native	None	20	6	4	Fair to poor	Fair to poor	Low	6-10 y	Reduced foliage density	2.4	1.8			
143	No tag	Within	58%	*Melaleuca lanceolata*	Moonah	Maturing	Victorian native	52.17.7 exempt	35,34	9	9	Fair	Fair to poor	Mod.C	6-10 y	Deadwood, Partly suppressed - crown bias, east	5.9	2.6			
149	No tag	Within	58%	*Angophora costata*	Smooth-barked Apple	Early-maturity	Australian native	None	46,31	16	15	Good	Fair	Mod.A	11-20 y	Trunk wounds	6.7	2.7			
150	131	Within	100%	*Agonis flexuosa*	Willow Myrtle	Early-maturity	Australian native	None	31	5	5	Fair	Fair to poor	Mod.C	11-20 y		3.7	2.2			
150	131	Within	100%	*Agonis flexuosa*	Willow Myrtle	Early-maturity	Australian native	None	31	5	5	Fair	Fair to poor	Mod.C	11-20 y		3.7	2.2			
176	43	Within	99%	*Eucalyptus cladocalyx*	Sugar Gum	Semi-mature	Australian native	None	18	11	4	Fair	Fair	Mod.C	11-20 y		2.2	1.8			
178	40	Within	73%	*Eucalyptus cladocalyx*	Sugar Gum	Semi-mature	Australian native	None	61	19	14	Fair	Fair to poor	Mod.C	11-20 y	Trunk wounds, Partly suppressed - crown bias, NW	7.3	2.9			
179	138	Within	87%	*Cupressus macrocarpa*	Monterey Cypress	Early-maturity	Exotic conifer	None	35,21,20	11	7	Fair	Fair to poor	Mod.C	6-10 y	Partly suppressed - crown bias, Sth	5.5	2.4			
181	38	Within	65%	*Eucalyptus cladocalyx*	Sugar Gum	Maturing	Australian native	None	83	21	18	Fair	Fair to poor	Mod.C	11-20 y	Over-extended limbs, Trunk wounds	10	3.2	Selective pruning	Weight reduction, Reduce over-extended branch	Low
183	14	Within	86%	*Cupressus macrocarpa*	Monterey Cypress	Early-maturity	Exotic conifer	None	41,26	11	10	Fair	Fair to poor	Mod.C	6-10 y	Partly suppressed - crown bias, west	5.8	2.6			
185	141	SRZ	22%	*Eucalyptus gomphocephala*	Tuart	Maturing	Australian native	None	56	16	10	Fair to poor	Fair to poor	Low	11-20 y	Acute forks, Partly suppressed - crown bias, east	6.7	2.7			
186	35	TPZ	4%	*Eucalyptus sideroxylon*	Red Ironbark	Early-maturity	Australian native	None	64	18	12	Fair	Fair	Mod.B	11-20 y	Acute forks	7.7	2.8			
196	31	TPZ	12%	*Eucalyptus leucoxylon*	Yellow Gum	Maturing	Victorian native	52.17.7 exempt	107	22	15	Fair	Fair	Mod.A	11-20 y	Stub on east trunk from past limb reduction	12.8	3.5			
197	167	Within	100%	*Eucalyptus cornuta*	Yate	Maturing	Australian native	None	89	14	13	Fair to poor	Poor	Mod.C	11-20 y	Multiple past limb failures	10.7	3.4			
199	30	None	None	*Melaleuca styphelioides*	Prickly-leaved Paperbark	Semi-mature	Australian native	None	26,20,19	7	5	Fair to poor	Fair to poor	Mod.C	6-10 y	Suppressed	4.5	2.4			
201	147	None	None	*Cupressus torulosa*	Bhutan Cypress	Semi-mature	Exotic conifer	None	12,6	7	2	Poor	Poor	Very Low	1-5 y	Declining, Suppressed	2	1.6			
203	29	TPZ	15%	*Eucalyptus cornuta*	Yate	Early-maturity	Australian native	None	61	15	11	Fair	Fair to poor	Mod.B	11-20 y	Over-extended limbs, Past powerline clearance	7.3	2.8			
204	No tag	None	None	*Melaleuca nesophila*	Showy Honey-myrtle	Early-maturity	Australian native	None	16	5	5	Fair	Fair to poor	Mod.C	6-10 y		2	1.7			
208	152	Within	100%	*Cupressus sempervirens*	Italian Cypress	Early-maturity	Exotic conifer	None	26	9	3	Fair	Fair	Mod.B	11-20 y		3.1	1.9			
211	No tag	Within	79%	*Angophora costata*	Smooth-barked Apple	Semi-mature	Australian native	None	46	17	14	Fair	Fair	Mod.B	11-20 y	Congested primary union, Trunk pruning wounds	5.5	2.5			

Tree No (2014)	Tag No	Stage 1 Impact	% TPZ incursion	*Botanic name*	Common Name	Age_class	Origin	Permit	DBH_cm	Height_m	Width_m	Health	Structure	Arb_rating	ULE_yrs	Comments	TPZ_rad_m	SRZ_rad_m	Works class	Rec_works	Priority
213	No tag	Within	60%	*Angophora costata*	Smooth-barked Apple	Early-maturity	Australian native	None	38,35	17	12	Fair	Fair to poor	Mod.B	11-20 y	Acute forks, Congested primary union	6.2	2.5			
214	155	Within	91%	*Cupressus sempervirens*	Italian Cypress	Early-maturity	Exotic conifer	None	22,10,10	9	4	Fair	Fair to poor	Mod.C	11-20 y	Subsiding limbs	3.1	2.2			
215	23	Within	74%	*Eucalyptus gomphocephala*	Tuart	Maturing	Australian native	None	74	15	11	Fair	Fair to poor	Mod.B	11-20 y	Partly lopped	8.9	3.1			
215	23	Within	74%	*Eucalyptus gomphocephala*	Tuart	Maturing	Australian native	None	75	14	11	Fair	Fair to poor	Mod.C	11-20 y	Partly lopped	9	3			
218	No tag	Within	59%	*Angophora costata*	Smooth-barked Apple	Maturing	Australian native	None	62	17	13	Fair	Fair to poor	Mod.C	6-10 y	Bracket fungi, Trunk wounds	7.4	2.8			
219	22	Within	77%	*Melaleuca styphelioides*	Prickly-leaved Paperbark	Early-maturity	Australian native	None	25,21,18	7	6	Fair	Fair	Mod.C	11-20 y	Acute forks	4.5	2.4			
221	21	Within	73%	*Casuarina glauca*	Swamp She-oak	Early-maturity	Australian native	None	39	13	9	Fair	Fair	Mod.C	11-20 y		4.7	2.5			
222	No tag	TPZ	8%	*Eucalyptus leucoxylon*	Yellow Gum	Semi-mature	Victorian native	52.17.7 exempt	21	9	6	Fair to poor	Fair to poor	Mod.C	6-10 y	Basal wounds, Included bark forks, Street tree	2.5	2.1			
223	20	Within	93%	*Eucalyptus leucoxylon*	Yellow Gum	Early-maturity	Victorian native	52.17.7 exempt	37	8	8	Fair	Fair	Mod.C	11-20 y	Canker wounds	4.4	2.3			
224	No tag	Within	57%	*Eucalyptus gomphocephala*	Tuart	Maturing	Australian native	None	80 (est)	16	12	Fair	Fair to poor	Mod.C	6-10 y	Previously partly lopped, Ivy infestation.	9.6	3.2	Crown maintenance	Remove vines	Med
226	182	SRZ	24%	*Eucalyptus gomphocephala*	Tuart	Early-maturity	Australian native	None	45	11	15	Fair	Fair	Mod.B	11-20 y		5.4	2.7			
228	No tag	SRZ	50%	*Agonis flexuosa*	Willow Myrtle	Maturing	Australian native	None	43,26 (est)	8	10	Fair	Fair	Mod.B	<1 y	Neighbour's tree	6	2.7			
230	No tag	TPZ	22%	*Eucalyptus gomphocephala*	Tuart	Early-maturity	Australian native	None	48	15	14	Fair to poor	Fair	Mod.C	6-10 y	Psyllid, Acute fork.	5.8	2.7			
231	178	TPZ	22%	*Eucalyptus gomphocephala*	Tuart	Early-maturity	Australian native	None	49	14	11	Fair to poor	Fair to poor	Low	6-10 y	Psyllid, Included bark fork, middle tree in photo	5.9	2.6			
232	No tag	TPZ	33%	*Eucalyptus gomphocephala*	Tuart	Maturing	Australian native	None	65,45	15	16	Fair	Fair to poor	Low	6-10 y	Psyllid, Acute fork with basal wounds	9.5	3.2			
233	No tag	Within	100%	*Eucalyptus gomphocephala*	Tuart	Early-maturity	Australian native	None	34	9	9	Fair	Fair to poor	Mod.C	11-20 y	Partly suppressed-Crown bias east	4.1	2.3			
234	No tag	Within	100%	*Eucalyptus gomphocephala*	Tuart	Early-maturity	Australian native	None	29	7	8	Fair	Fair to poor	Low	6-10 y	Leaning trunk, Crown bias west	3.5	2.1			
235	No tag	Within	100%	*Eucalyptus gomphocephala*	Tuart	Maturing	Australian native	None	45	12	10	Fair	Fair to poor	Mod.C	11-20 y	Basal wounds	5.4	2.5			
247	No tag	None	None	*Corymbia citriodora*	Lemon-scented Gum	Early-maturity	Australian native	None	43	14	12	Good	Fair	Mod.B	11-20 y	Acute fork	5.2	2.4			
248	No tag	None	None	*Corymbia citriodora*	Lemon-scented Gum	Semi-mature	Australian native	None	31	16	13	Fair	Fair	Mod.B	11-20 y		3.7	2.2			
249	No tag	None	None	*Corymbia citriodora*	Lemon-scented Gum	Semi-mature	Australian native	None	22	10	5	Fair to poor	Fair	Mod.C	6-10 y	Suppressed	2.6	2.2			
250	No tag	None	None	*Corymbia citriodora*	Lemon-scented Gum	Semi-mature	Australian native	None	29,24	16	14	Fair	Fair	Mod.C	6-10 y		4.5	2.3			
251	No tag	None	None	*Corymbia citriodora*	Lemon-scented Gum	Early-maturity	Australian native	None	35	15	10	Fair to poor	Fair	Mod.C	6-10 y		4.2	2.3			
252	No tag	None	None	*Corymbia citriodora*	Lemon-scented Gum	Semi-mature	Australian native	None	22	14	6	Dead	Very poor	Very Low	<1 y	Suppressed. Reduced foliage density.	2.6	2			
254	No tag	None	None	*Callistemon viminalis*	Weeping Bottlebrush	Maturing	Australian native	None	17,13,10	6	6	Fair	Fair to poor	Mod.C	6-10 y		2.8	2			
255	No tag	None	None	*Callistemon viminalis*	Weeping Bottlebrush	Semi-mature	Australian native	None	14,13	5	5	Fair to poor	Fair to poor	Mod.C	11-20 y		2.3	1.8			
256	No tag	None	None	*Corymbia citriodora*	Lemon-scented Gum	Early-maturity	Australian native	None	33,30	17	13	Fair	Fair to poor	Mod.B	11-20 y	Included bark fork.	5.4	2.5			
258	No tag	None	None	*Corymbia citriodora*	Lemon-scented Gum	Semi-mature	Australian native	None	24	12	13	Fair	Fair	Mod.B	11-20 y	Low branching.	2.9	2.2			
259	No tag	None	None	*Corymbia citriodora*	Lemon-scented Gum	Semi-mature	Australian native	None	25,20	14	10	Fair	Fair to poor	Mod.C	11-20 y	Included bark fork.	3.8	2.2			
260	No tag	None	None	*Corymbia citriodora*	Lemon-scented Gum	Early-maturity	Australian native	None	52	17	11	Fair	Fair to poor	Mod.B	11-20 y	acute fork	6.2	2.5			
261	No tag	None	None	*Corymbia citriodora*	Lemon-scented Gum	Early-maturity	Australian native	None	38	16	10	Fair	Fair	Mod.B	11-20 y		4.6	2.4			
262	No tag	None	None	*Corymbia citriodora*	Lemon-scented Gum	Early-maturity	Australian native	None	44	17	17	Fair	Fair to poor	Mod.B	11-20 y	Over-extended limb(s) developing	5.3	2.6			
263	No tag	None	None	*Corymbia citriodora*	Lemon-scented Gum	Semi-mature	Australian native	None	27,25	16	11	Fair	Fair	Mod.C	11-20 y	Acute forks	4.4	2.3			

Tree No (2014)	Tag No	Stage 1 Impact	% TPZ incursion	*Botanic name*	Common Name	Age_class	Origin	Permit	DBH_cm	Height_m	Width_m	Health	Structure	Arb_rating	ULE_yrs	Comments	TPZ_rad_m	SRZ_rad_m	Works class	Rec_works	Priority
264	No tag	None	None	*Corymbia citriodora*	Lemon-scented Gum	Semi-mature	Australian native	None	22,14	14	12	Fair	Fair	Mod.C	11-20 y	Over-extended limbs	3.1	2.1			
265	No tag	None	None	*Corymbia citriodora*	Lemon-scented Gum	Early-maturity	Australian native	None	33	14	12	Fair to poor	Fair	Mod.C	11-20 y		4	2.3			
266	No tag	None	None	*Corymbia citriodora*	Lemon-scented Gum	Semi-mature	Australian native	None	18,16,8	13	10	Fair to poor	Fair to poor	Mod.C	6-10 y	Sparse foliage.	2.9	2.1			
267	No tag	None	None	*Corymbia citriodora*	Lemon-scented Gum	Maturing	Australian native	None	58	17	13	Fair	Fair to poor	Mod.B	11-20 y	Acute forks	7	2.7			
268	16	None	None	*Melaleuca armillaris*	Bracelet Honey-myrtle	Early-maturity	Victorian native	52.17.7 exempt	21,18	7	7	Fair	Fair to poor	Low	6-10 y	Acute forks	3.3	2.1			
268	No tag	None	None	*Melaleuca armillaris*	Bracelet Honey-myrtle	Semi-mature	Victorian native	52.17.7 exempt	14,11	5	5	Fair	Fair to poor	Low	6-10 y		2.1	1.6			
269	No tag	None	None	*Corymbia citriodora*	Lemon-scented Gum	Early-maturity	Australian native	None	54	17	12	Fair	Fair	Mod.B	11-20 y		6.5	2.6			
270	99	None	None	*Schinus areira*	Peppercorn Tree	Early-maturity	Exotic evergreen	None	29,23	7	11	Poor	Fair to poor	Low	1-5 y	Partly suppressed weed species, ivy on trunk	4.4	2.9			
271	No tag	None	None	*Corymbia citriodora*	Lemon-scented Gum	Semi-mature	Australian native	None	42	15	9	Fair	Fair to poor	Mod.B	11-20 y	Acute fork	5	2.5			
272	No tag	None	None	*Corymbia citriodora*	Lemon-scented Gum	Semi-mature	Australian native	None	25	13	7	Fair to poor	Fair to poor	Mod.C	6-10 y	Split branch	3	2.2			
274	No tag	None	None	*Corymbia citriodora*	Lemon-scented Gum	Semi-mature	Australian native	None	16,16	9	9	Fair to poor	Fair to poor	Low	6-10 y	Past stem failure, Included bark fork.	2.7	2.1			
275	No tag	None	None	*Corymbia citriodora*	Lemon-scented Gum	Semi-mature	Australian native	None	28	12	9	Fair	Fair	Mod.C	11-20 y		3.4	2.1			
275	No tag	None	None	*Corymbia citriodora*	Lemon-scented Gum	Semi-mature	Australian native	None	19,17	11	11	Fair	Fair to poor	Mod.C	11-20 y	Co-dominant stems	3.1	2.1			
276	No tag	None	None	*Corymbia citriodora*	Lemon-scented Gum	Early-maturity	Australian native	None	37,41	15	13	Fair	Fair to poor	Mod.C	11-20 y	Acute forks, Ivy on trunk.	6.6	2.7			
277	No tag	None	None	*Melaleuca armillaris*	Bracelet Honey-myrtle	Semi-mature	Victorian native	52.17.7 exempt	14	5	4	Fair	Fair to poor	Low	6-10 y	Acute forks	2	1.6			
278	No tag	None	None	*Melaleuca armillaris*	Bracelet Honey-myrtle	Early-maturity	Victorian native	52.17.7 exempt	14,13,11,9	5	5	Fair	Fair to poor	Low	6-10 y	Acute forks	2.6	1.8			
279	No tag	None	None	*Melaleuca armillaris*	Bracelet Honey-myrtle	Early-maturity	Victorian native	52.17.7 exempt	14,13,13,11	6	5	Fair	Fair to poor	Low	6-10 y	Acute forks	3.1	1.8			
281	No tag	None	None	*Melaleuca armillaris*	Bracelet Honey-myrtle	Early-maturity	Victorian native	52.17.7 exempt	13,12,10,10	6	6	Fair	Fair to poor	Low	6-10 y	Acute forks	2.7	1.8			
282	No tag	None	None	*Melaleuca armillaris*	Bracelet Honey-myrtle	Semi-mature	Victorian native	52.17.7 exempt	12,9	5	4	Fair	Fair to poor	Low	6-10 y	Acute forks	2	1.8			
283	No tag	None	None	*Eucalyptus cladocalyx*	Sugar Gum	Early-maturity	Australian native	None	48	20	9	Fair	Fair to poor	Mod.B	21-40 y		5.8	2.6			
284	No tag	None	None	*Melaleuca armillaris*	Bracelet Honey-myrtle	Early-maturity	Victorian native	52.17.7 exempt	16,12	5	5	Fair	Fair to poor	Low	6-10 y	Acute forks	2.4	1.9			
286	No tag	None	None	*Melaleuca armillaris*	Bracelet Honey-myrtle	Early-maturity	Victorian native	52.17.7 exempt	15,14,13,10	6	5	Fair	Fair to poor	Low	6-10 y	Acute forks	3.2	2.1			
287	No tag	None	None	*Eucalyptus cladocalyx*	Sugar Gum	Early-maturity	Australian native	None	52	20	11	Fair to poor	Fair to poor	Mod.C	11-20 y	Limb wounds, Acute unions	6.2	2.7			
288	No tag	None	None	*Melaleuca armillaris*	Bracelet Honey-myrtle	Early-maturity	Victorian native	52.17.7 exempt	9,9	4	4	Fair	Poor	Low	1-5 y	Acute forks, Suppressed	2	1.8			
289	No tag	None	None	*Melaleuca armillaris*	Bracelet Honey-myrtle	Early-maturity	Victorian native	52.17.7 exempt	15,14	6	5	Fair	Fair to poor	Low	6-10 y	Acute forks	2.5	2			
290	No tag	None	None	*Melaleuca armillaris*	Bracelet Honey-myrtle	Early-maturity	Victorian native	52.17.7 exempt	14	5	4	Fair	Fair to poor	Low	6-10 y	Acute forks	2	1.7			
291	No tag	None	None	*Eucalyptus cladocalyx*	Sugar Gum	Early-maturity	Australian native	None	34	15	14	Fair	Fair	Mod.C	11-20 y	Inappropriate	4.1	2.3			
292	No tag	None	None	*Melaleuca armillaris*	Bracelet Honey-myrtle	Early-maturity	Victorian native	52.17.7 exempt	18,11	6	6	Fair	Fair to poor	Low	6-10 y	Acute forks	2.5	1.9			
293	No tag	None	None	*Melaleuca armillaris*	Bracelet Honey-myrtle	Semi-mature	Victorian native	52.17.7 exempt	15	5	5	Fair	Fair to poor	Low	6-10 y	Acute forks	2	1.6			
294	232	None	None	*Melaleuca armillaris*	Bracelet Honey-myrtle	Semi-mature	Victorian native	52.17.7 exempt	18,11	6	5	Fair	Fair to poor	Low	6-10 y	Acute forks	2.5	1.8			
295	No tag	None	None	*Melaleuca armillaris*	Bracelet Honey-myrtle	Semi-mature	Victorian native	52.17.7 exempt	8,4	3	2	Fair to poor	Fair to poor	Low	6-10 y	Acute forks	2	1.5			
296	No tag	None	None	*Melaleuca armillaris*	Bracelet Honey-myrtle	Semi-mature	Victorian native	52.17.7 exempt	8,4	2	2	Fair to poor	Fair to poor	Low	6-10 y	Acute forks	2	1.5			
297	No tag	None	None	*Eucalyptus leucoxylon*	Yellow Gum	Maturing	Victorian native	52.17.7 exempt	65	14	15	Fair	Fair	Mod.A	11-20 y	Street tree	7.8	3.1			

Tree No (2014)	Tag No	Stage 1 Impact	% TPZ incursion	*Botanic name*	Common Name	Age_class	Origin	Permit	DBH_cm	Height_m	Width_m	Health	Structure	Arb_rating	ULE_yrs	Comments	TPZ_rad_m	SRZ_rad_m	Works class	Rec_works	Priority
298	No tag	None	None	*Eucalyptus viminalis*	Manna Gum	Semi-mature	Victorian native	52.17.7 exempt	30	8	6	Fair to poor	Fair	Mod.C	11-20 y	Deadwood, Reduced foliage density, size & colour.	3.6	2.1			
299	210	None	None	*Eucalyptus camaldulensis*	River Red Gum	Maturing	Victorian native	52.17.7 exempt	64	16	16	Fair to poor	Fair	Mod.C	11-20 y	Exposed roots, Trunk wound. Reduced foliage density. Deadwood.	7.7	2.9			
300	No tag	None	None	*Eucalyptus saligna*	Sydney Blue Gum	Early-maturity	Australian native	None	37	13	11	Fair	Fair to poor	Low	6-10 y	Limb wounds, Trunk wounds, Past stem failure. Reduced foliage density	4.4	2.5			
302	No tag	None	None	*Melaleuca styphelioides*	Prickly-leaved Paperbark	Over-mature	Australian native	None	50,39	9	9	Fair to poor	Fair to poor	Low	6-10 y	Deadwood, Declining	7.6	2.7			
303	No tag	None	None	*Melaleuca styphelioides*	Prickly-leaved Paperbark	Maturing	Australian native	None	0,16,16,24,1	8	8	Fair to poor	Fair to poor	Low	6-10 y	Typical multi stemmed form	5	2.5			
304	No tag	None	None	*Melaleuca styphelioides*	Prickly-leaved Paperbark	Maturing	Australian native	None	24,24,23,23	8	9	Fair to poor	Fair to poor	Low	11-20 y	Multi-stemmed, Reduced foliage density	5.6	2.5			
305	No tag	None	None	*Melaleuca styphelioides*	Prickly-leaved Paperbark	Maturing	Australian native	None	23,22,15,15	8	9	Fair to poor	Fair to poor	Low	11-20 y	Multi-stemmed	4.6	2.5			
306	No tag	None	None	*Melaleuca styphelioides*	Prickly-leaved Paperbark	Maturing	Australian native	None	3,15,15,14,1	7	8	Fair to poor	Fair to poor	Low	11-20 y	Multi-stemmed	4.4	2.5			
307	No tag	None	None	*Melaleuca styphelioides*	Prickly-leaved Paperbark	Early-maturity	Australian native	None	13,12,10	5	4	Fair to poor	Fair to poor	Low	6-10 y	Multi-stemmed	2.4	1.8			
309	No tag	None	None	*Melaleuca styphelioides*	Prickly-leaved Paperbark	Over-mature	Australian native	None	9,25,24,19,1	8	11	Fair to poor	Fair to poor	Mod.C	6-10 y		6.3	2.9			
310	No tag	None	None	*Melaleuca styphelioides*	Prickly-leaved Paperbark	Early-maturity	Australian native	None	25,17	7	6	Fair to poor	Fair to poor	Low	11-20 y	Multi-stemmed	3.6	2.2			
311	No tag	None	None	*Melaleuca styphelioides*	Prickly-leaved Paperbark	Early-maturity	Australian native	None	24,24,19	7	8	Fair to poor	Fair to poor	Low	11-20 y	Multi-stemmed	4.7	2.6			
312	No tag	None	None	*Melaleuca styphelioides*	Prickly-leaved Paperbark	Maturing	Australian native	None	23,19,19	8	8	Fair	Fair to poor	Low	11-20 y		4.2	2.4			
313	226	None	None	*Corymbia ficifolia*	Red-flowering Gum	Semi-mature	Australian native	None	9,7,6	3	2	Dead	Poor	Very Low	<1 y		2	1.6			
314	No tag	None	None	*Melaleuca styphelioides*	Prickly-leaved Paperbark	Early-maturity	Australian native	None	16,15,12,10	7	5	Fair to poor	Fair to poor	Low	6-10 y	Suppressed	3.2	2.3			
315	No tag	None	None	*Melaleuca styphelioides*	Prickly-leaved Paperbark	Early-maturity	Australian native	None	22,16,13	8	7	Fair	Fair to poor	Low	11-20 y	Multi-stemmed	3.6	2.3			
317	No tag	None	None	*Melaleuca styphelioides*	Prickly-leaved Paperbark	Maturing	Australian native	None	30,17	8	8	Fair to poor	Fair to poor	Low	11-20 y	Multi-stemmed	4.1	2.4			
318	No tag	None	None	*Melaleuca styphelioides*	Prickly-leaved Paperbark	Maturing	Australian native	None	0,19,17,16,1	9	8	Fair to poor	Fair to poor	Low	11-20 y	Multi-stemmed	4.6	2.7			
319	No tag	None	None	*Eucalyptus viminalis*	Manna Gum	Maturing	Victorian native	52.17.7 exempt	64	14	18	Fair	Fair	Mod.B	11-20 y	Over-extended limb(s). Deadwood.	7.7	3	Selective pruning	Deadwood, Weight reduction, Reduce over-extended branch	Low
320	13	None	None	*Eucalyptus cladocalyx*	Sugar Gum	Maturing	Australian native	None	48	18	15	Fair	Fair to poor	Mod.C	11-20 y	Over-extended limbs, Past limb failure, Wounds	5.8	2.6	Selective pruning	Reduce over-extended branch, Regular inspection (<3yr cycle)	Low
321	No tag	None	None	*Melaleuca styphelioides*	Prickly-leaved Paperbark	Maturing	Australian native	None	21,17,15	8	7	Fair to poor	Fair to poor	Low	11-20 y	Multi-stemmed	3.7	2.3			
322	No tag	None	None	*Melaleuca styphelioides*	Prickly-leaved Paperbark	Early-maturity	Australian native	None	24,16,18,12	7	8	Fair to poor	Fair to poor	Low	11-20 y	Multi-stemmed, Partly suppressed-Crown bias Sth	4.3	2.4			
323	No tag	None	None	*Melaleuca styphelioides*	Prickly-leaved Paperbark	Maturing	Australian native	None	1,20,15,12,1	7	6	Fair to poor	Fair to poor	Low	11-20 y	Multi-stemmed	4.4	2.4			
324	No tag	None	None	*Melaleuca styphelioides*	Prickly-leaved Paperbark	Maturing	Australian native	None	18,15,15,11	5	7	Fair to poor	Fair to poor	Low	11-20 y	Multi-stemmed	3.6	2.2			
325	No tag	None	None	*Melaleuca styphelioides*	Prickly-leaved Paperbark	Maturing	Australian native	None	17,16,17,15	6	6	Fair to poor	Fair to poor	Low	11-20 y	Multi-stemmed	3.9	2.2			
326	12	None	None	*Corymbia citriodora*	Lemon-scented Gum	Early-maturity	Australian native	None	15	9	5	Fair	Fair to poor	Mod.C	11-20 y	Suppressed, Slender, reduced taper	2	1.7			
328	No tag	None	None	*Corymbia ficifolia*	Red-flowering Gum	Semi-mature	Australian native	None	18 at 1m	6	5	Fair to poor	Fair to poor	Low	6-10 y	Declining, Included bark forks	2.2	1.7			
329	No tag	None	None	*Melaleuca styphelioides*	Prickly-leaved Paperbark	Maturing	Australian native	None	19,16,15,15	8	8	Fair to poor	Fair to poor	Mod.C	6-10 y		3.9	2.3			
330	No tag	None	None	*Melaleuca styphelioides*	Prickly-leaved Paperbark	Over-mature	Australian native	None	38,38,35,28	8	13	Fair	Fair to poor	Mod.C	11-20 y	Multi-stemmed, Past branch failure.	8.4	3.4			
331	No tag	None	None	*Melaleuca styphelioides*	Prickly-leaved Paperbark	Maturing	Australian native	None	13,13,12,11	7	6	Fair to poor	Fair to poor	Mod.C	11-20 y		2.9	2.2			

Tree No (2014)	Tag No	Stage 1 Impact	% TPZ incursion	*Botanic name*	Common Name	Age_class	Origin	Permit	DBH_cm	Height_m	Width_m	Health	Structure	Arb_rating	ULE_yrs	Comments	TPZ_rad_m	SRZ_rad_m	Works class	Rec_works	Priority
332	No tag	None	None	*Melaleuca styphelioides*	Prickly-leaved Paperbark	Maturing	Australian native	None	20,14,10,10	7	6	Fair to poor	Fair to poor	Mod.C	11-20 y		3.4	2.2			
333	No tag	None	None	*Melaleuca styphelioides*	Prickly-leaved Paperbark	Maturing	Australian native	None	2,21,19,23,2	9	10	Fair to poor	Fair to poor	Mod.C	6-10 y		5.6	2.9			
334	No tag	None	None	*Melaleuca styphelioides*	Prickly-leaved Paperbark	Maturing	Australian native	None	14,14,13,14	8	8	Poor	Fair to poor	Low	6-10 y	Suppressed	3.3	2.2			
335	236	None	None	*Eucalyptus camaldulensis*	River Red Gum	Early-maturity	Victorian native	52.17.7 exempt	47	17	10	Fair	Fair	Mod.A	21-40 y		5.6	2.7			
336	No tag	None	None	*Melaleuca styphelioides*	Prickly-leaved Paperbark	Maturing	Australian native	None	37,32,24,17	11	9	Fair to poor	Fair to poor	Mod.C	11-20 y		6.8	2.8			
337	No tag	None	None	*Melaleuca styphelioides*	Prickly-leaved Paperbark	Maturing	Australian native	None	31,22,21,20	10	10	Fair	Fair to poor	Mod.C	11-20 y		5.7	2.7			
338	No tag	None	None	*Corymbia ficifolia*	Red-flowering Gum	Semi-mature	Australian native	None	16	5	5	Fair	Fair to poor	Mod.C	11-20 y	Partly suppressed-Crown bias West	2	1.7			
339	215	None	None	*Agonis flexuosa*	Willow Myrtle	Early-maturity	Australian native	None	20	5	4	Fair to poor	Fair to poor	Low	6-10 y	Partly suppressed-Crown bias West	2.4	1.9			
340	10	None	None	*Corymbia maculata*	Spotted Gum	Early-maturity	Victorian native	52.17.7 exempt	22	9	6	Fair	Fair	Mod.B	21-40 y		2.6	2.1			
341	No tag	None	None	*Corymbia maculata*	Spotted Gum	Early-maturity	Victorian native	52.17.7 exempt	30	14	7	Good	Fair	Mod.A	21-40 y		3.6	2.2			
342	9	None	None	*Corymbia citriodora*	Lemon-scented Gum	Early-maturity	Australian native	None	22	14	6	Fair	Fair	Mod.B	21-40 y	Partly suppressed - crown bias, Nth	2.6	2.1			
343	No tag	None	None	*Melaleuca armillaris*	Bracelet Honey-myrtle	Early-maturity	Victorian native	52.17.7 exempt	37,35,23	10	12	Fair to poor	Poor	Mod.C	6-10 y	Basal wounds	6.7	2.8			
344	No tag	None	None	*Corymbia maculata*	Spotted Gum	Early-maturity	Victorian native	52.17.7 exempt	32	15	7	Good	Fair	Mod.A	21-40 y		3.8	2.4			
345	No tag	None	None	*Melaleuca armillaris*	Bracelet Honey-myrtle	Early-maturity	Victorian native	52.17.7 exempt	12,10,9	4	4	Fair	Fair to poor	Low	6-10 y	Acute forks	2	1.9			
346	No tag	None	None	*Eucalyptus camaldulensis*	River Red Gum	Maturing	Victorian native	52.17.7 exempt	16,12,8,8	8	6	Fair to poor	Poor	Low	1-5 y	reshot stump	2.4	3			
347	No tag	None	None	*Corymbia maculata*	Spotted Gum	Semi-mature	Victorian native	52.17.7 exempt	15	8	4	Fair to poor	Fair to poor	Low	6-10 y	Reduced foliage density, Suppressed, Size	2	1.9			
348	No tag	None	None	*Corymbia maculata*	Spotted Gum	Early-maturity	Victorian native	52.17.7 exempt	22	12	6	Fair	Fair	Mod.B	21-40 y		2.6	1.9			
349	No tag	None	None	*Corymbia citriodora*	Lemon-scented Gum	Semi-mature	Australian native	None	26	15	6	Fair	Fair	Mod.B	11-20 y		3.1	2.1			
350	No tag	None	None	*Corymbia citriodora*	Lemon-scented Gum	Semi-mature	Australian native	None	29	13	7	Fair	Fair	Mod.B	11-20 y		3.5	2.1			
351	No tag	None	None	*Corymbia maculata*	Spotted Gum	Semi-mature	Victorian native	52.17.7 exempt	17	7	4	Fair	Fair	Mod.B	21-40 y		2	1.8			
352	6	None	None	*Eucalyptus cladocalyx*	Sugar Gum	Early-maturity	Australian native	None	47	18	12	Fair	Fair	Mod.B	11-20 y		5.6	2.5			
352	5	None	None	*Eucalyptus camaldulensis*	River Red Gum	Semi-mature	Victorian native	52.17.7 exempt	18	9	5	Fair	Fair to poor	Mod.C	11-20 y	Partly suppressed - crown bias, west	2.2	1.8			
354	No tag	None	None	*Corymbia maculata*	Spotted Gum	Semi-mature	Victorian native	52.17.7 exempt	26	12	6	Fair	Fair	Mod.C	11-20 y	Remove ivy from base	3.1	2			
355	No tag	None	None	*Corymbia maculata*	Spotted Gum	Semi-mature	Victorian native	52.17.7 exempt	14	6	3	Fair	Fair to poor	Low	11-20 y	Basal wounds, Incipient decay	2	1.7			
356	4	None	None	*Eucalyptus camaldulensis*	River Red Gum	Early-maturity	Victorian native	52.17.7 exempt	38	12	7	Fair	Fair to poor	Mod.B	21-40 y	Partly suppressed - crown bias, Sth	4.6	2.3			
357	No tag	None	None	*Corymbia maculata*	Spotted Gum	Semi-mature	Victorian native	52.17.7 exempt	14	7	4	Fair	Fair	Mod.C	21-40 y	Size	2	1.6			
358	3	None	None	*Eucalyptus camaldulensis*	River Red Gum	Early-maturity	Victorian native	52.17.7 exempt	31	14	8	Fair	Fair	Mod.B	21-40 y		3.7	2.2			
359	No tag	None	None	*Eucalyptus cladocalyx*	Sugar Gum	Early-maturity	Australian native	None	34	17	7	Fair	Very poor	Low	1-5 y	Stump sprout, ivy growing up trunk	4.1	2.5			
360	2	None	None	*Corymbia maculata*	Spotted Gum	Early-maturity	Victorian native	52.17.7 exempt	44	15	10	Fair	Fair to poor	Mod.B	11-20 y	Partly suppressed - crown bias, Nth	5.3	2.6			
361	No tag	None	None	*Corymbia maculata*	Spotted Gum	Early-maturity	Victorian native	52.17.7 exempt	31	11	6	Fair	Fair	Mod.B	21-40 y	Partly suppressed - crown bias, east	3.7	2.3			
363	259	None	None	*Eucalyptus sideroxylon*	Red Ironbark	Maturing	Australian native	None	68	20	14	Fair	Fair to poor	Mod.B	11-20 y	Acute forks, Deadwood >50mm, Past branch failure	8.2	3			
364	No tag	None	None	*Corymbia maculata*	Spotted Gum	Semi-mature	Victorian native	52.17.7 exempt	15	8	4	Fair to poor	Fair to poor	Low	6-10 y	Suppressed	2	1.7			
365	256	None	None	*Eucalyptus sideroxylon*	Red Ironbark	Maturing	Australian native	None	55	18	11	Fair	Fair	Mod.A	11-20 y		6.6	2.8			

Tree No (2014)	Tag No	Stage 1 Impact	% TPZ incursion	*Botanic name*	Common Name	Age_class	Origin	Permit	DBH_cm	Height_m	Width_m	Health	Structure	Arb_rating	ULE_yrs	Comments	TPZ_rad_m	SRZ_rad_m	Works class	Rec_works	Priority
366	No tag	None	None	*Eucalyptus cladocalyx*	Sugar Gum	Early-maturity	Australian native	None	17,15,13,8	12	6	Fair	Very poor	Very Low	1-5 y	Stump sprout	3.1	2.7			
367	No tag	None	None	*Corymbia maculata*	Spotted Gum	Early-maturity	Victorian native	52.17.7 exempt	34	10	7	Fair	Fair to poor	Mod.C	11-20 y	Acute forks, Partly suppressed - crown bias, east	4.1	2.1			
368	No tag	None	None	*Eucalyptus cladocalyx*	Sugar Gum	Semi-mature	Australian native	None	29	16	9	Fair	Fair	Mod.B	21-40 y		3.5	2.1			
369	No tag	None	None	*Eucalyptus cladocalyx 'Nana'*	Bushy Sugar Gum	Early-maturity	Australian native	None	23	6	7	Fair	Fair to poor	Low	11-20 y	Partly suppressed - crown bias, east	2.8	2.1			
370	No tag	None	None	*Eucalyptus cladocalyx*	Sugar Gum	Maturing	Australian native	None	53	23	12	Fair	Fair to poor	Mod.C	11-20 y	Over-extended limbs, Past limb failure, Wounds	6.4	2.8	Selective pruning	Reduce over-extended branch	Low
371	No tag	None	None	*Corymbia maculata*	Spotted Gum	Semi-mature	Victorian native	52.17.7 exempt	29	14	7	Fair	Fair	Mod.C	11-20 y		3.5	2.3			
372	No tag	None	None	*Eucalyptus cornuta*	Yate	Over-mature	Australian native	None	91	20	16	Fair to poor	Fair to poor	Low	6-10 y	Acute forks, Included bark forks, Past limb failure	10.9	3.4			
373	No tag	None	None	*Corymbia maculata*	Spotted Gum	Early-maturity	Victorian native	52.17.7 exempt	41	16	8	Fair	Fair to poor	Mod.C	11-20 y	Co-dominant stem	4.9	2.3			
374	271	None	None	*Eucalyptus sideroxylon*	Red Ironbark	Early-maturity	Australian native	None	43	16	7	Fair	Fair	Mod.B	11-20 y	Crossing branches, from Yate to Nth	5.2	2.6	Selective pruning	Remove crossing branches	Med
375	No tag	None	None	*Eucalyptus sideroxylon*	Red Ironbark	Early-maturity	Australian native	None	34	12	7	Fair	Fair	Mod.B	11-20 y	Partly suppressed - crown bias, Nth	4.1	2.3			
376	No tag	None	None	*Corymbia maculata*	Spotted Gum	Early-maturity	Victorian native	52.17.7 exempt	23,23	15	7	Fair	Fair to poor	Mod.C	6-10 y	Co-dominant stem with included bark	3.9	2.3			
377	266	None	None	*Eucalyptus sp.*	Gum Tree	Early-maturity	Australian native	None	21,27	14	7	Dead	Poor	Very Low	<1 y		4.1	2.3			
378	No tag	None	None	*Corymbia maculata*	Spotted Gum	Early-maturity	Victorian native	52.17.7 exempt	35	16	8	Fair	Fair	Mod.B	11-20 y		4.2	2.3			
379	269	None	None	*Eucalyptus cornuta*	Yate	Over-mature	Australian native	None	78,56	19	16	Fair	Fair to poor	Mod.C	11-20 y	Crossing branches, Deadwood >50mm, Over-extended limbs	11.5	3.7	Selective pruning	Deadwood, Reduce over-extended branch, Remove crossing branches	Med
380	268	None	None	*Eucalyptus sp.*	Gum Tree	Early-maturity	Australian native	None	30,33	13	7	Dead	Very poor	Very Low	<1 y		5.4	2.5			
381	No tag	None	None	*Eucalyptus leucoxylon*	Yellow Gum	Early-maturity	Victorian native	52.17.7 exempt	31	12	6	Fair to poor	Fair to poor	Low	1-5 y		3.7	2.3			
382	No tag	None	None	*Corymbia maculata*	Spotted Gum	Early-maturity	Victorian native	52.17.7 exempt	35,33,30	18	9	Fair	Fair to poor	Mod.B	11-20 y		6.8	2.8			
383	275	None	None	*Eucalyptus cladocalyx*	Sugar Gum	Semi-mature	Australian native	None	27	10	6	Fair	Fair to poor	Mod.C	6-10 y	Basal wounds, Suppressed	3.2	2.1			
384	No tag	None	None	*Corymbia maculata*	Spotted Gum	Semi-mature	Victorian native	52.17.7 exempt	34	14	7	Fair	Fair to poor	Mod.C	11-20 y		4.1	2.2			
385	No tag	None	None	*Eucalyptus cladocalyx*	Sugar Gum	Early-maturity	Australian native	None	21,18,18	10	8	Fair	Very poor	Very Low	1-5 y	Stump sprout	4	2.8			
386	No tag	None	None	*Eucalyptus cladocalyx*	Sugar Gum	Semi-mature	Australian native	None	10,15,12,13	10	5	Fair	Poor	Low	1-5 y	Stump sprout	3	2.2			
387	No tag	None	None	*Eucalyptus cladocalyx*	Sugar Gum	Early-maturity	Australian native	None	21,18,17,14	8	14	Fair	Very poor	Very Low	1-5 y	Stump sprout	5.1	2.8			
388	284	None	None	*Eucalyptus cladocalyx*	Sugar Gum	Maturing	Australian native	None	45,30	12	12	Fair to poor	Fair to poor	Mod.C	6-10 y	Dead tree 2m north and 5m sth	6.5	2.8			
389	No tag	None	None	*Eucalyptus cladocalyx*	Sugar Gum	Semi-mature	Australian native	None	18	8	4	Fair	Fair to poor	Low	1-5 y	Abnormal lean	2.2	1.8			
389	No tag	None	None	*Eucalyptus cladocalyx*	Sugar Gum	Semi-mature	Australian native	None	29	10	5	Fair	Fair	Mod.C	11-20 y		3.5	2			
391	No tag	None	None	*Eucalyptus cladocalyx*	Sugar Gum	Early-maturity	Australian native	None	18,17,17,14	8	8	Fair	Very poor	Very Low	1-5 y	Past stem failure, Stump sprout	4.7	2.7			
392	No tag	None	None	*Eucalyptus leucoxylon*	Yellow Gum	Semi-mature	Victorian native	52.17.7 exempt	30	9	6	Fair	Fair	Mod.C	11-20 y		3.6	2.2			
393	58	None	None	*Corymbia maculata*	Spotted Gum	Semi-mature	Victorian native	52.17.7 exempt	14	5	5	Fair	Fair	Mod.C	11-20 y		2	1.7			
394	157	Within	99%	*Cupressus torulosa*	Bhutan Cypress	Maturing	Exotic conifer	None	24	11	4	Fair	Fair	Mod.B	11-20 y		2.9	2			
395	No tag	None	None	*Melaleuca styphelioides*	Prickly-leaved Paperbark	Early-maturity	Australian native	None	23,22,20,15	6	8	Fair to poor	Fair to poor	Low	11-20 y	Multi-stemmed	4.9	2.2			
396	No tag	None	None	*Corymbia ficifolia*	Red-flowering Gum	Semi-mature	Australian native	None	12	3	3	Fair	Fair to poor	Low	11-20 y	Partly suppressed - crown bias, Sth	2	1.5			

Tree No (2014)	Tag No	Stage 1 Impact	% TPZ incursion	*Botanic name*	Common Name	Age_class	Origin	Permit	DBH_cm	Height_m	Width_m	Health	Structure	Arb_rating	ULE_yrs	Comments	TPZ_rad_m	SRZ_rad_m	Works class	Rec_works	Priority
397	No tag	None	None	*Eucalyptus leucoxylon 'Rosea'*	Pink-flowered Yellow Gum	Semi-mature	Australian native	None	4	2	2	Fair	Fair to poor	Low	6-10 y	Stump resprout	2	1.5			
398	1	None	None	*Corymbia ficifolia*	Red-flowering Gum	Semi-mature	Australian native	None	11	3	3	Fair	Fair	Mod.C	11-20 y	Partly suppressed - crown bias, Nth	2	1.5			
399	262	None	None	*Eucalyptus sp.*	Gum Tree	Early-maturity	Australian native	None	22	8	4	Dead	Poor	Very Low	<1 y		2.6	1.8			
400	No tag	None	None	*Corymbia citriodora*	Lemon-scented Gum	Young	Australian native	None	12	5	3	Poor	Poor	Very Low	1-5 y	main leader declining	2	1.5			

Appendix 2A: Tree Location Plan: 1 Henry St, Belmont – Existing Conditions

Refer to following 3 pages.

LEGEND

Trees by Arb rating

- High
- Mod-A
- Mod-B
- Mod-C
- Low
- Very Low
- roads
- cadastre

Tree Protection Zone
Structural Root Zone

APPENDIX 2
TREE LOCATIONS AND PROTECTION ZONES

MAP NO. 1 / 3

PROJECT
1 Henry Street, Belmont (ex CSIRO)

CLIENT
UP Property

TL REF.
11488

DATE
2021-05-18

DATA SOURCES

TREE LOCATION DISCLAIMER
Tree locations derived from feature survey plan ()

COORDINATE REFERENCE SYSTEM
EPSG:28355 | GDA 94 MGA Zone 55

0 8 16m

TREELOGIC PTY LTD
ABN: 95 080 021 610
TEL: 1300 656 926
4 / 21 Eugene Tce
Ringwood, VIC
Australia 3134

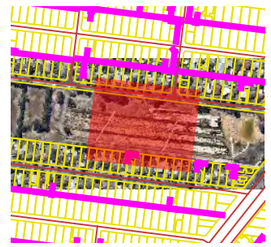
Treelogic
Plan, manage, protect

LEGEND

Trees by Arb rating

- Mod-A
- Mod-B
- Mod-C
- Low
- Very Low
- cadastre

Tree Protection Zone
Structural Root Zone



APPENDIX 2
TREE LOCATIONS AND PROTECTION ZONES

MAP NO. 2 / 3

PROJECT
1 Henry Street, Belmont (ex CSIRO)

CLIENT
UP Property

TL REF.
11488

DATE
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Treelogic
Plan, manage, protect

LEGEND

Trees by Arb rating

- Mod-A
- Mod-B
- Mod-C
- Low
- Very Low
- roads
- cadastre

- Tree Protection Zone
- Structural Root Zone

APPENDIX 2

TREE LOCATIONS AND PROTECTION ZONES

MAP NO. 3 / 3

PROJECT

1 Henry Street, Belmont (ex CSIRO)

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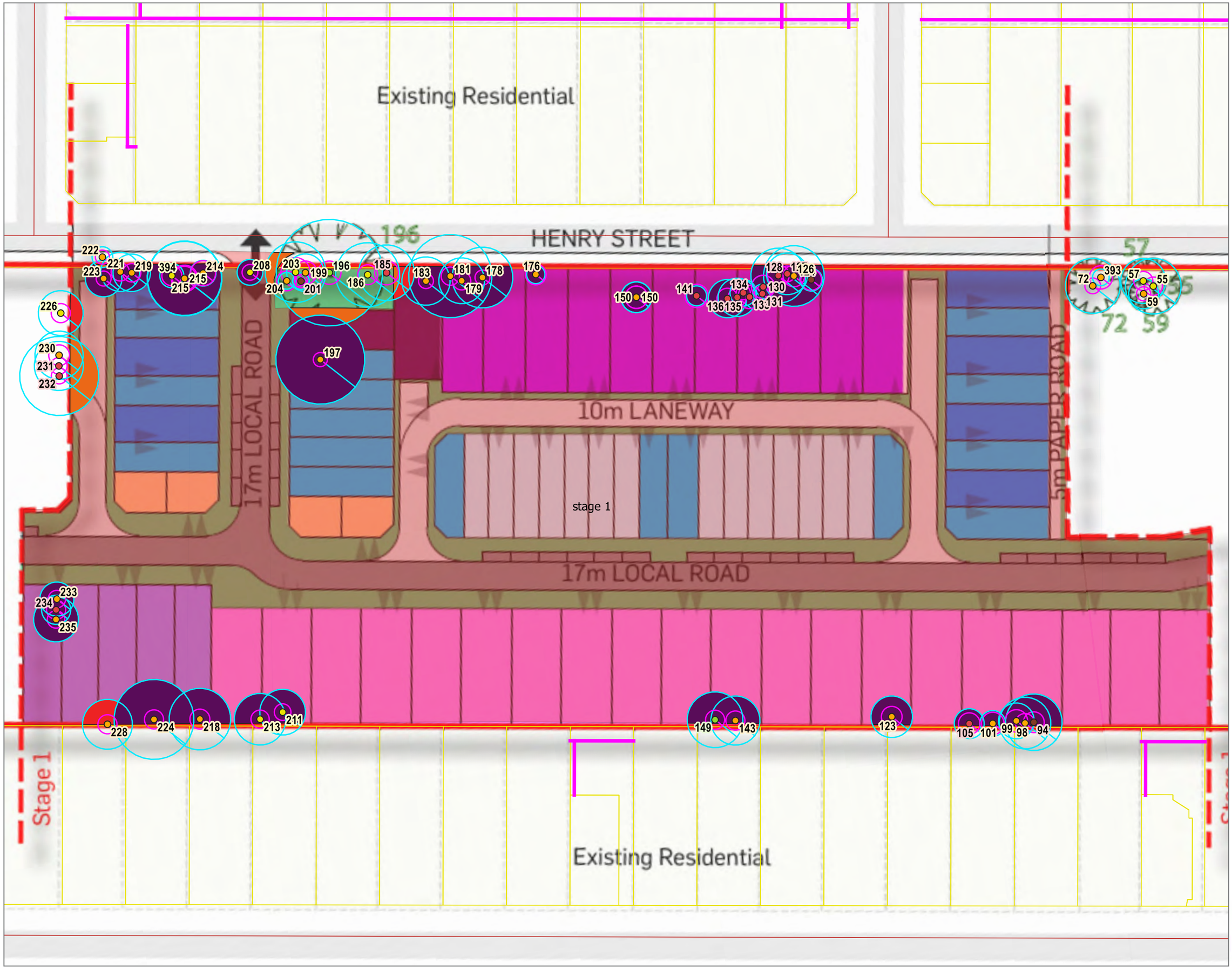
Appendix 2B: Tree Location Plan: 1 Henry St, Belmont – Proposed Concept Plan

Refer to following 4 pages.



LEGEND

Trees by Arb rating

- Mod-A
- Mod-B
- Mod-C
- Low
- Very Low

Stage 1 footprint

- 1

TPZ Impacts

- TPZ
- SRZ
- Within
- roads
- cadastre
- Tree Protection Zone
- Structural Root Zone

APPENDIX 2

TPZ IMPACTS - STAGE 1

MAP NO. 3 / 3

PROJECT

1 Henry Street, Belmont (ex CSIRO)

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0 10 20m

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Ringwood, VIC
Australia 3134

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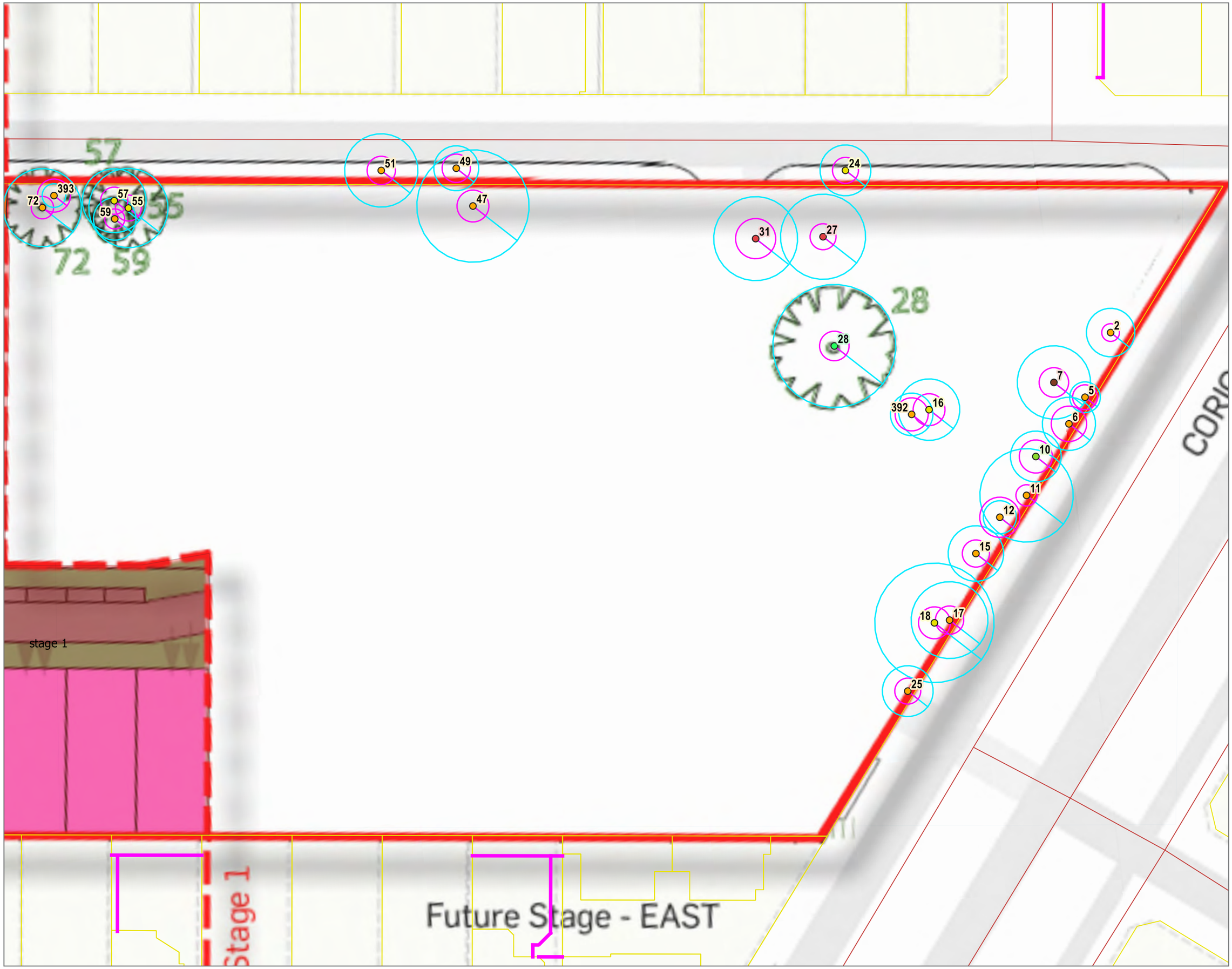

LEGEND

Trees by Arb rating

- High
- Mod-A
- Mod-B
- Mod-C
- Low
- Very Low

Stage 1 footprint

- 1
- roads
- cadastre

Tree Protection Zone
Structural Root Zone

APPENDIX 2

TREE LOCATIONS AND PROTECTION ZONES

MAP NO. 1 / 3

PROJECT

1 Henry Street, Belmont (ex CSIRO)

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Ringwood, VIC
Australia 3134

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HENRY STREET

196

208 203 204 199 201 196 186 185 183 181 179 178 176 150 150 141 136 134 135 133 130 131 128 127 126 124 72 197

10m LANEWAY

17m LOCAL ROAD

stage 1

213 211 149 143 123 105 101 99 98 94

LEGEND

Trees by Arb rating

- Mod-A
- Mod-B
- Mod-C
- Low
- Very Low

Stage 1 footprint

- 1

TPZ Impacts

- TPZ
- SRZ
- Within
- cadastre

Tree Protection Zone
Structural Root Zone

APPENDIX 2
TREE LOCATIONS AND PROTECTION ZONES

MAP NO. 2 / 3

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1 Henry Street, Belmont (ex CSIRO)

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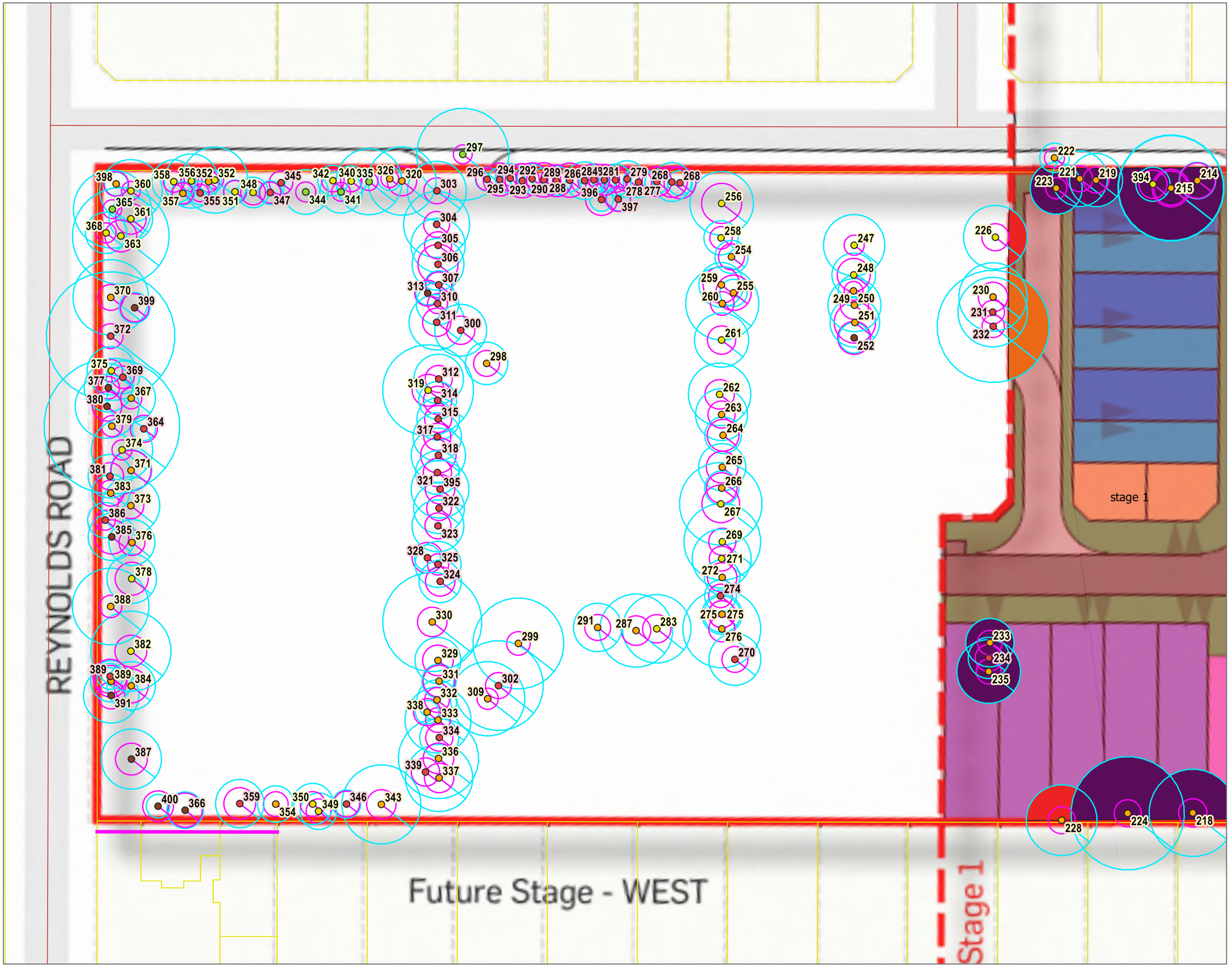

LEGEND

Trees by Arb rating

- Mod-A
- Mod-B
- Mod-C
- Low
- Very Low

Stage 1 footprint

- 1

TPZ Impacts

- TPZ
- SRZ
- Within
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APPENDIX 2

TREE LOCATIONS AND PROTECTION ZONES

MAP NO. 3 / 3

PROJECT

1 Henry Street, Belmont (ex CSIRO)

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4 / 21 Eugene Tce
Ringwood, VIC
Australia 3134

Treelogic
Plan, manage, protect

Tree pictures

Tree ID (2014): 2. Swamp Mahogany. (*Eucalyptus robusta).* Arb. Rating: Mod.C
TPZ: 4.1

Tree ID (2014): 6. Prickly-leaved Paperbark. (*Melaleuca styphelioides).* Arb. Rating: Mod.C
TPZ: 4.5

Tree ID (2014): 5. Showy Honey-myrtle. (*Melaleuca nesophila).* Arb. Rating: Mod.C
TPZ: 2.6

Tree ID (2014): 7. Tasmanian Blue Gum. (*Eucalyptus globulus).* Arb. Rating: Very Low
TPZ: 6.2

Tree ID (2014): 10. Red Ironbark. (*Eucalyptus sideroxylon).* Arb. Rating: Mod.A
TPZ: 4.3

Tree ID (2014): 12. Swamp She-oak. (*Casuarina glauca).* Arb. Rating: Mod.C
TPZ: 2.8

Tree ID (2014): 11. Swamp She-oak. (*Casuarina glauca).* Arb. Rating: Mod.C
TPZ: 7.9

Tree ID (2014): 15. Red Ironbark. (*Eucalyptus sideroxylon).* Arb. Rating: Mod.C
TPZ: 4.7

Tree ID (2014): 16. Yellow Gum. (*Eucalyptus leucoxylon).* Arb. Rating: Mod.B
TPZ: 5.2

Tree ID (2014): 18. Swamp She-oak. (*Casuarina glauca).* Arb. Rating: Mod.B
TPZ: 10.1

Tree ID (2014): 17. Smooth-barked Apple. (*Angophora costata).* Arb. Rating: Mod.C
TPZ: 6.5

Tree ID (2014): 24. Yellow Gum. (*Eucalyptus leucoxylon).* Arb. Rating: Mod.B
TPZ: 4.3

Tree ID (2014): 25. Red-flowering Gum. (*Corymbia ficifolia).* Arb. Rating: Mod.C
TPZ: 4.3

Tree ID (2014): 31. Manna Gum. (*Eucalyptus viminalis).* Arb. Rating: Low
TPZ: 7.1

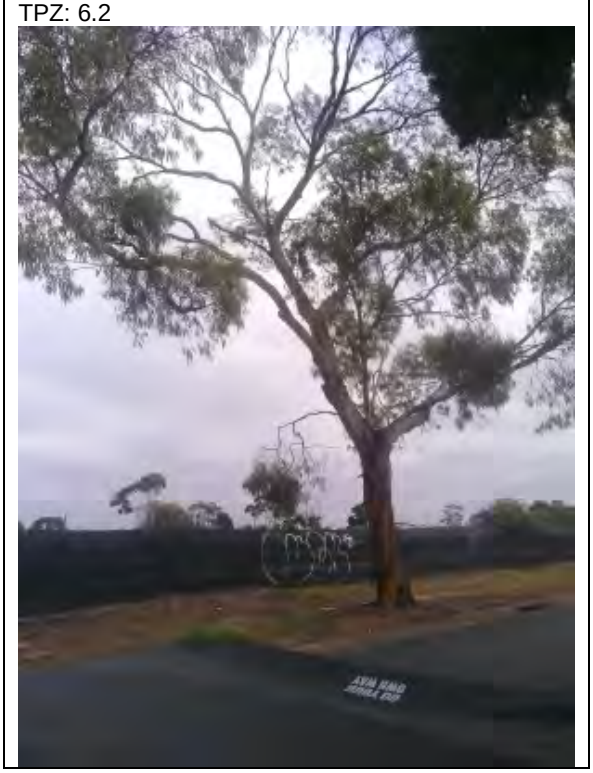
Tree ID (2014): 27. Manna Gum. (*Eucalyptus viminalis).* Arb. Rating: Low
TPZ: 7.2

Tree ID (2014): 47. Rough-barked Apple. (*Angophora floribunda).* Arb. Rating: Mod.A
TPZ: 9.5

Tree ID (2014): 49. Yellow Gum.
(*Eucalyptus leucoxylon).* Arb. Rating: Mod.C
TPZ: 3.8

Tree ID (2014): 55. Spotted Gum.
(*Corymbia maculata).* Arb. Rating: Mod.B
TPZ: 6.7

Tree ID (2014): 51. Yellow Gum.
(*Eucalyptus leucoxylon).* Arb. Rating: Mod.C
TPZ: 6.2



Tree ID (2014): 57. Spotted Gum.
(*Corymbia maculata).* Arb. Rating: Mod.B
TPZ: 5.4

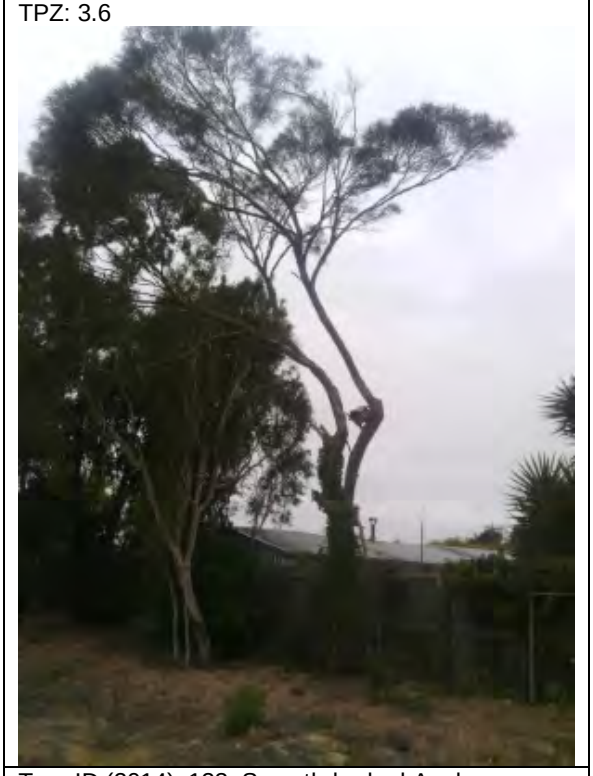
Tree ID (2014): 59. Spotted Gum.
(*Corymbia maculata).* Arb. Rating: Mod.C
TPZ: 3.6

Tree ID (2014): 99. Red Ironbark.
(*Eucalyptus sideroxylon).* Arb. Rating: Mod.C
TPZ: 4.3

Tree ID (2014): 72. Spotted Gum.
(*Corymbia maculata).* Arb. Rating: Mod.A
TPZ: 6.6

Tree ID (2014): 101. Green Mallee.
(*Eucalyptus viridis).* Arb. Rating: Mod.C
TPZ: 3.1

Tree ID (2014): 105. Green Mallee.
(*Eucalyptus viridis).* Arb. Rating: Low
TPZ: 3.6



Tree ID (2014): 124. Wilga.
(*Geijeria parvifolia).* Arb. Rating: Very Low
TPZ: 2.7

Tree ID (2014): 123. Smooth-barked Apple.
(*Angophora costata).* Arb. Rating: Mod.C
TPZ: 5

Tree ID (2014): 126. Prickly-leaved Paperbark.
(*Melaleuca styphelioides).* Arb. Rating: Mod.C
TPZ: 7.3

Tree ID (2014): 127. Prickly-leaved Paperbark. (*Melaleuca styphelioides).* Arb. Rating: Low
TPZ: 5

Tree ID (2014): 128. Prickly-leaved Paperbark. (*Melaleuca styphelioides).* Arb. Rating: Low
TPZ: 6.6

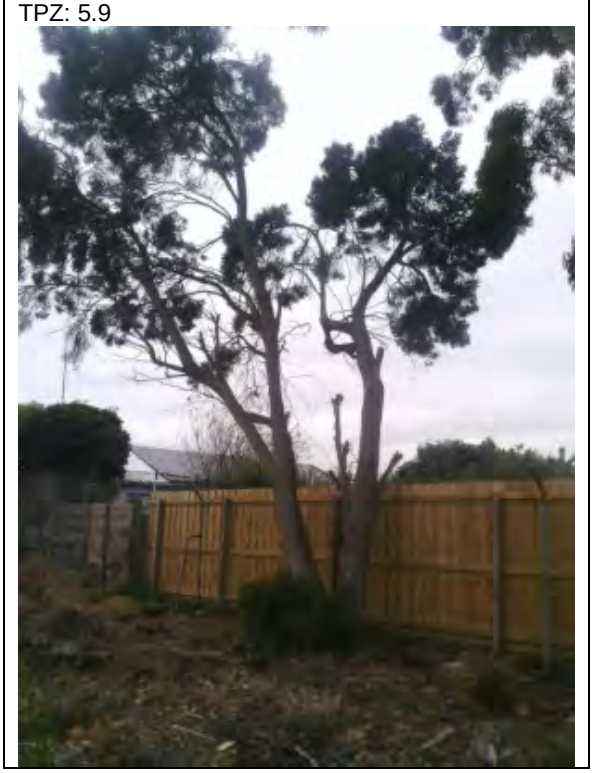
Tree ID (2014): 133. Prickly-leaved Paperbark. (*Melaleuca styphelioides).* Arb. Rating: Low
TPZ: 2.8

Tree ID (2014): 134. Bracelet Honey-myrtle. (*Melaleuca armillaris).* Arb. Rating: Low
TPZ: 3.2

Tree ID (2014): 136. Drooping She-oak. (*Allocasuarina verticillata).* Arb. Rating: Low
TPZ: 4.6

Tree ID (2014): 149. Smooth-barked Apple. (*Angophora costata).* Arb. Rating: Mod.A
TPZ: 6.7

Tree ID (2014): 143. Moonah. (*Melaleuca lanceolata).* Arb. Rating: Mod.C
TPZ: 5.9



Tree ID (2014): 150. Willow Myrtle. (*Agonis flexuosa).* Arb. Rating: Mod.C
TPZ: 3.7

Tree ID (2014): 150. Willow Myrtle.
(*Agonis flexuosa).* Arb. Rating: Mod.C
TPZ: 3.7

Tree ID (2014): 178. Sugar Gum.
(*Eucalyptus cladocalyx).* Arb. Rating: Mod.C
TPZ: 7.3

Tree ID (2014): 176. Sugar Gum.
(*Eucalyptus cladocalyx).* Arb. Rating: Mod.C
TPZ: 2.2

Tree ID (2014): 179. Monterey Cypress.
(*Cupressus macrocarpa).* Arb. Rating: Mod.C
TPZ: 5.5

Tree ID (2014): 181. Sugar Gum.
(*Eucalyptus cladocalyx).* Arb. Rating: Mod.C
TPZ: 10

Tree ID (2014): 185. Tuart.
(*Eucalyptus gomphocephala).* Arb. Rating: Low
TPZ: 6.7

Tree ID (2014): 183. Monterey Cypress.
(*Cupressus macrocarpa).* Arb. Rating: Mod.C
TPZ: 5.8

Tree ID (2014): 186. Red Ironbark.
(*Eucalyptus sideroxylon).* Arb. Rating: Mod.B
TPZ: 7.7

Tree ID (2014): 196. Yellow Gum.
(*Eucalyptus leucoxylon).* Arb. Rating: Mod.A
TPZ: 12.8

Tree ID (2014): 199. Prickly-leaved Paperbark.
(*Melaleuca styphelioides).* Arb. Rating: Mod.C
TPZ: 4.5

Tree ID (2014): 197. Yate.
(*Eucalyptus cornuta).* Arb. Rating: Mod.C
TPZ: 10.7

Tree ID (2014): 201. Bhutan Cypress.
(*Cupressus torulosa).* Arb. Rating: Very Low
TPZ: 2

Tree ID (2014): 203. Yate.
(*Eucalyptus cornuta).* Arb. Rating: Mod.B
TPZ: 7.3

Tree ID (2014): 208. Italian Cypress.
(*Cupressus sempervirens).* Arb. Rating: Mod.B
TPZ: 3.1

Tree ID (2014): 204. Showy Honey-myrtle.
(*Melaleuca nesophila).* Arb. Rating: Mod.C
TPZ: 2

Tree ID (2014): 211. Smooth-barked Apple.
(*Angophora costata).* Arb. Rating: Mod.B
TPZ: 5.5

Tree ID (2014): 213. Smooth-barked Apple. (*Angophora costata).* Arb. Rating: Mod.B
TPZ: 6.2

Tree ID (2014): 215. Tuart. (*Eucalyptus gomphocephala).* Arb. Rating: Mod.C
TPZ: 9

Tree ID (2014): 215. Tuart. (*Eucalyptus gomphocephala).* Arb. Rating: Mod.B
TPZ: 8.9

Tree ID (2014): 218. Smooth-barked Apple. (*Angophora costata).* Arb. Rating: Mod.C
TPZ: 7.4

Tree ID (2014): 219. Prickly-leaved Paperbark. (*Melaleuca styphelioides).* Arb. Rating: Mod.C
TPZ: 4.5

Tree ID (2014): 222. Yellow Gum. (*Eucalyptus leucoxylon).* Arb. Rating: Mod.C
TPZ: 2.5

Tree ID (2014): 221. Swamp She-oak. (*Casuarina glauca).* Arb. Rating: Mod.C
TPZ: 4.7

Tree ID (2014): 223. Yellow Gum. (*Eucalyptus leucoxylon).* Arb. Rating: Mod.C
TPZ: 4.4

Tree ID (2014): 224. Tuart.
(*Eucalyptus gomphocephala).* Arb. Rating: Mod.C
TPZ: 9.6

Tree ID (2014): 230. Tuart.
(*Eucalyptus gomphocephala).* Arb. Rating: Mod.C
TPZ: 5.8

Tree ID (2014): 226. Tuart.
(*Eucalyptus gomphocephala).* Arb. Rating: Mod.B
TPZ: 5.4

Tree ID (2014): 231. Tuart.
(*Eucalyptus gomphocephala).* Arb. Rating: Low
TPZ: 5.9

Tree ID (2014): 232. Tuart.
(*Eucalyptus gomphocephala).* Arb. Rating: Low
TPZ: 9.5

Tree ID (2014): 234. Tuart.
(*Eucalyptus gomphocephala).* Arb. Rating: Low
TPZ: 3.5

Tree ID (2014): 233. Tuart.
(*Eucalyptus gomphocephala).* Arb. Rating: Mod.C
TPZ: 4.1

Tree ID (2014): 235. Tuart.
(*Eucalyptus gomphocephala).* Arb. Rating: Mod.C
TPZ: 5.4

Tree ID (2014): 247. Lemon-scented Gum. (*Corymbia citriodora).* Arb. Rating: Mod.B
TPZ: 5.2

Tree ID (2014): 248. Lemon-scented Gum. (*Corymbia citriodora).* Arb. Rating: Mod.B
TPZ: 3.7

Tree ID (2014): 249. Lemon-scented Gum. (*Corymbia citriodora).* Arb. Rating: Mod.C
TPZ: 2.6

Tree ID (2014): 250. Lemon-scented Gum. (*Corymbia citriodora).* Arb. Rating: Mod.C
TPZ: 4.5

Tree ID (2014): 251. Lemon-scented Gum. (*Corymbia citriodora).* Arb. Rating: Mod.C
TPZ: 4.2

Tree ID (2014): 255. Weeping Bottlebrush. (*Callistemon viminalis).* Arb. Rating: Mod.C
TPZ: 2.3

Tree ID (2014): 254. Weeping Bottlebrush. (*Callistemon viminalis).* Arb. Rating: Mod.C
TPZ: 2.8

Tree ID (2014): 256. Lemon-scented Gum. (*Corymbia citriodora).* Arb. Rating: Mod.B
TPZ: 5.4

Tree ID (2014): 258. Lemon-scented Gum. (*Corymbia citriodora).* Arb. Rating: Mod.B
TPZ: 2.9

Tree ID (2014): 259. Lemon-scented Gum. (*Corymbia citriodora).* Arb. Rating: Mod.C
TPZ: 3.8

Tree ID (2014): 260. Lemon-scented Gum. (*Corymbia citriodora).* Arb. Rating: Mod.B
TPZ: 6.2

Tree ID (2014): 261. Lemon-scented Gum. (*Corymbia citriodora).* Arb. Rating: Mod.B
TPZ: 4.6

Tree ID (2014): 262. Lemon-scented Gum. (*Corymbia citriodora).* Arb. Rating: Mod.B
TPZ: 5.3

Tree ID (2014): 263. Lemon-scented Gum. (*Corymbia citriodora).* Arb. Rating: Mod.C
TPZ: 4.4

Tree ID (2014): 264. Lemon-scented Gum. (*Corymbia citriodora).* Arb. Rating: Mod.C
TPZ: 3.1

Tree ID (2014): 265. Lemon-scented Gum. (*Corymbia citriodora).* Arb. Rating: Mod.C
TPZ: 4

Tree ID (2014): 266. Lemon-scented Gum. (*Corymbia citriodora).* Arb. Rating: Mod.C
TPZ: 2.9

Tree ID (2014): 267. Lemon-scented Gum. (*Corymbia citriodora).* Arb. Rating: Mod.B
TPZ: 7

Tree ID (2014): 269. Lemon-scented Gum. (*Corymbia citriodora).* Arb. Rating: Mod.B
TPZ: 6.5

Tree ID (2014): 270. Peppercorn Tree. (*Schinus areira).* Arb. Rating: Low
TPZ: 4.4

Tree ID (2014): 271. Lemon-scented Gum. (*Corymbia citriodora).* Arb. Rating: Mod.B
TPZ: 5

Tree ID (2014): 272. Lemon-scented Gum. (*Corymbia citriodora).* Arb. Rating: Mod.C
TPZ: 3

Tree ID (2014): 274. Lemon-scented Gum. (*Corymbia citriodora).* Arb. Rating: Low
TPZ: 2.7

Tree ID (2014): 275. Lemon-scented Gum. (*Corymbia citriodora).* Arb. Rating: Mod.C
TPZ: 3.4

Tree ID (2014): 275. Lemon-scented Gum. (*Corymbia citriodora).* Arb. Rating: Mod.C
TPZ: 3.1

Tree ID (2014): 276. Lemon-scented Gum. (*Corymbia citriodora).* Arb. Rating: Mod.C
TPZ: 6.6

Tree ID (2014): 283. Sugar Gum. (*Eucalyptus cladocalyx).* Arb. Rating: Mod.B
TPZ: 5.8

Tree ID (2014): 286. Bracelet Honey-myrtle. (*Melaleuca armillaris).* Arb. Rating: Low
TPZ: 3.2

Tree ID (2014): 287. Sugar Gum.
(*Eucalyptus cladocalyx).* Arb. Rating: Mod.C
TPZ: 6.2

Tree ID (2014): 294. Bracelet Honey-myrtle.
(*Melaleuca armillaris).* Arb. Rating: Low
TPZ: 2.5

Tree ID (2014): 291. Sugar Gum.
(*Eucalyptus cladocalyx).* Arb. Rating: Mod.C
TPZ: 4.1

Tree ID (2014): 297. Yellow Gum.
(*Eucalyptus leucoxylon).* Arb. Rating: Mod.A
TPZ: 7.8

Tree ID (2014): 298. Manna Gum. (*Eucalyptus viminalis).* Arb. Rating: Mod.C
TPZ: 3.6

Tree ID (2014): 300. Sydney Blue Gum. (*Eucalyptus saligna).* Arb. Rating: Low
TPZ: 4.4

Tree ID (2014): 299. River Red Gum. (*Eucalyptus camaldulensis).* Arb. Rating: Mod.C
TPZ: 7.7

Tree ID (2014): 302. Prickly-leaved Paperbark. (*Melaleuca styphelioides).* Arb. Rating: Low
TPZ: 7.6

Tree ID (2014): 309. Prickly-leaved Paperbark. (*Melaleuca styphelioides).* Arb. Rating: Mod.C
TPZ: 6.3

Tree ID (2014): 320. Sugar Gum. (*Eucalyptus cladocalyx).* Arb. Rating: Mod.C
TPZ: 5.8

Tree ID (2014): 319. Manna Gum. (*Eucalyptus viminalis).* Arb. Rating: Mod.B
TPZ: 7.7

Tree ID (2014): 328. Red-flowering Gum. (*Corymbia ficifolia).* Arb. Rating: Low
TPZ: 2.2

Tree ID (2014): 329. Prickly-leaved Paperbark. (*Melaleuca styphelioides).* Arb. Rating: Mod.C
TPZ: 3.9

Tree ID (2014): 331. Prickly-leaved Paperbark. (*Melaleuca styphelioides).* Arb. Rating: Mod.C
TPZ: 2.9

Tree ID (2014): 330. Prickly-leaved Paperbark. (*Melaleuca styphelioides).* Arb. Rating: Mod.C
TPZ: 8.4

Tree ID (2014): 332. Prickly-leaved Paperbark. (*Melaleuca styphelioides).* Arb. Rating: Mod.C
TPZ: 3.4

Tree ID (2014): 333. Prickly-leaved Paperbark. (*Melaleuca styphelioides).* Arb. Rating: Mod.C
TPZ: 5.6

Tree ID (2014): 335. River Red Gum. (*Eucalyptus camaldulensis).* Arb. Rating: Mod.A
TPZ: 5.6

Tree ID (2014): 334. Prickly-leaved Paperbark. (*Melaleuca styphelioides).* Arb. Rating: Low
TPZ: 3.3

Tree ID (2014): 336. Prickly-leaved Paperbark. (*Melaleuca styphelioides).* Arb. Rating: Mod.C
TPZ: 6.8

Tree ID (2014): 337. Prickly-leaved Paperbark. (*Melaleuca stypheliodes).* Arb. Rating: Mod.C
TPZ: 5.7

Tree ID (2014): 339. Willow Myrtle. (*Agonis flexuosa).* Arb. Rating: Low
TPZ: 2.4

Tree ID (2014): 338. Red-flowering Gum. (*Corymbia ficifolia).* Arb. Rating: Mod.C
TPZ: 2

Tree ID (2014): 340. Spotted Gum. (*Corymbia maculata).* Arb. Rating: Mod.B
TPZ: 2.6

Tree ID (2014): 341. Spotted Gum. (*Corymbia maculata).* Arb. Rating: Mod.A
TPZ: 3.6

Tree ID (2014): 343. Bracelet Honey-myrtle. (*Melaleuca armillaris).* Arb. Rating: Mod.C
TPZ: 6.7

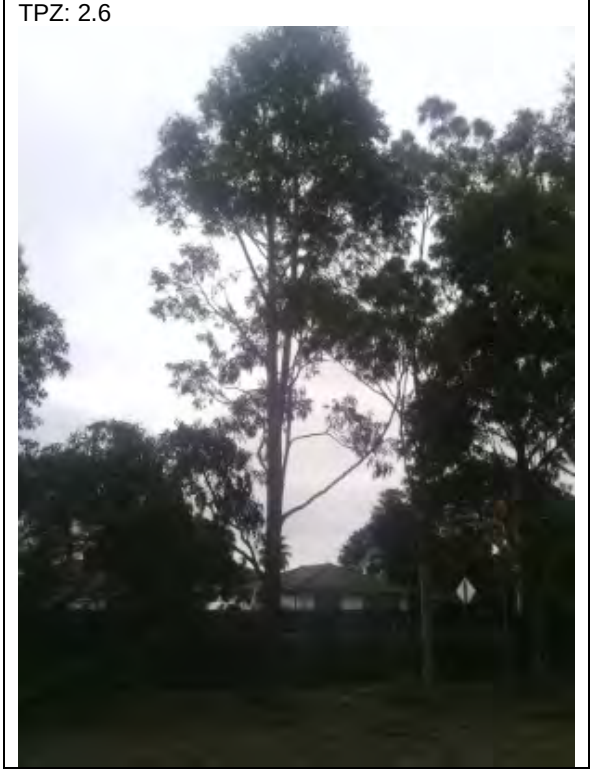
Tree ID (2014): 342. Lemon-scented Gum. (*Corymbia citriodora).* Arb. Rating: Mod.B
TPZ: 2.6

Tree ID (2014): 344. Spotted Gum. (*Corymbia maculata).* Arb. Rating: Mod.A
TPZ: 3.8

Tree ID (2014): 346. River Red Gum. (*Eucalyptus camaldulensis).* Arb. Rating: Low
TPZ: 2.4

Tree ID (2014): 349. Lemon-scented Gum. (*Corymbia citriodora).* Arb. Rating: Mod.B
TPZ: 3.1

Tree ID (2014): 348. Spotted Gum. (*Corymbia maculata).* Arb. Rating: Mod.B
TPZ: 2.6



Tree ID (2014): 350. Lemon-scented Gum. (*Corymbia citriodora).* Arb. Rating: Mod.B
TPZ: 3.5

Tree ID (2014): 351. Spotted Gum.
(*Corymbia maculata).* Arb. Rating: Mod.B
TPZ: 2

Tree ID (2014): 352. River Red Gum.
(*Eucalyptus camaldulensis).* Arb. Rating: Mod.C
TPZ: 2.2

Tree ID (2014): 352. Sugar Gum.
(*Eucalyptus cladocalyx).* Arb. Rating: Mod.B
TPZ: 5.6

Tree ID (2014): 354. Spotted Gum.
(*Corymbia maculata).* Arb. Rating: Mod.C
TPZ: 3.1

Tree ID (2014): 355. Spotted Gum. (*Corymbia maculata).* Arb. Rating: Low
TPZ: 2

Tree ID (2014): 357. Spotted Gum. (*Corymbia maculata).* Arb. Rating: Mod.C
TPZ: 2

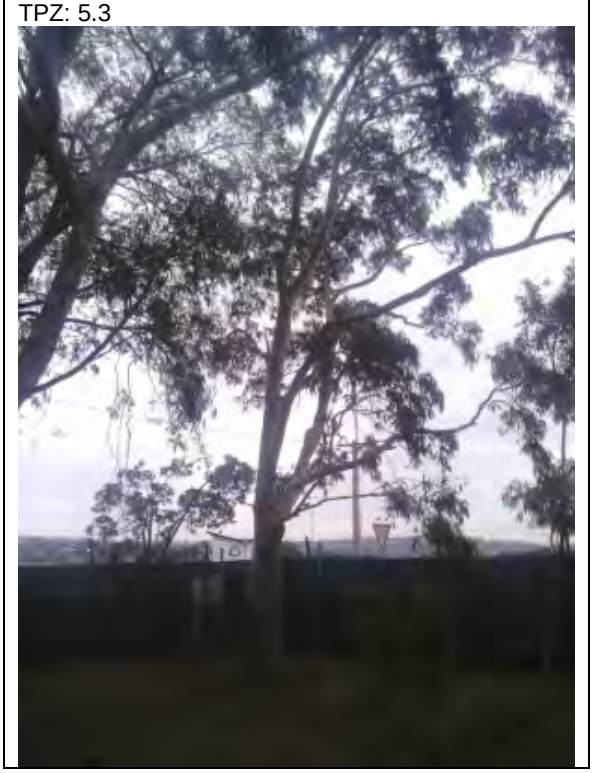
Tree ID (2014): 356. River Red Gum. (*Eucalyptus camaldulensis).* Arb. Rating: Mod.B
TPZ: 4.6

Tree ID (2014): 358. River Red Gum. (*Eucalyptus camaldulensis).* Arb. Rating: Mod.B
TPZ: 3.7

Tree ID (2014): 359. Sugar Gum.
(*Eucalyptus cladocalyx).* Arb. Rating: Low
TPZ: 4.1

Tree ID (2014): 363. Red Ironbark.
(*Eucalyptus sideroxylon).* Arb. Rating: Mod.B
TPZ: 8.2

Tree ID (2014): 360. Spotted Gum.
(*Corymbia maculata).* Arb. Rating: Mod.B
TPZ: 5.3



Tree ID (2014): 364. Spotted Gum.
(*Corymbia maculata).* Arb. Rating: Low
TPZ: 2

Tree ID (2014): 365. Red Ironbark.
(*Eucalyptus sideroxylon).* Arb. Rating: Mod.A
TPZ: 6.6

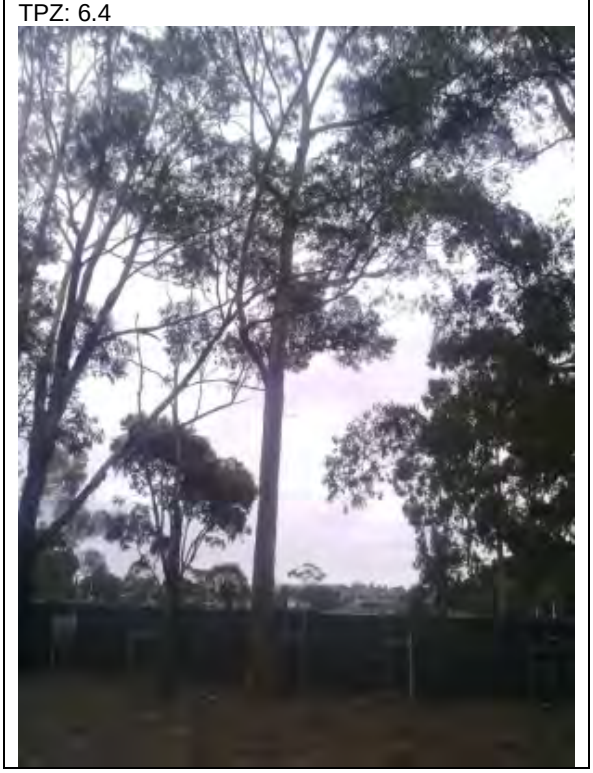
Tree ID (2014): 367. Spotted Gum.
(*Corymbia maculata).* Arb. Rating: Mod.C
TPZ: 4.1

Tree ID (2014): 366. Sugar Gum.
(*Eucalyptus cladocalyx).* Arb. Rating: Very Low
TPZ: 3.1

Tree ID (2014): 368. Sugar Gum.
(*Eucalyptus cladocalyx).* Arb. Rating: Mod.B
TPZ: 3.5

Tree ID (2014): 369. Bushy Sugar Gum. (*Eucalyptus cladocalyx 'Nana').* Arb. Rating: Low
TPZ: 2.8

Tree ID (2014): 370. Sugar Gum. (*Eucalyptus cladocalyx).* Arb. Rating: Mod.C
TPZ: 6.4



Tree ID (2014): 371. Spotted Gum. (*Corymbia maculata).* Arb. Rating: Mod.C
TPZ: 3.5

Tree ID (2014): 372. Yate. (*Eucalyptus cornuta).* Arb. Rating: Low
TPZ: 10.9

Tree ID (2014): 373. Spotted Gum.
(*Corymbia maculata).* Arb. Rating: Mod.C
TPZ: 4.9

Tree ID (2014): 374. Red Ironbark.
(*Eucalyptus sideroxylon).* Arb. Rating: Mod.B
TPZ: 5.2

Tree ID (2014): 375. Red Ironbark.
(*Eucalyptus sideroxylon).* Arb. Rating: Mod.B
TPZ: 4.1

Tree ID (2014): 376. Spotted Gum.
(*Corymbia maculata).* Arb. Rating: Mod.C
TPZ: 3.9

Tree ID (2014): 377. Gum Tree.
(*Eucalyptus sp.).* Arb. Rating: Very Low
TPZ: 4.1

Tree ID (2014): 379. Yate.
(*Eucalyptus cornuta).* Arb. Rating: Mod.C
TPZ: 11.5

Tree ID (2014): 378. Spotted Gum.
(*Corymbia maculata).* Arb. Rating: Mod.B
TPZ: 4.2

Tree ID (2014): 380. Gum Tree.
(*Eucalyptus sp.).* Arb. Rating: Very Low
TPZ: 5.4

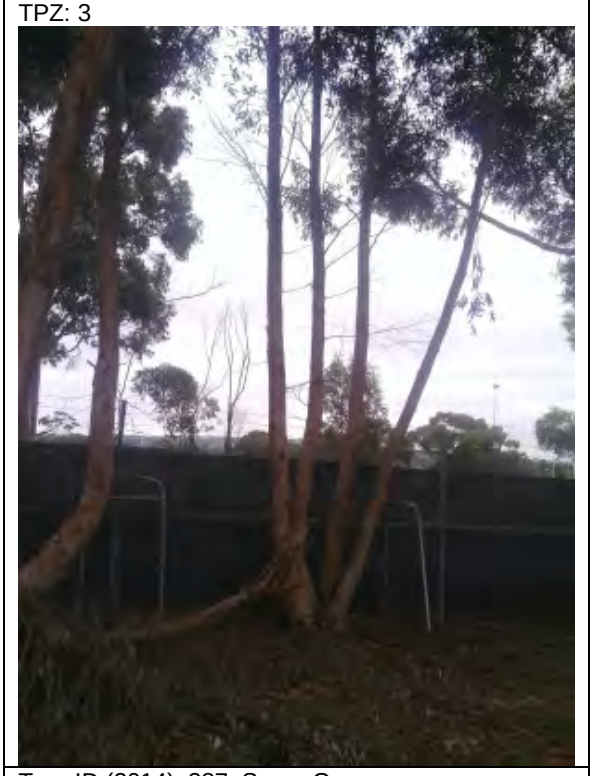
Tree ID (2014): 381. Yellow Gum.
(*Eucalyptus leucoxylon).* Arb. Rating: Low
TPZ: 3.7

Tree ID (2014): 382. Spotted Gum.
(*Corymbia maculata).* Arb. Rating: Mod.B
TPZ: 6.8

Tree ID (2014): 384. Spotted Gum.
(*Corymbia maculata).* Arb. Rating: Mod.C
TPZ: 4.1

Tree ID (2014): 385. Sugar Gum.
(*Eucalyptus cladocalyx).* Arb. Rating: Very Low
TPZ: 4

Tree ID (2014): 386. Sugar Gum.
(*Eucalyptus cladocalyx).* Arb. Rating: Low
TPZ: 3



Tree ID (2014): 388. Sugar Gum.
(*Eucalyptus cladocalyx).* Arb. Rating: Mod.C
TPZ: 6.5

Tree ID (2014): 387. Sugar Gum.
(*Eucalyptus cladocalyx).* Arb. Rating: Very Low
TPZ: 5.1

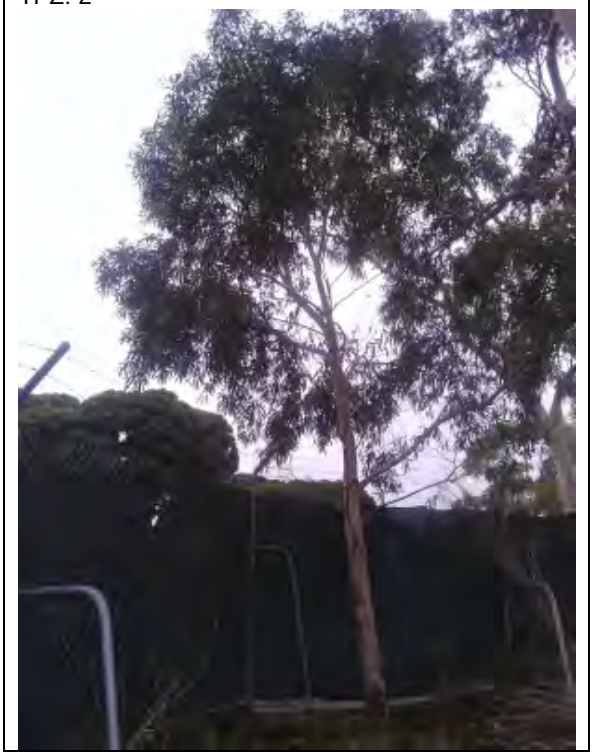
Tree ID (2014): 389. Sugar Gum.
(*Eucalyptus cladocalyx).* Arb. Rating: Low
TPZ: 2.2

Tree ID (2014): 389. Sugar Gum.
(*Eucalyptus cladocalyx).* Arb. Rating: Mod.C
TPZ: 3.5

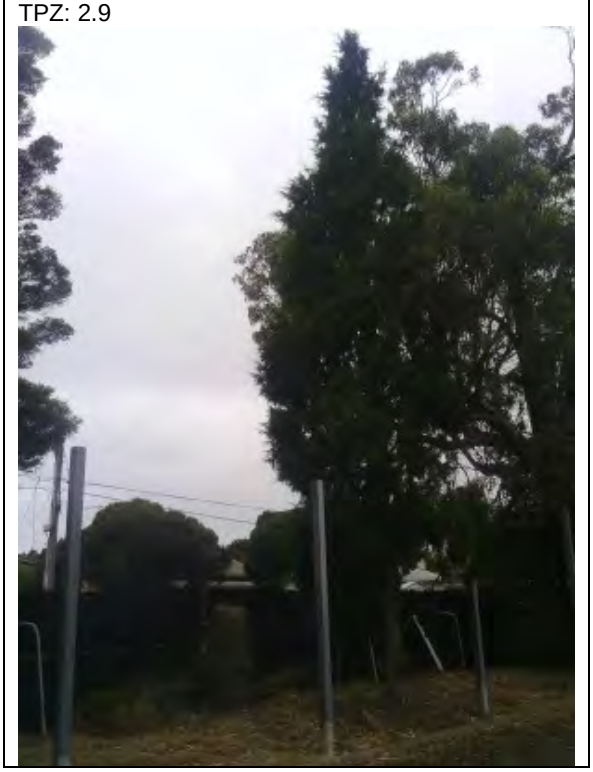
Tree ID (2014): 392. Yellow Gum.
(*Eucalyptus leucoxylon).* Arb. Rating: Mod.C
TPZ: 3.6

Tree ID (2014): 391. Sugar Gum.
(*Eucalyptus cladocalyx).* Arb. Rating: Very Low
TPZ: 4.7

Tree ID (2014): 393. Spotted Gum.
(*Corymbia maculata).* Arb. Rating: Mod.C
TPZ: 2



Tree ID (2014): 394. Bhutan Cypress. (*Cupressus torulosa).* Arb. Rating: Mod.B
TPZ: 2.9



Tree ID (2014): 398. Red-flowering Gum. (*Corymbia ficifolia).* Arb. Rating: Mod.C
TPZ: 2

Appendix 3: Arboricultural Descriptors (June 2018)

Note that not all of the described tree descriptors may be used in a tree assessment and report. The assessment is undertaken with regard to contemporary arboricultural practices and consists of a visual inspection of external and above-ground tree parts.

1. Tree Condition

The assessment of tree condition evaluates factors of health and structure. The descriptors of health and structure attributed to a tree evaluate the individual specimen to what could be considered typical for that species growing in its location under current climatic conditions. For example, some species can display inherently poor branching architecture, such as multiple acute branch attachments with included bark. Whilst these structural defects may technically be considered arboriculturally poor, they are typical for the species and may not constitute an increased risk of failure. These trees may be assigned a structural rating of fair-poor (rather than poor) at the discretion of the assessor.

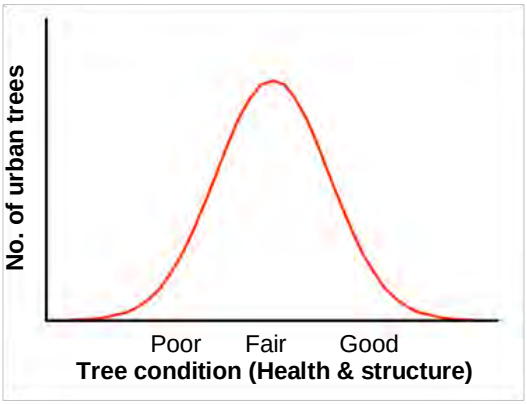


Diagram 1: Indicative normal distribution curve for tree condition

Diagram 1, provides an indicative distribution curve for tree condition to illustrate that within a normal tree population the majority of specimens are centrally located within the condition range (normal distribution curve). Furthermore, that those individual trees with an assessed condition approaching the outer ends of the spectrum occur less often.

2. Tree Name

Provides botanical name, (genus, species, variety and cultivar) according to accepted international code of taxonomic classification, and common name.

3. Tree Type

Describes the general geographic origin of the species and its type e.g. deciduous or evergreen.

Category	Description
Indigenous	Occurs naturally in the area or region of the subject site. Remnant.
Victorian native	Occurs naturally within some part of the State of Victoria (not exclusively) but is not indigenous (component of EVC benchmark). Could be planted indigenous trees.
Australian native	Occurs naturally within Australia but is not a Victorian native or indigenous
Exotic deciduous	Occurs outside of Australia and typically sheds its leaves during winter
Exotic evergreen	Occurs outside of Australia and typically holds its leaves all year round
Exotic conifer	Occurs outside of Australia and is classified as a gymnosperm
Native conifer	Occurs naturally within Australia and is classified as a gymnosperm
Native Palm	Occurs naturally within Australia. Woody monocotyledon
Exotic Palm	Occurs outside of Australia. Woody monocotyledon

4. Height and Width

Indicates height and width of the individual tree; dimensions are expressed in metres. Crown heights are measured with a height meter where possible. Due to the topography of some sites and/or the density of vegetation it may not be possible to do this for every tree. Tree heights may be estimated in line with previous height meter readings in conjunction with assessor's experience. Crown widths are generally paced (estimated) at the widest axis or can be measured on two axes and averaged. In some instances the crown width can be measured on the four cardinal direction points (North, South, East and West).

Crown height, crown spread are generally recorded to the nearest half metre (crown spread would be rounded up) for dimensions up to 10 m and the nearest whole metre for dimensions over 10 m. Estimated dimensions (e.g. for off-site or otherwise inaccessible trees where accurate data cannot be recovered) shall be clearly identified in the assessment data.

5. Trunk diameters

The position where trunk diameters are captured may vary dependent on the requirements of the specific assessment and an individual trees specific characteristics. DBH is the typical trunk diameter captured as it relates to the allocation of tree protection distances. The basal trunk diameter assists in the allocation of a structural root zone. Some municipalities require trunk diameters be captured at different heights, with 1.0 m above grade being a common requirement. The specific planning schemes will be checked to ascertain requirements.

Stem diameters shall be recorded in centimetres, rounded to the nearest 1 cm (0.01 m).

Diameter at Breast Height (DBH)

Indicates the trunk diameter (expressed in centimetres) of an individual tree measured at 1.4m above the existing ground level or where otherwise indicated, multiple leaders are measured individually. Plants with multiple leader habit may be measured at the base. The range of methods to suit particular trunk shapes, configurations and site conditions can be seen in Appendix A of Australian Standard *AS 4970-2009 Protection of trees on development site*s. Measurements undertaken using foresters tape or builders tape.

Basal trunk diameter

The basal dimension is the trunk diameter measured at the base of the trunk or main stem(s) immediately above the root buttress. Used to ascertain the Structural Root Zone (SRZ) as outlined in AS4970.

6. Age class

Relates to the physiological stage of the tree's life cycle.

Category	Description
Young	Sapling tree and/or recently planted. Approximately 5 or less years in location.
Semi-mature	Tree increasing in size and yet to achieve expected size in situation. Primary developmental stage.
Early-mature	Tree established, generally growing vigorously. > 50% of attainable age/size.
Mature	Specimen approaching expected size in situation, with reduced incremental growth.
Over-mature	Mature full-size with a retrenching crown. Tree is senescent and in decline. Significant decay generally present.

7. Health

Assesses various attributes to describe the overall health and vigour of the tree.

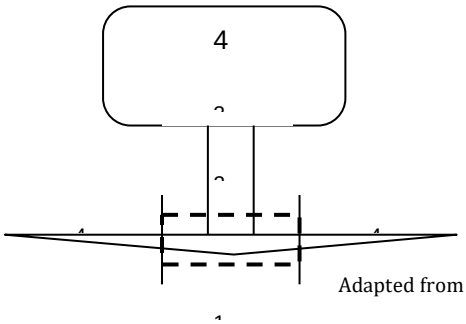
Health Category	Vigour, Extension growth	Decline symptoms, Deadwood, Dieback	Foliage density, colour, size, intactness	Pests and or disease
Good	Above typical. Excellent. Full canopy density	Negligible	Better than typical	Negligible
Fair	Typical vigour. >80% canopy density	Minor or expected. Little or no dead wood	Typical. Minor deficiencies or defects could be present.	Minor, within damage thresholds
Fair to Poor	Below typical - low vigour	More than typical. Small sub-branch dieback	Exhibiting deficiencies. Could be thinning, or smaller	Exceeds damage thresholds
Poor	Minimal - declining	Excessive, large and/or prominent amount & size of dead wood	Exhibiting severe deficiencies. Thinning foliage, generally smaller or deformed	Extreme and contributing to decline
Dead	N/A	N/A	N/A	N/A

8. Structure

Assesses principal components of tree structure (Diagram 2).
Structure ratings will also take into account general branching architecture, stem taper, live crown ratio, crown symmetry (bias or lean) and crown position such as tree being suppressed amongst more dominant trees.

Diagram 2: Tree structure zones

1. Root plate & lower stem
2. Trunk
3. Primary branch support
4. Outer crown & roots



Adapted from Coder (1996)

The lowest or worst descriptor assigned to the tree in any column could generally be the overall rating assigned to the tree. The assessment for structure is limited to observations of external and above ground tree parts. It does not include any exploratory assessment of underground or internal tree parts unless this is requested as part of the investigation. Trees are assessed and then given a rating for a point in time. Generally, trees with a poor or very poor structure are beyond the benefit of practical arboricultural treatments.

The management of trees in the urban environment requires appropriate arboricultural input and consideration of risk. Risk potential will take into account the combination of likelihood of failure and impact, including the perceived importance of the target(s). See table over page.

Structure Category	Zone 1 - Root plate & lower stem	Zone 2 - Trunk	Zone 3 - Primary branch support	Zone 4 - Outer crown and roots
Good	No obvious damage, disease or decay; obvious basal flare / stable in ground	No obvious damage, disease or decay; well tapered	Well formed, attached, spaced and tapered. No history of failure.	No obvious damage, disease, decay or structural defect. No history of failure.
Fair	Minor damage or decay. Basal flare present.	Minor damage or decay	Generally well attached, spaced and tapered branches. Minor structural deficiencies may be present or developing. No history of branch failure.	Minor damage, disease or decay; minor branch end-weight or over-extension. No history of branch failure.
Fair to Poor	Moderate damage or decay; minimal basal flare.	Moderate damage or decay; approaching recognised thresholds	Weak, decayed or with acute branch attachments; previous branch failure evidence.	Moderate damage, disease or decay; moderate branch end-weight or over-extension. Minor branch failure evident.
Poor	Major damage, disease or decay; fungal fruiting bodies present. Excessive lean placing pressure on root plate	Major damage, disease or decay; exceeds recognised thresholds; fungal fruiting bodies present. Acute lean. Stump re-sprout	Decayed, cavities or has acute branch attachments with included bark; excessive compression flaring; failure likely. Evidence of major branch failure.	Major damage, disease or decay; fungal fruiting bodies present; major branch end-weight or over-extension. Branch failure evident.
Very Poor	Excessive damage, disease or decay; unstable / loose in ground; altered exposure; failure probable	Excessive damage, disease or decay; cavities. Excessive lean. Stump re-sprout	Decayed, cavities or branch attachments with active split; failure imminent. History of major branch failure.	Excessive damage, disease or decay; excessive branch end-weight or over-extension. History of branch failure.

Useful life expectancy

Assessment of useful life expectancy provides an indication of health and tree appropriateness and involves an estimate of how long a tree is likely to remain in the landscape based on species, stage of life (cycle), health, amenity, environmental services contribution, conflicts with adjacent infrastructure and risk to the community. It would enable tree managers to develop long-term plans for the eventual removal and replacement of existing trees in the public realm. It is not a measure of the biological life of the tree within the natural range of the species. It is more a measure of the health status and the trees positive contribution to the urban landscape.

Within an urban landscape context, particularly in relation to street trees, it could be considered a point where the costs to maintain the asset (tree) outweigh the benefits the tree is returning.

The assessment is based on the site conditions not being significantly altered and that any prescribed maintenance works are carried out (site conditions are presumed to remain relatively constant and the tree would be maintained under scheduled maintenance programs). See table over page.

Useful Life Expectancy category	Typical characteristics
<1 year (No remaining ULE)	Tree may be dead or mostly dead. Tree may exhibit major structural faults. Tree may be an imminent failure hazard. Excessive infrastructure damage with high risk potential that cannot be remedied.
1-5 years (Transitory, Brief)	Tree is exhibiting severe chronic decline. Crown is likely to be less than 50% typical density. Crown may be mostly epicormic growth. Dieback of large limbs is common (large deadwood may have been pruned out). Tree may be over-mature and senescing. Infrastructure conflicts with heightened risk potential. Tree has outgrown site constraints.
6-10 years (Short)	Tree is exhibiting chronic decline. Crown density will be less than typical and epicormic growth is likely to present. The crown may still be mostly entire, but some dieback is likely to be evident. Dieback may include large limbs. Over-mature and senescing or early decline symptoms in short-lived species. Early infrastructure conflicts with potential to increase regardless of management inputs.
11-20 years (Moderate)	Tree not showing symptoms of chronic decline, but growth characteristics are likely to be reduced (bud development, extension growth etc.). Tree may be over-mature and beginning to senesce. Potential for infrastructure conflicts regardless of management inputs.
21-40 years (Moderately long)	Trees displaying normal growth characteristics but vigour is likely to be reduced (bud development, extension growth etc.). Tree may be growing in restricted environment (e.g. streetscapes) or may be in late maturity. Semi-mature and mature trees exhibiting normal growth characteristics. Juvenile trees in streetscapes.
>40 years (Long)	Generally juvenile and semi-mature trees exhibiting normal growth characteristics within adequate spaces to sustain growth, such as in parks or open space. Could also pertain to maturing, long-lived trees. Tree well suited to the site with negligible potential for infrastructure conflicts.

Note that ULE may change for a tree dependent on the prevailing climatic conditions, which can either increase or decrease, or sudden changes to a tree's growing environment creating an acute stress.

The ULE may not be applicable for trees that are manipulated, such as topiary, or grown for specific horticultural purposes, such as fruit trees.

There may be instances where remedial tree maintenance could be extend a tree's ULE.

9. Arboricultural Rating

Relates to the combination of tree condition factors, including health and structure (arboricultural merit), and also conveys an amenity value. Amenity relates to the trees biological, functional and aesthetic characteristics (Hitchmough 1994) within an urban landscape context. The presence of any serious disease or tree-related hazards that would impact risk potential are taken into account. See table over page.

Arboricultural rating Category	Description
High	Tree of high quality in good to fair condition; good vigour. Generally a prominent arboricultural/landscape feature. Particularly good example of the species; rare or uncommon. Tree may have significant conservation or other cultural value. These trees have the potential to be a medium- to long-term components of the landscape (moderately long to long ULE) if managed appropriately. Retention of these trees is highly desirable.
Moderate	*General* - Tree of moderate quality, in fair or better condition. Tree may have a condition, and or structural problem that will respond to arboricultural treatment. These trees have the potential to be a moderate- to long-term component of the landscape (moderate to long ULE) if managed appropriately. Retention of these trees is generally desirable. The following sub-categories relate predominately to age and size and amenity.
	A. Moderate to large, maturing tree. Contributes to the landscape character. Tree may have conservation or other cultural value.
	B. Moderate sized, established tree, > 50% of attainable age/size. Contributes to the landscape character. Maturing tree with amenity value but with identified deficiencies
	C. Small and/or semi-mature tree, established, >5 years in the location. May not be a dominant canopy. No special qualities. Maturing tree, accumulating deficiencies, trending towards being of Low arboricultural value.
Low	Unremarkable tree of low quality or little amenity value. Tree in either poor health or with poor structure or a combination. Short to transitory useful life expectancy. Tree is not significant because of either its size or age, such as young trees with a stem diameter below 15 cm. Trees regularly pruned to restrict size. These trees are easily replaceable. Tree (species) is functionally inappropriate to specific location and would be expected to be problematic if retained. Retention of such trees may be considered if not requiring a disproportionate expenditure of resources for a tree in its condition and location.
Very Low	Trees of low quality with an estimated remaining life expectancy of less than 5 years. Tree has either a severe structural defect or health problem or combination that cannot be sustained with practical arboricultural techniques and the loss of the tree would be expected in the short term. Trees that are dead or are showing signs of significant, immediate, and irreversible overall decline. Tree infected with pathogens of significance to either the health or safety of the tree or other adjacent trees. Tree whose retention would not be viable after the removal of adjacent trees (includes trees that have developed in close spaced groups and would not be expected to acclimatise to severe alterations to surrounding environment – removal of adjacent shelter trees). Tree has a detrimental effect on the environment, for example, the tree is a recognised environmental woody weed with potential to spread into waterways or natural areas. Unremarkable tree of no material landscape, conservation or other cultural value.

Trees have many values, not all of which are considered when an arboricultural assessment is undertaken. However, individual trees or tree group features may be considered important community resources because of unique or noteworthy characteristics or values other than their age, dimensions, health or structural condition. Recognition of one or more of the following criterion is designed to highlight other considerations that may influence the future management of such trees.

Significance	Description
Horticultural Value/ Rarity	Outstanding horticultural or genetic value; could be an important source of propagating stock, including specimens that are particularly resistant to disease or exposure. Any tree of a species or variety that is rare.
Historic, Aboriginal Cultural or Heritage Value	Tree could have value as a remnant of a particular important historical period or a remnant of a site or activity no longer in action. Tree has a recognised association with historic aboriginal activities, including scar trees. Tree commemorates a particular occasion, including plantings by notable people, or having associations with an important event in local history.
Ecological Value	Tree could have value as habitat for indigenous wildlife, including providing breeding, foraging or roosting habitat, or is a component of a wildlife reserve. Remnant Indigenous vegetation that contribute to biological diversity

Bibliography:

Coder, K D. (1996) Construction damage assessments: trees and sites, University of Georgia, USA

Hitchmough, J.D. (1994) Urban landscape management, Inkata Press, Australia

Gooding, R.F., Ingram, J.B., Urban, J.R., Bloch, L.B., Steigerwaldt, W.M, Harris, R.W. and Allen, E.N. (2000) Guide for plant appraisal, 9th edition, International society of Arboriculture, USA

Pollard, A. H. (1974) Introductory statistics: a service course, Pergamon Press Australia, Australia.

Standards Australia (2009) Australian Standard AS 4970-2009 Protection of trees on development sites.

Appendix 4: Tree protection zones.

Introduction

In order to sustain trees on a development site consideration must be given to the establishment of tree protection zones.

The physical dimensions of tree protection zones can sometimes be difficult to define. The projection of a tree's crown can provide a guide but is by no means the definitive measure. The unpredictable nature of roots and their growth, differences between species and their tolerances, and observable and hidden changes to the trees growing environment, as a result of development, are variables that must be considered.

Most vigorous, broad canopied trees survive well if the area within the drip-line of the canopy is protected. Fine root density is usually greater beneath the canopy than beyond (Gilman, 1997). If few to no roots over 3cm in diameter are encountered and severed during excavation the tree will probably tolerate the impact and root loss. A healthy tree can sustain a loss of between 30% and 50% of absorbing roots (Harris, Clark, Matheny, 1999), however encroachment into the structural root system of a tree may be problematic.

The structural root system of a tree is responsible for ensuring the stability of the entire tree structure in the ground. A tree could not sustain loss of structural root system and be expected to survive let alone stand up to average annual wind loads upon the crown.

Allocation of tree protection zone (TPZ)

The method of allocating a TPZ to a particular tree will be influenced by site factors, the tree species, its age and developed form.

Once it has been established, through an arboricultural assessment, which trees and tree groups are to be retained, the next step will require careful management through the development process to minimise any impacts on the designated trees. The successful retention of trees on any particular site will require the commitment and understanding of all parties involved in the development process. The most important activity, after determining the trees that will be retained is the implementation of a TPZ.

The intention of tree protection zones is to:

- mitigate tree hazards;
- provide adequate root space to sustain the health and aesthetics of the tree into the future;
- minimise changes to the trees growing environment, which is particularly important for mature specimens;
- minimise physical damage to the root system, canopy and trunk; and
- define the physical alignment of the tree protection fencing

Tree protection

The most important consideration for the successful retention of trees is to allow appropriate above and below ground space for the trees to continue to grow. This requires the allocation of tree protection zones for retained trees.

The Australian Standard AS 4970-2009 Protection of trees on development sites has been used as a guide in the allocation of TPZs for the assessed trees.

The TPZ for individual trees is calculated based on trunk (stem) diameter (DBH), measured at 1.4 metres up from ground level. The radius of the TPZ is calculated by multiplying the trees DBH by 12. The method provides a TPZ that addresses both the stability and growing requirements of a tree. TPZ distances are measured as a radius from the centre of the trunk at (or near) ground level. The minimum TPZ should be no less than 2m and the maximum no more than 15m radius. The TPZ of palms should be not less than 1.0m outside the crown projection.

Encroachment into the TPZ is permissible under certain circumstances though is dependent on both site conditions and tree characteristics. Minor encroachment, up to 10% of the TPZ, is generally permissible provided encroachment is compensated for by recruitment of an equal area contiguous with the TPZ. Examples are provided in Diagram 1. Encroachment greater than 10% is considered major encroachment under AS4970-2009 and is only permissible if it can be demonstrated that after such encroachment the tree would remain viable.

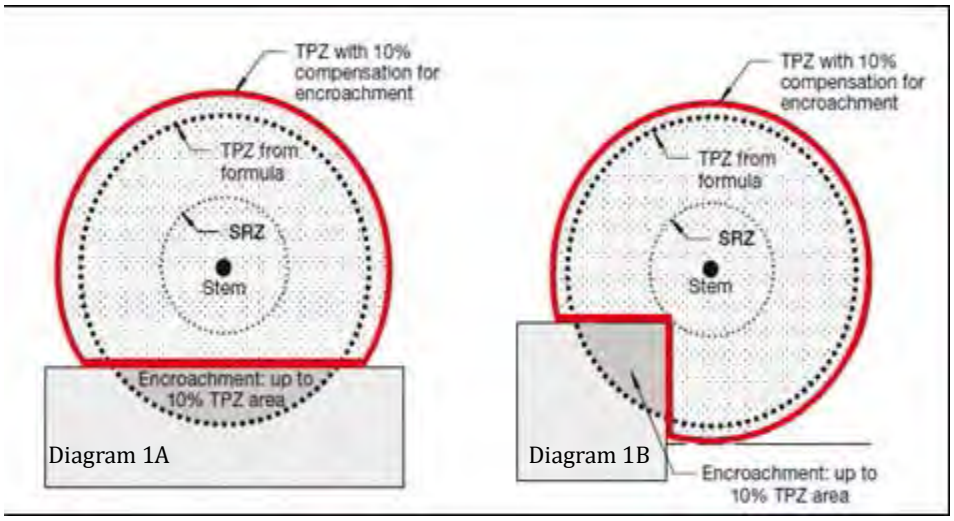


Diagram 1: Examples of minor encroachment into a TPZ.

(Extract from: AS4970-2009, Appendix D, p30 of 32)

The 10% encroachment on one side equates to approximately ⅓ radial distance. Tree root growth is opportunistic and occurs where the essentials to life (primarily air and water) are present. Heterogeneous soil conditions, existing barriers, hard surfaces and buildings may have inhibited the development of a symmetrically radiating root system.

Existing infrastructure around some trees may be within the TPZ or root plate radius. The roots of some trees may have grown in response to the site conditions and therefore if existing hard surfaces and building alignments are utilised in new designs the impacts on the trees should be minimal. The most reliable way to estimate root disturbance is to find out where the roots are in relation to the demolition, excavation or construction works that will take place (Matheny & Clark, 1998). Exploratory excavation prior to commencement of construction can help establish the extent of the root system and where it may be appropriate to excavate or build.

The TPZ should also give consideration to the canopy and overall form of the tree. If the canopy requires severe pruning in order to accommodate a building and in the process the form of the tree is diminished it may be worthwhile considering altering the design or removing the tree.

General tree protection guidelines

The most important factors are:

- Prior to construction works the trees nominated for tree works should be pruned to remove larger dead wood. Pruning works may also identify other tree hazards that require remedial works.
- Installation of tree protection fencing. Once the tree protection zones have been determined the next step is to mulch the zone with woodchip and erect tree protection fencing. This must be completed prior to any materials being brought on-site, erection of temporary site facilities or demolition/earth works. The protection fencing must be sturdy and withstand winds and construction impacts. The protection fence should only be moved with approval of the site supervisor. Other root zone protection methods can be incorporated if the TPZ area needs to be traversed.
- Appropriate signage is to be fixed to the fencing to alert people as to importance of the tree protection zone.
- The importance of tree preservation must be communicated to all relevant parties involved with the site.
- Inspection of trees during excavation works.

TPZ fencing

TPZ fencing must be in the form of either temporary fencing panels with concrete block feet and locked together or water filled barriers with locking pins installed. TPZ fencing must be sufficiently robust to withstand knocks and bumps from plant and machinery, delivery vehicles, storage of materials and dumping of spoil.

- Appropriate signage stating ‘Tree protection Zone- No access’ is to be fixed to the fencing to alert people as to importance of the tree protection zone.

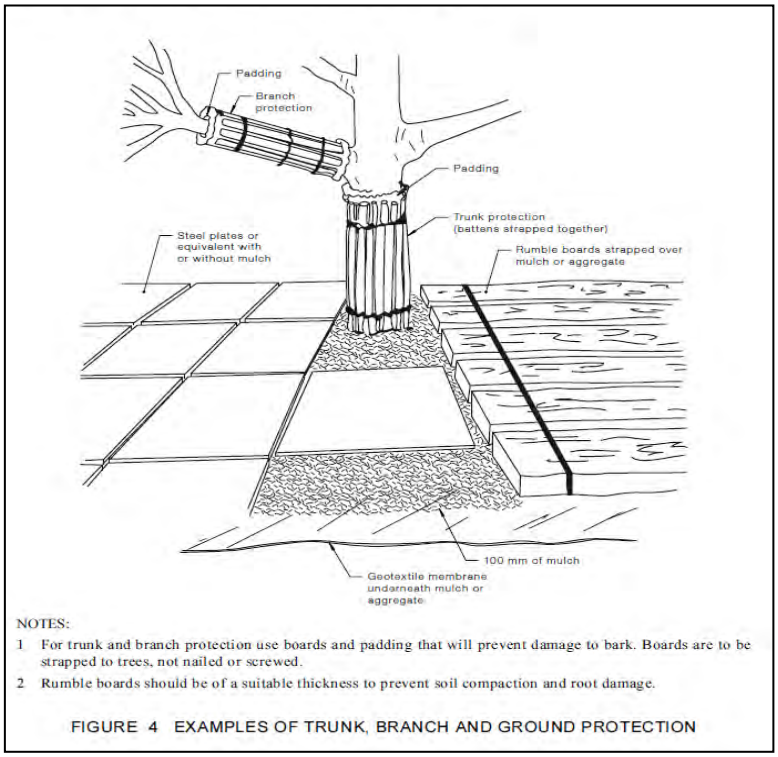
  Refer to Figure 1 for fencing example.

Figure 1. Above left - Example of TPZ fencing above right -Example of TPZ signage.

Ground buffering

Where works are required to be undertaken within the Tree root zone without penetration of the surface, ground buffering and trunk and limb protection must be provided to minimise the potential for soil to become compacted and avoid potential for impact wounds to occur to surface roots, trunk or limbs.
Refer to Diagram 2 below.

Diagram 2: Examples of ground buffering and trunk and limb protection.



NOTES:

1 For trunk and branch protection use boards and padding that will prevent damage to bark. Boards are to be strapped to trees, not nailed or screwed.

2 Rumble boards should be of a suitable thickness to prevent soil compaction and root damage.

FIGURE 4 EXAMPLES OF TRUNK, BRANCH AND GROUND PROTECTION

(Extract from: AS4970-2009, Appendix D, pg17)

Exploratory excavation

The most reliable way to estimate root disturbance is to find out where the roots are in relation to the demolition, excavation or construction works that will take place (Matheny & Clark, 1998).

Exploratory excavation prior to commencement of construction can help establish the extent of the root system and where it may be appropriate to excavate or build. This also allows management decisions to be made and allows time for redesign works if required.

Any exploratory excavation within the allocated TPZ is to be undertaken with due care of the roots. Minor exploration is possible with hand tools. More extensive exploration may require the use of high pressure water or air excavation techniques. Either hydraulic or pneumatic excavation techniques will safely expose tree roots; both have specific benefits dependent on the situation and soil type. An arborist is to be consulted on which system is best suited for the site conditions.

Substantial roots are to be exposed and left intact.

Once roots are exposed decisions can be made regarding the management of the tree. Decisions will be dependent on the tree species, its condition, its age, its relative tolerance to root loss, and the amount of root system exposed and requiring pruning.

Other alternative measures to encroaching the TPZ may include boring or tunnelling.

How to determine the diameter of a substantial root

The size of a substantial root will vary according to the distance of the exposed root to the trunk of the tree. The further away from the trunk of a tree that a root is, the less significant the root is likely to be to the tree's health and stability.

The determination of what is a substantial root is often difficult because the form, depth and spread of roots will vary between species and sites. However, because smaller roots are connected to larger roots in a framework, there can be no doubt that if larger roots are severed, the smaller roots attached to them will die. Therefore, the larger the root, the more significant it may be.

Gilman (1997) suggests that trees may contain 4-11 major lateral roots and that the five largest lateral roots account (act as a conduit) for 75% of the total root system.

These large lateral roots quickly taper within a distance to the tree, this distance is identified as the Structural Root Zone (SRZ). Within the SRZ distance, all roots and the soil surrounding the roots are deemed significant.

No root or soil disturbance is permitted within the SRZ.
In the area outside the SRZ the tree may tolerate the loss of one or a number of roots. The table below indicates the size of tree roots, outside the SRZ that would be deemed substantial for various tree heights. The assessment of combined root loss within the TPZ would need to be undertaken by an arborist on an individual basis because the location of the tree, its condition and environment would need to be assessed.

Table 1: Estimated significant root sizes outside SRZ

Height of tree	Diameter of root
Less than 5m	≥ 30mm
Between 5m - 15m	≥ 50mm
More than 15m	≥ 70mm

References

Bernatzky, A. 1978. *Tree Ecology and Preservation.* New York: Elsevier Publishing.

British Standard 5837. 1991. *Guide for Trees in relation to construction.* British Standards Institute.

Gilman, E. F. 1997. *Trees for Urban and Suburban Landscapes.* Delmar.

Harris, R. W, Clark J.R. & Matheny N.P. 1999. *Arboriculture: Integrated Management of Landscape Trees, Shrubs and Vines*, *Third Edition.* Prentice - Hall, New Jersey.

Helliwell, D. R. 1985. Trees on Development Sites. Arboricultural Association UK.

Matheny, N. & Clark, J. R. 1998. Trees and development – A technical guide to preservation of trees during land development. International Society of Arboriculture, Publishers.

Mattheck, C. & Breloer, H. 1994. The Body Language of Trees HMSO

Mattheck C. 2002. Tree Mechanics, Forschungszentrum Karlsruhe GMBH

Tattar, T. A. 1989. Diseases of Shade Trees, 2nd ed. San Diego: Academic Press.

Watson, G. W. & Himelick, E. B. 1997. Principals and Practices of Planting Trees and Shrubs. International Society of Arboriculture.

Construction Guidelines

The following are guidelines that must be implemented to minimise the impact of the proposed construction works on the retained trees.

- The Tree Protection Zone (TPZ) is fenced and clearly marked at all times. The actual fence specifications should be a minimum of 1.2 - 1.5 metres of chain mesh or like fence with 1.8 meter posts (e.g. treated pine or star pickets) or like support every 3-4 metres and a top line of high visibility plastic hazard tape. The posts should be strong enough to sustain knocks from on site excavation equipment. This fence will deter the placement of building materials, entry of heavy equipment and vehicles and also the entry of workers and/or the public into the TPZ. Note: There are many different variations on the construction type and material used for TPZ fences, suffice to say that the fence should satisfy the responsible authority.
- Contractors and site workers should receive written and verbal instruction as to the importance of tree protection and preservation within the site. Successful tree preservation occurs when there is a commitment from all relevant parties involved in designing, constructing and managing a development project. Members of the project team need to interact with each other to minimise the impacts to the trees, either through design decisions or construction practices. The importance of tree preservation must be communicated to all relevant parties involved with the site.
- The consultant arborist is on-site to supervise excavation works around the existing trees where the TPZ will be encroached.
- A layer of organic mulch (woodchips) to a depth of no more than 100mm should be placed over the root systems within the TPZ of trees, which are to be retained so as to assist with moisture retention and to reduce the impact of compaction.
- No persons, vehicles or machinery to enter the TPZ without the consent of the consulting arborist or site manager.
- Where machinery is required to operate inside the TPZ it must be a small skid drive machine (i.e Dingo or similar) operating only forwards and backwards in a radial direction facing the tree trunk and not altering direction whilst inside the TPZ to avoid damaging, compacting or scuffing the roots.
- Any underground service installations within the allocated TPZ should be bored and utility authorities should common trench where possible.
- No fuel, oil dumps or chemicals shall be allowed in or stored on the TPZ and the servicing and re-fuelling of equipment and vehicles should be carried out away from the root zones.
- No storage of material, equipment or temporary building should take place over the root zone of any tree.
- Nothing whatsoever should be attached to any tree including temporary services wires, nails, screws or any other fixing device.
- Supplementary watering should be provided to all trees through any dry periods during and after the construction process. Proper watering is the most important maintenance task in terms of successfully retaining the designated trees. The areas under the canopy drip lines should be mulched with woodchip to a depth of no more than 100mm. The mulch will help maintain soil moisture levels. Testing with a soil probe in a number of locations around the tree will help ascertain soil moisture levels and requirements to irrigate. Water needs to be applied slowly to avoid runoff. A daily watering with 5 litres of water for every 30 mm of trunk calliper may provide the most even soil moisture level for roots (Watson & Himelick, 1997), however light frequent irrigations should be avoided. Irrigation should wet the entire root zone and be allowed to dry out prior to another application. Watering should continue from October until April.

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