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14 May 2025

9 – 21 BEACONSFIELD PARADE
LINDFIELD, NSW

STATE SIGNIFICANT DEVELOPMENT PROPOSAL

ARBORICULTURAL IMPACT ASSESSMENT REPORT
Ref No- 3125

Prepared for
DEICORP Pty Limited
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REDFERN NSW 2016
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INTRODUCTION

This arboricultural report has been commissioned by DEICORP Pty Limited. The purpose & scope of works is to assess potential impacts that may occur to significant trees in relation to a new development proposal. The new development proposal consists of a State Significant Development Application (SSDA) comprising of new residential housing located within *the site* known as 9 – 21 Beaconsfield Parade, LINDFIELD NSW.

The proposed development formally occupies properties identified as Lots 2 & 3 in DP304047, Lots A & B in DP379015, Lot Y & X in DP347595, Lot A in DP335139 and Lots 1 – 3 in DP 529677.

Recommendations for retention or removal of trees are based on the tree's protection status being prescribed (LGA protected) trees >3m in height, environmental & Landscape significance, tree structural condition, estimated remaining Useful Life Expectancy (U.L.E.) and potential impacts to trees by the development proposal.

This report acknowledges and utilizes the current Australian Standards 'Protection of Trees on Development Sites' AS4970 – 2009 as explained within Notes of Appendix- A. Within this report development incursions within tree protection zones (TPZ's) are based on percentages of incursion noted within Note 2 of Appendix- A being described as *Negligible* (0%), *Minor* (<10%) or *Major* (>10%) TPZ occupancy having *low*, *moderate* to *high-level* impacts within the Tree Protection Zone (TPZ). Manageable encroachment impacts are discussed as new occupancy at or <15% of TPZ radiuses except where SRZ encroachment is proposed. Where site restrictions within notional root zone radiuses exist development impacts or encroachment disturbances are based on author's experience, observations of site conditions, soil type and topography.

Each tree assessed within this report has been accorded a temporary identification number and is referred to by number throughout this report. For additional trees not plotted in provided documentation their location has been estimated by taking offsets from existing trees and structures.

The trees, their location, development impact and design requirements have been detailed within the Tree Assessment Schedule Appendix- D and Tree Location Plans of Appendix E1 & E2.

Care has been taken to obtain information from reliable sources. All data has been verified as far as possible, however, I can neither guarantee nor be responsible for the accuracy of information provided by others.

METHODOLOGY

1. In preparation for this report a limited site and ground level visual tree inspection commenced Tuesday 1 April 2025 by the author of this report. The principles of VTA were primarily adopted from components of Mattheck *& Breloer* 1994 '*The Body Language of Trees*' with very basic risk values determined by criteria explained within the ISA TRAQ manual 2017. The inspection included observing the overall health and vigour of trees >3m in height, tree form, structure and structural condition commencing from near the lower trunk to the upper first order branch division as best as site conditions would allow. The inspection included smaller trees or headlines of character area significance. In most cases the trees were inspected from one side from within their site location with smaller easily replaceable trees, shrubs or hedges not included within this report. Where restricted visual access occurred the Useful Life Expectancy (ULE) and retention value of a tree was estimated based on the condition of above ground visual parts only. On completion of the inspection the retention value of the tree was summarised utilizing the tree assessment Checklist provided within Appendix- C.

2. The inspection was limited to visual observations from within the site where no aerial (climbing) inspections, woody tissue testing, or tree root investigation was undertaken as part of this tree assessment. Tree height and canopy spread was estimated and expressed in metres with trunk diameters measured at approximately 1.4 metres above ground level, rounded off to the nearest 50mm and expressed as DBH (Diameter at Breast Height). Where multi stems at the base exist the stem group diameter was estimated as a tight clump. Where neighbouring trees were unable to be visually inspected trunk diameters and structural condition was estimated.

3. Unless specified otherwise all distances and development offsets within this report are taken from the centre of the tree as indicated within provided survey and/or design documentation.

4. Plans received to assist in preparation of this assessment include:

   DKO architects, project No. 13796 plans *specific to*:
   - Demolition Plan, Dwg No. DA101, Rev A dated 7.5.2025
   - Basement 1, Dwg No. DA201, Rev A dated 7.5.2025
   - Level 01 (OSD) Markup Dwg No. DA203 not referenced
   - Ground Floor Dwg No. DA202, Rev A dated 7.5.2025
   - Level 3 Dwg No. DA205, DA101, Rev A dated 7.5.2025
   - Section 01, 02 & 03 Dwg No. DA302, 303 & 304, DA101 Rev A dated 7.5.2025

   Land & Form (Landscape), project No: 2025011
   - LD-DA002 Tree Management Plan Rev 1 dated 7.5.25
   - Ground Floor Landscape Plan Dwg No. LD-DA100 Rev 1 dated 7.5.25

   LTS, Surveyors
   - Survey Plan ref No: 52492 001DT Sheets 1 – 8 rev No. A dated 11.4.2025

1. SUMMARY OF ASSESSMENT

1.1 General tree assessment

1.1.1 Two hundred and five (205) trees or groups of (screen trees or hedges) have been assessed for the purpose of this report. Of the two hundred and five trees, twenty-four (24) trees have been identified as containing low retention values, sixteen (16) trees have been identified as NSW Department of Primary Industries (NSW Weedwise) environmentally invasive species, four (4) trees are dead trees, and two (2) trees have been assessed as a high risk of failure trees.

Surrounding the site fifteen (15) trees are located within the front Council verge and eighteen (18) trees are located within adjoining neighbouring properties.

1.1.2 *Dead trees* are identified as trees:

- T16, 190, 191, 192 & 193.

1.1.3 *Low retention value trees* are identified as trees:

- T1, 13, 18, 45, 51, 70, 73, 74, 75, 88, 120, 132, 143, 160, 166, 179, 182, 183, 184, 186, 193, 200, 202 & 204.

1.1.4 *NSW listed environmentally invasive species* are identified as trees:

- T68, 81, 82, 83, 84, 85, 86, 87, 120, 128, 129, 138, 139, 144, 167 & 186.

1.1.5 *High risk of failure trees* are identified as trees:

- T100 & 119.

1.1.6 The above trees being dead, structurally defective or NSW listed invasive weed species should generally not restrict development applications due to their low landscape significance or retention values, or short remaining safe site usefulness.

1.1.7 *Council verge trees* are identified as trees:

- T1 *to* 15.

Of the above trees T1 & 2 are specified for removal to accommodate the design proposal with trees T1 & 13 containing low retention values.

1.1.8 *Neighbouring trees* are identified as trees:

- T16 *to* 33.

Of the above trees T16 is a dead tree and T18 contains a low retention value.

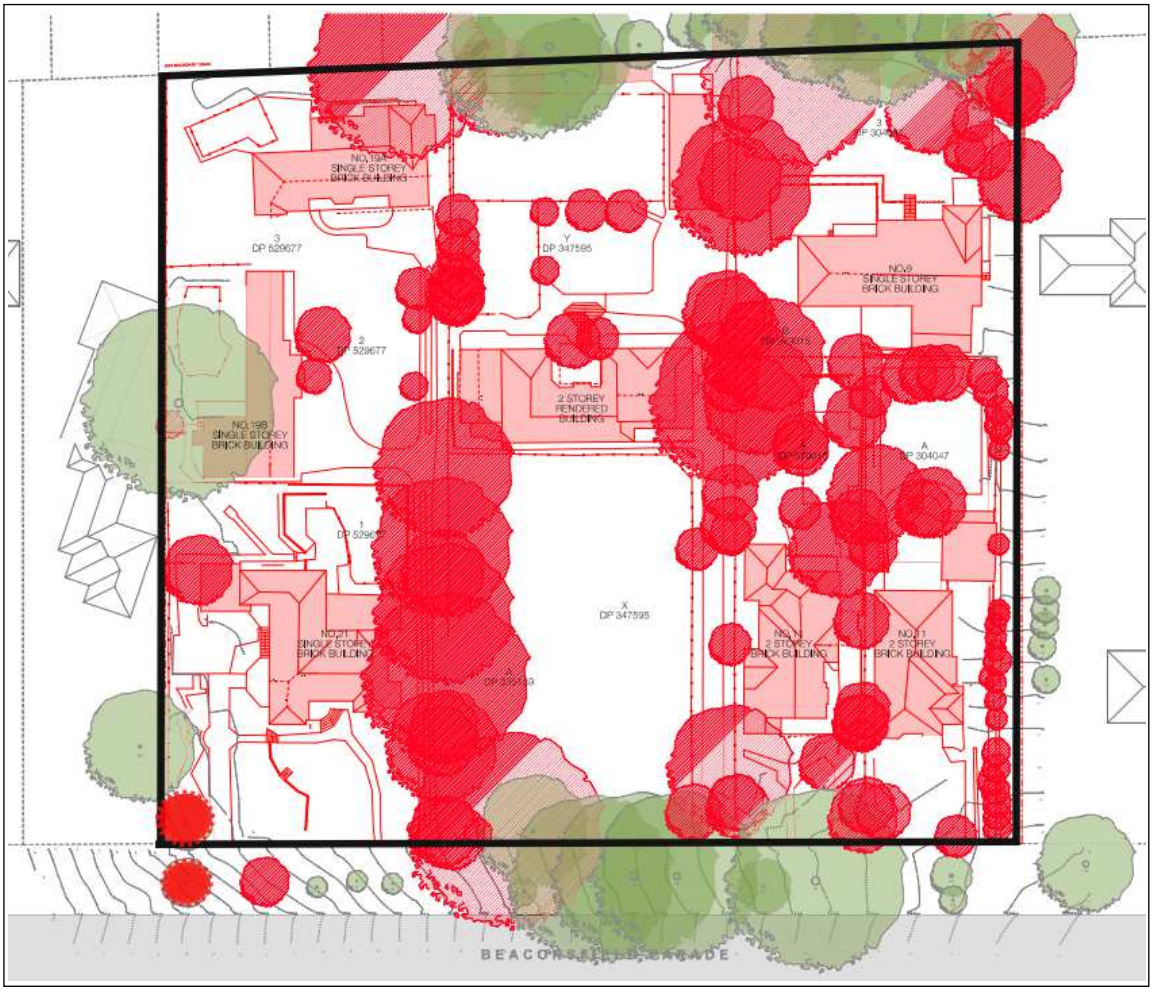
1.2 The development proposal

1.2.1 The development proposal consists of constructing multi-level residential apartments with deep excavation to accommodate ground floor and basement levels. New public domain areas including green space corridors incorporate the design that requires site leveling and deep excavation within Structural Root Zone's (SRZ's) and Tree Protection Zones (TPZ's) of prescribed (protected) trees.

1.3 Tree removal to accommodate design

1.3.1 Of the two hundred and five trees inspected one hundred and sixty-nine (169) trees are proposed for removal. Tree removal is primarily required to accommodate lower-level and basement excavations with site leveling during demolition affecting perimeter trees outside the building footprint.

Figure 1: showing demolition, tree retention & removal plan [DA101]



1.3.2 The identified development impacts and design requirements have been detailed and required to be reviewed as part of this report within Appendix-D, with the following sections summarizing impacts by the design proposal.

1.4 Discussion of development impacts

Tree removal:

1.4.1 *Trees which fall directly within building or excavation footprints.*

Ninety-nine (99) trees are located within the proposed basement excavation area including driveway access and the upper-level building footprint. These trees require removal to accommodate the primary design footprint being identified as:

- T2, 36, 38, 39, 40, 41, 48 *to* 59, 66, 68 *to* 87, 93, 94, 96, 97, 98, 99, 100, 101, 115 *to* 149, 152, 161 *to* 171, 181, 182, 183, 184 & 205.

Of the above trees Council verge tree T2 falls within the proposed driveway crossover for new vehicle access within the site.

1.4.2 Seventy (70) trees are proposed for removal for site demolition, construction access, grading cut (leveling) and to make space for new plantings in landscape design. These trees are identified as:

- T1, 34, 35, 37, 42, 43, 44, 45, 46, 60, 61, 63, 64, 65, 67, 88, 89, 92, 95, 102, 103, 104, 105, 107 *to* 114, 150, 151, 153 to 160, 172 to 180 and 185 *to* 204.

Of the above trees Council verge tree T1 receives a *high-level* excavation impact within the SRZ, being *the area required for tree stability* by the proposed stormwater discharge pipe from the OSD tank location.

Based on the documentation assessed the above trees receive *Negligible* (0%), *Minor* (<10%) and *Major* (>10%) TPZ encroachment impacts as identified within the *design & impact summary* of Appendix- D.

Tree retention*:*

Council verge trees T3 – 15

1.4.3 Given the proposed 6m boundary setback for basement and building elevations trees T3 to 15 receive *Negligible* to *Minor (<10%) ground based* TPZ encroachment impacts with T7 & 8 receiving canopy conflicts from the proposed building elevation. Having *low-level* ground-based encroachment impacts the trees are capable of being managed in accordance with standard principles outlined within Section 2.3 *General tree protection requirements*, specific to*:*

a) Trees 7 & 8 require a detailed Pruning Specification Report to identify the extent of canopy reduction required to clear building elevations.

b) The trees (T3 – 15) are to be protected with tree protection fencing or similar being certified as compliant by an appointed project arborist prior to works commencing.

c) No access or excavation is to occur within SRZ radiuses. The SRZ is to remain a development activity exclusion zone.

d) All excavations within TPZ radiuses are to be supervised & certified by an appointed project arborist with encountered tree roots managed as per Section 2.3 subsection g), or AS4970 – 2009 Section 4.5.4 *Root protection during works within the TPZ*.

Neighbouring trees T16 – 33

1.4.4 Of the above trees T16 is a dead tree. No access or excavation should occur within the SRZ being *the area for tree stability*.

Based on the building setback trees 17 to 29 receive *Negligible* to *Minor (<10%) ground based* TPZ encroachment impacts with T30 receiving a manageable (at or near 15%) TPZ encroachment without SRZ occupancy. Observations note that trees 24, 25, 30 & 31 will likely require canopy reduction pruning for building line clearance.

Having *low-level* and manageable encroachment impacts the trees are capable of being managed in accordance with standard principles outlined within Section 2.3 *General tree protection requirements*, specific to*:*

a) Trees 24, 15, 30 & 31 require detailed Pruning Specification Reports to address canopy reduction required for building clearances.

b) Given tree protection fencing would be restrictive for construction access within the site, and where SRZ & TPZ radius extend within the site ground or root protection mats are recommended to cover critical root zone areas. The extent of ground protection as indicated within Appendix- B item [C] *ground protection* is to be detailed and certified by an appointed project arborist prior to works commencing.

c) Details which require further information have been addressed within Section 1.5. In this case any boundary retaining wall or fence construction is to be reviewed and endorsed by an appointed project arborist due to level (RL) change between the sites.

Remaining trees within the site

1.4.5 Tree 47:

Building and basement footprints propose a manageable (<15%) TPZ encroachment at or near 10.7% without SRZ occupancy. Based on site observations the tree has a suppressed canopy form with average root crown development. Suddenly exposing the tree by removal of adjacent tall trees providing canopy and wind protection factors may become problematic to tree anchorage. Mitigating impacts requires detailed and specific arborist on site management, specific to:

a) At completion of adjacent tree removal an advance risk assessment (ARA) should be conducted by an AQF Level 5 certified arborist to address the risk of sudden exposure.

b) No soil disturbance or stump grinding of adjacent trees should occur within the SRZ radius without project arborist advice, site supervision & certification; *to ensure critical anchoring roots are not damaged*.

c) A detailed Pruning Specification Report is recommended to identify the extent of canopy reduction required to clear building elevations.

d) A fenced Tree Protection Area (TPA) is to be detailed within a Tree Protection Plan (TPP) that addresses all final documentation as indicated within Section 1.5.

e) All requirements as indicated within Section 2.3 *General tree protection requirements* apply to this tree.

1.4.6 Tree 62:

Based on the basement footprint a *High-level* (28%) TPZ occupancy occurs by the design footprint with design located just outside the SRZ. Given the proximity of the basement cut and likely requirement for over excavation extending within the SRZ, in addressing other *TPZ considerations* noted within AS4970 / 3.3.4; tree age and establishment within the site indicates the tree may not tolerate construction disturbances, or the proposed occupancy within the TPZ.

The trees' location to the proposed basement and design footprint makes it very difficult to ensure the tree will remain viable as indicated within AS4970 *Protection of Trees on Development Sites* – 2009 section 3.3.3 *Major encroachment*. Mitigating impacts could consist of:

a) No over excavation beyond the basement footprint as shown within construction drawings.

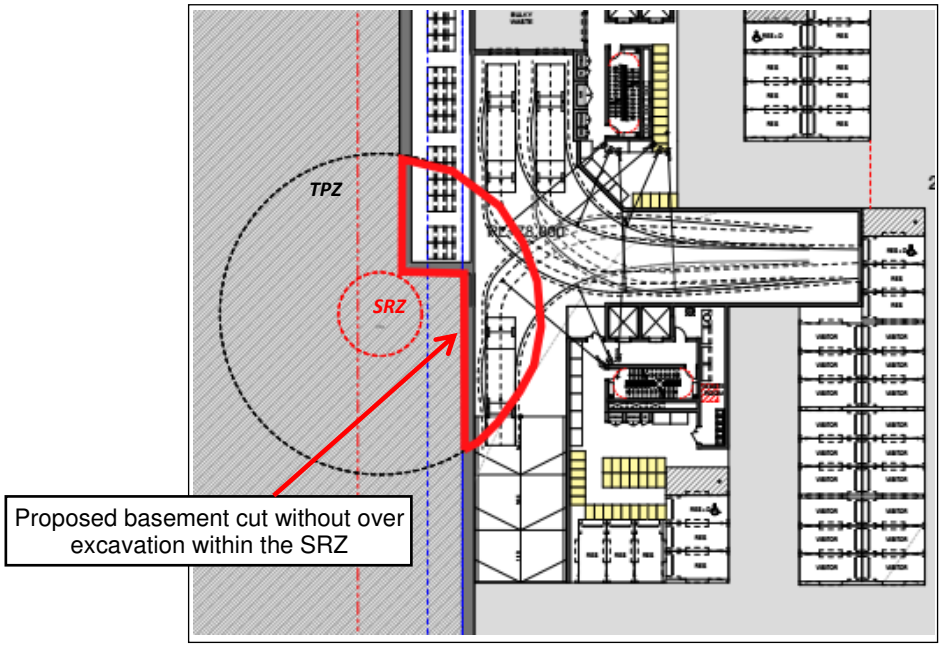
b) All excavations within the TPZ are to be supervised & certified by an appointed site arborist clean cutting all encountered tree roots in accordance with AS4970 – 2009 Section 4.5.4 *Root protection during works within the TPZ*, such that tree roots are not damaged or ripped beyond the point of excavation by site machinery.

c) Retaining existing soil levels (RL's) within a tree protection area (TPA) extending the remaining tree protection zone outside he design footprint is to be adopted within construction drawings.

d) Given tree protection fencing would be restrictive for construction access within the site, ground or root protection mats are recommended to cover the TPZ as indicated within Appendix- B item [C] *ground protection.*

e) At no stage should excavation occur within the SRZ.

Figure 2, showing T62 encroachment area



1.4.7 Tree 90, incorporating T91:

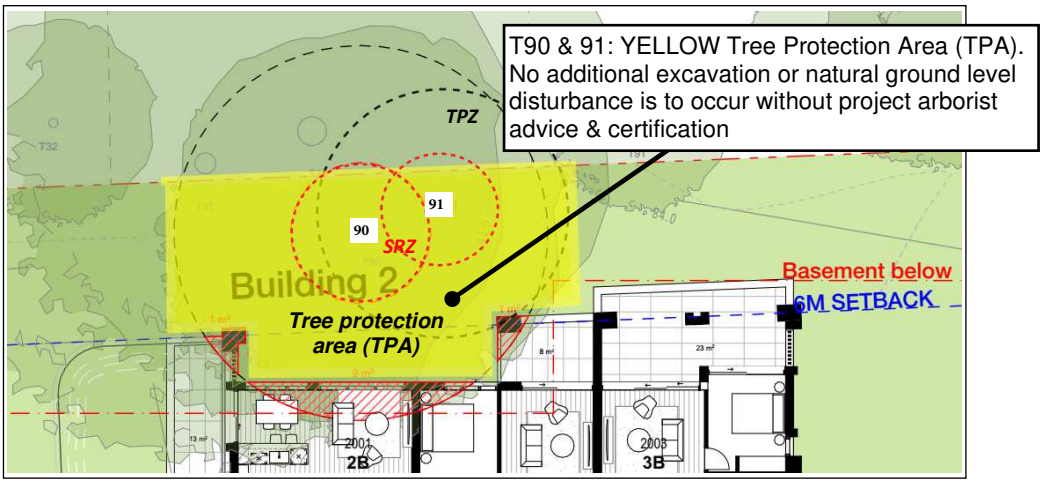
Tree 90; displaying a significant lean and canopy mass over the neighbouring property receives a *Minor* (6.9%) TPZ encroachment without SRZ occupancy. In addressing other *TPZ encroachment considerations* noted within AS4970 / 3.3.4; demolition and construction occupancy is located within the tension root zone (roots taking up strain of tree lean), indicating works within the TPZ may disrupt the tension root zone (TPZ).

Similar applies to tree 91 where the entire tree extends within the neighbouring site.

To ensure the trees remain viable the following tree management and assessment of any additional information is required:

a) Demolition of the existing tennis court and features within TPZ's are to be conducted under the supervision and certification of an appointed site arborist.
b) Demolition must be conducted in a tree sensitive manner to ensure critical underlying tree roots are not damaged or disturbed by works.
c) Prior to demolition the SRZ radiuses are to be certified as fenced off with tree protection fencing. At completion of demolition the remaining TPZ's are to be certified as protected with ground protection boards covering the TPZ or as indicated and certified by an appointed project arborist, see Appendix- B Item [C] *ground protection*.
d) To avoid additional encroachment impacts within the TPZ there is to be no over excavation beyond the basement footprint as shown within construction drawings.
e) No additional excavation for services are to occur within the remaining TPZ deep soil areas with the 6m setback within TPZ's managed as a Tree Protection Area (TPA), see Section 2.3 *h*).
f) The natural and existing ground levels within tree protection zones or specified tree protection areas are to remain without excavation cut or site grading.
g) During main construction activities an appointed project arborist is recommended to inspect all tree protection at four (4) week intervals ensuring fenced SRZ radiuses remain in place and all ground protection is consistent with protecting critical roots taking up strain of tree lean within the TPZ.
h) Should additional works be required within the designated Tree Protection Area (TPA) as indicated within Figure 3, prior project arborist advice & certification is required.
i) Given the manageable TPZ encroachment all recommendations as indicated within Section 2.3 *General tree protection requirements* apply to this tree.

Figure 3, showing T90 & 91 protection area



1.4.8 Tree 106:

Building and basement footprints propose a *Negligible* (0%) TPZ encroachment. Based on site observations, the tree has a suppressed canopy on the SW side with canopy biomass weight loaded to the north. Suddenly exposing the tree by removal of adjacent tall trees providing canopy and wind protection factors may initially become problematic with detailed arborist on site management required, specific to:

a) At completion of adjacent tree removal a basic risk assessment should be conducted by an AQF Level 5 certified arborist to address the risk of limb snap by sudden exposure.

b) No soil disturbance or stump grinding of adjacent tree stumps should occur within the SRZ radius without project arborist advice, site supervision & certification; *to ensure critical anchoring roots are not damaged by works*.

d) A fenced Tree Protection Area (TPA) is to be detailed within a Tree Protection Plan (TPP) that addresses all final documentation specific to hydraulic plans (Stormwater & sewer) that may require excavation within the SRZ & TPZ

e) All requirements as indicated within Section 2.3 *General tree protection requirements* apply to this tree.

1.5 Summary of details which require further information

Pruning Specification Reports

1.5.1 Trees 7, 8, 24, 25, 30, 31, 47 and 62.

Detailed Pruning Specification Reports are recommended to be provided which identifies the extent of canopy reduction pruning required to clear building elevations.

All pruning is to be compliant with Australian Standards AS 4373 Pruning of Amenity Trees 2007, specific to: AS4373 Section 5 *Pruning Procedures*.

Scaffold & Hoarding Plans

1.5.2 Prior to installation an appointed site arborist is recommended to review and comment on both scaffolding and any Hoarding Plan impact. The appointed project arborist is recommended to address where scaffolding may need to be altered to mitigate canopy impacts and address any addition stem pruning. Smaller more flexible stems are recommended to be tied back rather than pruned out.

Hydraulic (stormwater & sewer) services

1.5.3 Prior to construction or works all final hydraulic plans are recommended to be reviewed and endorsed by an appointed project arborist providing any additional tree management advice.

Boundary fences or retaining walls

1.5.4 Given the difference in site levels (RL's) adjacent neighbouring trees T22 to 32 and site trees 90, 91 & 106, any proposed fence or retaining wall design is to be reviewed and endorsed by an appointed project arborist. At no stage should excavation to accommodate retaining walls or fences occur within SRZ radius without project arborist advice & certification.

Colour coded Bulk Earthwork (Cut & Fill) Plan

1.5.5 Given the size of the development area and extent of proposed works including excavation and site leveling a detailed colour coded Bulk Earthwork (cut and fill) plan is recommended to be provided for project arborist assessment. Any additional impacts within tree protection zones should be addressed within a tree specific Tree Protection Plan (TPP) where reducing *Major* (>10%) cut & fill encroachment or disturbance within TPZ's is recommended.

Tree Protection Plan (TPP)

1.5.6 Based on the results of tree root investigations, Bulk Earthwork and Hydraulic plan layouts a detailed Tree Protection Plan (TPP) is recommended to be provided which addresses all final design plans, including landscaping within tree protection zones. The TPP should be incorporated within a Construction Management Plan (CMP).

Construction Management Plan (CMP)

1.5.7 Prior to construction or works a detailed Construction Management Plan (CMP) showing areas of over excavation, vehicle access and storage areas is recommended to be provided for arborist review & endorsement.

The CMP should clearly show work access exclusion areas within tree protection zones and detail tree protection requirements referencing recommendations provided within this report.

2. CONCLUSIONS & RECOMMENDATIONS

2.1 Tree removal

2.1.1 Based on the assessment conducted and documentation reviewed the removal of the following **one hundred and sixty-nine (169) trees** are required to accommodate the development proposal.

- **T1, 2, 34** *to* **46, 48** *to* **61, 63** *to* **89, 92** *to* **105** & **107** *to* **205.**

2.2 Specific tree management recommendations

2.2.1 In addition to the recommendations provided the following summary and/or guidelines for tree management are provided:

a) Prior to works an appointed project arborist is to be engaged to manage and oversee works within tree protection zones.

b) The appointed project arborist is to certify key milestone stages such as the installation of tree protection fencing and/or zones prior to demolition, certification of excavation activities within tree protection zones and all additional requirements as outlined within Section 2.3 *General tree protection requirements*.

c) Within tree protection zones not occupied by basement or building footprints all existing soil levels are to remain without excavation cut, fill or compaction.

d) Any specified remaining tree protection area (TPA) for trees to be retained is to be detailed within a final Tree Protection Plan (TPP). The TPA is to be managed as a Tree Protection Zone (TPZ) where the below specific activities are to be excluded:

- Machine access & excavation.
- Minor works including trenching & installation of utility services.
- Storage & work preparation, including washdown areas.
- Soil level change, and physical damage to trees.

e) *In specific*, no alterations (change in site conditions) should occur within Structural Root Zone (SRZ) radiuses without prior arborist advice & certification.

f) The SRZ being *the area required for tree stability* is to remain a development activity exclusion zone

g) Prior to works, all additional information identified within Section 1.5 *Summary of details which require further information* are to be addressed by an appointed project arborist providing any additional tree management advice.

2.3 General tree protection requirements

a) Prior to site works, including demolition, Tree Protection Fencing (TPF) and/or zones as identified within this report or Appendix- B are recommended to be located under the guidance of an appointed AQF Level 5 site arborist. Unless specified otherwise the location of tree protection fencing is to be positioned to allow for adequate work access and/or be located at the extremity of the TPZ radius as indicated within the SRZ & TPZ distance column Appendix- D. Where design & construction access may be restrictive by tree protection fencing timber beam trunk protection is recommended to be installed with ground protection mats provided to protect underlying tree roots within tree protection zones or designated tree protection areas (TPA's).

b) Unless approved otherwise activities to be excluded within TPZ radius or specified tree protection areas (TPA's) include:

- Machine access & excavation.
- Minor works including trenching & installation of utility services.
- Storage & work preparation including wash down areas.
- Soil level changes and physical damage to trees.

Activities that minimize the impact of TPZ disturbances include:

- Within the TPZ radius, TPA or extending 2m outside the canopy dripline installation of native leaf mulch not greater than 80mm in depth with routine irrigation based on arborist advice is recommended.

c) In accordance with AS4970 - 2009 (1.4.4) during works a Project or Site Arborist is to be engaged to monitor, supervise excavation within TPZ setbacks, advise and provide certification of protection works conducted. The project arborist is recommended to hold a minimum Australian Qualification Framework (AQF) Level 5 certification and be competent in methodology of protecting trees on development sites.

d) The project arborist is to provide final certification outlining tree protection measures with photographic evidence of ongoing works retained for final certification purposes (AS4970 S/5.5.2 *Final certification*).

e) The project arborist is to be familiar with protection measures specific to Australian Standard AS4970 'Protection of Trees on Development Sites' – 2009 requirements with any modification in Tree Protection Fencing (TPF) or Zones (Z) to be compliant with AS4970 Section 4.5 *Other Tree Protection Measures.*

f) Approved excavation within TPZ setbacks; there shall be no over excavation beyond the line of cut as shown within construction drawings without arborist advice. Should over excavation be required the extent of excavation should be detailed within approved drawings or a construction management plan for arborist review and endorsement.

g) Unless specified otherwise during approved excavation for *Minor* (<10%) TPZ encroachment areas / radiuses, excavation is to be conducted manually (by hand) under the supervision of a minimum AQF Level 3 certified arborist. Where *Major* (>10%) TPZ encroachments occur supervision is to occur by a minimum AQF Level 5 certified arborist. Where approved by the arborist the pruning of roots at or <30mm(Ø) is to be conducted in accordance with AS4970 – 2009 Section 4.5.4 *Root protection during works within the TPZ*, such that tree roots are not damaged or ripped beyond the point of excavation by site machinery. Where larger roots have been encountered by a Level 3 arborist they are to be referred to an independent Level 5 arborist for further advice.

   For deep excavations exposed roots at the excavated cut face are to be protected with jute mesh, geotextile fabric or similar being secured in place to avoid drying of roots and the exposed soil profile.

h) *Additional inground services* that may include landscape works, fencing, sewer, stormwater, water and electrical services, final design and impact to trees shall be reviewed and endorsed by the project arborist prior to their installment. Where landscaping (excavation) is required within the SRZ further advice from an appointed project arborist is recommended.

i) *Tree sensitive construction measures* such as pier and beam bridging over critical roots, suspended slabs, cantilevered building sections, screw piles and contiguous piling can minimise the impact of encroachment (AS4970).

   Where Bushfire BAL conflicts exist with tree management advice the appointed project arborist shall be consulted to advise on an appropriate design outcome.

j) *Canopy pruning / tree removal:* where required tree removal and canopy reductions are to be approved by the Local Government Authority. Works are to be conducted by a suitably qualified AQF Level 3 certified arborist in accordance with AS4373 Pruning Standards, and specifically be conducted in accordance with Safe Work Australia – Guide to managing risks of tree trimming and removal works 2016 (www.swa.gov.au).

k) *Hold points*: specific to no works are to commence without arborist advice, inspections & certifications:
   1) Prior to works arboricultural certification is to be provided ensuring that all trees have been adequately protected in accordance with this report, or as indicated within Australian Standard AS4970 Protection of Trees on Development Sites– 2009.
   2) No work (including landscaping) shall occur within the SRZ of any tree without prior arborist advice and certification. Where excavation may be required prior exploratory tree root investigation are to identify the location, distribution and impact to critical underlying tree roots.

3) No excavation shall occur within tree protection zones without prior project arborist notification and/or site supervision.
4) No access, work activity or storage is permitted within fenced or designated tree protection areas (TPA's) or Tree Protection Zone (TPZ) radiuses without arborist advice and certification.

l) To ensure tree(s) are appropriately protected the development site superintendent is recommended to be familiar with all tree protection and ongoing certification requirements.

The superintendent is responsible for informing all subcontractors of the responsibilities and requirements of tree protection prior to their engagement.

m) Should there be any uncertainty with tree protection requirements the site superintendent shall contact the appointed project arborist for advice prior to works occurring within tree protection zones (TPZ) or specified tree protection areas (TPA).

Should you require further liaisons in this matter please contact me direct on 0419 250 248

Yours sincerely

Mark A Kokot

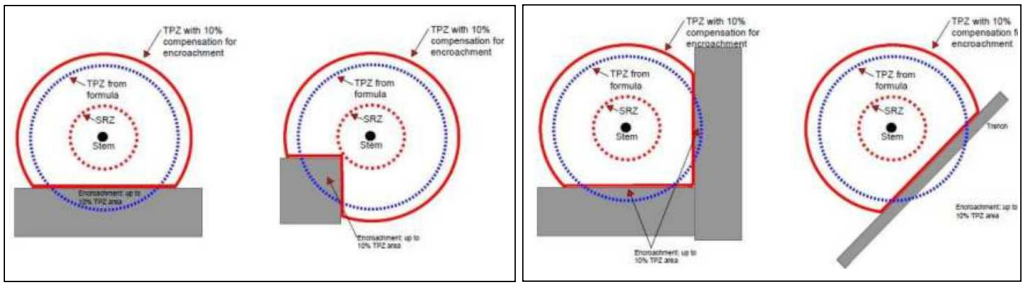
AQF Level 5 consulting arborist

Diploma of Hort/Arboriculture (AQF5), Associate Diploma Parks Management (AQF4)
Certified Arborist / Tree Surgeon (AQF3), ISA Tree Risk Assessment Qualified exp-2029
Member: ISA, Arboriculture Australia & IACA, Working With Children No: WWC0144637E

APPENDICES

APPENDIX- A: Terminology, notes & references

Acceptable Risk: Exposure to or reject risk of varying degrees. The acceptable risk is defined as '*The person who accepts some degree of risk in return for a benefit being exposed to some risk of varying degree*. **Age classes:** (I) Immature refers to a well established but juvenile tree. (ESM) refers to an early semi mature tree not of juvenile appearance. (SM) Semi-mature refers to a tree at growth stages advancing into maturity and full size. (LSM) Late Semi- Mature, refers to a tree between semi-mature and close to mature. (EM) refers to a tree at the first stages of maturity. (M) Mature refers to a full size tree with some capacity for future growth. **Health:** Refers to a trees vigor exhibited by the crown density, leaf colour, presence of epicormic shoots, ability to withstand disease invasion and the degree of dieback. **Condition:** Refers to the tree's form and growth habit, as modified by its environment (aspect, suppression by other trees, soils) and the state of the scaffold (i.e. Trunk and major branches), including structural defects such as cavities, crooked trunks or week trunk / branch junctions. These are not directly connected with health and it is possible for a tree to be healthy but in poor condition. **Decay:** (*N*) – an area of wood that is undergoing decomposition. (*V*) – decomposition of an area of wood by fungi or bacteria. **Decline:** Is the response of a tree to a reduction of energy levels resulting from stress. Recovery from decline is difficult and slow; is usually irreversible. **Defect:** A identifiable fault in a tree. **Epicormic Shoots**: Shoots that arise from latent or adventitious buds that occur on stems and branches and on suckers produced from the base of the tree. A symptom / result of stress related factors. **Footprint:** The area occupied by site structures, including the dwelling driveways and hard surfaces. **Included Bark**: (Inclusion) a genetic weak fault, pattern of development at branch junctions where the bark is turned inwards rather than pushed out, can pose a potential hazard. **Order of branches:** First order being those that are the first to extend from the main trunk or codominant limbs, second order branches extend from the first order and third order branches extend from the second order. **Probability:** The likelihood of some event happening. **Risk:** Is the probability of something adverse happening. **Suppression:** Restrained growth pattern from competition of other trees or structures. **Wound:** Damage inflicted upon a tree through injury to its living cells, may continue to develop further weakening of the structure compromising structural integrity. **Works**: any activity that modifies above & below ground conditions within specified tree protection zones. **Windthrow:** tree failure and collapse when a force exerted by wind against the crown and trunk overcomes resistance to that force in the root plate, such that the root plate is lifted from the soil on one side as the tree tips over. **NOTE 1**: This report acknowledges the current **Australian Standards 'Protection of Trees on Development Sites'** AS 4970 – 2009 with reference to the Tree Protection Zone (TPZ): being a combination of the root and crown area requiring protection. The TPZ takes into consideration the Structural Root Zone (SRZ): The area required for tree stability. Determined by AS4970 - 2009 Figure 1, Table of determining the SRZ, section 3.3.5 of the standards. The standard states where a greater than 10% encroachment occurs the arborist is to take into consideration the schedule of determining impacts as set within AS4970 s. 3.3.4. Encroachments are referred to within this report as major or minor encroachments (AS4970 s. 3.3.2 & 3.3.3). Below is the terminology used for estimated percentage of development incursion used within this report. To retain specific trees and ensure their viability development must take into consideration protection of the TPZ radius. **NOTE 2: The extent of inclusion within the TPZ radius has been categorised as follows**: *Low impact* 0 - 10% of minor consequence. *Low to Moderate* 10 – 15% incursion where the project arborist is to demonstrate the tree(s) remain viable. *Moderate* 15 – 20% incursion where the project arborist is to demonstrate the tree(s) remain viable by tree sensitive construction techniques. *Moderate to high* 20 – 25% incursion requiring specific protection methodology to retain. *High impact* 25 – 35% incursion where design changes or further information is required to manage tree vitality which includes *Significant* >35% incursion. **WBF** = located within design or building footprint where design necessitates tree removal. **NOTE-3**: Showing acceptable 10% incursion within TPZ radiuses (AS4970)



SELECTED REFERENCES:

Barrell J. 1993, 'Preplanning Tree Surveys: Safe useful Life expectancy (SULE) is the Natural Progression", Arboricultural Journal 17: 1, February 1993, pp. 33-46.

International Society of Arboriculture (ISA) 2013, Tree Risk Assessment Manual, Martin Graphics, Champaign Illinois U.S.

Mattheck, C. & Breloer, H.(1994) *The Body Language of Trees.* Research for Amenity Trees No.4 the Stationary Office, London.

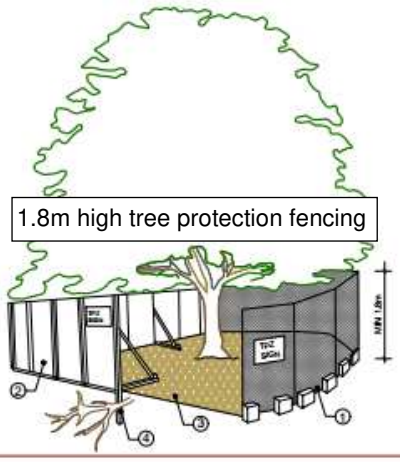
Standards Australia 2009, *Australian Standards 4970 Protection of Trees on Development Sites* - Standards Australia, Sydney, Australia.

Ku ring gai Council Development Control Plan (DCP) Part 13 Tree & Vegetation Preservation

NSW Department of Primary Industries, NSW WeedWise: https://weeds.dpi.nsw.gov.au

APPENDIX- B: Tree protection fencing, ground and trunk protection detail

A



1. CHAIN WIRE MESH PANELS WITH SHADE CLOTH (IF REQUIRED) ATTACHED, HELD IN PLACE WITH CONCRETE FEET

2. ALTERNATIVE PLYWOOD OR WOODEN PALING FENCE PANELS. THE FENCING MATERIAL ALSO PREVENTS BUILDING MATERIALS OR SOIL ENTERING THE TPZ

3. MULCH INSTALLATION ACROSS SURFACE OF TPZ (AT THE DISCRETION OF THE PROJECT ARBORIST). NO EXCAVATION, CONSTRUCTION ACTIVITY, GRADE CHANGES, SURFACE TREATMENT OR STORAGE OF MATERIALS OF ANY KIND IS PERMITTED WITHIN THE TPZ

4. BRACING IS PERMISSIBLE WITHIN THE TPZ. INSTALLATION OF SUPPORTS TO AVOID DAMAGING ROOTS

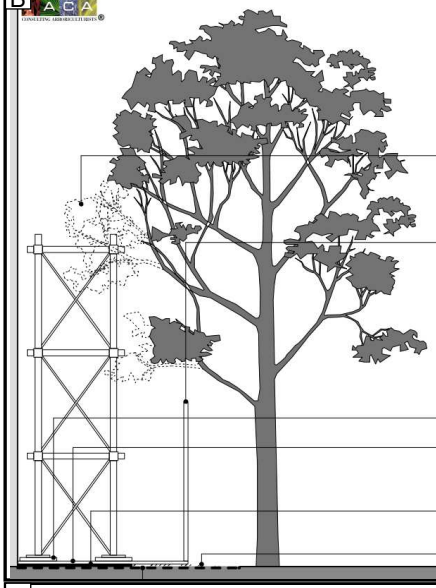
5. PRUNING & MAINTENANCE TO TREE REFER TO AS 4373-2007 PRUNING OF AMENITY TREES

All tree protection fencing or areas requires appropriate signage clearly stating *a TPZ restriction zone* being a designated Tree Protection Area

PROVIDE FENCING AS DETAILED TO ALL TREES PROPOSED TO BE RETAINED ON THE SUBJECT SITE. FENCING TO BE LOCATED TO THE DRIP LINE OF TREES OR AS INDICATED ON PLANS OR DIRECTED ON-SITE BY ARBORIST. NO STOCKPILING WITHIN FENCE PERIMETERS.

TREE PROTECTION ZONE

B



Scaffolding within the Tree Protection Zone

Branches may require pruning to erect scaffolding. Pruning may be subject to local regulations. Flexible branches should be tied back in preference to pruning.

Minimum 1.8m high hoarding. Temporary fencing may be incorporated into scaffolding as either containment screening or as hoarding.

Note:
If excavation is required for installation of support post for fencing, the Project Arborist should assess any pruning of roots greater than 20mm diameter.

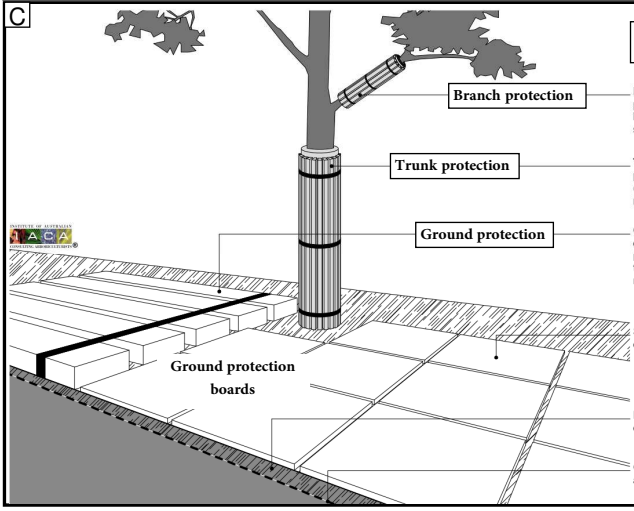
Scaffold planks

Boards or plywood to be installed over mulch or aggregate layer for any areas requiring access within the TPZ.

Soleplate over geotextile. No excavation for soleplate within TPZ.

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

C



Ground, trunk & branch protection

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

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

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

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

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

Geotextile fabric underneath mulch or aggregate layer.

APPENDIX- C: Tree Retention Value *Check list* ©*rainTree consulting*

i) Landscape Significance (LS): The significance of a tree in the landscape is a combination of its amenity, environmental and heritage values. There is no industry standard for referencing tree significance. The provided values may be subjective however, offer a visual understanding of the relative importance of the tree to the environment. The Landscape Significance of a tree is described in seven categories to assist in determining the retention value of trees.

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

ii) Visual Tree Assessment (VTA)

0	If appropriate to VTA - **exempt* trees from Local Government Authority (LGA) Tree Management Orders or known NSW *Weedwise environmentally invasive species	2E	Tree location likely to be affected by infrastructure restricting root growth potential, or tree has potential to cause infrastructure damage where risk mitigation or rectification works may compromise tree anchorage. Tree(s) may be contained by solid structures with restricted radial root anchorage
0A	Noxious or invasive weed species located within heritage conservation areas		
1	Trees that are dead, significantly declining >75% volume or obviously hazardous	3	This rating incorporates trees that may require further investigation of defects such as cavities or symptoms indicating internal decay to an extent that cannot be quantified under visual examination. Further inspections may be in the way of arborist climbing inspection within the canopy, root crown investigation and/or drill penetrating or Picus Sonic Tomograph ultrasound testing procedures to determine percentage of internal decay.
2	Trees that are structurally damaged. Have poor structure or weak & detrimental large stem inclusions capable or failure opposed to 2B. Tree also may be affected by extensive borer damage, fungal pathogens (wood rot) or viruses. Some symptoms may be reversible, remediated or controlled give appropriate management.		
2A	Tree damage specific to basal and/or root plate damage, or very shallow soils, or steep topography resulting in poor anchorage where condition may become problematic in near future / may include trees with included bark splits to ground level	4	Trees which appear specifically environmentally stressed by drought, poor soil or site conditions including pest or disease infestation(s). Symptoms may be reversible given appropriate management
2B	Defect specific to stem inclusions development (weak branch attachments) where the condition may not be immediately detrimental however, require annual to biannual monitoring with control to prevent stem failure by installing slings, cable or bracing. Tree may also contain multi stems or codominant twin stems	5	Trees that have become exposed or are subject to wind loading, or have tall forest form where exposure may result in windthrow or limb snap
		5A	Screen trees, trees or shrubs, that are routinely hedged, pruned or managed for height control
2C	Tree may contain minor wounds, pest or minor pathogen activity, altered from storm damaged to an extent that is not considered immediately detrimental - may also display average form. Likely to require close annual monitoring or minor corrective pruning	6	Trees may be typical for species type, of good form and visual condition for age class. May have suppressed one sided canopy, or are low risk trees
2D	Trees significantly altered by recent storm or over pruning events which may reduce retention values due to average form- or tree extensively pruned for power line clearance	7	VTA restricted by canopy or plant material vine or ivy covering tree parts, or site conditions which do not allow access- fences to neighbouring sites

iii) Retention Value (RV): Determined by [1] tree fee of visual defects and viable for retention, [2] viable for retention with minor faults which may reduce ULE, [3] trees containing faults that are likely to become problematic in the future, [4] trees that should be considered for removal due to poor or average condition.

1	High retention	2	Medium retention	3	Low retention	4	Consider removal

iv) U.L.E. categories Useful Life Expectancy (after *Barrell* 1996, modified by the author). A trees U.L.E. category is the life expectancy of the tree modified first by its age, health, condition, safety and location. U.L.E. assessments are not static but may be modified as dictated by changes in trees health and environment.

1. Long U.L.E. - Appear retainable at the time of assessment for over 40 years with an acceptable degree of risk assuming reasonable maintenance.
2. Medium U.L.E. - Appear to be retainable at the time of assessment for 15 to 40 years with an acceptable degree of risk assuming reasonable maintenance.
3. Short U.L.E. - Trees appear to be retainable at the time of assessment for 5 to15 years with an acceptable degree of risk assuming reasonable maintenance.
4. Very short - Removal- Trees which should be scheduled for removal within the very short term or as specified within this report.
5. Small, young or regularly pruned – Trees under 5m in height that can be easily moved or replaced, includes screen plantings or hedge lines.

APPENDIX- D: Tree Assessment Schedule

Refer Appendix- C Tree retention value Checklist

	Trees requiring removal due to hazardous or dead condition - subject to Local Government Authority notification		Trees with low retention values: senescence, appear significantly environmentally stressed, have developing defects or are NSW *Weedwise recorded environmentally invasive species

Tree No	*Botanical Name* COMMON NAME	Height x spread (m)	DBH (mm)	SRZ / TPZ (m)	Age	Vitality (Health)	Condition (structure)	LS	VTA	RV	ULE	Comments CV = Council verge tree NT= Neighbouring tree
1 *CV*	*Jacaranda mimosifolia* Jacaranda	4 x 4	250	2 / 3	ESM	Fair	Poor	4/3	4-2A	3	<3	Environmentally stressed decline in canopy with large open wound & decaying sections SW side, twin at 2m with stem inclusion development = overall condition likely to become problematic in the future
Design & impact summary: Proposed driveway crossover outside of TPZ. Based on indicative SW location and trees low retention value tree removal is required to accommodate SW services with 375mm(Ø) SW pipe potentially having an excavation encroachment within the SRZ.												
2 *CV*	*Jacaranda mimosifolia* Jacaranda	8 x 6.5	250	2 / 3	ESM	Good	Fair / Good	3	2D	2	1	Lower trunk bow, pruned for power line clearance modifying form, large structural root 200Ø W side
Design & impact summary: Proposed removal to accommodate new driveway crossover												
3 *CV*	*Fraxinus excelsior* Golden Ash	3 x 4.5	250at base	1.8 / 3	EM	Good	Fair / Good	4-3	2B	2	<2	Epicormic multi stems at 0.4m, appearing all from past pruning cuts / tree stump
Design & impact summary: Proposed driveway crossover having Minor (<10%) TPZ occupancy, of Low-level encroachment impact, indicating tree is capable of being managed in accordance with Section 2.3 General tree protection requirements, specific to: no access or excavation within the SRZ, install tree protection fencing												
4 *CV*	*Jacaranda mimosifolia* Jacaranda	4 x 4	150	1.6 / 2	I	Good	Good	4-3	2D	2	1	Tree with past pruning cuts modifying form
Design & impact summary: Proposed driveway crossover having Negligible (0%) TPZ encroachment indicating tree is capable of being managed in accordance with Section 2.3 General tree protection requirements, specific to: no access or excavation within the SRZ, install tree protection fencing												
5 *CV*	*Jacaranda mimosifolia* Jacaranda	4 x 4	150	1.6 / 2	I	Fair / Good	Good	4-3	4	1	1	Foliage with average vigour, covered in sooty mold, cause unknown
Design & impact summary: Proposed design footprint having Negligible (0%) TPZ encroachment indicating tree is capable of being managed in accordance with Section 2.3 General tree protection requirements, specific to: no access or excavation within the SRZ, install tree protection fencing												
6 *CV*	*Angophora costata* Angophora	7 x 3.5	200	1.8 / 2.4	ESM	Good	Fair	3	6	1	1	Suppressed canopy form biomass SE, minor wound at base- appears not immediately detrimental
Design & impact summary: Proposed design footprint having Negligible (0%) TPZ encroachment indicating tree is capable of being managed in accordance with Section 2.3 General tree protection requirements, specific to: no access or excavation within the SRZ, install tree protection fencing												

Refer Appendix- C Tree retention value Checklist

	Trees requiring removal due to hazardous or dead condition - subject to Local Government Authority notification		Trees with low retention values: senescence, appear significantly environmentally stressed, have developing defects or are NSW *Weedwise recorded environmentally invasive species

Tree No	*Botanical Name* COMMON NAME	Height x spread (m)	DBH (mm)	SRZ / TPZ (m)	Age	Vitality (Health)	Condition (structure)	LS	VTA	RV	ULE	Comments CV = Council verge tree NT= Neighbouring tree
7 *CV*	*Ficus microcarpa var hillii* Hills Figs	16 x 20	650, 750	3.8 15	M	Good	Fair	3	2B-2C	2	1	Twin stems at 1.1m with minor stem inclusion development, lower branch scaffolds past pruning cuts, minor wounds evident, broad form, canopy 11m> at 4m^
Design & impact summary: Design footprint of basement and upper-level setback of near 10.8m proposes a Minor (<10%) ground based TPZ occupancy with canopy conflicts by building elevation likely requiring a high-level of reduction pruning to accommodate building line clearances. Having design located outside the SRZ the tree is capable of being managed in accordance with Section 2.3 General tree protection requirements, specific to: requires detailed Pruning Specification Report to identify the impact of canopy loss.												
8 *CV*	*Ficus microcarpa var hillii* Hills Figs	16 x 18	1100at base	3.5 13.2	M	Good	Fair / Good	3	2B-2C	2	1	Multi stems at 1m (x4=1600), all with minor stem inclusion development, broad canopy form, canopy 9m> at 5m^
Design & impact summary: Design footprint of basement and upper-level setback of near 10.3m proposes a Minor (<10%) ground based TPZ occupancy with canopy conflicts by building elevation likely requiring a high-level of reduction pruning to accommodate building line clearances. Having design located outside the SRZ the tree is capable of being managed in accordance with Section 2.3 General tree protection requirements, specific to: requires detailed Pruning Specification Report to identify the impact of canopy loss.												
9 *CV*	*Ficus microcarpa var hillii* Hills Figs	16 x 16	950	3.3 11.4	M	Good	Good	3	2B	2	1	Slight lean EST, exposed SRZ roots at surface, broad canopy form, canopy 3m> a 7m^
Design & impact summary: Design footprint of basement and upper-level setback of near 10.4m proposes a Minor (<10%) ground based TPZ occupancy. Canopy appears clear of 6m building setback. May require minor reduction pruning for building line clearance in the future. Having Minor (<10%) TPZ encroachment the tree is capable of being managed in accordance with Section 2.3 General tree protection requirements, specific to: no access or excavation within the SRZ, install tree protection fencing.												
10 *CV*	*Fraxinus excelsior* Ash	7 x 4	200	1.8 2.4	ESM	Good	Fair / Poor	4-3	2B-2D	3	<2	Suppressed canopy form biomass STH, tree of average structural condition, past twin stems at 1.3m branch bark included= EST stem 150mmØ problematic
Design & impact summary: Proposed design footprint having Negligible (0%) TPZ encroachment indicating tree is capable of being managed in accordance with Section 2.3 General tree protection requirements, specific to: no access or excavation within the SRZ, install tree protection fencing												

Refer Appendix- C Tree retention value Checklist

	Trees requiring removal due to hazardous or dead condition - subject to Local Government Authority notification		Trees with low retention values: senescence, appear significantly environmentally stressed, have developing defects or are NSW *Weedwise recorded environmentally invasive species

Tree No	*Botanical Name* COMMON NAME	Height x spread (m)	DBH (mm)	SRZ / TPZ (m)	Age	Vitality (Health)	Condition (structure)	LS	VTA	RV	ULE	Comments CV = Council verge tree NT= Neighbouring tree
11 *CV*	*Liquidambar styraciflua* Liquidambar	24 x 16	1100	3.5 / 13.2	M	Good	Fair	3	2	3	<2	Twin stems at 3m with minor stem inclusion development, EST stem 500Ø twin at 5m with defined branch bark inclusion= overall condition likely to become problematic in the future
Design & impact summary: Design footprint of basement and upper-level setback of near 11.2m proposes a Minor (<10%) ground based TPZ occupancy. Canopy appears clear of 6m building setback, indicating tree is capable of being managed in accordance with Section 2.3 General tree protection requirements, specific to: no access or excavation within the SRZ, install tree protection fencing.												
12 *CV*	*Citharexylum spinosum* Fiddlewood	6 x 3.5	300at base	2 / 3.6	ESM	Good	Fair	4-3	2	2	<2	Multi stems at base (x3), all with stem inclusion development, epicormic shoots throughout lower branch scaffolds with epicormic shoots at base
Design & impact summary: Proposed design footprint having Negligible (0%) TPZ encroachment indicating tree is capable of being managed in accordance with Section 2.3 General tree protection requirements, specific to: no access or excavation within the SRZ, install tree protection fencing												
13 *CV*	*Jacaranda mimosifolia* Jacaranda	3.5 x 3.5	200	1.8 / 2.4	ESM	Fair	Poor	4	2	3	3	structurally defective tree, twin stems at 1.4m with large open wound & decay = low retention value
Design & impact summary: Proposed design footprint having Negligible (0%) TPZ encroachment indicating tree is capable of being managed in accordance with Section 2.3 General tree protection requirements, specific to: no access or excavation within the SRZ, install tree protection fencing												
14 *CV*	*Sapium sebiferum* Chinese tallow	4 x 4.5	450	2.4 / 4.8	LM	Good	Fair	4-3	2D	2	<2	Tree pruned for power line clearance modifying form with sub end decline, aging specimen tree
Design & impact summary: Proposed design footprint having Negligible (0%) TPZ encroachment indicating tree is capable of being managed in accordance with Section 2.3 General tree protection requirements, specific to: no access or excavation within the SRZ, install tree protection fencing												
15 *CV*	*Cinnamomum camphora* Camphor Laurel	10 x 14	850at base	3 / 10.2	M	Good	Fair	3	2D-2C	2	<2	multi stems at 1.4m with small central pocket of decay, canopy pruned for power line clearance modifying form, no central canopy (exposed), open cavity with decay at 1.1m NTH,
Design & impact summary: Design footprint of basement cut & GF Plan is located outside the TPZ having a Negligible (0%) TPZ encroachment indicating tree is capable of being managed in accordance with Section 2.3 General tree protection requirements, specific to: no access or excavation within the SRZ, install tree protection fencing												

Refer Appendix- C Tree retention value Checklist

	Trees requiring removal due to hazardous or dead condition - subject to Local Government Authority notification		Trees with low retention values: senescence, appear significantly environmentally stressed, have developing defects or are NSW *Weedwise recorded environmentally invasive species

Tree No	*Botanical Name* COMMON NAME	Height x spread (m)	DBH (mm)	SRZ / TPZ (m)	Age	Vitality (Health)	Condition (structure)	LS	VTA	RV	ULE	Comments CV = Council verge tree NT= Neighbouring tree
16 *NT*	Dead tree	4 x 2.5	250at base	1.8 / -	-	-	-	6	1	4	4	Dead tree with no obvious habitat issues
Design & impact summary: Design proposes a Negligible (0%) SRZ encroachment. Tree management to consist of install tree protection fencing with no access or excavation within the SRZ without project arborist advice & certification.												
17 *NT*	*Camellia sasanqua* Camellia	5 x 4	300	2.1 / 3.6	SM	Fair / Good	Fair / Good	4-3	4-2B	2	2	Multi stems at base with minor stem inclusion development, pruned for driveway clearance
Design & impact summary: Design footprint of basement cut & GF Plan is located outside the TPZ having a Negligible (0%) TPZ encroachment indicating tree is capable of being managed in accordance with Section 2.3 General tree protection requirements, specific to: no access or excavation within the SRZ, install tree protection fencing												
18 *NT*	*Camellia sasanqua* Camellia	5 x 3	300at base	2 / 3.6	SM	Poor	Fair / Poor	4	1-2	3	3	Near dead tree with low foliage volume, pruned for driveway clearance
Design & impact summary: Design footprint of basement cut & GF Plan is located outside the TPZ having a Negligible (0%) TPZ encroachment indicating tree is capable of being managed in accordance with Section 2.3 General tree protection requirements, specific to: no access or excavation within the SRZ, install tree protection fencing												
19 *NT*	*Camellia sasanqua* Camellia	4 x 2.5	250at base	1.8 / 3	SM	Good	Fair / Good	4-3	2B	2	2-5	Multi stems at ground level with minor stem inclusion development, pruned for driveway clearance
Design & impact summary: Design footprint of basement cut & GF Plan is located outside the TPZ having a Negligible (0%) TPZ encroachment indicating tree is capable of being managed in accordance with Section 2.3 General tree protection requirements, specific to: no access or excavation within the SRZ, install tree protection fencing												
20 *NT*	*Camellia sasanqua* Camellia	5 x 2.5	250at base	1.8 / 3	SM	Good	Fair / Good	4-3	2B	2	2	Tree with minor stem inclusion development at base, pruned for driveway clearance
Design & impact summary: Design footprint of basement cut & GF Plan is located outside the TPZ having a Negligible (0%) TPZ encroachment indicating tree is capable of being managed in accordance with Section 2.3 General tree protection requirements, specific to: no access or excavation within the SRZ, install tree protection fencing												
21 *NT*	*Syzygium australe* Bush Cherry (screen)	4 x 2	200	1.8 / 2.4	ESM	Good	Good	4-3	5A	2	1-5	Screen planting, pruned for driveway clearance
Design & impact summary: Not plotted with documentation, located directly adjacent boundary with proposed 6m basement & GF Plan setback showing a Negligible (0%) TPZ encroachment, indicating tree group is capable of being managed in accordance with Section 2.3 General tree protection requirements, specific to: no access or excavation within the SRZ, install tree protection fencing												

Refer Appendix- C Tree retention value Checklist

	Trees requiring removal due to hazardous or dead condition - subject to Local Government Authority notification		Trees with low retention values: senescence, appear significantly environmentally stressed, have developing defects or are NSW *Weedwise recorded environmentally invasive species

Tree No	***Botanical Name*** **COMMON NAME**	Height x spread (m)	DBH (mm)	SRZ / TPZ (m)	Age	Vitality (Health)	Condition (structure)	LS	VTA	RV	ULE	Comments CV = Council verge tree NT= Neighbouring tree
22 *NT*	*Jacaranda mimosifolia* Jacaranda	18 x 15	500	2.6 6	SM	Good	Fair / Good	3	2B-7	2	1	Tree of tall forest form, twin stems at 3m with minor stem inclusion development, suppressed canopy
Design & impact summary: Not plotted with documentation. Proposed basement cut & GF Plan located outside the TPZ having a Negligible (0%) TPZ encroachment, indicating tree is capable of being managed in accordance with Section 2.3 General tree protection requirements, specific to: no access or excavation within the SRZ, project arborist to review & endorse final engineer plans for any required boundary retaining wall due to RL change.												
23 *NT*	*Stenocarpus sinuatus* Qld Firewheel Tree	18 x 12	300, 450	2.8 9	M	Good	Fair / Good	3	2C-7	2	2	Restricted visual inspection, twin stems at ground level with minor stem inclusion development, large open wound at 6m EST
Design & impact summary: Not plotted with documentation. Proposed basement cut & GF Plan located outside the TPZ having a Negligible (0%) TPZ encroachment with SRZ within neighbouring property, indicating tree is capable of being managed in accordance with Section 2.3 General tree protection requirements												
24 *NT*	*Erythrina criistagalli* Cooks Comb Coraltree	15 x 14	750	3 9	M	Good	Fair / Good	3	2C-7	2	2	Restricted visual inspection above visual parts appear in good order, minor sub end decline in site, canopy 6m> at 5m^
Design & impact summary: Not plotted with documentation. Design footprint of basement and upper-level setback proposes a Minor (<10%) TPZ occupancy indicating tree is capable of being managed in accordance with Section 2.3 General tree protection requirements, specific to: no access or excavation within the SRZ, project arborist to review & endorse final engineer plans for any required boundary retaining wall due to RL change. Canopy likely to require minor reduction pruning for building line clearance.												
25 *NT*	*Erythrina criistagalli* Cooks Comb Coral tree	14 x 11	600	2.7 7.2	M	Good	Good	3	2C-7	2	2	Restricted visual inspection above visual parts appear in good order, suppressed canopy form with T192, past pruning cuts with minor sub end decline, canopy 5m> at 5m^
Design & impact summary: Not plotted with documentation. Design footprint of basement and upper-level setback proposes a Negligible (0%) TPZ encroachment indicating tree is capable of being managed in accordance with Section 2.3 General tree protection requirements, specific to: no access or excavation within the SRZ, project arborist to review & endorse final engineer plans for any required boundary retaining wall due to RL change. Canopy appears clear of 6m building setback, likely to require minor reduction pruning for building line clearance.												

Refer Appendix- C Tree retention value Checklist

	Trees requiring removal due to hazardous or dead condition - subject to Local Government Authority notification		Trees with low retention values: senescence, appear significantly environmentally stressed, have developing defects or are NSW *Weedwise recorded environmentally invasive species

Tree No	*Botanical Name* COMMON NAME	Height x spread (m)	DBH (mm)	SRZ / TPZ (m)	Age	Vitality (Health)	Condition (structure)	LS	VTA	RV	ULE	Comments CV = Council verge tree NT= Neighbouring tree
26 *NT*	*Jacaranda mimosifolia* Jacaranda	17 x 11	550	2.7 6.6	SM	Good	Good	3	7	2	1	Restricted visual inspection above visual parts appear in good order, suppressed canopy form with moderate bow NTH + weight loaded canopy
Design & impact summary: Not plotted with documentation. Design footprint of basement and upper-level setback proposes a Negligible (0%) TPZ encroachment indicating tree is capable of being managed in accordance with Section 2.3 General tree protection requirements, specific to: no access or excavation within the SRZ, project arborist to review & endorse final engineer plans for any required boundary retaining wall due to RL change.												
27 *NT*	*Jacaranda mimosifolia* Jacaranda	18 x 16	400, 500	3.1 10.8	SM	Good	Fair / Good	3	2C-7	2	1	Restricted visual inspection, twin stems, past main stem failure at 9m N with minor sub end decline, potential hollow at 6m STH
Design & impact summary: Not plotted with documentation. Design footprint of basement and upper-level setback proposes a Negligible (0%) TPZ encroachment without SRZ occupancy												
28 *NT*	*Lagerstromia indica* Crepe Myrtle	10 x 9	300, 350	2.7 7.8	SM	Fair / Good	Good	4-3	4	2	1	Canopy slightly environmentally stressed with minor decline, restricted visual inspection, above visual parts appear in good order
Design & impact summary: Not plotted with documentation. Design footprint of basement and upper-level setback proposes a Negligible (0%) TPZ encroachment without SRZ occupancy												
29 *NT*	*Lagerstromia indica* Crepe Myrtle	10 x 10	500at base	2.5 6	SM	Good	Fair / Good	3	2B	2	1	Multi stems at ground level with minor stem inclusion development
Design & impact summary: Not plotted with documentation. Design footprint of basement and upper-level setback proposes a Negligible (0%) TPZ encroachment indicating tree is capable of being managed in accordance with Section 2.3 General tree protection requirements, specific to: no access or excavation within the SRZ, project arborist to review & endorse final engineer plans for any required boundary retaining wall due to RL change.												
30 *NT*	*Celtis occidentalis* Hackberry	17 x 15	1100at base	3.5 13.2	M	Good	Fair / Good	3	2B-7	2	2	Restricted visual inspection. Suppressed canopy form S, biomass & canopy weight loaded NTH, 3x main stems, NTH stem with minor stem inclusion development, central stem crossed with T104, canopy 6m> at 5m^
Design & impact summary: Not plotted within design documentation. Design footprint of basement cut and upper-level setback proposes a manageable Moderate (15-20%) TPZ incursion at or near 15.3% encroachment without SRZ occupancy. Having a manageable (at or near 15%) TPZ encroachment tree is capable of being managed in accordance with Section 2.3 General tree protection requirements, specific to: no access or excavation within the SRZ, project arborist to review & endorse final engineer plans for any required boundary retaining wall due to RL change. Canopy requires Pruning Specification Report to clear 6m building setback												

Refer Appendix- C Tree retention value Checklist

	Trees requiring removal due to hazardous or dead condition - subject to Local Government Authority notification		Trees with low retention values: senescence, appear significantly environmentally stressed, have developing defects or are NSW *Weedwise recorded environmentally invasive species

Tree No	***Botanical Name*** **COMMON NAME**	Height x spread (m)	DBH (mm)	SRZ / TPZ (m)	Age	Vitality (Health)	Condition (structure)	LS	VTA	RV	ULE	Comments CV = Council verge tree NT= Neighbouring tree
31 *NT*	*Celtis occidentalis* Hackberry	20 x 16	800	3 / 9.6	M	Good	Fair / Good	3	2C	2	2	Restricted visual inspection above visual parts appear in good order, minor wounds evident on lower branch scaffolds, canopy 5m> at 3m^
Design & impact summary: Not plotted within design documentation. Design footprint of basement cut and upper-level setback proposes a Minor (<10%) TPZ occupancy without SZ encroachment indicating tree is capable of being managed in accordance with Section 2.3 General tree protection requirements, specific to: no access or excavation within the SRZ, project arborist to review & endorse final engineer plans for any required boundary retaining wall due to RL change. Canopy appears clear of 6m building setback, likely to require minor reduction pruning for building line clearance.												
32 *NT*	*Jacaranda mimosifolia* Jacaranda	11 x 10	350	2.3 / 4.2	ESM	Good	Fair / Good	4-3	2C-7	2	1	Suppressed canopy form S side, biomass & weight loaded NTH, above visual parts appear in good order
Design & impact summary: Not plotted with documentation. Design footprint of basement and upper-level setback proposes a Negligible (0%) TPZ encroachment indicating tree is capable of being managed in accordance with Section 2.3 General tree protection requirements, specific to: no access or excavation within the SRZ, project arborist to review & endorse final engineer plans for any required boundary retaining wall due to RL change.												
33 *NT*	*Pittosporum undulatum* Native Daphne	12 x 7	350	2.3 / 4.2	LM	Fair	Fair	4-3	4	2	3	Environmentally stressed with decline in canopy & lower trunk epicormic shoot development, Slight lean EST, canopy with large diameter deadwood,
Design & impact summary: Not plotted with documentation. OSD tank and design footprint of access and basement cut setback proposes a Negligible (0%) TPZ encroachment indicating tree is capable of being managed in accordance with Section 2.3 General tree protection requirements, specific to: no access or excavation within the SRZ.												
34	*Magnolia x soulangeana* Magnolia	4 x 6	600at base	2.7 / 7.2	M	Good	Fair	4-3	2B	2	<2	Multi stems at ground level all with minor stem inclusion development, small decaying pocket NW side
Design & impact summary: Proposed substation and primarily SW pipe for OSD tank discharge located directly within the SRZ having a high-level excavation impact. Given SW service & pipe location tree requires removal to accommodate design proposal.												
35	*Camellia sasanqua* Camellia	3 x 2.5	200at base	1.6 / 2.4	SM	Fair	Fair / Good	4	4-5A	2	2-5	Hedged, with low foliage volume
Design & impact summary: Proposed removal to make space for new plantings noted within Landscape design documentation with design having Negligible (0%) TPZ occupancy												
36	*Camellia sasanqua* Camellia	3 x 2.5	200at base	1.6 / 2.4	SM	Good	Good	4-3	2B-5A	2	1-5	Twin stems at near ground level with minor stem inclusion development, canopy hedged
Design & impact summary: Tree located within building or excavation footprint requiring removal for basement design												

Refer Appendix- C Tree retention value Checklist

	Trees requiring removal due to hazardous or dead condition - subject to Local Government Authority notification		Trees with low retention values: senescence, appear significantly environmentally stressed, have developing defects or are NSW *Weedwise recorded environmentally invasive species

Tree No	***Botanical Name*** **COMMON NAME**	Height x spread (m)	DBH (mm)	SRZ / TPZ (m)	Age	Vitality (Health)	Condition (structure)	LS	VTA	RV	ULE	Comments CV = Council verge tree NT= Neighbouring tree
37	*Camellia japonica* Camellia	3 x 2.5	150	1.6 / 2	SM	Good	Good	4-3	5A	2	1-5	Small tree, hedged
Design & impact summary: Proposed removal to make space for new plantings noted within Landscape design documentation with design having Negligible (0%) TPZ occupancy												
38	*Gordonia axillaris* Gordonia	5 x 3.5	350	2.3 / 4.2	EM	Good	Fair / Good	4-3	2C-2E	2	2	past pruning cuts at 1.4m S side, part stem inclusion development at 1m, location to infrastructure may become problematic
Design & impact summary: Tree located within building or excavation footprint requiring removal for basement design												
39	*Magnolia x soulangeana* Magnolia	3.5 x 3.5	500at base	2.5 / 6	LM	Good	Fair / Good	3	2C	2	1	Multi stems at near ground level, minor wounds on lower branch scaffolds
Design & impact summary: Tree located within building or excavation footprint requiring removal for basement design												
40	*Acer palmatum cv* Japanese maple	3 x 3	200	1.8 / 2.4	SM	Good	Good	4-3	5A	2	1	Multi stems at 1m, cut for height control
Design & impact summary: Tree located within building or excavation footprint requiring removal for basement design												
41	*Malus sp* Crabapple tree	3 x 4	500at base	2.5 / 6	M	Good	Fair	3	2C	2	<2	multi stems at near ground level all with minor stem inclusion development, minor wounds & decay pockets evident, exposed root damage at base NW side= wounds may become problematic
Design & impact summary: Tree located within building or excavation footprint requiring removal for basement design												
42	*Camellia japonica* Camellia	4 x 3	400at base	2.4 / 4.8	M	Good	Fair	4-3	2B-5A	2	1-5	Multi stems at base with no significant visual faults
Design & impact summary: Proposed removal to make space for new plantings noted within Landscape design documentation with design having Negligible (0%) TPZ occupancy												
43	*Jacaranda mimosifolia* Jacaranda	10 x 7	300	2.1 / 3.6	ESM	Good	Fair / Good	4-3	2C	2	2	suppressed canopy form SE side, bowing lean WST, past pruning cuts at 2m S side, leaning on fence / wall = problem if fence wall removed
Design & impact summary: Proposed removal to make space for new plantings noted within Landscape design documentation with design having Negligible (0%) TPZ occupancy												

Refer Appendix- C Tree retention value Checklist

	Trees requiring removal due to hazardous or dead condition - subject to Local Government Authority notification		Trees with low retention values: senescence, appear significantly environmentally stressed, have developing defects or are NSW *Weedwise recorded environmentally invasive species

Tree No	*Botanical Name* COMMON NAME	Height x spread (m)	DBH (mm)	SRZ / TPZ (m)	Age	Vitality (Health)	Condition (structure)	LS	VTA	RV	ULE	Comments CV = Council verge tree NT= Neighbouring tree
44	*Pittosporum undulatum* Native Daphne	13 x 6	200, 300	2.5 6	M	Fair	Fair / Good	4-3	4	2	<2	Environmentally stressed with decline in canopy, medium diameter deadwood, suppressed canopy form E side biomass W, root crown exposed
Design & impact summary: Proposed removal to make space for new plantings noted within Landscape design documentation with design having Minor (<10%) TPZ occupancy												
45	*Brachychiton acerifolius* Illawarra Flame Tree	6 x 3	350	2.3 4.2	ESM	Fair / Good	Poor	4	2D	3	3	Twin stems at 1.1m with minor stem inclusion development, complete upper branch scaffolds structural damage with decay sections, past pruning modifying form = low retention value
Design & impact summary: Proposed removal of defective tree to make space for new plantings noted within Landscape design documentation												
46	*Lophostemon confertus* Brush Box	18 x 13	1000	3.4 12	M	Good	Fair / Good	3	2C-2B	2	1	Stem indent wound seam 1.7m NE & 1.7m S likely stem location related, minor wound at base, upper branch scaffolds multi stems at 2.5m, suppressed canopy form E, canopy 7m in site from tree base
Design & impact summary: Not plotted within design documentation. Proposed removal to make space for new plantings noted within Landscape design documentation with basement footprint having Moderate to High (20-25%) TPZ incursion at or near 20.7% occupancy. Canopy extension is also impacted by building elevation.												
47	*Cedrus deodara* Deodar Cedar	22 x 11	550	2.7 6.6	SM	Good	Fair	3	2A-2C	2	2	Suppressed canopy form side biomass & slight lean NTH, past pruning cuts at 6m modifying form, basal area with poor anchoring crown root system indicating tree likely to become problematic if exposed, canopy 5m in site from tree base
Design & impact summary: Not accurately plotted within design documentation. Basement footprint and 6m setback proposes a manageable Moderate to Low (10-15%) TPZ incursion at or near 10.7% without SRZ occupancy. Having a manageable (<15%) TPZ encroachment tree is capable of being managed in accordance with Section 2.3 General tree protection requirements, specific to: no access or excavation within the SRZ, at completion of demolition project arborist to provide a detailed advance risk assessment (ARA) report based on sudden exposure as tree may likely become problematic when suddenly exposed by removal of adjacent trees acting as wind protection factors. Tree also contains poor root crown development, indicating anchorage may become problematic in the future or if tree is suddenly exposed. All requirements noted within Section 2.3 General tree protection requirements apply to this tree. Canopy appears clear of 6m building setback, likely to require minor reduction pruning for building line clearance.												

Refer Appendix- C Tree retention value Checklist

	Trees requiring removal due to hazardous or dead condition - subject to Local Government Authority notification		Trees with low retention values: senescence, appear significantly environmentally stressed, have developing defects or are NSW *Weedwise recorded environmentally invasive species

Tree No	***Botanical Name*** **COMMON NAME**	Height x spread (m)	DBH (mm)	SRZ / TPZ (m)	Age	Vitality (Health)	Condition (structure)	LS	VTA	RV	ULE	Comments CV = Council verge tree NT= Neighbouring tree
48	*Viburnum odoratissimum* Viburnum (hedge)	3 x 1.5	150at base	1.5 / 2	ESM	Good	Good	4	5A	1	2	Hedge line on boundary near 30m long, with no significant visual faults
Design & impact summary: Tree located within building or excavation footprint requiring removal for basement design												
49 *x2*	*Camellia japonica* Camellia	3.5 x 2	250at base	1.8 / 3	M	Fair	Fair / Good	4	4	2	2-5	Canopy slightly environmentally stressed with low foliage volume, by driveway access
Design & impact summary: Tree located within building or excavation footprint requiring removal for basement design												
50	*Celtis occidentalis* Hackberry	17 x 12	350	2.3 / 4.2	ESM	Good	Good	3	5	1	1	Lower trunk with slight lean from base, tree of tall forest form where location to infrastructure likely to become problematic in the future
Design & impact summary: Tree located within building or excavation footprint requiring removal for basement design												
51	*Celtis occidentalis* Hackberry	6 x 4	250	2 / 3	ESM	Good	Poor	4	2	3	3	Structurally defective tree, past topped at 2m, decay section evident, epicormic shoots throughout = low retention value
Design & impact summary: Tree located within building or excavation footprint requiring removal for basement design												
52	*Magnolia grandiflora* Bullbay Magnolia	9 x 6	250, 300	2.6 / 6.6	SM	Good	Poor	4	2	3	<2	Environmentally stressed with decline in canopy, past pruning cuts modifying form, sub end decline at 5m W side, canopy- narrow form due to driveway
Design & impact summary: Tree located within building or excavation footprint requiring removal for basement design												
53	*Syzygium australe* Bush Cherry	23 x 15	950	3.3 / 11.4	LM	Good	Fair / Good	3	2C	2	2	Past pruning cuts E side for building line clearance modifying form, biomass mostly WST, mid-trunk wound seam at 2m W, multi stems at 2.5m, potential central cavity with minor decline WST.
Design & impact summary: Tree located within building or excavation footprint requiring removal for basement design												

Refer Appendix- C Tree retention value Checklist

	Trees requiring removal due to hazardous or dead condition - subject to Local Government Authority notification		Trees with low retention values: senescence, appear significantly environmentally stressed, have developing defects or are NSW *Weedwise recorded environmentally invasive species

Tree No	***Botanical Name*** **COMMON NAME**	Height x spread (m)	DBH (mm)	SRZ / TPZ (m)	Age	Vitality (Health)	Condition (structure)	LS	VTA	RV	ULE	Comments CV = Council verge tree NT= Neighbouring tree
54	*Syzygium australe* Bush Cherry	23 x 16	950	3.3 / 11.4	LM	Fair / Good	Fair	3	4-2C	2	2	Past pruning cuts for building line clearance WST side modifying form, branch tear wounds NE, decay section to central junction 2m S side, multi stems at 2.2m (x4), large open decaying wound at 2.2 – 5m NTH
Design & impact summary: Tree located within building or excavation footprint requiring removal for basement design												
55	*Syzygium australe* Bush Cherry	22 x 15	850	3 / 10.2	LM	Good	Fair	3	2C	2	2	Multi stems at 3m with minor sub end decline, narrow suppressed form
Design & impact summary: Tree located within building or excavation footprint requiring removal for basement design												
56	*Syzygium australe* Bush Cherry	22 x 14	900	3.2 / 10.8	LM	Good	Fair / Good	3	2C	2	2	Multi stems at 1.7 – 2.2m, upper branch scaffolds with past pruning cuts modifying form E & W sides, minor wounds at 1.8m NE
Design & impact summary: Tree located within building or excavation footprint requiring removal for basement design												
57	*Macadamia integrifolia* Macadamia	7 x 5	250at base	1.8 / 3	ESM	Fair	Fair / Good	4-3	4	2	<2	Twin stems at near ground level, suppressed canopy form WST, biomass EST.
Design & impact summary: Tree located within building or excavation footprint requiring removal for basement design												
58	*Podocarpus elatus* Brown Pine	18 x 16	950	3.3 / 11.4	M	Fair / Good	Fair / Good	3	4-2C	2	1	Narrow suppressed canopy form biomass E, NW, multi stems at 1- 2m, lower branch scaffolds with past pruning cuts modifying form slightly low foliage volume with fine tip decline
Design & impact summary: Tree located within building or excavation footprint requiring removal for basement design												
59	*Prunus sp* Peach tree	3 x 4.5	200at base	1.6 / 2.4	SM	Fair / Good	Good	4	4	2	2-5	Canopy slightly environmentally stressed
Design & impact summary: Tree located within building or excavation footprint requiring removal for basement design												
60	*Castanospermum australe* QLD Black Bean	12 x 8	600	2.7 / 7.2	M	Good	Good	3	2E	2	<2	Located directly adjacent wall where location to infrastructure is very likely to become problematic in the future
Design & impact summary: Proposed removal within Demolition plan as removing existing adjacent structures will comprise tree anchorage												

Refer Appendix- C Tree retention value Checklist

	Trees requiring removal due to hazardous or dead condition - subject to Local Government Authority notification						Trees with low retention values: senescence, appear significantly environmentally stressed, have developing defects or are NSW *Weedwise recorded environmentally invasive species					
Tree No	***Botanical Name*** **COMMON NAME**	**Height x spread (m)**	**DBH (mm)**	**SRZ** / **TPZ (m)**	**Age**	**Vitality** (Health)	**Condition** (structure)	**LS**	**VTA**	**RV**	**ULE**	**Comments** CV = Council verge tree NT= Neighbouring tree
61	*Tupidanthus calyptratus* Umbrella tree	5 x 4	250	2 / 3	SM	Good	Fair / Good	4	2B	2	2	Twin stems at near ground level with stem inclusion development + throughout upper branch scaffolds
Design & impact summary: Proposed removal of defective tree to make space for new plantings noted within Landscape design documentation												
62	*Syzygium australe* Bush Cherry	16 x 14	1150	3.6 / 13.8	M	Good	Fair / Good	3	2B-2C	2	1	Twin stems at 2m with minor stem inclusion development, lower branch scaffolds past cuts modifying form
Design & impact summary: Design footprint of basement excavation and upper-level occupancy proposes a High (25-35%) TPZ incursion at or near 28% and is located just at the extremity of the SRZ. In addressing other TPZ considerations noted within AS4970 / 3.3.4; tree age and establishment within the site indicates the tree may not tolerate development disturbance or the proposed occupancy within the TPZ. Based on the design footprint it would be difficult to demonstrate the tree would remain viable (AS / 3.3.3 Major encroachment). Mitigating impacts by design should consist of: no access or excavation within the SRZ, project arborist site supervision during excavations with a detailed and specific Tree Management Plan (TMP) provided based on assessment of all final documentation. A Pruning Specification Report should also be provided.												
63	*Camellia sasanqua* Camellia	5 x 4	250at base	1.8 / 3	SM	Good	Good	4	2C	2	1	Twin stems at 1m, lower branch scaffolds with past pruning cuts
Design & impact summary: Proposed removal to make space for new plantings noted within Landscape design documentation with 4m basement setback having a Negligible (0%) TPZ encroachment												
64	*Camellia sasanqua* Camellia	5 x 4	200	1.8 / 2.4	M	Good	Fair	4	2D	2	1	Twin stems at 1.1m, significant past pruning cuts W side modifying form
Design & impact summary: Proposed removal to make space for new plantings noted within Landscape design documentation with 4m basement setback having a Negligible (0%) TPZ encroachment												
65	*Celtis occidentalis* Hackberry	5 x 3	100	1.5 / 2	I	Good	Good	4	6	1	1	Young tree, no significant visual faults
Design & impact summary: Proposed removal to make space for new plantings noted within Landscape design documentation with 4m basement setback having a Negligible (0%) TPZ encroachment												
66	*Dypsis Lutescens* Golden Cane Palm/s	4 x 4.5	100	1.5 / 2	ESM	Good	Good	4	6	1	1	Young tree, no significant visual faults
Design & impact summary: Palm clump located within building or excavation footprint requiring removal for basement design												
67	*Celtis occidentalis* Hackberry	5 x 3	150	1.6 / 2	I	Good	Good	4	6	1	1	Young emerging tree, vine covered at 3m
Design & impact summary: Proposed removal to make space for new plantings noted within Landscape design documentation with 4m basement setback having a Negligible (0%) TPZ encroachment												

Refer Appendix- C Tree retention value Checklist

	Trees requiring removal due to hazardous or dead condition - subject to Local Government Authority notification						Trees with low retention values: senescence, appear significantly environmentally stressed, have developing defects or are NSW *Weedwise recorded environmentally invasive species					
Tree No	***Botanical Name* COMMON NAME**	**Height x spread (m)**	**DBH (mm)**	**SRZ / TPZ (m)**	**Age**	**Vitality** (Health)	**Condition** (structure)	**LS**	**VTA**	**RV**	**ULE**	**Comments** CV = Council verge tree NT= Neighbouring tree
*68	*Olea europaea susp cuspidate* African Olive	5 x 4.5	300at base	2 / 3.6	ESM	Good	Fair / Poor	4	2-2E	3	3	Multi stems at ground level with stem inclusion development, location to infrastructure likely to become problematic in the future
Design & impact summary: Tree located within building or excavation footprint requiring removal for basement design												
69	*Cupressus leylandii* Leyland Green Cypress	4 x 3.5	250	2 / 3	ESM	Fair / Good	Fair / Good	4	4-5A	2	2	Pruned for height control & building line clearance S side, with minor decline
Design & impact summary: Tree located within building or excavation footprint requiring removal for basement design												
70	*Celtis occidentalis* Hackberry	5 x 3.5	200at base	1.6 / 2.4	I	Good	Fair	4	2	3	3	Multi stems at near ground level all with stem inclusion development
Design & impact summary: Tree located within building or excavation footprint requiring removal for basement design												
71	*Lagerstromia indica* Crepe Myrtle	4 x 4.5	450at base	2.3 / 4.8	M	Fair / Good	Fair / Good	4	2B	2	2	Past pruning cuts with sub end decline at 2m, multi stems at 0.3m with minor stem inclusion development
Design & impact summary: Tree located within building or excavation footprint requiring removal for basement design												
72	*Camellia sasanqua* Camellia	4 x 4	300at base	2 / 3.6	SM	Good	Fair / Good	4	2B	2	2	Multi stems at near ground level with minor stem inclusion development
Design & impact summary: Tree located within building or excavation footprint requiring removal for basement design												
73	*Chamaecyparis lawsoniana* Lawsons Cypress	6 x 2	100, 150	1.8 / 3	SM	Poor	Fair / Poor	4	4-2	3	3	Environmentally stressed with decline in canopy & low foliage volume, twin stems at near ground level with stem inclusion development
Design & impact summary: Tree located within building or excavation footprint requiring removal for basement design												
74	*Thuja standishii* Japanese Arbor - Vitae	7 x 2.5	250at base	1.8 / 3	SM	Fair / Good	Poor	4	2	3	3	Canopy with low foliage volume, multi stems at 0.3m with stem inclusions
Design & impact summary: Tree located within building or excavation footprint requiring removal for basement design												
75	*Cupressus sempervirens* Mediterranean Cypress	9 x 3.5	200, 350	2.6 / 6.6	SM	Good	Poor	4	2	3	3	Twin stems at 1.8m with stem inclusions, kinked root at base, lower branch scaffolds with past pruning cuts
Design & impact summary: Tree located within building or excavation footprint requiring removal for basement design												

Refer Appendix- C Tree retention value Checklist

	Trees requiring removal due to hazardous or dead condition - subject to Local Government Authority notification		Trees with low retention values: senescence, appear significantly environmentally stressed, have developing defects or are NSW *Weedwise recorded environmentally invasive species

Tree No	*Botanical Name* COMMON NAME	Height x spread (m)	DBH (mm)	SRZ / TPZ (m)	Age	Vitality (Health)	Condition (structure)	LS	VTA	RV	ULE	Comments CV = Council verge tree NT= Neighbouring tree
76 *x3*	*Archontophoenix cunninghamiana* Bangalow Palm	9 x 4	250	- / 3	M	Good	Good	3	6	1	1	Palm with no significant visual faults
Design & impact summary: Tree located within building or excavation footprint requiring removal for basement design												
77	*Archontophoenix cunninghamiana* Bangalow Palm	9 x 4	250	- / 3	M	Good	Good	3	6	1	1	Palm with no significant visual faults
Design & impact summary: Tree located within building or excavation footprint requiring removal for basement design												
78	*Archontophoenix cunninghamiana* Bangalow Palm	7 x 4	200	- / 3	M	Good	Good	3	6	1	1	Palm with no significant visual faults
Design & impact summary: Tree located within building or excavation footprint requiring removal for basement design												
79	*Roystonea regia* Royal Palm	3 x 3	300	2.1 / 3.6	SM	Good	Good	4-3	6	1	1	Palm with no significant visual faults
Design & impact summary: Tree located within building or excavation footprint requiring removal for basement design												
80	*Archontophoenix cunninghamiana* Bangalow Palm	12 x 4	250	- / 3	M	Good	Good	3	6	1	1	Palm with no significant visual faults
Design & impact summary: Tree located within building or excavation footprint requiring removal for basement design												
*81	*Syagrus romanzoffiana* Cocos Palm	4 x 5	200	- / 3.5	ESM	Good	Fair / Good	4	2C	2	2	Narrow trunk to 2.3m, swelling above to 300Ø- appears not immediately detrimental, slight bowing lean EST
Design & impact summary: Tree located within building or excavation footprint requiring removal for basement design												
*82	*Syagrus romanzoffiana* Cocos Palm	5 x 3	300	- / 2.5	ESM	Fair	Good	4	4	2	1	Canopy slightly environmentally stressed
Design & impact summary: Tree located within building or excavation footprint requiring removal for basement design												
*83	*Syagrus romanzoffiana* Cocos Palm	5 x 4	250	- / 3	ESM	Good	Good	4	6	1	1	Palm with no significant visual faults
Design & impact summary: Tree located within building or excavation footprint requiring removal for basement design												

Refer Appendix- C Tree retention value Checklist

	Trees requiring removal due to hazardous or dead condition - subject to Local Government Authority notification		Trees with low retention values: senescence, appear significantly environmentally stressed, have developing defects or are NSW *Weedwise recorded environmentally invasive species

Tree No	*Botanical Name* COMMON NAME	Height x spread (m)	DBH (mm)	SRZ / TPZ (m)	Age	Vitality (Health)	Condition (structure)	LS	VTA	RV	ULE	Comments CV = Council verge tree NT= Neighbouring tree
*84	*Syagrus romanzoffiana* Cocos Palm	5 x 4	250	- / 3	ESM	Good	Good	4	6	1	1	Palm with no significant visual faults
Design & impact summary: Tree located within building or excavation footprint requiring removal for basement design												
*85	*Syagrus romanzoffiana* Cocos Palm	7 x 6	200	- / 4	SM	Good	Fair / Good	4	2C	2	<2	Narrow trunk to 2.2m, swelling above to 350Ø- appears not immediately detrimental
Design & impact summary: Tree located within building or excavation footprint requiring removal for basement design												
*86	*Syagrus romanzoffiana* Cocos Palm	5 x 4	200	- / 3	ESM	Good	Good	4	6	1	1	Palm with no significant visual faults
Design & impact summary: Tree located within building or excavation footprint requiring removal for basement design												
*87	*Syagrus romanzoffiana* Cocos Palm	15 x 5	250	- / 3.5	M	Good	Good	4-3	6	1	1	Palm with no significant visual faults
Design & impact summary: Tree located within building or excavation footprint requiring removal for basement design												
88	*Celtis occidentalis* Hackberry	16 x 15	1100	3.5 / 13.2	LM	Good	Fair / Poor	3	2-2A	3	<3	Moderate lean & canopy biomass N, canopy weight loaded = pressure on SRZ, basal wounds damage & decay S side, decaying wound at junction NTH, wounds in upper branch scaffolds to 4m S side, tension roots S damaged = low retention value
Design & impact summary: Proposed removal of structurally declining tree with basement and design footprint having a Moderate to High (20-25%) TPZ incursion at or near 21.8% encroachment without SRZ occupancy. In addressing other TPZ considerations noted within AS4970 / 3.3.4; tree age, declining structural condition and establishment within the site indicates the tree is unlikely to tolerate development disturbance and proposed occupancy within the TPZ.												
89	*Jacaranda mimosifolia* Jacaranda	16 x 16	500	2.6 / 6	M	Good	Fair / Good	3	2C	2	1	Tree with minor lean SE and large stem failure at 5 – 6m S side – appears not immediately detrimental
Design & impact summary: Not plotted within design documentation. Proposed removal with basement footprint having a Moderate to High (20-25%) TPZ incursion at or near 23.8% occupancy being just at the extremity of the SRZ. Demolition of existing features within the SRZ may also disrupt tree anchorage. Being at or near 2.6m to the upper level elevation canopy reduction would also disrupt the trees natural form leaning to the SE												

Refer Appendix- C Tree retention value Checklist

	Trees requiring removal due to hazardous or dead condition - subject to Local Government Authority notification		Trees with low retention values: senescence, appear significantly environmentally stressed, have developing defects or are NSW *Weedwise recorded environmentally invasive species

Tree No	***Botanical Name*** **COMMON NAME**	Height x spread (m)	DBH (mm)	SRZ / TPZ (m)	Age	Vitality (Health)	Condition (structure)	LS	VTA	RV	ULE	Comments CV = Council verge tree NT= Neighbouring tree
90	*Eucalyptus saligna x botryoides* Woollybutt	24 x 17	600	2.7 / 7.2	M	Good	Fair / Good	3	2C	2	<2	Main lower trunk lean NW, upright stem from 3m, lower stem - broad, near horizontal extending into neighbouring property NW side.
Design & impact summary: Within a notional TPZ radius the basement excavation encroachment is very minor to near negligible at or near 7.1m from the tree with upper GF level having a Minor (<10%) TPZ occupancy at or near (6.9%) without SRZ encroachment. In addressing other TPZ considerations noted within AS4970 / 3.3.4; significant tree lean and weight loaded biomass over the neighbouring property indicate tension roots (those taking up strain of lean loading) may be disrupted by existing structure demolition, excavation and construction disturbances over the SRZ & TPZ. Having works on the tension side of tree lean indicates a potential for root anchorage disturbance indicating specific tree management is required to ensure the tree remains viable. This should include maintaining the existing deep soil levels and soil condition within the remaining TPZ, fencing the SRZ radius and providing ground protection mats or boards covering the TPZ as shown within Appendix- B Item [C]. The existing deep soil area within the TPZ is to be considered a designated Tree Protection Area (TPA) where no additional excavation should occur without project arborist advice & certification. Prior to works an appointed project arborist review, comment and certify all final design documentation specific to: certify a colour coded Bulk Earthwork Plans with review & endorsement of engineer plans that may be required for any boundary retaining wall due to RL change. Given Minor (<10%) encroachment all requirements as specified within general and manageable encroachment impacts Section 2.3 General tree protection requirements apply to this tree.											
91	*Jacaranda mimosifolia* Jacaranda	15 x 9	450	2.4 / 4.8	SM	Good	Fair	3	2C	2	<2	Significant bowing lean NW, suppressed canopy form with T104, crossed stem wound with T102 at 2.5m, weight loaded in one direction over neighbouring property
Design & impact summary: Not plotted within design documentation. Impacts and tree management consist of similar discussions as indicated for T90 where GF Plan has a Minor (<10%) TPZ occupancy without SRZ occupancy. To ensure the tree remains viable the SRZ is to be fenced off with the TPZ provided with ground protection mats covering the TPZ from construction disturbances as shown within Appendix- B Item [C]. Given Minor (<10%) encroachment all requirements as specified within general and manageable encroachment impacts Section 2.3 General tree protection requirements apply to this tree.											
92	*Backhousia citriodora* Lemon Scented Myrtle	5 x 2.5	100	1.5 / 2	I	Good	Good	4	6	1	1	Young tree with no significant visual faults
Design & impact summary: Not plotted within design documentation. Proposed removal to make space for new plantings noted within Landscape design documentation with design footprint estimated at having a Negligible (0%) TPZ encroachment											
93	*Syzygium luehmannii* Small leaved Lillypilly	4 x 3.5	150	1.6 / 2	I	Good	Fair / Good	4	2C	2	2	Lower branch scaffolds past pruning cuts E side, suppressed canopy form
Design & impact summary. Not plotted within design documentation: Tree appears located within building or excavation footprint requiring removal for design											
94	*Ulmus glabra* Elm	9 x 9	250, 250	2.5 / 6	SM	Fair / Poor	Fair	4-3	4	2	<2	Twin stems at 1m, suppressed canopy form NTH biomass W & SE, decline in canopy with large diameter deadwood,
Design & impact summary. Tree located within building or excavation footprint requiring removal to accommodate design											

Refer Appendix- C Tree retention value Checklist

	Trees requiring removal due to hazardous or dead condition - subject to Local Government Authority notification		Trees with low retention values: senescence, appear significantly environmentally stressed, have developing defects or are NSW *Weedwise recorded environmentally invasive species

Tree No	***Botanical Name*** **COMMON NAME**	Height x spread (m)	DBH (mm)	SRZ / TPZ (m)	Age	Vitality (Health)	Condition (structure)	LS	VTA	RV	ULE	Comments CV = Council verge tree NT= Neighbouring tree
95	*Liquidambar styraciflua* Liquidambar	18 x 22	950	3.3 / 11.4	LM	Good	Fair / Good	3	2C	2	<2	Multi stems from 2.5m, large open wound & decay at central junction S side, minor upper branch scaffold wounds, broad exposed form, minor central canopy decline exposing central canopy to limb snap, aging specimen tree with SRZ surface roots evident
Design & impact summary: Not plotted within design documentation. Proposed tree removal receiving a Significant SRZ & TPZ occupancy at or near 40.8% with direct SRZ impact												
96	*Brachychiton acerifolius* Illawarra Flame Tree	11 x 6	300	2.1 / 3.6	ESM	Good	Good	4-3	6	1	1	Typical for species type with suppressed canopy form SE side
Design & impact summary. Tree located within building or excavation footprint requiring removal to accommodate design												
97	*Grevillea robusta* Silky Oak	18 x 12	650	2.8 / 7.8	SM	Fair	Fair	3	4	2	<2	Environmentally stressed, apical section dead, lower & upper branch scaffold decline, medium diameter deadwood throughout canopy
Design & impact summary. Tree located within building or excavation footprint requiring removal to accommodate design												
98	*Jacaranda mimosifolia* Jacaranda	12 x 8	400	2.4 / 4.8	ESM	Good	Fair / Good	4-3	2B-7	2	1	Twin stems at 3m with minor stem inclusion development, vine covering parts of lower trunk –visual parts appear in good order
Design & impact summary. Tree located within building or excavation footprint requiring removal to accommodate design												
99	*Magnolia x soulangeana* Magnolia	6 x 8	750at base	2.8 / 9	M	Good	Fair / Good	4-3	2B-2C	2	2	Multi stems at base (x4) all with stem inclusions, past stem failure likely storm damage tears at 3m E side modifying form, weight loaded biomass W
Design & impact summary. Tree located within building or excavation footprint requiring removal to accommodate design												
100	*Macadamia integrifolia* Macadamia	9 x 5	400	2.4 / 4.8	SM	Good	Poor	4	2-2A	3	4	Structurally defective tree, large lower trunk to ground level open wound with decay N side, past upper branch scaffolds failures & slight lean STH, past pruning cuts with sub end decline, suckering at base = low retention value
Design & impact summary. Tree located within building or excavation footprint requiring removal to accommodate design												

Refer Appendix- C Tree retention value Checklist

	Trees requiring removal due to hazardous or dead condition - subject to Local Government Authority notification		Trees with low retention values: senescence, appear significantly environmentally stressed, have developing defects or are NSW *Weedwise recorded environmentally invasive species

Tree No	*Botanical Name* COMMON NAME	Height x spread (m)	DBH (mm)	SRZ / TPZ (m)	Age	Vitality (Health)	Condition (structure)	LS	VTA	RV	ULE	Comments CV = Council verge tree NT= Neighbouring tree
101	*Buckinghamia celsissima* Ivory Curl Tree	10 x 7	300	2.1 / 3.6	M	Good	Fair / Good	3	2C	2	<2	Exposed canopy form W side biomass ENE, aging specimen tree
Design & impact summary. Tree located within building or excavation footprint requiring removal to accommodate design												
102	*Rhododendron sp* Rhododendron	4 x 4.5	450at base	2.3 / 4.8	LM	Fair / Good	Fair / Good	4	4-2B	2	<2	Canopy slightly environmentally stressed, aging specimen tree with slightly low foliage volume, multi stems at base with minor stem inclusion
Design & impact summary: Not plotted within design documentation. Basement cut and footprint proposes a Significant SRZ & TPZ occupancy at or near 38.8% with direct SRZ occupancy, indicating tree removal is required to accommodate the design proposal.												
103	*Persea americana* Avocado	5 x 4	200	1.8 / 2.4	ESM	Good	Good	4	2C	2	1	Suppressed canopy form N side biomass S, slight lean of lower trunk with past pruning cuts
Design & impact summary: Not plotted within design documentation. Proposed removal to make space for new plantings noted within Landscape design documentation with design footprint and basement setback having a Negligible (0%) TPZ encroachment												
104	*Archontophoenix cunninghamiana* Bangalow Palm	5 x 3	200	- / 2.5	ESM	Good	Good	4	6	1	1-5	Palm with no significant visual faults
Design & impact summary: Not plotted within design documentation. Proposed removal to make space for new plantings noted within Landscape design documentation with design footprint and basement setback having a Negligible (0%) TPZ encroachment												
105	*Howea forsteriana* Kentia Palm	3 x 4	150	- / 2	ESM	Good	Good	4	6	1	1-5	Palm with no significant visual faults
Design & impact summary: Not plotted within design documentation. Proposed removal to make space for new plantings noted within Landscape design documentation with design footprint and basement setback having a Negligible (0%) TPZ encroachment												
106	*Syzygium australe* Bush Cherry	18 x 12	550	2.7 / 6.6	SM	Good	Fair / Good	3	2B	2	2	Twin stems at 0.5m, suppressed canopy form SW side, weight loaded NTH with slight lower trunk lean NTH, sewer at base?
Design & impact summary: Proposed design footprint have a Negligible (0%) TPZ encroachment with basement cut located outside of the TPZ indicating tree is capable of being managed in accordance with Section 2.3 General tree protection requirements, specific to: no access or excavation within the SRZ, install tree protection fencing, project arborist recommended to provide advance risk assessment (ARA) management report after site clearing due to risk of sudden exposure by removal of adjacent tree canopy wind protection factors.												

Refer Appendix- C Tree retention value Checklist

	Trees requiring removal due to hazardous or dead condition - subject to Local Government Authority notification		Trees with low retention values: senescence, appear significantly environmentally stressed, have developing defects or are NSW *Weedwise recorded environmentally invasive species

Tree No	*Botanical Name* COMMON NAME	Height x spread (m)	DBH (mm)	SRZ / TPZ (m)	Age	Vitality (Health)	Condition (structure)	LS	VTA	RV	ULE	Comments CV = Council verge tree NT= Neighbouring tree
107	*Carya illnoinensis* Pecan Tree	18 x 15	450	2.4 / 4.8	SM	Good	Good	3	2C	2	1	Minor sub end decline on lower branch scaffolds W side, canopy 7m> at 4m^
Design & impact summary: Not plotted within design documentation. Proposed removal to make space for new plantings noted within Landscape design documentation with design footprint and basement setback having a Negligible (0%) TPZ encroachment												
108	*Archontophoenix cunninghamiana* Bangalow Palm	16 x 5	250	- / 3.5	M	Good	Good	4-3	6	1	1	Palm with no significant visual faults
Design & impact summary: Not plotted within design documentation. Proposed removal to make space for new plantings noted within Landscape design documentation with design footprint and basement setback having a Negligible (0%) TPZ encroachment												
109	*Archontophoenix cunninghamiana* Bangalow Palm	9 x 4	200	- / 3	EM	Good	Good	4-3	6	1	1	Palm with no significant visual faults
Design & impact summary: Not plotted within design documentation. Proposed removal to make space for new plantings noted within Landscape design documentation with design footprint and basement setback having a Negligible (0%) TPZ encroachment												
110	*Livistona australis* Cabbage Palm	2 x 2	250	- / 2	I	Good	Good	4-3	6	1	1-5	Young palm with no significant visual faults
Design & impact summary: Not plotted within design documentation. Proposed removal to make space for new plantings noted within Landscape design documentation with design footprint and basement setback having a Negligible (0%) TPZ encroachment												
111	*Camellia sasanqua* Camellia (screen)	4 x 2	200at base	1.8 / 3	ESM	Good	Fair / Good	4-3	2B	2	1-5	Screen planting, select trees with minor stem inclusion development
Design & impact summary: Not plotted within design documentation. Proposed removal to make space for new plantings noted within Landscape design documentation with design footprint and basement setback having a Negligible (0%) TPZ encroachment												
112	*Grevillea robusta* Silky Oak	20 x 14	500	2.6 / 6	SM	Fair / Good	Fair	3	4-2A	2	<2	Canopy slightly environmentally stressed with medium diameter deadwood and decline in canopy, basal wound N side with decay
Design & impact summary: Not plotted within design documentation. Proposed removal to make space for new plantings noted within Landscape design documentation with design footprint and 6m basement setback having a very Minor (<10%) TPZ encroachment												

Refer Appendix- C Tree retention value Checklist

	Trees requiring removal due to hazardous or dead condition - subject to Local Government Authority notification		Trees with low retention values: senescence, appear significantly environmentally stressed, have developing defects or are NSW *Weedwise recorded environmentally invasive species

Tree No	*Botanical Name* COMMON NAME	Height x spread (m)	DBH (mm)	SRZ / TPZ (m)	Age	Vitality (Health)	Condition (structure)	LS	VTA	RV	ULE	Comments CV = Council verge tree NT= Neighbouring tree
113	*Banksia serrata* Old Man Banksia	9 x 7	200, 250	2.4 / 5.4	ESM	Good	Fair / Good	3	2	2	<2	Twin stems at 0.6m, 150Ø stem W side with stem inclusion = condition likely to become problematic in the future
Design & impact summary: Not plotted within design documentation. Proposed removal to make space for new plantings noted within Landscape design documentation with design footprint and basement setback having a Negligible (0%) TPZ encroachment												
114	*Camellia sasanqua* Camellia (screen)	5 x 2.5	250at base	1.8 / 3	ESM	Good	Good	4-3	5A	2	1	Screen planting pruned for driveway clearance W side
Design & impact summary: Not plotted within design documentation. Proposed removal to accommodate design receiving a High (25-35%) SRZ & TPZ incursion at or near 34.3%. Demolition of existing structures also indicate demolition would significantly impact the tree.												
115	*Jacaranda mimosifolia* Jacaranda	13 x 10	550	2.7 / 6.6	SM	Good	Good	3	2C-7	2	1	Suppressed canopy form S, biomass NTH, vine covered to 4m, above visual parts appear in good order
Design & impact summary. Tree located within building or excavation footprint requiring removal to accommodate design												
116	*Phoenix canariensis* Phoenix Palm	5 x 6	550	- / 4	SM	Good	Good	4	6	1	1	Palm with no significant visual faults
Design & impact summary. Tree located within building or excavation footprint requiring removal to accommodate design												
117	*Callistemon viminalis* Bottle Brush	6 x 3.5	250	2 / 3	SM	Good	Fair / Good	4	2A	2	<2	Potential past root plate failure with significant lean NE, long bowing low trunk, canopy only 3m above ground level at 4m out from base
Design & impact summary. Tree located within building or excavation footprint requiring removal to accommodate design												
118	*Viburnum spp* Viburnum	7 x 5	450at base	2.3 / 4.8	M	Good	Fair	4-3	2B	2	<2	Three main stems at ground level with minor stem inclusion development
Design & impact summary. Tree located within building or excavation footprint requiring removal to accommodate design												
119	*Celtis occidentalis* Hackberry	17 x 16	900at base	3.1 / 10.8	SM	Good	Poor	3	2	3	4	structurally defective tree, N stem damaged from 4 – 9m E side, W stem 400Ø complete failure from branch bark inclusion fault at base, remaining main stems all contain stem inclusion faults = high risk tree of failure
Design & impact summary. Tree located within building or excavation footprint requiring removal to accommodate design												

Refer Appendix- C Tree retention value Checklist

	Trees requiring removal due to hazardous or dead condition - subject to Local Government Authority notification		Trees with low retention values: senescence, appear significantly environmentally stressed, have developing defects or are NSW *Weedwise recorded environmentally invasive species

Tree No	***Botanical Name*** **COMMON NAME**	Height x spread (m)	DBH (mm)	SRZ / TPZ (m)	Age	Vitality (Health)	Condition (structure)	LS	VTA	RV	ULE	Comments CV = Council verge tree NT= Neighbouring tree
*120	*Cotoneaster glycophyllus* Cotoneaster	6 x 6	450at base	2.3 / 4.8	M	Fair	Fair / Poor	4	2	3	3	Multi stems at base all with stem inclusion development, declining main stem with decay
Design & impact summary. Tree located within building or excavation footprint requiring removal to accommodate design												
121	*Phoenix canariensis* Phoenix Palm	3.5 x 6	750	- / 4	ESM	Good	Good	4	6	1	1	Palm with no significant visual faults
Design & impact summary. Tree located within building or excavation footprint requiring removal to accommodate design												
122	*Magnolia grandiflora* Bullbay Magnolia	12 x 7	300	2.1 / 3.6	ESM	Fair / Good	Fair / Good	3	4-2C	2	1	Canopy with suppressed canopy form, minor decline, and low foliage volume
Design & impact summary. Tree located within building or excavation footprint requiring removal to accommodate design												
123	*Celtis occidentalis* Hackberry	10 x 8	200	1.8 / 2.4	ESM	Good	Good	4-3	2C	2	2	Open seam wound at 3m W, lower canopy suppressed with upper branch scaffolds tall
Design & impact summary. Tree located within building or excavation footprint requiring removal to accommodate design												
124	*Jacaranda mimosifolia* Jacaranda	16 x 11	450	2.4 / 4.8	M	Good	Good	3	7	2	2	Narrow suppressed canopy form, slight lean SE, upper branch scaffolds tall, vine covered to 8m, above visual parts appear in good order
Design & impact summary. Tree located within building or excavation footprint requiring removal to accommodate design												
125	*Jacaranda mimosifolia* Jacaranda	17 x 12	350	2.3 / 4.2	SM	Good	Good	3	2C	2	1	Vine covered to 7m, above visual parts appear in good order, lower branch scaffolds decline SE side, significant lean from 2m STH
Design & impact summary. Tree located within building or excavation footprint requiring removal to accommodate design												
126	*Archontophoenix cunninghamiana* Bangalow Palm	6 x 6	300	- / 4	M	Good	Good	4-3	7	2	2	Vine covered to 9m, above visual parts appear in good order
Design & impact summary. Tree located within building or excavation footprint requiring removal to accommodate design												

Refer Appendix- C Tree retention value Checklist

	Trees requiring removal due to hazardous or dead condition - subject to Local Government Authority notification		Trees with low retention values: senescence, appear significantly environmentally stressed, have developing defects or are NSW *Weedwise recorded environmentally invasive species

Tree No	*Botanical Name* COMMON NAME	Height x spread (m)	DBH (mm)	SRZ / TPZ (m)	Age	Vitality (Health)	Condition (structure)	LS	VTA	RV	ULE	Comments CV = Council verge tree NT= Neighbouring tree
127	*Lagerstromia indica* Crepe Myrtle	5 x 3	200at base	1.6 / 2.4	ESM	Fair	Fair	4	4-2B	2	2	Canopy slightly environmentally stressed, Twin stems at near ground level with minor stem inclusion development, past pruning cuts evident
Design & impact summary. Tree located within building or excavation footprint requiring removal to accommodate design												
*128	*Ligustrum lucidum* Broad Leaved Privet	8 x 6	400at base	2.3 / 4.8	ESM	Good	Fair / Poor	5	2B	2	<2	Multi stems at ground level with stem inclusion development
Design & impact summary. Tree located within building or excavation footprint requiring removal to accommodate design												
*129	*Nerium oleander* Oleander	7 x 5	500at base	2.5 / 6	SM	Good	Fair / Good	4	2B	2	2	Multi stems at ground level all with minor stem inclusion development, suppressed canopy form E side biomass NW
Design & impact summary. Tree located within building or excavation footprint requiring removal to accommodate design												
130	*Pittosporum undulatum* Native Daphne	10 x 8	650	2.8 / 7.8	M	Fair	Fair / Poor	4-3	4-2B	2	<2	Three stems near ground level with minor stem inclusion development, canopy slightly environmentally stressed with minor decline
Design & impact summary. Tree located within building or excavation footprint requiring removal to accommodate design												
131	*Lagerstromia indica* Crepe Myrtle	8 x 6	650	2.8 / 7.8	M	Good	Fair / Good	4-3	2C	2	2	Three stems at near ground level, multi stems at 2m with past pruning cuts, minor wounds at base E side
Design & impact summary. Tree located within building or excavation footprint requiring removal to accommodate design												
132	*Acmena smithii* Lilly Pilly	5 x 4	400	2.4 / 4.8	SM	Fair	Fair / Poor	4	5A-2D	3	3	Topped at 5m modifying form, multi stems at 1.7m with stub end cut, canopy in decline with very low foliage volume
Design & impact summary. Tree located within building or excavation footprint requiring removal to accommodate design												
133 *x9*	*Cupressus leylandii* Leyland Green Cypress	5 x 2	200	1.8 / 2.4	ESM	Good	Good	4-3	5A	2	2	Hedged pruned for height control
Design & impact summary. Trees located within building or excavation footprint requiring removal to accommodate design												

Refer Appendix- C Tree retention value Checklist

	Trees requiring removal due to hazardous or dead condition - subject to Local Government Authority notification		Trees with low retention values: senescence, appear significantly environmentally stressed, have developing defects or are NSW *Weedwise recorded environmentally invasive species

Tree No	*Botanical Name* COMMON NAME	Height x spread (m)	DBH (mm)	SRZ / TPZ (m)	Age	Vitality (Health)	Condition (structure)	LS	VTA	RV	ULE	Comments CV = Council verge tree NT= Neighbouring tree
134	*Lagerstromia indica* Crepe Myrtle	13 x 10	700	2.8 / 8.4	M	Good	Good	3	7	2	2	Multi stems at ground level (x4), vine covered to 6m, above visual parts appear in good order
Design & impact summary. Tree located within building or excavation footprint requiring removal to accommodate design												
135	*Jacaranda mimosifolia* Jacaranda	13 x 12	400	2.4 / 4.8	SM	Good	Good	3	7	2	2	Vine covered to 3m, above visual parts appear in good order
Design & impact summary. Tree located within building or excavation footprint requiring removal to accommodate design												
136	*Viburnum spp* Viburnum	10 x 8	200, 250	2.3 / 4.8	M	Good	Fair / Good	3	2C	2	2	Minor wound damage at base S side with slight decline in canopy E side
Design & impact summary. Tree located within building or excavation footprint requiring removal to accommodate design												
137	*Lagerstromia indica* Crepe Myrtle	8 x 7	200, 350	2.6 / 6.6	SM	Good	Fair / Good	4-3	2B	2	1	EST side stem 350Ø with stem inclusion development, vine covered to 3m restricted visual inspection
Design & impact summary. Tree located within building or excavation footprint requiring removal to accommodate design												
*138	*Cotoneaster glycophyllus* Cotoneaster	4 x 4	450	2.4 / 4.8	OM	Good	Fair	4	2C-2D	2	<2	Decaying cavity at base W side, past pruning cuts W side with sub end decline modifying form
Design & impact summary. Tree located within building or excavation footprint requiring removal to accommodate design												
*139	*Cotoneaster glycophyllus* Cotoneaster	5 x 4	300at base	2 / 3.6	SM	Good	Fair / Poor	4	2	2	<2	multi stems at ground level with stem inclusion development, past pruning cuts with sub end decline, vine covered to 3m
Design & impact summary. Tree located within building or excavation footprint requiring removal to accommodate design												
140	*Malus sp* Crabapple tree	5 x 5	250at base	1.8 / 3	LM	Good	Fair / Poor	4-3	2	2	3	Structural wounding with cambial decline, likely pathogen related, Turkey Tail fungal conks at base, broad exposed and woody SRZ
Design & impact summary. Tree located within building or excavation footprint requiring removal to accommodate design												
141	*Olea europaea* European Olive	6 x 3	200at base	1.6 / 2.4	I	Good	Fair	4	2C	2	1	Tall, narrow tree with lean EST, lower trunk vine covered to 2m
Design & impact summary. Tree located within building or excavation footprint requiring removal to accommodate design												

Refer Appendix- C Tree retention value Checklist

	Trees requiring removal due to hazardous or dead condition - subject to Local Government Authority notification		Trees with low retention values: senescence, appear significantly environmentally stressed, have developing defects or are NSW *Weedwise recorded environmentally invasive species

Tree No	***Botanical Name*** **COMMON NAME**	Height x spread (m)	DBH (mm)	SRZ / TPZ (m)	Age	Vitality (Health)	Condition (structure)	LS	VTA	RV	ULE	Comments CV = Council verge tree NT= Neighbouring tree
142	*Archontophoenix cunninghamiana* Bangalow Palm	7 x 5	200	- / 3.5	SM	Good	Good	4-3	6	1	1	Palm no significant visual faults
Design & impact summary. Tree located within building or excavation footprint requiring removal to accommodate design												
143	*Stenocarpus sinuatus* Qld Firewheel Tree	10 x 4	250	2 / 3	SM	Good	Poor	4-3	2	3	3	Large open decaying wound at 1m at past stem inclusion failure site, tall specimen tree with low retention value
Design & impact summary. Tree located within building or excavation footprint requiring removal to accommodate design												
*144	*Nerium oleander* Oleander	5 x 6	550at base	2.6 / 6.6	SM	Good	Fair	4	2C	2	3	Multi stems at base with minor stem inclusion development, vine covered to 3m, in garden bed with restricted SRZ
Design & impact summary. Tree located within building or excavation footprint requiring removal to accommodate design												
145	*Callistemon viminalis* Bottle Brush	9 x 7	300, 200	2.5 / 6	M	Good	Fair / Good	4-3	2C-7	2	2	Vine covered to 7m, above visual parts appear in good order, past pruning cuts with minor sub end decline at 1m EST
Design & impact summary. Tree located within building or excavation footprint requiring removal to accommodate design												
146	*Magnolia champaca* Magnolia	8 x 5	150, 200	2.1 / 4.2	ESM	Good	Fair / Good	4-3	2C	2	2	Twin stems at base, suppressed canopy form E side biomass & lean NNW, vine covered to 4m, above visual parts appear in good order, located edge of embankment N side
Design & impact summary. Tree located within building or excavation footprint requiring removal to accommodate design												
147	*Lagerstromia indica* Crepe Myrtle	8 x 6	300, 250	2.6 / 6.6	LM	Good	Fair	3	5A	2	2	Past topped at 2m, multi stems with past pruning cuts, minor wounds & decay- not immediately detrimental
Design & impact summary. Tree located within building or excavation footprint requiring removal to accommodate design												
148	*Lagerstromia indica* Crepe Myrtle	6 x 5	400	2.4 / 4.8	M	Fair / Good	Fair	3	5A	2	2	Canopy slightly environmentally stressed, past pruning cuts at 2m with sub end decline, SE side wound seam from 1.6m to lower open cavity at 1m
Design & impact summary. Tree located within building or excavation footprint requiring removal to accommodate design												

Refer Appendix- C Tree retention value Checklist

	Trees requiring removal due to hazardous or dead condition - subject to Local Government Authority notification						Trees with low retention values: senescence, appear significantly environmentally stressed, have developing defects or are NSW *Weedwise recorded environmentally invasive species					
Tree No	***Botanical Name*** **COMMON NAME**	**Height x spread (m)**	**DBH (mm)**	**SRZ** / **TPZ (m)**	**Age**	**Vitality** (Health)	**Condition** (structure)	**LS**	**VTA**	**RV**	**ULE**	**Comments** CV = Council verge tree NT= Neighbouring tree
149	*Lagerstromia indica* Crepe Myrtle	7 x 6	400	2.4 / 4.8	M	Fair / Good	Fair / Good	3	4-2C-5A	2	2	Canopy slightly environmentally stressed, past topped at 2m with sub end decline and dead stub ends
Design & impact summary. Tree located within building or excavation footprint requiring removal to accommodate design												
150	*Lagerstromia indica* Crepe Myrtle	5 x 4	350at base	2.1 / 4.2	ESM	Fair	Fair	4	2B	2	2	Multi stems at ground level likely all epicormic shoot development, all with minor stem inclusions at base,
Design & impact summary: Proposed removal, located adjacent basement cut receiving a Significant SRZ & TPZ occupancy at or near 41.7% with direct SRZ impact												
151	*Duranta erecta* Pigeon Berry Tree	5 x 4	350	2.3 / 4.2	SM	Good	Fair	4-3	2B	2	<2	Multi stems at base, past pruning cuts with sub end decline
Design & impact summary: Proposed removal, located adjacent basement cut receiving a High (25-35%) TPZ incursion at or near 27.1 with SRZ occupancy												
152 *x4*	*Duranta erecta* Pigeon Berry Tree	4 x 2.5	250at base	1.8 / 3	SM	Good	Fair / Good	4	2B - 2C	2	<2-5	Multi stems at base, past pruning cuts modifying form, minor stem inclusion development at tree bases
Design & impact summary. Trees located within building or excavation footprint requiring removal to accommodate design												
153	*Camellia sasanqua* Camellia	5 x 3	300at base	2 / 3.6	SM	Good	Good	4-3	5A	2	2	Tree with no significant visual faults, pruned for driveway clearance, pruned for driveway clearance
Design & impact summary: Proposed removal to make space for new plantings noted within Landscape design documentation with design footprint and basement setback having a Minor (<10%) TPZ encroachment												
154	*Camellia sasanqua* Camellia	4 x 2	100, 100	1.6 / 2.4	ESM	Fair	Fair / Good	4-3	4	2	2-5	Twin stems at 0.3m, canopy slightly environmentally stressed, pruned for driveway clearance
Design & impact summary: Proposed removal to make space for new plantings noted within Landscape design documentation with design footprint and basement setback having a Minor (<10%) TPZ encroachment												
155	*Camellia sasanqua* Camellia	5 x 2.5	250at base	1.8 / 3	ESM	Fair / Good	Fair / Good	4-3	4-2B	2	2	Canopy slightly environmentally stressed with minor stem inclusion development at base, pruned for driveway clearance
Design & impact summary: Proposed removal to make space for new plantings noted within Landscape design documentation with design footprint and basement setback having a Negligible (0%) TPZ encroachment												

Refer Appendix- C Tree retention value Checklist

	Trees requiring removal due to hazardous or dead condition - subject to Local Government Authority notification		Trees with low retention values: senescence, appear significantly environmentally stressed, have developing defects or are NSW *Weedwise recorded environmentally invasive species

Tree No	***Botanical Name*** **COMMON NAME**	Height x spread (m)	DBH (mm)	SRZ / TPZ (m)	Age	Vitality (Health)	Condition (structure)	LS	VTA	RV	ULE	Comments CV = Council verge tree NT= Neighbouring tree
156	*Camellia sasanqua* Camellia	4.5 x 2.5	250at base	1.8 / 3	ESM	Fair / Poor	Fair	4-3	4	2	2-5	Environmentally stressed with decline in canopy & low foliage volume, pruned for driveway clearance
Design & impact summary: Proposed removal to make space for new plantings noted within Landscape design documentation with design footprint and basement setback having a Minor (<10%) TPZ encroachment												
157	*Camellia sasanqua* Camellia	4 x 2.5	250at base	1.8 / 3	ESM	Fair	Fair / Good	4-3	4-2B	2	2-5	Environmentally stressed with minor stem inclusion development at base, pruned for driveway clearance
Design & impact summary: Proposed removal to make space for new plantings noted within Landscape design documentation with design footprint and basement setback having a Minor (<10%) TPZ encroachment												
158	*Camellia sasanqua* Camellia	4 x 2	200at base	1.6 / 2.4	ESM	Fair / Good	Fair / Good	4-3	4-2B	2	2-5	Tree with minor stem inclusion development at base, pruned for driveway clearance
Design & impact summary: Proposed removal to make space for new plantings noted within Landscape design documentation with design footprint and basement setback having a Negligible (0%) TPZ encroachment. Tree will likely be affected by demolition of adjacent building												
159 *x3*	*Camellia sasanqua* Camellia	4 x 2	250at base	1.8 / 3	ESM	Fair / Good	Fair / Good	4-3	4	2	2-5	Stans of trees, environmentally stressed with decline in canopy, pruned for driveway clearance
Design & impact summary: Proposed removal to make space for new plantings noted within Landscape design documentation with design footprint and basement setback having a Minor (<10%) TPZ encroachment. Tree will likely be affected by demolition of adjacent building												
160	*Camellia sasanqua* Camellia	4 x 2.5	250at base	1.8 / 3	ESM	Fair	Poor	4-3	4-2A	3	3-5	Structural damage and decay at base E side = low retention value
Design & impact summary: Proposed removal to make space for new plantings noted within Landscape design documentation with design footprint and basement setback having a Minor (<10%) TPZ encroachment. Tree will likely be affected by demolition of adjacent building												
161	*Jacaranda mimosifolia* Jacaranda	14 x 12	350, 250, 200	3 / 9.6	ESM	Fair / Good	Fair / Good	3	4-2B	2	1	Canopy slightly environmentally stressed with minor decline, 3x stems at ground level with stem inclusion development
Design & impact summary. Trees located within building or excavation footprint requiring removal to accommodate design												

Refer Appendix- C Tree retention value Checklist

	Trees requiring removal due to hazardous or dead condition - subject to Local Government Authority notification		Trees with low retention values: senescence, appear significantly environmentally stressed, have developing defects or are NSW *Weedwise recorded environmentally invasive species

Tree No	***Botanical Name*** **COMMON NAME**	Height x spread (m)	DBH (mm)	SRZ / TPZ (m)	Age	Vitality (Health)	Condition (structure)	LS	VTA	RV	ULE	Comments CV = Council verge tree NT= Neighbouring tree
162	*Jacaranda mimosifolia* Jacaranda	17 x 14	350, 300, 250	3.1 / 10.8	ESM	Good	Fair / Good	3	2B	2	1	Three stems at ground level all with stem inclusion development, past pruning cuts with sub end decline at 3m E side
Design & impact summary. Tree located within building or excavation footprint requiring removal to accommodate design												
163	*Macadamia integrifolia* Macadamia	7 x 7	250	2 / 3	ESM	Good	Good	4-3	6	1	1	Tree with no significant visual faults
Design & impact summary. Tree located within building or excavation footprint requiring removal to accommodate design												
164	*Lagerstromia indica* Crepe Myrtle	8 x 6.5	200, 250	2.3 / 4.8	SM	Fair / Good	Fair / Good	3	4	2	2	Canopy slightly environmentally stressed with minor decline, twin stems at 0.5, central stem with sub end decline
Design & impact summary. Tree located within building or excavation footprint requiring removal to accommodate design												
165	*Jacaranda mimosifolia* Jacaranda	15 x 11	400	2.4 / 4.8	ESM	Good	Fair / Good	3	4-2C	2	2	Suppressed canopy form W side with minor decline, degrading wounds at 2.2 & 2.4m (x4) E side, lower branch scaffold decline = condition may become problematic in the future
Design & impact summary. Tree located within building or excavation footprint requiring removal to accommodate design												
166	*Pyrus calleryana* 'Capital' Ornamental Pear	14 x 10	700at base	2.8 / 8.4	M	Good	Fair / Poor	3	2-2E-2A	3	3	Located within very small, terraced garden bed with no SRZ radius, at edge terraced wall, 3x stems at ground level all with stem inclusion development
Design & impact summary. Tree located within building or excavation footprint requiring removal to accommodate design												
*167	*Cotoneaster glycophyllus* Cotoneaster	5 x 5	200, 250	2.3 / 4.8	SM	Good	Fair / Poor	4	4-2D	2	2D	Tree with past pruning cuts & sub end decline modifying form, vine covered to 3m above ground level
Design & impact summary. Tree located within building or excavation footprint requiring removal to accommodate design												
168 *x4*	*Camellia sasanqua* Camellia - mixed hedge	5 x 3	150	1.6 / 2	ESM	Good	Good	4	6	1	1	Hedge, narrow suppressed canopy form due to driveway access
Design & impact summary. Trees located within building or excavation footprint requiring removal to accommodate design												

Refer Appendix- C Tree retention value Checklist

	Trees requiring removal due to hazardous or dead condition - subject to Local Government Authority notification		Trees with low retention values: senescence, appear significantly environmentally stressed, have developing defects or are NSW *Weedwise recorded environmentally invasive species

Tree No	*Botanical Name* COMMON NAME	Height x spread (m)	DBH (mm)	SRZ / TPZ (m)	Age	Vitality (Health)	Condition (structure)	LS	VTA	RV	ULE	Comments CV = Council verge tree NT= Neighbouring tree
169	*Acer palmatum cv* Japanese maple	3.5 x 3	150	1.6 / 2	ESM	Good	Good	4	6	1	1	Tree with no significant visual faults
Design & impact summary. Tree located within building or excavation footprint requiring removal to accommodate design												
170 *x5*	*Camellia sasanqua* Camellia - mixed hedge	5 x 3	150	1.6 / 2	ESM	Good	Good	4	6	1	1	Hedge, narrow suppressed canopy form due to driveway access
Design & impact summary. Trees located within building or excavation footprint requiring removal to accommodate design												
171	*Syzygium australe* Bush Cherry	23 x 17	1050	3.5 / 12.6	M	Fair / Good	Fair / Good	3	2	2	,2	Multi stems at 1m (x5), all with stem inclusion development, canopy slightly environmentally stressed with low foliage volume
Design & impact summary. Tree located within building or excavation footprint requiring removal to accommodate design												
172	*Phoenix canariensis* Phoenix Palm	2 x 6	800	- / 4	I	Good	Good	4	6	1	1	Palm with no significant visual faults
Design & impact summary: At or near 1.7m from basement cut. Proposed removal to make space for new planting receiving a Moderate to High (20-25%) TPZ incursion at or near 23.4% occupancy												
173	*Phoenix canariensis* Phoenix Palm	3 x 4	600	- / 3	I	Good	Good	4	6	1	1	Palm with no significant visual faults
Design & impact summary: At or near 1m from basement cut. Proposed removal to make space for new planting receiving a Significant SRZ & TPZ occupancy at or near 40.6% TPZ occupancy												
174	*Celtis occidentalis* Hackberry	7 x 4	200	1.8 / 2.4	I	Good	Good	4-3	6	1	1	Tree with no significant visual faults
Design & impact summary: Not plotted within design documentation. Proposed removal to make space for new plantings noted within Landscape design documentation with design footprint and basement setback having a Negligible (0%) TPZ encroachment.												
175	*Lagerstromia indica* Crepe Myrtle	6 x 5	350at base	2.1 / 4.2	ESM	Fair / Good	Fair / Good	4-3	4-2B	2	2	Canopy slightly environmentally stressed with minor decline, multi stems at ground level (x3) with minor stem inclusion development
Design & impact summary: At or near 1m from basement cut. Proposed removal to make space for new planting receiving a High (25-35%) TPZ incursion at or near 34.2% TPZ occupancy with SRZ encroachment												

Refer Appendix- C Tree retention value Checklist

	Trees requiring removal due to hazardous or dead condition - subject to Local Government Authority notification		Trees with low retention values: senescence, appear significantly environmentally stressed, have developing defects or are NSW *Weedwise recorded environmentally invasive species

Tree No	***Botanical Name*** **COMMON NAME**	Height x spread (m)	DBH (mm)	SRZ / TPZ (m)	Age	Vitality (Health)	Condition (structure)	LS	VTA	RV	ULE	Comments CV = Council verge tree NT= Neighbouring tree
176	*Robinia pseudocacia* Robinia	4 x 4.5	250	2 / 3	M	Good	Fair / Good	4-3	4	2	<2	Aging specimen tree with slight lower branch scaffolds decline
Design & impact summary: Not plotted within design documentation. Proposed removal to make space for new plantings noted within Landscape design documentation with design footprint and basement setback having a Negligible (0%) TPZ encroachment.												
177	*Acer palmatum cv* Japanese maple	3.5 x 3	100	1.5 / 2	SM	Good	Good	4	6	1	1	Suppressed canopy form STH side with no significant visual faults
Design & impact summary: Not plotted within design documentation. Proposed removal to make space for new plantings noted within Landscape design documentation with design footprint and basement setback having a Negligible (0%) TPZ encroachment.												
178	*Celtis occidentalis* Hackberry	12 x 9	350	2.3 / 4.2	ESM	Good	Good	3	6	1	1	Slight bowing lean NTH with no significant visual faults
Design & impact summary: Proposed removal to make space for new planting receiving a Moderate to Low (10-15%) TPZ incursion at or near 11.5%												
179	*Jacaranda mimosifolia* Jacaranda	10 x 6	250, 200	2.3 / 4.8	ESM	Fair / Good	Fair / Good	4-3	4-2C	3	3	Environmentally stressed with decline in canopy & suppressed canopy form, limb snap at 1.4m, central junction cavity with decay at 1.8m W side, EST stem likely pathogen affected
Design & impact summary: At or near 1.9m from basement cut. Proposed removal to make space for new planting receiving a High (25-35%) TPZ incursion at or near 26.1% TPZ occupancy with SRZ encroachment												
180	*Celtis occidentalis* Hackberry	10 x 7	200	2 / 2.4	ESM	Good	Fair	4-3	2C	2	<2	Suppressed canopy form S side, slight lean NTH, lower trunk damage at 0.6m SW – appears not immediately detrimental
Design & impact summary: At or near 0.9m from basement cut. Proposed removal to make space for new planting receiving a High (25-35%) TPZ incursion at or near 30.9% TPZ occupancy with SRZ encroachment												
181	*Gleditsia tricanthos* Locust	10 x 9	300, 300	2.7 / 7.2	SM	Fair / Good	Good	3	4	2	2	Canopy slightly environmentally stressed with minor decline, suppressed canopy form E side, infrastructure damage noted at base
Design & impact summary. Tree located within building or excavation footprint requiring removal to accommodate design												

Refer Appendix- C Tree retention value Checklist

	Trees requiring removal due to hazardous or dead condition - subject to Local Government Authority notification		Trees with low retention values: senescence, appear significantly environmentally stressed, have developing defects or are NSW *Weedwise recorded environmentally invasive species

Tree No	*Botanical Name* COMMON NAME	Height x spread (m)	DBH (mm)	SRZ / TPZ (m)	Age	Vitality (Health)	Condition (structure)	LS	VTA	RV	ULE	Comments CV = Council verge tree NT= Neighbouring tree
182	*Alnus jorulensis* Evergreen Alder	8 x 5	450	2.4 / 4.8	M	Good	Fair / Poor	4-3	23-2D	3	3	Twin stems at 1.5m, past topped at 2 & 2.5m resulting in epicormic shoot development throughout, main stems epicormic, likely decay at topped end section with sub end decline
Design & impact summary. Tree located within building or excavation footprint requiring removal to accommodate design												
183	*Alnus jorulensis* Evergreen Alder	15 x 8	450	2.4 / 4.8	M	Good	Fair / Poor	4-3	2D-2E	3	3	Past topped at 3m with sub end decline, all epicormic shoot development with main stem to 12m epicormic, in garden bed at edge of embankment
Design & impact summary. Tree located within building or excavation footprint requiring removal to accommodate design												
184	*Alnus jorulensis* Evergreen Alder	14 x 5	450	2.4 / 4.8	M	Good	Fair / Poor	4-3	2D-E	3	3	Past topped at 3m with sub end decline, all epicormic shoot development, main stem to 12m epicormic, on garden bed embankment
Design & impact summary. Tree located within building or excavation footprint requiring removal to accommodate design												
185	*Camellia sasanqua* Camellia	3 x 2.5	150at base	1.5 / 2	ESM	Fair	Fair	4-3	4-2B	2	2-5	Canopy environmentally stressed with minor stem inclusion development at base, pruned for driveway clearance, retaining wall at base W side
Design & impact summary: Proposed removal to make space for new plantings noted within Landscape design documentation with design footprint and basement setback having a Negligible (0%) TPZ encroachment. Tree will likely be affected by demolition of adjacent small retaining wall												
*186	*Cotoneaster glycophyllus* Cotoneaster	4 x 3	200at base	1.6 / 2.4	ESM	Good	Fair	4	2	3	3-5	Old wounds and structural damage on lower twin stems NE side= low retention value
Design & impact summary: Proposed removal to make space for new plantings noted within Landscape design documentation with building footprint and basement setback having a Negligible (0%) TPZ encroachment. Extent of excavation required to be made clear within a colour coded Bulk Earthwork Plan.												
187	*Camellia sasanqua* Camellia	3 x 2	150at base	1.5 / 2	ESM	Fair	Fair / Good	4-3	4	2	2-5	Canopy slightly environmentally stressed, pruned for driveway clearance, retaining wall at base W side
Design & impact summary: Proposed removal to make space for new plantings noted within Landscape design documentation with building footprint and basement setback having a Negligible (0%) TPZ encroachment. Extent of excavation required to be made clear within a colour coded Bulk Earthwork Plan.												

Refer Appendix- C Tree retention value Checklist

	Trees requiring removal due to hazardous or dead condition - subject to Local Government Authority notification		Trees with low retention values: senescence, appear significantly environmentally stressed, have developing defects or are NSW *Weedwise recorded environmentally invasive species

Tree No	*Botanical Name* COMMON NAME	Height x spread (m)	DBH (mm)	SRZ / TPZ (m)	Age	Vitality (Health)	Condition (structure)	LS	VTA	RV	ULE	Comments CV = Council verge tree NT= Neighbouring tree
188	*Camellia sasanqua* Camellia	3 x 2	100at base	1.5 / 2	ESM	Fair	Fair	4	4	2	3-5	Canopy significantly environmentally stressed with decline & low foliage volume, pruned for driveway clearance, retaining wall at base W side
Design & impact summary: Proposed removal to make space for new plantings noted within Landscape design documentation with building footprint and basement setback having a Negligible (0%) TPZ encroachment. Extent of excavation required to be made clear within a colour coded Bulk Earthwork Plan.												
189	*Camellia sasanqua* Camellia	3 x 2	150at base	1.5 / 2	ESM	Fair	Fair / Good	4-3	4	2	2-5	Canopy slightly environmentally stressed, pruned for driveway clearance, retaining wall at base W side
Design & impact summary: Proposed removal to make space for new plantings noted within Landscape design documentation with building footprint and basement setback having a Negligible (0%) TPZ encroachment. Extent of excavation required to be made clear within a colour coded Bulk Earthwork Plan.												
190	Dead tree	6 x 1.5	100	1.5 / -	-	-	-	6	1	4	4	Dead tree with no obvious habitat issues
Design & impact summary: Proposed removal of dead tree to make space for new plantings												
191	Dead tree	9 x 3	250	1.8 / -	-	-	-	6	1	4	4	Dead tree with no obvious habitat issues
Design & impact summary: Proposed removal of dead tree to make space for new plantings												
192	Dead tree	7 x 0	150	1.5 / -	-	-	-	6	1	4	4	Dead tree with no obvious habitat issues
Design & impact summary: Proposed removal of dead tree to make space for new plantings												
193	*Celtis australis* Southern Hackberry	5 x 3.5	100	1.5 / 2	I	Good	Fair	4	2A	3	3	Moderate lean W with poor anchoring root development evident, retaining wall at base W side= condition will become problematic in the future
Design & impact summary: Proposed removal to make space for new plantings noted within Landscape design documentation with building footprint and basement setback having a Minor (<10%) TPZ encroachment. Extent of excavation required to be made clear within a colour coded Bulk Earthwork Plan.												
194	*Camellia sasanqua* Camellia	3 x 2.5	250at base	1.8 / 3	SM	Fair / Good	Fair / Good	4-3	4-2B	2	2-5	Canopy slightly environmentally stressed with minor stem inclusion development at base, pruned for driveway clearance
Design & impact summary: Proposed removal to make space for new plantings noted within Landscape design documentation with building footprint and basement setback having a Minor (<10%) TPZ encroachment. Extent of excavation required to be made clear within a colour coded Bulk Earthwork Plan.												

Refer Appendix- C Tree retention value Checklist

	Trees requiring removal due to hazardous or dead condition - subject to Local Government Authority notification		Trees with low retention values: senescence, appear significantly environmentally stressed, have developing defects or are NSW *Weedwise recorded environmentally invasive species

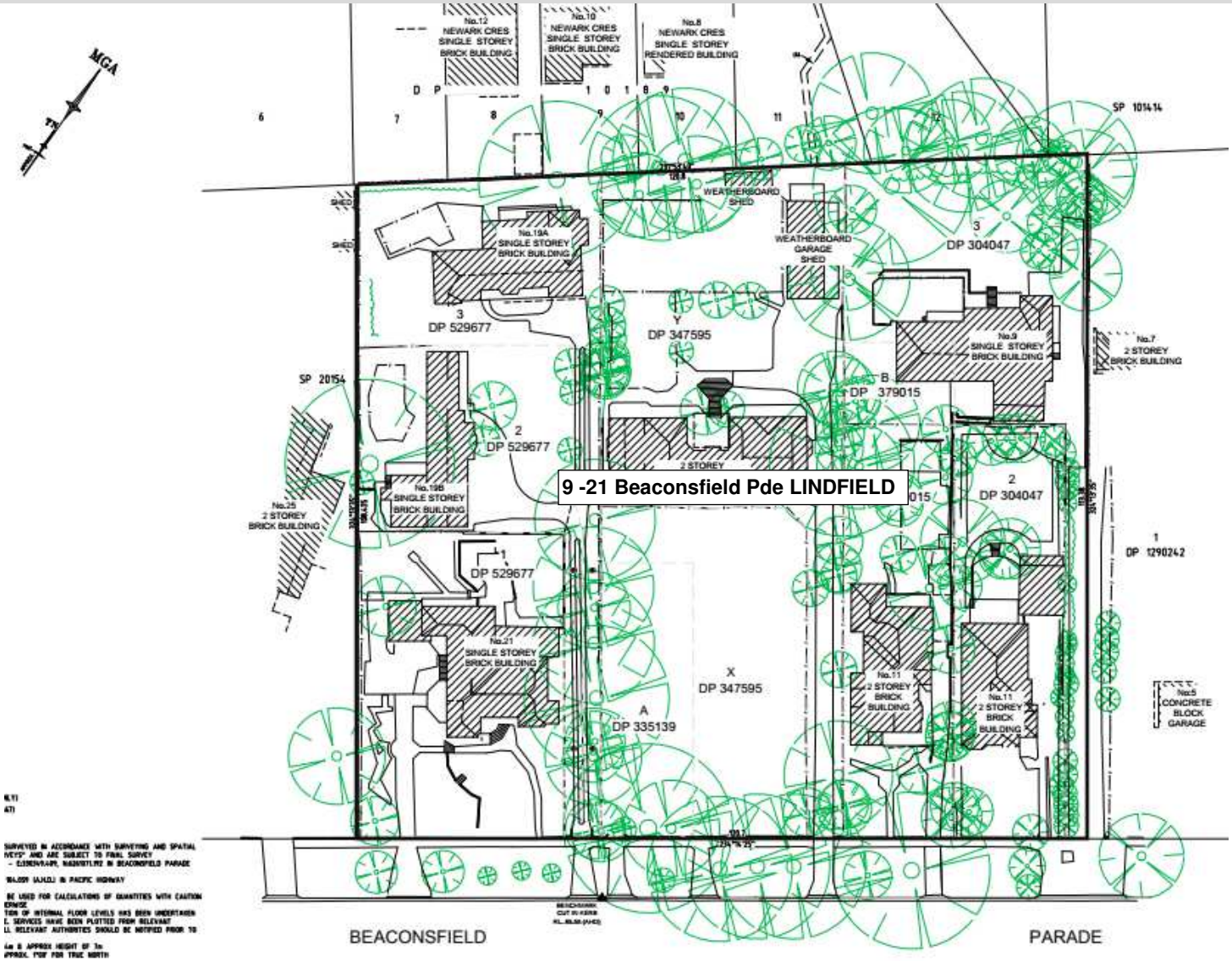
Tree No	*Botanical Name* COMMON NAME	Height x spread (m)	DBH (mm)	SRZ / TPZ (m)	Age	Vitality (Health)	Condition (structure)	LS	VTA	RV	ULE	Comments CV = Council verge tree NT= Neighbouring tree
195	*Camellia sasanqua* Camellia	3 x 2	250at base	1.8 / 3	SM	Fair	Fair / Good	4-3	4	2	2-5	Canopy slightly environmentally stressed, pruned for driveway clearance
Design & impact summary: Proposed removal to make space for new plantings noted within Landscape design documentation with building footprint and basement setback having a Minor (<10%) TPZ encroachment. Extent of excavation required to be made clear within a colour coded Bulk Earthwork Plan.												
196	*Camellia sasanqua* Camellia	3.5 x 2.5	250at base	1.8 / 3	SM	Fair	Fair / Good	4-3	4	2	2-5	Canopy slightly environmentally stressed, pruned for driveway clearance
Design & impact summary: Proposed removal to make space for new plantings noted within Landscape design documentation with building footprint and basement setback having a Minor (<10%) TPZ encroachment. Extent of excavation required to be made clear within a colour coded Bulk Earthwork Plan.												
197	*Camellia sasanqua* Camellia	4 x 4	350at base	2.1 / 4.2	M	Good	Good	4-3	2B	2	1-5	Multi stems at ground level with minor stem inclusion development, pruned for driveway clearance
Design & impact summary: Proposed removal to make space for new plantings noted within Landscape design documentation with building footprint and basement setback having a Moderate (15-20%) TPZ incursion at or near 16.5% encroachment												
198	*Camellia sasanqua* Camellia	4 x 2.5	250at base	1.8 / 3	SM	Good	Good	4-3	2C	2	2-5	Minor lower branch scaffolds past pruning cuts modifying form, pruned for driveway clearance
Design & impact summary: Proposed removal to make space for new plantings noted within Landscape design documentation with building footprint and basement setback having a Minor (<10%) TPZ encroachment. Extent of excavation required to be made clear within a colour coded Bulk Earthwork Plan.												
199	*Jacaranda mimosifolia* Jacaranda	5 x 4.5	250	2 / 3	I	Good	Good	4	6	1	1	Young tree with no significant visual faults
Design & impact summary: Located at or near 2m to basement cut. Proposed removal to make space for new plantings noted within Landscape design documentation with building footprint and basement setback having Moderate (15-20%) TPZ incursion at or near 15.2% encroachment with slight SRZ occupancy. Extent of excavation required to be made clear within a colour coded Bulk Earthwork Plan.												
200	*Camellia sasanqua* Camellia	3.5 x 2.5	300at base	2 / 3.6	SM	Good	Poor	4-3	2A	3	3-5	Significant basal & root plate damage E side= low retention value
Design & impact summary: Proposed removal to make space for new plantings noted within Landscape design documentation with building footprint and basement setback having Moderate to Low (10-15%) TPZ incursion at or near 12.9% encroachment with slight SRZ occupancy. Extent of excavation required to be made clear within a colour coded Bulk Earthwork Plan.												

Refer Appendix- C Tree retention value Checklist

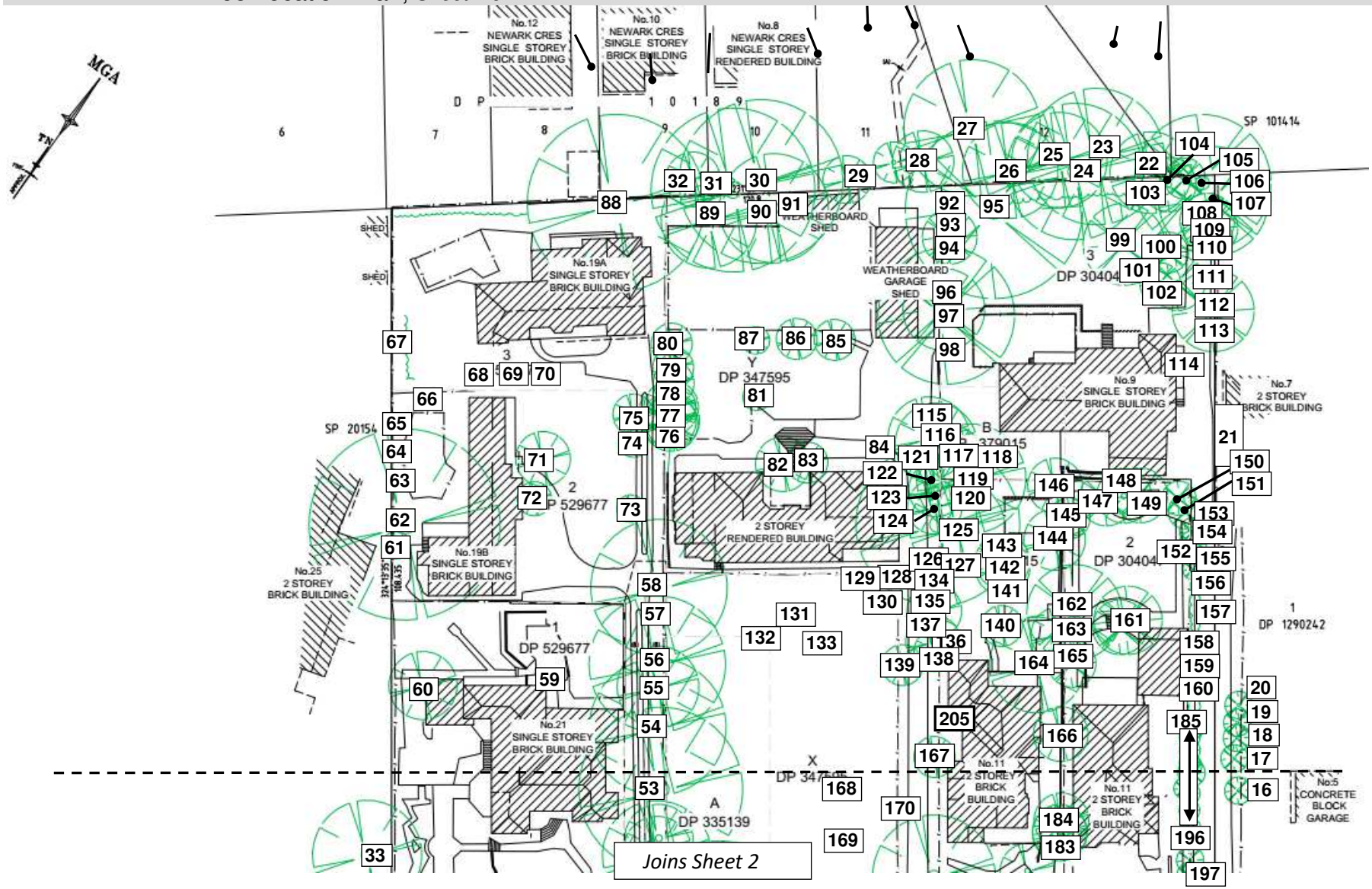
	Trees requiring removal due to hazardous or dead condition - subject to Local Government Authority notification		Trees with low retention values: senescence, appear significantly environmentally stressed, have developing defects or are NSW *Weedwise recorded environmentally invasive species

Tree No	***Botanical Name*** **COMMON NAME**	Height x spread (m)	DBH (mm)	SRZ / TPZ (m)	Age	Vitality (Health)	Condition (structure)	LS	VTA	RV	ULE	Comments CV = Council verge tree NT= Neighbouring tree
201	*Camellia sasanqua* Camellia	3 x 2	200at base	1.6 / 2.4	SM	Good	Fair / Good	4-3	2D	2	2-5	Twin stems at ground level, lower branch scaffolds with past pruning cuts modifying form, pruned for driveway clearance
Design & impact summary: Proposed removal to make space for new plantings noted within Landscape design documentation with building footprint and basement setback having a Negligible (0%) TPZ encroachment. Extent of excavation required to be made clear within a colour coded Bulk Earthwork Plan.												
202	*Camellia sasanqua* Camellia	4 x 3	250at base	1.8 / 3	SM	Good	Fair / Poor	4-3	2A	3	3-5	Baseal wound and decay E side = low retention value, pruned for driveway clearance
Design & impact summary: Proposed removal to make space for new plantings noted within Landscape design documentation with building footprint and basement setback having a Negligible (0%) TPZ encroachment. Extent of excavation required to be made clear within a colour coded Bulk Earthwork Plan.												
203	*Camellia sasanqua* Camellia	4 x 2.5	200at base	1.6 / 2.4	SM	Good	Good	4-3	2C	2	1-5	suppressed canopy form NNW modifying form, trunk & stems slight lean SE, pruned for driveway clearance
Design & impact summary: Proposed removal to make space for new plantings noted within Landscape design documentation with building footprint and basement setback having a Negligible (0%) TPZ encroachment. Extent of excavation required to be made clear within a colour coded Bulk Earthwork Plan.												
204	*Jacaranda mimosifolia* Jacaranda	7 x 7	450	2.4 / 4.8	SM	Poor	Fair / Poor	4	2-2	3	3	Large central canopy decline, damaged with sub end decline resulting in poor form = low retention value
Design & impact summary: Proposed removal of low retention value tree to make space for new plantings noted within Landscape design documentation with building footprint and basement setback having a Negligible (0%) TPZ encroachment. Extent of excavation required to be made clear within a colour coded Bulk Earthwork Plan.												
205	*Melaleuca armillaris* Honey Myrtle	7 x 5	250	2 / 3	ESM	Good	Good	4-3	4-2E	2	<2	Canopy slightly environmentally stressed with low foliage volume, location to infrastructure likely to become problematic in the future
Design & impact summary. Tree located within building or excavation footprint requiring removal to accommodate design												

APPENDIX- E: Site Location Plan



APPENDIX- E1: Tree Location Plan, *Sheet 1 of 2*



APPENDIX- E2: Tree Location Plan, *Sheet 2 of 2*