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372 - 374 MANN & 35 - 37 DWYER STREET

NORTH GOSFORD, NSW

DEVELOPMENT PROPOSAL ARBORICULTURAL IMPACT ASSESSMENT REPORT

Report Ref No- 3725

Prepared for
Stockbridge Properties Pty Limited
C/- Macdonald Industries
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Prepared by
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AQF Level 5 Consulting arborist

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INTRODUCTION

This arboricultural report has been commissioned by Stockbridge Properties Pty Limited C/- Macdonald Industries. The reason this report has been commissioned is to determine the remaining Useful Life Expectancy (ULE) and 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 (SSD) comprising of multi-level mixed-use retail and residential apartment buildings within Lots 4 & 5 of DP 15954, Lot 31 of DP 553523 and Lot 2A in DP 407164, known as 372-374 Mann Street and 35 – 37 Dwyer Street North Gosford NSW.

Recommendations for retention or removal of trees is based on the tree's protection status being prescribed (LGA protected) or non-prescribed trees, tree condition, estimated remaining Useful Life Expectancy (U.L.E.) and potential impacts to trees by the development proposal.

Development incursions within tree protection zones (TPZ) are based on percentages of incursion noted within Note 2 of Appendix- A and are described as *Negligible* (0%), *Minor* (<10%) or *Major* (>10%) TPZ occupancy having *low*, *moderate* to *high-level* impacts within the Tree Protection Zone (TPZ). 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 has been accorded a temporary identification number and is referred to by number throughout this report. For additional trees not plotted on provided documentation their location has been estimated by taking offsets from existing trees and structures.

The trees assessed, their location, development impact and design requirements have been detailed within the Tree Assessment Schedule and Tree Location Plan of Appendices D & E.

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 site and ground level visual tree inspection was conducted on Tuesday 27th August 2024 by the author of this report. The principles of visual tree inspection 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 (tree risk) manual 2017. The inspection included observing trees >3m in height, observing tree health and form, structure and structural condition commencing from ground level to the upper first order branch division as best as site conditions would allow. On completion of the inspection the retention value of the tree was summarised utilizing the tree inspection Checklist provided within Appendix- C.

2. The inspection was limited to visual observations 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.

3. This report acknowledges and utilizes the current Australian Standards 'Protection of Trees on Development Sites' AS 4970 – 2009. Unless specified otherwise all distances and development offsets within this report are taken from the centre of the tree as indicated within provided survey plans or design documentation. In this case existing trees are not plotted within Site or Floor Plan design documentation where the location and impact to the trees has been estimated and determined as best as possible.

4. Plans and/or documentation received to assist in preparation of this assessment include:

   Curzon & Partners / architects job No: 23001, *specific to*:
   - Site Analysis Tree Study, Dwg No: DA006 rev A dated 4.6.2024
   - DCP Setbacks Site A & B, Dwg No: DA033 rev A 28.5.2024
   - Site Plan with existing content, Dwg No: DA050 rev D 10.6.2024
   - Basement 2-3 Plan, Dwg No: DA107 rev B 4.6.2024
   - Lower & Upper Ground Floor, Dwg No: DA109 & 1010 rev B 4.6.2024
   - Site A, Summary Sheet, Dwg No: DA118.1 rev B 4.6.2024
   - Deep Soil Plan, Dwg No: DA141 rev E 4.6.2024
   - Context Cross & Long Sections, Dwg No: DA300 & 301 rev C 4.6.2024
   - Road Sections, Dwg No: DA302, 303, 304 & 305 dated 4.6.2024
   - Driveway Sections, Dwg No: DA306, 307 & 308 rev C 4.6.2024

   Smart Structures Australia, project No 230472
   - Complete Civil Works Dwg C001 Rev C to C040 Rev B dated 24.2.2025

   Site Image Landscape Architects
   - Survey Plan Sheet 1 of 1, rev A dated 20.3.2025

   Barry Hunt & Associates
   - Survey Plan Sheet 1 of 1, rev A dated 10.6.2020

1. SUMMARY OF ASSESSMENT

1.1 General tree assessment

1.1.1 Nineteen (19) trees have been assessed for the purpose of this development proposal. Of the nineteen trees three (3) trees are located within adjoining Council verges and two (2) trees are located on or central to the boundary. Within the site six (6) trees are identified as exempt non-prescribed trees noted within Central Coast DCP2022 Part 3 Environment Controls Chapter 3.5 *Tree & Vegetation Management*.

1.1.2 Exempt non-prescribed trees are identified as trees:

- T3, 5, 6, 7, 13*x2* & 17.

Of the above trees T5 is a dead tree, T7 is located within 3m of an existing structure dwelling and T17 is structurally defective. Being non-prescribed trees, the exempt trees are permitted to be managed (pruned, removed or relocated) without Council consent.

1.1.3 Council verge trees are identified as trees:

- T1 & 2.

The two trees have been identified for removal to make space for new plantings noted within Landscape Design requirements complying with Street Design Guidelines.

1.1.4 Boundary trees are identified as trees:

- T10 & 11.

Of the above trees T11 is a structurally defective tree having a low retention value. The tree should be considered for removal to mitigate risk of damage or injury in the event of large part failure.

1.1.5 With the exception to dead or low retention value trees the trees inspected within the site are considered viable for retention without change in existing site conditions or modification within Tree Protection Zone (TPZ) radiuses as indicated within the SRZ & TPZ distance column of Appendix- D.

1.2 The development proposal

1.2.1 The development proposal consists of mixed-use retail & multi-level residential apartments known as Site A Building 1 and Site B Building 2.

The proposal requires deep excavation for multi-level basement carparking beneath Buildings 1 & 2, including excavation for site leveling shown within Civil Bulk Earthwork Plan C050. Additional site entry is proposed from Dwyer Street for Building A with Building 2 entry proposed from the construction of a new road west of the site.

The proposed footprint of design, including public domain areas, deep basement excavations and site grading cut (leveling) is proposed within Structural Root Zone (SRZ) and Tree Protection Zone (TPZ) radiuses of both prescribed (protected) and non-prescribed trees.

Figure 1, showing proposed design footprint

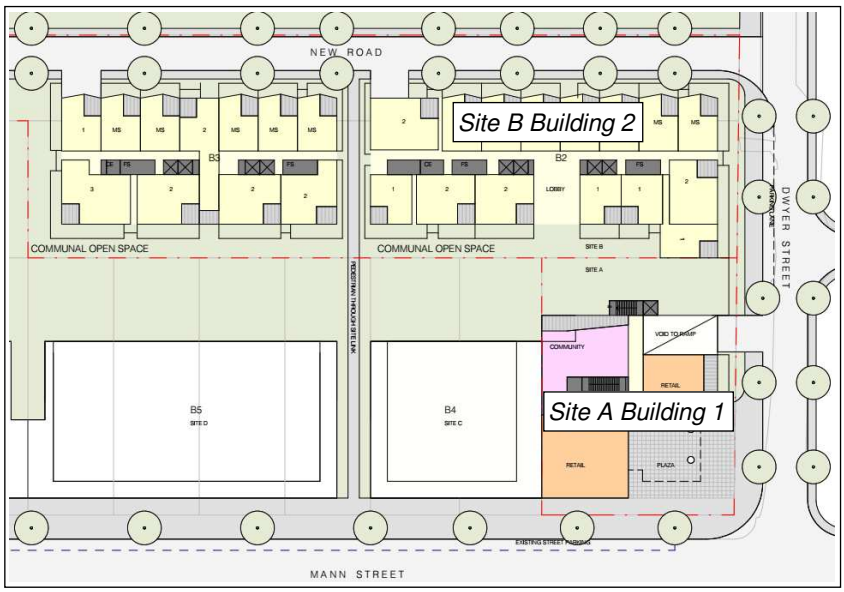
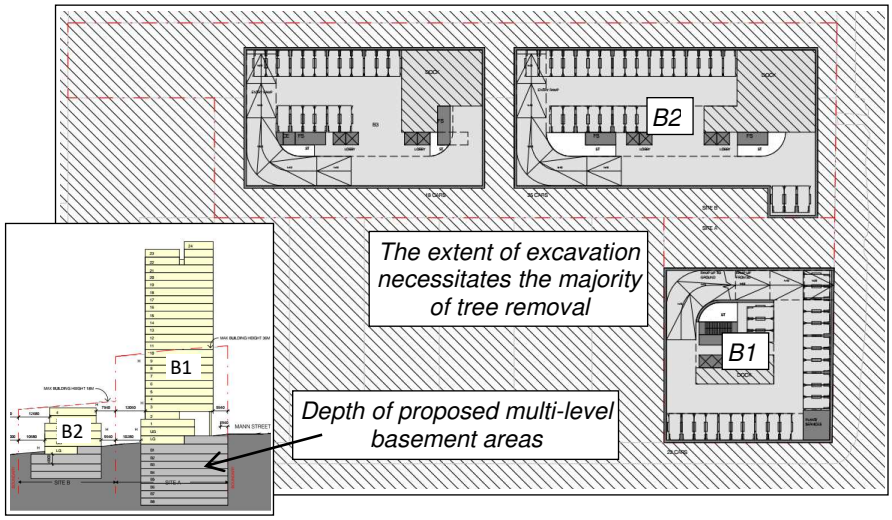


Figure 2, showing proposed basement areas



1.3 Tree removal to accommodate design

1.3.1 Prescribed (protected) trees proposed or recommended for removal to accommodate design requirements are identified as trees:

- T1, 2, 4, 8, 9, 10, 11, 12, 14, 15, 16, 18 & 19.

1.3.2 All exempt non-prescribed trees within the site require removal being identified as trees:

- T3, 5, 6, 7, 13*x2* & 17.

1.3.3 The identified development impacts and design requirements have been detailed and required to be reviewed within Appendix- D with the following sections summarizing impacts by the design proposal.

1.4 Discussion of development impacts

Tree removal:

Prescribed (protected) trees that fall within the building footprint requiring removal to accommodate design:

1.4.1 Those trees which fall directly within the building or excavation footprint requiring removal are identified as:

- T4, 8, 15, 16, 18 & 19.

Trees proposed for removal.

1.4.2 Prescribed tree(s) that receive *High* or *Significant* levels of impact where design is likely to adversely affected, cause failure or decline and/or render trees hazardous are identified as:

- T9, 10, 11, 12 & 14.

Impacts by the design requirement are identified as:

- T9: Receives a *significant* Building 1 & 2 basement encroachment impact within the SRZ & TPZ with additional driveway crossover impact with likely slight canopy reduction pruning required to accommodate design.
- T10: Receives a *moderate level* of encroachment impacts where age of tree and loss of deep soil by Building 2 basement cut, public domain works including canopy reduction pruning will likely alter tree vitality. Given removal of T9 sudden exposure by loss of an adjacent tree wind protection factors would also increase the risk of reducing the trees' ability to withstand disturbance within the tree protection zone.
- T11: A structurally defective tree of low retention value receives a *high-level* of encroachment impact by Building 2 basement cut.
- T12: Receives a *moderate to high-level* of encroachment impact within the SRZ & TPZ indicating the design footprint would compromise the trees viable retention value.
- T14: Receives a *high-level* of encroachment impact within the SRZ & TPZ indicating the design footprint would compromise the trees viable retention value. Proposed site leveling between Buildings A & B including public domain works increases the impact to a *significant* SRZ & TPZ disturbance.

Trees proposed for removal to accommodate design or to make space for new plantings in landscape design.

1.4.3 Two (2) Council verge trees T1 & 2 are proposed for removal to make space for new plantings in Landscape design and to accommodate Street Design Guidelines for replacement trees.

1.4.4 The design encroachment impacts that identifies tree removal has been detailed within Appendix- D.

2. CONCLUSIONS & RECOMMENDATIONS

2.1 Tree Removal

2.1.1 Of the nineteen trees inspected, based on the design proposal the removal of the following thirteen (13) prescribed trees is required to accommodate design: **T1, 2, 4, 8, 9, 10, 11, 12, 14, 15, 16, 18** & **19**.

2.1.2 Within the site six (6) exempt non-prescribed trees are permitted to be removed to accommodate works without Council consent being identified as trees: **T3, 5, 6, 7, 13*x2*** & **17**.

2.2 Specific tree management recommendations

2.2.1 In addition to the recommendations provided within this report the following summary and/or additional recommendations are provided as a guide for tree protection during works:

specific requirements

a) *Tree removal & Canopy pruning:* 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).

b) Prior to works an appointed AQF Level 5 certified project arborist is recommended to review and provide any additional tree protection advice based on an approved Construction Management Plan (CMP) showing traffic management / vehicle access routes and Work Zone Parking Bays.

c) Should additional trees not detailed within this report being trees located close to commercial vehicle access routes, Council verge temporary material storage or adjacent specified Work Zone Parking areas require protection, all trees are to be protected and managed in accordance with Section 2.3 *General tree protection requirements*.

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* which 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) *Tree removal & Canopy pruning:* 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 6/2024
Member: ISA, Arboriculture Australia & IACA, Working With Children No: WWC0144637E

APPENDICES

APPENDIX- A: Terminology & 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.

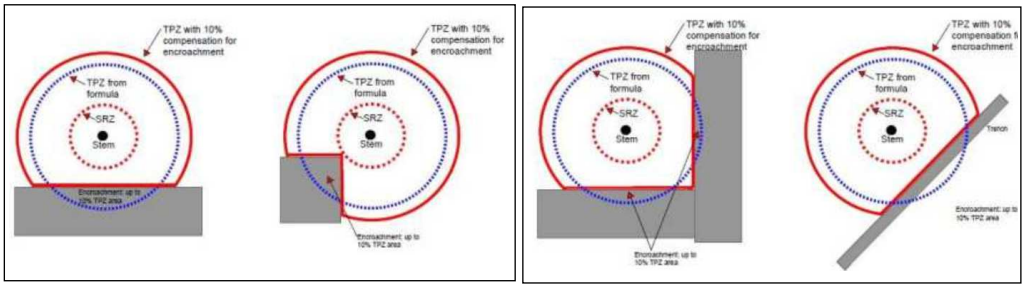
NOTE 1: This report acknowledges the current **Australian Standards 'Protection of Trees on Development Sites'** AS 4970 – 2009 with reference to the Tree Protection Zone (TPZ): being a combination of the root and crown area requiring protection. The TPZ takes into consideration the Structural Root Zone (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.

Matheny N. & Clark J. 1998, Trees & Development *'A Technical Guide to Preservation of Trees During Land Development'* International Society of Arboriculture, Champaign USA.

ProSafe: TPZ encroachment calculator https://proofsafe.com.au/tpz_incursion_calculator.html

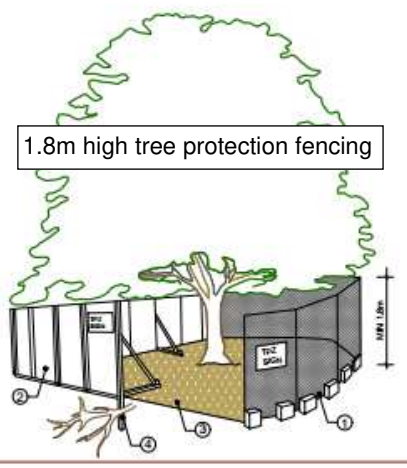
Standards Australia 2009, *Australian Standards 4970 Protection of Trees on Development Sites* - Standards Australia, Sydney, Australia.

Central Coast: DCP 2022 Part 3 Environment Controls Chapter 3.5 Tree & Vegetation Management

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

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

A



1.8m high tree protection fencing

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

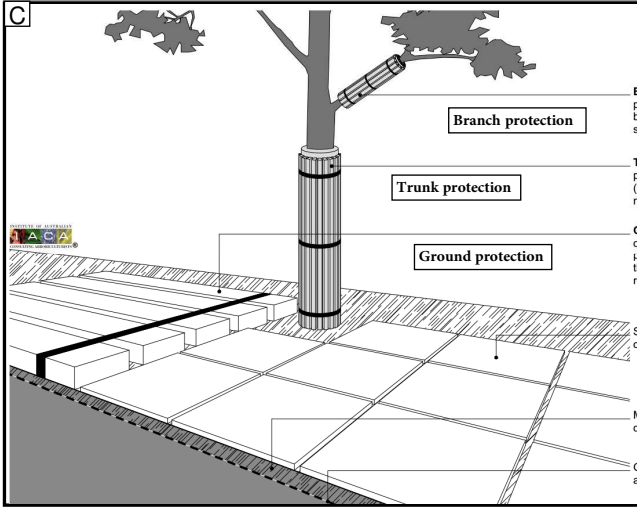
Boards or plywood to be installed over mulch or aggregate layer for any areas requiring access within the TPZ.

Soleplate over geotextile. No excavation for soleplate within TPZ.

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

Geotextile fabric

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 are no industry standards for referencing tree retention value or significance. The values provided 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 or Preservation Orders (TPO)	2E	Trees 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 anchoring root development
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. 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 pressure, or have tall forest form where exposure may result in windthrow or limb snap
		5A	Screen trees or shrubs that are routinely hedged or pruned 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 canopies 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 short term, [4] trees to be considered for removal due to average structural 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, developing defects or being *low significant or *exempt trees within the site from the LGA tree management orders

Tree No	Botanical Name COMMON NAME	Height x spread (m)	DBH (mm)	SRZ / TPZ (m)	Age	Vigour (health)	Condition (structure)	LS	VTA	RV	ULE	Comments CV = Council verge tree, BT= Boundary tree, NT = Neighbouring tree
1 CV	*Lophostemon confertus* Brush Box	5.5 x 4	450	2.5 / 5.4	SM	Good	Fair	3	2D	2	2	Native, significantly pruned for power line clearance modifying form, pruning resulting in excessing epicormic shoots, no significant visual structural faults evident
Design & impact summary: Proposed removal noted within Landscape documentation and to accommodate Street Design Guidelines. Impacts by SW Plans (Civil Design Plan C002) are proposed within the SRZ having a High-level excavation impact with Building B1 Basement Plan [DA106] of Moderate to Low (10-15%) TPZ incursion at or near 12.7% occupancy												
2 CV	*Callistemon viminalis* Bottle Brush	5.5 x 7	350, 300	2.8 / 7.8	M	Good	Fair / Good	3	2B-2D	2	2	Native, low broad form, pruned for power line clearance modifying form, twin stems at 0.8m with minor stem inclusion development, canopy 3m> site to 3m^
Design & impact summary: Proposed removal noted within Landscape documentation and to accommodate Street Design Guidelines. Impacts by SW Plans (Civil Design Plan C002) are proposed within the SRZ having a High-level excavation impact with Building B1 Basement Plan [DA106] of Moderate to High (20-25%) TPZ incursion at or near 22.4% occupancy.												
*3	*Cotoneaster glycophyllus* Cotoneaster	5 x 6	450at base	2.4 / 5.4	M	Fair / Poor	Fair	5	0-2-4	2	3	Exotic, exempt tree species, listed as an undesirable tree species, structurally defective tree, environmentally stressed
Design & impact summary: Proposed removal, within building or excavation footprint to accommodate Building B1 basement												
4	*Ceratopetalum gummiferum* NSW Christmas Bush	7.5 x 4	550at base	2.6 / 6.6	M	Good	Good	3	2B	2	<2	Native, Multi stemmed at base, (x4), lower canopy minor decline with no significant visual faults
Design & impact summary: Proposed removal, within building or excavation footprint to accommodate Building B1 basement												
5	Dead tree	4 x 4	250at base	1.8 / -	-	-	-	6	1	4	4	Dead tree appears without habitat value
Design & impact summary: Proposed removal, within building or excavation footprint to accommodate Building B1 basement												

	Trees requiring removal due to hazardous or dead condition - subject to Local Government Authority notification		Trees with low retention values: senescence, developing defects or being *low significant or *exempt trees within the site from the LGA tree management orders									
Tree No	***Botanical Name* COMMON NAME**	**Height x spread (m)**	**DBH (mm)**	**SRZ / TPZ (m)**	**Age**	**Vigour** (health)	**Condition** (structure)	**LS**	**VTA**	**RV**	**ULE**	**Comments** CV = Council verge tree, BT= Boundary tree, NT = Neighbouring tree
*6	*Nerium oleander* Oleander	4 x 5	600at base	2.7 / 7.2	SM	Good	Fair / Good	3	0-2B	2	2	NSW Weedwise *General Biosecurity Duty (prevent, eliminate or minimize any biosecurity risk)*. Considered an undesirable tree, Multi stemmed at base, typical for species
Design & impact summary: Proposed removal, within building or excavation footprint to accommodate Building B1 basement												
7	*Chamaecyparis obtuse* "Crippsii' Hinoki Cypress	9.5 x 8	550	2.7 / 6.6	EM	Good	Fair / Good	3	2B	2	<2	Exotic. Likely exempt tree species, appears to be located within 3m of an existing structural dwelling, to be confirmed by survey, contains stem inclusion development faults at 1.2m & 1.8m= tree structural condition is likely to become problematic in the future
Design & impact summary: Proposed removal, within building or excavation footprint to accommodate Building B1 basement												
8	*Juniperus chinensis spp.* Juniper	5 x 10	400	2.4 / 4.8	SM	Good	Fair	3	2D	2	2	Exotic, significantly pruned for power line clearance modifying to low broad form with no significant visual faults
Design & impact summary: Proposed removal, within building or excavation footprint to accommodate Building B1 basement												
9	*Juniperus chinensis spp.* Juniper	11 x 11	1000	3.4 / 12	LM	Good	Fair	3	2B	2	2	Exotic. Multi stems at 1.4m, torsion twisted lower trunk with minor stem inclusion development at stem junctions, pruned for power line clearance N side
Design & impact summary: Basement for Building B1 & B2 including driveway crossover of Significant SRZ & TPZ occupancy at or near 37.1% with B2 footprint located within the SRZ. Given likely additional construction disturbance for Site A & B within the SRZ & TPZ tree very unlikely to tolerate impacts by the proposal. Tree removal should be considered for removal or design amended to accommodate tree.												
10 *BT*	*Juniperus chinensis spp (Spartain)*. Juniper	12 x 10	550	2.7 / 6.6	EM	Good	Good	3	2B	2	2	Exotic. Boundary tree. Pruned for power line clearance modifying form, suppressed canopy form E side – biomass NNW, tree may become problematic if T9 removed
Design & impact summary: Should T9 be removed T10 will become hazardous due to sudden exposure and loss of an adjacent tree / wind protection factor. Proposed deep soil disturbance & loss by Building 2 Basement footprint of manageable Moderate (15-20%) TPZ incursion at or near 16% encroachment and outside the SRZ. Canopy impact by reduction pruning is likely to exceed 15% volume with tree already pruned for power line clearance modifying form. Given both above & below ground impacts, tree may not tolerate proposal and unlikely to be aesthetically suitable in landscape design. Tree removal should be considered, or design amended to accommodate trees T9 & 10.												

	Trees requiring removal due to hazardous or dead condition - subject to Local Government Authority notification		Trees with low retention values: senescence, developing defects or being *low significant or *exempt trees within the site from the LGA tree management orders

Tree No	*Botanical Name* COMMON NAME	Height x spread (m)	DBH (mm)	SRZ / TPZ (m)	Age	Vigour (health)	Condition (structure)	LS	VTA	RV	ULE	Comments CV = Council verge tree, BT= Boundary tree, NT = Neighbouring tree
11 *BT*	*Glochidion ferdinandi* Cheese Tree	8 x 7	800	3 / 9.6	OM	Fair	Poor	3	2-3	3	<3	Native, likely endemic. Boundary tree. Pruned for power line clearance modifying form. Structurally defective tree with lower trunk open wounds & decay S side to ground level = low safe retention value
Design & impact summary: Tree should be considered for removal being a hazardous, structurally defective tree. Proposed deep soil disturbance & loss by Building 2 Basement footprint of High (25-35%) TPZ incursion at or near 27.1% being just outside the SRZ. Age & poor vigour / structural condition indicates tree unlikely to tolerate deep soil disturbance where decline can be expected from the proposal. Tree removal should be considered for removal or design amended to accommodate the tree & public safety.												
12	*Callistemon Harkness* Bottle Brush	4.5 x 5.5	350at base	2.1 / 4.2	M	Good	Fair / Good	4-3	2C	2	2	Native. Twin stems at ground level, Multi stems at 0.7 from past pruning cuts with no significant visual faults evident
Design & impact summary: Not plotted within Survey documentation. Appears located within 2m of Building 2 basement cut having Moderate to High (20-25%) TPZ incursion at or near 21.3% occupancy with excavation within the SRZ. Given building footprint and likely public access & construction over the remaining deep soil area tree is unlikely going to tolerate impacts by the proposal. Based on the design proposal tree removal should be considered, or design amended to accommodate the tree.												
*13x2	*Solanum mauritianum* Woolly Nightshade (tobacco bush)	5 x 5	150at base	1.5 / 2	ESM	Fair / Good	Good	5	0-4	1	3	NSW Weedwise *General Biosecurity Duty (prevent, eliminate or minimize any biosecurity risk).* Considered invasive, environmentally stressed with decline in canopy
Design & impact summary: Recommended non-prescribed tree removal to accommodate design												
14	*Juniperus chinensis spp.* Juniper	16 x 5	1100	3.5 / 13.2	LM	Fair / Good	Fair / Good	3	4-2B	2	2	Exotic. Canopy slightly environmentally stressed N side, low broad form, multi stems at 1.6m with minor stem inclusion development
Design & impact summary: Basement for Building B1 & B2 of High (25-35%) TPZ incursion at or near 33.7% with slight B2 SRZ encroachment. With likely excavation cut between Site A & B increasing deep soil impact to Significant >35% SRZ & TPZ occupancy. Major canopy reduction pruning will be likely on the western side modifying form where overall impacts by proposal indicates tree will unlikely tolerate design proposal. Based on design impacts & occupancy within the SRZ & TPZ tree removal should be considered, or design amended to accommodate the tree.												
15	*Glochidion ferdinandi* Cheese Tree	10 x 2	1100 at base	3.5 / 13.2	LM	Good	Fair / Good	3	2B	2	2	Native, likely endemic. Three (3) main stems, minor stem inclusion development E side & N side, slightly low foliage volume with no significant visual faults
Design & impact summary: Proposed removal, within building or excavation footprint for Building 2 Basement proposal												

	Trees requiring removal due to hazardous or dead condition - subject to Local Government Authority notification						Trees with low retention values: senescence, developing defects or being *low significant or *exempt trees within the site from the LGA tree management orders					
Tree No	***Botanical Name* COMMON NAME**	**Height x spread (m)**	**DBH (mm)**	**SRZ / TPZ (m)**	**Age**	**Vigour** (health)	**Condition** (structure)	**LS**	**VTA**	**RV**	**ULE**	**Comments** CV = Council verge tree, BT= Boundary tree, NT = Neighbouring tree
16	*Juniperus rigida* Temple Juniper	10 x 5	300	2.1 / 3.6	SM	Good	Fair / Good	3	2C	2	2	Exotic. Suppressed canopy form E side – biomass & lean W, skewed leaning trunk W where tree may become problematic if exposed
Design & impact summary: Proposed removal, within building or excavation footprint for Building 2 Basement proposal												
*17	*Ligustrum lucidum* Broad Leaved Privet	10 x 10	1000	3.4 / 12	M	Fair / Poor	Poor	5	0-2	3	3	NSW Weedwise *General Biosecurity Duty (prevent, eliminate or minimize any biosecurity risk).* Considered invasive, structurally defective tree with branch bark basal inclusions throughout with decline in canopy
Design & impact summary: Proposed removal of exempt non-prescribed tree, within building or excavation footprint for Building 2 Basement proposal												
18	*Marraya paniculata* Marraya	4.5 x 5	400at base	2.3 / 4.8		Good	Good	4-3	6	1	2	Exotic. Multi stemmed at base, with no significant visual faults
Design & impact summary: Proposed removal, within building or excavation footprint for Building 2 Basement proposal												
19	*Juniperus chinensis spp.* Juniper	9 x 7	650	2.8 / 7.8	EM	Good	Good	3	7	2	2	Restricted visual inspection, dense foliage cover, above ground visual parts appear in good order
Design & impact summary: Proposed removal, within building or excavation footprint for Building 2 Basement proposal												

APPENDIX- E: Tree Location Plan