



ARBORICULTURAL IMPACT ASSESSMENT REPORT

Prepared For: Mr. & Mrs. Cindy Xie

Site Address: 56 Cooyong Road,
TERREY HILLS, NSW, 2084

Inspection Dates: 28th April 2023
Report Date: 5th May 2023
Amended Date: 18th September 2023 (Version 2)



Image 1: Aerial imagery of the Site (Source: NearMap)

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1 Introduction

1.1 Background

- 1.1.1 Blues Brothers Arboriculture has been engaged by the owner to inspect and report on trees for development purposes. A new dwelling is proposed by Development Application (DA)
- 1.1.2 The scope of works includes the assessment or identification of fifteen trees located within the vicinity of proposed development.
- 1.1.3 Information supplied and relied upon in the preparation of this report included:
- Detail survey produced by Richards & Loftus; Reference 2689, Issue B, Dated 29/03/2022.
 - Architectural suite of plans produced by Katris Architects Pty. Ltd.; Issue Q, Dated 14/04/2023, inclusive:
 - Site Plan,
 - Floor plan,
 - Elevations, and
 - Sections.
 - Dial Before You Dig (DBYD); Job 34141970, Requested 05/05/2023.
 - Planning portal property report, Accessed 05/05/2023.
 - Northern Beaches Council Natural Referral Response dated 18/09/2023
- 1.1.4 The use of these documents / sources is acknowledged with thanks.
- 1.1.5 The NSW Rural Fire Service online tool for determining eligibility under the '10/50' legislation was interrogated for the purposes of this report. As at the date of this report, the property is not eligible under the code of practice and no clearing provisions apply to the property.
- 1.1.6 Documents obtained via the BYDA request indicates the site contains the following civil assets which may require additional works for protection:
- Northern Beaches Council Stormwater easement: Located parallel to the Eastern Boundary of the site known as "*Neverfail Gully*"



1.2 Definitions & Abbreviations:

- 1.2.1 **The Standard** refers to the Australian Standard AS4970:2009 – *Protection of trees on development sites*.
- 1.2.2 **The site** refers to the land within the proposed development site.
- 1.2.3 An **Exempt Tree** is a tree that is exempt from planning controls due to meeting Council's definition of exempt vegetation or trees. Exempt Trees may be removed irrespective of development and at any time without Council approval.
- 1.2.4 **A significant root** is defined as any woody root with a diameter of 25mm or larger.
- 1.2.5 **AGL** – Above Ground Level
- 1.2.6 **LGA** – Local Government Area.
- 1.2.7 **DBH** – Diameter at Breast Height; Approximately 1.4 metres above ground level measured in metres.
- 1.2.8 **DGL** – Diameter at Ground Level; Measured above the root flare / collar measured in metres.
- 1.2.9 **TPZ** – Tree Protection Zone. Calculated per the standard:
$$TPZ\ radius = 12 \times DBH$$
- 1.2.10 **SRZ** – Structural Root Zone. Calculated per the standard:
$$SRZ\ radius = (DGL \times 50)^{0.42} \times 0.64$$
- 1.2.11 **FFL** – Finished Floor Level.
- 1.2.12 **RL** – Reduced Level.
- 1.2.13 **SEPP** – State Environmental Planning Policy.
- 1.2.14 **BYDA** – Before You Dig Australia (formerly Dial Before You Dig)

1.3 Change log:

- 1.3.1 Version 1 – Original.
- 1.3.2 Version 2 – Updates to tree retention comments following receipt of Council RFI.

1.4 Disclaimers:

- 1.4.1 This report is considered limited to what could reasonably be seen from ground level only and expresses no commentary on changes which may have, or will, impact the trees or their environment outside the scope of works.



2 Methodology

2.1 Visual Tree Assessment

- 2.1.1 Trees were visually inspected from ground level only in accordance with VTA (Visual Tree Assessment); a methodology derived by Mattheck and Breloer (1994).
- 2.1.2 Canopy Assessment included foliage condition (volume and colour); the presence of pests and diseases, dieback, deadwood and epicormic growth.
- 2.1.3 Tree condition included assessment of structural stability, previous pruning and any damage/disturbance which may have occurred.
- 2.1.4 No destructive or aerial investigations occurred to the tree.
- 2.1.5 Hollows, where found or suspected, were probed to ascertain their size and extent to assist in calculating ratios of notional cavity size and useful life expectancy.
- 2.1.6 Access to neighbouring properties was not sought.
- 2.1.7 A tree numbering schedule was not located on any of the supplied documents. The Arborist assigned tree numbers for reference within this report. Tree tagging did not occur.
- 2.1.8 Tree data is displayed in Appendix 1.
- 2.1.9 Appendix 2 – Arboricultural mark-up including Tree identification, TPZ and SRZ zones and the degree of encroachment proposed by the development.
- 2.1.10 Tree height and canopy width were estimated with the assistance of a Leica Disto X4 (Laser Distometer).
- 2.1.11 A forestry Diameter tape was utilised in the measuring of trunk diameters of accessible high significance trees.



3 Results

3.1 Desktop Research

3.1.1 Research from the NSW Planning portal revealed the following information for the properties:

- Zoning: RU4 – Primary Production.
- Landslide risk land:
 - Area A (Slope <5°)
 - Area B (Flanking Slopes 5° to 25°)

3.1.2 In accordance with published directives of Northern Beaches Council, a protected tree is a tree meeting the following criteria¹:

- Has a height of 5m or more;
- Located more than 2m from the outside enclosing wall of an approved building.
- Not listed on the *Exempt Tree Species List*.

3.1.3 None of the assessed trees were listed in the Council significant tree register or listed under the Threatened species conservation Act 1995.

¹ Northern Beaches Council: Trees on Private Land: <https://www.northernbeaches.nsw.gov.au/planning-development/tree-management/private-land>



3.2 The Site

- 3.2.1 Located in the western extent Terrey Hills, the previously cleared site presented with a slight southerly aspect sloping to Cooyong Rd.
- 3.2.2 Structures on the site included:
- A two-storey clad dwelling, and
 - Detached Shed
- 3.2.3 Landscaping on the site was limited to smaller trees and vegetation around site perimeter.
- 3.2.4 Vegetation generally appeared in good health and condition despite little evidence of a routine maintenance plan. The vegetation was seen with varying states of landscape significance across the site.

3.3 The Development

- 3.3.1 A new dwelling is proposed for construction on the site. Supplementary to the dwelling, the following features are proposed:
- In-ground pool,
 - Tennis Court,
 - Detached shed, and
 - A new driveway and associated crossover.
- 3.3.2 The existing dwelling is proposed for conversion into a semi-detached annex to the house.
- 3.3.3 The supplied plans propose for the removal of seven trees on the site.
- Some of these trees have been referred to as a *stand* of trees in this report and the final count may not reflect the number of trees for removal.
- 3.3.4 A landscape plan was not provided in preparation of this report. Plans indicate landscaping will occur as part of the development.

3.4 The Trees

3.4.1 Fifteen trees were assessed as part of the scope of works, categorised as follows:

- One street tree (Camphor Laurel species)
- Fourteen trees located on the site.

3.4.2 The street tree is shown to be partially located on the Southern Boundary of the site. It is considered this tree was planted in conjunction with other similar species of the assessment.

3.4.3 The site contained numerous exempt species per Northern Beaches Council DCP, these being:

Tree ID	Species	Reason Exempt
1	Jacaranda	Exempt Species List
2, 4, 15	Camphor Laurel	Exempt Species List
8	Crepe Myrtle	Exempt Species List
10	Tree Fern	Below 5m prescribed height
14	Table Mountain Pine	Exempt Species List

3.4.4 The site contained several dead trees as annotated in Appendix 2.

3.4.5 Trees 5 & 6 were small mature Macadamia trees standing in good health and without fault.

3.4.6 Tree 7 was a mature crimson bottlebrush appearing in an upright but suppressed form.

3.4.7 Tree 8 was a stand of four similarly sized mature Crepe Myrtles. This stand of trees is proposed for removal on the supplied plans.

3.4.8 Tree 9 was a stand of four similarly sized mature Black She-Oaks. These trees presented in good health and condition, standing true to form without negative commentary.

3.4.9 Tree 11 was a mature Scribbly Gum (*E. racemosa*) standing with an upright form. This tree presented with small amounts of large diameter deadwood within the canopy & inactive termite leads. This was one of the few High significance trees of the assessment.

3.4.10 Tree 12 was a mature Smooth-barked Apple standing in moderate health and vigour. The mature tree appeared with a sparse canopy and kino staining of the lower trunk. A build-up of grass around the basal flare could be contributing to collar rot & the decline of the tree.

- 3.4.11 Tree 13, another Smooth-barked Apple, stood in poor health at the read of the site. This over-mature tree stood in a state of active retrenchment appearing to be in the early stages of tree death. Despite this observation, this species can appear in poor health for many years, if not decades, before finally dying.
- 3.4.12 Tree 14, an exempt Pine species, appeared to be an escaped Christmas tree at the rear of the site. This tree was without further comment.
- 3.4.13 Trees otherwise shown in Appendix 2 without numbering or annotation were photographed for due diligence. No other assessment occurred for these trees.

3.5 Construction impacts to the trees:

The following development impacts are likely to occur resulting from the development:

- 3.5.1 No encroachment of the TPZ areas of the following trees are proposed:

Tree ID	Species
1	Jacaranda
2-4	Camphor Laurel
5 & 6	Macadamia
7	Crimson Bottlebrush
9	Black She-Oak
10	Tree Fern
11	Scribbly Gum
12 & 13	Smooth-Barked Apple
14	Table Mountain Pine

Due to the location of these trees, **no impacts** are likely to occur as part of the development.

- 3.5.2 The exempt Mulberry & exempt trees, T8 & T15, are the only trees likely to be impacted by the development. The development proposes *Major encroachment* of the TPZ areas of these trees which are located within the proposed development envelope.

The retention of these trees is not possible based on the development proposal.



4 Conclusion

- 4.1.1 Fifteen trees were assessed or identified as part of the scope of works, with most seen to be in good health.
- 4.1.2 The proposed development impacts are binary. Three exempt trees of the assessment require removal to accommodate the project, whilst the remaining thirteen are unlikely to be impacted.
- 4.1.3 The assessed trees pose little constraint on the development due to ample offset from the proposed works.
- 4.1.4 The Arborist supports the proposed development from an Arboricultural perspective.

5 Recommendations:

Refer to section 3.5 for further discussion relating to development impacts.

5.1 Trees for retention:

5.1.1 The following trees are recommended for retention due to little or no impact from the proposed development:

Tree ID	Species
1	Jacaranda
2-4	Camphor Laurel
5 & 6	Macadamia
7	Crimson Bottlebrush
9	Black She-Oak
10	Tree Fern
11	Scribbly Gum
12	Smooth-Barked Apple
14	Table Mountain Pine

5.1.2 Tree 13 is recommended for retention as part of the development due to negligible impacts proposed on supplied plans.

Despite negligible impacts, this report must acknowledge the poor condition of the tree for transparency should future tree-health concerns arise.

5.2 Trees for removal

5.2.1 It is recommended that Trees within the development footprint (T8, T15 and the exempt mulberry) are removed as part of the development proposal.

5.2.2 Exempt trees, as indicated in appendices 1 & 2, could be removed at any time irrespective of Council approval.

5.3 Construction Recommendations:

5.3.1 It is recommended that any additional works (drainage, connection of services) are routed around (or off) the site in a way which avoids TPZ areas of trees to be retained as much as possible.

5.3.2 It is recommended that works within the TPZ area of all trees to be retained are cautious of *significant roots (1.2.4)* which may exist below ground. These roots shall be protected as much as possible in accordance with the standard (1.2.1) and advice from an AQF5 Arborist.

5.3.3 It is recommended that the tree protection plan (next section) is implemented prior to the commencement of works (demolition or otherwise).

5.3.4 A formal tree protection plan is not warranted for this project. The Arborist defers recommendation to Northern Beaches Council's standard conditioning of tree protection measures which will be sufficient in protecting trees on the site.



Appendix 1 – Tree Data Summary

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Tree Data Summary - 56 Cooyong Road, Terrey Hills - Assessed 28/04/2023

Tree ID	Species	Height (m)	Canopy dims n/s in metres	DBH (cm)	DGL (cm)	Foliage condition	Maturity	Trunk type	Trunk lean	Canopy Balanced	Past Pruning	Stability	Vigour	Canopy deadwood	Significance value	Notes	TPZ (M) Radius	SRZ (M) Radius
T1	<i>Jacaranda mimosifolia</i> (Jacaranda)	10	10	40	45	Good	Mature	Single	Upright	Bias North	Lower Limbs	Appears Stable	Good	0-5%	Low	Exempt Species	4.8	2.4
T2	<i>Cinnamomum camphora</i> (Camphor laurel)	18	15	65	75	Good	Mature	Single	Upright	Yes	Lower Limbs	Appears Stable	Good	0-5%	Low	Boundary fence accomodates the tree. Exempt Species	7.8	2.9
T3	<i>Cinnamomum camphora</i> (Camphor laurel)	15	12	55	65	Good	Mature	Single	Upright	Yes	Lower Limbs	Appears Stable	Good	0-5%	Low	STREET TREE - By Survey Exempt Species, but protected under development.	6.6	2.8
T4	<i>Cinnamomum camphora</i> (Camphor laurel)	21	15	91	120	Good	Mature	Single	Upright	Yes	Not apparent	Appears Stable	Good	0-5%	Low	Exempt Species	10.9	3.6
T5	<i>Macadamia sp.</i> (Macadamia)	7	5	35	40	Good	Mature	Single	Upright	Yes	Not apparent	Appears Stable	Good	0-5%	Low		4.2	2.3
T6	<i>Macadamia sp.</i> (Macadamia)	6	8	21	26	Good	Mature	Single	Upright	Yes	Not apparent	Appears Stable	Good	0-5%	Low		2.5	1.9
T7	<i>Callistemon citrinus</i> (Crimson Bottlebrush)	8	10	35	30	Good	Mature	Single	Upright	Yes	Not apparent	Appears Stable	Good	0-5%	Low	Smaller tree growing on side of bank.	4.2	2.0
T8	<i>Lagerstroemia indica</i> (Crepe Myrtle)	7	15	35	40	Good	Mature	Single	Spreading	Yes	Lower Limbs	Appears Stable	Good	0-5%	Low	Stand of four similar trees. Exempt Species	4.2	2.3
T9	<i>Allocasuarina littoralis</i> (Black She-Oak)	20	11	50	60	Good	Mature	Single	Upright	Bias North	Lower Limbs	Appears Stable	Good	0-5%	Moderate		6.0	2.7
T10	<i>Cyathea cooperi</i> (Tree Fern)	4	3	18		Good	Mature	Single	Upright	Yes	Not apparent	Appears Stable	Good	0-5%	Low	Exempt Species - Less than 5m in height	2.2	0.0
T11	<i>Eucalyptus racemosa</i> (Scribbly Gum)	19	18	65	80	Good	Mature	Single	Bias North	Yes	Not apparent	Appears Stable	Good	5-10%	High	Inactive termite leads noted	7.8	3.0
T12	<i>Angophora costata</i> (Smooth-barked Apple)	24	20	75	85	Moderate	Mature	Single	Upright	Bias North	Lower Limbs	Mostly stable	Good	5-10%	High	Tree appears with sparse canopy and Kino staining of lower trunk. Buildup of grass around basal flare likely to be contributing to the formation of collar rot.	9.0	3.1

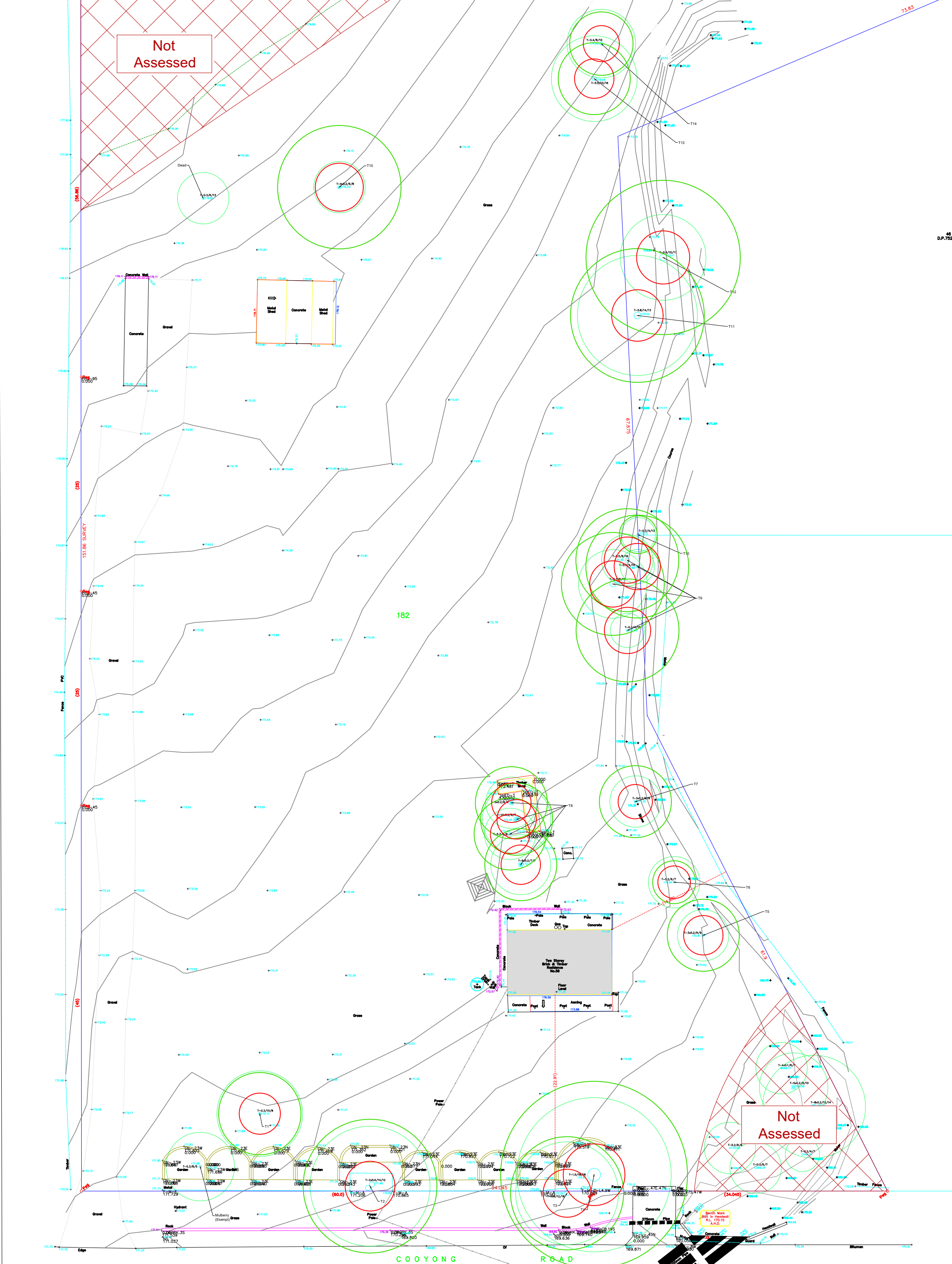
Tree Data Summary - 56 Cooyong Road, Terrey Hills - Assessed 28/04/2023

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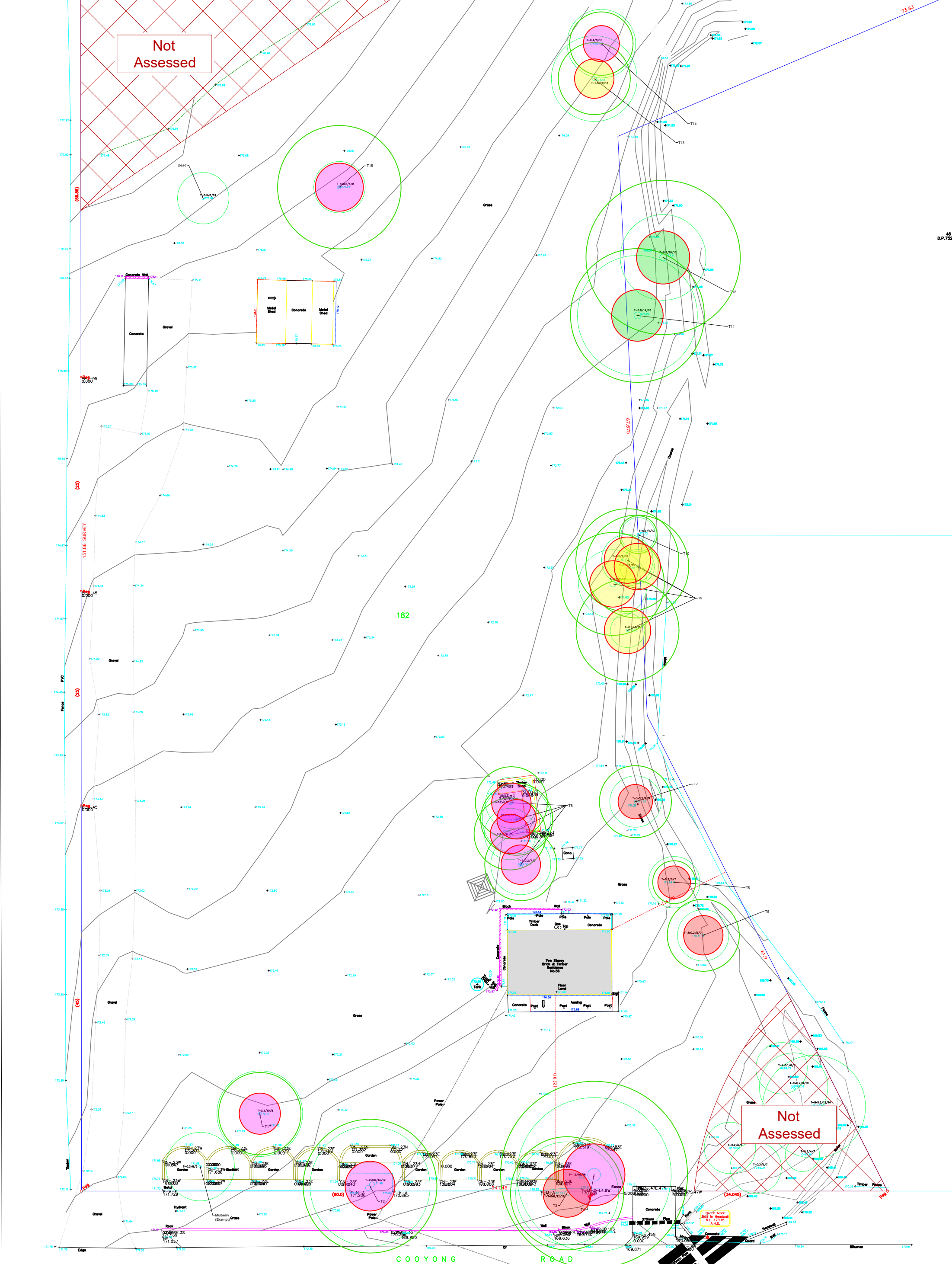


Appendix 2 - Tree identification and incursion potentials

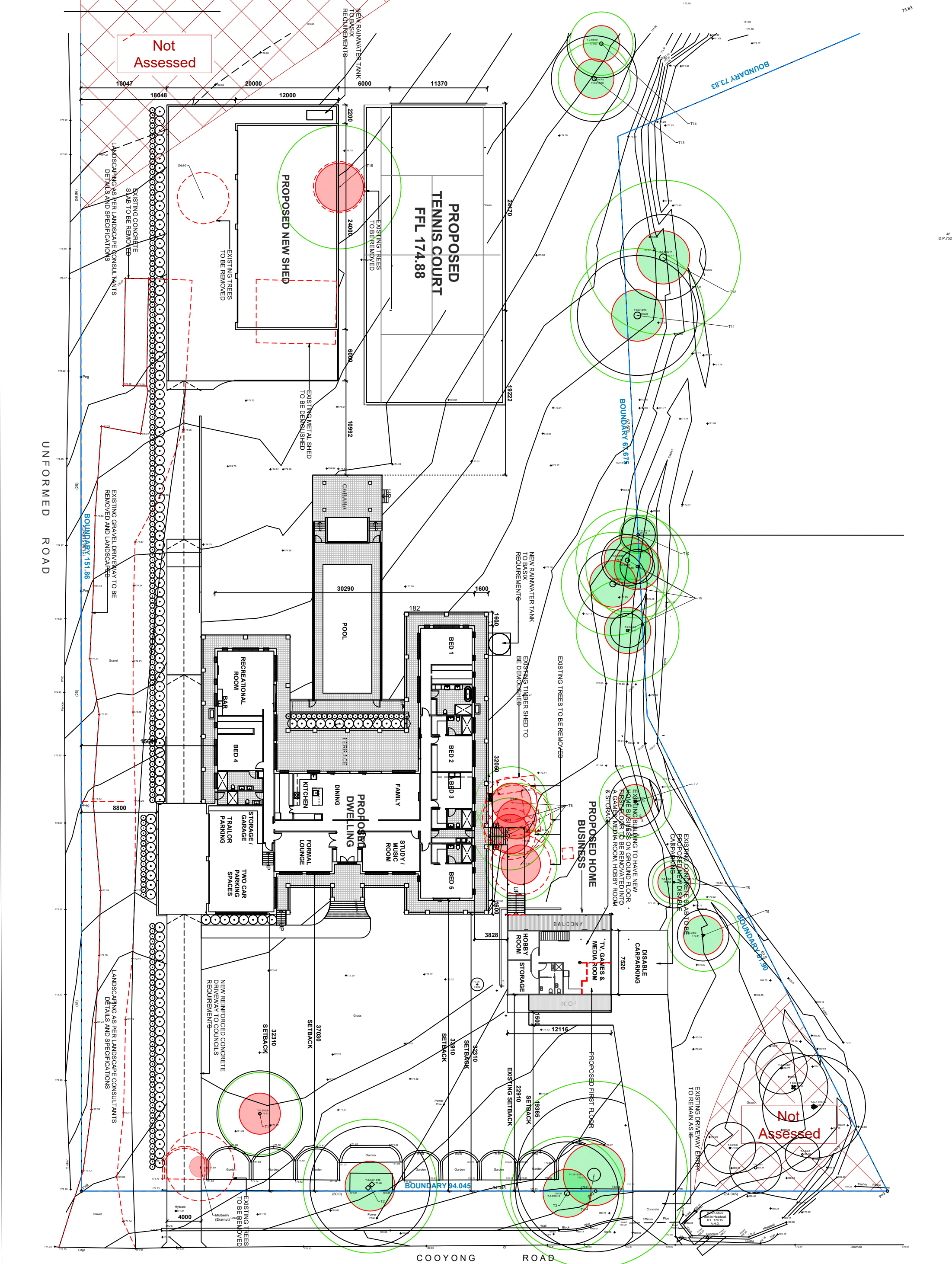
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	Blues Brothers Arboriculture PO BOX 4, TERREY HILLS, NSW, 2084 0439991122 www.bluesbros.com.au gordon@bluesbros.com.au	Title: Tree Identification Project: 56 Cooyong Rd Terrey Hills.dwg	Revision: 01 Plot Date: 05/05/2023	Key:  Tree Protection Zone (TPZ)  Structural Root Zone (SRZ)  Canopy Spread  Encroachment Area
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	Blues Brothers Arboriculture PO BOX 4, TERREY HILLS, NSW, 2084 0439991122 www.bluesbros.com.au gordon@bluesbros.com.au	Title: Tree Significance Values Project: 56 Cooyong Rd Terrey Hills.dwg	Revision: 01 Plot Date: 05/05/2023	Key: - High Significance - Moderate Significance - Low Significance - Exempt Species (Per DCP)
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	Blues Brothers Arboriculture PO BOX 4, TERREY HILLS, NSW, 2084 0439991122 www.bluesbros.com.au gordon@bluesbros.com.au	Title: Tree Retention Plan Project: 56 Cooyong Rd Terrey Hills.dwg	Revision: 01	Key: High Significance Moderate Significance Low Significance Exempt Species (Per DCP)
			Plot Date: 19/06/2023	

Appendix 3 – Photographs



Image 2: Vegetation on the site as seen.



Image 3: Trees located within the footprint of the proposed shed.



Image 4: Trees at the front of the property within the vicinity of the proposed driveway. Tree 1 pictured [centre].



Image 5: Existing trees along the front boundary of the property.