



ARBORICULTURAL IMPACT ASSESSMENT REPORT

Prepared For: Mr. Dave Wang & Mrs. Ma
Care of: Wincrest Bespoke

Site Address: 231-233 McCarrs Creek Road,
CHURCH POINT, NSW, 2105

Inspection Dates: 30th September 2021
Report Date: 12th October 2021
Revised Date: 2nd May 2022



Image 1: An oblique aerial view of the site. Photo by Arborist.

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1 Introduction

1.1 Background

1.1.1 Blues Brothers Arboriculture has been engaged by the architect to inspect and report on trees for development purposes. A new dwelling is proposed.

1.1.2 The scope of works includes the assessment of twenty-five (25) trees located either on, or within the vicinity of the proposed development area

1.1.3 Information supplied and relied upon in the preparation of this report included:

- NSW Planning Portal report; Accessed 08/10/2021.
- Architectural suite of plans produced by Wincrest Bespoke; Issue E, Dated 25/05/2021 and inclusive of:
 - Site plan,
 - Floor plans,
 - Sections,
 - Elevations, and
 - Details.
- Dial Before You Dig (DBYD); Job 30657850, Requested 08/10/2021.
- Detail Survey produced by Terralinks; Job 6149, dated 16/03/2021.

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 *Excluded* due to being located within 100metres of a coastline or estuary of NSW. As such, relevant clearing provisions do not apply to the site.

Regardless of eligibility, no dwelling was located within the scope of works.

1.2 Disclaimers:

1.2.1 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.



1.3 Definitions & Abbreviations:

1.3.1 **The Standard** refers to the Australian Standard AS4970:2009 – *Protection of trees on development sites*.

1.3.2 **The site** refers to the land within the proposed development site.

1.3.3 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.

1.3.4 **A significant root** is defined as any woody root with a diameter of 30mm or larger.

1.3.5 **AGL** – Above Ground Level

1.3.6 **LGA** – Local Government Area.

1.3.7 **DBH** – Diameter at Breast Height; Approximately 1.4 metres above ground level measured in metres.

1.3.8 **DGL** – Diameter at Ground Level; Measured above the root flare / collar measured in metres.

1.3.9 **TPZ** – Tree Protection Zone. Calculated per the standard:

$$TPZ\ radius = 12 \times DBH$$

1.3.10 **SRZ** – Structural Root Zone. Calculated per the standard:

$$SRZ\ radius = (DGL \times 50)^{0.42} \times 0.64$$

1.3.11 **FFL** – Finished Floor Level.

1.3.12 **RL** – Reduced Level.

1.3.13 **SEPP** – State Environmental Planning Policy.

1.3.14 **DBYD** – Dial Before You Dig

1.4 Change log:

1.4.1 Version 1 – Original.

1.4.2 Version 2 – Updated Architectural plans issued. Dwelling shifted slightly to north & driveway alignment updated.



2 Methodology

- 2.1.1 The 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 An existing tree numbering schema was located on the supplied architectural plans and was adopted for the purposes of this report.
- 2.1.7 All-aluminium tree tags were affixed to the assessed trees for the purposes of this report and ongoing identification. The tree tags are certified to be chainsaw & chipper safe.
- 2.1.8 Several Casuarina species were not assessed, numbered, or tagged during the assessment due to structural issues resulting from bush fire damage. These trees are annotated on Appendix 2, most are located within the proposed development area.
- 2.1.9 Tree data is displayed in Appendix 1.
- 2.1.10 Appendix 2 – Arboricultural mark-up including Tree identification, TPZ and SRZ zones and the degree of encroachment proposed by the development.
- 2.1.11 Tree height and canopy width were estimated with the assistance of a Leica Disto X4 (Laser Distometer).
- 2.1.12 A forestry Diameter tape was utilised in the measuring of trunk diameters.
- 2.1.13 A subsequent site visit was undertaken on the 11th October 2021 to assess the impacts of the recently conducted hazard reduction burn.



3 Results

3.1 Desktop Research

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

- Zoning: E4 – Environmental Living.
- No Heritage item / area applies to this property.
- Acid Sulfate Soils: Class 5
- Local Provisions: Geotechnical Hazard H1.
- Terrestrial Biodiversity area.

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;
- 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.

3.1.4 Interpretation of DBYD data indicates the property is free of civil assets which would require additional works.

3.1.5 NSW Government SEED (Sharing & Enabling Environmental Data) was interpreted regarding the possible existence of an Endangered Ecological Community on the site. Data available does not indicate any environmental constraints.²

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

² NSW SEED Datasets: <https://datasets.seed.nsw.gov.au/>

3.2 The Site

- 3.2.1 Located on the western extents of Church Point, the undeveloped site presented with a Westerly aspect of varying grades. A steep bank formed the street frontage, levelling off with increasing distance from the road.
- 3.2.2 Bushland observed on the site and in surrounding lands appears to be remnant vegetation.
- 3.2.3 Consultation with the local NSW RFS Fire Control Centre indicates the site was last burnt approximately 10 years ago. The vicinity of the site was included in a scheduled Hazard Reduction burn, undertaken by the RFS undertaken on the 9th & 10th of October 2021.
- 3.2.4 Observations of the site following the conclusion of the hazard reduction burn showed further fire impacts to two trees only. These trees are located on adjoining land and are numbered as Trees 11 & 12 respectively.

3.3 The Development

- 3.3.1 A new dwelling is proposed across the two lots. The three-storey dwelling is proposed to include a double garage & lower-level rumpus room, living, dining and study areas and outdoor balconies.
- 3.3.2 The dwelling is proposed to be in-set into the slope of the site and will require moderate levels of excavation to accommodate on the Eastern extents.
- 3.3.3 A new driveway, crossover & layback are proposed as part of development. A gradient of approximately 23% is proposed along most of the alignment and will require elements of cut and fill throughout the entirety.
- 3.3.4 Retaining walls will be a large component of development on the site, mainly located on either side of the driveway near the street and terraced walls located around the dwelling.
- 3.3.5 The supplied plans indicate the removal of nine (9) trees as part of development.
- 3.3.6 A detailed landscaping plan was not available for this report. Associated landscaping is assumed as part of development.

3.4 The Trees

- 3.4.1 A total of twenty-five (25) trees were assessed as part of the scope of works. They are categorised as:
- Seven (7) trees located within the property.
 - Four (4) trees located 'Street Trees' located between the property and the street.
 - Three (3) co-owned trees – Trees that are located on a property boundary.
 - Seven (7) neighbouring trees belonging to property 235 McCarrs Ck Road.
 - Four (4) neighbouring trees located within National Parks Estate / Crown Lands (Land tenure is unconfirmed).
- 3.4.2 Six trees, identified as Black She-Oak (*Allocasuarina littoralis*), were identified on the site but were not assessed further. These trees were all located within, or significantly close to the development area.
- 3.4.3 All of the Black She-Oaks assessed on the site presented with evidence of past fire damage realised as cambium death on the Eastern flanks of the tree to an average height of 5 metres. Injuries were consistently located on the tension side of the trees. Many of the assessed species were assigned "Removed irrespective of development" in the field notes.
- 3.4.4 The mature cohort was seen to have generally good canopy health and condition. Moderate scores, or higher, of tree vigour were observed all round.
- 3.4.5 Tree significance values across the site were of a moderate score, or higher. The site contained many remnant species that have likely pre-dated Colonisation.
- 3.4.6 No exempt trees were located on the site. The natural understorey of the area had been cleared at some point previously, however some smaller shrubs presented.
- 3.4.7 The neighbouring Tree 12 (Blackbutt) is a large remnant tree within the National Park. It presented with a critical lean of 25° above horizontal towards the development site.
- Subsequent assessment of the tree following the hazard reduction burn has revealed this tree is growing atop a natural sandstone rock scarp & appears to be in a state of active failure due to signs of soil & bark separation.
- 3.4.8 Some trees on the site had active termite leads or contained arboreal nests. Termite, where found, were consistently identified as *Nasutitermes walker*, the forest termite.
- 3.4.9 Further commentary, TPZ and SRZ areas for the trees can be found in Appendices 1 & 2.

3.5 Construction impacts to each tree:

3.5.1 The following trees are unlikely to be affected by the proposed development due to their location with respect to construction:

- T2, T3, T5, T11 & T18 Black She-Oak
- T6 Cabbage Tree Palm
- T7 Tallow Wood
- T12 Blackbutt
- T17 & T25 Grey Ironbark

3.5.2 The following table summarises development impacts for each tree:

Tree ID	Species	Encroachment level (per AS4970:2009)	Comments / Notes
1	<i>Syncarpia glomulifera</i> (Sydney Tupentine)	Major – TPZ and SRZ encroachment.	Encroachment due to driveway excavation & retaining walls. Impact: High, likely destabilising the tree.
4	<i>Eucalyptus robusta</i> (Bangalay)	Major – TPZ encroachment	Neighbouring Tree. Encroachment due to driveway construction. Impact: Moderate. A degree of root interaction is anticipated during excavation.
8	<i>Allocasuarina littoralis</i> Black She-Oak	Major – TPZ encroachment between 10-15%	Encroachment for dwelling footings / retaining wall. Impact: Moderate.
9	<i>Allocasuarina littoralis</i> Black She-Oak	Major – TPZ encroachment above 40% including SRZ.	Encroachment for dwelling footings / retaining wall. Tree not retainable. Impact: High.
10	<i>Eucalyptus robusta</i> (Bangalay)	Major – TPZ encroachment between 20-40% including SRZ.	Encroachment for dwelling footings / retaining wall. Tree not retainable. Impact: High.



Tree ID	Species	Encroachment level (per AS4970:2009)	Comments / Notes
14	<i>Allocasuarina littoralis</i> Black She-Oak	Minor – TPZ encroachment < 10%	Encroachment for retaining wall only. Impact: Low.
16	<i>Eucalyptus robusta</i> (Bangalay)	Minor – TPZ encroachment < 10%	Encroachment for retaining wall only. Impact: Low.
21	<i>Eucalyptus pillularis</i> (Blackbutt)	Major – TPZ encroachment of >50% including SRZ	Encroachment due to driveway, dwelling and retaining wall excavation Impact: High, likely destabilising the tree.
22	<i>Angophora floribunda</i> (Rough-Barked Apple)	Minor	Encroachment for driveway retaining wall only Minor excavation anticipated. Impact: Low.
23	<i>Eucalyptus paniculata</i> (Grey Ironbark)	Minor	Encroachment for driveway retaining wall only however extensive excavation is likely. Impact: Low.
24	<i>Angophora floribunda</i> (Rough-Barked Apple)	Minor	Encroachment for driveway retaining wall only however extensive excavation is likely. Impact: Low.

3.5.3 Trees 13 (Black She-Oak), 15 (Rough-barked Apple) & 20 (Tallowwood) plus the unnumbered Black She-Oaks are located within the development footprint. The retention of these trees under the current proposal is not possible.

3.5.4 Tree 4 is a neighbouring tree and protected under development. The Arborist considers the degree of excavation to accommodate the driveway (and associated retaining walls) to be excessive whilst retaining the tree. Management of Tree 4 will require discussions with the neighbour who is understood to be developing.

The project team will need to broach this subject with the neighbour. Alternative options where removal is not supported include exploratory excavation, and/ or supervised construction during development.



4 Conclusion

- 4.1.1 Twenty-five trees were assessed or identified as part of the scope of works, all seen to be in mostly good health.
- 4.1.2 Most of the assessed trees will be impacted to some degree by the proposed development.
- 4.1.3 The arborist supports the proposed development from an Arboricultural perspective. Areas of Major encroachment are effectively managed by the mostly elevated nature of construction.
- 4.1.4 The previously undeveloped site is the primary basis for the recommendation of many trees on the site. Little opportunity for alternative options that could retain more trees presents.
- 4.1.5 Despite comments of 4.1.4, many of the assessed trees are structurally compromised and are worthy of removal.
- 4.1.6 The Arborist acknowledges that the neighbouring property 235 McCarrs Creek Road, to the south may also be undertaking a similar development & some of the adjoining trees may be removed under a separate DA.
- 4.1.7 Consideration for future bushfire risk needs to be undertaken prior to the commencement of work. Approval to build the proposed dwelling is recommended with an acknowledgement that the trees are to be protected and or exempted from legislation such as, but not limited to, the “RFS 10/50” Code and that of the Northern Beaches Council DCP.



5 Recommendations:

5.1 Trees for retention:

5.1.1 The following trees are recommended for *retention* under the proposed development:

Tree ID	Species
T2, T3, T5, T11, & T18.	<i>Allocasuarina littoralis</i> (Black She-Oak)
T6	<i>Livistona australis</i> (Cabbage Tree Palm)
T7	<i>Eucalyptus microcorys</i> (Tallowwood)
T12	<i>Eucalyptus pillularis</i> (Blackbutt)
T16	<i>Eucalyptus robusta</i> (Bangalay)
T17, T23 & T25	<i>Eucalyptus paniculata</i> (Grey Ironbark)
T24	<i>Angophora floribunda</i> (Rough-barked Apple)

5.1.2 Retention of these trees is subject to additional recommendations below.

5.1.3 The Arborist acknowledges this project to be the first development undertaken on this land parcel. Support for the undertaking of dead wood reduction of trees is supported *subject to approval* from the respective landholder & council, as applicable.

5.2 Trees for removal:

5.2.1 The following trees are recommended for *removal* under the proposed development:

Tree ID	Species	Reason
T1	<i>Syncarpia glomulifera</i> (Sydney Turpentine)	Encroachment
T8, T14 & T9	<i>Allocasuarina littoralis</i> (Black She-Oak)	Encroachment
T10	<i>Eucalyptus robusta</i> (Bangalay)	Encroachment
T13	<i>Allocasuarina littoralis</i> (Black She-Oak)	Within development footprint.
T15	<i>Angophora floribunda</i> (Rough-barked Apple)	Within development footprint.
T20	<i>Eucalyptus microcorys</i> (Tallowwood)	Within development footprint.
T21	<i>Eucalyptus pillularis</i> (Blackbutt)	Encroachment & structural concerns.
T22	<i>Angophora floribunda</i> (Rough-barked Apple)	Encroachment (degree of deep excavation).

5.2.2 The Arborist recommends the removal of T19 (Black She-Oak) due to observations of previous fire-related structural damage. This tree is a moderate risk to the dwelling & its occupants. It is likely that this would be grounds for a future removal permit concluding this DA.

5.2.3 It is recommended that the removal of T12 (Blackbutt) occurs irrespective of development. This tree is located on adjoining land & the removal of this tree is *subject to discussions* with the relevant landowner & council.

This tree was observed in a state of active failure & poses a high risk of failure, impacting the development site.

5.2.4 The neighbouring Tree 4 is recommended for removal under development due to an unacceptable level of TPZ encroachment for a large, mature tree. This recommendation is *only* valid where the neighbour is willing to supply written agreement to allow the removal of this tree.

Consideration of site constraints and engineering requirements and existing site terrain have limited alternative design options such as moving the proposed garage & driveway.



5.3 Construction Recommendations:

- 5.3.1 A project arborist shall be appointed to oversee all stages of development on the site. The site arborist shall have direct involvement in all necessary excavation on the site within TPZ areas.
- 5.3.2 The project shall be consulted in the first instance where significant roots are found within the TPZ area of a tree to be retained.
- 5.3.3 General site inductions should include the topic of tree protection. All workers & contractors involved with the site shall be briefed on ways they can work in a “tree-safe” manner.
- 5.3.4 It is recommended that Council engineers be consulted regarding the possibility of constructing a common access road parallel to McCarrs Creek Road on the high side of the bank as seen for other properties in the area.

A ‘verge’ of approximately 10 metres exists between the front boundary of the properties and the top of bank. The Arborist considers this option beneficial to all residents of properties 231-239 McCarrs Creek Road from the perspectives of construction efficiency, road safety (231-233 is on a blind corner) and reduced engineering complexities.

- 5.3.5 It is recommended that site access by heavy plant is reduced as much as possible. Excavation equipment shall not traverse within the vicinity of trees to be retained, or those outside the property boundary any more than as is essential.

All soil removed from the site shall be loaded into trucks from an access road aligned with the proposed driveway crossover.



6 Tree Protection Plan:

- 6.1.1 A limited tree protection plan is recommended for this project as most of the trees on the site are recommended for removal.
- 6.1.2 A project arborist is required to supervise all aspects of the development within the vicinity of trees to be retained, particularly excavation of soil within TPZ areas of trees to be retained.
- 6.1.3 All trees to be retained shall be protected by fencing. Fencing should be contiguous around stands of trees to be retained, where practical. Site perimeter fencing, where installed could be aligned in a manner that restricts tree access.
- 6.1.4 Site perimeter fencing shall be located with a minimum offset of 4 metres from the trunk of Tree 16 to adequately protect this stand of three trees.
- 6.1.5 All other vegetation will be adequately protected by site perimeter fencing.
- 6.1.6 All tree protection measures shall be compliant with AS4970:2009 – *Protection of Trees on Development sites*.
- 6.1.7 Where ambiguity or questions present regarding Tree Protection, the Project Arborist must be contacted in the first instance for advice.



Appendix 1 – Tree Data Summary

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Tree Data Summary - 231-233 McCarrs Ck Road, Church Point - Assessed 30/09/2021

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>Syncarpia glomulifera</i> (Sydney Turpentine)	17	10	51	99	Good	Mature	Triple	Upright	Yes	No	Appears Stable	Good	0-5%	High	Slight bark inclusion at base of tri-dominant stems	6.2	3.3
T2	<i>Allocasuarina littoralis</i> (Black She-Oak)	17	7	27	45	Moderate	Mature	Single	Upright	Bias North	No	Stability Suspect	Good	5-10%	Moderate	Basal dieback on the South-Eastern Flank to 4m likely due to fire. Remove irrespective of development.	3.2	2.4
T3	<i>Allocasuarina littoralis</i> (Black She-Oak)	17	7	26	39	Moderate	Mature	Single	Upright	Bias South West	No	Imminent Failure Likely	Good	5-10%	Moderate	Termite & Fire damage with lower trunk appearing to be at risk of imminent failure. Remove irrespective of development.	3.1	2.2
T4	<i>Eucalyptus robusta</i> (Bangalay)	25+	18	73	91	Good	Remnant	Single	Upright	Yes	No	Appears Stable	Good	5-10%	High	Active <i>Nasutitermes walkeri</i> with nest in tree, Needs dead wood removal Previously impacted by fire.	8.8	3.2
T5	<i>Allocasuarina littoralis</i> (Black She-Oak)	12	10	31	39	Moderate	Mature	Single	Bias North West	Bias North West	No	Stability Suspect	Moderate	5-10%	Low	Active <i>Nasutitermes walkeri</i> with nest in tree, Cambium dieback to South	3.7	2.2
T6	<i>Livistona australis</i> (Cabbage Tree Palm)	5.5	6	26		Good	Mature	Single	Upright	Yes	No	Appears Stable	Moderate	0-5%	Moderate		3.1	0.0
T7	<i>Eucalyptus microcorys</i> (Tallow Wood)	20	16	33	43	Good	Mature	Single	Upright	Yes	No	Appears Stable	Moderate	10-15%	Moderate	Old termite activity Past fire Impacts Kino Staining of lower trunk Slight epicormic growth within canopy Active habitat tree - Tawny Frogmouth.	4.0	2.3
T8	<i>Allocasuarina littoralis</i> (Black She-Oak)	20	11	34	45	Good	Mature	Single	Upright	Yes	No	Appears Stable	Good	5-10%	Moderate	Past fire impact & cambium injury to 5m	4.1	2.4
T9	<i>Allocasuarina littoralis</i> (Black She-Oak)	18	11	33	49	Good	Mature	Single	Upright	Yes	No	Appears Stable	Good	5-10%	Moderate	Past fire impact & cambium injury to 5m	4.0	2.5

Tree Data Summary - 231-233 McCarrs Ck Road, Church Point - Assessed 30/09/2021

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
T10	<i>Eucalyptus robusta</i> (Bangalay)	30	15	72	90	Good	Remnant	Single	Upright	Bias East	No	Stability Suspect	Good	0-5%	High	Active termite nest (<i>Nasutitermes walkeri</i>) Past fire impact Cambium dieback of southern flank to 9m Heartwood sounding hollow	8.6	3.2
T11	<i>Allocasuarina littoralis</i> (Black She-Oak)	25	17	34	45	Good	Mature	Single	Bias North East	Entirely North East	No	Appears Stable	Good	5-10%	High	Active termites, otherwise without comment	4.1	2.4
T12	<i>Eucalyptus pillularis</i> (Blackbutt)	20+	20+	105	130	Good	Remnant	Single	Critically North East (25° above horizontal)	Entirely North East	No	Stability Suspect	Good	5-10%	High	Growing atop rockshelf, likely to have suffered partial root plate failure decades previously. Major hollow in lower main trunk	12.6	3.7
T13	<i>Allocasuarina littoralis</i> (Black She-Oak)	14	9	32	44	Moderate	Mature	Single	Upright	Yes	No	Appears Stable	Moderate	5-10%	Moderate		3.8	2.3
T14	<i>Allocasuarina littoralis</i> (Black She-Oak)	14	9	32	44	Moderate	Mature	Single	Upright	Yes	No	Appears Stable	Moderate	5-10%	Moderate		3.8	2.3
T15	<i>Angophora floribunda</i> (Rough-Barked Apple)	17	11	48	70	Good	Mature	Single	Upright	Yes	No	Appears Stable	Good	0-5%	High	Active termites (<i>Nasutitermes walkeri</i>), Kino staining of lower trunk	5.8	2.8
T16	<i>Eucalyptus robusta</i> (Bangalay)	21	14	49	70	Good	Remnant	Single	Upright	Yes	No	Stability Suspect	Good	0-5%	High	Significant fire impact to 3m with Heartwood sounding hollow. Vertical cracking to 2m Remove irrespective of development.	5.9	2.8
T17	<i>Eucalyptus paniculata</i> (Grey Ironbark)	22	13(N/E)	60	73	Good	Remnant	Single	Upright	Yes	No	Appears Stable	Excellent	0-5%	High	Excellent recovery following previous fire impact.	7.2	2.9
T18	<i>Allocasuarina littoralis</i> (Black She-Oak)	14	9	32	44	Moderate	Mature	Single	Upright	Yes	No	Appears Stable	Moderate	5-10%	Moderate		3.8	2.3

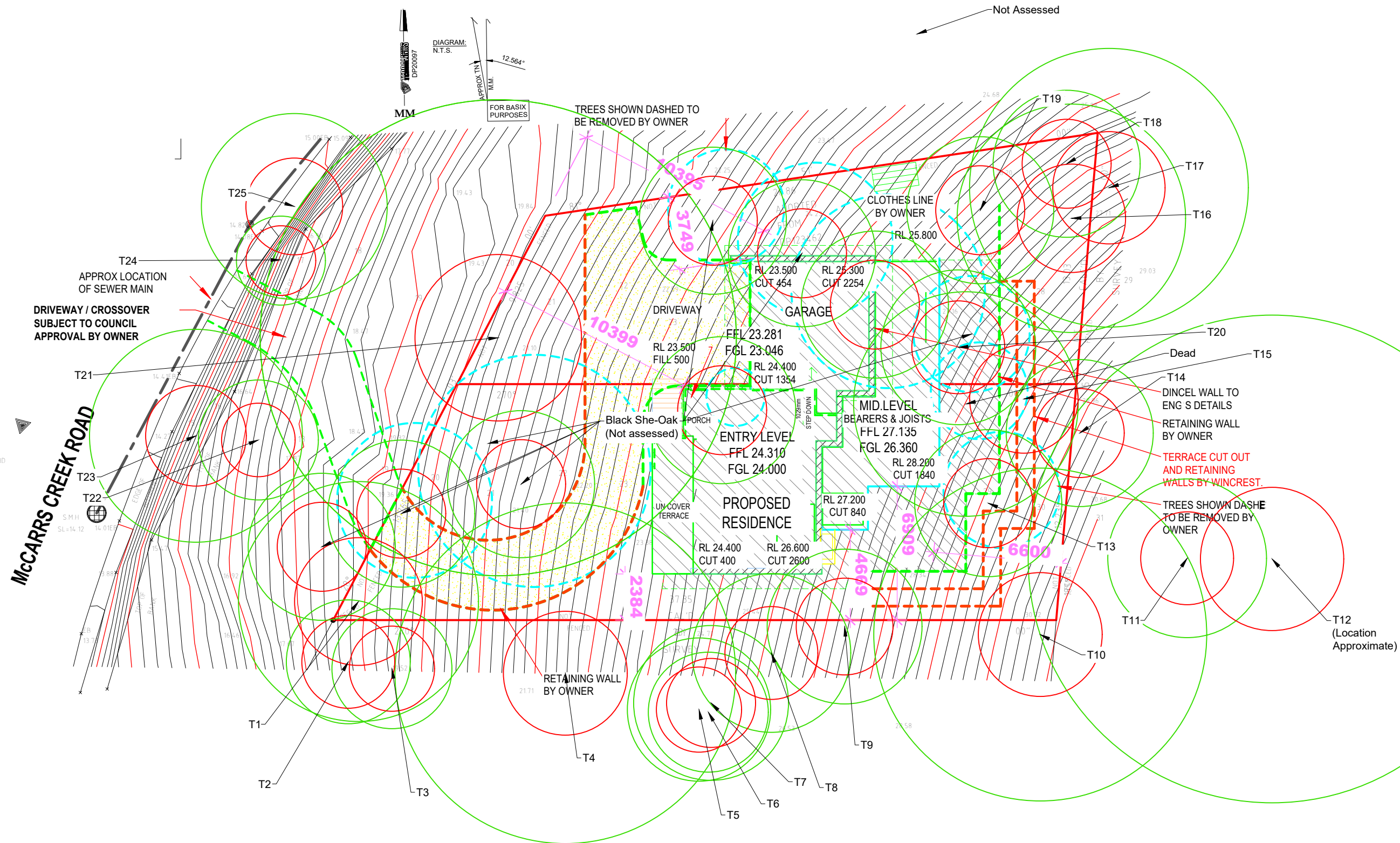
Tree Data Summary - 231-233 McCarrs Ck Road, Church Point - Assessed 30/09/2021

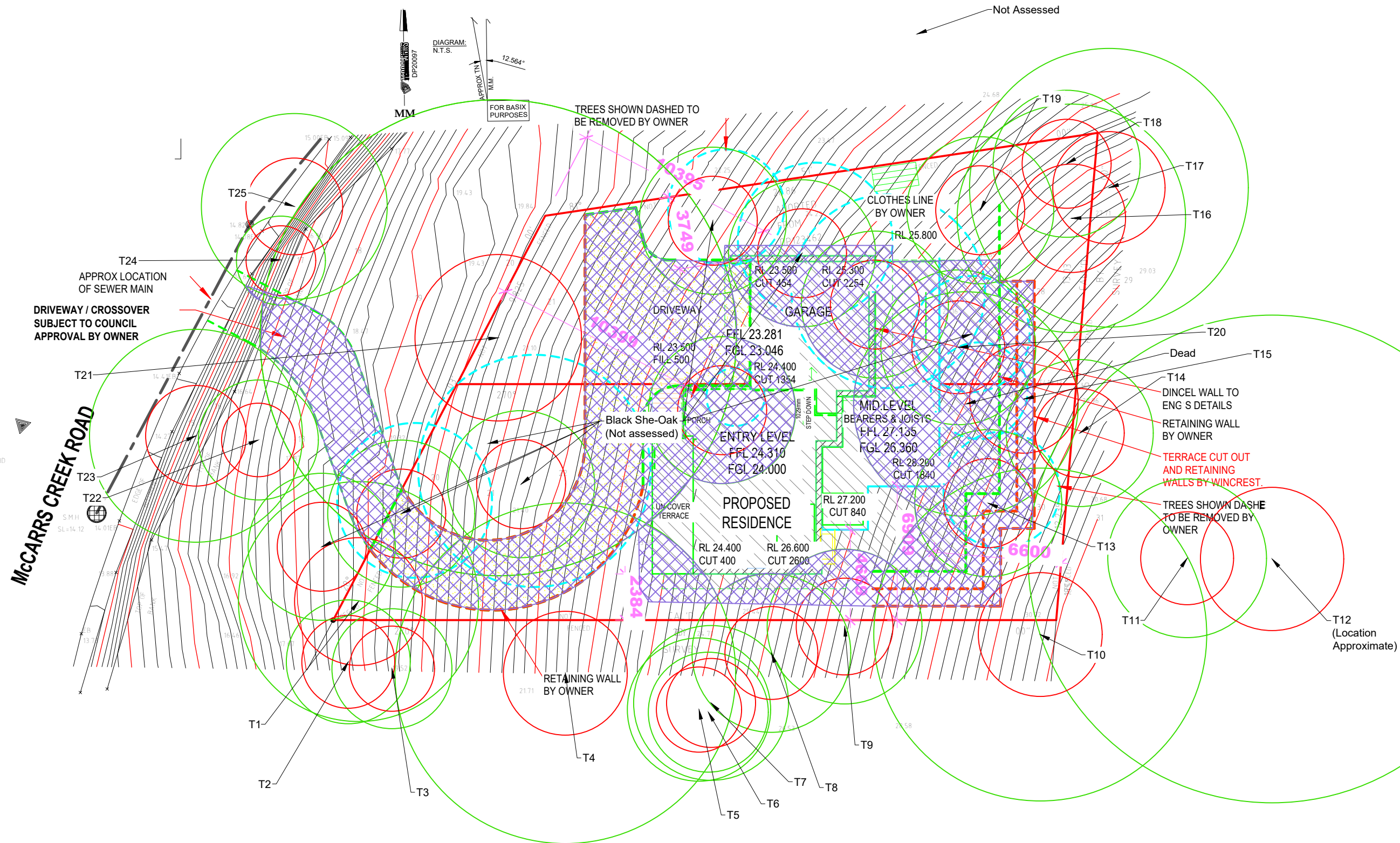
Tree ID	Species	Height (m)	Canopy dims n/s in metres	DBH (cm)	DGL (cm)	Foliage condition	Maturity	Trunk type	Trunk lean	Canopy Balanced	Past Pruning	Stability	Vigour	Canopy deadwood	Significance value	Notes	TPZ (M) Radius	SRZ (M) Radius
T19	<i>Allocasuarina littoralis</i> (Black She-Oak)	14	9	32	44	Moderate	Mature	Single	Upright	Yes	No	Appears Stable	Moderate	5-10%	Moderate		3.8	2.3
T20	<i>Eucalyptus microcorys</i> (Tallow Wood)	21	12	33	45	Good	Mature	Single	Bias North	Entirely North	No	Appears Stable	Moderate	5-10%	High	Inactive termite leads	4.0	2.4
T21	<i>Eucalyptus pillularis</i> (Blackbutt)	20+	20+	103	190	Good	Remnant	Twin	Bias North	Bias North	No	Stability Suspect	Good	0-5%	High	Extensive fire damage creating large hollow ('Blowtorch') approximately 40% of circumference Active termite activity Remove irrespective of development	12.3	4.3
T22	<i>Angophora floribunda</i> (Rough-Barked Apple)	17	6	26	28	Moderate	Semi-Mature	Single	Upright	Yes	No	Appears Stable	Moderate	5-10%	Moderate		3.1	1.9
T23	<i>Eucalyptus paniculata</i> (Grey Ironbark)	20+	17	46	55	Good	Remnant	Single	Upright	Bias North	No	Appears Stable	Good	0-5%	High	Minor kino staining of lower trunk	5.5	2.6
T24	<i>Angophora floribunda</i> (Rough-Barked Apple)	10	7	19	23	Good	Semi-Mature	Single	Upright	Yes	No	Appears Stable	Good	0-5%	Moderate	Two trees of similar size located adjacent - one tree not tagged.	2.3	1.8
T25	<i>Eucalyptus paniculata</i> (Grey Ironbark)	28	15	40	50	Good	Remnant	Single	Upright	Bias North	No	Located on bank	Moderate	0-5%	High	Located on bank - as stable as could be reasonably expected. Upper canopy epicormic growth & dieback, Impacted by fire Tree tag facing McCarrs Ck Rd & Circled in Yellow paint.	4.8	2.5
				0													0.0	0.0
U/A	<i>Allocasuarina littoralis</i> (Black She-Oak)			0												AVERAGE VALUES of TPZ and SRZ areas for mark-up purposes for unassessed trees.	3.8	2.3

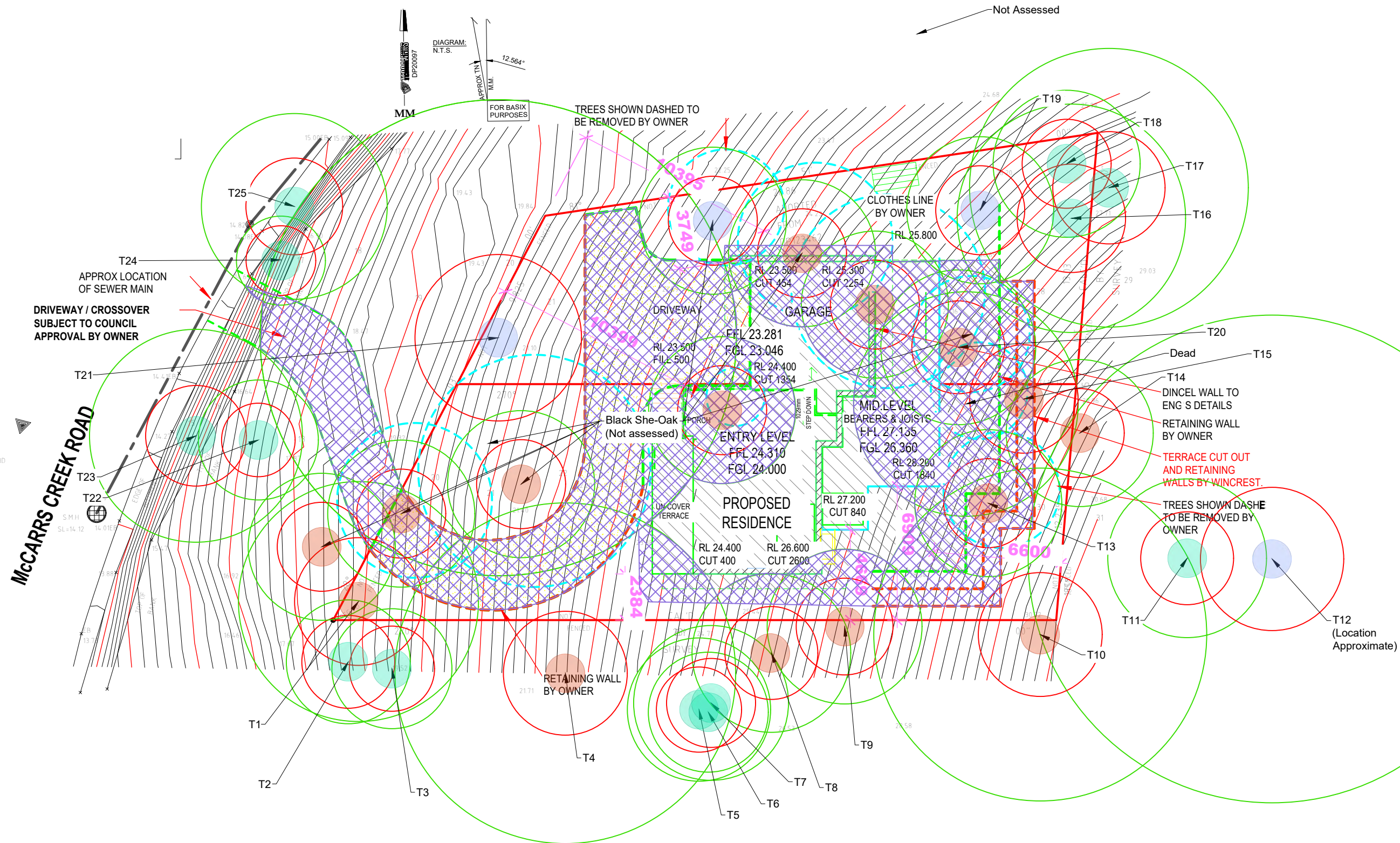


Appendix 2 - Tree identification and incursion potentials

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Title:
Tree Retention Plan

Project:
231-233 McCarrs Ck Rd - Church Point

Revision:
01

Plot Date:
03/05/2022

- Key:
- Tree for retention
 - Tree for Removal (DA Encroachment)
 - Tree for Removal (Structural / health concerns)

Appendix 3 – Photographs



Image 2: The South-western boundary of the site. Property bounds indicated approximately by yellow line marking paint.



Image 3: A view of the site from the South-western Boundary looking to the northeast. Tree 1 [centre], Tree2 [right].



Image 4: A view from the South-Eastern Boundary looking Northwest. Tree 10 [centre] with extensive cambium dieback visible.



Image 5: The critical lean of Tree 12 before Hazard reduction burning.



Image 6: Tree 12 as seen following the Hazard Reduction burn. Cambium and soil separation was noted indicating this tree is at a high risk of failure in the near future.



Image 7: A Panoramic view of the Eastern boundary of the site following hazard reduction burning.



Image 8: Tree 21 [right] with previous fire damage formed hollow.