



ARBORICULTURAL IMPACT ASSESSMENT

Mamre Road Data Centre Campus

706-752 Mamre Road, Kemps Creek NSW 2178

Project No: H619

Date: 17 November 2025

Revision: A

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1 EXECUTIVE SUMMARY

This Arboricultural Impact Assessment (AIA) was commissioned by Plan Project Management on behalf of the developer on the 11th of September 2025. This report relates to two-hundred and fifteen (215) trees and groups of trees located on and adjoining the subject site at 706-752 Mamre Road, Kemps Creek within the Penrith City Council Local Government Area (LGA).

This report provides an evaluation of the likely impact to existing trees as a result of a State Significant Development Application (SSDA) for the proposed Mamre Road Data Centre Campus. It is understood that this report is required to satisfy the NSW Planning Secretary's Environmental Assessment Requirements (SEARs) relevant to Application No. SSD-92743706.

A summary of those trees identified has been provided in **Table 1** below along with a description of their retention values and nominated retention/removal status under the proposal.

Table 1 – Tree assessment summary

Retain / Remove	Identified Retention Values				Number of Trees
	High	Medium	Low	Dead	
Remove	37 trees (Trees 4, 5, 6, 16, 44, 46, 47, 56, 65, 67, 69, 74, 75, 76, 77, 78, 80, 83, 84, 85, 89, 92, 134, 135, 137, 140, 141, 169, 170, 171, 174, 177, 178, 187, 204, 211, 214)	87 trees (Trees 1, 8, 9, 11, 17, 33, 34, 35, 36, 39, 43, 49, 50, 51, 53, 54, 55 (group), 57, 58, 59, 62, 68, 71, 72, 73, 79, 86, 87, 88, 91, 94, 95, 96, 105, 110, 111, 112, 114, 116, 118, 119, 122, 129, 130, 131, 132, 136, 138, 139, 142, 143, 144, 146, 148, 149, 151, 152, 153, 155, 156, 157, 158, 160, 161, 162, 172 (group), 173, 175, 180, 183, 185, 186, 189, 191, 192, 193, 195, 197, 198, 199, 202, 205, 206, 209, 210, 213 & 215)	85 trees (Trees 2 (group), 3, 7, 10 (group), 12, 13 (group), 14 (group), 15 (group), 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 32, 38, 40 (group), 41, 42, 45, 48, 52, 61, 63, 64, 66, 70, 81, 82, 90, 93 (group), 97, 98, 99, 100, 101, 102, 103, 104, 106, 107, 108, 109, 113, 115, 117, 120, 121, 123, 124, 125, 126, 127, 128, 133, 145, 147, 150, 154, 163, 164, 167, 168, 176, 179, 181, 182, 184, 188, 190, 194, 196, 200, 201, 203, 207, 208 & 212)	6 trees (Trees 31, 37, 60, 159, 165 & 166)	215 trees and groups of trees
Total					215 trees and groups of trees

Based on the plans supplied, and should the proposed works proceed in their current form, it is recommended that all two-hundred and fifteen (215) trees and groups of trees be removed (**Trees 1-215**).

Specific recommendations as per **Section 7** will need to be adopted to ensure root sensitive construction techniques and methodology are employed which mitigate any potential negative impacts to retained trees.

1.1 SEARs Compliance

As detailed within **Table 2** below, this AIA satisfies the requirement for an Arborist Report to be prepared under 'Key Issues – Landscaping' of the SEARs issued by the NSW Department of Planning, Housing and Infrastructure (DPHI) on the 30th of September 2025.

Table 2 – SEARs compliance summary

SEARs Compliance			
Section	Request Item	Summary Response	Page Reference
Landscaping	<i>A detailed site-wide landscape plan, including: - an <u>arborist report</u>, tree protection plan and vegetation management plan.</i>	The request for an Arborist Report is satisfied via the provision of this AIA. The specified Tree Protection Plan is not required as all trees have been nominated for removal as part of this report. A vegetation management plan falls outside CPS' expertise and is appropriately addressed by the assigned Ecologist.	Full report

2 INTRODUCTION

2.1 Background

This Arboricultural Impact Assessment (AIA) evaluates the potential impacts to existing trees as a result of proposed development works associated with the Mamre Road Data Centre Campus at 706-752 Mamre Road, Kemps Creek (refer to **Figure 1**).

Accordingly, the purpose of this report is to assess the potential impact of the proposed development on the subject trees, as well as provide recommendations for further amendments to the design or construction methodology where necessary to minimise any adverse impact. The report also provides recommended tree protection measures to ensure the long-term preservation of the trees to be retained where appropriate.

2.2 Objectives

This report has been prepared to assess the level of impact development works are likely to cause to existing trees and make a determination as to whether trees will be adversely affected. The report will aim to provide guidance as to those trees requiring removal, retention or protection in accordance with the provisions of *AS4970-2025 Protection of trees on development sites*. Where necessary, it will also provide recommendations for design modifications and any replacement planting. As such, the objectives of this report are as follows:

- Assess the current site and growing conditions of trees;
- Assess the current health, condition, lifespan & significance of the trees within the site;
- Identify relative retention values of trees within the site;
- Calculate anticipated encroachment levels resulting from proposed works;
- Determine the likely impact as a result of the calculated encroachments;
- Assess potential for retention and protection of trees where possible;
- Advise any design modifications necessary to retain important trees;
- Recommend tree and root sensitive design and construction methodologies to mitigate impacts to trees to be retained;
- Inform of any tree removal necessary due to unsustainable impacts;
- Provide guidance and recommendations for any replacement planting necessary.

No aerial inspection, root mapping or internal diagnostic testing has been carried out as part of this report. Additionally, no cation exchange capacity testing or plant tissue analysis has been undertaken.

2.3 Legislation & Regulating Documents

This Arboricultural Impact Assessment has considered the following regulatory documents:

- *State Environmental Planning Policy (Biodiversity and Conservation) 2021*;
- *Penrith Local Environment Plan 2010 (Penrith LEP 2010)*;
- *Mamre Road Precinct Development Control Plan (DCP) 2021*
- *Greater Sydney Regional Strategic Weed Management Plan 2023-2027 (GSRSWMP)*

2.4 Documentation Received

The following documents were received and have been relied upon for this Assessment:

Table 2 – Documentation received and reviewed as part of the Arboricultural Impact Assessment

Document Description	Author	Revision No. / Date
Architectural Plans	Greenbox	01 / 7 November 2025
Landscape Plans	Geoscapes	05 / 13 November 2025
Civil Engineering Plans	AT&L	02 / 23 October 2025
Site Survey	MNG LandPartners	1 / 18 September 2025

Note: care has been taken to obtain all information from reliable sources; however, the author makes no representations, guarantees or warranties as to the accuracy of information provided by others. No other information has been reviewed, should this become available impacts may be subject to change.

2.5 The Site

The project area for the proposed development, 706-752 Mamre Road, Kemps Creek (Lot 10 DP 1280592), constitutes the main development site with areas across the shared boundaries to the east and south (described below) utilised to facilitate roadworks and bulk earthworks:

- Gibb Group site to the East known as 1-22 Bakers Lane, Kemps Creek (Lot 40 in DP 709347).
- GPT Group site to the South known as 754 Mamre Road, Kemps Creek (Lot 180 in DP 1290397).

Additionally, power supply lead-in from Sydney-West Substation is proposed as part of the development, which traverses through multiple landholdings.

2.6 Proposed Development

The site is proposed for development under a State Significant Development Application (SSDA) as a data centre campus comprising:

- Approximately 26 shells across four-storeys data centre buildings (4x four shells and 2x five shells), including six technical office buildings, plus a campus office.
- Incoming and internal electrical substations and associated infrastructure
- Site preparation, including earthworks, stormwater, sewer, roads, and associated infrastructure.

2.7 Limitations

Trees are living organisms whose health and condition can change rapidly. The conclusions and recommendations in this report are valid for one (1) year only from the date of the report, unless otherwise stated. Any changes to the site as it stands at present, for example building extensions, excavation works, importing of soils, extreme weather events etc. will invalidate this report. Any reproduction of this report must be in full colour using the report in its entirety.



Figure 1 - Aerial image indicating subject site (outlined red).
Source: Land checker – April 2025

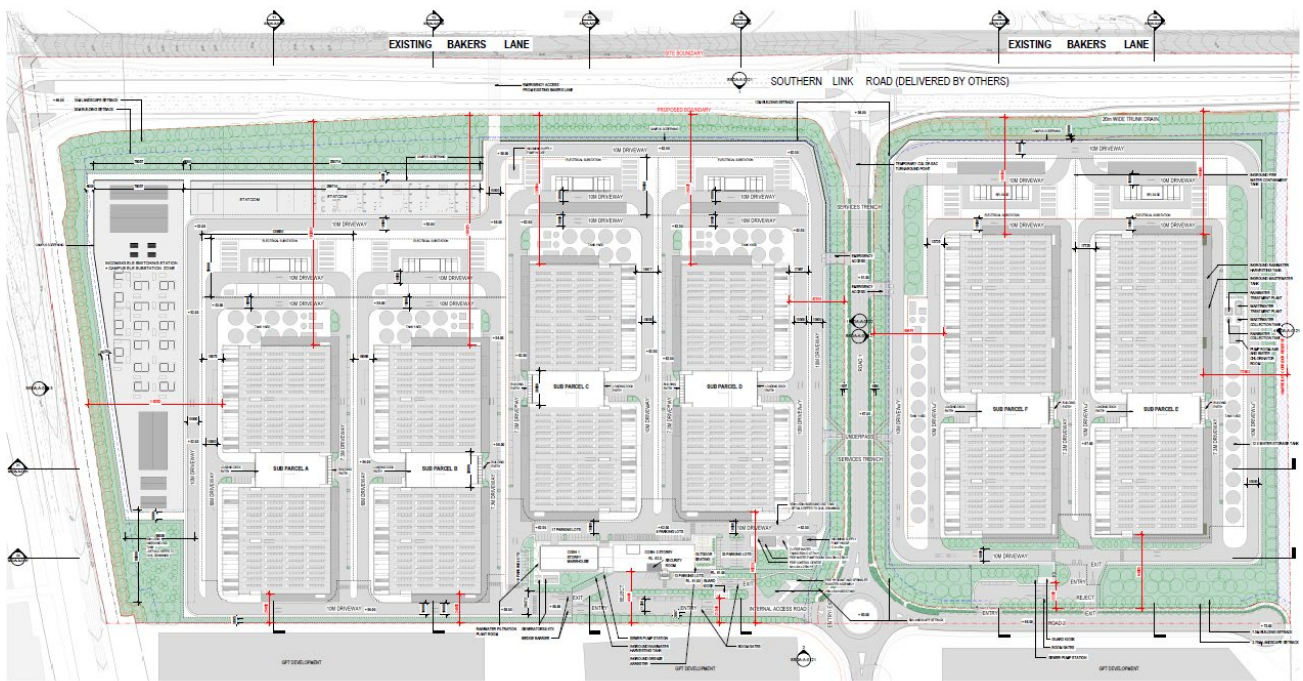


Figure 2 – Overall Campus Plan.
Source: Greenbox – November 2025

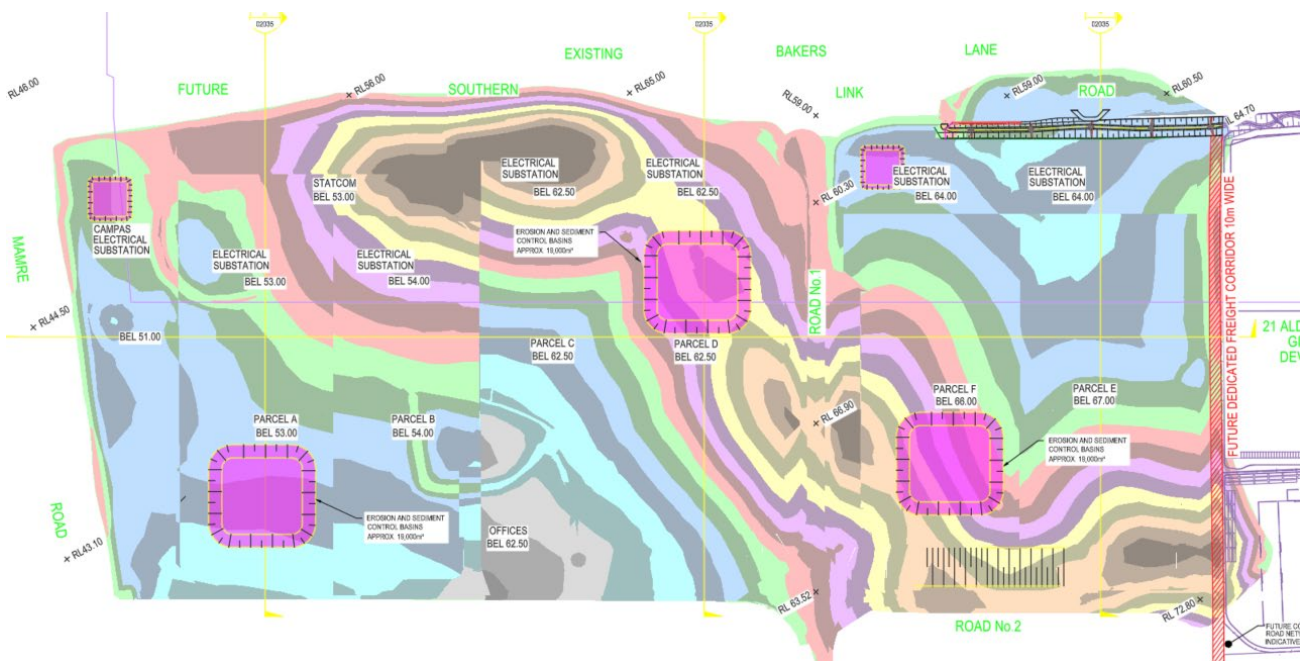


Figure 3 – Concept Bulk Earthworks Plan.
Source: AT&L – October 2025

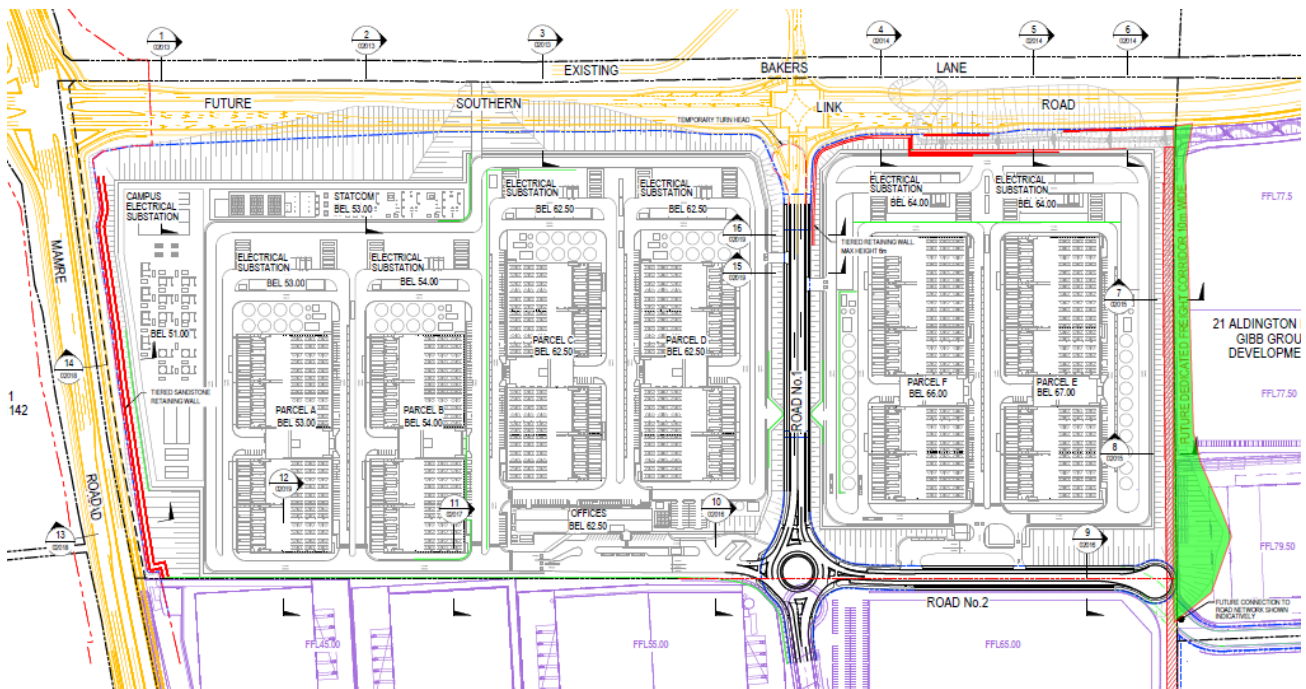


Figure 4 – Civil Engineering Plan Markup showing works proposed on the site to the east at 1-22 Bakers Lane¹.
Source: Plan Project Management – November 2025

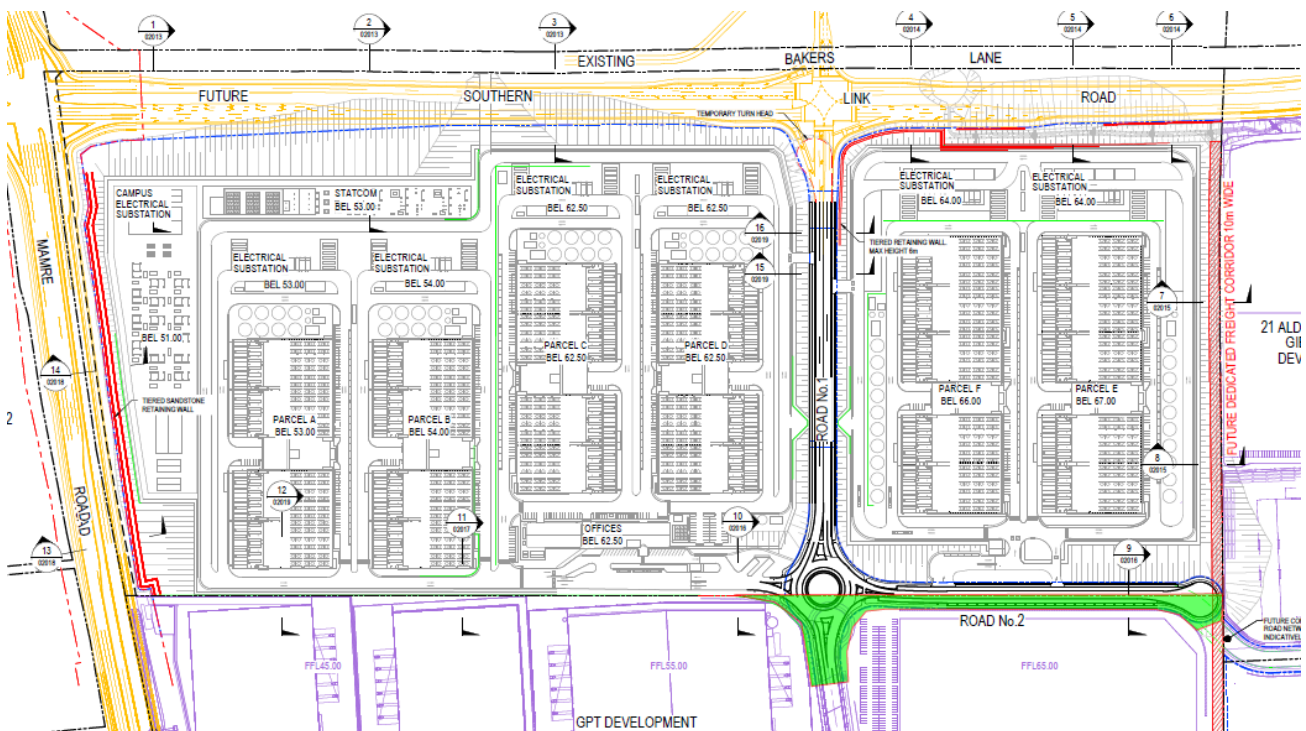


Figure 5 – Civil Engineering Plan Markup showing works proposed on the site to the south at 754 Mamre Road¹.
Source: Plan Project Management – November 2025

¹ Impacts to trees resulting from works on adjoining properties have not been assessed as part of this report.

3 METHODOLOGY

3.1 Methodology

3.1.1 Site Inspections

Site inspections were carried out by Greg Tesoriero, Toby Piper & Sophie Diller (CPS AQF Level 5 Arborists) with the subject trees and the general growing environment evaluated on the 23rd & 24th of September 2025. The weather at the time of each inspection was generally sunny with good visibility.

The subject trees were inspected visually from ground level with the following information recorded and provided in tabulated form at **Appendix 1**:

- Tree Species (Botanical & Common Name);
- Approximate height;
- Approximate canopy spread;
- Trunk Diameter (measured at 1.4 metres from ground level);
- Trunk Diameter at base (above root crown);
- Age class;
- Health & vigour; using foliage size, colour, extension growth, presence of disease or pest infestation, canopy density, presence of deadwood, dieback and epicormic growth as indicators;
- Condition; using visible evidence of structural defects, instability, evidence of previous pruning and physical damage as indicators;
- Suitability of the tree to the site and its existing location;
- Safe Useful Life Expectancy (SULE).

3.1.2 Visual Tree Assessment (VTA)

The modified Level 1 limited Visual Tree Assessment (VTA) was undertaken for all trees during the site inspection. The VTA consists of a detailed inspection of the subject tree from ground level to the upper canopy. This method of tree evaluation is adapted from Matheny and Clark, 1994 and is recognised by The International Society of Arboriculture (ISA), Arboriculture Australia and The Institute Australian of Consulting Arborists (IACA). No aerial inspections or major root excavations were undertaken.

3.1.3 Safe Useful Life Expectancy (SULE)

The remaining Safe Useful Life Expectancy of a tree is an estimate of the sustainability of the tree in the landscape, calculated based on an estimate of the average age of the species in an urban area, less its estimated current age. The life expectancy of each tree has been further modified where necessary in consideration of its current health, vigour, condition and suitability to the site. The estimated SULE of each tree is shown in **Appendix 1**.

The following ranges have been allocated to each tree:

- Long SULE: Trees that appear to be retainable with an acceptable level of risk for > 40 years.
- Medium SULE: Trees that appear to be retainable with an acceptable level of risk for 15 to 40 years.
- Short SULE: Trees that appear to be retainable with an acceptable level of risk for 5–15 years.
- Remove: Trees with a high level of risk that would need removing within the next 5 years.
- Small, Young or Regularly Pruned.

3.1.4 Landscape Significance

The landscape significance of a tree is an essential criterion to establish the importance that a particular tree may have on a site. Several factors contribute towards the assessment of a tree's significance including but not limited to condition and vigour, form, visual prominence, heritage status, indigeneity, legislative protection, cultural sentiment and future growth potential.

For the purposes of this report the Australian Institute of Consulting Arborists (IACA) Significance of a Tree, Assessment Rating System (STARS)® has been utilised. The system uses a scale of High, Medium and Low significance in the landscape. Once the landscape significance of an individual tree has been defined, the retention value can be determined.

Appendix 3 provides a full outline of assessment criteria for each significance rating as per IACA STARS (2010).

3.1.5 Retention Value

Retention values have been determined for each tree on site to establish a hierarchy for tree retention. Retention values are based on estimated life spans and their associated landscape significance rating in accordance with the Tree Retention Value Priority Matrix. This matrix established the following retention values and can be found at **Appendix 3** with attributed retention values found within **Appendix 1**:

- Priority for Retention (**High**)
- Consider for Retention (**Medium**)
- Consider for Removal (**Low**)
- Priority for Removal

3.1.6 AS4970-2025 Protection of Trees on Development Sites

The Australian Standard, AS4970-2025 - '*Protection of trees on development sites*', has been used as a guide to provide recommendations for the assessed trees. The Standard provides guidance on the principles for protecting trees on land subject to development as well as principles for determining viability of tree retention. Terminology and recommended methods are consistent with AS4970-2025.

3.1.7 Notional Root Zone

The assessed trees have been allocated a Notional Root Zone (NRZ). The Australian Standard, AS4970-2025- '*Protection of trees on development sites*', has been used as a guide in the allocation of NRZs for the assessed trees. The NRZ is calculated based on trunk (stem) diameter at standard height (DSH), measured at 1.4 metres above ground level. The radius of the NRZ is calculated by multiplying the trees DSH by 12. The method provides a NRZ that addresses health and growing requirements of a tree as well as the trees stability. NRZ distances are measured as a radius from the centre of the trunk at (or near) ground level. The maximum NRZ should be no more than 15m radius and the minimum NRZ should be no less than 2m radius.

An extract of the AS4970-2025 for calculating the NRZ has been provided at **Appendix 4** for reference.

3.1.8 Structural Root Zone

The assessed trees have been allocated a Structural Root Zone (SRZ). The Australian Standard, AS4970-2025 - '*Protection of trees on development sites*', has been used as a guide in the allocation of SRZs for the assessed trees. The SRZ is a radial area extending outwards from the centre of the trunk and is calculated as follows:

$$\text{SRZ (Radius)} = (D \times 50)^{0.42} \times 0.64$$

3.1.9 Tree Protection Zone

Using the NRZ as a starting point, a Tree Protection Zone (TPZ) is a specified area located both above and below ground that is required for the protection of trees during development works. The purpose of a TPZ is to protect of a tree's roots and crown throughout the development process via the installation of tree protection measures and appropriate site management.

4 OBSERVATIONS

4.1 General

The site area subject to this assessment was observed as highly disturbed with minimal to no understorey present. Species observed were predominately locally indigenous, however other Australian native and exotic species were assessed. Health, vigour and condition was also highly varied across the trees forming part of the assessment. Root zones of assessed trees were generally observed as modified groundcover within deep soil areas.

4.2 The Trees

A total of two hundred and fifteen (215) trees and groups of trees were observed within and adjoining the subject site which have been surveyed as part of this assessment. All tree data recorded on site has been tabulated and is contained **Appendix 1** with relevant tree locations denoted on the attached Tree Location Plans held at **Appendix 2**.

Of those trees assessed, two-hundred and twelve (212) trees and groups of trees fell within the boundaries of the subject site. This included **Trees 1-138 & 142-215**.

The remaining three (3) trees (**Trees 139, 140 & 141**) were observed outside the site boundaries and within the neighbouring allotment to the east at 1-22 Bakers Lane, Kemps Creek.

4.3 Biodiversity

A number of the Subject Trees are of a species consistent with the Critically Endangered Ecological Community (CEEC): *Cumberland Plain Woodland in the Sydney Basin Bioregion*. The preservation of this community is outlined under the provisions of the both the NSW *Biodiversity Conservation (BC) Act 2016* and the Commonwealth *Environment Protection and Biodiversity Conservation (EPBC) Act 1999*. It is noted that several Plant Community Types (PCTs) associated with this community are indicated to occur on site under the NSW State Vegetation Type Map (SVTM)– refer to **Figure 4**.

Also noted is that a small portion of the site is included within the NSW Biodiversity Values (BV) Map² – refer to **Figure 5**. Any further interpretation of the ecological implications of the proposed works is outside the scope of this report.

² Map prepared by the Department of Climate Change, Energy, the Environment and Water under Part 7 of the Biodiversity Conservation Regulation 2017 (NSW)



Figure 4 – SVTM extract showing the extent of mapped PCTs occurring on site
Source: NSW Department of Climate Change, Energy, the Environment and Water



Figure 5 – NSW Biodiversity Values Map extract showing the small portion of the site mapped as containing high biodiversity value (circled yellow for ease of reference).
Source: NSW Department of Climate Change, Energy, the Environment and Water

5 DISCUSSION

5.1 Impact Assessment

The impact assessment is to calculate the incursions to the root zones and canopies as a result of the proposed demolition and construction works and evaluate the likely impact of the proposed works on the subject trees. A summary of the impacts anticipated are contained within the Tree Schedule at **Appendix 1**. Additionally, plans demonstrating the level of incursion and conflict to NRZs and SRZs can be found at **Appendix 2**. As part of the assessment the following criteria have been considered:

- Existing Relative Levels (R.L.);
- Proposed Relative Levels;
- Notional Root Zones (NRZ);
- Structural Root Zones (SRZ);
- Footprint of the proposed development (incl. stormwater and services) and temporary structures (scaffolding, hoardings etc.);
- Incursions to the NRZ & SRZ, including estimated cut & fill beyond the building footprint;
- Incursions to the tree canopy from the building envelope and temporary structures;
- Pruning necessary for building clearance;
- Remediation works for soil contaminants;
- Species tolerance to disturbance; and
- Assessment of the likely impact of the works on existing trees.

5.2 Trees Recommended for Removal

Should the proposed works proceed in their current form, it is recommended that all two-hundred and fifteen (215) trees and groups of trees within and adjoining the site boundaries be removed. This includes **Trees 1-215**. Removals have been recommended based upon; tree locations being in direct conflict with the proposed bulk earthworks and roadways.

Table 3 below provides a summary of impacts to be sustained as part of the proposed works and subsequent reasoning for removal. Refer to **Appendix 2** for a plan indicating the location of the trees that will require removal (dashed red).

At the time of writing, it is acknowledged that all trees assessed are located within the footprint of works associated with:

- State Significant Development No. SSD-30628110: Summit at Kemps Creek - 706-752 Mamre Road.
- State Significant Development No. SSD-74784709: 1-51 Aldington Road Industrial Estate.

Table 3 – Trees recommended for removal

Reason for Removal	Trees Recommended for Removal				
	High Retention Value	Medium Retention Value	Low Retention Value	Dead	Total
Full encroachment - within the footprint of the proposed bulk earthworks.	Twenty-six (26) trees: Trees 4, 6, 65, 67, 69, 74, 75, 76, 77, 78, 80, 83, 84, 85, 89, 92, 134, 135, 137, 169, 170, 177, 178, 187, 204 & 211	Sixty-seven (67) trees: Trees 1, 57, 58, 59, 62, 68, 71, 72, 73, 79, 86, 87, 88, 91, 94, 95, 96, 105, 110, 111, 112, 114, 116, 118, 119, 122, 129, 130, 131, 132, 136, 138, 142, 143, 144, 146, 148, 149, 151, 152, 153, 155, 156, 157, 158, 160, 161, 162, 172 (group), 173, 180, 183, 185, 186, 189, 191, 192, 193, 195, 197, 198, 199, 202, 205, 206, 209 & 210	Fifty-nine (59) trees: Trees 2 (group), 3, 14 (group), 15 (group), 61, 63, 64, 66, 70, 81, 82, 90, 93 (group), 97, 98, 99, 100, 101, 102, 103, 104, 106, 107, 108, 109, 113, 115, 117, 120, 121, 123, 124, 125, 126, 127, 128, 133, 145, 147, 150, 154, 163, 164, 167, 168, 176, 179, 181, 182, 184, 188, 190, 194, 196, 200, 201, 203, 207 & 208	Four (4) trees: Trees 60, 159, 165 & 166	One-hundred and fifty-six (156) trees and groups of trees
Full encroachment - within the footprint of the proposed roadways including the future Southern Link Road, Road No.1 and Mamre Road widening works.	Nine (9) trees: Trees 5, 16, 44, 46, 47, 56, 171, 174 & 214	Nineteen (19) trees: Trees 8, 9, 11, 17, 33, 34, 35, 36, 39, 43, 49, 50, 51, 53, 54, 55 (group), 175, 213 & 215	Twenty-six (26) trees: Trees 7, 10 (group), 12, 13 (group), 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 32, 38, 40, (group) 41, 42, 45, 48, 52 & 212	Two (2) trees: Trees 21 & 37	Fifty-six (56) trees and groups of trees
Moderate – major, unsustainable encroachment (NRZ 18-35% & SRZ 0-15%) as per AS4970-2025 as a result of the proposed bulk earthworks	Two (2) trees: Trees 140 & 141	One (1) tree: Tree 139	-	-	Three (3) trees
Total					Two-hundred and fifteen (215) trees and groups of trees

6 CONCLUSION

6.1 Proposed Development Impact

Based on the plans and information supplied, the proposal would result in the following impacts to existing trees:

Removal of two-hundred and fifteen (215) trees and groups of trees, including:

- One-hundred and fifty-six (156) trees and groups of trees due to falling directly within the footprint of the proposed bulk earthworks;
- Fifty-six (56) trees and groups of trees due to falling directly within the footprint of the proposed roadways including the future Southern Link Road, Road No.1 and Mamre Road widening works, and.
- Three (3) neighbouring trees which are be subject to 'Major' and 'Moderate' encroachment to their respective Notional Root Zones (18-35%) and Structural Root Zones (0-15%).

7 RECOMMENDATIONS

7.1 Tree Removal

Remove **Trees 1, 2 (group), 3, 4, 5, 6, 7, 8, 9, 10 (group), 11, 12, 13 (group), 14 (group), 15 (group), 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40 (group), 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55 (group), 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93 (group), 94, 95, 96, 97, 98, 99, 100, 101, 102, 103, 104, 105, 106, 107, 108, 109, 110, 111, 112, 113, 114, 115, 116, 117, 118, 119, 120, 121, 122, 123, 124, 125, 126, 127, 128, 129, 130, 131, 132, 133, 134, 135, 136, 137, 138, 139, 140, 141, 142, 143, 144, 145, 146, 147, 148, 149, 150, 151, 152, 153, 154, 155, 156, 157, 158, 159, 160, 161, 162, 163, 164, 165, 166, 167, 168, 169, 170, 171, 172 (group), 173, 174, 175, 176, 177, 178, 179, 180, 181, 182, 183, 184, 185, 186, 187, 188, 189, 190, 191, 192, 193, 194, 195, 196, 197, 198, 199, 200, 201, 202, 203, 204, 205, 206, 207, 208, 209, 210, 211, 212, 213, 214, 215** (215 trees and groups of trees) to facilitate the proposed development works.

All tree removal work is to be carried out by an experienced Arborist with minimum AQF Level 3 qualifications in accordance with AS4373-2007 - *Pruning of Amenity Trees*, Safe Work Australia Guide for Managing Risks of Tree Trimming and Removal Work (2016) and other applicable legislation.

8 REFERENCES

- City of Ryde Council. Ryde Development Control Plan 2014 – Part 9.5 – *Tree Preservation*
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APPENDIX 1: TREE ASSESSMENT DATA - 706-752 MAMRE ROAD, KEMPS CREEK

Tree No.	Genus & species	Common Name	Height (m)	Crown Spread (m)	DSH (mm)	DGL (mm)	NRZ Radius (m)	SRZ Radius (m)	Age Class	Health / Vitality	Structure/ Condition	SULE Rating	Landscape Significance	Retention Value	Development Impact	Retain / Remove	Comments
1	<i>Eucalyptus tereticornis</i>	Forest Red Gum	7	3	200	250	2.40	1.85	SM	Good	Good	Long 40 years +	Low	Medium	Within footprint of proposed bulk earthworks	Remove	Good form. Numerous 10+ saplings adjacent.
2	<i>Eucalyptus tereticornis</i>	Forest Red Gum	4	2	100, 50	150	2.00	1.50	SM	Good	Fair	Medium 15-40 years	Low	Low	Within footprint of proposed bulk earthworks	Remove	Group of ~50 saplings. Refer polygon
3	<i>Eucalyptus tereticornis</i>	Forest Red Gum	5	4	150, 100	250	2.16	1.85	SM	Good	Average	Medium 15-40 years	Low	Low	Within footprint of proposed bulk earthworks	Remove	Nil
4	<i>Eucalyptus tereticornis</i>	Forest Red Gum	29	20	1300	1400	15.00	3.81	M	Average	Average	Long 40 years +	High	High	Within footprint of proposed bulk earthworks	Remove	Significant. Dominant in landscape. Habitat nesting sites observed.
5	<i>Eucalyptus tereticornis</i>	Forest Red Gum	25	12	1100	1100	13.20	3.44	OM	Fair	Average	Long 40 years +	High	High	Within footprint of proposed Mamre Road widening works	Remove	Canopy spread includes only to live foliage extents. Dominant in landscape. Large limbs dead. Apical dieback. Nesting sites.
6	<i>Eucalyptus tereticornis</i>	Forest Red Gum	21	20	1250	1300	15.00	3.69	OM	Fair	Average	Long 40 years +	High	High	Within footprint of proposed bulk earthworks	Remove	Hollow observed. Native fauna habitat tree. Thinning sparse crown with apical dieback. Dominant in landscape.
7	<i>Eucalyptus tereticornis</i>	Forest Red Gum	4	3	100	200	2.00	1.68	SM	Average	Fair	Medium 15-40 years	Low	Low	Within footprint of future Southern Link Road	Remove	Unusual form, trunk atypical lean. Correct. Basal epicormic growth.
8	<i>Eucalyptus tereticornis</i>	Forest Red Gum	8	6	300	350	3.60	2.13	M	Good	Average	Long 40 years +	Low	Medium	Within footprint of proposed Mamre Road widening works	Remove	Co-dominant stems union appears stable
9	<i>Eucalyptus tereticornis</i>	Forest Red Gum	7	5	300	400	3.60	2.25	SM	Good	Fair	Long 40 years +	Low	Medium	Within footprint of future Southern Link Road	Remove	Good form. Minor branch bark inclusions
10	<i>Eucalyptus tereticornis</i>	Forest Red Gum	7	3	200	250	2.40	1.85	SM	Good	Fair	Medium 15-40 years	Low	Low	Within footprint of future Southern Link Road	Remove	Group of ~20 saplings & semi-mature trees. Refer polygon
11	<i>Eucalyptus tereticornis</i>	Forest Red Gum	7	5	300	350	3.60	2.13	M	Good	Good	Long 40 years +	Low	Medium	Within footprint of future Southern Link Road	Remove	Nil
12	<i>Eucalyptus tereticornis</i>	Forest Red Gum	9	2	900	1000	10.80	3.31	S	Poor	Fair	Very Short < 5 years	Low	Low	Within footprint of future Southern Link Road	Remove	Pruned into stag/habitat.
13	<i>Eucalyptus tereticornis</i>	Forest Red Gum	3	2	100	150	2.00	1.50	SM	Good	Average	Medium 15-40 years	Low	Low	Within footprint of future Southern Link Road	Remove	Group of 3
14	<i>Eucalyptus tereticornis</i>	Forest Red Gum	5	3	100	150	2.00	1.50	SM	Good	Average	Medium 15-40 years	Low	Low	Within footprint of proposed bulk earthworks	Remove	Group of ~20 saplings. Refer polygon
15	<i>Eucalyptus tereticornis</i>	Forest Red Gum	4	2	100	150	2.00	1.50	SM	Average	Average	Medium 15-40 years	Low	Low	Within footprint of proposed bulk earthworks	Remove	Group of ~10 saplings. Refer polygon
16	<i>Eucalyptus tereticornis</i>	Forest Red Gum	27	22	1500	1700	15.00	4.14	OM	Average	Average	Long 40 years +	High	High	Within footprint of future Southern Link Road	Remove	Significant tree. Dominant in landscape. Contains hollows.
17	<i>Eucalyptus tereticornis</i>	Forest Red Gum	8	7	500	450	6.00	2.37	M	Average	Average	Long 40 years +	Low	Medium	Within footprint of future Southern Link Road	Remove	Trunk bifurcates at approx 1.4m
18	Unknown species	-	5	6	400	450	4.80	2.37	OM	Fair	Poor	Short 5-15 years	Low	Low	Within footprint of future Southern Link Road	Remove	Extensive sapwood damage to trunk. Cavity. Fungal fruiting bodies at base of trunk.
19	Unknown species	-	6	4	100, 150, 200	400	3.23	2.25	M	Fair	Poor	Short 5-15 years	Low	Low	Within footprint of future Southern Link Road	Remove	Basal cavity/decay. Stem failure.
20	<i>Jacaranda mimosifolia</i>	Jacaranda	6	4	200	300	2.40	2.00	SM	Good	Average	Medium 15-40 years	Low	Low	Within footprint of future Southern Link Road	Remove	Nil

Tree No.	Genus & species	Common Name	Height (m)	Crown Spread (m)	DSH (mm)	DGL (mm)	NRZ Radius (m)	SRZ Radius (m)	Age Class	Health / Vitality	Structure/ Condition	SULE Rating	Landscape Significance	Retention Value	Development Impact	Retain / Remove	Comments
21	<i>Jacaranda mimosifolia</i>	Jacaranda	7	10	400	450	4.80	2.37	M	Average	Average	Medium 15-40 years	Low	Low	Within footprint of future Southern Link Road	Remove	Not in full leaf during VTA - Seasonal
22	<i>Celtis</i> sp.	Hackberry	5	6	200	300	2.40	2.00	M	Average	Average	Medium 15-40 years	Low	Low	Within footprint of future Southern Link Road	Remove	Basal epicormic growth. Buds forming.
23	<i>Lagerstroemia indica</i>	Crepe Myrtle	5	5	200, 200, 200, 100	400	4.33	2.25	M	Average	Fair	Medium 15-40 years	Low	Low	Within footprint of future Southern Link Road	Remove	Multi-stemmed specimen bifurcating at 0.5m above ground level. Previous branch failures.
24	<i>Lagerstroemia indica</i>	Crepe Myrtle	4	4	100	400	2.00	2.25	OM	Fair	Fair	Short 5-15 years	Low	Low	Within footprint of future Southern Link Road	Remove	Previously a multi-stemmed specimen. All stems have died except one.
25	<i>Celtis</i> sp.	Hackberry	8	14	200, 350, 350, 400	850	8.00	3.09	S	Fair	Poor	Short 5-15 years	Low	Low	Within footprint of future Southern Link Road	Remove	Multiple large cavities within limbs. Recent limb failure. Previous aerial epicormic growth. Buds forming.
26	<i>Jacaranda mimosifolia</i>	Jacaranda	4	4	100	150	2.00	1.50	J	Average	Average	Medium 15-40 years	Low	Low	Within footprint of future Southern Link Road	Remove	Nil
27	<i>Eucalyptus tereticornis</i>	Forest Red Gum	10	5	250	400	3.00	2.25	M	Average	Average	Medium 15-40 years	Low	Low	Within footprint of future Southern Link Road	Remove	Previous basal epicormic growth
28	<i>Ulmus</i> sp.	Elm	7	2	150	200	2.00	1.68	M	Fair	Fair	Medium 15-40 years	Low	Low	Within footprint of future Southern Link Road	Remove	Partially suppressed. Basal and aerial epicormic shoots
29	<i>Ulmus</i> sp.	Elm	5	4	100, 100, 50	300	2.00	2.00	SM	Average	Average	Medium 15-40 years	Low	Low	Within footprint of future Southern Link Road	Remove	Trunk bifurcates near ground level
30	<i>Melaleuca armillaris</i>	Bracelet Honey-myrtle	6	7	200, 150, 200, 150	400	4.24	2.25	S	Poor	Fair	Short 5-15 years	Low	Low	Within footprint of future Southern Link Road	Remove	Very sparse, thinning crown. 5-10% foliage remaining
31	Dead tree	-	10	4	350	400						Dead	Low	Dead	Within footprint of future Southern Link Road	Remove	Nil hollows or nests
32	<i>Ulmus</i> sp.	Elm	7	6	200	300	2.40	2.00	SM	Fair	Good	Medium 15-40 years	Low	Low	Within footprint of future Southern Link Road	Remove	Aerial epicormic shoots
33	<i>Corymbia citriodora</i>	Lemon-scented Gum	11	5	250	300	3.00	2.00	M	Good	Good	Medium 15-40 years	Medium	Medium	Within footprint of future Southern Link Road	Remove	Good form
34	<i>Eucalyptus moluccana</i>	Grey Box	9	3	250	300	3.00	2.00	SM	Average	Average	Long 40 years +	Low	Medium	Within footprint of future Southern Link Road	Remove	Partly suppressed. Intermediate crown class
35	<i>Eucalyptus tereticornis</i>	Forest Red Gum	9	6	300	400	3.60	2.25	M	Good	Good	Long 40 years +	Low	Medium	Within footprint of future Southern Link Road	Remove	Nil
36	<i>Eucalyptus botryoides</i>	Bangalay	12	10	400	500	4.80	2.47	M	Good	Good	Long 40 years +	Low	Medium	Within footprint of future Southern Link Road	Remove	Nil
37	Dead tree	-	7	3	200	250						Dead	Low	Dead	Within footprint of future Southern Link Road	Remove	Borer holes and trails in sapwood
38	<i>Ulmus</i> sp.	Elm	8	6	400	450	4.80	2.37	M	Average	Average	Medium 15-40 years	Low	Low	Within footprint of future Southern Link Road	Remove	In bud during VTA
39	<i>Ulmus</i> sp.	Elm	10	6	300	400	3.60	2.25	M	Good	Good	Medium 15-40 years	Medium	Medium	Within footprint of future Southern Link Road	Remove	Nil
40	<i>Cinnamomum camphora</i>	Camphor Laurel	8	3	150, 100	250	2.16	1.85	SM	Fair	Average	Medium 15-40 years	Low	Low	Within footprint of future Southern Link Road	Remove	Group of ~15 saplings & semi-mature trees. Refer polygon
41	<i>Ligustrum lucidum</i>	Broad-leaved Privet	5	5	150, 150	250	2.55	1.85	SM	Average	Average	Medium 15-40 years	Low	Low	Within footprint of future Southern Link Road	Remove	Environmental weed species

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42	<i>Ligustrum lucidum</i>	Broad-leaved Privet	5	4	200, 150	300	3.00	2.00	SM	Average	Average	Medium 15-40 years	Low	Low	Within footprint of future Southern Link Road	Remove	Environmental weed species
43	<i>Eucalyptus botryoides</i>	Bangalay	14	10	450	500	5.40	2.47	M	Good	Average	Long 40 years +	Low	Medium	Within footprint of future Southern Link Road	Remove	Nil
44	<i>Eucalyptus botryoides</i>	Bangalay	17	12	500	600	6.00	2.67	M	Good	Good	Long 40 years +	High	High	Within footprint of future Southern Link Road	Remove	Pruned for powerlines clearance
45	<i>Gleditsia triacanthos</i>	Honey Locust	8	8	150, 150, 200	350	3.50	2.13	M	Average	Fair	Medium 15-40 years	Low	Low	Within footprint of future Southern Link Road	Remove	Included bark
46	<i>Eucalyptus tereticornis</i>	Forest Red Gum	18	12	600	650	7.20	2.76	M	Good	Average	Long 40 years +	High	High	Within footprint of future Southern Link Road	Remove	Pruned for powerlines clearance
47	<i>Eucalyptus moluccana</i>	Grey Box	20	20	800	800	9.60	3.01	M	Average	Average	Long 40 years +	High	High	Within footprint of future Southern Link Road	Remove	Dominant in landscape.
48	<i>Olea europaea subsp. cuspidata</i>	African Olive	3	3	50, 100, 50, 50	200	2.00	1.68	SM	Average	Average	Medium 15-40 years	Low	Low	Within footprint of future Southern Link Road	Remove	Environmental weed species
49	<i>Ulmus sp.</i>	Elm	9	5	300	350	3.60	2.13	M	Good	Average	Medium 15-40 years	Medium	Medium	Within footprint of future Southern Link Road	Remove	Nil
50	<i>Corymbia citriodora</i>	Lemon-scented Gum	12	10	500	600	6.00	2.67	M	Good	Good	Long 40 years +	Low	Medium	Within footprint of future Southern Link Road	Remove	Nil
51	<i>Ulmus sp.</i>	Elm	7	5	200, 250	300	3.84	2.00	M	Average	Fair	Medium 15-40 years	Medium	Medium	Within footprint of future Southern Link Road	Remove	Co-dominant stems bifurcating at 0.4m above ground level with included bark
52	<i>Gleditsia triacanthos</i>	Honey Locust	7	4	100, 150	250	2.16	1.85	SM	Average	Average	Medium 15-40 years	Low	Low	Within footprint of future Southern Link Road	Remove	Branch failure. Co-dominant stems union appears stable
53	<i>Corymbia citriodora</i>	Lemon-scented Gum	13	6	300	400	3.60	2.25	M	Good	Average	Medium 15-40 years	Medium	Medium	Within footprint of future Southern Link Road	Remove	Basal trunk wound, localised swelling. Good kino and response growth
54	<i>Corymbia citriodora</i>	Lemon-scented Gum	13	7	250	300	3.00	2.00	M	Good	Average	Medium 15-40 years	Medium	Medium	Within footprint of future Southern Link Road	Remove	Small basal cankers. Discolouration. Some response growth.
55	<i>Corymbia citriodora</i>	Lemon-scented Gum	13	4	200	300	2.40	2.00	SM	Average	Average	Medium 15-40 years	Medium	Medium	Within footprint of future Southern Link Road	Remove	Group of ~10 trees. Refer polygon
56	<i>Corymbia citriodora</i>	Lemon-scented Gum	15	18	750	800	9.00	3.01	M	Good	Average	Long 40 years +	High	High	Within footprint of future Southern Link Road	Remove	Dominant in landscape. Previous first order branch failed. Good ram's horns response growth.
57	<i>Corymbia citriodora</i>	Lemon-scented Gum	13	9	350	400	4.20	2.25	M	Good	Average	Medium 15-40 years	Medium	Medium	Within footprint of proposed bulk earthworks	Remove	Partially suppressed
58	<i>Corymbia citriodora</i>	Lemon-scented Gum	13	8	350	450	4.20	2.37	M	Average	Average	Medium 15-40 years	Medium	Medium	Within footprint of proposed bulk earthworks	Remove	Nil
59	<i>Eucalyptus botryoides</i>	Bangalay	15	14	500	550	6.00	2.57	M	Average	Good	Medium 15-40 years	Medium	Medium	Within footprint of proposed bulk earthworks	Remove	Aerial epicormic shoots
60	Dead tree	-	11	5	350, 450	500						Dead	Low	Dead	Within footprint of proposed bulk earthworks	Remove	No hollows
61	<i>Eucalyptus botryoides</i>	Bangalay	4	5	200	250	2.40	1.85	SM	Average	Average	Medium 15-40 years	Low	Low	Within footprint of proposed bulk earthworks	Remove	Previous branch failure
62	<i>Eucalyptus botryoides</i>	Bangalay	9	9	450, 400	500	7.22	2.47	M	Average	Average	Medium 15-40 years	Medium	Medium	Within footprint of proposed bulk earthworks	Remove	Trunk bifurcates at approx. 1.2m

Tree No.	Genus & species	Common Name	Height (m)	Crown Spread (m)	DSH (mm)	DGL (mm)	NRZ Radius (m)	SRZ Radius (m)	Age Class	Health / Vitality	Structure/ Condition	SULE Rating	Landscape Significance	Retention Value	Development Impact	Retain / Remove	Comments
63	<i>Eucalyptus botryoides</i>	Bangalay	12	8	550	500	6.60	2.47	M	Fair	Average	Medium 15-40 years	Low	Low	Within footprint of proposed bulk earthworks	Remove	High level of aerial epicormic shoots. Deadwood
64	<i>Eucalyptus moluccana</i>	Grey Box	18	15	800	850	9.60	3.09	OM	Poor	Fair	Short 5-15 years	Low	Low	Within footprint of proposed bulk earthworks	Remove	Hanger. Extensive dieback of crown. 10-20% foliage.
65	<i>Eucalyptus moluccana</i>	Grey Box	20	19	700	800	8.40	3.01	M	Good	Good	Long 40 years +	High	High	Within footprint of proposed bulk earthworks	Remove	Dominant in landscape. Good form
66	<i>Eucalyptus moluccana</i>	Grey Box	16	8	700	800	8.40	3.01	S	Poor	Poor	Short 5-15 years	Low	Low	Within footprint of proposed bulk earthworks	Remove	Stem failure. Internal decay. Pronounced trunk swelling. Predominantly deadwood. 5-10% foliage
67	<i>Eucalyptus moluccana</i>	Grey Box	23	16	700	800	8.40	3.01	M	Good	Fair	Medium 15-40 years	High	High	Within footprint of proposed bulk earthworks	Remove	Dominant in landscape. Co-dominant stems with included bark at approx. 9m
68	<i>Eucalyptus moluccana</i>	Grey Box	21	14	500	600	6.00	2.67	M	Fair	Good	Medium 15-40 years	Medium	Medium	Within footprint of proposed bulk earthworks	Remove	Apical dieback. Aerial epicormic shoots.
69	<i>Eucalyptus moluccana</i>	Grey Box	20	12	500	650	6.00	2.76	M	Average	Good	Medium 15-40 years	High	High	Within footprint of proposed bulk earthworks	Remove	Thinning, branch tip dieback.
70	<i>Eucalyptus moluccana</i>	Grey Box	15	11	450	500	5.40	2.47	M	Fair	Average	Short 5-15 years	Medium	Low	Within footprint of proposed bulk earthworks	Remove	Apical dieback. Aerial epicormic shoots
71	<i>Eucalyptus moluccana</i>	Grey Box	16	12	600	700	7.20	2.85	M	Average	Fair	Medium 15-40 years	Medium	Medium	Within footprint of proposed bulk earthworks	Remove	Crowded stems and branch union
72	<i>Eucalyptus moluccana</i>	Grey Box	21	13	650	700	7.80	2.85	M	Average	Poor	Medium 15-40 years	Medium	Medium	Within footprint of proposed bulk earthworks	Remove	Large area of sapwood damage/decay at base of trunk, approx. 2/3 circumference of trunk. Fungal brackets on western side
73	<i>Eucalyptus tereticornis</i>	Forest Red Gum	19	6	550	600	6.60	2.67	M	Fair	Poor	Medium 15-40 years	Medium	Medium	Within footprint of proposed bulk earthworks	Remove	Basal sapwood damage 2/3 circumference of trunk. Decay.
74	<i>Eucalyptus moluccana</i>	Grey Box	26	22	900	1100	10.80	3.44	M	Good	Average	Long 40 years +	High	High	Within footprint of proposed bulk earthworks	Remove	Dominant in landscape. Good form .
75	<i>Eucalyptus moluccana</i>	Grey Box	27	24	800	950	9.60	3.24	M	Average	Good	Long 40 years +	High	High	Within footprint of proposed bulk earthworks	Remove	Dominant in landacape
76	<i>Eucalyptus moluccana</i>	Grey Box	26	16	650	750	7.80	2.93	M	Average	Good	Medium 15-40 years	High	High	Within footprint of proposed bulk earthworks	Remove	Dominant in landscape
77	<i>Eucalyptus moluccana</i>	Grey Box	21	17	750	850	9.00	3.09	M	Average	Fair	Medium 15-40 years	High	High	Within footprint of proposed bulk earthworks	Remove	Large basal sapwood damage 40% circumference
78	<i>Eucalyptus moluccana</i>	Grey Box	23	22	850	900	10.20	3.17	M	Good	Average	Long 40 years +	High	High	Within footprint of proposed bulk earthworks	Remove	Dominant. Excellent form. Dual trunk felled. Basal cavity with old fungal bracket.
79	<i>Eucalyptus moluccana</i>	Grey Box	18	9	600	700	7.20	2.85	M	Fair	Fair	Medium 15-40 years	Medium	Medium	Within footprint of proposed bulk earthworks	Remove	Large cavity. Bees observed moving into trunk. Internal beehive. Decay.
80	<i>Eucalyptus moluccana</i>	Grey Box	26	22	800	900	9.60	3.17	M	Good	Good	Long 40 years +	High	High	Within footprint of proposed bulk earthworks	Remove	Dominant
81	<i>Eucalyptus moluccana</i>	Grey Box	16	10	500	650	6.00	2.76	S	Poor	Poor	Short 5-15 years	Low	Low	Within footprint of proposed bulk earthworks	Remove	Extensive decay
82	<i>Eucalyptus moluccana</i>	Grey Box	14	3	400	500	4.80	2.47	S	Poor	Poor	Short 5-15 years	Low	Low	Within footprint of proposed bulk earthworks	Remove	Only epicormics remaining. Extensive decay
83	<i>Eucalyptus moluccana</i>	Grey Box	27	24	750	900	9.00	3.17	M	Good	Good	Long 40 years +	High	High	Within footprint of proposed bulk earthworks	Remove	Dominant

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84	<i>Eucalyptus moluccana</i>	Grey Box	28	20	850	900	10.20	3.17	M	Good	Good	Long 40 years +	High	High	Within footprint of proposed bulk earthworks	Remove	Dominant. Excellent form
85	<i>Eucalyptus moluccana</i>	Grey Box	20	12	600	700	7.20	2.85	M	Good	Good	Medium 15-40 years	High	High	Within footprint of proposed bulk earthworks	Remove	Nil
86	<i>Eucalyptus moluccana</i>	Grey Box	19	10	450	550	5.40	2.57	M	Fair	Average	Medium 15-40 years	Medium	Medium	Within footprint of proposed bulk earthworks	Remove	Cavity at 1.2m. thinning sparse crown
87	<i>Eucalyptus moluccana</i>	Grey Box	26	15	600	700	7.20	2.85	M	Average	Average	Medium 15-40 years	Medium	Medium	Within footprint of proposed bulk earthworks	Remove	Nil
88	<i>Eucalyptus moluccana</i>	Grey Box	22	19	1000	1000	12.00	3.31	M	Average	Poor	Medium 15-40 years	Medium	Medium	Within footprint of proposed bulk earthworks	Remove	Co-dominant leaders with included bark. Scaffold branch failures.
89	<i>Eucalyptus tereticornis</i>	Forest Red Gum	25	22	1050	1100	12.60	3.44	M	Average	Average	Long 40 years +	High	High	Within footprint of proposed bulk earthworks	Remove	Dominant. Branch failure but good form. Significant. Hollows. Bird best.
90	<i>Eucalyptus tereticornis</i>	Forest Red Gum	6	3	200	250	2.40	1.85	SM	Fair	Good	Medium 15-40 years	Low	Low	Within footprint of proposed bulk earthworks	Remove	Sparse crown
91	<i>Eucalyptus tereticornis</i>	Forest Red Gum	7	3	200	250	2.40	1.85	SM	Good	Good	Long 40 years +	Low	Medium	Within footprint of proposed bulk earthworks	Remove	Nil
92	<i>Eucalyptus tereticornis</i>	Forest Red Gum	19	14	1400	1550	15.00	3.98	M	Average	Average	Long 40 years +	High	High	Within footprint of proposed bulk earthworks	Remove	Dominant tree. Significant. Veteran tree. Recent stem failure. Hollow
93	<i>Eucalyptus tereticornis</i>	Forest Red Gum	6	4	200	200	2.40	1.68	SM	Average	Good	Medium 15-40 years	Low	Low	Within footprint of proposed bulk earthworks	Remove	Group of ~15 saplings & semi-mature trees. Refer polygon
94	<i>Casuarina glauca</i>	Swamp Oak	18	9	400	500	4.80	2.47	M	Fair	Average	Medium 15-40 years	Medium	Medium	Within footprint of proposed bulk earthworks	Remove	Small Branch dieback
95	<i>Casuarina glauca</i>	Swamp Oak	18	5	400	500	4.80	2.47	M	Fair	Average	Medium 15-40 years	Medium	Medium	Within footprint of proposed bulk earthworks	Remove	Branch tip dieback
96	<i>Casuarina glauca</i>	Swamp Oak	18	6	350	450	4.20	2.37	M	Average	Average	Medium 15-40 years	Medium	Medium	Within footprint of proposed bulk earthworks	Remove	Small deadwood
97	<i>Casuarina glauca</i>	Swamp Oak	18	5	300	400	3.60	2.25	M	Fair	Fair	Short 5-15 years	Medium	Low	Within footprint of proposed bulk earthworks	Remove	Dieback, previous failures
98	<i>Casuarina glauca</i>	Swamp Oak	16	3	250	350	3.00	2.13	M	Fair	Fair	Short 5-15 years	Medium	Low	Within footprint of proposed bulk earthworks	Remove	Dieback
99	<i>Casuarina glauca</i>	Swamp Oak	19	4	300	400	3.60	2.25	M	Fair	Fair	Short 5-15 years	Low	Low	Within footprint of proposed bulk earthworks	Remove	Previous failures
100	<i>Casuarina glauca</i>	Swamp Oak	16	2	200	300	2.40	2.00	M	Fair	Fair	Short 5-15 years	Low	Low	Within footprint of proposed bulk earthworks	Remove	Small canopy, previous failures
101	<i>Casuarina glauca</i>	Swamp Oak	18	7	400, 300	500	6.00	2.47	M	Fair	Fair	Short 5-15 years	Medium	Low	Within footprint of proposed bulk earthworks	Remove	Branch tip dieback, previous failures
102	<i>Casuarina glauca</i>	Swamp Oak	18	6	300	400	3.60	2.25	OM	Poor	Fair	Very Short < 5 years	Low	Low	Within footprint of proposed bulk earthworks	Remove	Dieback, deadwood
103	<i>Casuarina glauca</i>	Swamp Oak	18	6	400	450	4.80	2.37	M	Fair	Poor	Short 5-15 years	Low	Low	Within footprint of proposed bulk earthworks	Remove	Part failure of codominant stems
104	<i>Casuarina glauca</i>	Swamp Oak	18	6	400	450	4.80	2.37	M	Fair	Poor	Short 5-15 years	Low	Low	Within footprint of proposed bulk earthworks	Remove	Pair, codominant stems have started failing

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105	<i>Casuarina glauca</i>	Swamp Oak	18	8	500	600	6.00	2.67	M	Fair	Average	Medium 15-40 years	Medium	Medium	Within footprint of proposed bulk earthworks	Remove	Small branch failures
106	<i>Casuarina glauca</i>	Swamp Oak	17	6	350	450	4.20	2.37	M	Fair	Fair	Short 5-15 years	Medium	Low	Within footprint of proposed bulk earthworks	Remove	Dieback, deadwood
107	<i>Casuarina glauca</i>	Swamp Oak	18	2	200	300	2.40	2.00	M	Fair	Poor	Short 5-15 years	Low	Low	Within footprint of proposed bulk earthworks	Remove	Previous failure of codominant leader
108	<i>Eucalyptus tereticornis</i>	Forest Red Gum	18	12	500	600	6.00	2.67	M	Fair	Fair	Short 5-15 years	Medium	Low	Within footprint of proposed bulk earthworks	Remove	Large deadwood, canopy dieback, over extended branch with fibre buckling
109	<i>Casuarina glauca</i>	Swamp Oak	15	6	300	400	3.60	2.25	M	Fair	Poor	Short 5-15 years	Low	Low	Within footprint of proposed bulk earthworks	Remove	Failure of codominant leader
110	<i>Casuarina glauca</i>	Swamp Oak	17	8	450	550	5.40	2.57	M	Average	Average	Medium 15-40 years	Medium	Medium	Within footprint of proposed bulk earthworks	Remove	Previous failures
111	<i>Casuarina glauca</i>	Swamp Oak	17	5	300	400	3.60	2.25	M	Fair	Fair	Medium 15-40 years	Medium	Medium	Within footprint of proposed bulk earthworks	Remove	Previous failures
112	<i>Casuarina glauca</i>	Swamp Oak	18	4	300	400	3.60	2.25	M	Fair	Fair	Medium 15-40 years	Medium	Medium	Within footprint of proposed bulk earthworks	Remove	Previous failures
113	<i>Casuarina glauca</i>	Swamp Oak	14	4	250	350	3.00	2.13	OM	Fair	Fair	Short 5-15 years	Low	Low	Within footprint of proposed bulk earthworks	Remove	Failures, trunk wounds
114	<i>Casuarina glauca</i>	Swamp Oak	18	6	300	400	3.60	2.25	M	Average	Average	Medium 15-40 years	Medium	Medium	Within footprint of proposed bulk earthworks	Remove	Previous failures
115	<i>Casuarina glauca</i>	Swamp Oak	16	5	250	300	3.00	2.00	OM	Fair	Fair	Short 5-15 years	Low	Low	Within footprint of proposed bulk earthworks	Remove	Previous failures, trunk wounds
116	<i>Casuarina glauca</i>	Swamp Oak	18	3	250	300	3.00	2.00	M	Average	Fair	Medium 15-40 years	Medium	Medium	Within footprint of proposed bulk earthworks	Remove	Asym canopy, previous failures
117	<i>Casuarina glauca</i>	Swamp Oak	16	3	250	300	3.00	2.00	M	Fair	Fair	Short 5-15 years	Low	Low	Within footprint of proposed bulk earthworks	Remove	Suppressed, previous failures
118	<i>Casuarina glauca</i>	Swamp Oak	19	5	300	450	3.60	2.37	M	Fair	Fair	Medium 15-40 years	Medium	Medium	Within footprint of proposed bulk earthworks	Remove	Previous failures
119	<i>Casuarina glauca</i>	Swamp Oak	20	8	300	400	3.60	2.25	M	Fair	Average	Medium 15-40 years	Medium	Medium	Within footprint of proposed bulk earthworks	Remove	Lower canopy deadwood
120	<i>Casuarina glauca</i>	Swamp Oak	20	4	250	350	3.00	2.13	M	Fair	Fair	Short 5-15 years	Medium	Low	Within footprint of proposed bulk earthworks	Remove	Forest form
121	<i>Casuarina glauca</i>	Swamp Oak	18	3	200	300	2.40	2.00	M	Fair	Fair	Short 5-15 years	Low	Low	Within footprint of proposed bulk earthworks	Remove	Forest form, deadwood
122	<i>Casuarina glauca</i>	Swamp Oak	18	4	250	350	3.00	2.13	M	Fair	Fair	Medium 15-40 years	Medium	Medium	Within footprint of proposed bulk earthworks	Remove	Previous failure
123	<i>Casuarina glauca</i>	Swamp Oak	20	3	250	350	3.00	2.13	M	Fair	Fair	Short 5-15 years	Medium	Low	Within footprint of proposed bulk earthworks	Remove	Reduced canopy area, slender form
124	<i>Casuarina glauca</i>	Swamp Oak	14	4	200	250	2.40	1.85	SM	Fair	Average	Medium 15-40 years	Low	Low	Within footprint of proposed bulk earthworks	Remove	Suppressed, dieback
125	<i>Casuarina glauca</i>	Swamp Oak	20	3	250	350	3.00	2.13	M	Fair	Fair	Short 5-15 years	Medium	Low	Within footprint of proposed bulk earthworks	Remove	Reduced canopy area, previous failure

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126	<i>Casuarina glauca</i>	Swamp Oak	19	2	250	300	3.00	2.00	M	Fair	Fair	Short 5-15 years	Medium	Low	Within footprint of proposed bulk earthworks	Remove	Reduced canopy, forest form
127	<i>Casuarina glauca</i>	Swamp Oak	16	4	200	300	2.40	2.00	M	Fair	Fair	Short 5-15 years	Medium	Low	Within footprint of proposed bulk earthworks	Remove	Reduced canopy, slender form
128	<i>Casuarina glauca</i>	Swamp Oak	19	4	300	350	3.60	2.13	M	Fair	Fair	Short 5-15 years	Medium	Low	Within footprint of proposed bulk earthworks	Remove	Reduced canopy, slender form
129	<i>Casuarina glauca</i>	Swamp Oak	20	5	300	400	3.60	2.25	M	Average	Average	Medium 15-40 years	Medium	Medium	Within footprint of proposed bulk earthworks	Remove	Forest form
130	<i>Casuarina glauca</i>	Swamp Oak	18	8	350	450	4.20	2.37	M	Fair	Fair	Medium 15-40 years	Medium	Medium	Within footprint of proposed bulk earthworks	Remove	Previous failures, slender
131	<i>Casuarina glauca</i>	Swamp Oak	20	8	350	450	4.20	2.37	M	Average	Average	Medium 15-40 years	Medium	Medium	Within footprint of proposed bulk earthworks	Remove	Forest form
132	<i>Casuarina glauca</i>	Swamp Oak	17	8	350	450	4.20	2.37	M	Fair	Average	Medium 15-40 years	Medium	Medium	Within footprint of proposed bulk earthworks	Remove	Thinning canopy
133	<i>Casuarina glauca</i>	Swamp Oak	16	8	400	500	4.80	2.47	OM	Poor	Fair	Very Short < 5 years	Low	Low	Within footprint of proposed bulk earthworks	Remove	Significant deadwood, canopy decline, major trunk cavity
134	<i>Casuarina glauca</i>	Swamp Oak	18	10	450	550	5.40	2.57	M	Average	Good	Medium 15-40 years	High	High	Within footprint of proposed bulk earthworks	Remove	Dominant, previous small branch failures
135	<i>Casuarina glauca</i>	Swamp Oak	18	9	500	600	6.00	2.67	M	Good	Good	Medium 15-40 years	High	High	Within footprint of proposed bulk earthworks	Remove	Good form, small deadwood
136	<i>Eucalyptus tereticornis</i>	Forest Red Gum	20	10	1000	1200	12.00	3.57	OM	Average	Fair	Medium 15-40 years	Medium	Medium	Within footprint of proposed bulk earthworks	Remove	Dominant, bird nests, major branch failures
137	<i>Eucalyptus tereticornis</i>	Forest Red Gum	30	20	1300	1400	15.00	3.81	OM	Fair	Fair	Medium 15-40 years	High	High	Within footprint of proposed bulk earthworks	Remove	Dominant, reduced canopy area, large deadwood, good trunk taper, multiple habitat hollows, loricket and other birds observed
138	<i>Eucalyptus eugenioides</i>	Thin-leaved Stringybark	13	12	500	600	6.00	2.67	M	Fair	Average	Medium 15-40 years	Medium	Medium	Within footprint of proposed bulk earthworks	Remove	Branch dieback, previous failures
139	<i>Eucalyptus moluccana</i>	Grey Box	20	18	650	750	7.80	2.93	OM	Fair	Average	Medium 15-40 years	Medium	Medium	Major encroachment (22% NRZ)	Remove	Neighbouring tree. Not tagged. Major canopy dieback. Large Deadwood
140	<i>Eucalyptus tereticornis</i>	Forest Red Gum	20	19	600	750	7.20	2.93	M	Average	Average	Medium 15-40 years	High	High	Major encroachment (35% NRZ + 15% SRZ)	Remove	Neighbouring tree. Not tagged, small branch dieback
141	<i>Eucalyptus moluccana</i>	Grey Box	18	16	500, 500	950	8.49	3.24	M	Average	Good	Long 40 years +	High	High	Moderate encroachment (18% NRZ)	Remove	Neighbouring tree. Not tagged, small deadwood
142	<i>Casuarina glauca</i>	Swamp Oak	14	9	450	550	5.40	2.57	M	Average	Average	Medium 15-40 years	Medium	Medium	Within footprint of proposed bulk earthworks	Remove	Previous branch failures
143	<i>Casuarina glauca</i>	Swamp Oak	12	5	300	350	3.60	2.13	M	Average	Fair	Medium 15-40 years	Medium	Medium	Within footprint of proposed bulk earthworks	Remove	Previous branch failures
144	<i>Casuarina glauca</i>	Swamp Oak	12	6	300	350	3.60	2.13	M	Fair	Fair	Medium 15-40 years	Medium	Medium	Within footprint of proposed bulk earthworks	Remove	Previous failures, trunk decay
145	<i>Casuarina glauca</i>	Swamp Oak	13	4	400	450	4.80	2.37	M	Fair	Fair	Short 5-15 years	Low	Low	Within footprint of proposed bulk earthworks	Remove	Inclusion, previous failures
146	<i>Casuarina glauca</i>	Swamp Oak	16	10	350	450	4.20	2.37	M	Average	Average	Medium 15-40 years	Medium	Medium	Within footprint of proposed bulk earthworks	Remove	Small branch failures

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147	<i>Casuarina glauca</i>	Swamp Oak	14	5	450	500	5.40	2.47	OM	Average	Poor	Short 5-15 years	Low	Low	Within footprint of proposed bulk earthworks	Remove	Failure of leader
148	<i>Casuarina glauca</i>	Swamp Oak	15	6	300	400	3.60	2.25	M	Average	Average	Medium 15-40 years	Medium	Medium	Within footprint of proposed bulk earthworks	Remove	Previous branch failures
149	<i>Casuarina glauca</i>	Swamp Oak	16	7	300	400	3.60	2.25	M	Average	Average	Medium 15-40 years	Medium	Medium	Within footprint of proposed bulk earthworks	Remove	Canopy bias south
150	<i>Casuarina glauca</i>	Swamp Oak	7	3	200	250	2.40	1.85	M	Average	Fair	Short 5-15 years	Low	Low	Within footprint of proposed bulk earthworks	Remove	Suppressed
151	<i>Casuarina glauca</i>	Swamp Oak	16	7	250	300	3.00	2.00	M	Average	Average	Medium 15-40 years	Medium	Medium	Within footprint of proposed bulk earthworks	Remove	Small branch failures
152	<i>Casuarina glauca</i>	Swamp Oak	12	6	250	300	3.00	2.00	M	Average	Average	Medium 15-40 years	Medium	Medium	Within footprint of proposed bulk earthworks	Remove	Small branch failures
153	<i>Casuarina glauca</i>	Swamp Oak	16	6	350	450	4.20	2.37	M	Average	Average	Medium 15-40 years	Medium	Medium	Within footprint of proposed bulk earthworks	Remove	Previous failure of Small branch
154	<i>Casuarina glauca</i>	Swamp Oak	14	5	300	400	3.60	2.25	OM	Fair	Fair	Short 5-15 years	Medium	Low	Within footprint of proposed bulk earthworks	Remove	Large stem cavity and decay
155	<i>Casuarina glauca</i>	Swamp Oak	15	6	250	300	3.00	2.00	M	Average	Average	Medium 15-40 years	Medium	Medium	Within footprint of proposed bulk earthworks	Remove	Previous small branch failures
156	<i>Casuarina glauca</i>	Swamp Oak	14	5	300	400	3.60	2.25	M	Average	Average	Medium 15-40 years	Medium	Medium	Within footprint of proposed bulk earthworks	Remove	Previous small branch failure
157	<i>Casuarina glauca</i>	Swamp Oak	13	7	250	350	3.00	2.13	M	Fair	Average	Medium 15-40 years	Medium	Medium	Within footprint of proposed bulk earthworks	Remove	Branch tip dieback
158	<i>Casuarina glauca</i>	Swamp Oak	12	8	350	450	4.20	2.37	M	Average	Average	Medium 15-40 years	Medium	Medium	Within footprint of proposed bulk earthworks	Remove	Previous branch failures
159	Dead tree	-	6	1	250	300						Dead	Low	Dead	Within footprint of proposed bulk earthworks	Remove	Decay at trunk base
160	<i>Casuarina glauca</i>	Swamp Oak	15	8	400	500	4.80	2.47	M	Average	Fair	Medium 15-40 years	Medium	Medium	Within footprint of proposed bulk earthworks	Remove	Previous branch failures
161	<i>Casuarina glauca</i>	Swamp Oak	15	5	300	450	3.60	2.37	M	Average	Fair	Medium 15-40 years	Medium	Medium	Within footprint of proposed bulk earthworks	Remove	Previous failure, crowded
162	<i>Casuarina glauca</i>	Swamp Oak	15	5	300	350	3.60	2.13	M	Average	Average	Medium 15-40 years	Medium	Medium	Within footprint of proposed bulk earthworks	Remove	Crowded
163	<i>Casuarina glauca</i>	Swamp Oak	14	6	400	450	4.80	2.37	M	Fair	Fair	Short 5-15 years	Medium	Low	Within footprint of proposed bulk earthworks	Remove	Large previous branch failures
164	<i>Casuarina glauca</i>	Swamp Oak	12	6	300	450	3.60	2.37	M	Poor	Poor	Very Short < 5 years	Low	Low	Within footprint of proposed bulk earthworks	Remove	Central leader failure, canopy decline severe
165	<i>Casuarina glauca</i>	Swamp Oak	14	5	300	350	3.60	2.13	M	Poor	Fair	Dead	Low	Dead	Within footprint of proposed bulk earthworks	Remove	Canopy defoliated
166	<i>Casuarina glauca</i>	Swamp Oak	13	3	250	300	3.00	2.00	M	Poor	Fair	Dead	Low	Dead	Within footprint of proposed bulk earthworks	Remove	Canopy dead
167	<i>Casuarina glauca</i>	Swamp Oak	14	6	350	450	4.20	2.37	OM	Poor	Fair	Very Short < 5 years	Low	Low	Within footprint of proposed bulk earthworks	Remove	Severe canopy decline

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168	<i>Casuarina glauca</i>	Swamp Oak	14	8	400	500	4.80	2.47	OM	Poor	Fair	Very Short < 5 years	Low	Low	Within footprint of proposed bulk earthworks	Remove	Severe canopy decline
169	<i>Eucalyptus tereticornis</i>	Forest Red Gum	25	18	700	850	8.40	3.09	M	Average	Average	Medium 15-40 years	High	High	Within footprint of proposed bulk earthworks	Remove	Gala nesting hollow, large dead central leader
170	<i>Eucalyptus moluccana</i>	Grey Box	21	25	700	900	8.40	3.17	OM	Average	Average	Medium 15-40 years	High	High	Within footprint of proposed bulk earthworks	Remove	Branch tip dieback, large deadwood, dominant
171	<i>Eucalyptus moluccana</i>	Grey Box	20	24	700	800	8.40	3.01	M	Average	Average	Medium 15-40 years	High	High	Within footprint of future Southern Link Road	Remove	Dominant, good form, deadwood, canker
172	<i>Eucalyptus tereticornis</i>	Forest Red Gum	4	2	100	150	2.00	1.50	SM	Good	Average	Long 40 years +	Low	Medium	Within footprint of proposed bulk earthworks	Remove	Group of ~75 saplings & semi-mature trees. Refer polygon
173	<i>Eucalyptus tereticornis</i>	Forest Red Gum	28	25	1100	1250	13.20	3.63	OM	Average	Fair	Medium 15-40 years	Medium	Medium	Within footprint of proposed bulk earthworks	Remove	Large deadwood
174	<i>Eucalyptus moluccana</i>	Grey Box	20	18	900	1200	10.80	3.57	M	Average	Good	Medium 15-40 years	High	High	Within footprint of future Road No.1	Remove	Dominant, small deadwood
175	<i>Eucalyptus tereticornis</i>	Forest Red Gum	28	20	1500	1900	15.00	4.33	OM	Average	Fair	Medium 15-40 years	Medium	Medium	Within footprint of future Road No.1	Remove	Dominant, large trunk wound & hollow at 9m, good reaction growth, canker, trunk wound at 15m, good trunk taper
176	<i>Eucalyptus tereticornis</i>	Forest Red Gum	28	20	1250	1400	15.00	3.81	OM	Poor	Fair	Short 5-15 years	Medium	Low	Within footprint of proposed bulk earthworks	Remove	Severe canopy decline, large deadwood throughout
177	<i>Eucalyptus tereticornis</i>	Forest Red Gum	20	18	800	950	9.60	3.24	M	Fair	Average	Medium 15-40 years	High	High	Within footprint of proposed bulk earthworks	Remove	Large Deadwood, bird nests, good form
178	<i>Eucalyptus moluccana</i>	Grey Box	25	18	850	1050	10.20	3.38	OM	Average	Average	Medium 15-40 years	High	High	Within footprint of proposed bulk earthworks	Remove	Upper canopy start of decline, basal trunk wound, dominant
179	<i>Eucalyptus moluccana</i>	Grey Box	10	3	200	300	2.40	2.00	M	Fair	Poor	Short 5-15 years	Low	Low	Within footprint of proposed bulk earthworks	Remove	Large trunk wound, deadwood
180	<i>Eucalyptus moluccana</i>	Grey Box	18	12	650	850	7.80	3.09	OM	Fair	Fair	Medium 15-40 years	Medium	Medium	Within footprint of proposed bulk earthworks	Remove	Crown bias north, large deadwood
181	<i>Eucalyptus moluccana</i>	Grey Box	15	11	450	600	5.40	2.67	OM	Average	Fair	Short 5-15 years	Medium	Low	Within footprint of proposed bulk earthworks	Remove	Large basal trunk wound, large deadwood, asym canopy
182	<i>Eucalyptus moluccana</i>	Grey Box	18	12	450	550	5.40	2.57	OM	Fair	Poor	Short 5-15 years	Medium	Low	Within footprint of proposed bulk earthworks	Remove	Large basal trunk wound, good reaction growth, central leader failure, large deadwood throughout
183	<i>Eucalyptus moluccana</i>	Grey Box	18	15	650	800	7.80	3.01	OM	Fair	Fair	Medium 15-40 years	Medium	Medium	Within footprint of proposed bulk earthworks	Remove	Large deadwood, structural root damage.
184	<i>Eucalyptus moluccana</i>	Grey Box	20	25	650	800	7.80	3.01	OM	Fair	Poor	Very Short < 5 years	Medium	Low	Within footprint of proposed bulk earthworks	Remove	Failed included codominant leader, large trunk wounds
185	<i>Eucalyptus moluccana</i>	Grey Box	25	15	600	650	7.20	2.76	M	Average	Fair	Medium 15-40 years	Medium	Medium	Within footprint of proposed bulk earthworks	Remove	Large deadwood, root damage, thinning canopy
186	<i>Eucalyptus moluccana</i>	Grey Box	18	20	1150	1300	13.80	3.69	OM	Average	Fair	Medium 15-40 years	Medium	Medium	Within footprint of proposed bulk earthworks	Remove	Failure of central leader, large deadwood, large trunk wounds with good reaction growth
187	<i>Eucalyptus moluccana</i>	Grey Box	25	22	600, 600	1300	10.18	3.69	M	Average	Average	Medium 15-40 years	High	High	Within footprint of proposed bulk earthworks	Remove	Dominant, large crown, snake, fire damage, hollows, deadwood
188	<i>Eucalyptus moluccana</i>	Grey Box	12	12	450	500	5.40	2.47	OM	Poor	Poor	Very Short < 5 years	Low	Low	Within footprint of proposed bulk earthworks	Remove	Severe decline, severed dead roots

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189	<i>Eucalyptus moluccana</i>	Grey Box	16	11	500, 150	700	6.26	2.85	M	Good	Fair	Medium 15-40 years	Medium	Medium	Within footprint of proposed bulk earthworks	Remove	Exposed Root damage/ dieback.
190	<i>Eucalyptus moluccana</i>	Grey Box	7	6	150, 150	300	2.55	2.00	SM	Average	Fair	Medium 15-40 years	Low	Low	Within footprint of proposed bulk earthworks	Remove	Poor form
191	<i>Eucalyptus moluccana</i>	Grey Box	22	16	750	800	9.00	3.01	M	Fair	Fair	Medium 15-40 years	Medium	Medium	Within footprint of proposed bulk earthworks	Remove	Internal decay, start of bracket fungi, canker, thinning canopy
192	<i>Eucalyptus moluccana</i>	Grey Box	16	5	250	350	3.00	2.13	M	Fair	Fair	Medium 15-40 years	Medium	Medium	Within footprint of proposed bulk earthworks	Remove	Thinning canopy, epicormics
193	<i>Eucalyptus moluccana</i>	Grey Box	20	14	400	500	4.80	2.47	M	Average	Average	Medium 15-40 years	Medium	Medium	Within footprint of proposed bulk earthworks	Remove	Trunk canker, epicormics
194	<i>Eucalyptus moluccana</i>	Grey Box	16	2	200	250	2.40	1.85	M	Poor	Poor	Very Short < 5 years	Low	Low	Within footprint of proposed bulk earthworks	Remove	Severe decline, large trunk wounds
195	<i>Eucalyptus moluccana</i>	Grey Box	18	7	300	400	3.60	2.25	M	Fair	Fair	Medium 15-40 years	Medium	Medium	Within footprint of proposed bulk earthworks	Remove	Basal trunk wound good reaction growth
196	<i>Eucalyptus moluccana</i>	Grey Box	12	2	200	250	2.40	1.85	M	Fair	Poor	Very Short < 5 years	Low	Low	Within footprint of proposed bulk earthworks	Remove	Leader dead, extensive trunk dieback, epicormic growth
197	<i>Eucalyptus moluccana</i>	Grey Box	6	4	250	300	3.00	2.00	SM	Average	Fair	Medium 15-40 years	Medium	Medium	Within footprint of proposed bulk earthworks	Remove	Failure of leader hanging
198	<i>Eucalyptus moluccana</i>	Grey Box	18	8	400	450	4.80	2.37	M	Average	Fair	Medium 15-40 years	Medium	Medium	Within footprint of proposed bulk earthworks	Remove	Inclusions, trunk wounds, small deadwood
199	<i>Eucalyptus moluccana</i>	Grey Box	18	9	350	450	4.20	2.37	M	Fair	Fair	Medium 15-40 years	Medium	Medium	Within footprint of proposed bulk earthworks	Remove	Large deadwood, basal trunk wound
200	<i>Eucalyptus moluccana</i>	Grey Box	18	5	300	400	3.60	2.25	M	Fair	Fair	Short 5-15 years	Medium	Low	Within footprint of proposed bulk earthworks	Remove	Reduced crown, large vertical trunk wound
201	<i>Eucalyptus moluccana</i>	Grey Box	16	10	600	700	7.20	2.85	M	Fair	Poor	Very Short < 5 years	Medium	Low	Within footprint of proposed bulk earthworks	Remove	While tree failure immanent, severe lean, tension roots dead
202	<i>Eucalyptus moluccana</i>	Grey Box	20	14	500	600	6.00	2.67	M	Average	Fair	Medium 15-40 years	Medium	Medium	Within footprint of proposed bulk earthworks	Remove	Basal trunk wound, small deadwood throughout
203	<i>Eucalyptus moluccana</i>	Grey Box	6	2	300	350	3.60	2.13	M	Fair	Poor	Very Short < 5 years	Low	Low	Within footprint of proposed bulk earthworks	Remove	Trunk failure at 2m, epicormic shoots
204	<i>Eucalyptus moluccana</i>	Grey Box	25	18	600	700	7.20	2.85	M	Good	Good	Long 40 years +	High	High	Within footprint of proposed bulk earthworks	Remove	Good canopy density and form
205	<i>Eucalyptus moluccana</i>	Grey Box	16	15	600	700	7.20	2.85	M	Average	Average	Medium 15-40 years	Medium	Medium	Within footprint of proposed bulk earthworks	Remove	Deadwood
206	<i>Eucalyptus moluccana</i>	Grey Box	11	7	400	400	4.80	2.25	M	Fair	Fair	Medium 15-40 years	Medium	Medium	Within footprint of proposed bulk earthworks	Remove	Large deadwood
207	<i>Eucalyptus moluccana</i>	Grey Box	15	2	300	450	3.60	2.37	M	Poor	Poor	Very Short < 5 years	Low	Low	Within footprint of proposed bulk earthworks	Remove	Severe decline, trunk wounds, canker
208	<i>Eucalyptus moluccana</i>	Grey Box	10	4	200	300	2.40	2.00	SM	Fair	Fair	Medium 15-40 years	Low	Low	Within footprint of proposed bulk earthworks	Remove	Previous failures, dieback
209	<i>Eucalyptus moluccana</i>	Grey Box	15	5	250	350	3.00	2.13	M	Average	Fair	Medium 15-40 years	Medium	Medium	Within footprint of proposed bulk earthworks	Remove	Suppressed

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210	<i>Eucalyptus moluccana</i>	Grey Box	20	12	600	750	7.20	2.93	M	Fair	Fair	Medium 15-40 years	Medium	Medium	Within footprint of proposed bulk earthworks	Remove	Thinning canopy
211	<i>Eucalyptus moluccana</i>	Grey Box	25	20	1050	1250	12.60	3.63	M	Average	Good	Long 40 years +	High	High	Within footprint of proposed bulk earthworks	Remove	Good form, dominant, small deadwood
212	<i>Eucalyptus tereticornis</i>	Forest Red Gum	8	4	1000	1100	12.00	3.44	S	Fair	Poor	Short 5-15 years	Medium	Low	Within footprint of future Southern Link Road	Remove	Failure of central leader and trunk decay, epicormic regrowth
213	<i>Eucalyptus tereticornis</i>	Forest Red Gum	8	4	200	250	2.40	1.85	SM	Good	Good	Long 40 years +	Low	Medium	Within footprint of future Southern Link Road	Remove	Good form, young tree
214	<i>Eucalyptus moluccana</i>	Grey Box	20	16	900	1100	10.80	3.44	M	Fair	Average	Medium 15-40 years	High	High	Within footprint of future Southern Link Road	Remove	Extensive deadwood, good form
215	<i>Eucalyptus tereticornis</i>	Forest Red Gum	18	14	1100	1300	13.20	3.69	OM	Fair	Fair	Medium 15-40 years	Medium	Medium	Within footprint of future Southern Link Road	Remove	Dominant, Extensive deadwood, habitat hollows

Tree Inspection Data Notes & Terminology

Tree No. (Tree Number)

The tree number associated to each tree located on or adjacent to the subject site.

Botanical Name and Common Name

The botanical and common name of each tree is identified and recorded. Occasionally the exact species name is unknown; sp. is recorded to indicate this.

Height, Crown Width and DSH

- The trees height and crown spread is recorded in metres (m);
- The tree DSH is recorded in millimetres (mm). DSH is an abbreviation of Diameter (of the trunk) measured at Standard Height (or 1.4m from the base of the trunk). If more than one trunk is present the DSH is calculated in accordance with AS4970-2025 Protection of Trees on Development Sites

Age Class

The age class of each tree is estimated as either:

- J – Juvenile refers to a well established but young tree
- SM – Semi Mature, a tree that has not grown to mature size
- M – Mature, a tree that has reached mature size and will slowly increase in size over time
- OM – Over Mature, a tree that has been mature for a long period and is beginning to display signs of decline, e.g. large dead branches
- S – Senescent, an over mature tree that is now in decline

Health & Condition

The trees health and vigour is recorded as a measurement of:

Good - the tree does not appear to appear stressed with no excessive dieback, insect infestation, decay, deadwood or epicormic shoots

Average - the tree appears stressed and has some crown dieback, and/or a few epicormic shoots, and/or some deadwood in the crown and some new growth at branch tips. These trees may benefit from remediation of the growing environment to reduce stress and return it to good health

Fair - the tree may have areas of crown dieback, and/or epicormic shoots, and/or areas of decay, and/or reduced new growth at branch tips. These trees have been stressed for a short period of time, remediation of the growing environment may improve trees health

Poor - the tree may have large areas of crown dieback, and/or many epicormic shoots, and/or reduced new growth at branch tips. These trees have been stressed for a long period of time, remediation of the growing environment would not return the tree to good health.

SRZ (Structural Root Zone)

The SRZ is a radial area extending outwards from the centre of the trunk. This area contains the majority of the structural woody roots. This area is responsible primarily for stability. Root damage or root loss within this zone greatly increases the opportunity for decay fungi to ingress into the heartwood, causing internal decay in addition to destabilising the trees structural integrity. The SRZ is calculated as follows (This calculation is taken from the Australian Standard 4970 – 2025 Protection of Trees on Development Sites): $(D \times 50)0.42 \times 0.64$

NRZ (Notional Root Zone)

The NRZ is a radial area measured by multiplying the DSH by twelve (12) or a circular area the size of the trees drip line, whichever is greater. This area contains the majority of the structural and feeder roots responsible for stability, gaseous exchange and water and nutrient uptake. Excavation, back filling, compaction or other disturbance should not occur in this area. The NRZ is used to identify the minimum area required for the safe retention of a given tree. This calculation is derived from the Australian Standard 4970-2025 Protection of Trees in Development Sites. NRZ encroachment is potentially acceptable if no other option is available and is classified under AS4970-2025 as 'Minor' ($\leq 10\%$), 'Moderate' ($>10\leq 20\%$) or 'Major' ($>20\%$). A major encroachment (in excess of 20%) is required to be clearly justified by the Project Arborist and compensated for elsewhere. Justification methodology may vary depending on site or individual tree's health, vigour and ability to withstand disturbance and may require root investigation.

Landscape Significance

The landscape significance of a tree or group of trees is determined using a combination of health/vigour/condition, amenity, heritage and ecological values in accordance with IACA Significance of a Tree, Assessment Rating System (STARS)© (IACA 2010)©.

1. High Significance in Landscape
2. Medium Significance in Landscape
3. Low Significance in Landscape

Retention Value (RV)

Determined by [1] tree free of visual defects and viable for retention, [2] viable for retention with minor faults which may reduce SULE, [3] trees which should not restrict development applications containing faults that are likely to become problematic in the short term, [4] trees to be considered for removal due to average condition.

High Retention - These trees are considered important for retention and should be retained and protected. Design modification or re-location of building/s should be considered to accommodate the setbacks as prescribed by the Australian Standard AS4970 Protection of trees on development sites.

Tree sensitive construction measures must be implemented e.g. pier and beam etc. if works are to proceed within the Tree Protection Zone.

Medium Retention - These trees may be retained and protected. These are considered less critical; however their retention should remain priority with removal considered only if adversely affecting the proposed building/works and all other alternatives have been considered and exhausted.

Low Retention - These trees are not considered important for retention, nor require special works or design modification to be implemented for their retention.

Priority for Removal - These trees are considered hazardous, or in irreversible decline, or weeds and should be removed irrespective of development.

S.U.L.E. Categories

Safe Useful Life Expectancy (after Barrell 1996, modified by the author). A trees S.U.L.E. category is the life expectancy of the tree modified first by its age, health, condition, safety and location. S.U.L.E. assessments may be modified as dictated by changes in trees health and environment.

Long - Appear retainable at the time of assessment for over 40 years with an acceptable degree of risk assuming reasonable maintenance.

Medium - Appear to be retainable at the time of assessment for 15 to 40 years with an acceptable degree of risk assuming reasonable maintenance.

Short - Trees appear to be retainable at the time of assessment for 5 to 15 years with an acceptable degree of risk assuming reasonable maintenance.

Very Short - Removal - Trees which should be scheduled for removal within the very short term or as specified within this report.

Small, Young or Regularly Pruned – Trees under 5m in height that can be easily moved or replaced, includes screen plantings or hedge lines.

Development Impact

Brief outline of the impact of the proposed development works or ancillary construction related activities likely to impact the tree.

Retain/Remove

The proposed removal or retention recommendation in light of the proposed development related impacts.

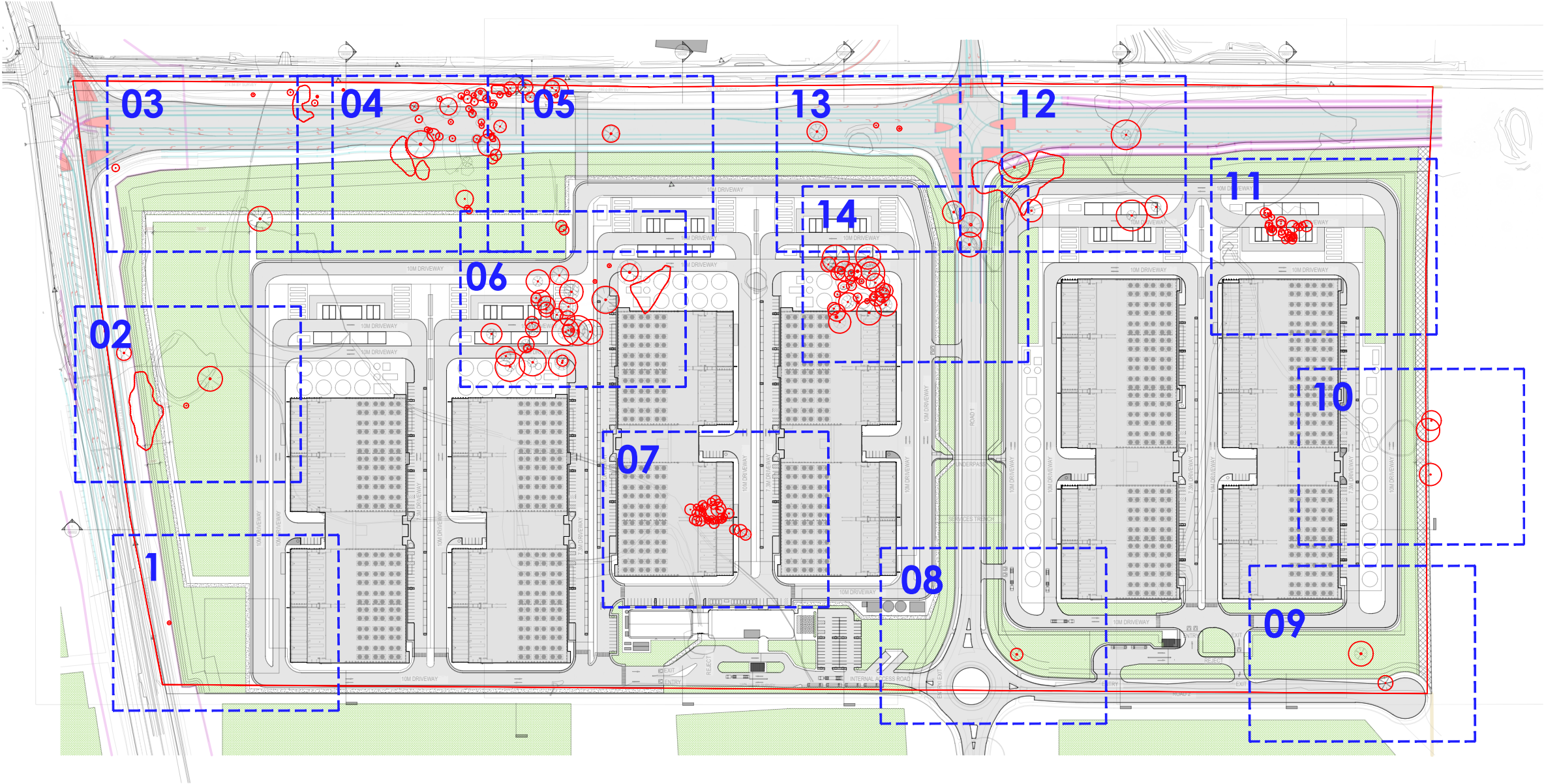
NOTES: This report acknowledges the current Australian Standard 'Protection of Trees on Development Sites' AS 4970 – 2025 with reference to the National Root Zone (NRZ): being a combination of the root and crown area requiring protection. The NRZ takes into consideration the Structural Root Zone (SRZ): The area required for tree stability. The standard states where a greater than 20% encroachment occurs the arborist is to take into consideration the schedule of determining impacts as set within AS4970 s. 3.3.2. Encroachments are referred to within this report as major or minor encroachments (AS4970 s. 3.3.2 & 3.3.3). To retain specific trees and ensure their viability, development must take into consideration protection of the NRZ radius.

APPENDIX 2 - TREE LOCATION PLAN

NOTE: MUST BE READ IN CONJUNCTION WITH ARBORICULTURAL IMPACT ASSESSMENT

DRAWING LIST - 706-752 Mamre Road, Kemps Creek

SHEET:	TITLE:
H619_TLP_00	COVER SHEET
H619_TLP_01	TREE LOCATION PLAN 01
H619_TLP_02	TREE LOCATION PLAN 02
H619_TLP_03	TREE LOCATION PLAN 03
H619_TLP_04	TREE LOCATION PLAN 04
H619_TLP_05	TREE LOCATION PLAN 05
H619_TLP_06	TREE LOCATION PLAN 06
H619_TLP_07	TREE LOCATION PLAN 07
H619_TLP_08	TREE LOCATION PLAN 08
H619_TLP_09	TREE LOCATION PLAN 09
H619_TLP_10	TREE LOCATION PLAN 10
H619_TLP_11	TREE LOCATION PLAN 11
H619_TLP_12	TREE LOCATION PLAN 12
H619_TLP_13	TREE LOCATION PLAN 13
H619_TLP_14	TREE LOCATION PLAN 14



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ARBORICULTURE

LEVEL 3

397 RILEY STREET

SURRY HILLS NSW 2010

PO BOX 1074 BROADWAY NSW 2007

TEL: + (61) 2 8039 7461

INFO@CPSPLANNING.COM.AU

CPSPLANNING.COM.AU

DIMENSIONS :
All dimensions are in millimetres unless otherwise noted. Do not scale from this drawing.
Verify all dimensions on site prior to construction.

LEGEND:

OT1

EXISTING TREE TO BE REMOVED

---SITE BOUNDARY

Issue Code	Issue Description	By	Chk	Date
A	FOR SSDA APPROVAL	JMO	TP	14.11.25

PRE - Preliminary CA - Council Approval T - Tender CON - Construction

PROJECT

PROPOSED
DATA CENTRE
706-752 MAMRE ROAD,
KEMPS CREEK

DRAWING TITLE

TREE LOCATION PLAN

CLIENT

Drawn : JMO

Designed : JMO

Project No. : H619

Bar Scale

1:4000 @ A3

SHEET NUMBER
H619_TLP_00

REVISION
A

LEGEND:

-  EXISTING TREE TO BE REMOVED
-  SITE BOUNDARY

Issue Code	Issue Description	By	Chk	Date
A	-	FOR SSDA APPROVAL	JMO TP	14.11.25

PRE - Preliminary CA - Council Approval T - Tender CON - Construction

PROJECT

**PROPOSED
DATA CENTRE**
**706-752 MAMRE ROAD,
KEMPS CREEK**

DRAWING TITLE

TREE LOCATION PLAN 01

CLIENT



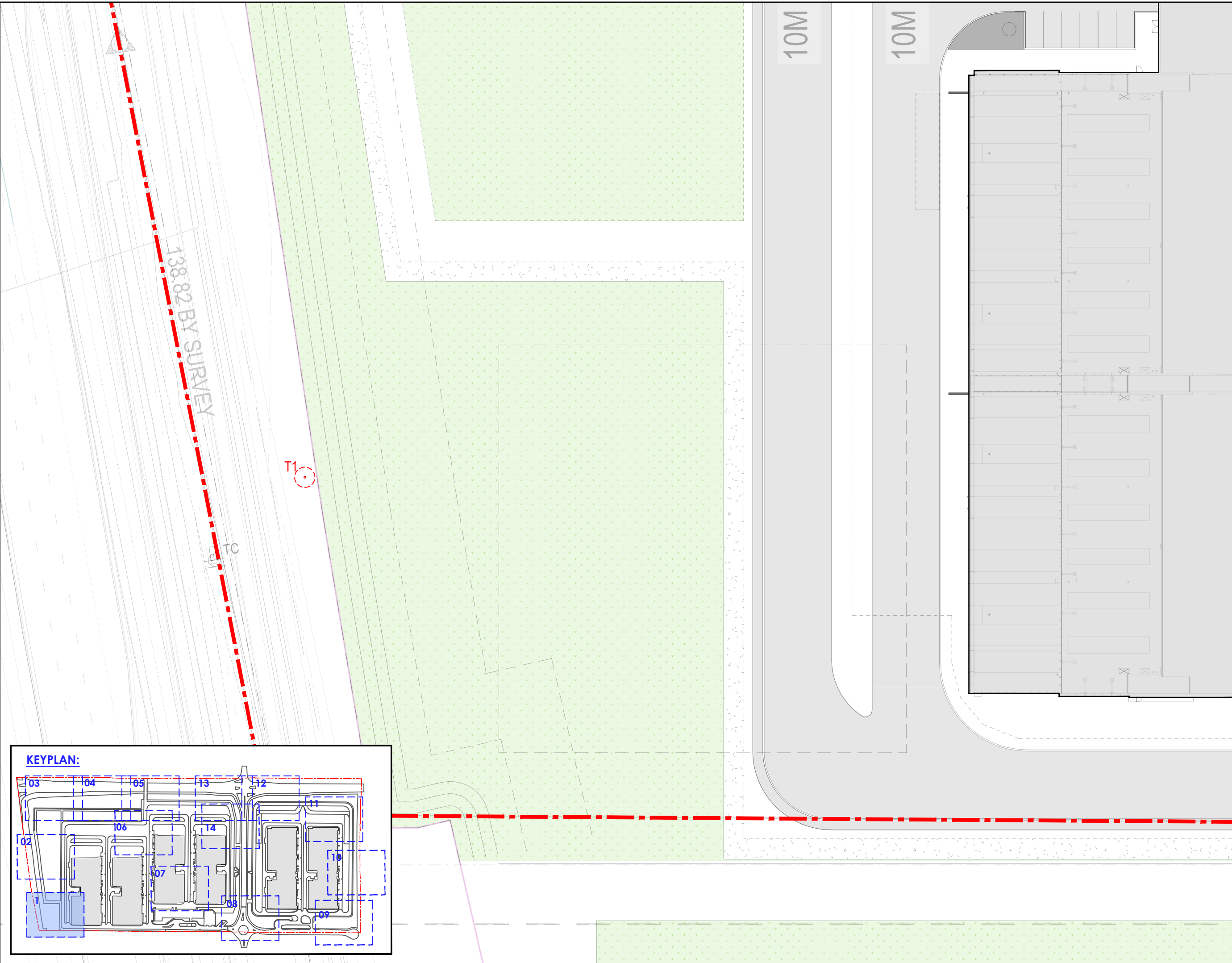
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Designed : JMO
Project No. : H619
Bar Scale



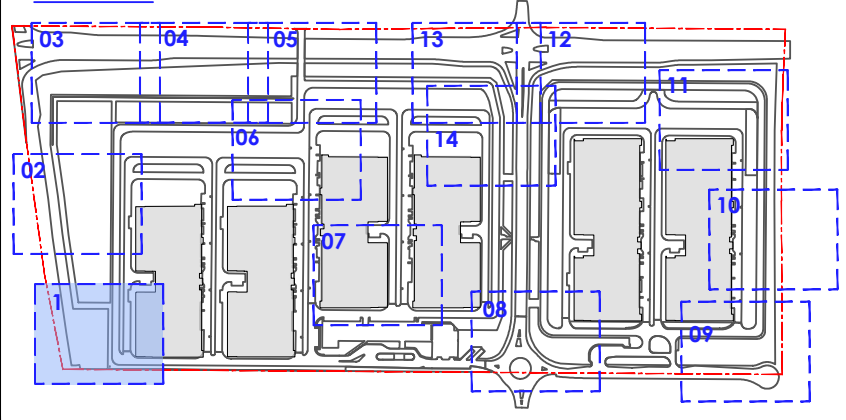
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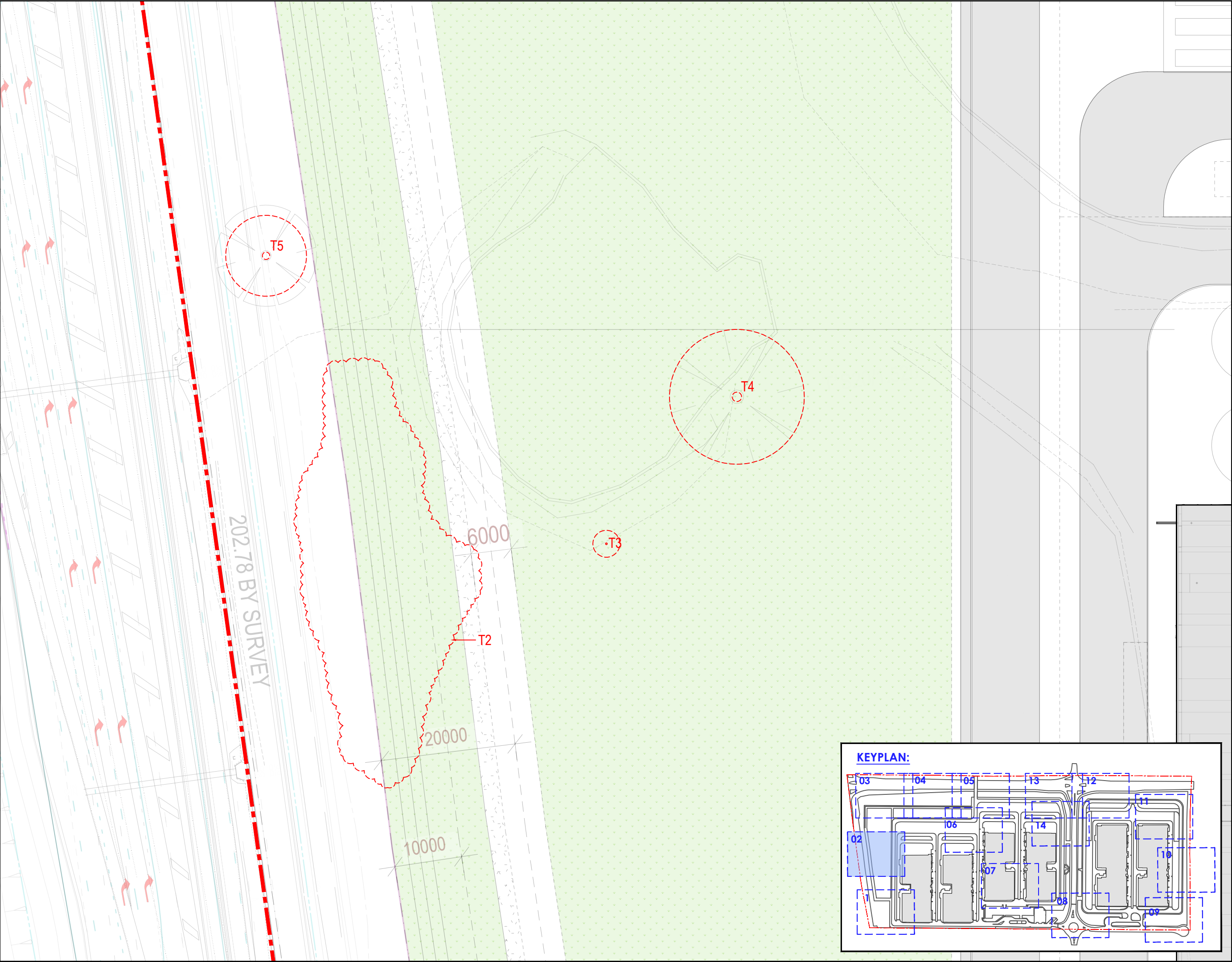
SHEET NUMBER
H619_TLP_01

REVISION
A



KEYPLAN:





DIMENSIONS :
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Verify all dimensions on site prior to construction.

LEGEND:

T1

EXISTING TREE TO BE REMOVED

SITE BOUNDARY

Issue Code	Issue Description	By	Chk	Date
A	-	FOR SSDA APPROVAL	JMO TP	14.11.25

PRE - Preliminary CA - Council Approval T - Tender CON - Construction

PROJECT

PROPOSED
DATA CENTRE
706-752 MAMRE ROAD,
KEMPS CREEK

DRAWING TITLE

TREE LOCATION PLAN
02

CLIENT



Drawn : JMO
Designed : JMO
Project No. : H619
Bar Scale

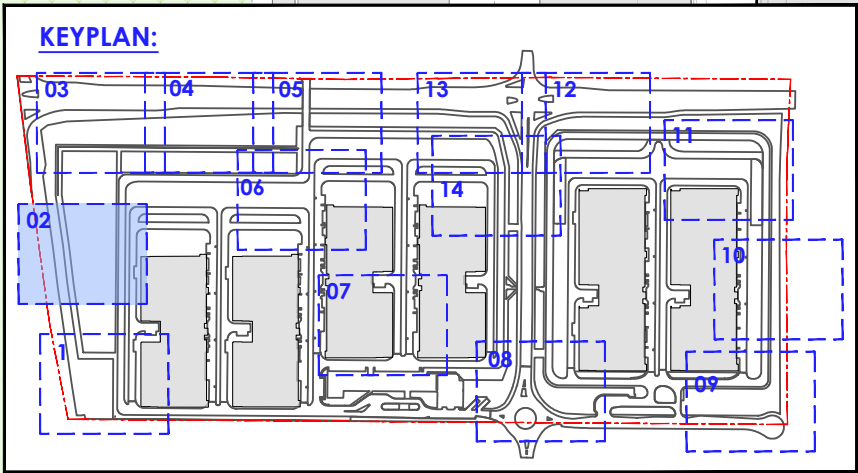
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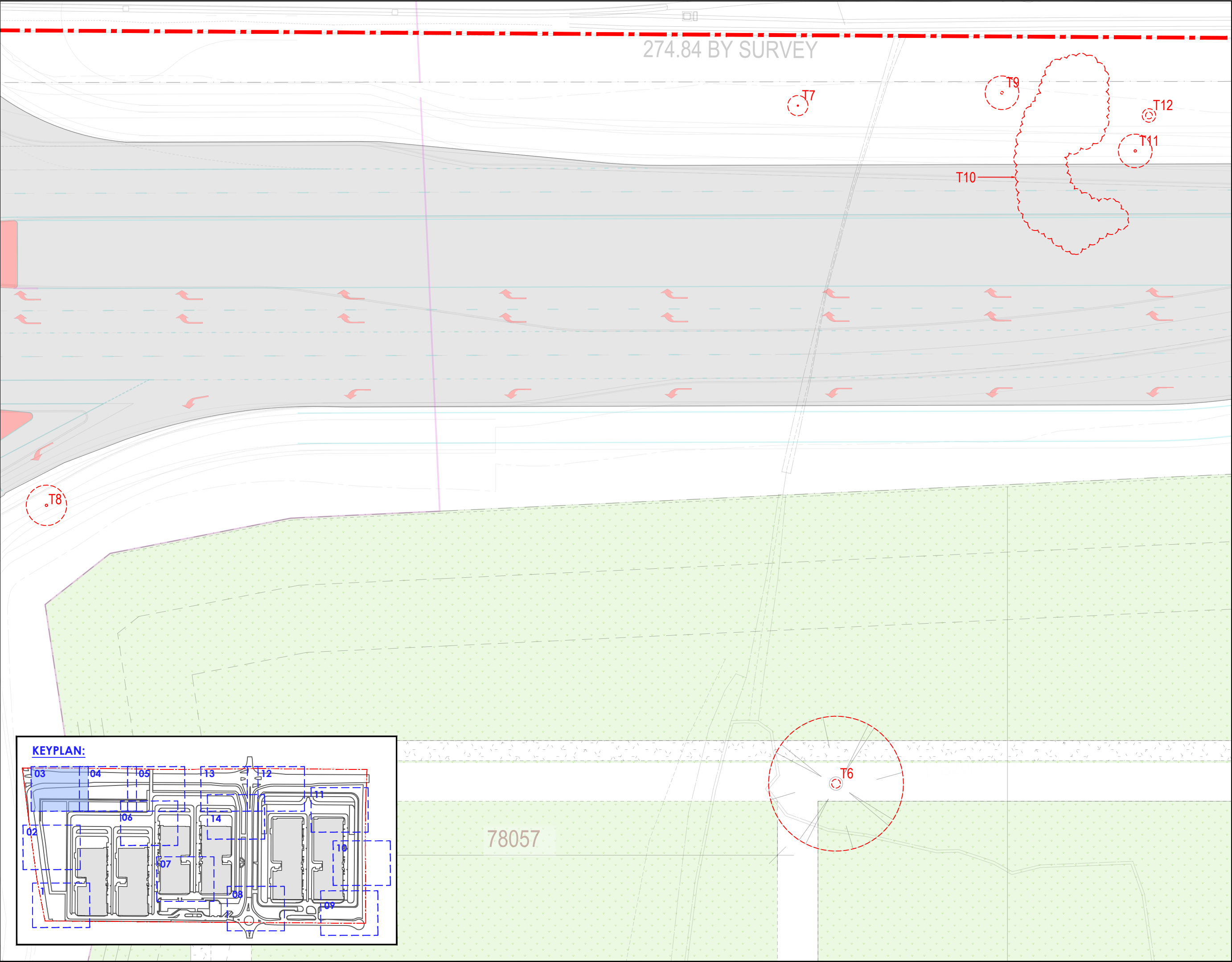
SHEET NUMBER
H619_TLP_02

REVISION
A

N

0 2 4 6 8 10 metres





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LEGEND:

EXISTING TREE TO BE REMOVED

SITE BOUNDARY

Issue	Code	Issue Description	By	Chk	Date
A	-	FOR SSDA APPROVAL	JMO	TP	14.11.25

PRE - Preliminary CA - Council Approval T - Tender CON - Construction
PROJECT

**PROPOSED
DATA CENTRE**
706-752 MAMRE ROAD,
KEMPS CREEK

DRAWING TITLE

**TREE LOCATION PLAN
03**

CLIENT



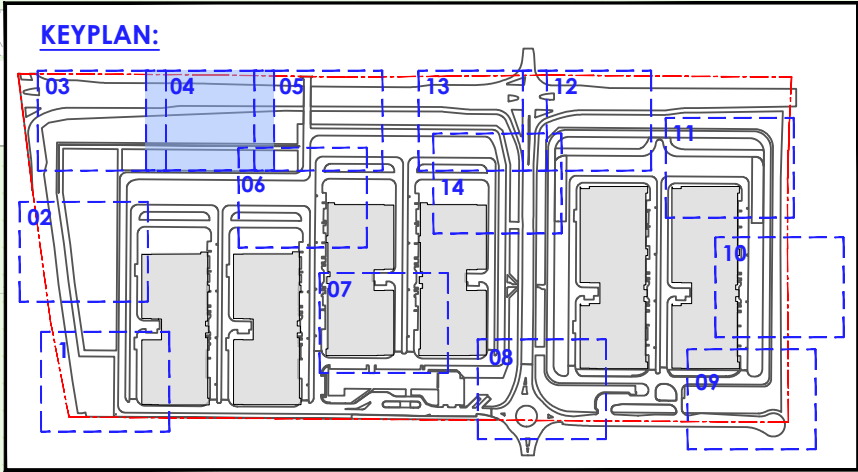
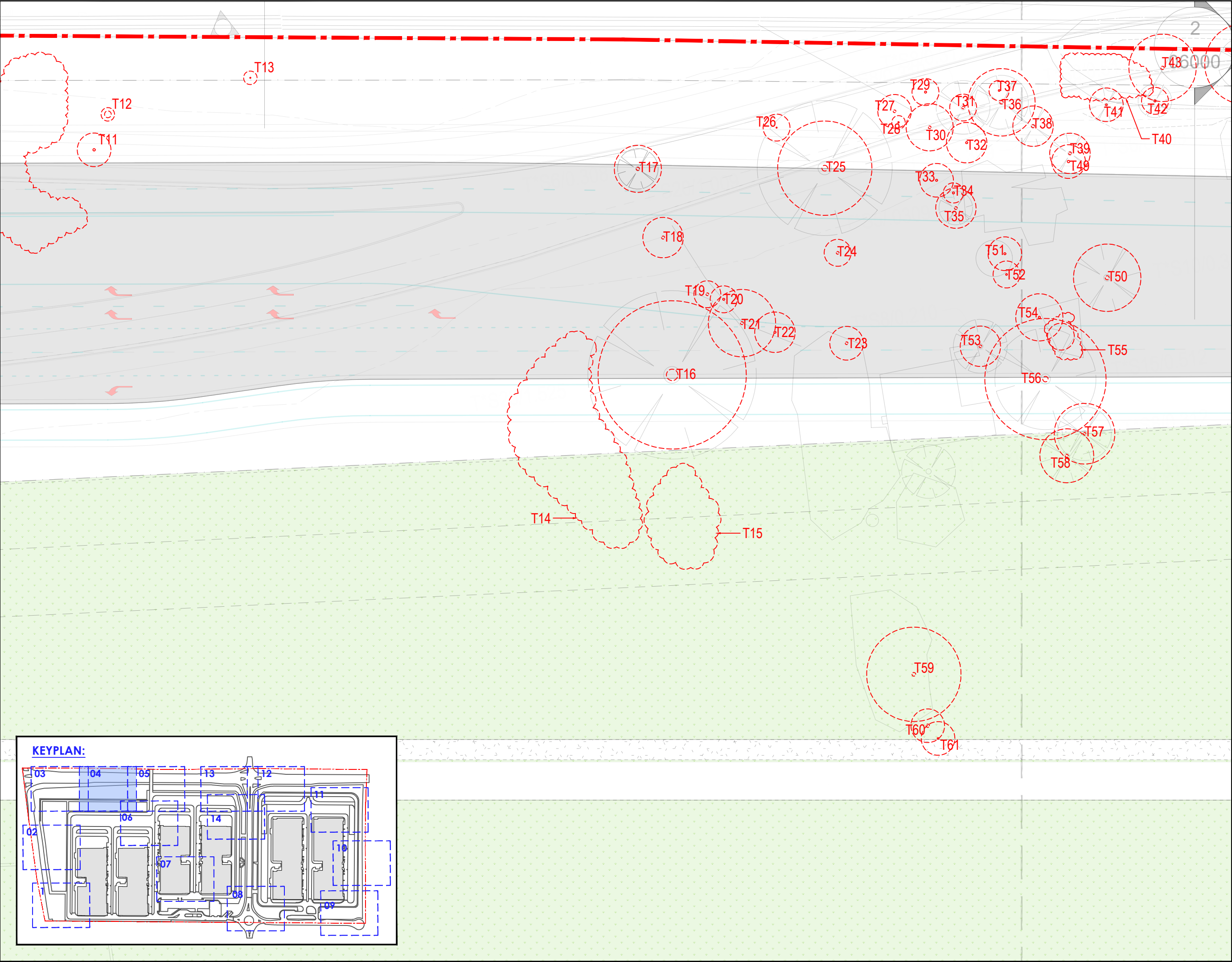
Drawn : JMO
Designed : JMO
Project No. : H619
Bar Scale

N

1:500 @ A3

SHEET NUMBER
H619_TLP_03

REVISION
A



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LEGEND:

T1

EXISTING TREE TO BE REMOVED

SITE BOUNDARY

Issue Code	Issue Description	By	Chk	Date
A	-	FOR SSDA APPROVAL	JMO TP	14.11.25

PRE - Preliminary CA - Council Approval T - Tender CON - Construction

PROJECT

**PROPOSED
DATA CENTRE**
**706-752 MAMRE ROAD,
KEMPS CREEK**

DRAWING TITLE

**TREE LOCATION PLAN
04**

CLIENT



Drawn : JMO
Designed : JMO
Project No. : H619
Bar Scale

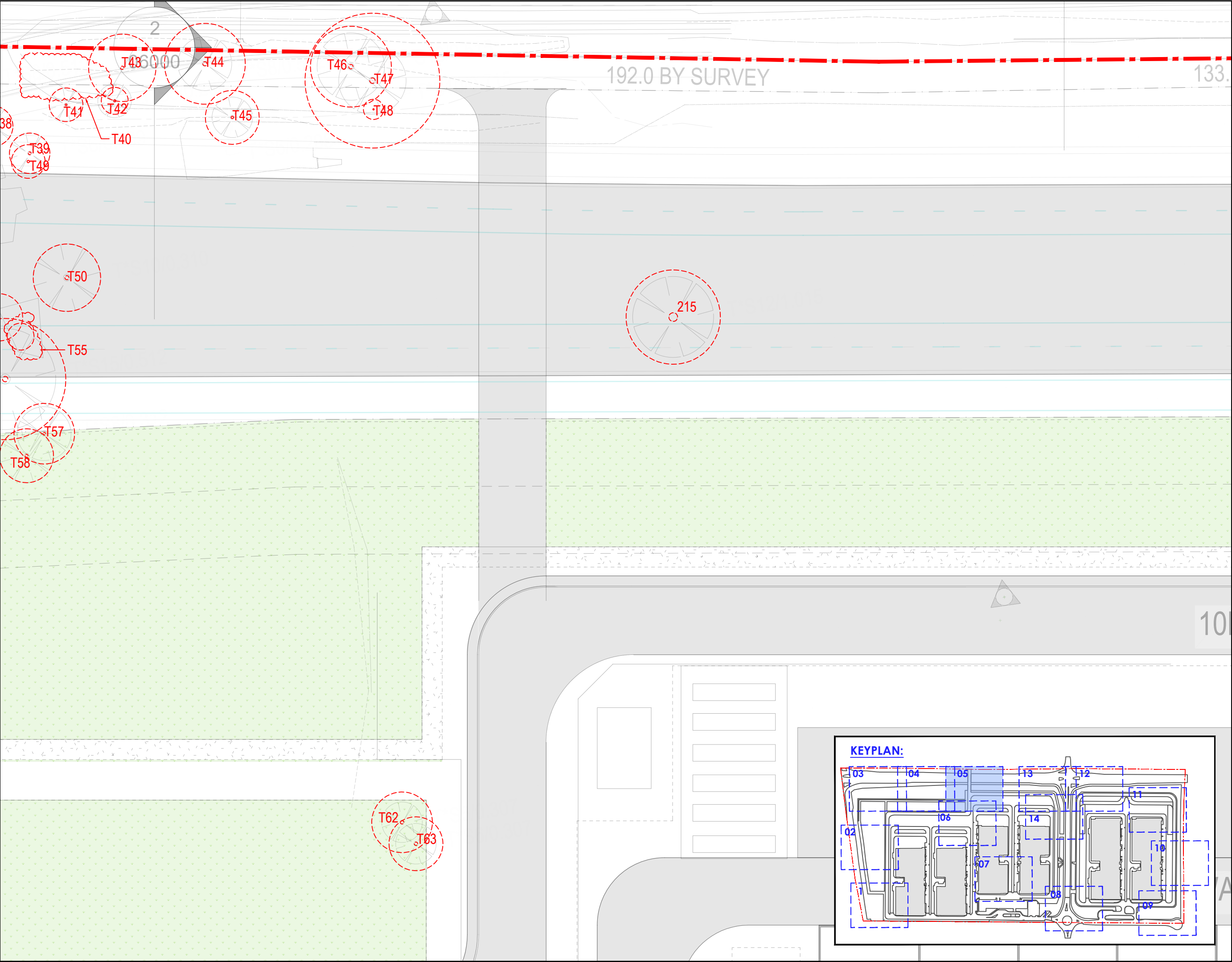
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N

1:500 @ A3

SHEET NUMBER
H619_TLP_04

REVISION
A



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LEGEND:

T1

EXISTING TREE TO BE REMOVED

SITE BOUNDARY

Issue Code	Issue Description	By	Chk	Date
A	-	FOR SSDA APPROVAL	JMO	TP 14.11.25

PRE - Preliminary CA - Council Approval T - Tender CON - Construction

PROJECT

PROPOSED
DATA CENTRE
706-752 MAMRE ROAD,
KEMPS CREEK

DRAWING TITLE

TREE LOCATION PLAN
05

CLIENT



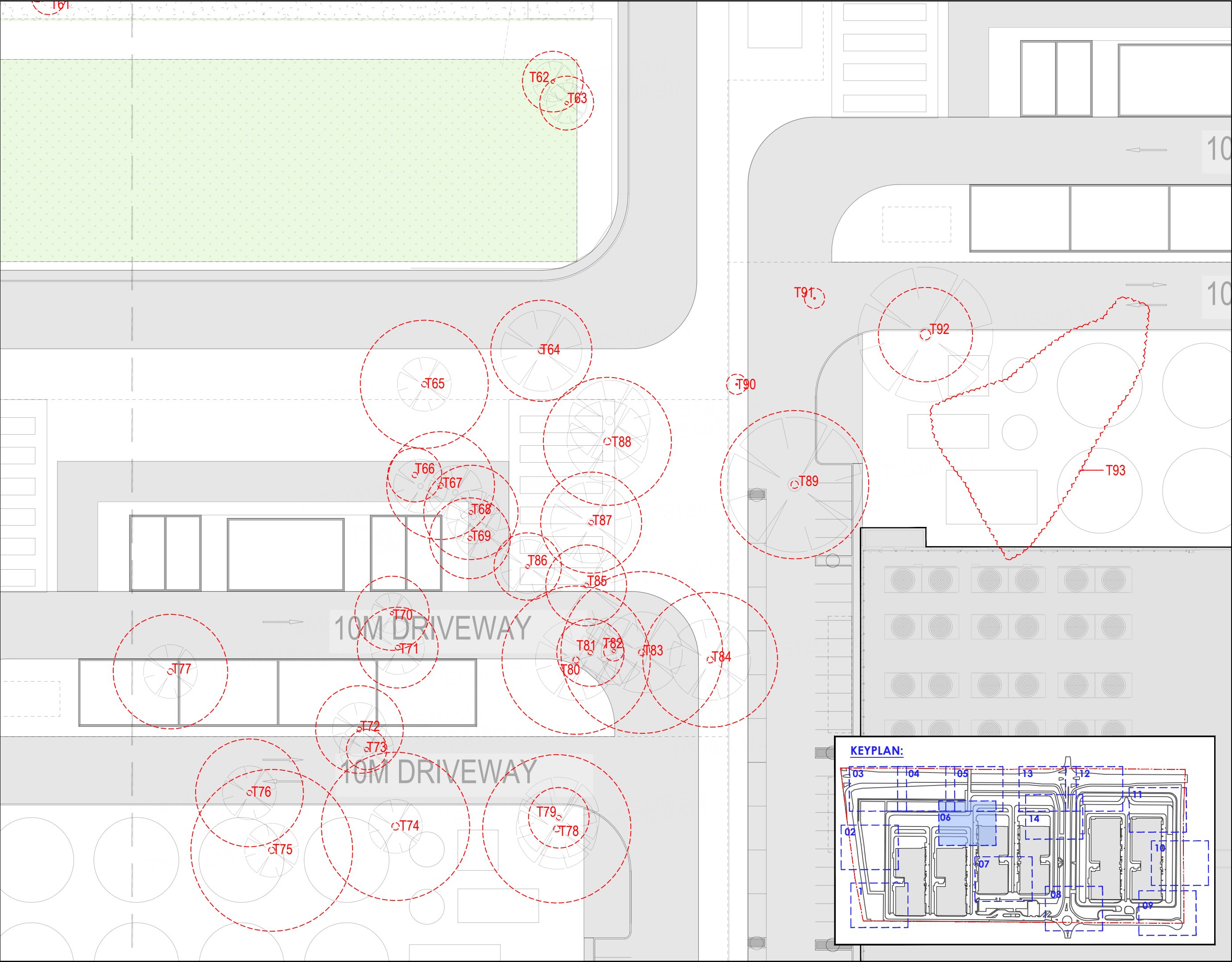
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Designed : JMO
Project No. : H619
Bar Scale

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1:500 @ A3

SHEET NUMBER
H619_TLP_05

REVISION
A



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LEGEND:

 EXISTING TREE TO BE REMOVED

 SITE BOUNDARY

Issue Code	Issue Description	By	Chk	Date
A	-	FOR SSDA APPROVAL	JMO TP	14.11.25
PRE - Preliminary CA - Council Approval T - Tender CON - Construction				
PROJECT				

**PROPOSED
DATA CENTRE**
706-752 MAMRE ROAD,
KEMPS CREEK

DRAWING TITLE

**TREE LOCATION PLAN
06**

CLIENT



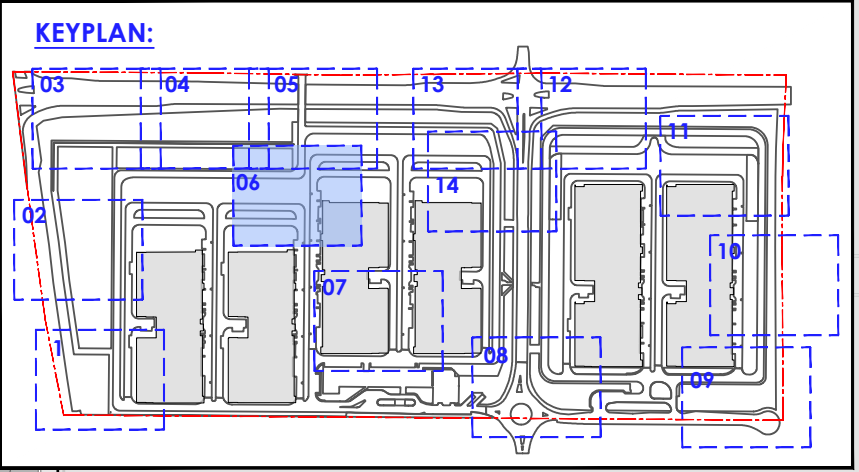
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Project No. : H619
Bar Scale



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SHEET NUMBER
H619_TLP_06

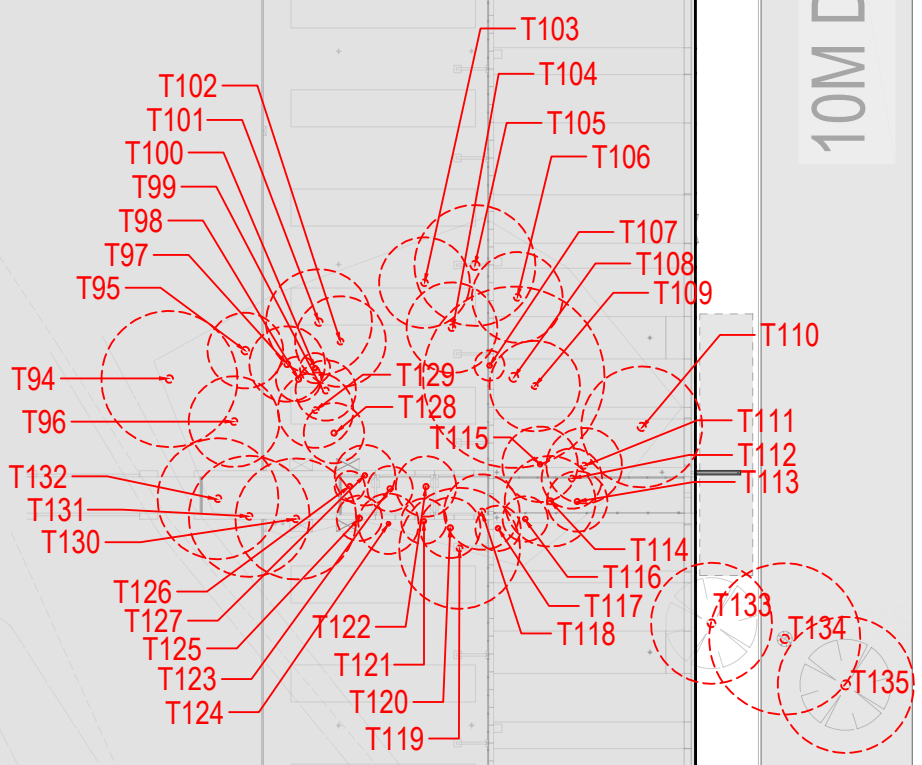
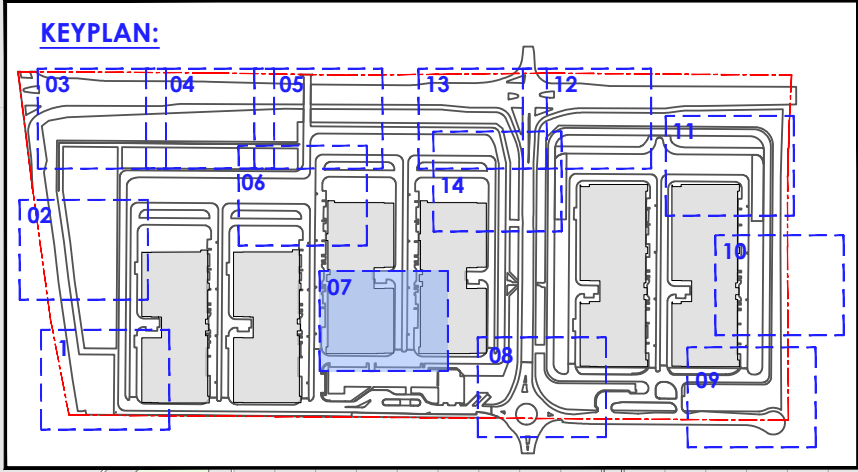
REVISION
A



7.3M DRIVEWAY

10M DRIVEWAY

7.3M DRIVEWAY



DIMENSIONS :
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LEGEND:

 EXISTING TREE TO BE REMOVED

 SITE BOUNDARY

Issue Code	Issue Description	By	Chk	Date
A	-	FOR SSDA APPROVAL	JMO TP	14.11.25

PRE - Preliminary CA - Council Approval T - Tender CON - Construction

PROJECT

**PROPOSED
DATA CENTRE
706-752 MAMRE ROAD,
KEMPS CREEK**

DRAWING TITLE

**TREE LOCATION PLAN
07**

CLIENT



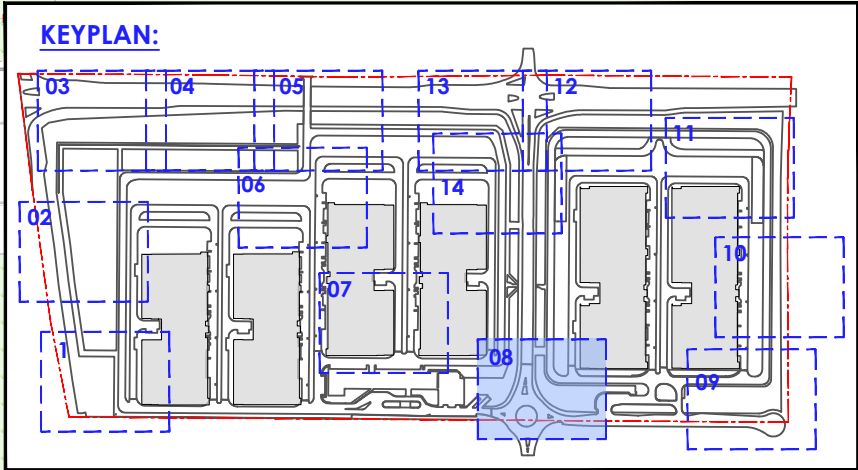
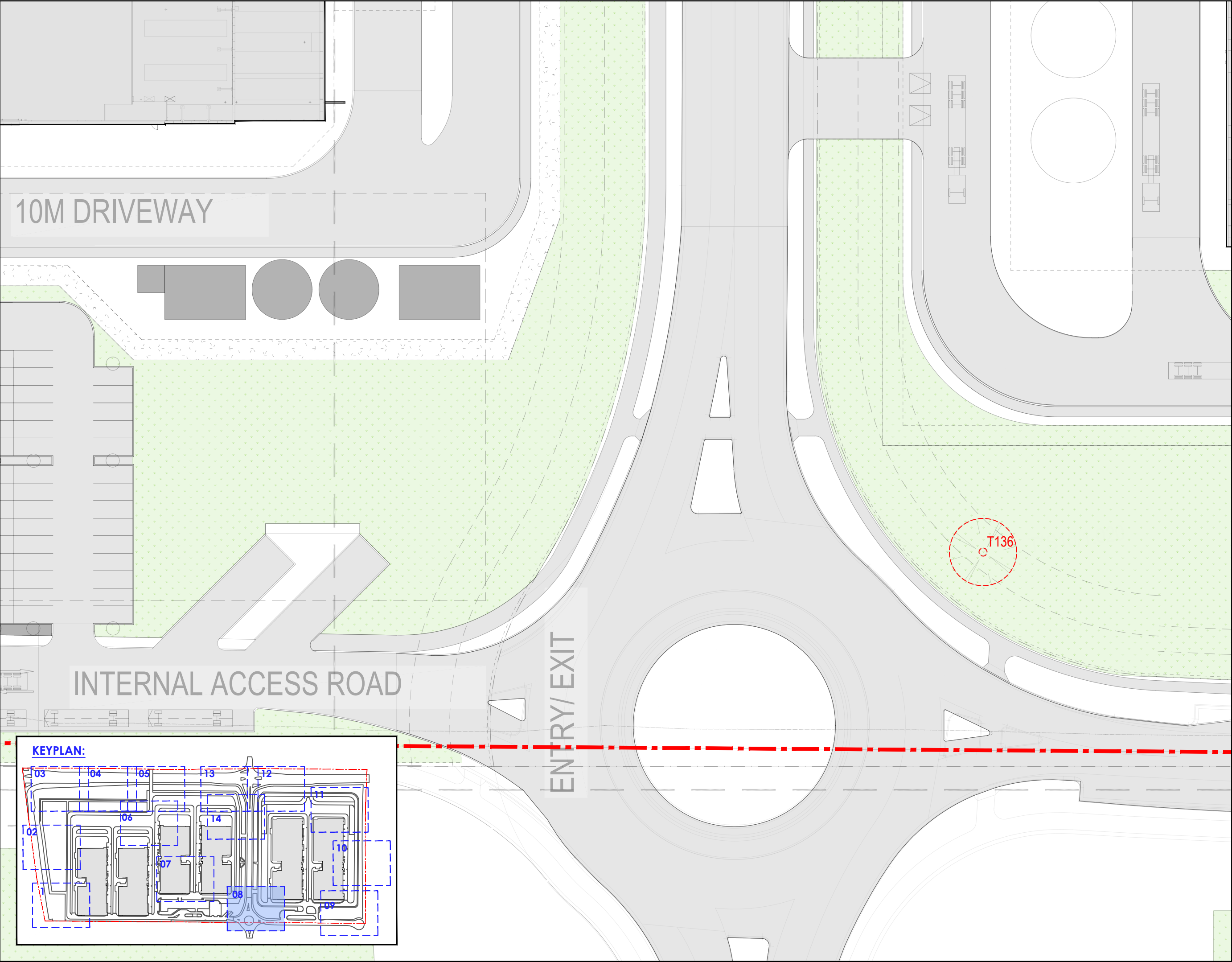
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Designed : JMO
Project No. : H619
Bar Scale

1:500 @ A3

SHEET NUMBER
H619_TLP_07

REVISION
A



DIMENSIONS :
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LEGEND:

 EXISTING TREE TO BE REMOVED

 SITE BOUNDARY

Issue Code	Issue Description	By	Chk	Date
A	-	FOR SSDA APPROVAL	JMO TP	14.11.25

PRE - Preliminary CA - Council Approval T - Tender CON - Construction

PROJECT

**PROPOSED
DATA CENTRE
706-752 MAMRE ROAD,
KEMPS CREEK**

DRAWING TITLE

**TREE LOCATION PLAN
08**

CLIENT



Drawn : JMO
Designed : JMO
Project No. : H619
Bar Scale



1:500 @ A3

SHEET NUMBER H619_TLP_08	REVISION A
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LEGEND:

-  EXISTING TREE TO BE REMOVED
-  SITE BOUNDARY

Issue Code	Issue Description	By	Chk	Date
A	-	FOR SSDA APPROVAL	JMO TP	14.11.25

PRE - Preliminary CA - Council Approval T - Tender CON - Construction

PROJECT

**PROPOSED
DATA CENTRE
706-752 MAMRE ROAD,
KEMPS CREEK**

DRAWING TITLE

TREE LOCATION PLAN 09

CLIENT



Drawn : JMO
Designed : JMO
Project No. : H619
Bar Scale

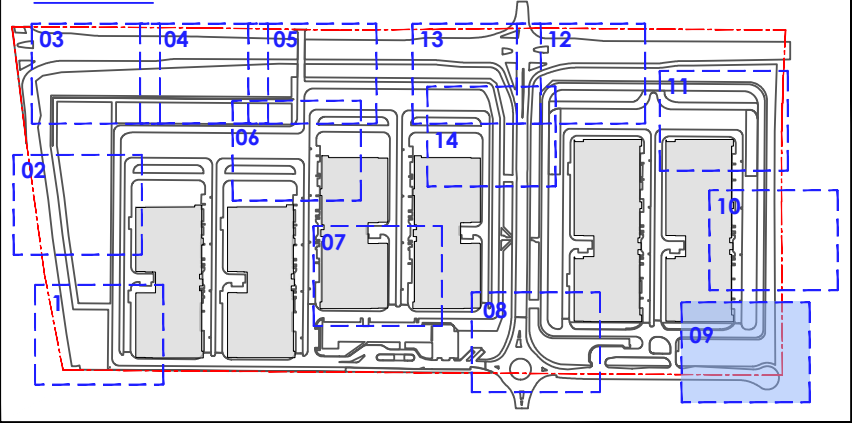


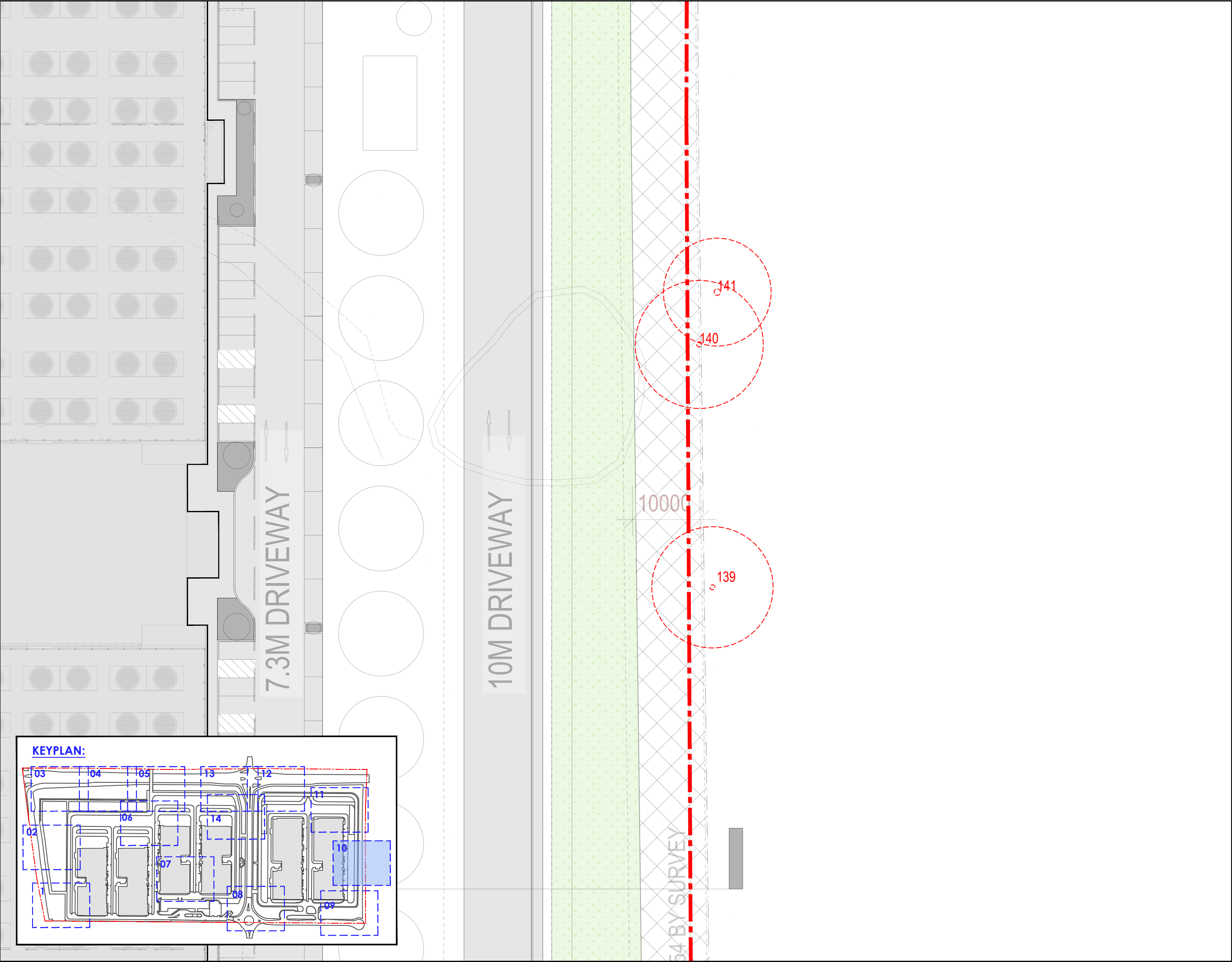
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SHEET NUMBER
H619_TLP_09

REVISION
A

KEYPLAN:





DIMENSIONS :
All dimensions are in millimetres unless otherwise noted. Do not scale from this drawing.
Verify all dimensions on site prior to construction.

LEGEND:

EXISTING TREE TO BE REMOVED

SITE BOUNDARY

Issue Code	Issue Description	By	Chk	Date
A	-	FOR SSDA APPROVAL	JMO TP	14.11.25

PRE - Preliminary CA - Council Approval T - Tender CON - Construction

PROJECT

**PROPOSED
DATA CENTRE**
706-752 MAMRE ROAD,
KEMPS CREEK

DRAWING TITLE

**TREE LOCATION PLAN
10**

CLIENT



Drawn : JMO
Designed : JMO
Project No. : H619
Bar Scale

N

0 2 4 6 8 10 metres

1:500 @ A3

SHEET NUMBER
H619_TLP_10

REVISION
A

LEGEND:

-  EXISTING TREE TO BE REMOVED
-  SITE BOUNDARY

Issue Code	Issue Description	By	Chk	Date
A	-	FOR SSDA APPROVAL	JMO TP	14.11.25

PRE - Preliminary CA - Council Approval T - Tender CON - Construction

PROJECT

**PROPOSED
DATA CENTRE**
706-752 MAMRE ROAD,
KEMPS CREEK

DRAWING TITLE

**TREE LOCATION PLAN
11**

CLIENT



Drawn : JMO
Designed : JMO
Project No. : H619
Bar Scale



1:500 @ A3

SHEET NUMBER
H619_TLP_11

REVISION
A

10M DRIVEWAY

10M DRIVEWAY

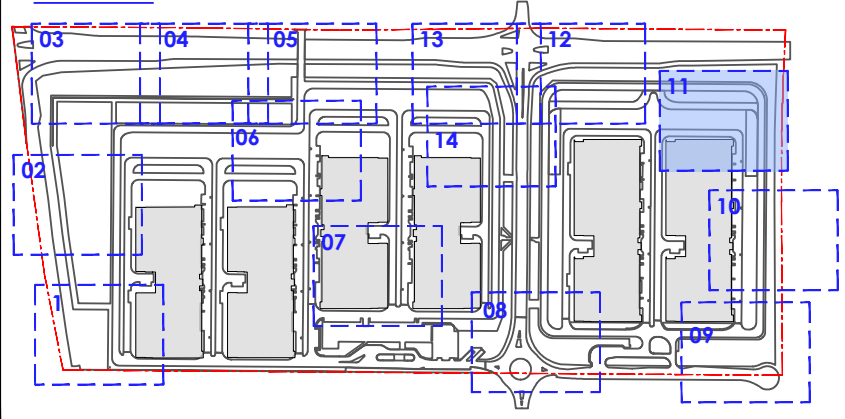
10M DRIVEWAY

40.325 BY SURVEY

39.695 BY SURVEY

SURVEY

KEYPLAN:



LEGEND:

-  EXISTING TREE TO BE REMOVED
-  SITE BOUNDARY

Issue Code	Issue Description	By	Chk	Date
A	-	FOR SSDA APPROVAL	JMO TP	14.11.25

PRE - Preliminary CA - Council Approval T - Tender CON - Construction

PROJECT

**PROPOSED
DATA CENTRE**
706-752 MAMRE ROAD,
KEMPS CREEK

DRAWING TITLE

TREE LOCATION PLAN 12

CLIENT



Drawn : JMO
Designed : JMO
Project No. : H619
Bar Scale

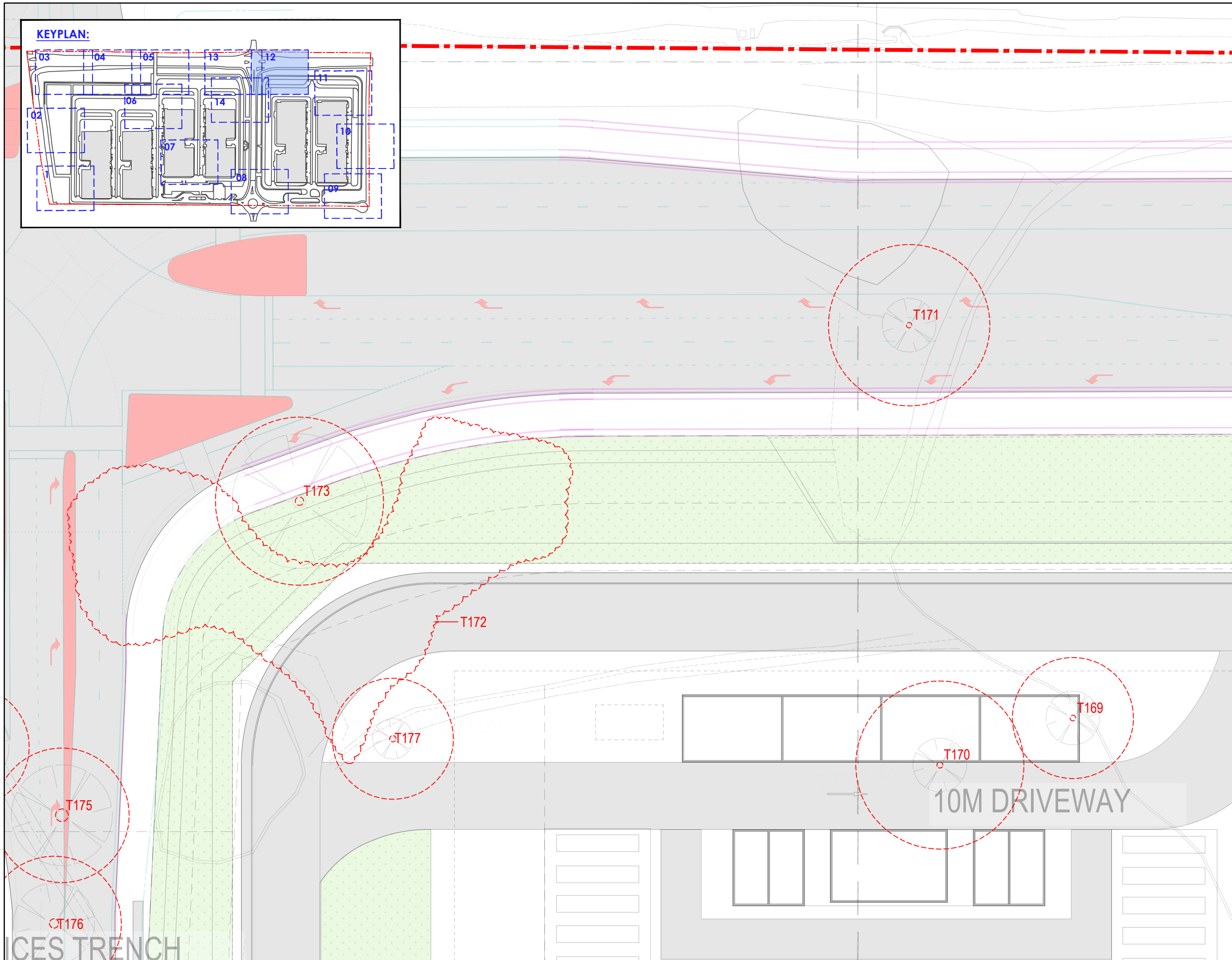
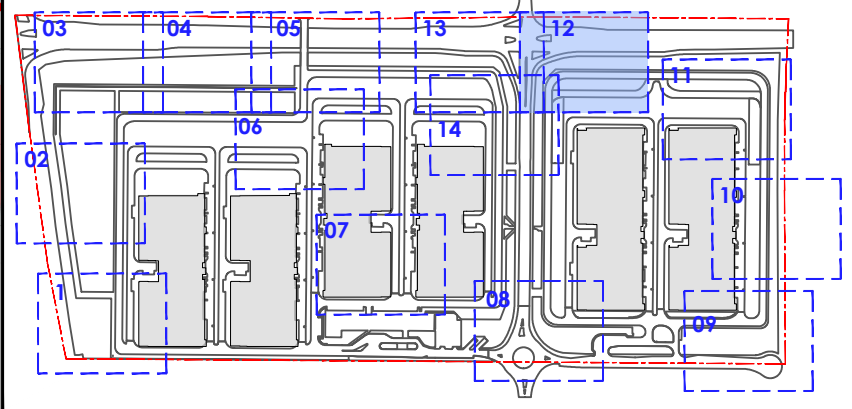


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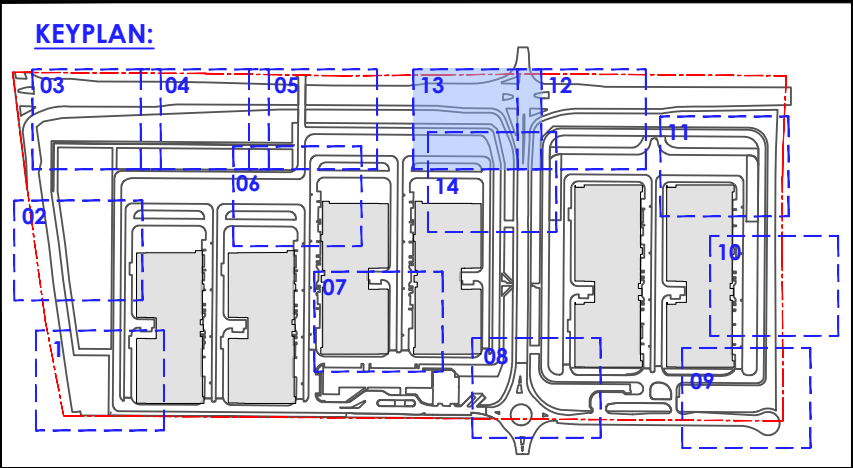
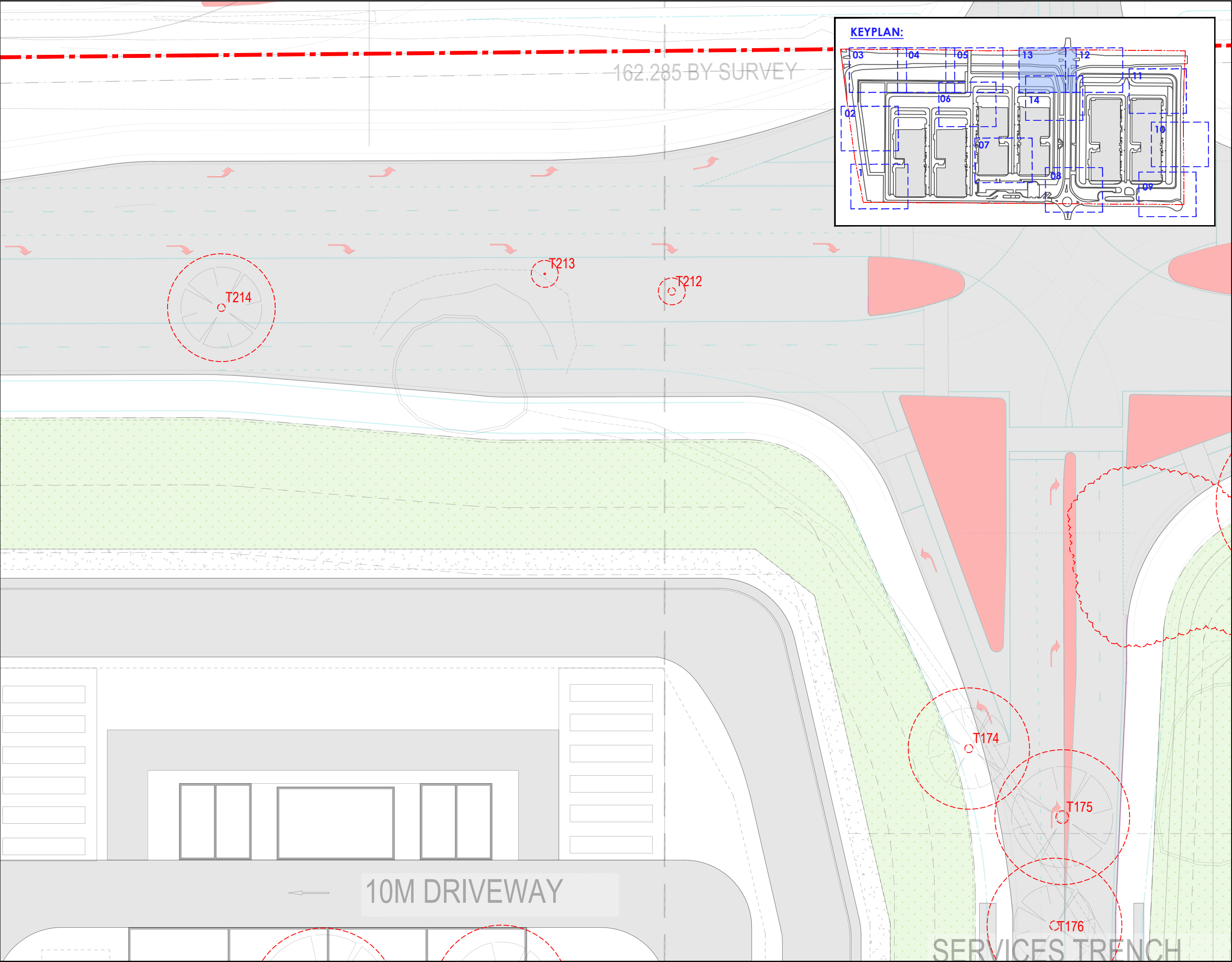
SHEET NUMBER
H619_TLP_12

REVISION
A

KEYPLAN:



ICES TRENCH



LEGEND:

-  CT1 EXISTING TREE TO BE REMOVED
-  SITE BOUNDARY

Issue Code	Issue Description	By	Chk	Date
A	-	FOR SSDA APPROVAL	JMO TP	14.11.25

PRE - Preliminary CA - Council Approval T - Tender CON - Construction

PROJECT

**PROPOSED
DATA CENTRE**
**706-752 MAMRE ROAD,
KEMPS CREEK**

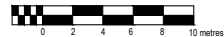
DRAWING TITLE

**TREE LOCATION PLAN
13**

CLIENT



Drawn : JMO
Designed : JMO
Project No. : H619
Bar Scale



1:500 @ A3

SHEET NUMBER
H619_TLP_13

REVISION
A

LEGEND:

-  T1 EXISTING TREE TO BE REMOVED
-  SITE BOUNDARY

Issue Code	Issue Description	By	Chk	Date
A	-	FOR SSDA APPROVAL	JMO	TP 14.11.25

PRE - Preliminary CA - Council Approval T - Tender CON - Construction

PROJECT

**PROPOSED
DATA CENTRE**
706-752 MAMRE ROAD,
KEMPS CREEK

DRAWING TITLE

**TREE LOCATION PLAN
14**

CLIENT



Drawn : JMO
Designed : JMO
Project No. : H619
Bar Scale



1:500 @ A3

SHEET NUMBER
H619_TLP_14

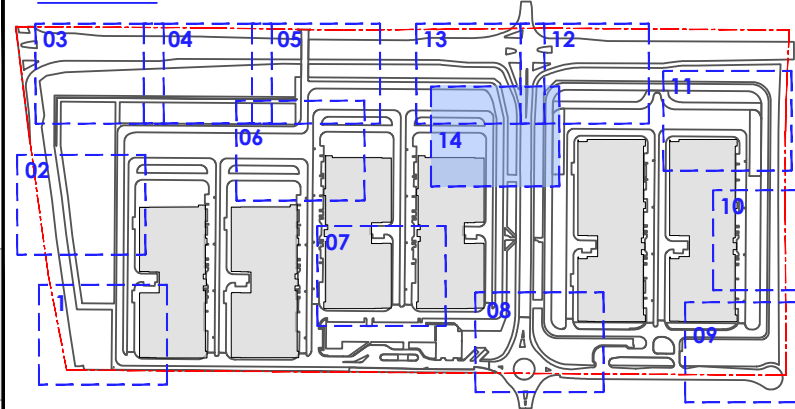
REVISION
A

10M DRIVEWAY

10M DRIVEWAY

SERVICES TRENCH

KEYPLAN:



APPENDIX 4

IACA Significance of a Tree, Assessment Rating System (STARS)© (IACA 2010)©

In the development of this document IACA acknowledges the contribution and original concept of the Footprint Green Tree Significance & Retention Value Matrix, developed by Footprint Green Pty Ltd in June 2001.

The landscape significance of a tree is an essential criterion to establish the importance that a particular tree may have on a site. However, rating the significance of a tree becomes subjective and difficult to ascertain in a consistent and repetitive fashion due to assessor bias. It is therefore necessary to have a rating system utilising structured qualitative criteria to assist in determining the retention value for a tree. To assist this process all definitions for terms used in the *Tree Significance - Assessment Criteria and Tree Retention Value - Priority Matrix*, are taken from the IACA Dictionary for Managing Trees in Urban Environments 2009.

This rating system will assist in the planning processes for proposed works, above and below ground where trees are to be retained on or adjacent a development site. The system uses a scale of *High*, *Medium* and *Low* significance in the landscape. Once the landscape significance of an individual tree has been defined, the retention value can be determined. An example of its use in an Arboricultural report is shown as Appendix A.

Tree Significance - Assessment Criteria



1. High Significance in landscape

- The tree is in good condition and good vigour;
- The tree has a form typical for the species;
- The tree is a remnant or is a planted locally indigenous specimen and/or is rare or uncommon in the local area or of botanical interest or of substantial age;
- The tree is listed as a Heritage Item, Threatened Species or part of an Endangered ecological community or listed on Councils significant Tree Register;
- The tree is visually prominent and visible from a considerable distance when viewed from most directions within the landscape due to its size and scale and makes a positive contribution to the local amenity;
- The tree supports social and cultural sentiments or spiritual associations, reflected by the broader population or community group or has commemorative values;
- The tree's growth is unrestricted by above and below ground influences, supporting its ability to reach dimensions typical for the taxa *in situ* - tree is appropriate to the site conditions.

2. Medium Significance in landscape

- The tree is in fair-good condition and good or low vigour;
- The tree has form typical or atypical of the species;
- The tree is a planted locally indigenous or a common species with its taxa commonly planted in the local area
- The tree is visible from surrounding properties, although not visually prominent as partially obstructed by other vegetation or buildings when viewed from the street,
- The tree provides a fair contribution to the visual character and amenity of the local area,
- The tree's growth is moderately restricted by above or below ground influences, reducing its ability to reach dimensions typical for the taxa *in situ*.

3. Low Significance in landscape

- The tree is in fair-poor condition and good or low vigour;
- The tree has form atypical of the species;
- The tree is not visible or is partly visible from surrounding properties as obstructed by other vegetation or buildings,
- The tree provides a minor contribution or has a negative impact on the visual character and amenity of the local area,
- The tree is a young specimen which may or may not have reached dimension to be protected by local Tree Preservation orders or similar protection mechanisms and can easily be replaced with a suitable specimen,
- The tree's growth is severely restricted by above or below ground influences, unlikely to reach dimensions typical for the taxa *in situ* - tree is inappropriate to the site conditions,
- The tree is listed as exempt under the provisions of the local Council Tree Preservation Order or similar protection mechanisms,
- The tree has a wound or defect that has potential to become structurally unsound.

Environmental Pest / Noxious Weed Species

- The tree is an Environmental Pest Species due to its invasiveness or poisonous/ allergenic properties,
- The tree is a declared noxious weed by legislation.

Hazardous/Irreversible Decline

- The tree is structurally unsound and/or unstable and is considered potentially dangerous,
- The tree is dead, or is in irreversible decline, or has the potential to fail or collapse in full or part in the immediate to short term.

The tree is to have a minimum of three (3) criteria in a category to be classified in that group.

Note: The assessment criteria are for individual trees only, however, can be applied to a monocultural stand in its entirety e.g. hedge.

Table 1.0 Tree Retention Value - Priority Matrix.

		Significance				
		1. High	2. Medium	3. Low		
		Significance in Landscape	Significance in Landscape	Significance in Landscape	Environmental Pest / Noxious Weed Species	Hazardous / Irreversible Decline
Estimated Life Expectancy	1. Long >40 years					
	2. Medium 15-40 Years					
	3. Short <1-15 Years					
	Dead					
<u>Legend for Matrix Assessment</u> 						
	Priority for Retention (High) - These trees are considered important for retention and should be retained and protected. Design modification or re-location of building/s should be considered to accommodate the setbacks as prescribed by the Australian Standard AS4970 <i>Protection of trees on development sites</i> . Tree sensitive construction measures must be implemented e.g. pier and beam etc if works are to proceed within the Tree Protection Zone.					
	Consider for Retention (Medium) - These trees may be retained and protected. These are considered less critical; however their retention should remain priority with removal considered only if adversely affecting the proposed building/works and all other alternatives have been considered and exhausted.					
	Consider for Removal (Low) - These trees are not considered important for retention, nor require special works or design modification to be implemented for their retention.					
	Priority for Removal - These trees are considered hazardous, or in irreversible decline, or weeds and should be removed irrespective of development.					

USE OF THIS DOCUMENT AND REFERENCING

The IACA Significance of a Tree, Assessment Rating System (STARS) is free to use, but only in its entirety and must be cited as follows:

IACA, 2010, *IACA Significance of a Tree, Assessment Rating System (STARS)*, Institute of Australian Consulting Arboriculturists, Australia, www.iaca.org.au

REFERENCES

Australia ICOMOS Inc. 1999, *The Burra Charter – The Australian ICOMOS Charter for Places of Cultural Significance*, International Council of Monuments and Sites, www.icomos.org/australia

Draper BD and Richards PA 2009, *Dictionary for Managing Trees in Urban Environments*, Institute of Australian Consulting Arboriculturists (IACA), CSIRO Publishing, Collingwood, Victoria, Australia.

Footprint Green Pty Ltd 2001, *Footprint Green Tree Significance & Retention Value Matrix*, Avalon, NSW Australia, www.footprintgreen.com.au

IACA 2010, *IACA Significance of a Tree, Assessment Rating System (STARS)*, Institute of Australian Consulting Arboriculturists, www.iaca.org.au

The following example shows the IACA **Significance** of a **Tree, Assessment Rating System** (STARS) used in an Arboricultural report.

Tree Significance

Determined by using the Tree Significance - Assessment Criteria of the *IACA Significance of a Tree, Assessment Rating System* (STARS)© (IACA, 2010), Appendix B.

Trees 14, 16, 17/3, 19 and 20/4 are of high significance with the remaining majority of medium significance and a few of low significance. Tree 14 is significant as a prominent specimen and a food source for indigenous avian fauna. Tree 16 as a non-locally indigenous planting is of good form and prominent *in situ*; Tree 17/3 as a stand of 6 street trees along the Davey Street frontage screening views to and from the site and contiguous with trees in Victoria Park extending the aesthetic influence of the urban canopy to the site. Similarly for Trees 20/4 as street trees in Long Road and Tree 19 as an extant exotic planting as a senescent component of the original landscaping. The trees of low significance are recent plantings as fruit trees – Avocados, and 1 Cootamundra Wattle as a non-locally indigenous tree in irreversible decline and potentially structurally unsound.

Significance Scale

1 – High
2 – Medium
3 – Low

Significance Scale	1	2	3
Tree No. / Stand No.	14, 16, 17/3, 19, 20/4	1/1, 2, 4, 5, 6, 7, 8, 9, 10, 11, 12/2, 15, 18, 21/5	3, 13, 22

Tree Retention Value

Determined by using the Retention Value - Priority Matrix of the *IACA Significance of a Tree, Assessment Rating System* (STARS)© (IACA, 2010), Appendix B.

Retention Value

High – Priority for Retention
Medium – Consider for Retention
Low – Consider for Removal
Remove - Priority for Removal

Retention Value	High Priority for Retention	Medium Consider for Retention	Low Consider for Removal	Remove Priority for Removal
Tree No. / Stand No.	1/1, 5, 17/3*, 19	2, 4, 6, 7, 8, 9, 10, 11, 14, 15, 16, 18, 20/4*, 21/5	3, 12/2, 13,	22

* Trees located within the neighbouring property and should be retained and protected.

APPENDIX 5 - EXTRACT FROM AS4970-2025: PROTECTION OF TREES ON DEVELOPMENT SITES

Section 3 Determining protection zones

3.1 Tree Protection Zone (TPZ)

Establishing and maintaining a TPZ is the most important part of protecting trees during the onsite stages of work (e.g. site establishment, demolition, construction). The TPZ is the zone determined by the project arborist using the process set out below. It shall be shown on the TPP to be isolated or managed so that the tree remains viable.

The NRZ is the starting point for determining the TPZ, along with the considerations in [Clause 3.3.2](#). Alternatively, the TPZ may be specified by the consent authority.

3.2 Calculating the Notional Root Zone (NRZ)

The radius of the NRZ is calculated for each tree by multiplying its diameter at standard height (DSH) by 12.

$$\text{Radius of the NRZ} = \text{DSH} \times 12$$

where

DSH = trunk diameter measured at 1.4 m above ground

The radius of the NRZ is measured from the centre of the stem.

The NRZ for palms, cycads, tree ferns and the like, is not calculated but shall not be less than 2 m.

Any NRZ radius shall not be less than 2 m nor greater than 15 m. [Clause 3.3](#) details the methods to produce the TPZ based on the NRZ.

3.4 Structural Root Zone (SRZ)

The SRZ is a notional area required for tree stability. A larger area is required to maintain a viable tree.

The SRZ shall be calculated when major encroachment (greater than 20 %) into an NRZ is proposed. SRZ locations and dimensions may be included on arboriculture documentation.

Many factors affect the size of the SRZ (e.g. tree height, crown area, soil type, soil moisture). Natural or built structures, such as rocks and footings, can also influence the SRZ. An indicative SRZ radius can be determined from the trunk diameter measured immediately above the root buttress using the following formula or [Figure 2](#). Root investigation can provide more information on the extent of these roots.

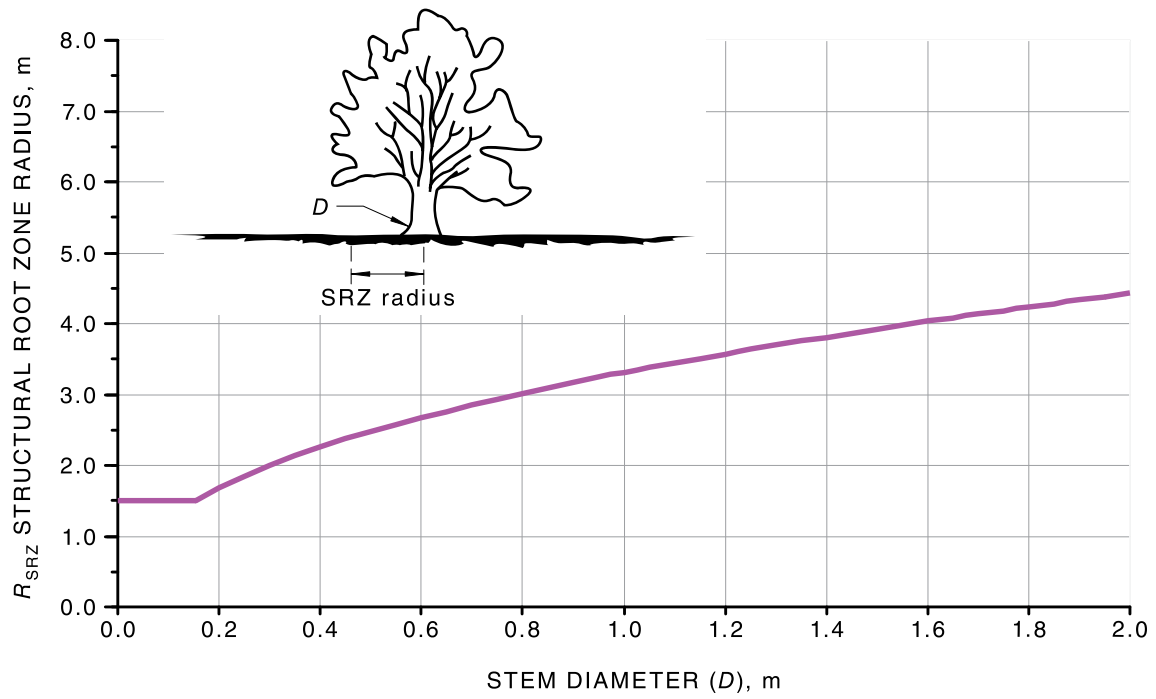
$$\text{SRZ radius} = (D \times 50)^{0.42} \times 0.64$$

where

D = trunk diameter, in m, measured above the root buttress flare.

Where the tree is multi-stemmed, the project arborist should determine if they will measure around all stems or work out the cross-sectional area, as noted in [Figure A.1](#), and provide their reasons for the method selected. The SRZ calculation does not apply to palms, cycads, tree ferns and the like.

NOTE The SRZ for trees with trunk diameters less than 0.15 m is 1.5 m, as shown in [Figure 2](#).



The curve can be expressed by the following formula:
 $R_{SRZ} = (D \times 50)^{0.42} \times 0.64$

Figure 2 — Structural Root Zone (SRZ) calculation

APPENDIX 6 – GENERAL TREE PROTECTION SPECIFICATION

1.0 Project Arborist

A Project Arborist with AQF Level 5 qualifications may be appointed prior to works commencing to ensure trees to be retained are appropriately monitored and protected throughout the proposed works. The Project Arborist shall review all tree protection measures, ensure compliance with requirements set out by the Principal Certifying Authority and provide compliance reports as per the schedule of works and responsibilities below.

Table 5 - Schedule of Works and Responsibilities

HOLD POINT	TASK	RESPONSIBILITY	CERTIFICATION	TIMING OF INSPECTION
1	Review & certification of all tree protection measures	Principal Contractor	Project Arborist (AQF5)	Prior to demolition or site establishment
2	Supervise all excavation works proposed within the TPZ	Principal Contractor	Project Arborist (AQF5)	As required prior to works proceeding within TPZ
3	Inspection of trees by Project Arborist	Principal Contractor	Project Arborist (AQF5)	Quarterly during construction
4	Final Inspection of trees by Project Arborist	Principal Contractor	Project Arborist (AQF5)	Following removal of tree protection measures prior to Occupation Certificate

2.0 Compliance

Compliance Documentation shall be prepared by the Project Arborist following each site inspection. The Compliance Documentation shall include documentary evidence of compliance with the tree protection measures and methods as outlined within this Specification. Upon the completion of the works, a final assessment of the trees shall be undertaken by the Project Arborist and future management strategies recommended.

3.0 Tree Removal

The trees to be removed shall be removed prior to the establishment of the tree protection measures. Tree removal works shall be undertaken in accordance with the *Workcover Code of Practice for the Amenity Tree Industry (1998)*. All tree removal work is to be carried out by an experienced Arborist with minimum AQF Level 3 qualifications in accordance with AS4373-2007 - Pruning of Amenity Trees, Safe Work Australia Guide for Managing Risks of Tree Trimming and Removal Work (2016) and other applicable legislation. Care should be taken to avoid damaging trees to be retained.

4.0 Tree Protection Zone

The Tree Protection Zone (TPZ) is a specified area above and below ground set aside for the protection of a tree. The TPZ should be protected to ensure development activities do not have an adverse effect on the viability and stability of trees to be retained. Activities restricted within the TPZ include:

- Soil cutting or filling, including excavation and trenching
- Soil compaction and modification
- Storage of materials and waste
- Parking of vehicles and plant
- Temporary or permanent installation of sheds, utilities and signs
- Cement or chemical preparation
- Refuelling
- Any other action leading to damage of the tree

5.0 Tree Protection Fencing

TPZ fencing shall be located at the perimeter of the TPZ. Where TPZ areas overlap, TPZ fencing may be combined to form a single larger TPZ area. The exact location of the fencing shall be confirmed through consultation between the Head Contractor/Project Manager and the Project Arborist prior to the commencement of works.

Fencing may be setback to allow for demolition/construction access only where appropriate ground protection is installed and approved by the Project Arborist.

Tree Protection Fencing shall consist of galvanised steel temporary fencing panels supported by concrete feet with panels coupled together. Care should be taken to avoid damaging the tree during the installation of the Tree Protection Fencing. Refer to Typical Tree Protection Details (**Appendix 6**).

6.0 Scaffolding

Scaffolding shall be erected outside of the TPZ. If scaffolding is deemed essential within the TPZ, the ground shall be protected, and branch removal minimised. Ground below scaffolding shall be protected by boarding placed over a layer of mulch to prevent soil compaction. Scaffolding shall be designed to avoid branches or branches tied back. Refer to Typical Tree Protection Details (**Appendix 6**).

7.0 Ground Protection

Where deemed necessary by the Project Arborist, temporary ground protection, such as ground mats or steel road plates placed over a mulch layer with geotextile fabric underneath, shall be utilised to prevent damage to tree roots during construction. Refer to Typical Tree Protection Details (**Appendix 6**).

8.0 Trunk Protection

Trunk protection shall be installed by wrapping padding around the trunk and first order branches to a minimum height of 2m. Timber battens (90 x 45mm) spaced at 150mm centres shall be strapped together and placed over the padding. Timber battens must not be fixed to the trees. Refer to Typical Tree Protection Details (**Appendix 6**).

9.0 Works within the Tree Protection Zones

The Principal Certifying Authority may approve works within Tree Protection Zones. The Project Arborist shall ensure compliance with the prescribed requirements as set out by the Principal Certifying Authority to ensure trees nominated for retention are adequately retained and protected throughout the works.

10.0 Structure & Pavement Demolition

Demolition of existing structures/pavement within the TPZ shall be supervised by the Project Arborist. Machinery is to be excluded from the TPZ unless operating from the existing slabs, pavements or areas of ground protection.

Pavement is to be shattered with a hand-operated pneumatic/electric breaker prior to removal taking place and carefully lifted to minimise damage to the underlying soil profile and tree roots. The underlying soil profile and existing sub-base materials shall remain in-situ.

When removing slab sections within TPZ, machinery shall work backwards out of the TPZ to ensure machinery remains on un- demolished sections of slab at all times. Machinery should not contact the tree's roots, trunk, branches and crown.

Exposed roots shall be irrigated by hand and covered with a 75-100mm layer of mulch as soon as possible after being exposed. The mulch must remain in place until new surfaces are put into place.

11.0 Underground Services

The installation of underground services shall be located outside of the TPZ. Where this is not possible, they shall be installed using in a root-sensitive manner utilising manual hand excavation methods or employ a pneumatic excavation device to ensure roots are maintained and undamaged under supervision of the Project Arborist. Services are to be threaded in between and/or under to preserve existing roots.

13.0 Excavations, Root Protection & Root Pruning

Excavation required within the TPZ shall be undertaken using non-motorised hand tools or a pneumatic excavation device under supervision of the Project Arborist. Excavation must be undertaken in a root sensitive manner to ensure roots are maintained and un-damaged. Should significant roots be identified (>25mmØ) during construction, works are to cease and direction sought from the Project Arborist with regards to root pruning, modification of construction methodology or design alteration.

APPENDIX 7 - TYPICAL TREE PROTECTION DETAILS

