

ADVERTISED PLAN

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Tree Consultants & Contractors

Tel (03) 9888 5214

24 Oct 2023

Salta Properties (Docklands) Pty Ltd

ABN: 66 951 411 736

C/- Salta Properties

26/35 Collins St

Melbourne VIC

Attention: Nicholas Johnson

Re: 669 Latrobe Street, Docklands

Introduction

A 37 level multi apartment building is proposed for 669 Latrobe Street, Docklands. A number of trees exist on and close to the site. Galbraith and Associates has been requested by Salta Properties to report on all existing trees within the site and within close proximity. I visited the site in June 2023 and undertook the assessment. Each tree is described in terms of species type, origin, size, condition and worth for retention. Tree protection zones according to the Australian Standard approach have been provided, along with a discussion of the likely impact of the current proposal on the trees.

Each tree is numbered and located on the accompanying copy of the existing site conditions drawing on page 2 and described on pages 3 and 4. The design drawings upon which I base my assumptions are those dated 20/Oct/23 by Fender Katsilidis.

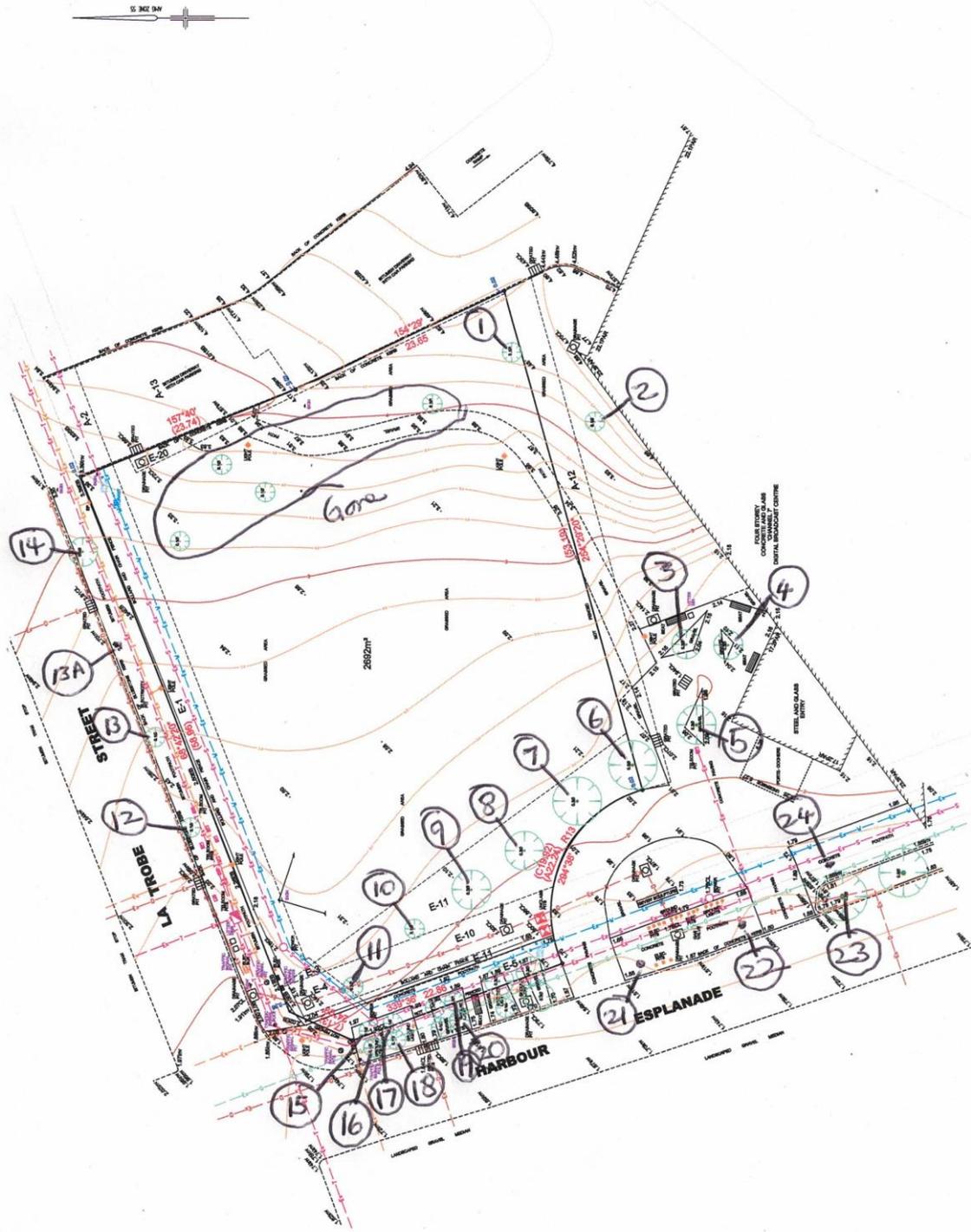
The Trees – General

With the exception of one small Flowering Cherry (tree 4) in fair-poor condition, all trees within the site are Spotted Gums (*Corymbia maculata*). It is likely they were planted at least 20 years ago. The species is native to coastal NSW and southern Queensland with one small outcrop in east Gippsland. They have been widely planted in the metro area over the last 50 years. The trees on the site are generally in good condition with a dominant height of 14m.

In relation to the street trees, along Latrobe Street are London Planes of similar age and in good condition. Along the footpath of the Harbour Esplanade are more recent plantings of Norfolk Island Pines. Several of those near the carriage way have debilitating cankers on their trunks, presumably as a result of dehydration and lack of soil moisture when younger.

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LEGEND	
1	Wall
—	Bank of Earth
—	Edge of Embankment
—	Level of Earth
—	Level of Road
—	Edge of Roadway
—	Boundary Type A Track (R. 100)
—	Boundary (Obliquity)
—	Boundary
—	Proposed Lane
—	Drainage Pit
—	Traffic Signal Pit
—	Storm Pit
—	Traffic Signal Box
—	Light Pit
—	Light Pole
—	Sign
—	Footpath
—	Street
—	Temporary Boundary Mark
—	Edge of Street
—	Boundary Type B
—	Bank
—	Sea Wall
—	Storm Light
—	Boundary Line
—	Prop. Valve
—	Pipe
—	Fire Hydrant
—	Boundary Pole Light

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TREE SURVEY

Tree No.	Species Indigenous (I) Victorian (V) Australian (A) Exotic (E) Weed (W)	DBH (cm)	HxS (m)	Comments, WOR, TPZ(m), SRZ(m)
1	Corymbia maculata V Spotted Gum	19, 21	12x6	Young, healthy. WOR 4 TPZ 3.4 SRZ 2
2	Corymbia maculata V Spotted Gum	43, 28	18x12	Young mature, healthy neighbouring tree. TPZ 6.2 SRZ 2.6
3	Corymbia maculata V Spotted Gum	21	11x4	Neighbouring tree in fair-poor condition. Thin crown with minor die-back TPZ 2.5 SRZ 1.8
4	Prunus sato-zakura gp E Flowering Cherry		3x5	Neighbouring small tree in fair-poor condition. Most of the crown consists of sprouts from beneath the graft. WOR 3
5	Corymbia maculata V Spotted Gum	50	14x12	Neighbouring young mature, healthy tree. TPZ 6 SRZ 2.4
6	Corymbia maculata V Spotted Gum	44	14x8	Young mature, healthy. WOR 5 TPZ 5.3 SRZ 2.5
7	Corymbia maculata V Spotted Gum	51	14x11	Young mature, healthy. WOR 5 TPZ 6.1 SRZ 2.5
8	Corymbia maculata V Spotted Gum	29	10x7	Young mature, healthy. WOR 5 TPZ 3.5 SRZ 2.1
9	Corymbia maculata V Spotted Gum	38	12x8	Young mature, healthy. WOR 5 TPZ 4.6 SRZ 2.3
10	Corymbia maculata V Spotted Gum	24	10x8	Young mature, healthy. WOR 4 TPZ 2.9 SRZ 1.8
11	Corymbia maculata V Spotted Gum	18	8x4	Young mature, stunted. WOR 3 TPZ 2.2 SRZ 1.7
12	Platanus x acerifolia E London Plane	32	10x11	Good condition. TPZ 3.8 SRZ 2.3 MCC ID 1359964
13	Platanus x acerifolia E London Plane	27	10x9	Good condition. TPZ 3.8 SRZ 2.3 MCC ID 1359965
13A	Celtis australis E Nettle Tree	2	2x1	Poor. MCC ID 1739977
14	Platanus x acerifolia E London Plane	31	10x10	Good condition. TPZ 3.7 SRZ 2.3 MCC ID 1359966
15	Araucaria heterophylla E Norfolk Island Pine	32	14x8	Good condition. TPZ 3.8 SRZ 2.3 MCC ID 1525621
16	Araucaria heterophylla E Norfolk Island Pine	22	8x6	Fair-poor condition. Large basal canker. TPZ 2.6 SRZ 1.8 MCC ID 1525620

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Tree No.	Species Indigenous (I) Victorian (V) Australian (A) Exotic (E) Weed (W)	DBH (cm)	HxS (m)	Comments, WOR, TPZ(m), SRZ(m)
17	Araucaria heterophylla E Norfolk Island Pine	25	9x8	Good condition. TPZ 3 SRZ 2 MCC ID 1525623
18	Araucaria heterophylla E Norfolk Island Pine	25	8x6	Fair-poor condition. Large canker on the lower west side due to sunscorch. TPZ 3 SRZ 1.9 MCC ID 1525622
19	Araucaria heterophylla E Norfolk Island Pine	23	8x7	Good condition. TPZ 3 SRZ 2 MCC ID 1525624
20	Araucaria heterophylla E Norfolk Island Pine	24	9x7	Good condition. TPZ 2.9 SRZ 2 MCC ID 1525625
21	Araucaria heterophylla E Norfolk Island Pine	22	8x6	Fair-poor condition. Large canker on the lower west side due to sunscorch. TPZ 2.6 SRZ 1.9 MCC ID 1525626
22	Araucaria heterophylla E Norfolk Island Pine	29	11x7	Fair-poor condition. Large canker on the lower west side due to sunscorch. TPZ 3.5 SRZ 2.2 MCC ID 1525627
23	Araucaria heterophylla E Norfolk Island Pine	32	11x7	Fair condition. TPZ 3.8 SRZ 2.2 MCC ID 1525628
24	Araucaria heterophylla E Norfolk Island Pine	31	12x7	Fair-good condition. TPZ 3.7 SRZ 2.2 MCC ID 1525629

Impact of the Proposal

Site Trees

All the trees within the site (Trees 1 and 6-11) are proposed to be removed. There are no local law permits necessary to be obtained within the City of Melbourne before removing trees.

Street Trees

It is proposed to retain the street trees although it is apparent that trees 13A, 16, 18, 21 and 22 have short safe useful life expectancies.

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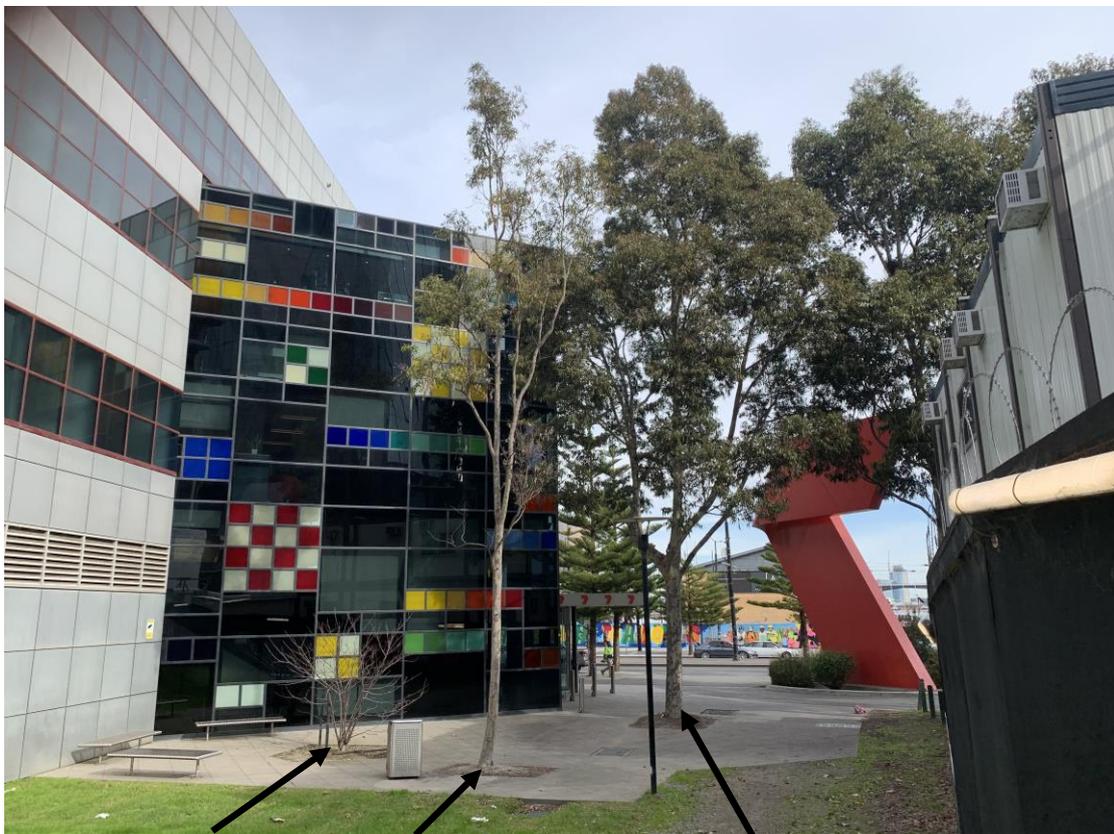
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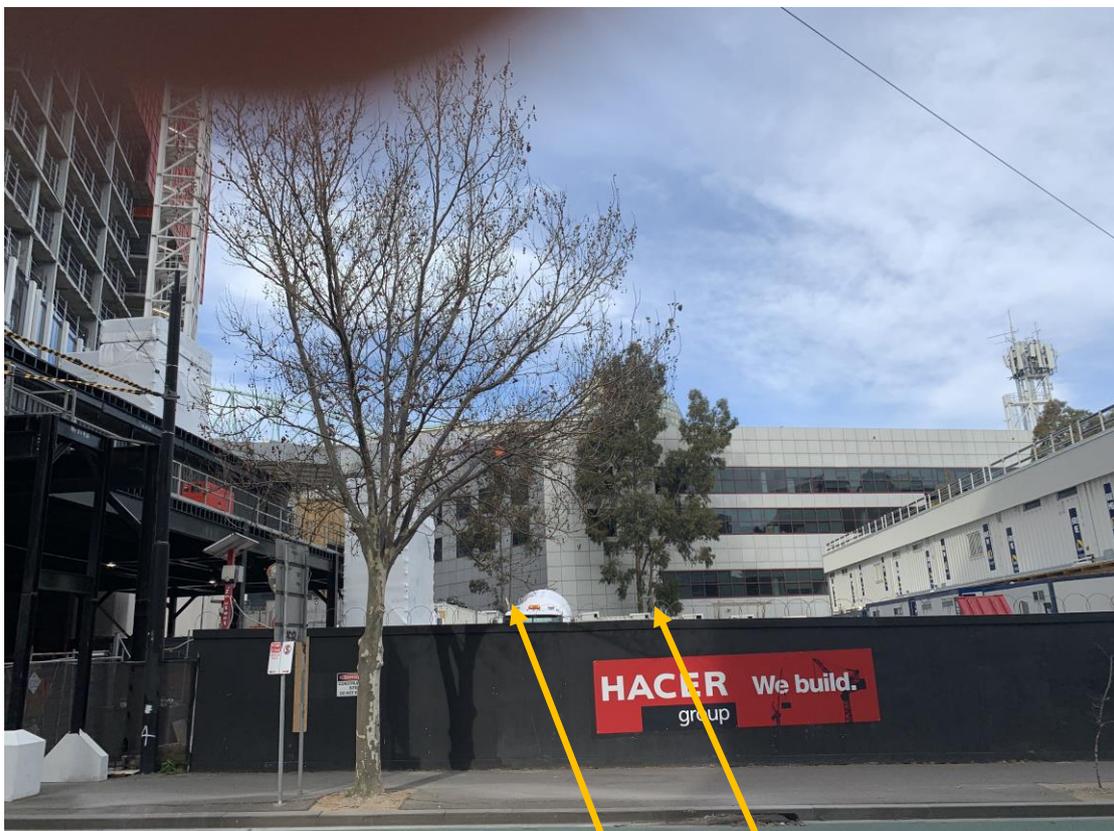
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Notes on Terminology

In order to understand the column headings of the tables of data, I have provided the following explanations:

DBH diameter of trunk over bark at breast height. In a number of cases where the tree has forked into multiple trunks below breast height (1.3-1.5m) the diameter is measured below the fork and an estimate is made for the single trunk equivalent at breast height, or else figures for each of the individual stems can be given.

HxS This is the estimated height (H) of the tree and its average crown spread (S).

SULE Safe useful life expectancy in years. Taken in the context that the area is to be developed for residential use, and that sensible distances are maintained between the buildings and the trees, this is the estimate of time that the tree will continue to provide useful amenity without imposing an onerous financial burden in order to maintain relative safety, and avoid excessive nuisance.

Worthiness of Retention (WOR):

The worth for retention of a tree is based on the assumption that the site is to be re-developed, and that there is the opportunity for new tree planting. It is based on a number of factors. These factors are:

1. structure, health, form and safe useful life expectancy,
2. size, prominence in the landscape,
3. species rarity,
4. whether indigenous,
5. whether an environmental weed.
6. importance for habitat of native wildlife
7. whether of historical or cultural interest

Any tree with a WOR rating of 3 or less should be seriously considered for removal before development begins because it is dead, nearly dead or dangerous, a weed, is causing or is likely to cause a severe nuisance in the near future, or just of very little significance and readily replaceable with new plantings. Trees rated 4-6 are of some significance. Some of these trees may respond to treatments such as formative pruning, removal of dead wood, weight reduction pruning etc. Trees rated 7 or higher are of high significance (the higher the ranking the more so), primarily because of their good health, structure, form, prominence in the landscape and SULE, although all they still may need substantial works done on them as already detailed, if they are to be retained.

Tree Protection Zone (TPZ) According to the Australian Standard AS 4970-2009 'Protection of Trees on Building Sites', the TPZ is the principal means of protecting trees on development sites. It is a combination of the root area and crown area requiring protection. It is an area isolated from construction disturbance, so that the tree remains viable.' The radius of the TPZ is calculated by multiplying the DBH by 12. The radius is measured from the centre of the stem at ground level. An area of 10% of the TPZ is deemed acceptable to violate if 10% of the *area* of the TPZ is made up in other directions. *Thus if encroachment is from one side only, encroachment to as close as approximately 8.3 times the DBH (~ 69% the listed TPZ radius) is permissible according to the Standard.*

Where the tree has more than one trunk, the TPZ is deduced by taking the square root of the sum of the squares of each of the DBHs, and multiplying this figure by 12

The TPZs as determined by the AS 4970-2009 approach should be construed as a rough guide. Many factors such as the type of encroachment on the TPZ, species tolerance, age, tree height, presence of spiral grain, soil type, soil depth, tree lean, the existence of onsite structures or root directional impediments, level of wind exposure, irrigation and ongoing tree care and maintenance are each highly influential on the size and success of the TPZ estimation.

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Structural Root Zone

According to the Aus Std. AS 4970:2009, the structural root zone is the area of the root plate required for a tree's stability. In order to calculate the indicative radius of such a zone from the trunk centre, according to the Aus Std., one uses the following formula: SRZ radius is $(D \times 50)^{0.42} \times 0.64$, where D is the trunk diameter in metres taken from just above the root buttress. The minimum indicative SRZ radius is 1.5m for any tree, irrespective of how small. A graph is provided in the Aust Std, with a curve depicted relating the SRZ to trunk diameter. Unfortunately, the calculated figures do not match those derived from the graph. The Aust Std. does not mention from where this formula is taken although acknowledges the publication 'Mattheck, C. & Breloer, H. (1994) *The Body Language of Trees* HMSO Publications' in the preface and bibliography. The figures derived from the graph for the indicative SRZs are far greater than those implied from the curve of 95% fit for the results from studies of upturned root plates of windblown and winched over German trees (see Mattheck, C. & Breloer, H. (1994). Furthermore the figures derived from the graph for the indicative SRZs are far greater than what one calculates them to be, using the formula provided by the Standard i.e. $(D \times 50)^{0.42} \times 0.64$. The calculated figures according to the Aust Std. are considerably greater for small and large trunks than those of Mattheck & Breloer.

In reality, the radii calculated whether by graph or using the formula, are much larger than necessary, except in cases such as where the soils are very shallow or where the structural root development is unidirectional or highly asymmetric for some reason, and the excavation is to be within the zone of the roots. **The structural stability generally depends far more on what proportion of the circumference of the tree is to be excavated than the actual distance of excavation from a tree, and this is often not taken into account quite when using the SRZ.**

Tree Origin Categories

Each tree has been classified as to whether it is indigenous (I), native to Victoria (V), native to Australia (A), exotic (E) or an environmental weed (W).

An indigenous species (I) is one that is known to grow naturally in the local area, even if the individual tree has been planted and is from a seed source or provenance foreign to the area.

A species classified V is one which has a part or all, even if very small, of its natural range within Victoria, although it may occur outside the state as well. It does not however occur naturally in the local area.

A species classified A is native elsewhere in Australia than Victoria. It does not occur naturally in the local area.

A species classified E has its natural range occurring outside Australia.

A species classified W is a seriously invasive environmental weed.

GALBRAITH & ASSOCIATES

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