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Document Reference: EP24-010(01)--002 GAB

Emerge contact: [redacted]

23 February 2024

Attention: Michelle Blakeley
MyHome
18 Brisbane Terrace
Perth WA 6000

Delivered by email to: [redacted]

Dear Michelle,

PRELIMINARY TREE ASSESSMENT – BISHOPSGATE ROAD, CARLISLE WA 6101

1 INTRODUCTION

1.1 Background

My Home are proposing a 24 home residential development within vacant land at the corner of Bishopsgate and Miller Streets, Carlisle, WA 6101 (herein referred to as the 'site').

The site, which is currently managed as public open space by the Western Australia Planning Commission (WAPC), is located approximately 4.8 kilometres (km) south-east of the Perth Central Business District within the Town of Victoria Park. It is approximately 0.3 hectares (ha) in size and is bounded by Raleigh St to the south, Miller St to the west, Bishopsgate Road to the north and residential lots to the east and. The location and extent of the site is shown in **Figure 1**.

Emerge was engaged to provide an arboricultural assessment of the site and adjacent road reserve to inform the preparation of the architectural design for the proposed development.

Survey pick-up of tree trunk bases was provided by MNG (2024) prior to the assessment.

1.2 Purpose and scope of work

The scope of work was to undertake a preliminary tree assessment with reference to *AS 4970-2009 Protection of trees on development sites*.

As part of this scope of work, the following tasks were undertaken:

- Field survey to record the basic attributes of trees.
- Documentation of the assessment in letter report.

2 METHODS

An experienced urban ecologist from Emerge visited the site on 3 February 2024. During the visit, the site and adjacent road reserve were traversed on foot and assessment was made of the trees present.

2.1 Preliminary tree assessment

All trees with a diameter at breast height (DBH) greater than 10 cm were assessed as outlined in **Table 1**. Following the survey, trees were mapped by species over aerial imagery.

Table 1: Attributes recorded for each tree

Attribute	Description
GPS location	The location was recorded using a handheld GPS unit
Id number	Sequential integer
Name	Species and common name
Status	Local native / WA native / Australian native / Exotic
DBH (cm)	Trunk diameter measured at breast height (1.4 m)
Height (m)	The height of the tree in metres
Canopy (m)	Canopy width in metres
Health	Score (3 excellent, 2 good, 1 poor and 0 dead)
Structure	Score (3 exemplar, 2 typical, 1 atypical)
Retention value	Score (3 high, 2 moderate and 1 low)
General notes	Any additional observations

2.2 Tree protection zone

Tree protection zones (TPZ) are a primary means of protecting trees during development as defined by *AS 4970-2009 Protection of Trees on Development Sites* (Standards Australia 2009).

The TPZ for individual trees is determined as follows:

$TPZ = DBH \times 12$

(That is, the radius of the TPZ = 12 X the DBH measured at 1.4 metres (m)).

Note TPZ should not be less than 2 m nor greater than 15 m except where crown protection is required.

2.3 Structural root zone

The structural root zone (SRZ) is the minimum volume of roots required by the tree to remain stable in the ground (Standards Australia 2009).

The SRZ for an individual tree is determined as follows:

$SRZ = (D \times 50)0.42 \times 0.64$

(Where D is the trunk diameter in metres (m)).

Note for SRZ calculation trunk diameter is meant to be measured above the root buttress. For this assessment DBH was used instead. In most cases this has little effect on the radius of an SRZ.

3 RESULTS

3.1 Tree inventory

A total of 33 trees were recorded including four WA native, seven Australian native and three exotic species. A summary of trees is provided in **Table 2**. Tree location and tree protection zones (TPZ) are presented in **Figure 1.** Raw data is provided as **Attachment 1**. Tree Photos are provided in **Attachment 2**.

Table 2: Tree da

Status	Species	Count
WA native	*Agonis flexuosa*	1
	Corymbia ficifolia	1
	Eucalyptus caesia	2
	Eucalyptus gomphocephala	1
Australian native	*Callistemon* sp.	1
	Callistemon viminalis	5
	Corymbia eximia	4
	Corymbia maculata	1
	Eucalyptus sideroxylon	4
	Lophostemon confertus	2
	Melaleuca quinquenervia	7
Exotic	*Carya illinoinensis*	1
	Jacaranda mimosifolia	3
	Prunus dulcis	1
Total		34

4 DISCUSSION

The trees within the site and road reserve are mostly WA native or Australian native species, with *Melaleuca quinquenervia* (broad leaved paperbark), *Corymbia* spp. and *Eucalyptus* spp. being the most frequently recorded. A number of exotic trees also occur, including *Carya illinoinensis* (pecan) and *Jacaranda mimosifolia* (jacaranda).

All trees have been planted, and while some are native to WA, they do not naturally occur within the Town of Victoria Park. As such, if the removal of any trees is proposed this could be done without the need to consider native vegetation protections under the *Environmental Protection Act 1986*.

Tree #2 *Corymbia eximia* (yellow bloodwood), #5 *Corymbia maculata* (spotted gum) and #28 *Jacaranda mimosifolia* (jacaranda) were identified as having relatively higher retention value. These trees are relatively large, structurally acclimated and have generally exemplary structural form. Most trees were assigned moderate retention value which is intended to convey that if retained they could make a positive contribution to amenity. The three trees were identified as having low retention value: #32 *Eucalyptus caesia* (Caesia) which had little canopy and accentuated leaning trunk; #21 *Callistemon* sp. (bottle brush) which is more a shrub than a tree; and #11 *Prunus dulcis* (almond) which was senesced and unsound.

Under the *AS4970-2009 Protection of trees on development sites*, tree protection zones (TPZ) are specified to ensure the protection of the tree's roots and crown where a tree is potentially subject to damage during development. AS4970-2009 recommends that TPZs be fenced during construction to restrict access. Arborist input may be required if encroachment into a TPZ of more than 10% is required. Additionally, where encroachment is permanent consideration should be given as to whether additional area can be provided adjacent to an affected tree to compensate for losses.

The structural root zones (SRZ) calculated for each tree provides an indication of the volume of soil required for stability of a tree to be maintained. In accordance with *AS4970-2009,* the SRZ only needs to be considered when major encroachment into a TPZ is proposed. Should this be required consultation with a qualified arborist is recommended.

5 SUMMARY AND CLOSING

We trust that this letter provides sufficient detail on trees within the site and adjacent road at the corner of Bishopsgate and Miller Streets, Carlisle. Should you have any queries or require further information, please do not hesitate to contact the undersigned.

Yours sincerely
Emerge Associates

[redacted]

[redacted]

PRINCIPAL ENVIRONMENTAL CONSULTANT - ECOLOGY

Encl: Figure 1: Tree Locations
Attachment 1: Tree data
Attachment 2: Tree photos

REFERENCES

Standards Australia 2009, *AS 4970-2009 Protection of trees on development sites* Sydney.

Figures

Figure 1: Tree Locations

Project:	Preliminary Tree Assessment My Home Environmental Support
Client:	My Home

Plan Number:
EP24-010(01)--F01

Drawn:	WJC
Date:	23/02/2024
Checked:	GAB
Approved:	TAA
Date:	23/02/2024

N

0 5 10 15
Metres

Scale: 1:600@A4

GDA2020 MGA Zone 50

emerge ASSOCIATES

Attachment 1

Tree data

Attachment 1 - EP24-010-P01 Bishopsgate Road Prelimenary Tree Assessment

ID	Easting	Northing	Species	Common name	Status	DBH (cm)	TPZ (m)	SRZ (m)	Height approx. (m)	Canopy width approx. (m)	Health score	Structure score	Retention value score
1	396883	6461851	*Lophostemon confertus*	Queensland box	Australian native	49	5.9	2.45	7	7	2	2	2
2	396879	6461845	*Corymbia eximia*	Yellow bloodwood	Australian native	35	4.2	2.13	10	7	3	3	3
3	396876	6461847	*Melaleuca quinquenervia*	Broad-leaved paperbark	Australian native	22	2.6	1.75	7	4	1	2	2
4	396872	6461842	*Corymbia eximia*	Yellow bloodwood	Australian native	42	5.0	2.30	7	7	3	2	2
5	396869	6461838	*Corymbia maculata*	Spotted gum	Australian native	35	4.2	2.13	15	10	3	3	3
6	396865	6461833	*Melaleuca quinquenervia*	Broad-leaved paperbark	Australian native	44	5.3	2.34	7	5	2	2	2
7	396852	6461812	*Eucalyptus sideroxylon*	Red ironbark	Australian native	25	3.0	1.85	10	7	2	2	2
8	396850	6461807	*Eucalyptus sideroxylon*	Red ironbark	Australian native	19	2.3	1.65	7	5	2	2	2
9	396845	6461799	*Carya illinoinensis*	Pecan	Exotic	44	5.3	2.34	12	12	3	2	2
10	396842	6461796	*Eucalyptus gomphocephala*	Tuart	WA native	57	6.8	2.61	15	7	3	3	2
11	396840	6461792	*Prunus dulcis*	Almond	Exotic	-	2.0	-	4	2	1	1	1
12	396838	6461790	*Eucalyptus sideroxylon*	Red ironbark	Australian native	35	4.2	2.13	7	7	2	2	2
13	396835	6461785	*Eucalyptus sideroxylon*	Red ironbark	Australian native	13	2.0	1.50	5	3	2	2	2
14	396892	6461842	*Lophostemon confertus*	Queensland box	Australian native	58	7.0	2.63	10	10	3	2	2
15	396882	6461819	*Callistemon viminalis*	Weeping bottlebrush	Australian native	31	3.7	2.02	5	5	3	2	2
16	396872	6461809	*Callistemon viminalis*	Weeping bottlebrush	Australian native	26	3.1	1.88	5	5	3	2	2
17	396868	6461804	*Corymbia eximia*	Yellow bloodwood	Australian native	43	5.2	2.32	10	7	3	2	2
18	396864	6461800	*Corymbia eximia*	Yellow bloodwood	Australian native	38	4.6	2.20	10	7	3	2	2
19	396859	6461796	*Melaleuca quinquenervia*	Broad-leaved paperbark	Australian native	24	2.9	1.82	5	3	2	2	2
20	396828	6461775	*Agonis flexuosa*	Sweet peppermint	WA native	16	2.0	1.53	3	3	3	2	2
21	396825	6461770	*Callistemon* sp.	Bottlebrush	Australian native	-	2.0	-	12	1	2	2	2
22	396823	6461767	*Eucalyptus caesia*	Caesia	WA native	-	2.0	-	3	3	3	2	2
23	396823	6461761	*Melaleuca quinquenervia*	Broad-leaved paperbark	Australian native	67	8.0	2.80	10	10	2	2	2
24	396839	6461754	*Callistemon viminalis*	Weeping bottlebrush	Australian native	22	2.6	1.75	5	5	2	2	2
25	396844	6461757	*Melaleuca quinquenervia*	Broad-leaved paperbark	Australian native	32	3.8	2.05	5	7	2	3	2
26	396850	6461765	*Corymbia ficifolia*	Red-flowering Gum	WA native	75	9.0	2.93	7	12	3	1	2
27	396852	6461766	*Melaleuca quinquenervia*	Broad-leaved paperbark	Australian native	16	2.0	1.53	3	2	2	2	2
28	396854	6461779	*Jacaranda mimosifolia*	Jacaranda	Exotic	66	7.9	2.78	15	15	3	3	3
29	396864	6461778	*Callistemon viminalis*	Weeping bottlebrush	Australian native	27	3.2	1.91	5	5	2	2	2
30	396863	6461779	*Jacaranda mimosifolia*	Jacaranda	Exotic	19	2.3	1.65	7	5	2	2	2
31	396869	6461783	*Melaleuca quinquenervia*	Broad-leaved paperbark	Australian native	27	3.2	1.91	5	5	2	2	2
32	396866	6461786	*Eucalyptus caesia*	Caesia	WA native	18	2.2	1.61	7	5	2	1	1
33	396856	6461791	*Callistemon viminalis*	Weeping bottlebrush	Australian native	23	2.8	1.79	5	5	2	2	2

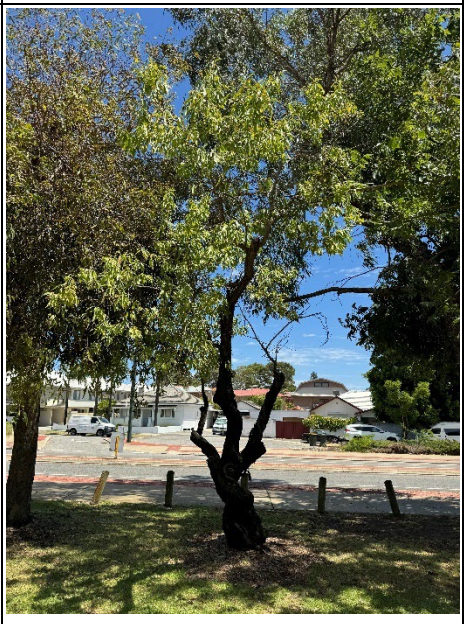
Attachment 2

Tree photos

Attachment 2 – Tree Photos

ID	Field Photo	ID	Field Photo
1		4	
2		5	
3		6	

Attachment 2 – Tree Photos

7		10	
8		11	
9		12	

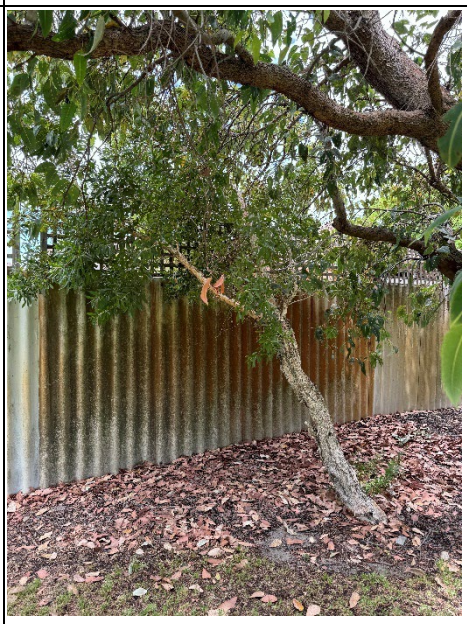
Attachment 2 – Tree Photos

13		16	
14		17	
15		18	

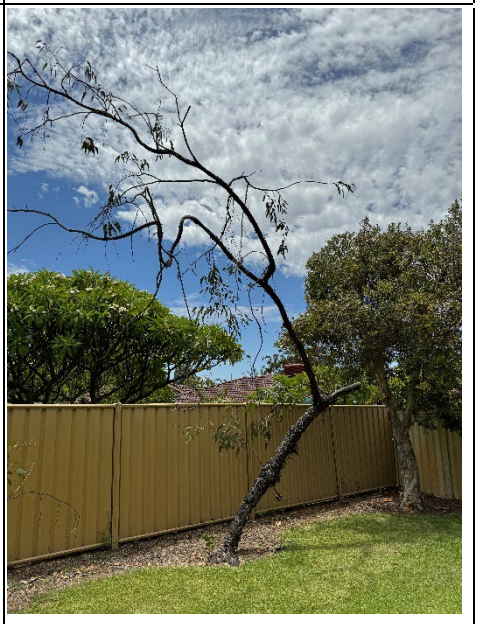
Attachment 2 – Tree Photos

19		22	
20		23	
21		24	

Attachment 2 – Tree Photos

25		28	
26		29	
27		30	

Attachment 2 – Tree Photos

31	
32	
33