



Memorandum

22 May 2020

To Public Transport Authority

Copy to

From Erin Lynch

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Subject Targeted vegetation assessment

Job no. 12530736

1 Introduction

1.1 Background

The Public Transport Authority of Western Australia (PTA) is proposing to develop the Morley- Ellenbrook Line (MEL) Project as part of Western Australian Government's METRONET program aimed at increasing the size of Perth's railway network. The MEL Project is a 21 kilometre railway that will connect the existing Midland line at Bayswater station to Ellenbrook in Perth's north-eastern suburbs. The MEL Project will include new stations at Morley, Noranda, Malaga, Whiteman Park and Ellenbrook, and provision for a potential future station at Bennett Springs.

The PTA is currently progressing Stage 1 of the MEL, Bayswater to Malaga Rail Works (the Project). The route follows the centre median of Tonkin Highway, heading north through the Reid Highway interchange, before leaving the median in Malaga between Marshall Road and Hepburn Avenue.

A number of ecological investigations have previously been undertaken across the Project area including Level 1 and Level 2 fauna surveys and habitat assessments for threatened black cockatoo species.

1.2 Scope of works and purpose

PTA commissioned GHD Pty Ltd (GHD) to ground truth and map all areas within the MEL Part 1 Native Vegetation Clearing Permit (NVCP) (the survey area) application area to define the areas that are native vegetation, non-native vegetation and those areas already cleared. The survey area covers 203.94 hectares (ha). The results of the assessment are provided in this brief memorandum, which is intended to support the NVCP for the Project as an appendix.

1.3 Limitations and assumptions

This memorandum has been prepared by GHD for PTA and may only be used and relied on by PTA for the purpose agreed between GHD and the PTA as set out in Section 1.2 of this memorandum.

GHD otherwise disclaims responsibility to any person other than PTA arising in connection with this memorandum. GHD also excludes implied warranties and conditions, to the extent legally permissible. The services undertaken by GHD in connection with preparing this memorandum were limited to those specifically detailed in the memorandum and are subject to the scope limitations set out in the memorandum.

The opinions, conclusions and any recommendations in this memorandum are based on conditions encountered and information reviewed at the date of preparation of the memorandum. GHD has no responsibility or obligation to update this memorandum to account for events or changes occurring subsequent to the date that the memorandum was prepared. The opinions, conclusions and any recommendations in this memorandum are based on assumptions made by GHD described in this memorandum. GHD disclaims liability arising from any of the assumptions being incorrect.

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2 Methodology

2.1 Desktop assessment

Prior to the field assessment, a desktop assessment was undertaken to identify relevant information pertaining to the survey area. The desktop assessment included a review of:

- Previous vegetation surveys and mapping provided by PTA that covered the survey area
- Aerial imagery of the survey area.

2.2 Field assessment

GHD ecologist Erin Lynch completed a rapid vegetation assessment of the survey area on 22 and 23 April 2020. The field assessment was undertaken to ground truth the survey area to define the areas that are native vegetation, those areas that are non-native vegetation and those areas that are cleared. Details of these native, non-native and cleared areas, mapping of these locations, the vegetation types and photos documenting these areas were undertaken and recorded. Field survey methods involved traversing the survey area by vehicle and by foot to assess vegetated areas and recording areas using photo points.

Broad vegetation types and condition

Broad vegetation types were identified and boundaries delineated using a combination of aerial photography, topographical features and field data/observations. Full floristics were not recorded.

The vegetation condition was assessed and mapped in accordance with the vegetation condition rating scale for the South West and Interzone Botanical Provinces of WA (devised by Keighery (1994) and adapted by EPA (2016)).


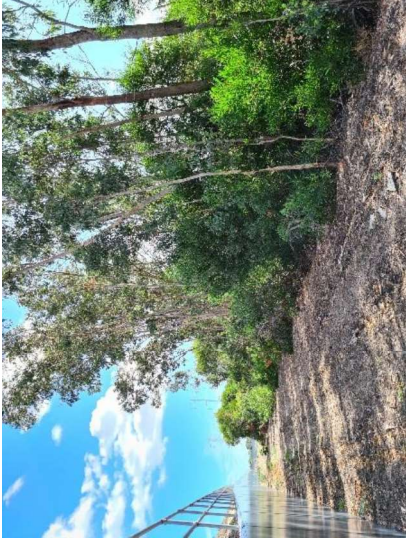
3 Results



The results of the assessment and representative photographs of each vegetation type is presented in Table 1. Mapping of the vegetation within the survey area is presented in Figure 1, attached.

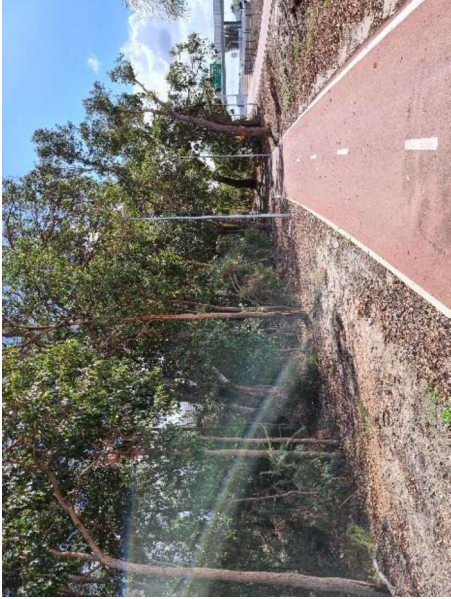

There is a very small proportion of remnant native vegetation remaining within the survey area. Where remnant vegetation is present the patches are small and severely impacted by weeds and edge effects. The majority of the site has previously been cleared, with some old and recent revegetation and plantings of non-local *Eucalyptus* and *Melaleuca* species present.

Previously cleared areas, including the existing road network infrastructure and recently revegetated areas, has been mapped as Cleared.


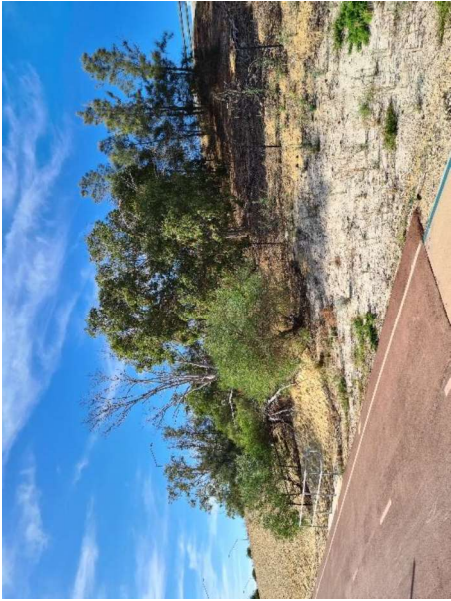
Table 1 **Vegetation types identified within the survey area**


	Broad vegetation type	Location	Total area (ha)	Photograph
NATIVE				
VT01	<p><i>Melaleuca preissiana</i> low woodland with scattered <i>Corymbia calophylla</i>.</p> <p>Vegetation condition: Degraded. High weed cover with edge effects.</p>	North of Marshall Road, northbound.	0.128	
VT02	<p><i>Eucalyptus rudis</i> open woodland over *<i>Acacia longifolia</i> tall shrubland over mixed low shrubland/sedgeland.</p> <p>Vegetation condition: Degraded to completely degraded. Highly modified, mixed with some planted species. High weed cover with edge effects.</p>	<p>North of Marshall Road, southbound.</p> <p>Along Emu Swamp main drain</p>	0.169	

Broad vegetation type	Location	Total area (ha)	Photograph
<p>VT03</p> <p><i>Melaleuca preissiana</i> scattered trees over <i>Jacksonia furcellata</i> *<i>Acacia longifolia</i> and <i>Adenanthos cygnorum</i> open shrubland.</p> <p>Vegetation condition: Completely degraded. Highly modified, some planted species, high weed cover with edge effects.</p>	South of Reid Highway, southbound.	0.120	
<p>VT04</p> <p><i>Banksia attenuata</i>, <i>Banksia menziesii</i> and <i>Nuytsia floribunda</i> low open woodland.</p> <p>Vegetation condition mapped as Good to Degraded with high weed cover and reduced understorey with edge effects and rubbish dumping.</p>	North of Benara Road, northbound.	0.241	

Broad vegetation type	Location	Total area (ha)	Photograph
<p>VT05</p> <p><i>Corymbia calophylla</i> open woodland over <i>Melaleuca preissiana</i> and <i>Banksia grandis</i> low open woodland.</p> <p>Vegetation condition: Good to degraded with high weed cover and limited understorey with edge effects and rubbish dumping.</p>	North of Benara Road, northbound.	0.295	
<p>VT06</p> <p><i>Eucalyptus tottiana</i>, <i>Corymbia calophylla</i>, <i>Allocasuarina fraseriana</i> and <i>Banksia menziesii</i> low open woodland.</p> <p>Vegetation condition mapped as Degraded to Completely Degraded with some planted species, high weed cover and reduced understorey with edge effects and rubbish dumping.</p>	Along the northern side of Broun Ave.	0.384	

Broad vegetation type	Location	Total area (ha)	Photograph
<p>VT07</p> <p><i>Melaleuca preissiana</i> open woodland over <i>Hakea varia</i> and <i>Acacia saligna</i> over <i>Xanthorrhoea preissii</i> and <i>Regelia ciliata</i> open shrubland.</p> <p>Vegetation condition: Good to Completely Degraded with high weed cover and reduced understorey with edge effects.</p>	South of Broun Ave, northbound.	0.192	
<p>VT08</p> <p><i>Corymbia calophylla</i> open woodland over <i>Allocasuarina humilis</i> and <i>Xanthorrhoea preissii</i> open shrubland.</p> <p>Vegetation condition: Degraded with high weed cover and limited understorey with edge effects.</p>	South of Broun Ave, northbound	0.293	

Broad vegetation type	Location	Total area (ha)	Photograph
VT09	<p>Parkland cleared. Individual trees or small patches of native <i>Eucalyptus</i> species including <i>Corymbia calophylla</i>, <i>Eucalyptus rudis</i>, and <i>Eucalyptus gomphocephala</i> over completely cleared understorey.</p> <p>Vegetation condition: Completely degraded.</p>	0.879	
NON-NATIVE			
Planted/ non- native	<p>Areas which have previously been cleared and revegetated with a mix of introduced and native species (local and non local species). Established planted trees include <i>Eucalyptus camaldulensis</i> and <i>Melealeuca quinquenervia</i>.</p>	12.602	

Broad vegetation type	Location	Total area (ha)	Photograph
Cleared Completely cleared or modified areas. Includes existing road network infrastructure and recently revegetated areas. Some scattered planted trees but no intact native vegetation.	Entire length of the survey area.	188.632	

A summary of the total area of native vegetation, non-native vegetation and cleared areas is provided in Table 2.

Table 2 Vegetation extents

Vegetation type	Total area (ha)
Native (VT01, VT02, VT03, VT04, VT05, VT06, VT07, VT08, VT09)	2.701
Non-Native (Planted/revegetation)	12.602
Cleared	188.632

4 References

Environmental Protection Authority (EPA) 2016, *Technical Guidance – Flora and Vegetation Surveys for Environmental Impact Assessment*, Perth, Environmental Protection Authority.

Keighery, BJ 1994, *Bushland Plant Survey: A Guide to Plant Community Survey for the Community*, Nedlands, Australia, Wildflower Society of Western Australia (Inc.).

Regards

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Ecologist