



# Memorandum

13 November 2020

To Public Transport Authority

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Subject Ten Clearing Principles Assessment

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## 1 Background

The Public Transport Authority (PTA) has recognised the requirement to identify the environmental constraints of an area associated with the proposed Kenwick Rail Freight Facility.

GHD Pty Ltd (GHD) was commissioned by PTA to undertake an ecological assessment of the survey area (GHD 2020). The survey area is 0.52 hectares (ha) and is located adjacent to Roe Highway, south of the Orrong Road overpass in Beckenham, City of Gosnells. The purpose of the survey was to delineate key flora, vegetation and fauna values within the survey area.

### 1.1 Purpose of this memorandum

This memorandum provides an assessment against the 10 Clearing Principles as outlined in Schedule 5 of the EP Act for the survey area. The results of this assessment may be used to support environmental approval planning and applications.

### 1.2 Limitations and assumptions

The 10 Clearing Principles assessment has relied on the results from the Kenwick biological survey (GHD 2020). The limitations and assumptions in the Kenwick Biological Survey report (GHD 2020) equally apply to this memorandum.

## 2 Assessment against the ten clearing principles

An assessment of the survey area against the Ten Clearing Principles is provided in Table 2-1. The assessment determined that clearing within the survey area may be at variance with principle (f) and unlikely or not to be at variance to the remaining clearing principles.

**Table 2-1 Assessment against the Ten Clearing Principles**

Principle	Assessment	Outcome
<p>(a) Native vegetation should not be cleared if it comprises a high level of biological diversity.</p>	<p>The survey area is situated in the South West Botanical Province of WA (Beard 1990) within the Swan Coastal Plain (SWA) bioregion and the Perth subregion. The survey area covers 0.52 ha, of which 0.107 ha is cleared (vehicle tracks) and the remaining 0.412 ha is comprised of highly modified vegetation dominated by invasive weed species.</p> <p>Three vegetation types were mapped across the survey area, with all impacted by previous modifications such as clearing, revegetation and/or weed invasion. The condition of the vegetation remaining in the survey area was Completely Degraded.</p> <p>The survey area consists of a narrow section of vegetation situated between Roe Highway and the rail line. There is a lake and associated vegetation to the north of the survey area. No significant vegetation or flora was identified within the survey area. The survey area is considered to have low floral diversity due to anthropogenic influences.</p> <p>One plant recorded in the survey area has been tentatively identified as <i>Melaleuca viminalis</i> which is listed Priority 2 by the DBCA. According to Craven et al (2010) <i>Melaleuca viminalis</i> naturally occurs in the Kimberley region of Western Australia, in Queensland and in New South Wales. The species has naturalised in Perth and is commonly found within parks and roadside vegetation.</p> <p>The survey area provides limited habitat value and poor habitat connectivity as it is fragmented by roads, rail and surrounding development. The vegetation within the survey area is not considered to contain significant habitat for fauna of conservation significance.</p> <p>The survey area does not contain areas of native vegetation that are in better condition, or offer a higher floristic value than remnant bushland within the surrounding environment.</p>	<p>Unlikely to be at variance</p>
<p>(b) Native vegetation should not be cleared if it comprises the whole or a part of, or is necessary for the maintenance of, a significant habitat</p>	<p>The survey area comprises of two main habitat types consisting of open shrubland over grassland and open water (Woodlupine drain). The habitats are considered to have low value for indigenous fauna due to the degraded nature of the area. The survey area has poor habitat connectivity as remaining vegetation is fragmented by infrastructure and urban</p>	<p>Unlikely to be at variance</p>

Principle	Assessment	Outcome
<p>for fauna indigenous to Western Australia.</p>	<p>developments. The existing road and rail corridor is a significant barrier for ground dwelling fauna to move through the landscape and therefore additional clearing of vegetation will not necessarily alter the current movement patterns for ground dwelling species.</p> <p>During the survey, the Forest Red-tailed Black Cockatoo (listed Vulnerable under the EPBC Act and BC Act) was seen flying over the survey area. However no suitable foraging, roosting or breeding habitat is present in the survey area. The survey area did not contain potential or actual breeding trees.</p> <p>The vegetation within the survey area does not comprise the whole or part of, or is necessary for the maintenance of a significant habitat for fauna indigenous to Western Australia.</p>	
<p>(c) Native vegetation should not be cleared if it includes, or is necessary for the continued existence of, rare flora.</p>	<p>NatureMap listed 17 flora taxa as occurring within a 5 km buffer area of the survey area. However, no Threatened (rare) flora were recorded or considered likely to occur within the survey area.</p>	<p>Unlikely to be at variance</p>
<p>(d) Native vegetation should not be cleared if it comprises the whole or a part of, or is necessary for the maintenance of, a threatened ecological community.</p>	<p>No Threatened Ecological Communities have been recorded or are considered likely to occur within the survey area.</p>	<p>Not at variance</p>
<p>(e) Native vegetation should not be cleared if it is significant as a remnant of native vegetation in an area that has been extensively cleared.</p>	<p>The survey area is located within the SWA IBRA Bioregion, which has approximately 34.4% of its pre-European extent remaining. Regional vegetation mapping undertaken by Heddlé et al. (1980) and updated by Webb et al. (2016) indicates one vegetation complex within the survey area. The current extent of the Guildford Complex is less than 10% of their pre-European extents remaining within the SWA IBRA bioregion (5.09%) and the City of Gosnells (8.26%).</p>	<p>Unlikely to be at variance</p>

Principle	Assessment	Outcome
	<p>Where only 10 per cent or less of the pre-European extent of an ecological community remains that community is considered threatened. However the vegetation within survey area is not considered representative of the pre-European vegetation mapped for the area.</p>	
<p>(f) Native vegetation should not be cleared if it is growing in, or in association with, an environment associated with a watercourse or wetland.</p>	<p>The Woodlupine Brook (drain), which is a major tributary of Yule Brook, traverses through the survey. The vegetation within the survey area associated with the Brook is highly modified and has been cleared previously. The vegetation is completely dominated by invasive weed species. There is some natural regeneration of vegetation associated with watercourses including young <i>Eucalyptus rudis</i> (flooded gum) and sedges including <i>Typha ?domingensis</i> and <i>Juncus pallidus</i>.</p>	<p>May be at variance.</p>
<p>(g) Native vegetation should not be cleared if the clearing of the vegetation is likely to cause appreciable land degradation.</p>	<p>The survey area occurs on the Pinjarra system. The Pinjarra system is a flat, poorly drained alluvial plain with a variety of soils including grey deep sandy duplex soils, brown shallow loamy duplex soils and cracking clays.</p> <p>The survey areas lies within a moderate to low risk acid sulphate soil risk area (GoWA 2020). The depth to groundwater within the survey area is mapped at 3 m (DWER 2020).</p> <p>Any clearing of native vegetation within the survey area has the potential to cause water and wind erosion in areas with lighter-texture soils (e.g. sandy soils).</p> <p>Overall, due to the extent and already degraded state of the native vegetation to be cleared, its position in between road and rail infrastructure with existing modified drainage, clearing for the Project is unlikely to cause substantial land degradation.</p>	<p>Unlikely to be at variance.</p>
<p>(h) Native vegetation should not be cleared if the clearing of the vegetation is likely to have an impact on the environmental values of any adjacent or nearby conservation area.</p>	<p>There are no conservation reserves or estates located within or adjacent to the survey area. The closest known nature reserves are located approximately 1 to 2 km south and east of the survey area which form the Kenwick Wetlands.</p> <p>Clearing within the survey area is unlikely to impact on the environmental values of any conservation area.</p>	<p>Unlikely to be at variance.</p>

Principle	Assessment	Outcome
<p>(i) Native vegetation should not be cleared if the clearing of the vegetation is likely to cause deterioration in the quality of surface or underground water.</p>	<p>The survey area does not occur within a Public Drinking Water Source Area (PDWSA). Woodlupine Brook (drain), a major tributary of Yule Brook, traverses through the survey area. Yule Brook is a Water Corporation main drain and tributary of the Canning River. The creeks in the area have been significantly altered and redirected since European settlement. The survey area and surrounding area has already been highly disturbed and modified. It is unlikely that the clearing of the survey area will further disturb or interrupt any natural drainage and surface run-off patterns present in the area.</p> <p>Vegetation clearing for the project is considered unlikely to impact upon surface or underground water quality.</p>	<p>Unlikely to be at variance.</p>
<p>(j) Native vegetation should not be cleared if the clearing of the vegetation is likely to cause, or exacerbate, the incidence or intensity of flooding.</p>	<p>The soils of the survey area include sands, duplex soils and clays. The vegetation within the survey area has already been highly modified due to historical clearing. Additional clearing is unlikely to cause or exacerbate waterlogging within the survey area given the relatively small area of clearing.</p>	<p>Unlikely to be at variance.</p>

### 3 References

Beard, JS 1990, *Plant Life of Western Australia*, Perth, Australia, Kangaroo Press.

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Craven LA, Lepschi BJ and Crowley KJ 2010, *Melaleuca (Myrtaceae) of Western Australia: five new species, three new combinations, one new name and a new state record*, *Nuytsia* 20: 27-36(2010).

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