PERTH OFFICE
Suite 4, 26 Railway Road
Subiaco
Western Australia 6008

P +61 8 9380 4988
F +61 8 9380 9636
emergeassociates.com.au

Emerge Environmental Services Pty Ltd ABN 57144772510 trading as Emerge Associates

Document Reference: EP19-073(40)—069 SPL
Emerge contact: Liesl Rohl

2 November 2023

Attention: Native Vegetation Regulation
Department of Water and Environmental Regulation
Locked Bag 10
JOONDALUP WA 6919

Delivered by email to: info@dwer.wa.gov.au

Dear Sir/Madam,

CLEARING PERMIT (AREA PERMIT) APPLICATION FOR VEGETATION REMOVAL TO IMPLEMENT SEWER INSTALLATION AND OTHER ASSOCIATED CLEARING WORKS FOR LSP3 AREA AT LOT 822 YOULE DEAN ROAD, BRABHAM

Regarding the letter's content outlined below, please keep in mind the following key terms as they relate to this clearing application:

- **Native vegetation clearing area (or clearing area)** – this refers to the area of native vegetation that is proposed to be cleared and is the subject of this clearing permit application. The extent of native vegetation proposed to be cleared is 10.89 ha in size.
- **Sewer works area** – this refers to the area within which the sewer works is proposed to occur. This area has been provided for context and is approximately 5.97 ha in size.
- **Stockpile area** – this refers to the area where associated clearing is required for future storage and laydown requirements. It is approximately 9.58 ha in size.
- **Survey area** – this refers to the area over which the ecological surveys (flora, vegetation and fauna) were completed. It covers a broader area (130.29 ha) associated with the DevelopmentWA/ Peet Third Stage Structure Plan (LSP 3), (which includes the clearing area, sewer and stockpile area).

This letter provides supporting information to be read in conjunction with the clearing permit application (area permit) form and the following attachments (survey area associated with the flora, vegetation and fauna assessments covers the entire LSP 3 area and surrounds (130.29 ha).

- **Attachment 1** – *DevelopmentWA /Peet Third Stage Structure Plan (LSP 3)*
- **Attachment 2** – *Detailed Flora and Vegetation Assessment, Lot 822 Youle-Dean Road, Brabham*
- **Attachment 3** – *Basic Fauna and Targeted Black Cockatoo Assessment, Lot 822 Youle-Dean Road, Brabham*
- A shape (.shp) file of the native vegetation clearing area has been submitted to Department of Water and Environmental Regulation (DWER) as part of the application.

1 OVERVIEW

Emerge Associates (Emerge) have been engaged by the Peet Pty Ltd ('the applicant') to support the preparation of a clearing permit application, including the completion of flora, vegetation and fauna surveys, for sewer installation and other associated clearing works for the DevelopmentWA and Peet

Third Stage Structure Plan (LSP 3) area at lot 822 Youle Dean road, Brabham. The sewer installation and associated clearing will form a section of the overall Brabham LSP 3 approved for future development.

The total area for which this clearing permit application refers to as the 'clearing area', is the North-east portion of Lot 822, bound by Youle Dean road to the north and Bushforever site 200 (BF 200) adjacent to the east, as shown in **Figure 1**. The 'sewer works' area is shown in **Figure 1** and is provided for context. To implement the required sewerage works, areas of native vegetation will need to be removed and is the subject of this clearing permit application. Additionally, the 'stockpile area' is also shown in **Figure 1** and refers to the associated clearing required for storage and laydown requirements.

The clearing permit application area is approximately 15.55 hectares (ha) in size and comprises 10.89 ha of native vegetation to be cleared, with a remaining 4.66 ha of existing cleared gravel road surface and non-native vegetation (mostly bare ground and weeds) required to be cleared to implement the sewer and associated works. A summary of the clearing area values are shown below in **Table 1**:

Table 1: Clearing permit area summary and values

Vegetation Value	Sewer works area	Stockpile area	Total
Total clearing footprint area	5.97 ha	9.58 ha	15.55 ha
Extent of native vegetation (ha)/ Vegetation communities	Mp: 1.05 CcMp: 2.46 Cleared: 2.46	Mp: 0.52 CcMp: 6.86 Cleared: 2.2	Mp: 1.57 CcMp: 9.32 Cleared: 4.66
ESA (yes/no)	No	No	No
Vegetation condition summary	Degraded: 3.51 Completely Degraded: 2.46	Degraded: 7.38 Completely Degraded: 2.20	Degraded: 10.89 Completely Degraded: 4.66
Wetland areas (CCW and REW or none)	REW: 1.84	REW: 1.41	REW: 3.25
Wetland buffers (50m from CCW and REW or none)	REW buffers: 2.71	REW buffers: 4.33	REW buffers: 7.04
TECs and PECs	N/A	N/A	N/A
Black cockatoo foraging habitat (ha)	0.87	1.14	2.01 ha
Black cockatoo potential breeding trees (number)	Evidence of use: 0 Suitable hollows: 0 No Hollows: 15	Evidence of use: 0 Suitable hollows: 0 No Hollows: 19	Evidence of use: 0 Suitable hollows: 0 No Hollows: 34

- 1.57 ha of native plant community **Mp** is in a 'degraded' condition.
- 9.32 ha of native plant communities **CcMpis** is in 'degraded' condition.
- 4.66 ha of cleared land in 'completely degraded' condition.
- Of the 10.89 ha of native vegetation to be cleared, the following will be impacted:
    - 2.01 ha of moderate - high quality Carnaby's, Baudin's and Forest red-tailed black cockatoo foraging habitat.
    - 34 black cockatoo habitat trees. Of these trees, none were identified as having a potentially suitable hollow for breeding purposes. No signs of nesting were identified.
- 3.25 ha impact to two Resource Enhancement Wetlands (REW) UFI 8807, UFI 8814, and impact to 7.04 ha of the wetland buffers.

2 INTRODUCTION AND BACKGROUND

The applicant is seeking a clearing permit to implement sewer works, installation and associated clearing for a section of Lot 822 Youle Dean Road, Brabham. The works undertaken will ultimately support a broader development project, relating the LSP 3 Brabham structure plan area.

To support future residential development, the Department of Communities and Peet Limited (the proponent) are progressing structure planning over Lot; 822 Youle Dean Road. The DevelopmentWA and Peet Third Stage Structure Plan (LSP 3) is attached (**Attachment 1**) and consists of an area approximately 130.29 ha in size located within the City of Swan.

LSP 3 will support future residential development and the proposed clearing outlined in this clearing permit application will mark the first stages of the residential development process, with initial bulk earthworks and sewer service installation.

The broader LSP 3 site, and associated clearing area is situated adjacent to Bush forever site 200 to the immediate East, Youle Dean Road with existing rural-residential landholdings to the north, and a parks and recreation zone further to the west (Whiteman Park).

The area is currently zoned 'Urban' under the Metropolitan Region Scheme (MRS), and 'Special use' (SU10) zone under the City of Swan Local Planning Scheme (LPS) No. 17.

EPBC approval:

The LPS 3 area has an EPBC Act approval (EPBC 2015/7458), which was approved on the 28 May 2015, and has effect until 31 December 2026. The decision on the proposed action was determined to be a controlled action and as such is subject to conditions outlined in EPBC 2015/7458.

Condition 1 states:

'The approval holder must not clear more than 29.02 ha of black cockatoo habitat within the project area.'

This proposed footprint seeks earthworks approval prior to subdivision and given the previous EPBC act approval, therefore a bilateral assessment is not required.

3 SUMMARY OF ENVIRONMENTAL CONDITIONS

3.1 Clearing application area

The area is approximately 15.55 ha in size and includes an unsealed gravel road, scattered non-native vegetation and 10.89 ha of native vegetation. The location and extent of the sewer works area and associated clearing area is shown in **Figure 1** and **Figure 2**. The eastern portions of the native vegetation clearing area is bounded by Bush forever site (BF 200), whilst the northern portion is bounded by the Youle Dean Road.

Consideration of the clearing principles in the context of the above clearing is provided in **Section 7**.

3.2 Historical clearing

A review of available historical aerial images (from 1953 onwards) shows that the clearing area has remained largely unchanged in that time (WALIA 2023). Most of the native vegetation within the road area was removed prior to 1953 and has since regrown. The remaining vegetation particularly in the southern portion of the site has remained intact.

3.3 Flora and vegetation values

The native vegetation clearing area is based on the presence of native vegetation canopy cover and includes canopy cover that extends over the existing cleared bitumen and cleared gravel surfaces. The identified clearing area extent is a conservative approach as it assumes all vegetation that overhangs the road will be removed. Vegetation retention is discussed in **Section 4**.

A detailed flora and vegetation survey (see **Attachment 2**) was undertaken by Emerge Associates on 29 and 30 September, 27 October 2021 and 10 January and 24 March 2022 in accordance with the Environmental Protection Authority's (EPA's) Technical Guidance – Flora and Vegetation Surveys for Environmental Impact Assessment (EPA 2016).

The survey was undertaken to determine the presence or absence of threatened and priority flora and ecological communities, identify plant communities and vegetation condition.

Two plant communities were identified within the clearing application area. Each plant community is described below and shown in **Figure 3**. The data presented in **Table 2** below is specific to the native vegetation values that were identified.

Photographs of the associated plant communities are provided in **Plate 1** to **Plate 3** below.

Table 2: Vegetation values identified within the clearing permit application area.

Plant community and description	Vegetation condition (Keighery 1994)	Sewer works area (ha)	Stockpile area (ha)	Clearing area (ha)
CcMp – Open woodland of *Corymbia calophylla* and *Melaleuca preissiana* open forbland dominated by weeds and bare ground (**Plate 3**)	'Degraded'	2.46	6.86	9.32
Mp – Low closed forest of Melaleuca preissiana over sparse forbland dominated by weeds (**Plate 8**)	'Degraded'	1.05	0.52	1.57
Cleared – Heavily disturbed areas comprising bare ground and weeds with occasional native trees (Plate 13)	'Completely degraded'	2.46	2.2	4.66
Total		5.97	9.58	15.55

*Plate 1: Plant community **CcMp** in 'degraded' condition*

*Plate 2: Plant community **Mp** in 'degraded' condition*

*Plate 3: **Cleared** vegetation in 'completely degraded' condition*

No threatened, priority flora or conservation significant flora or ecological communities was identified within the application area during the surveys.

3.4 Fauna values

A basic fauna assessment and targeted black cockatoo assessment surveys were conducted by Emerge on 27 October 2021, 22 November 2021 and 10, 13 and 14 January 2022 to determine suitability of habitat for conservation significant fauna (see **Attachment 3**). The following provides a summary of the fauna values relating to application area.

The basic fauna survey assessed the various habitat types, overall site conditions and the likelihood of the area to provide suitable habitat for conservation significant fauna species. Based on the outcomes of the desktop assessment, eight conservation significant fauna species were considered possible or likely to occur and are summarised in **Table 3** below.

Two conservation significant fauna species were recorded within the survey area during the assessment, namely Carnaby's black cockatoo and Forest red-tailed black cockatoo and are discussed in further detail below.

Table 3: Conservation significant fauna species recorded within the local area or deemed possible to occur within the application area based on available databases and habitat values identified during site assessment (Emerge Associates 2023).

Scientific name	Common name	Conservation code (state and federal)	Habitat	Likelihood of occurrence within clearing area based on habitat values identified
Bird				
Apus pacificus	Pacific or Fork-tailed swift	Migratory (state and federal)	Aerial, migratory species that is most often seen over inland plains and sometimes above open areas, foothills or in coastal areas. Sometimes occurs over settled areas, including towns, urban areas and cities (Pizzey and Knight 2012).	**Possible:** May opportunistically occur in or fly over the clearing area on commute but only for short periods of time.
Zanda baudinii	Baudin's Cockatoo	Vulnerable (state and federal)	Mainly eucalypt forests. Attracted to seeding *Corymbia calophylla*, *Banksia* spp., *Hakea* spp., and to fruiting apples and pears (Johnstone and Storr 1998).	**Possible:** Suitable roosting and foraging habitat present. Site is located at the north-western limits of the species range.
Calyptorhynchus banksii naso	Forest red-tailed black cockatoo	Vulnerable (state and federal)	Eucalypt and Corymbia forests, often in hilly interior. More recently also observed in more open agricultural and suburban areas including Perth metropolitan area. Attracted to seeding *Corymbia calophylla*, *Eucalyptus marginata*, introduced *Melia azedarach* and other *Eucalyptus* spp. trees (Johnstone *et al.* 2017).	**Recorded:** Suitable roosting and foraging habitat present and potential breeding habitat.
Zanda latirostris	Carnaby's cockatoo	Endangered (state and federal)	Mainly proteaceous scrubs and heaths and adjacent eucalypt woodlands and forests; also plantations of *Pinus* spp. Attracted to seeding *Banksia* spp., *Dryandra* spp., *Hakea* spp., *Eucalyptus* spp., *Corymbia calophylla*, *Grevillea* spp., and C*asuarina* spp. (Johnstone and Storr 1998).	**Recorded:** Suitable roosting and foraging habitat present and potential breeding habitat.
Falco peregrinus	Peregrine falcon	Other specially protected (state)	Mainly found around cliffs along coasts, rivers, ranges and around wooded watercourses and lakes (Johnstone and Storr 1998).	**Possible:** May opportunistically occur in or fly over the clearing area on commute or while searching for prey but only for short periods of time.

Scientific Name	Common Name	Conservation Code (state and federal)	Habitat	Likelihood of occurrence within clearing area based on habitat values identified within the site
Mammal				
Isoodon fusciventer	Quenda	State- P4	Dense scrubby, often swampy, vegetation with dense cover up to one metre high (DEC 2012)	**Likely** Suitable habitat (scrubby vegetation) present within the site.
Invertebrate				
Hesperocolletes douglasi	Douglas's broad-headed bee	Critically endangered (state and federal)	Banksia woodland vegetation (Pille Arnold 2019).	**Possible** Suitable habitat (banksia woodland) present within the site.
Synemon gratiosa	Graceful sunmoth	State- P4	Coastal heathland on Quindalup dunes where it is restricted to secondary sand dunes due to the abundance of the preferred host plant *Lomandra maritima*. Banksia woodland on Spearwood and Bassendean dunes, where the second known host plant *L. hermaphrodita* is widespread (DEC 2011).	**Possible** *Lomandra hermaphrodita* historically recorded within the site.
Idiosoma sigillatum	Swan Coastal Plain shield-backed trapdoor spider	State- P3	Widely distributed in sandy areas on the Swan Coastal Plain and on Rottnest Island (Prince 2003).	**Possible**: Suitable habitat present (sandy soils) within the site.
Reptile				
Neelaps calonotos	Black-striped snake	State- P3	Coastal and near-coastal dunes, sandplains supporting heathlands and Banksia spp. woodlands (Bush et al. 2002).	**Possible**: Suitable habitat (banksia woodland) present within the site.

The targeted black cockatoo habitat assessment identified 34 habitat trees (trees with a diameter at breast height (DBH) 500 mm or greater) within the application area. A detailed hollow assessment was undertaken, which found that none of these trees contained potentially suitable hollows. The location of habitat trees are shown in **Figure 5.** No evidence of roosting activity such as droppings, feathers or branch clippings were observed during the black cockatoo habitat assessments.

The 10.89 ha of native vegetation to be cleared was assessed to also represent approximately 2.01ha of foraging habitat for the three black cockatoo species. The area of moderate to high quality foraging habitat (detailed in **Attachment 3**) varies based on species (and their individual habitat preferences), but includes approximately:

- 2.01 ha of moderate - high quality Carnaby's, Baudin's and FRTBC foraging habitat

The extent of potential foraging habitat for the black cockatoo species is shown in **Figure 6**. Based on the findings from the basic fauna assessment and targeted black cockatoo assessment, the fauna habitat values within the application area is generally poor. Whilst the area does contain habitat that could be utilised by the black cockatoo it is not considered significant, particularly in the context of the large proportion of the available habitat in nearby conservation areas.

3.5 Wetlands

A review of the *Geomorphic Wetlands on the Swan Coastal Plain* dataset, maintained by the Department of Biodiversity, Conservation and Attractions (DBCA) (DBCA 2020) indicates two resource enhancement wetlands, unique identifier codes (UFI) 8807, and UFI 8814 intersect the western section of the application area. These resource enhancement wetlands (REW) are shown in (**Figure 7**).

Surveys and investigations undertaken by Emerge determined that vegetation types and hydrological conditions do not reflect wetland habitat, due to the degraded-completely degraded conditions of these wetlands (**Figure 7**). This combined with the lack of wetland fauna species recorded, indicates that the wetland does not support an ecological wetland community.

The REW's would normally align with the objectives for restoring wetland through maintenance and enhancement (see Table 4), however, given the condition of these wetlands they are considered to be closer aligned to multiple use wetlands (MUW).

4 APPLICATION OF MITIGATION HIERARCHY

In accordance with *A guide to the assessment of applications to clear native vegetation* (DER 2014), the impact mitigation sequence has been considered as part of the proposed clearing, in order to ensure the environmental impact was kept to a minimum.

4.1 Avoidance

In the context of the broader Brabham LSP 3 area, measures were undertaken to avoid and reduce impacts during the EPBC referral. Such measures include:

Public open space

- The retention of approximately 4.35ha of TEC vegetation in 'very good' condition in the southwest portion of the site. The POS area also contains 39 potential breeding trees for Black Cockatoos.
- Retention of 4.35ha of Black cockatoos foraging habitat (TEC Vegetation).
- Opportunistic retention of trees and native vegetation in additional public open spaces areas, where possible.

Road reserves

- The road reserves in the development area will be designed to retain as many trees as possible and during construction the trees will be protected by clear demarcation on the site and on all plans.

4.2 Minimise

Seventy per cent of the application area contains native vegetation in a 'degraded' condition with the remaining 30% in a 'completely degraded' condition, minimising impacts on better quality vegetation.

Areas of POS and vegetation retention throughout the LSP 3 area has been chosen based on the quality of vegetation. The 4.35ha of POS retained was classified to be 'very good' condition, while remaining areas throughout the LSP 3 area, including the application area, were identified to be in degraded condition.

Additional Foraging Habitat Landscaping in the development area including median island locations and landscaped areas will be planted with Black Cockatoo foraging species. The species will be selected from Food Resources of Carnaby's Black Cockatoo (*Calyptorhynchus latirostris*) in the Gnangara Sustainability Strategy Study Area (Valentine and Stock, 2008) and Plants Used by Carnaby's Black Cockatoo (Groom, 2011).

4.3 Offset

An offset proposal for Brabham LSP3 aims to mitigate the impacts to associated clearing within the area, including the proposed sewer works outlined in this clearing permit.

An approved EPBC Act Offset package (PGV Environmental 2018) for the Brabham LSP 3 is summarised below:

- The purchase of 60.5ha of Lot 106 Mogumber Road, Gingin (already committed for purchase and part set aside for an offset for 2013/7050). The Mogumber Road site would offset impacts on Carnaby's Black Cockatoo only;
- The purchase of 145ha of Lot 2061 Keating Road, Avon Valley. The Keating Road site would offset both Forest red-tailed and Carnaby's Black Cockatoos; and
- Planting 1250 Marri seedlings, at a density of 250 plants/ha, in 5ha of degraded areas of the Bush Forever Site 200 which is adjacent to the application area. The Marri planting would offset the impact on both Forest red-tailed and Carnaby's Black Cockatoos. The ratio of trees planted to potential breeding trees being cleared is 10:1 (1250 planted/124 cleared).

As shown in Table 5 the proposed offset package would result in a 134.6% offset for Carnaby's Black Cockatoos and 108.1% offset for Forest red-tailed Black Cockatoos.

Table 4: Offset package

Offset	Carnaby's Black Cockatoo	Forest Red-tailed Black Cockatoo
Funding the purchase of the Lot 106 Mogumber Road, Gingin site (60.5ha)	38.4%	(outside range of FRBC)
Purchase of 145ha of land in Keating Road, Avon Valley	86.9%	97.3%
Planting 1250 Marri seedlings in 5ha of degraded parts of Bush Forever Site 200	9.3%	10.8%
Total Offset	**134.6%**	**108.1%**

5 PLANNING INSTRUMENTS AND OTHER ENVIRONMENTAL APPROVALS

Water Corporation has provided a Developer Construction Works Agreement (DCWA) to proceed for these works. The applicant is currently seeking a Development Approval from the City of Swan for bulk earthwork in this site.

6 RESPONSE TO EP ACT CLEARING PRINCIPLES

Under Section 51C of the EP Act, clearing of native vegetation is an offence unless a clearing permit has been obtained or an exemption applies. When assessing clearing permit applications, DWER has regard to the ten clearing principles contained in Schedule 5 of the EP Act so far as they are relevant to the matter under consideration.

In support of this area permit clearing application, we have considered and responded to the ten clearing principles in the following sections.

Principle (a) – Native vegetation should not be cleared if it comprises a high level of biological diversity.

The clearing area is in the Swan Coastal Plain region of Western Australia, which is an area recognised for its high biological diversity. Based on the results of the flora and vegetation assessment undertaken by Emerge in 2022, the application area has been significantly disturbed through historic activities. The application area contains two plant communities and cleared areas ranging from 'degraded' to 'completely degraded' condition as shown in **Figure 4.**

Approximately 30% of the application area comprises existing cleared gravel road or non-native vegetation (4.66 ha) and is generally void of native of vegetation, comprising predominantly of grassland and weeds and bitumen or gravel shoulders. The native vegetation proposed to be cleared, as per **Table 1**, comprises predominantly the native plant communities **Mp** and **CcMp** which were assessed to be in a 'degraded' condition (10.89 ha).

At a regional scale, vegetation complex mapping undertaken by Heddle *et al.* (1980) indicates the native vegetation proposed to be cleared is Southern River Complex "Open woodland of *Corymbia calophylla - Eucalyptus marginata - Banksia spp*. with fringing woodland of *Eucalyptus rudis - Melaleuca rhaphiophylla* along creek beds. It is estimated that 18.4% of the pre-European extent of the Southern River Complex is remaining on the Swan Coastal Plain (Government of Western Australia 2018). The plant communities within the application area do not represent an intact representative of this complex.

No threatened or priority flora species, nor threatened or priority ecological communities have been identified within the application area.

Due to the level of historical disturbance, the native vegetation is considered to be in a 'degraded' condition, and the limited fauna habitat present within the application area (particularly compared to the broader location), the clearing area does not support a high level of biological diversity.

The proposed clearing is therefore not likely to be at variance with Principle (a).

Principle (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 for fauna indigenous to Western Australia.

The fauna assessment (Emerge Associates 2022a) observed two species of conservation significance (Carnaby's cockatoo and Forest red-tail black cockatoo) occurring within the survey area, while a further eight conservation significant fauna species were deemed likely or possible to occur based on observed habitat (see **Attachment 3**). The fauna habitat identified within the site includes 59% Open woodland, 10% closed forest habitat and 30% cleared which provides limited value to fauna species. The application area is not likely to provide significant habitat for conservation significant fauna (nor more common and widespread fauna species) given the abundance of better-quality vegetation within the broader local area, much of which is within the nearby BF 200 and Whiteman Park.

Given degraded nature of the native vegetation within the application area, the vegetation is primarily used by widespread native and non-native fauna species with non-specific habitat requirements. The overstory native vegetation species provide suitable habitat for black cockatoos.

Potential impacts related to Baudin's, Carnaby's and the Forest red-tailed black cockatoos, is outlined below.

Black cockatoo foraging habitat

The 10.89 ha of native vegetation under application contains approximately 2.01ha of foraging habitat for the three black cockatoo species. The area of moderate to high quality foraging habitat (explained in further detail in **Attachment 3**) varies based on species (and their individual habitat preferences), but includes approximately:

- 2.01 ha of moderate - high quality Carnaby's, Baudin's and Forest red-tailed Black Cockatoos foraging habitat

The extent of potential foraging habitat for each black cockatoo species is shown in **Figure 6** respectively.

For the purposes of this application, 'high' foraging value is characterised as areas with 50% of known primary food sources and moderate between 10% and 50% as defined by Emerge Associates (Emerge Associates 2023), and is based on the assessment of the vegetation identified during the detailed surveys.

The foraging habitat within the native vegetation clearing area, does not represent a significant area of habitat for the three black cockatoo species. The foraging habitat within the clearing area extends over a narrow area and there are extensive areas of potential foraging habitat located immediately adjacent to the clearing area.

Potential black cockatoo breeding and roosting habitat

The application area contains 34 black cockatoo habitat trees (trees with diameter at breast height (DBH) ≥ 50 cm). A targeted black cockatoo hollow inspection determined that no trees contain hollows that were potentially suitable for use by breeding black cockatoos within the application area.

The location of the habitat trees is shown in **Figure 5.**

No evidence of roosting such as branch clippings, droppings or feathers were observed within the application area.

As none of the habitat trees contain hollows suitable for use by black cockatoos for breeding, the application area does not currently provide breeding habitat for any of the three species of black cockatoo. The habitat trees within the clearing area have the potential to form suitable hollows in the future. However, it is likely to take many decades for hollows to form that are large enough to be suitable for use by black cockatoos.

Consideration of habitat within the application area in the context of the location and surrounding habitat

Black cockatoos occur within the area under application and broader area, with 7 known roost sites and 1 confirmed breeding site within 12 km this area.

The removal of native vegetation as proposed in this application, is unlikely to result in a significant residual impact to the three black cockatoo species. Based on a review of publicly available native vegetation data there is significant areas of foraging, roosting and breeding habitat for the three black cockatoo species within 12 km of the application area.

It is unlikely that clearing associated with this application would result in significant impact to fauna habitat necessary for the maintenance of fauna indigenous to Western Australia. Therefore the proposed clearing is not likely to be at variance with Principle (b).

Principle (c) – Native vegetation should not be cleared if it includes, or is necessary for the continued existence of, rare flora.

There are no records of threatened or priority flora occurring within the application area. The flora and vegetation survey, including spring targeted survey update (Emerge Associates 2022b), did not identify any threatened or priority flora.

The native vegetation proposed to be cleared as part of this application is in a degraded condition (10.89 ha) and is unlikely to support threatened or priority flora species.

Therefore, proposed clearing is not at variance with Principle (c).

Principle (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.

As outlined in **Section 3.2**, the flora and vegetation assessment confirmed that the plant communities identified within the application area do not represent a threatened ecological community (TEC) or priority ecological community (PEC).

As no TECs or PECs have been identified the application area, the proposed clearing is not at variance with Principle (d).

Principle (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.

The native vegetation clearing area is located within the Swan Coastal Plain Biogeographic Regionalisation for Australia (IBRA) region. The Swan Coastal Plain IBRA region has approximately 39.84% of its pre-European (1750) vegetation extent remaining, of which 10.77% is protected. (Government of Western Australia 2019).

The native vegetation clearing area is mapped within the 'Southern River Complex', with an estimated 18.4% of the pre-European vegetation extent remaining on the Swan Coastal Plain (Government of Western Australia 2018). The application area comprises 0.09 % (10.89 ha) of the remaining 'Southern River complex'.

The vegetation proposed to be cleared is in a 'degraded' condition (see **Figure 4)** and is not considered a significant remnant of native vegetation. A review of aerial imagery indicates that the application area is connected to extensive areas of native vegetation within the local area and its removal would not change this connectivity.

The proposed clearing is not likely to be at variance with Principle (e) given the small area being cleared in the context of the remaining and protected vegetation.

Principle (f) – Native vegetation should not be cleared if it is growing in, or in association with, an environment associated with a watercourse or wetland.

No Ramsar wetlands or defined rivers were identified within or near the application area based.

A review of the Geomorphic Wetlands on the Swan Coastal Plain dataset (DBCA 2020) indicates that the western section of the clearing area intersects two classified resource enhancement wetlands (REW). These REWs are identified by UFI 8807 and 8814. The geomorphic wetlands are shown in (**Figure 7**).

Investigations by Emerge determined that vegetation types and hydrological conditions do not reflect wetland habitat, mainly due to the degraded-completely degraded conditions of the wetlands (**Figure 7**) and the lack of wetland fauna to support an ecological wetland community.

The REW's within the application area, would normally align with the objectives for restoring wetland through maintenance and enhancement as per the DBCA management objective for resource enhancement wetlands (See Table 4), however, given the condition of these wetlands, the wetlands are more aligned with the multiple use wetland (MUW) classification.

The proposed clearing is at variance with Principle (f).

Principle (g) – Native vegetation should not be cleared if the clearing of the vegetation is likely to cause appreciable land degradation.

A review of soil landscape mapping (DPIRD 2018) indicates that the majority of the native vegetation under application is within the 'Bassendean System', which contains 'sand dunes and sandplains with pale deep sand, semi-wet and wet soil' (DPIRD 2019). The soil group is identified as moderately permeable soil in

elevated landscape positions and are therefore not likely to cause appreciable land degradation in the form of water erosion or waterlogging.

Salinity mapping (DPIRD-09) indicates the application area and surrounding area is mapped as a moderate to high salinity risk or is presently saline, salinity hazard category with a groundwater salinity of 1000-3000mg/L (DWER 2018).

Any risk of land degradation will be mitigated through controls applied during clearing and construction processes (such as dust suppression, mulching, erosions control and silt traps as required).

The proposed clearing is therefore not likely to be at variance to Principle (g).

Principle (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.

BF 200 is located immediately adjacent to the application area. Based on the current footprint of native vegetation proposed to be cleared, no portion of BF 200 will be impacted, management and mitigation measures will be implemented to ensure there is no direct or indirect impacts on FB 200.

The proposed clearing is not at variance to Principle (h).

Principle (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.

The area under application is located within an area classified as having moderate- high risk of Acid Sulfate Soils occurring within 3m of the surface.

Issues that could cause a deterioration in water quality in relation to the clearing footprint have been considered as part of the design and can be managed, and therefore the proposed clearing is not likely at variance with Principle (i).

Principle (j) – Native vegetation should not be cleared if clearing the vegetation is likely to cause, or exacerbate, the incidence or intensity of flooding.

The clearing of 10.89 ha native vegetation in this location is not likely to cause or exacerbate the incidence or intensity of flooding.

The proposed clearing is not likely to be at variance with Principle (j).

7 SUMMARY

The sewer and stockpile works under application is approximately 15.55 ha in size and contains 10.89 ha of native vegetation.

The clearance area contains:

- 1.57 ha of the native plant community **Mp** in 'degraded' condition.
- 9.32 ha of native plant communities **CcMp** in 'degraded' condition.
- 4.66 ha of cleared land, with isolated trees found in the non-native plant community in 'completely degraded' condition.
- Fauna habitat, including:
    - 2.01 ha of moderate - high quality Carnaby's, Baudin's and Forest-red-tailed black cockatoo foraging habitat.
    - 34 black cockatoo habitat trees, of which 0 contain potentially suitable hollows for breeding.
- 3.25 ha of impact to existing REW UFI 8807, 8814 with 7.04 ha impact on the REW buffers.

A summary of the clearing principles has been provided in **Table 6.**

Principle (f) is at variance, given the application area contains two Resource Enhancement Wetlands (8814, 8807). Survey and investigations by Emerge determined that vegetation types and hydrological conditions do not reflect wetland habitat, due to the degraded condition of the native vegetation and does not support wetland habitat.

EPBC approval:

The area already has an EPBC Act approval (EPBC 2015/7458), which was approved on the 28 May 2015 , and has effect until 31 December 2026. The decision on the proposed action was determined to be a controlled action and as such is subject to conditions outlined in EPBC 2015/7458.

Among these conditions, condition 1 states:

'The approval holder must not clear more than 29.02 ha of black cockatoo habitat within the project area.'

Table 5: Summary of response to each clearing principle

Clearing principle	Levels of variance	Response to clearing permit principle
Principle (a)	Not likely at variance	The native vegetation within the clearing area has been assessed as being in a 'degraded' condition (10.89 ha). Due to the highly degraded nature of the vegetation, the small extent of the clearing, the presence of weeds, the lack of threatened or priority flora, and the lack of high-quality fauna habitat, the native vegetation clearing area is not considered to represent a high level of biological diversity.
Principle (b)	Not likely at variance	The native vegetation clearing area is not likely to provide significant habitat for conservation significant fauna (or more common and widespread fauna species) given the abundance of better-quality vegetation within the broader local area, particularly the nearby BF 200 and reserves. The three black cockatoo species were identified as key conservation significant species that could be impacted by the proposed clearing. The native vegetation to be cleared includes 2.01 ha of moderate - high quality Carnaby's, Baudin's and Forest Red-tail foraging habitat, and 34 potential future habitat trees for the three black cockatoo species. It is unlikely the three black cockatoo species are reliant on native vegetation within the clearing area as significant habitat.
Principle (c)	Not at variance	No state or commonwealth listed threatened or priority flora species have been recorded within the application area or are considered likely to occur given the highly degraded nature of the vegetation.
Principle (d)	Not at variance	No state or commonwealth listed threatened or priority ecological communities have been identified within the clearing area or are considered likely to occur.
Principle (e)	Not likely at variance	The proposed clearing of native vegetation is in degraded condition. The native vegetation clearing area comprises 0.09 % (10.89 ha) of the remaining local extent (11,704 ha) of the Southern River vegetation complex and therefore would not significantly change the remaining extent. The vegetation in the application area is not considered to be significant as a remnant.
Principle (f)	Is at variance	The flora and vegetation assessment identified two REW wetlands within the site. The proposed clearing is considered to be at variance with Principle (f) given the impact to the two wetlands. However, investigations have identified the wetlands do not accurately represent a REW category of wetlands.
Principle (g)	Not likely at variance	The proposed clearing will not cause appreciable land degradation.
Principle (h)	Not at variance	While the native vegetation clearing area is located adjacent to BF 200, management and mitigation measures as part of the construction the BF will not be directly or indirectly impacted by the proposed clearing.
Principle (i)	Not likely at variance	The proposed clearing is not considered to pose a risk in terms of the deterioration of surface or groundwater given the drainage and erosion design included as part of the proposed works
Principle (j)	Not at variance	The proposed clearing is not likely to cause or exacerbate a risk of flooding given the extent of works and design measures to be implemented to manage surface water.

Should you have any questions regarding the content of this letter, please do not hesitate to contact the me on 6151 5526 or 0409 101 647.

Yours sincerely
Emerge Associates

Toni Burbidge
SENIOR ENVIRONMENTAL CONSULTANT

Encl: Clearing Permit Application
Developer Constructed Works Agreement with Water Corporation
EPBC Act Approval Conditions
Figure 1: Site Boundary
Figure 2: Native Vegetation
Figure 3: Plant Communities
Figure 4: Vegetation Condition
Figure 5: Black Cockatoo Habitat Trees
Figure 6: Black Cockatoo Foraging Habitat
Figure 7: Wetlands

General References

Department of Biodiversity, Conservation and Attractions (DBCA) 2020, *Geomorphic Wetlands, Swan Coastal Plain (DBCA-019)*.

Department of Environment Regulation (DER) 2014, *A guide to the assessment of applications to clear native vegetation under Part V Division 2 of the Environmental Protection Act 1986*, Perth.

Department of Primary Industries and Regional Development (DPIRD) 2018, *Soil Landscape Mapping - Systems (DPIRD-027)*.

Department of Primary Industries and Regional Development (DPIRD) 2019, *Soil Landscape Mapping - Best Available (DPIRD-027)*, Perth, WA.

Department of Water and Environmental Regulation (DWER) 2018, *Groundwater Salinity Satewide (DWER-026)*, Perth, Western Australia <https://catalogue.data.wa.gov.au/dataset/groundwater-salinity-statewide>.

Emerge Associates 2022a, *Basic Fauna and Taregted Black Cockatoo Assessment - Lot 822 Youle-Dean Road, Brabham*, EP21-131(28)--078 NAW, Version 1.

Emerge Associates 2022b, *Detailed Flora and Vegetation Assessment - Lot 822 Youle-Dean Road, Brabham*, Ep17-131(27)--080 SKP.

Emerge Associates 2023, *Basic Fauna and Targeted Black Cockatoo Assessment - Part Ferguson Road, Ferguson*, EP22-044(02)--002A NAW, A.

Government of Western Australia 2018, *Statewide Vegetation Statistics incorporating the CAR Reserve Analysis (Full Report). Current as of December 2017*, WA Department of Biodiversity, Conservation and Attractions, Perth.

Government of Western Australia 2019, *2018 South West Vegetation Complex Statistics. Current as of March 2019*, WA Department of Biodiversity, Conservation and Attractions, Perth.

Heddle, E. M., Loneragan, O. W. and Havel, J. J. 1980, *'Vegetation Complexes of the Darling System Western Australia'*, in Department of Conservation and Environment (ed.), *Atlas of Natural Resources Darling System Western Australia*, Perth.

Keighery, B. 1994, *Bushland Plant Survey: A guide to plant community survey for the community*, Wildflower Society of WA (Inc), Nedlands.

PGV Environmental (PGV Environmental) 2018, *Lot 800 Youle-Dean Road, Brabham (EPBC 2015/7458) – Revised Offset Package*. 1.

Western Australian Land Information Authority (WALIA) 2023, *Landgate Map Viewer Plus*.

Online References

Department of Water and Environmental Regulation (DWER) 2020c, Perth Groundwater Map, viewed July 2020, https://maps.water.wa.gov.au/#/webmap/gwm

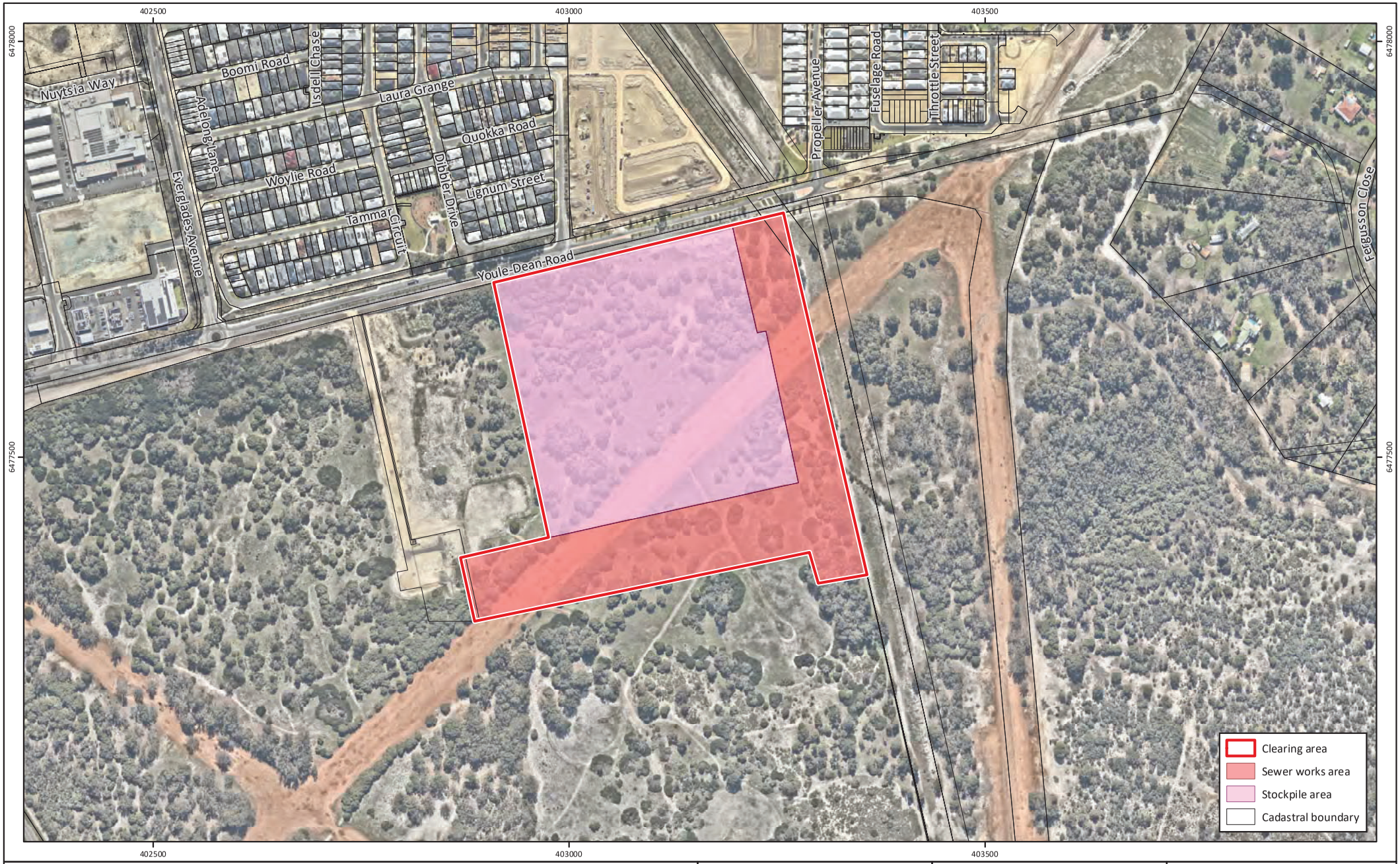

Figure 1: Site Boundary

Project: Clearing Permit Support Letter
Sewer Installation – LSP 3, Part Lot 822 Youle Dean Road, Brabham
Client: DevelopmentWA / Peet Limited

Plan Number:
EP19-073(40)--F110
Drawn: WJC
Date: 27/09/2023
Checked: SPL
Approved: TB
Date: 02/11/2023

N

0 100 200
Metres
Scale: 1:6,000@A4
GDA 1994 MGA Zone 50

emerge ASSOCIATES

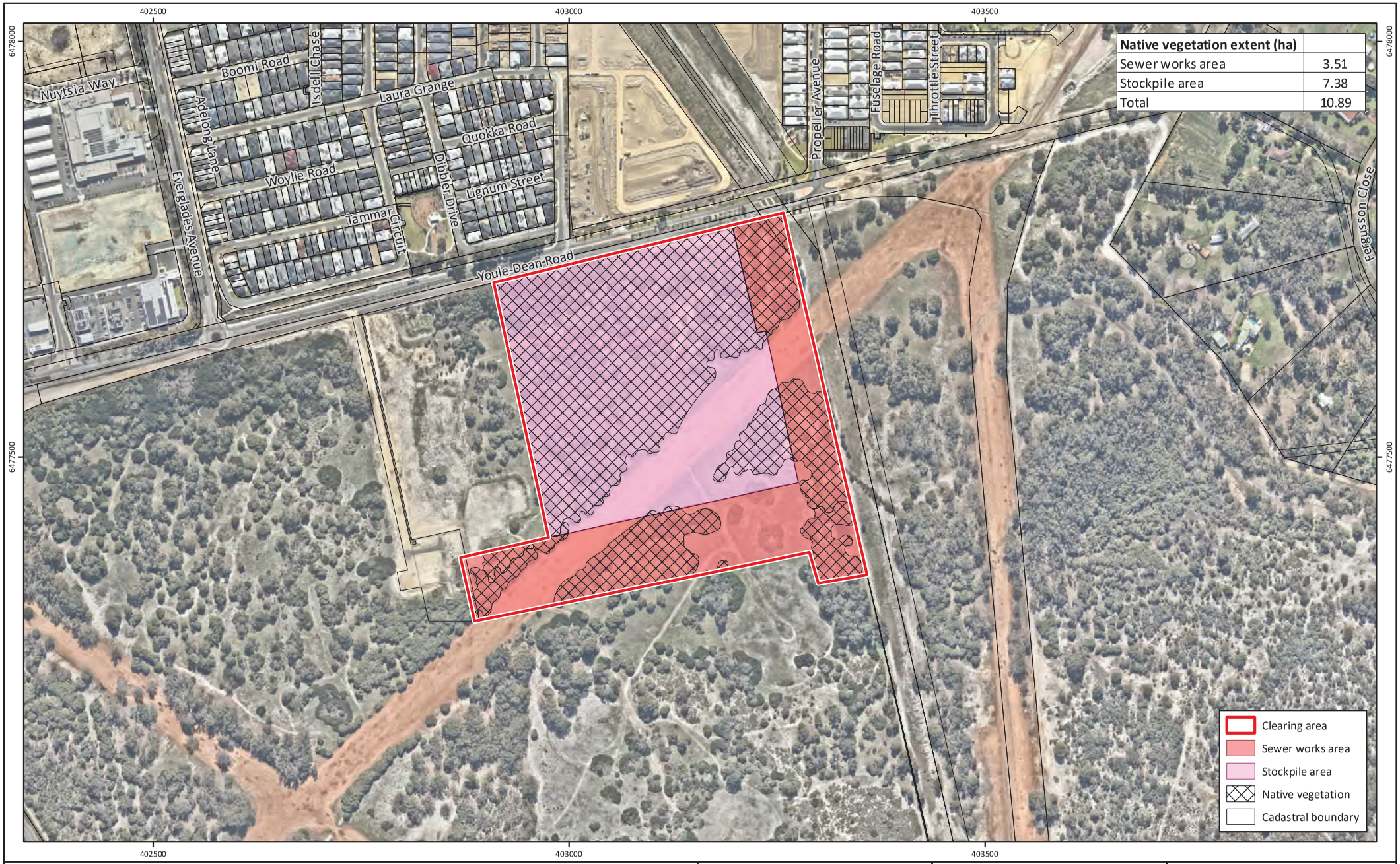

Figure 2: Native Vegetation

Project: Clearing Permit Support Letter
Sewer Installation – LSP 3, Part Lot 822 Youle Dean Road, Brabham
Client: DevelopmentWA / Peet Limited

Plan Number:
EP19-073(40)--F111
Drawn: WJC
Date: 27/09/2023
Checked: SPL
Approved: TB
Date: 02/11/2023

N

0 100 200
Metres
Scale: 1:6,000@A4
GDA 1994 MGA Zone 50

emerge ASSOCIATES

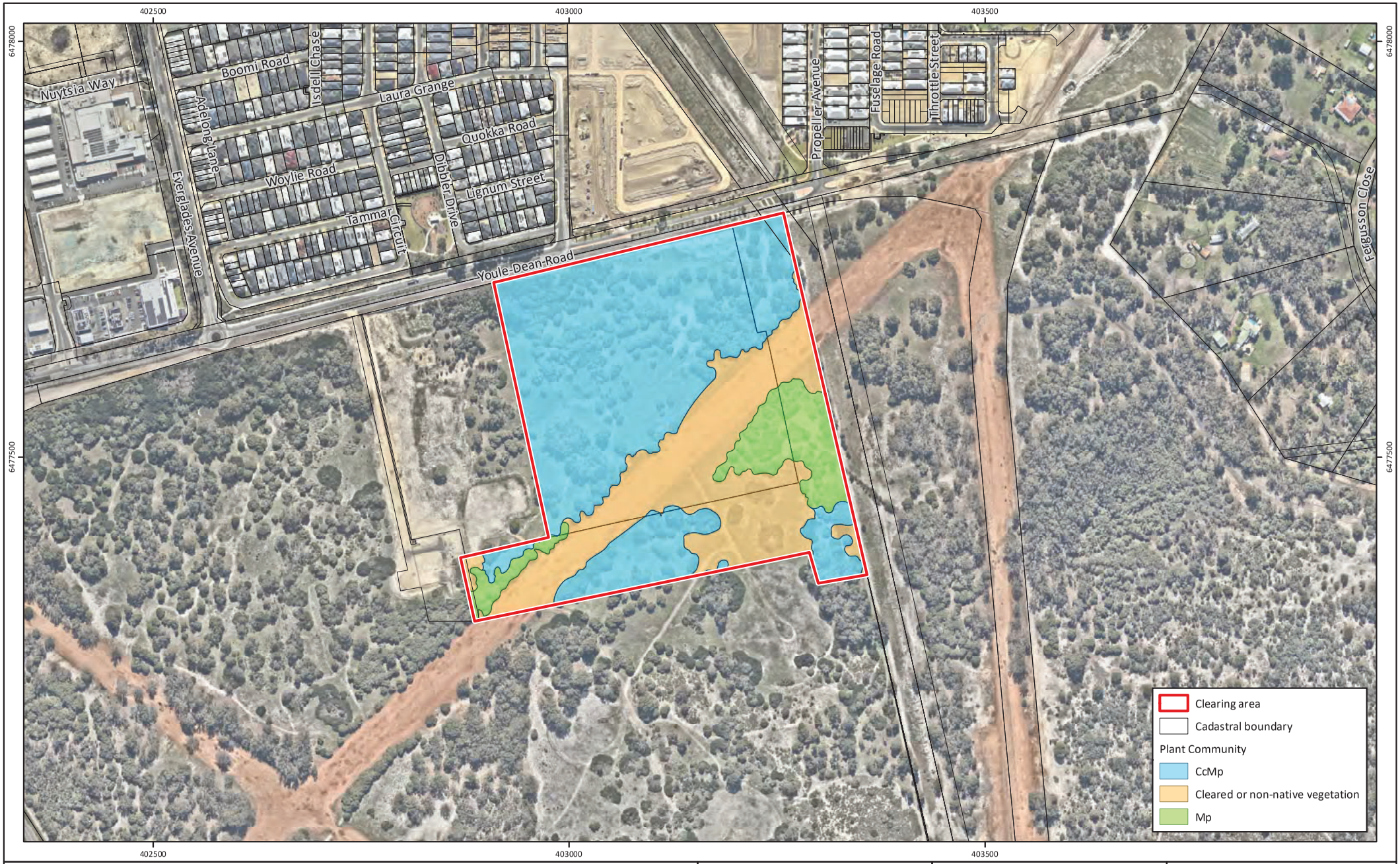

Figure 3: Plant Communities

Project: Clearing Permit Support Letter
Sewer Installation – LSP 3, Part Lot 822 Youle Dean Road, Brabham
Client: DevelopmentWA / Peet Limited

Plan Number:
EP19-073(40)--F112

Drawn:	WJC
Date:	27/09/2023
Checked:	SPL
Approved:	TB
Date:	02/11/2023

N

0 100 200
Metres

Scale: 1:6,000@A4

GDA 1994 MGA Zone 50

emerge ASSOCIATES

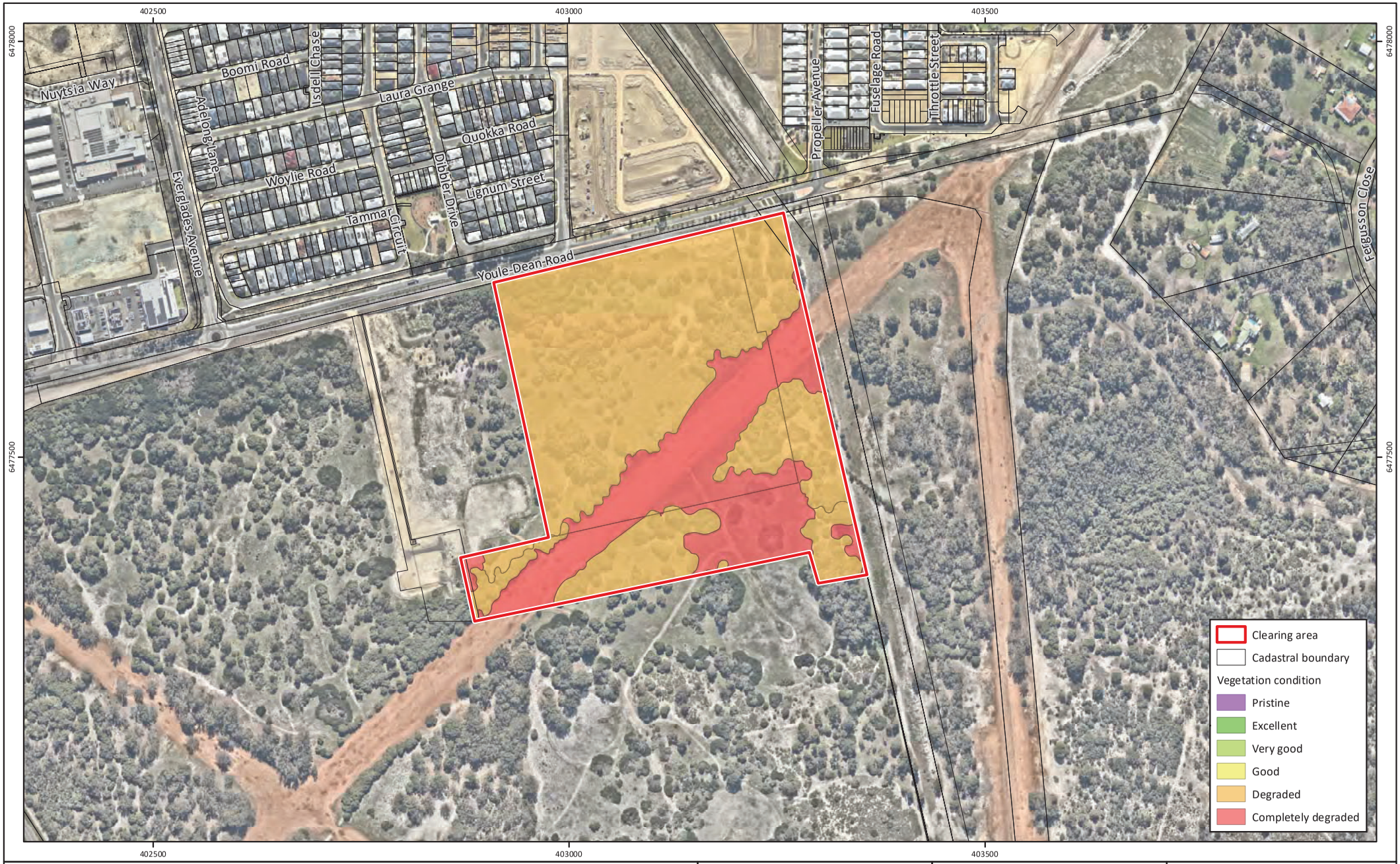

Figure 4: Vegetation Condition

Project: Clearing Permit Support Letter
Sewer Installation – LSP 3, Part Lot 822 Youle Dean Road, Brabham
Client: DevelopmentWA / Peet Limited

Plan Number:
EP19-073(40)--F113
Drawn: WJC
Date: 27/09/2023
Checked: SPL
Approved: TB
Date: 02/11/2023

N

0 100 200
Metres
Scale: 1:6,000@A4
GDA 1994 MGA Zone 50

emerge ASSOCIATES

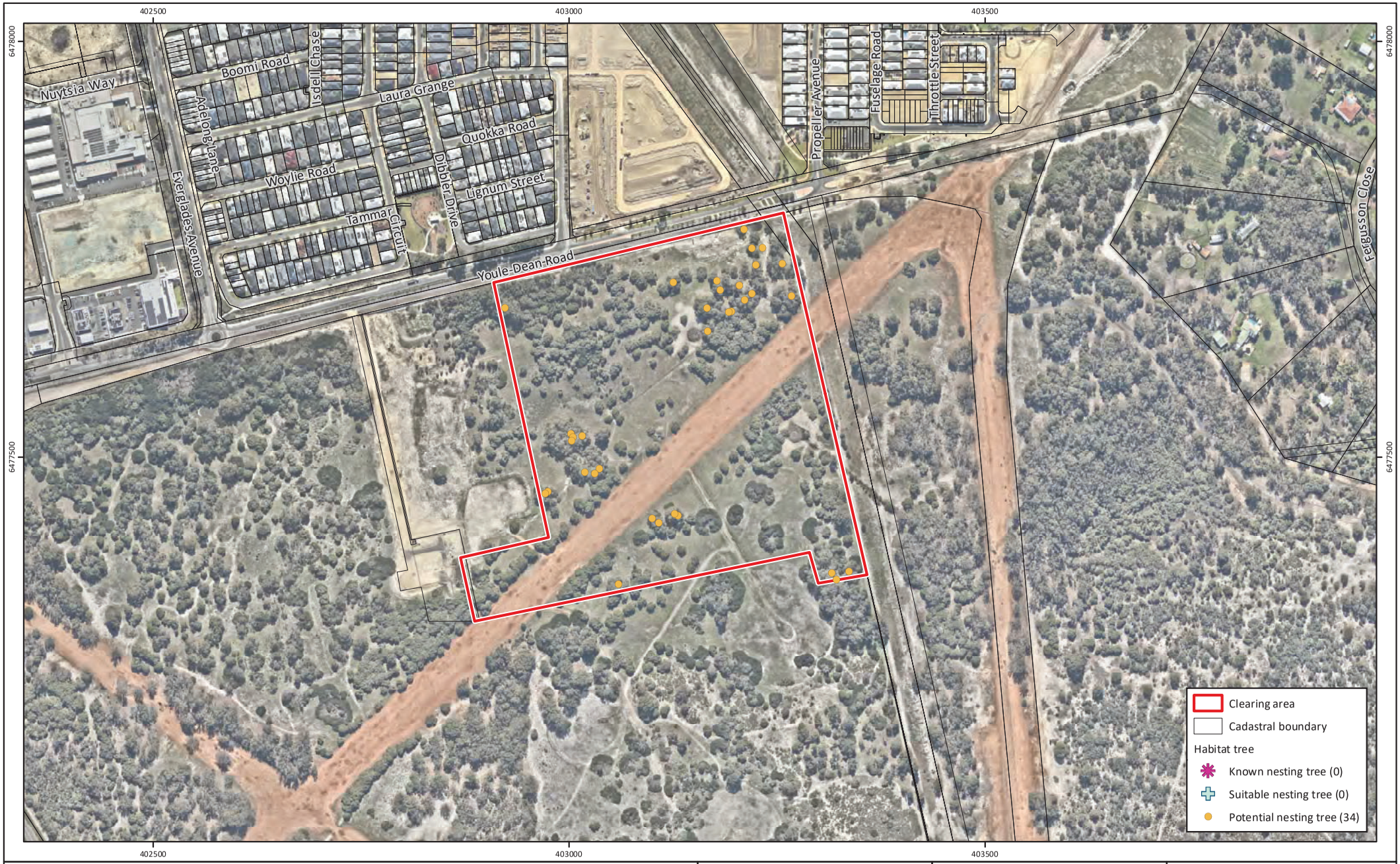

Figure 5: Black Cockatoo Habitat Trees

Project: Clearing Permit Support Letter
Sewer Installation – LSP 3, Part Lot 822 Youle Dean Road, Brabham
Client: DevelopmentWA / Peet Limited

Plan Number:
EP19-073(40)--F114
Drawn: WJC
Date: 27/09/2023
Checked: SPL
Approved: TB
Date: 02/11/2023

N

0 100 200
Metres
Scale: 1:6,000@A4
GDA 1994 MGA Zone 50

emerge ASSOCIATES

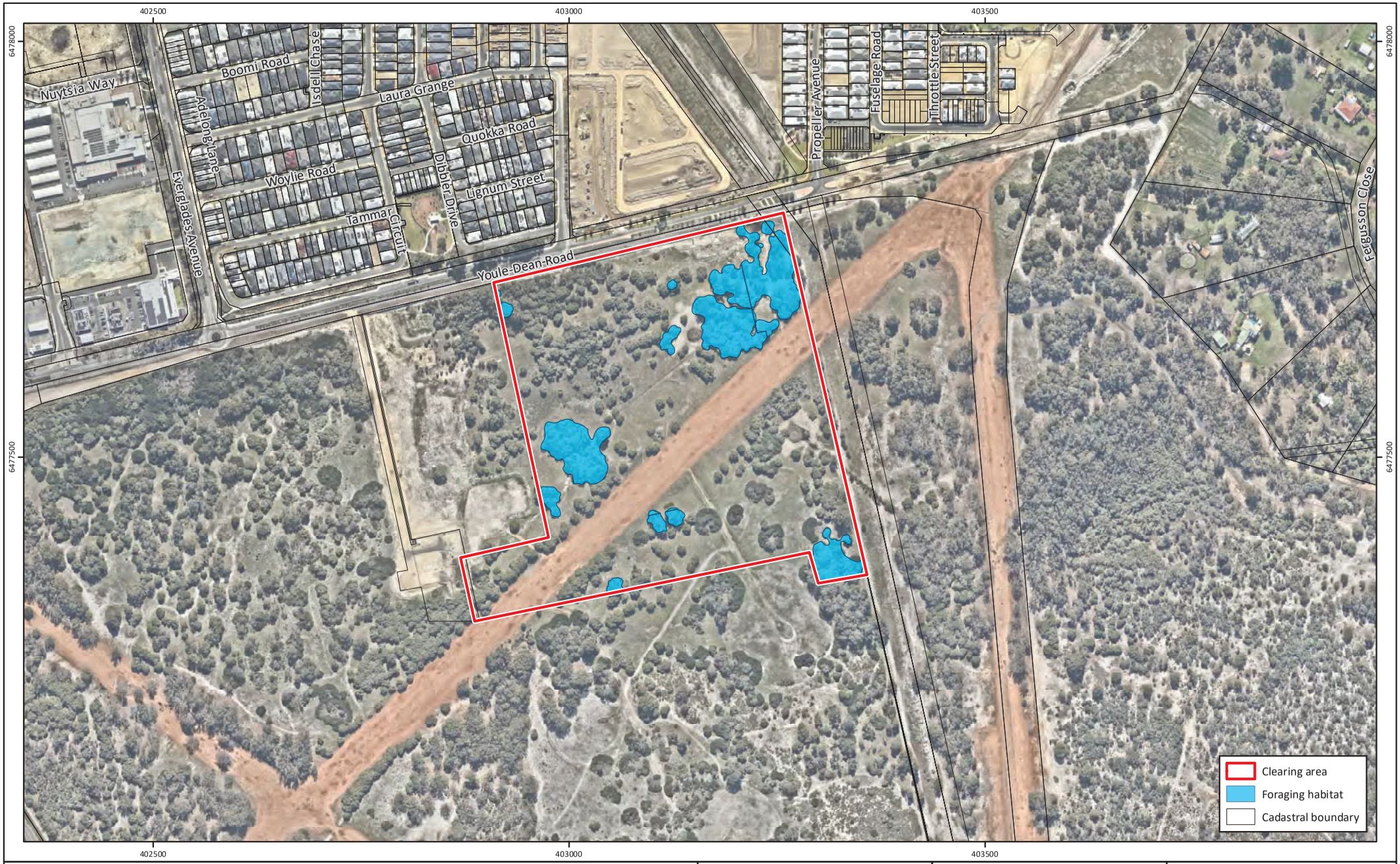

Figure 6: **Black Cockatoo Foraging Habitat**

Project: Clearing Permit Support Letter
Sewer Installation – LSP 3, Part Lot 822 Youle Dean Road, Brabham
Client: DevelopmentWA / Peet Limited

Plan Number:
EP19-073(40)--F115
Drawn: WJC
Date: 27/09/2023
Checked: SPL
Approved: TB
Date: 02/11/2023

N

0 100 200
Metres
Scale: 1:6,000@A4
GDA 1994 MGA Zone 50

emerge ASSOCIATES

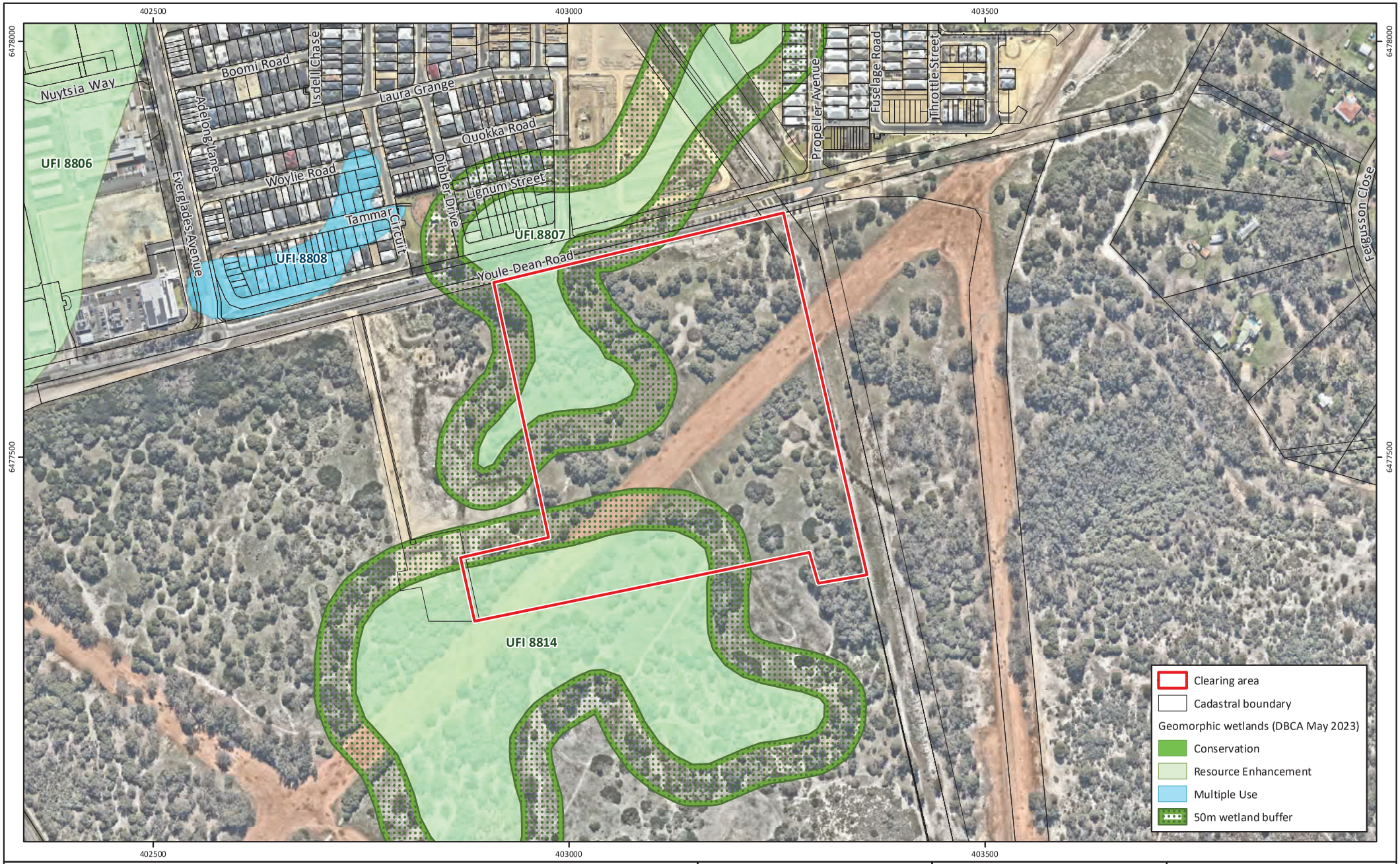

Figure 7: Wetlands

Project:	Clearing Permit Support Letter Sewer Installation – LSP 3, Part Lot 822 Youle Dean Road, Brabham
Client:	DevelopmentWA / Peet Limited

Plan Number:
EP19-073(40)--F116

Drawn:	WJC
Date:	27/09/2023
Checked:	SPL
Approved:	TB
Date:	02/11/2023

N

0 100 200
Metres

Scale: 1:6,000@A4

GDA 1994 MGA Zone 50

emerge ASSOCIATES