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: EP17-131(15)—082

Emerge contact: Jason Hick

28 April 2022

Attention: Native Vegetation Clearing Referral
Department of Water and Environmental Regulation
8 Davidson Terrace, Joondalup WA 6027

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

Dear Sir/Madam

NATIVE VEGETATION CLEARING REFERRAL FOR WHITEMAN PARK LIVING STREAM, BRABHAM.

Peet Brabham Pty Ltd (the proponent) has engaged Emerge Associates (Emerge) to provide environmental consultancy services to support the proposed residential development across several Department of Communities landholdings within the suburb of Brabham. As part of this development, a portion of the existing drain that flows from the Brabham development landholdings into Whitman Park, which extends across a portion of Lot 811 (233) Drumpellier Drive, Whiteman (herein referred to as 'the site'), is intended to be regraded and converted from a trapezoidal drain into a 'living stream' feature. This development will ultimately enable the removal of re-established native vegetation and a maximum of five native trees (0.093 ha) (herein referred to as the 'application area').

On this basis, the proponent refers the proposed native vegetation clearing to the Department of Water and Environmental Regulation (DWER) under Section 51DA of the amended *Environmental Protection Act 1986* (EP Act) to determine whether a clearing permit is required. This letter provides information on existing environmental conditions and relevant environmental considerations within the site and provides an assessment of the proposed clearing against all criteria listed in Section 51DA(4) of the EP Act. Based on a preliminary assessment against these criteria undertaken by Emerge, it would appear that there are reasonable grounds to suggest that the clearing within the clearing area would result in very low environmental impacts.

1 INTRODUCTION AND BACKGROUND

The site encompassing the application area is located approximately 16 km north-east of the Perth Central Business District within the City of Swan, as shown in **Figure 1**. The immediate surrounding area is predominantly comprised of cleared parkland and scatted native vegetation, with Drumpellier Drive situated to the north-east and the drain situated to the north-west of the site.

A review of publicly available historical aerial imagery from 1953 onwards indicates that the site had undergone significant clearing prior to 1965. The dam located to the south was established by 2000, which was positioned amongst scattered trees and shrubs. Overall, the site has remained vacant to the present time (Landgate 2022) and currently comprises scattered vegetation within the northern end of the proposed alignment and cleared land within the southern end of the proposed alignment.

The existing trapezoidal drain will be re-aligned and regraded to achieve a 'living stream', which will involve the rehabilitation and revegetation of the wetland within the site. To improve the quality of water discharging into Horse Swamp, native riparian vegetation species will be planted along the edge of the drainage line to assist with nutrient stripping. The rehabilitation of the wetland and drainage lines within the site requires some minor earthworks, which will allow for the removal of accumulated silt and invasive weed species that are currently within the drainage lines. This process requires some native vegetation clearing, anticipated to result in a very low environmental impact.

2 ENVIRONMENTAL CONTEXT

Botanists from RPS Australia West (RPS) conducted four separate site surveys between spring 2017 and spring 2019, in accordance with *Technical Guidance – Flora and Vegetation Surveys for Environmental Impact Assessment* (EPA 2016c).

A team of ecologists and scientists from Eco Logical Australia attended the site on 12-15 November 2019, 18-21 February 2020 and 5 May 2020, to undertake a Level 1 terrestrial fauna and black cockatoo habitat assessment in accordance with the *Technical Guidance – Terrestrial Fauna Surveys* (EPA 2016b) and the *Technical Guidance – Sampling Methods for Terrestrial Vertebrate Fauna* (EPA 2016a). This investigation was in addition to numerous historical Level 1 and Level 2 fauna surveys over the broader area.

In addition to these historical assessments, and as part of preparing this clearing referral, Emerge Associates individually assessed the vegetation proposed to be removed as part of the development. The site inspection was undertaken on 18 March 2022 and identified the species, overall condition and the potential value of vegetation to black cockatoos.

The site has historically largely been cleared of native vegetation prior to 1965 and currently primarily supports parkland cleared areas. Native vegetation values within the site are highly restricted to individual scattered trees and limited and degraded patches of native vegetation. The key environmental features within the site include the following:

- Based on the results of the flora and vegetation assessment, there are no records of conservation significant flora species, significant ecological communities or ecological linkages within or in close proximity to the application area.
- Based on the result of the fauna assessment, the cleared paddock areas were not identified as having any black cockatoo foraging quality and no evidence of foraging activity was recorded within the application area.
- A number of potential breeding trees without hollows were identified in proximity to the site but would not be directly impacted by the proposed living stream alignment within the site.
- A review of the Geomorphic Wetlands of the Swan Coastal Plan dataset confirms that a multiple use wetland is present within the application area. A conservation category wetland is present to the southwest of the site, and is known as Horse Swamp, however this is situated approximately 400m southwest of the southernmost extent of the site. A review of the state Hydrography dataset (maintained by the Department of Water and Environmental Regulation) identifies a minor drain within the application area and based on a site inspection it has been confirmed that a trapezoidal drain extends from Drumpellier Drive in a south westerly alignment.

3 APPROVALS CONTEXT

In accordance with the provisions of the City of Swan's *Local Planning Scheme No 17* and the *Planning and Development (Local Planning Schemes) Regulations 2015,* a development application to regrade and revegetate the drain within the site and the application area has been submitted on 8 November 2021 for approval.

The development application was developed in consultation with Whiteman Park and has been signed/authorised by the Western Australian Planning Commission (WAPC). Similarly, the attached documentation to support this application has also been signed/authorised by the WAPC. The development application has been attached as **Attachment 3**. Approval to commence development has been issued by the Department of Planning, Lands and Heritage (DPLH) and has been attached as **Attachment 5**.

4 CLEARING REFERRAL

Attachment 1 contains the signed application for 'New Permit or Referral to Clear Native Vegetation Form' for processing by DWER.

Attachment 2 contains the Certificate of Title for the site.

Attachment 3 contains the lodged Development Application for Whiteman Park Living Stream.

Attachment 4 contains the landscape plans.

Attachment 5 contains the DPLH approval letter.

5 CLEARING REFERAL AREA

The site sits in the southern portion of the broader Lot 811 and runs parallel to the drain, as shown in the attached **Figure 1**. The clearing referral applies to single trees and scattered plants that are required to be removed due to earthworks for the development of the living stream and the ultimate rehabilitation of the trapezoidal drain. It is anticipated that that the clearing would include an area of 0.093 ha comprising re-established vegetation within the drain and five single trees, within the application area. It is important to note that this is the maximum clearing requirement, and it is likely that some of the single trees will be retained through the implementation of the earthworks, but for the purposes of this referral, the worst-case scenario in terms of the extent of clearing has been presented.

5.1 Flora and vegetation values

RPS undertook a Detailed Flora and Vegetation Assessment between spring 2017 and spring 2019, which covered the application area and the broader site (RPS 2020).

From the RPS investigation, two vegetation units are present within the application area and are illustrated within **Figure 2**:

- **Cc./Mp./Xp./Cleared** which was described as being isolated remnant *Corymbia calophylla, Melaleuca preissiana* and/or *Eucalyptus rudis* over pasture/weeds - previously cleared (0.016 ha) (**Plate 1**).
- **C/M** which was described as land being Completely cleared or modified. Includes private lots and infrastructure (roads, carparks, buildings, quarries) - some remnant trees but no intact native vegetation (0.077 ha) (**Plate 2**).

Similarly, Emerge Associates undertook a site-specific investigation on 18 March 2022 which identified native flora within the site. A small area of re-established native vegetation currently occurs along the drain in the northern portion of the site, comprising *Typha* species, *Ottelia ovalifolia* and *Juncus holoschoenus*. Five trees are additionally present, two of which are *Melaleuca rhaphiophylla*, two are *Melaleuca preissiana*, and one is a stag believed to have once been a *Melaleuca* species.

The vegetation condition within the application area has been determined as 'completely degraded' and 'degraded', using methods from (Keighery 1994), as shown on **Figure 3**. The 'completely degraded' vegetation is characterised by a vegetation structure that is 'no longer intact, and the area is completely or almost completely without native species. These areas are often described as 'parkland cleared' with the flora comprising weed or crop species with isolated native trees or shrubs.' The 'degraded' vegetation is characterised by a 'basic vegetation structure severely

impacted by disturbance. Scope for regeneration but not to a state approaching good condition without intensive management. For example, disturbance to vegetation structure caused by very frequent fires, the presence of very aggressive weeds, partial clearing, dieback and grazing.'

*Plate 1: Plant community **Cc./Mp./Er.Cleared** in a 'completely degraded' condition within the site.*

*Plate 2: Plant community **C/M** in a 'degraded' condition within the site.*

Due to the vegetation condition within the site, the vegetation was unable to be assigned a floristic community type (FCT) and was not identified as being representative of a threatened ecological community (TEC) or priority ecological community (PEC). In addition, no threatened or priority flora species were identified within the site including the application area.

Vegetation complex mapping for the Swan Coastal Plain undertaken by Heddle et al. (1980) indicates that the site occurs within an area mapped as the 'Southern River' complex, which is described as 'open woodland of *Corymbia calophylla – Eucalyptus marginata – Banksia spp.* with fringing woodland of *Eucalyptus rudis – Melaleuca rhaphiophylla* along creek beds', which shares some characteristics identified within the site. Notwithstanding this, it is important to note that the vegetation within the application area was primarily identified to be in a 'completely degraded'

condition, hence the native vegetation within the application area is not representative of the Southern River complex in 'Good' or better condition, which should be protected from vegetation clearing.

Given the existing site conditions and the proposed alignment, the likely impacts on flora and vegetation are expected to be minimal. Conversely the proposed living stream proposal has the potential to improve the flora and vegetation values within the site through the proposed landscape treatments.

5.2 Fauna values

Eco Logical Australia undertook a Level 1 Terrestrial Fauna and Black Cockatoo Survey for the Morley to Ellenbrook line (MEL) in 2020 (Eco Logical Australia 2020). This survey covered the broader area of the MEL and encompassed the northern portion of the site, which provides an indication of the fauna habitat values.

The site is associated with four fauna habitats, three of which are within the application area. The north-eastern portion is identified as being Paddock with *Eucalyptus/Corymbia*, with an area of *Flooded Gum Woodland* situated along the central portion. The remainder of the site (along the north-western portion) has been identified as *Infrastructure/Cleared*. Situated within close proximity is an area of *Wetland/Drainage* habitat, which encompasses the existing dam.

Due to historical clearing and disturbance of vegetation within the site, the fauna habitat values are significantly reduced and are likely to only provide habitat for common and widespread species. Four conservation significant species are recorded within the broader area and an additional six conservation significant species are considered to potentially occur, as listed within **Table 1**.

Table 1: Conservation significant fauna species

Species	Common name	Level of Significance		Likelihood
		State	EPBC Act	
Calyptorhynchus latirostris	Carnaby's Cockatoo	Endangered	Endangered	Recorded
Calyptorhynchus banksii naso	Forest Red-tailed Black Cockatoo	Vulnerable	Vulnerable	Recorded
Merops ornatus	Rainbow Bee-eater	Marine	-	Recorded
Isoodon fusciventer	Quenda	-	Priority 4	Recorded
Calyptorhynchus baudinii	Baudin's Cockatoo	Endangered	Vulnerable	Likely
Notamacropus irma	Western Brush Wallaby	-	Priority 4	Potential
Hydromys chrysogaster	Water Rat, Rakali	-	Priority 4	Potential
Neelaps calonotos	Black-striped Snake	-	Priority 3	Potential
Ctenotus gemmula	Jewelled Sandplain Ctenotus	-	Priority 3	Potential
Falco peregrinus	*Peregrine Falcon*	-	Other Specially Protected Species	Potential

Whilst the Carnaby's black cockatoo, the Forest red-tailed black cockatoo, the Rainbow bee-eater and the Quenda were directly sighted within the study area during the survey, none were identified utilising or foraging within the application area. For the species that have potential to occur within the study area, none are restricted to the fauna habitats within the study area and, if present, would likely only utilise the habitats on an occasional basis. Since the application area provides low habitat values, owing to the presence of cleared land and completely degraded vegetation, it is unlikely that the application area is relied upon by fauna species.

The recent inspection by Emerge Associates identified re-established native vegetation and five *Melaleuca* species. These species do not provide suitable habitat for black cockatoos, nor does it provide suitable roosting or foraging habitat. Given the extent of the proposed clearing, the overall impact on black cockatoo species is negligible.

Given the existing site conditions and the proposed alignment, the likely impacts on fauna and fauna habitat are expected to be minimal. Conversely the proposed living stream proposal has the

potential to improve the fauna habitat values within the site through the proposed landscape treatments.

5.3 Proposed clearing of native vegetation

The living stream proposal intends to regrade the drain within Whiteman Park, by deviating from the straight alignment of the existing drain and stretching through to the dam located to the south. Whilst the proposed alignment of the living stream has been chosen to minimise the impact on native vegetation, the development will involve the removal of some native vegetation. Overall, re-established vegetation within the drain and a maximum of five native trees (0.093 ha) are proposed to be removed as part of the development. It is also important to note, as highlighted above, that some of the five identified trees may be retained during the works, though the worst-case clearing scenario has been presented in this referral.

5.4 Proposed revegetation

The proposed rehabilitation of the living stream within the site will include recontouring of the landscape to ensure that the living stream will flow, to prevent water pooling and becoming stagnant. The living stream will undergo minor regrading.

The living stream proposal also includes revegetation with appropriate riparian species, including *Juncus kraussii* and *Carex fascicularis*, to ensure that nutrient stripping occurs, and the quality of water is improved prior to discharge into the existing drain and the geomorphic wetland, Horse Swamp. Any works associated with the living stream will be situated approximately 400 m north of the currently mapped boundary of the Horse Swamp conservation category wetland, so direct impacts to this wetland would not occur. The landscape plans for the living stream have been provided as **Attachment 4**.

6 RESPONSE TO THE CLEARING REFERRAL CRITIERIA

Under Section 51C of the EP Act, clearing of native vegetation is an offence unless a clearing permit has been obtained, or unless:

- An exemption applies
- The proposed clearing was referred to DWER who determined that a permit is not required because the clearing is exempt, or the clearing satisfies all the referral criteria.

DWER's referrals process supports a risk-based approach to assessing native vegetation clearing proposals by establishing a pathway to assess very low impact clearing activities that are deemed not to require a permit. When assessing the clearing referral, DWER have regard to the referral criteria listed in Section 51DA(4) of the EP Act. A clearing permit is required if the referral does not meet all of the criteria.

In support of this clearing referral, the four referral criteria highlighted in the EP Act have been considered and responded to, which are detailed further in **Table 2** below.

Table 2: EP Act clearing referral criteria

EP Act Section 51DA(4) Criteria	Response to the EP Act Clearing Referral Criteria
Criterion 1: The area proposed to be cleared is small relative to the total remaining vegetation • Relative to the total remaining vegetation in the region where the proposed clearing is located, and • Relative to the total remaining vegetation of the ecological community that the vegetation proposed to be cleared forms a part of	The site is located within the Metropolitan Perth Region Scheme constrained area. The 'constrained area' of Metropolitan Perth is the Swan Coastal Plain IBRA portion of the Perth Region Scheme. The Native Vegetation Clearing Referrals Guideline ('the Guideline') (DWER 2021) states that if the extent of the proposed clearing is more than 1 ha, a clearing permit is required. The proposed clearing would involve the removal of re-established native vegetation and a maximum of five native trees (0.093 ha) which is anticipated to result in a very low environmental impact. All remaining native vegetation (*continued below)*

Table 2: EP Act clearing referral criteria (continued)

EP Act Section 51DA(4) Criteria	Response to the EP Act Clearing Referral Criteria
Criterion 1: The area proposed to be cleared is small relative to the total remaining vegetation (continued from above)	within the broader area would be retained. Vegetation complex mapping for the Swan Coastal Plain undertaken by Heddle et al. (1980) indicates that the site occurs within an area mapped as the 'Southern River' complex, which is described as 'open woodland of *Corymbia calophylla – Eucalyptus marginata – Banksia spp.* with fringing woodland of *Eucalyptus rudis – Melaleuca rhaphiophylla* along creek beds', which shares some characteristics identified within the site. The southern river complex has 18.43% of its pre-European extent remaining on the Swan Coastal Plain, which is above the 10% threshold for remaining extent of native vegetation in the Swan Coastal Plain region as highlighted in the Guideline. A review of the current native vegetation extent dataset (DPIRD-005), within a 5 km buffer of the site, indicates that the threshold for remaining native vegetation is primarily above 10%, as highlighted in the Guidelines. This includes the: • Bassendean Complex – Central and South, with 26.87% of its pre-European extent remaining. • Swan Complex, with 13.57% of its pre-European extent remaining. • Guildford Complex, with 5.09% of its pre-European extent remaining. Whilst the Guildford Complex is below the 10% threshold, the removal of this vegetation is not considered to create a detrimental effect on the remaining vegetation. The Guildford Complex is also situated greater than 4.5 km to the east of the application area and therefore, will not be subjected to the development of the living stream or clearing impacts. There is an estimated total of 1707.51 ha of native vegetation within a 5 km radius of the application area, as shown in **Figure 4**. Overall, the proposed clearing is not considered to be at variance with this criterion and ultimately would result in very low environmental impacts as required by the Guidelines and the EP Act.
Criterion 2: There are no known or likely significant environmental values within the area • Biological values (e.g. flora, fauna, ecological communities) • Conservation values (e.g. impact to ecological linkages, conservation areas and heritage values) • Land and water resource values (e.g. wetlands and watercourses, water resources, land and soil quality)	<u>Vegetation condition</u> The existing vegetation within the site was determined to be in a 'completely degraded' and 'degraded' condition dominated by non-native flora species. Plant community **Cc./Mp./Er.Cleared** is present within the application area in a 'degraded' (0.011 ha) and a 'completely degraded' condition (0.005 ha). The other plant community to be impacted by the proposed clearing is **C/M**, which is present in the application area in a 'degraded' (0.073 ha) and a 'completely degraded' (0.004 ha) condition. During the investigation undertaken by RPS, a small portion of the site and broader area has been mapped as vegetation in 'Good – degraded' condition. However, this appears to be a scale mapping anomaly when compared to the recent site investigation by Emerge Associates which indicates this area of the site contains no native vegetation. Due to the degree of historical disturbance and the present condition of the site, native vegetation was not identified to be considered part of any threatened ecological and/or priority ecological community. Additionally, the plant communities present within the site were considered too degraded to assign a 'floristic community type' with any degree of certainty due to the low number of native species remaining. <u>Significant fauna</u> The site does not support habitat for significant fauna species. The native vegetation proposed to be removed does not support foraging, breeding or roosting habitat for the Carnaby's, Forest Red-tailed or the Baudin's Black Cockatoo. *(continued below)*

Table 2: EP Act clearing referral criteria (continued)

EP Act Section 51DA(4) Criteria	Response to the EP Act Clearing Referral Criteria
Criterion 2: There are no known or likely significant environmental values within the area (continued from above)	Within the broader study area, there are trees that are potentially suitable for use by species of threatened black cockatoo, including *Eucalyptus rudis*. These are outside the application area and thus would remain and not be impacted by the proposed clearing. <u>Fauna habitat</u> Due to the historical disturbance of the site and the small size of the proposed development, the fauna habitat values within the site and application area are considered to be significantly reduced and likely only provide habitat for a range of common and widespread species. <u>Significant ecological linkage</u> Due to the lack of vegetation values within the site, the proposed clearing is not part of a significant ecological linkage. An ecological linkage is situated approximately 120 m to the north and north-east, connecting the vegetation on either side of Drumpellier Drive. <u>Mapped ecological community</u> No threatened or priority ecological communities are present within the application area. Approximately 540 m east of the application area is the nearest TEC of the *Banksia Woodlands of the Swan Coastal Plain ecological community*. This patch is also representative of PEC *Banksia Woodlands of the Swan Coastal Plain IBRA Region* (Priority 3), as well as FCT23c north-east *Banksia attenuata, Banksia menziesii woodlands*. <u>Significant flora</u> The site has been previously cleared and highly modified. The field survey did not identify any threatened or priority flora species within the application area. Within the surrounding environment, the nearest record of conservation significant flora is approximately 650 m north-west of the site, with a 30-70% coverage of *Cyathochaeta teretifolia.* This is a priority 3 perennial herb that is native to Western Australia. <u>Mapped wetland and mapped watercourse</u> A review of the *Geomorphic Wetlands of the Swan Coastal Plain* dataset indicates that one multiple use wetland (MUW) unique feature identifier (UFI) 8720 extends across the site, as shown on **Figure 5**. There are no specific retention measures that are required for MUWs; however, they do still form a hydrological function which will be retained and enhanced through the proposed wetland rehabilitation and necessary removal of some native vegetation within the application area. There are no conservation category wetlands (CCW) or resource enhancement wetlands (REW) within direct vicinity of the site and the application area. The nearest CCW is a palusplain located approximately 220 m north-west of the site (8680). Approximately 400 m to the southwest of the site is sumpland CCW 8724, also known as Horse Swamp. The closest REW is a palusplain located approximately 530 m to the north. An additional review of the *Hydrography* dataset indicates that the current drain is a minor drain, which extends for 749 m through the site, connecting to an additional minor drain to the north-west. Additionally, the ultimate rehabilitation and associated revegetation of the drainage line within the site and application area is expected to improve the structural stability and water quality of the site. <u>Water resources (e.g. public drinking water supply areas)</u> The site is not within an area that is subjected to a high risk of decreasing water quality, rising groundwater levels or increasing salinity. (*continued below)*

Table 2: EP Act clearing referral criteria (continued)

EP Act Section 51DA(4) Criteria	Response to the EP Act Clearing Referral Criteria
Criterion 2: There are no known or likely significant environmental values within the area (continued from above)	The proposed clearing is not located within an area subject to a public drinking water supply area (PDWSA). Located within the surrounding environment is a Priority 1 PDWSA, which is an area managed to avoid water quality contamination, as well as a Priority 3 PDWSA, which is an area managed to maintain the quality of drinking water. These two areas are situated approximately 900 m north of the site within the Mirrabooka underground water pollution control area (DWER 2022). Furthermore, the ultimate rehabilitation/revegetation of the existing drain and the proposed living stream would likely result in improved hydrological functions and water quality over time. <u>Conservation reserve</u> The site and application area are located within a conservation reserve. Whiteman Park (Mussel Pool) is a Bush Forever site (304) that extends across 2,801.22 ha. In context of the broader bush forever site, the removal of re-established native vegetation and five native trees in a 'completely degraded' and 'degraded' condition constitutes a small portion of the remaining reserve. As such, the vegetation to be cleared is not considered to have a detrimental impact on the health or biodiversity of the site. The Caversham airbase Bush Forever site (200) is situated approximately 460 m to the east of the site and therefore the clearing of vegetation is unlikely to impact its environmental values. Due to the location of Bush Forever site 304, the application area is within an environmentally sensitive area and therefore, the proposed development is subject to a clearing referral under Section 51DA of the *Environmental Protection Act 1986*. Further illustration is provided on **Figure 6**. Furthermore, the Whiteman Park Management is a key stakeholder and discussions have been held during October 2021 and November 2021, pertaining to the proposal and living stream development. Whiteman Park management has supported the application and have also worked with the proponent to develop the landscaping and revegetation plan for the subject site. <u>Land and soil quality</u> Acid sulfate soil (ASS) mapping prepared by DWER indicates that the site has been classified as having a moderate to low risk of ASS occurring within 3 m of the natural soil surface. Additionally, the DWER Contaminated Sites Database does not indicate any contamination within the site and the site's broader surrounds (DWER 2021). The soil landscape mapping (DPIRD 2018) indicates that the site is within the Pinjarra System, which is a poorly drained coastal plain with variable alluvial and aeolian soils. The surface geology mapping of the Perth region (DMIRS 2019) indicates that the application area and broader site is characterised by sand (S10), which is described as very light grey at surface, yellow at depth, fine to medium grained, sub-rounded quartz, moderately well sorted of eolian origin <u>Heritage-related values and native title matters</u> The site is not situated within a registered Aboriginal Heritage site. Bennett Brook (Place ID 3692) is the nearest registered Aboriginal Heritage site, located approximately 200 m to the west. The site is located within a registered State Heritage site. The site is located within the southern portion of Whiteman Park (place number 25,868). <u>Summary</u> Overall, there are no known or likely significant environmental values within the application area that is considered to be at variance with this criterion.

Table 2: EP Act clearing referral criteria (continued)

EP Act Section 51DA(4) Criteria	Response to the EP Act Clearing Referral Criteria
Criterion 3: The state of scientific knowledge of native vegetation within the region is adequate	The site is located within the Swan Coastal Plain. Various databases, spatial datasets and other relevant readily available information is available for the site and the broader region. The terrestrial fauna and black cockatoo presence has been historically investigated, with the authors and timing of the site surveys provided below: • Wetland Resource Management 2020, October/November 2019 • Terrestrial Ecosystems 2019, November 2018 and 2019 • Bamford et al. 2019, February 2019 • Terrestrial Ecosystems 2018, November 2017 • AECOM 2016, October 2015 • Coffey 2015, September 2014 • PGV Environmental 2014, May 2014 • PGV Environmental 2014, March 2014. Similarly, RPS completed a flora and vegetation survey over four separate occasions, including spring 2017, spring 2018, autumn 2019 and spring 2019. This was further validated by Emerge Associates on 18 March 2022, which identified the species present and overall condition of the application area and broader site. The proposed clearing would be undertaken in an area that is included and covered by various environmental databases, spatial datasets and other relevant readily available information. Therefore, this proposed development is not considered to be at variance with this criterion.
Criterion 4: Conditions will not be required to environmental impacts	The proponent has actively ensured that the least amount of native vegetation would be cleared as part of the rehabilitation/revegetation of the drainage line. As outlined above, the application area comprises native vegetation in a 'completely degraded' and 'degraded' condition and does not support habitat for threatened or priority fauna and flora species or any threatened or priority ecological communities. It is anticipated that the approved rehabilitation of the wetland and drainage lines within the site would result in improved environmental values and attributes within the site and in particular the application area, which would likely provide future habitat for native flora and fauna species. Due to the detailed outline of the application area within the site, the anticipated very low environmental impact resulting from the proposed clearing and the approved landscape master plan highlighting the significant extent of revegetation within the clearing area, it is not anticipated that any conditions would be required to minimise, mitigate, offset or otherwise manage effects on the environment; therefore, the proposed clearing is not at variance with this criterion.

Summary and closing

The proposed maximum extent of clearing covers 0.093 ha of native vegetation in a 'completely degraded' and 'degraded' condition and comprises a patch of re-established native vegetation in the base of the drain and a maximum of five individual scattered trees.

Emerge suggests that the proposed clearing will only result in a very low environmental impact and is not at variance with the four referral criteria as outlined in the EP Act and the Guideline, which have been addressed in detail within this letter. In summary:

- The native vegetation within the application area was identified in a 'completely degraded' and 'degraded' condition and does not represent a high level of biological diversity.
- There are no threatened or priority ecological communities, priority and/or threatened fauna and flora species likely to occur within the application area.
- Due to the degraded condition of vegetation within the site, no FCT was able to be assigned to any native vegetation within the site including the application area.

- One MUW extends across the site. There are no specific retention measures that are required for MUWs; however, they do still form a hydrological function which will be retained and enhanced through the proposed wetland rehabilitation and necessary removal of some native vegetation within the site.
- The proposed clearing would result in the removal of 0.093 ha of native vegetation comprising re-established native vegetation in the base of the drain and a total of five trees and is therefore relatively small compared to the remaining vegetation in the broader region (Swan Coastal Plain).
- There are no known or likely significant environmental values within the application area.
- The state of scientific knowledge of native vegetation within the region in which the proposed clearing is to take place (Swan Coastal Plain) is adequate.
- Emerge does not anticipate that any conditions would be required to manage environmental impacts in relation to the proposed clearing, as the proposed clearing is anticipated to only result in very low environmental impacts and the ultimate approved rehabilitation and associated revegetation of the wetland and drainage lines within the site would likely increase the environmental values and attributes within the site.

Should you have any questions regarding the content of this letter please do not hesitate to contact the undersigned.

Yours sincerely
Emerge Associates

Jason Hick
PRINCIPAL ENVIRONMENTAL CONSULTANT

cc:

Encl: Figure 1: Site Location and Application Area
Figure 2: Vegetation Units
Figure 3: Vegetation Condition
Figure 4: Local Native Vegetation Extent
Figure 5: Geomorphic Wetlands
Figure 6: Bush Forever, Environmentally Sensitive Areas, and Ecological Linkages

General References

DWER 2021, *Guideline Native Vegetation Clearing Referrals*

Eco Logical Australia 2020, *Terrestrial Fauna and Black Cockatoo Assessment: Malaga to Ellenbrook Rail Works*, 14203, Version 2.

Environmental Protection Authority (EPA) 2016a, *Technical Guidance - Sampling methods for terrestrial vertebrate fauna*, Perth.

Environmental Protection Authority (EPA) 2016b, *Technical Guidance - Terrestrial Fauna Surveys*, Perth.

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

RPS 2020, *Detailed Flora and Vegetation Assessment: METRONET Morley-Ellenbrook Line*, EEL17158.005, Version 2.

Online References

Landgate 2021, *Landgate Map Viewer,* viewed 25 March 2022, < https://map-viewer-plus.app.landgate.wa.gov.au/index.html >

Figures

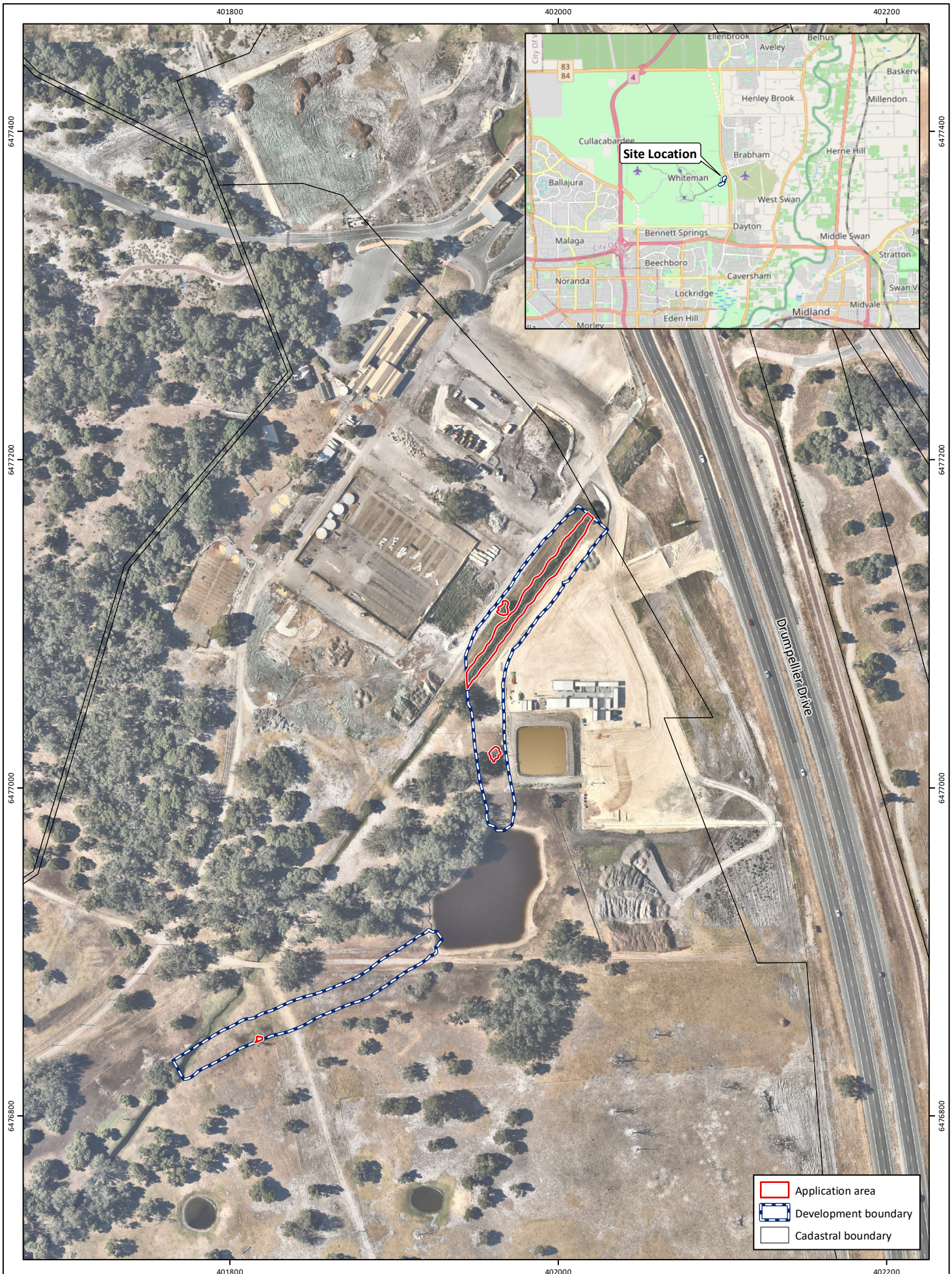

Figure 1: Site Location

Project: Clearing Referral
Whiteman Park Living Stream
Client: Peet Brabham Pty Ltd.

Plan Number:
EP17-131(15)--F184

Drawn:	GAR
Date:	05/04/2022
Checked:	SJB
Approved:	JDH
Date:	05/04/2022

N

0 40 80
Metres

Scale: 1:3,000@A4

GDA 1994 MGA Zone 50

emerge ASSOCIATES

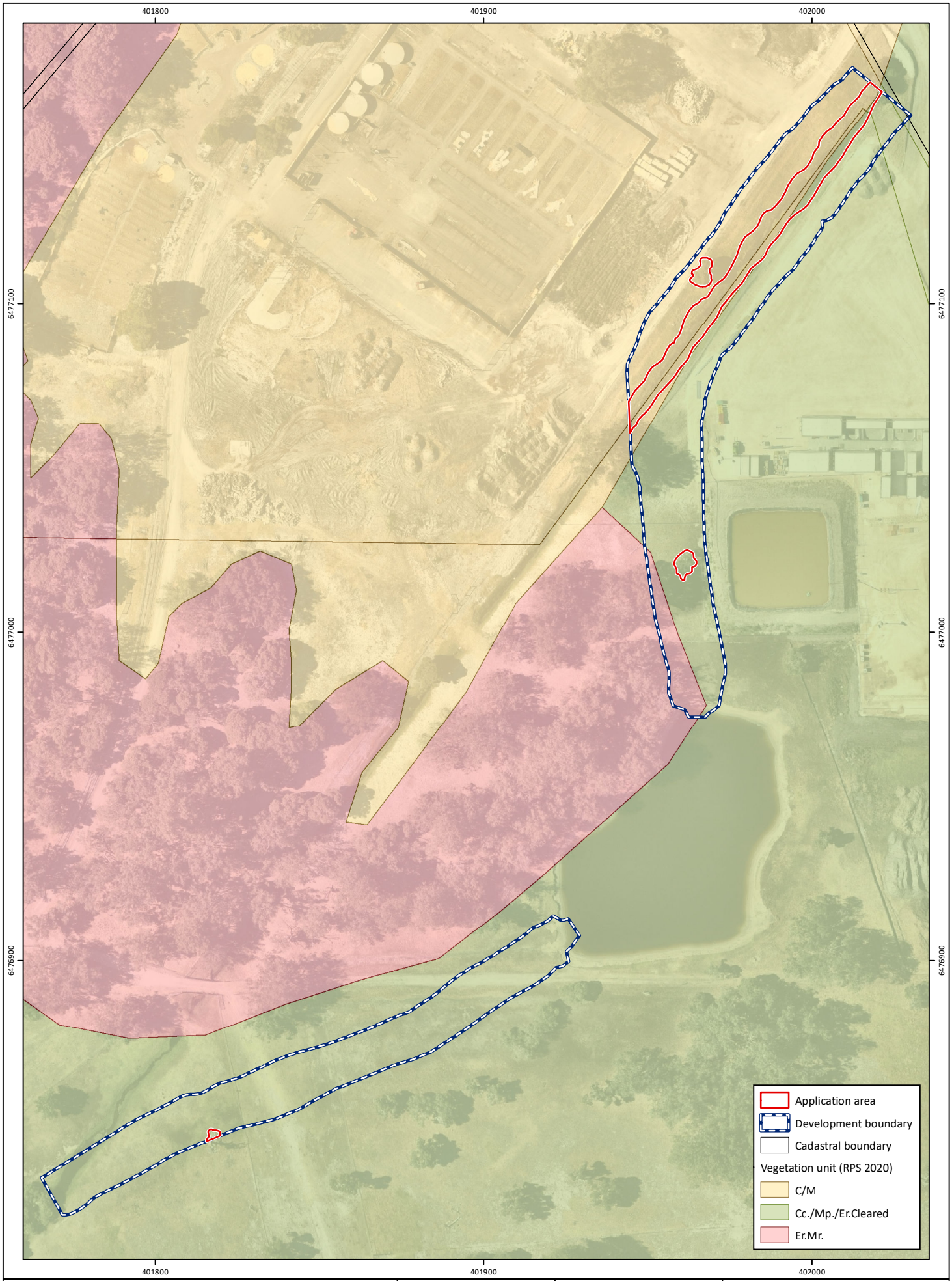

Figure 2: Vegetation Units

Project: Clearing Referral
Whiteman Park Living Stream
Client: Peet Brabham Pty Ltd.

Plan Number:
EP17-131(15)--F186

Drawn:	GAR
Date:	05/04/2022
Checked:	SJB
Approved:	JDH
Date:	05/04/2022

N

0 20 40
Metres

Scale: 1:1,500@A4

GDA 1994 MGA Zone 50

emerge ASSOCIATES

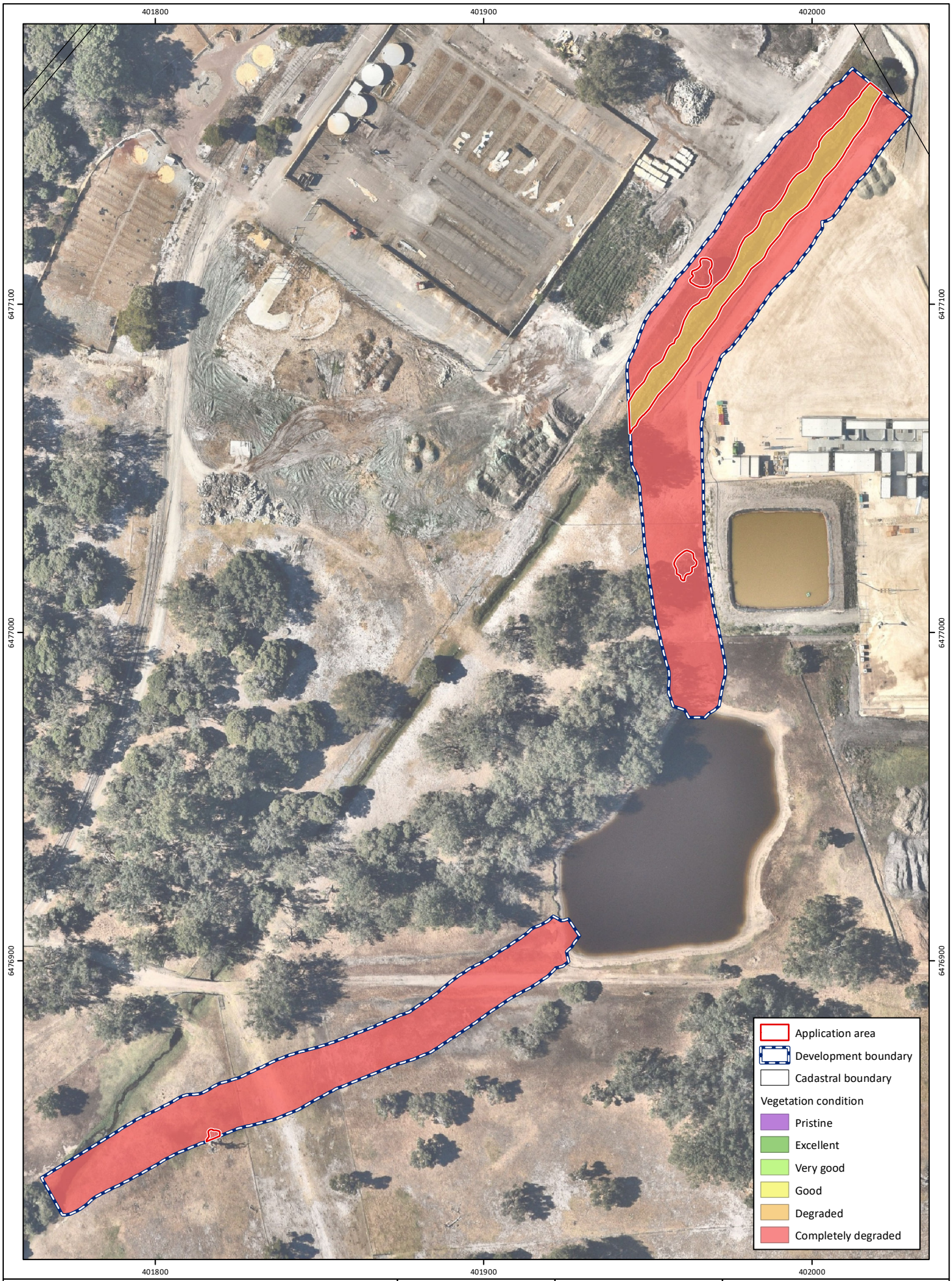

Figure 3: Vegetation Condition

Project: Clearing Referral
Whiteman Park Living Stream
Client: Peet Brabham Pty Ltd.

Plan Number:
EP17-131(15)--F187

Drawn:	GAR
Date:	05/04/2022
Checked:	SJB
Approved:	JDH
Date:	05/04/2022

N

0 2,750 5,500
Metres

Scale: 1:1,500@A4

GDA 1994 MGA Zone 50

emerge ASSOCIATES

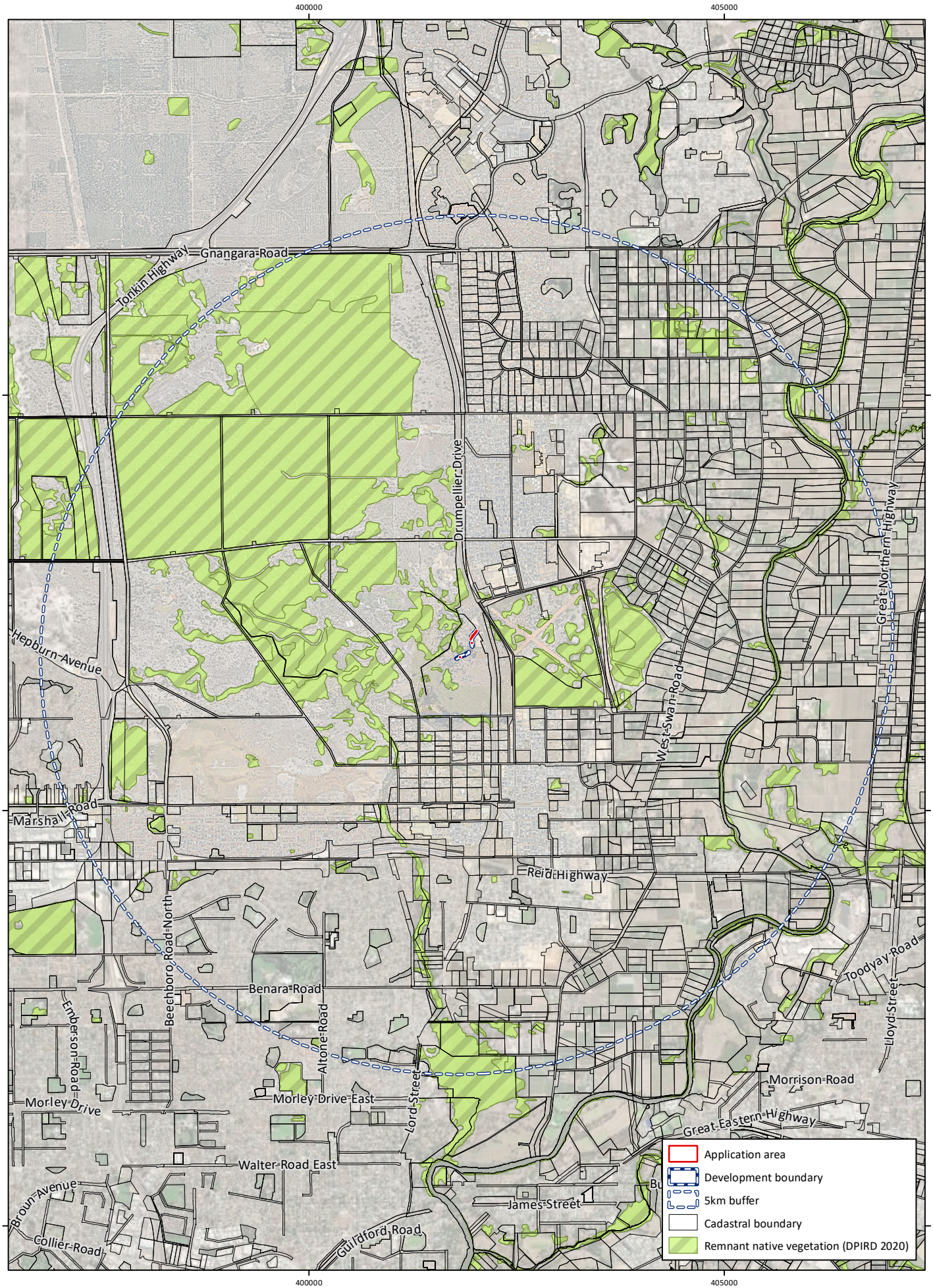

Figure 4: Local Native Vegetation Extent

Project:	Clearing Referral Whiteman Park Living Stream
Client:	Peet Brabham Pty Ltd.

Plan Number: EP17-131(15)--F189

Drawn:	GAR
Date:	05/04/2022
Checked:	SJB
Approved:	JDH
Date:	05/04/2022

N

0 500 1,000 1,500

Metres

Scale: 1:60,000@A4

GDA 1994 MGA Zone 50

emerge ASSOCIATES

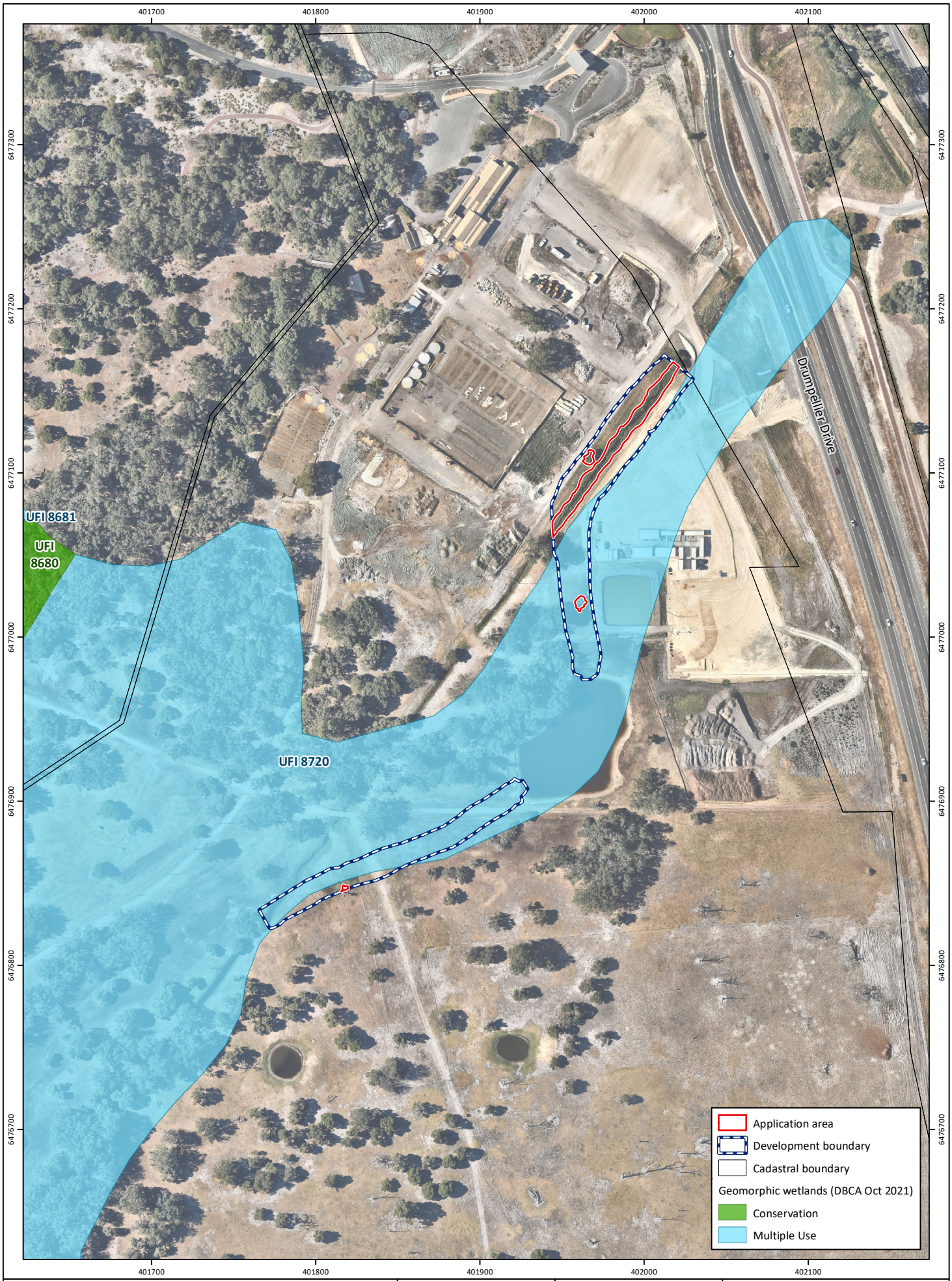

Figure 5: Geomorphic Wetlands

Project: Clearing Referral
Whiteman Park Living Stream
Client: Peet Brabham Pty Ltd.

Plan Number:
EP17-131(15)--F185

Drawn:	GAR
Date:	05/04/2022
Checked:	SJB
Approved:	JDH
Date:	05/04/2022

N

0 40 80
Metres

Scale: 1:3,000@A4

GDA 1994 MGA Zone 50

emerge ASSOCIATES

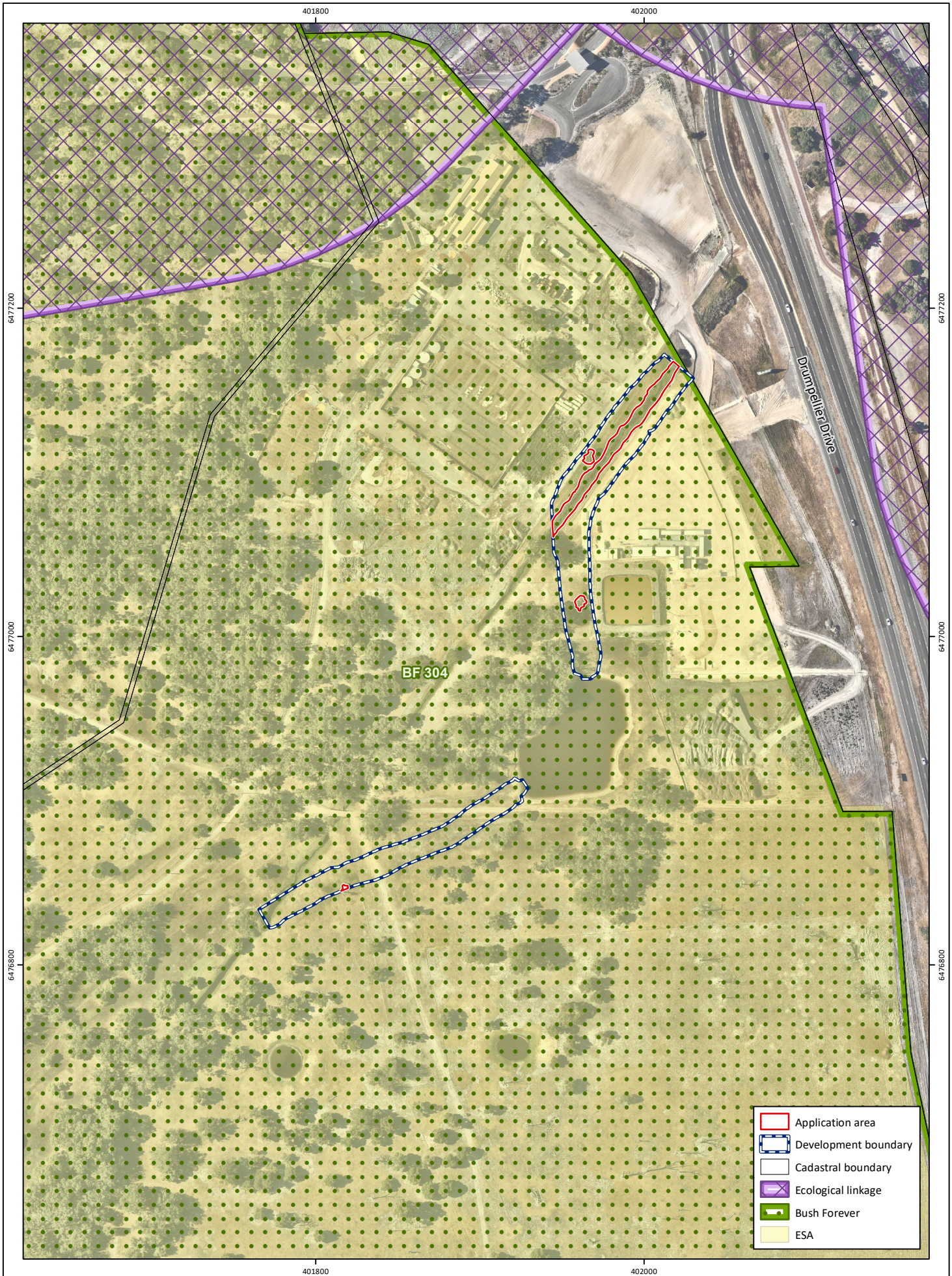

Figure 6: **Bush Forever, Environmentally Sensitive Areas, and Ecological Linkages**

Project: Clearing Referral
Whiteman Park Living Stream
Client: Peet Brabham Pty Ltd.

Plan Number: EP17-131(15)--F188

Drawn:	GAR
Date:	05/04/2022
Checked:	SJB
Approved:	JDH
Date:	05/04/2022

N

0 40 80
Metres

Scale: 1:3,000@A4

GDA 1994 MGA Zone 50

emerge ASSOCIATES