

# Title of proposal

# 2020/8780 - Residential development, Lots 8002, 9000 Taylor Road and Lots 62, 63, 65 Adams Street Mundijong, Western Australia

# Section 1

Summary of your proposed action

1.1 Project industry type

Residential Development

1.2 Provide a detailed description of the proposed action, including all proposed activities

Kerrboyle Pty Ltd (the proponent) proposes to develop Lots 8002, 9000 Taylor Road and Lots 62, 63 65 Adams Street Mundijong (the site) for residential purposes in accordance with the Western Australian Planning Commission (WAPC) endorsed Local Structure Plan (LSP) for Precinct E of the Mundijong-Whitby District Structure Plan. The site is located approximately 40 kilometres southeast of the Perth central business district.

The site is approximately 47.8 ha and is located within the Shire of Serpentine Jarrahdale and is zoned 'Urban' under the Metropolitan Region Scheme (MRS) and 'Urban Development' under the Shire's Town Planning Scheme No.2 (TPS2). WAPC subdivision approval has been issued for Lots 8002 and 9000 Taylor Road (Application No. 152765).

The vegetation on site is dominated by planted trees and shrubs over introduced grasses. Recorded remnant vegetation at the site mostly consists of scattered Jarrah (Eucalyptus marginata) and Marri (Corymbia calophylla) Flooded Gum (Eucalyptus rudis) and Melaleuca preissii and introduced (exotic) eucalyptus. Historically, the landuse of the site has been parkland cleared for pastoral grazing and therefore the vegetation condition of the site is Completely Degraded (360 Environmental 2020a).

A Black cockatoo habitat (Baudin's Cockatoo [Calyptorhynchus baudinii], Carnaby's Cockatoo [Calyptorhynchus latirostris] and Forest Red tailed Black Cockatoo [Calyptorhynchus banksii naso]) assessment was completed for the site by 360 Environmental (2020b). A total of 169 potential breeding trees with a Diameter Breast Height (DBH) of greater than 500 mm were recorded, of which 46 were endemic tree species and 123 were introduced Eucalypts within the site. Potential breeding tree locations and their hollows of hollows with estimated opening diameters of greater than 120 mm are shown in Figure 2. Hollows with an estimated opening diameter of less than 120 mm are not suitable for Black cockatoo utilisation.

A total of 1.07 ha of Black cockatoo foraging habitat was recorded on site and consisted of the following quality based on the DEE (2017) draft referral guideline for three threatened black cockatoo species:

- 0.28 ha: very high quality
- 0.15 ha: high quality
- 0.39 ha: medium quality
- 0.25 ha: low quality (Figure 3) (360 Environmental 2020b)

The proposed action is to facilitate provision for clearing the site which includes the following: POTENTIAL BLACK COCKATOO HABITAT TREES

• 11 Jarrah (Eucalyptus marginata) of which:one tree had two hollows <120mm, one tree had four hollows (two <120mm and two >120mm),two of the hollows were infested with bees, one tree had one hollow <120mm and one tree has one hollow (>120mm)

• Nine Marri (Corymbia calophylla) of which: One tree had one hollow >120mm, One tree had four hollows (two <120mm and two >120mm) and two of the hollows were infested with bees

- Two Tuart (E. gomphocephala) with no hollows
- 22 Flooded Gum (E. rudis) of which: One tree had one hollow (>120mm) and One tree had one hollow (<120mm)

• 123 introduced Eucalypts of which: One tree had four hollows (one <120mm and three >120mm) and one tree had two hollows (>120mm)

• Two stags (dead trees) of which: One stag had three hollows (two <120mm and one >120mm)

BLACK COCKATOO FORAGING HABITAT

• 1.07 ha Black cockatoo foraging habitat of which 0.69 ha (59%) of the foraging habitat is recorded to be in medium to low quality.

**1.3 What is the extent and location of your proposed action?** See Appendix B

1.5 Provide a brief physical description of the property on which the proposed action will take place and the location of the proposed action (e.g. proximity to major towns, or for off-shore actions, shortest distance to mainland)

The site is located approximately 40 km southeast of Perth and is within the South Eastern Metropolitan Corridor, in the



Shire of Serpentine-Jarrahdale. The site is within Precinct E of the Mundijong-Whitby LSP area.

Available aerial imagery (Landgate, 2020) indicates that since the mid 1965 the site has been severely cleared with few isolated trees supporting agricultural (grazing) activities. From the 1970, open drainage swales across the site are evident, likely to have assisted with reducing waterlogging on site.

# 1.6 What is the size of the proposed action area development footprint (or work area) including disturbance footprint and avoidance footprint (if relevant)?

The proposed action area development footprint is 47.86 ha.

It has been assumed that vegetation on the site will be cleared except viable remnant vegetation within Public Open Spaces (POS). Remnant vegetation to be retained within POS will be subject to design refinement and engineering specifications (i.e. cut and fill requirements and viability assessment against AS 4970-2009 Protection of trees on development sites.

#### 1.7 Proposed action location

Lot - Lots 8002, 9000 Taylor Road and Lots 62, 63, 65 Adams Street Mundijong

1.8 Primary jurisdiction		on Western Australia		
1.	.9 Has the person p	oposing to take the action received any Australian Government grant funding to undertake this project?		
	Yes 🗹	No		
1.10 Is the proposed action subject to local government planning approval?				
۱ſ	√ Yes □	No		

1.10.1 Is there a local government area and council contact for the proposal?

Yes 🖌 No

1.11 Provide an estimated start and estimated end date for the	Start Date	02/12/2020
proposed action	End Date	01/10/2030

1.12 Provide details of the context, planning framework and state and/or local Government requirements

The site is zoned 'Urban' under the MRS and 'Urban Development' under the Shire's TPS No. 2. The site is within Precinct E of the Mundijong-Whitby LSP area which was approved by the WAPC on 30 October 2013 (refer to Appendix A). WAPC subdivision approval has been issued for Lots 8002, 9000 (now known as Lot 61) Taylor Road (Application No. 152765) (Appendix B).

WAPC Subdivision applications for the remaining lots on site will be completed over the next two to three years.

1.13 Describe any public consultation that has been, is being or will be undertaken, including with Indigenous stakeholders

The Department of Planning Lands and Heritage (DPLH) (2020) Aboriginal Heritage Inquiry System was searched and there are no registered aboriginal sites within the site. There are two registered sites located north west within 100 m of the site boundary, within the Tonkin Road Reserve. Tonkin highway- Mundijong road scatters No. 11 and 12 (Appendix C).

The DPLH (2020) Aboriginal Heritage Inquiry System was searched and there is one 'other heritage' aboriginal sites within the site (Tonkin highway-Mundijong road scatter #13) and one other heritage site (IF #2) adjacent to the site within the Tonkin Road Reserve (Appendix D). The status of these other heritage sites is 'stored data/not a site' which means that the sites have been assessed as not meeting Section 5 of the Aboriginal Heritage Act 1972.



A public comment period was undertaken as part of the LSP process. The LSP has been approved by the WAPC on 30 October 2013 (refer to Appendix A). No further consultation with DPLH regarding Aboriginal heritage is proposed at this stage of the project.

1.14 Describe any environmental impact assessments that have been or will be carried out under Commonwealth, State or Territory legislation including relevant impacts of the project

An Environmental Assessment and Justification Report was prepared by Emerge Associates (2011) (Attachment E) to support the Precinct E - Mundijong/Whitby District Structure Plan. As part of the LSP assessment process, the LSP is referred to decision making authorities (i.e. DWER, DBCA, Water Corporation and LGA) for comment. The LSP has been approved by the WAPC on 30 October 2013 (refer to Attachment A).

WAPC subdivision approval has been issued for Lots 8002, 9000 (now known as Lot 61) Taylor Road (Application No. 152765) (Attachment B). WAPC Subdivision applications for the remaining lots on site will be completed over the next two to three years. As part of the subdivision application, it is referred to decision making authorities (i.e. DWER, DBCA, Water Corporation and LGA) for comment. Where appropriate the WAPC, includes subdivision conditions to address environmental requirements i.e. Urban Water management Plans.

1.15 Is this action part of a staged development (or a component of a larger project)?			
	Yes	No No	
1.16 Is the proposed action related to other actions or proposals in the region?			
	Yes	No No	



Section 2			
Matters of national environmental significance			
2.1 Is the proposed action likely to have any direct or indirect impact on the values of any World Heritage properties?			
🗋 Yes 🗹 No			
2.2 Is the proposed action likely to have any direct or indirect impact on the values of any National Heritage places?			
🗋 Yes 🗹 No			
2.3 Is the proposed action likely to have any direct or indirect impact on the ecological character of a Ramsar wetland?			
🗌 Yes 🗹 No			
2.4 Is the proposed action likely to have any direct or indirect impact on the members of any listed species or any threatened ecological community, or their habitat?			
🗹 Yes 🔲 No			
Species or threatened ecological community			
Baudin's Cockatoo (Calyptorhynchus baudinii), Forest Red-tailed Black-Cockatoo (Calyptorhynchus banksii naso) and Carnaby's Cockatoo (Calyptorhynchus latirostris).			

# Impact

The vegetation on site is dominated by planted trees and shrubs over introduced grasses. Recorded remnant vegetation at the site mostly consists of scattered Jarrah (Eucalyptus marginata) and Marri (Corymbia calophylla) Flooded Gum (Eucalyptus rudis) and Melaleuca preissii and introduced (exotic) eucalyptus. Historically, the landuse of the site has been parkland cleared for pastoral grazing and therefore the vegetation condition of the site is Completely Degraded (360 Environmental 2020a).

A Black cockatoo habitat (Baudin's Cockatoo [Calyptorhynchus baudinii], Carnaby's Cockatoo [Calyptorhynchus latirostris] and Forest Red tailed Black Cockatoo [Calyptorhynchus banksii naso]) assessment was completed for the site by 360 Environmental (2020b). A total of 169 potential breeding trees with a Diameter Breast Height (DBH) of greater than 500 mm were recorded, of which 46 were endemic tree species and 123 were introduced Eucalypts within the site comprising:

- 11 Jarrah (Eucalyptus marginata)
- Nine Marri (Corymbia calophylla)
- Two Tuart (E. gomphocephala)
- 22 Flooded Gum (E. rudis)
- 123 introduced eucalypts
- Two stags (dead trees) (Figure 2)

Ten trees, comprising four Jarrah, two Marri, one Flooded Gum, two introduced Eucalypts and one stag, were found to contain hollows, of which:

• Four trees contain hollows with an estimated opening diameter of greater than 120 mm and are therefore potentially suitable for black cockatoo breeding

• Two trees contain hollows with an estimated opening diameter of greater than 120 mm and are currently occupied by feral bees but would otherwise potentially be suitable for black cockatoo breeding

• Four trees contain hollows with an estimated opening diameter of less than 120 mm and are therefore currently too small for black cockatoo breeding (360 Environmental 2020b).

No evidence of Black cockatoo breeding, including chew marks around hollow entrances, were observed within the site



(360 Environmental 2020b).

The site contains native trees that meet the criteria for potential Black cockatoo breeding habitat. A small proportion of these trees bear hollows that are currently suitable for Black cockatoo breeding. Groom (2011) does not list Flooded Gums or introduced Eucalypts as trees used for breeding, suggesting they may be of lower value as potential breeding habitat than other potential breeding tree species recorded during the assessment. Introduced Eucalypts are also not listed as potential breeding trees in the EPBC referral guidelines (Department of Sustainability Environment Water Population and Communities, 2012). However, they were included within the Black cockatoo habitat assessment because, as stated in the revised draft EPBC referral guidelines, any tree species have the potential to form suitable hollows (Department of Sustainability Environment Water Population and Communities, 2012; Department of the Environment and Energy, 2017).

A total of 1.07 ha of Black cockatoo foraging habitat was recorded on the site and consisted of the following quality:

- 0.28 ha: very high quality
- 0.15 ha: high quality
- 0.39 ha: medium, quality
- 0.25 ha: low quality (Figure 3) (360 Environmental 2020b)

The foraging habitat that occurs within the site consists primarily of Marri and Jarrah, which are preferred foraging plants for all three Black cockatoo species. Additionally, Carnaby's Cockatoos are known to forage on Callistemon sp., Callitris sp. and Banksia attenuata, while Forest Red-tailed Black Cockatoos are known to forage on Cape Lilac and Allocasuarina sp (Groom, 2011; Department of Sustainability Environment Water Population and Communities, 2012). While some introduced Eucalypts may provide foraging resources for Black cockatoos, most are not considered to be suitable foraging plants. The introduced Eucalypts recorded on site were unable to be identified to a species level, however, given that very few introduced Eucalypt species are listed as foraging species for black cockatoos (Valentine and Stock, 2008; Groom, 2011; Department of Sustainability Environment Water Population and Communities, 2012) they have not been included as foraging habitat for the purposes of calculating the foraging area (360 Environmental, 2020b).

The proposed action is to clear the above potential breeding trees and foraging habitat.

Subject to engineering specifications, there is potential to retain 27 potential breeding trees (marri, Flooded gum and Introduced Eucalyptus) and 0.06 ha of foraging habitat within POS. Should the viability assessment (AS 4970-2009) confirm tree vigour (health) the trees are likely to be retained within the POS.

2.4.2 Do you consider this impact to be significant?				
	Yes	$\mathbf{\nabla}$	No	
2.5 Is habit	2.5 Is the proposed action likely to have any direct or indirect impact on the members of any listed migratory species or their habitat?			
	Yes	S	No	
2.6 Is the proposed action to be undertaken in a marine environment (outside Commonwealth marine areas)?				
	Yes	$\mathbf{\nabla}$	No	
2.7 Is the proposed action likely to be taken on or near Commonwealth land?				
	Yes	$\mathbf{\nabla}$	No	



2.8 Is the proposed action taking place in the Great Barrier Reef Marine Park?			
🗆 Yes 🗹 No			
2.9 Is the proposed action likely to have any direct or indirect impact on a water resource from coal seam gas or large coal mining development?			
□ Yes ☑ No			
2.10 Is the proposed action a nuclear action?			
□ Yes ☑ No			
2.11 Is the proposed action to be taken by a Commonwealth agency?			
□ Yes ☑ No			
2.12 Is the proposed action to be undertaken in a Commonwealth Heritage place overseas?			
C Yes S No			
2.13 Is the proposed action likely to have any direct or indirect impact on any part of the environment in the Commonwealth marine area?			
Yes V No			



# Section 3

#### Description of the project area

#### 3.1 Describe the flora and fauna relevant to the project area

#### FLORA

A desktop database search of the Department of Agriculture, Water and Environment (DAWE)'s Protected Matters Search Tool (PMST) (Attachment F) was undertaken to identify the conservation significant flora species potentially occurring within a 1 km radius of the site. A total of 3 Vulnerable, 5 Endangered and 2 Critically Endangered flora species were found to be potentially present on the site. The DBCA's Naturemap database was searched (with a 2km) and no Declared Rare Flora (DRF) (threatened flora species) were identified as occurring within the search area (Attachment G). A review of Landgate (2020) historical aerial photography indicates that the site has been cleared for grazing since the early 1960.

An (out of season) site inspection was completed by 360 Environmental Principal Ecological/Biologist (2020a) and the vegetation within the site is dominated by planted trees and shrubs over introduced grasses. Remnant vegetation at the site appeared to be limited to scattered Jarrah (Eucalyptus marginata) and Marri (Corymbia calophylla), Flooded Gum (Eucalyptus rudis) and Melaleuca preissii and introduced Eucalyptus species. The site is historically parkland cleared for pastoral grazing and therefore the vegetation condition of is Completely Degraded. No Threatened flora were observed during the site visit and none are considered likely to occur due to the degraded/cleared nature, with no understorey and lack of suitable habitat (Florabase, 2020). The typically habitats required to support the threatened flora species identified within the DAWE PMST are unlikely to be present due to the lack of woodland structure and cleared/grazed nature of the site.

#### FAUNA

The DAWE (2020) PMST search indicated the site and buffer may be utilised by: three Vulnerable fauna species, five Endangered fauna species, two Critically Endangered fauna species, eight listed Migratory species, and 13 listed Marine species. The DBCA (2020 NatureMap database (Appendix G) only recorded the Forest Red-tailed Black Cockatoo and Baudin's Cockatoo as recorded within the vicinity of the site.

The site is Completely Degraded and consists mainly of one fauna habitat type isolated remnant trees over paddock. Therefore, not likely to provide habitat that is significant for any Threatened fauna species, however there is terrestrial habitat within the site that is suitable for black cockatoo species. The site consists of potential habitat (and roosting) trees and foraging habitat. No evidence of Black cockatoo breeding, including chew marks around hollow entrances, were observed within the site. There are no Bird life Australia cocky count roost sites within the site. Within a 3 km radius of the site there are four roost sites located southern east of the site which include: 2018 unconfirmed roost (ref SERMUNR001 and SERMUNR002), 2018 confirmed roost (ref SERWHIR001), 2018 unconfirmed roost (ref SERMUNR003), roost (ref SERJARR02) (WALGA, 2020).

During the site survey, evidence of Forest Red-tailed Black Cockatoo foraging was recorded at 11 locations within or directly adjacent the site in the form of chewed Marri and Jarrah nuts. Evidence of Baudin's Cockatoo foraging was recorded at three locations within or directly adjacent the site, all of which were chewed Marri nuts. No evidence of the Carnaby's Cockatoo was recorded within the site (360 Environmental, 2020b).

The seasonally inundated paddocks may provide potential habitat for migratory species listed under the EPBC Act, however they are unlikely to provide habitat that is suitable to these species due to the clear and degraded nature (absence of riparian vegetation).

# 3.2 Describe the hydrology relevant to the project area (including water flows)

In support of the LSP, a Local Water Management Strategy (LWMS) (Appendix H) was prepared for the site and approved by the Department of Water in October 2012 (Appendix I) and the Shire in March 2013 (reference SJ186 CW:mt).

#### GROUNDWATER

There are three aquifers of significance in Mundijong, each assigned the name of the major geological unit which include Perth Superficial Swan (Byford 3), Perth Leederville (Byford 3) and Perth-Cattamarra Coal Measures (Byford 3). (DWER, 2020).

JDA (2012) have undertaken site specific groundwater investigations to support the preparation of the LWMS, groundwater was recorded between 29.2 mAHD (Australian Height Datum) in the east and 26.1 mAHD in the west. Groundwater quality monitoring was completed by JDA monthly for two years commencing August 2007, continuing quarterly for a third year, finishing July 2010. The mean TP concentration of groundwater was typically below the Environmental Protection Authority (EPA) Target for the Upper Serpentine River (0.1 mg/L) (EPA, 2008). For further information refer to Appendix H.



# SURFACE WATER

The site is located within the Serpentine River Catchment, which is part of the Ramsar listed Peel-Yalgorup Wetlands catchment. The Peel-Harvey Catchment is nearly 1.5 million hectares in size and covers a broad range of geographical areas within the western portion of the Swan Coastal Plain, encompassing coastal dune and lake environments, a large estuarine system in the south-west and an extensive back plain and foothills area to the east (Peel-Harvey Catchment Council 2005). Given the relatively small area of the site (47.8 ha) and distance to the Peel-Yalgorup wetlands (approximately 40 km), it is unlikely that development of the site will have a significant impact on the wetlands.

The site was historically utilised for rural purposes with the majority of land cleared for pasture. There are three constructed dams on the land and three natural channels, two running to the western boundary and one to the south act as drainage for the site. The catchment of these channels does not extend beyond the site. A major channel flowing in from the central east at two locations of the site runs to the south west and the catchment extends east of Adams Road. All channels are ephemeral surface flows (JDA, 2012).

Surface water sampling completed by JDA between August 2007 and July 2010 at two surface water monitoring sites near the eastern boundary of the site. The recorded Total Nitrogen (TN) and Total Phosphorus (TP) levels at the two monitoring sites exceeded the ANZECC Guidelines values for lowland river South West Australia (JDA, 2020) (Appendix H).

#### WETLANDS

Wetlands of the Swan Coastal Plain have been described and mapped by Hill et al. (1996) and assigned a management category reflecting their condition. The DBCA's Geomorphic Wetland dataset was reviewed. Lower portions of the site are mapped as a single Multiple Use Wetlands (MUW). The nearest Conservation Category Wetland is located approximately 400 m north of the Site (DWER 2020).

MUW's are wetlands with few remaining important attributes and functions (EPA 2008). The management objectives of this classification are typically to use, develop and manage wetlands in the context of water and environmental planning (WAPC 2005). Development is generally permissible on Multiple Use wetlands as they have little remaining ecological value (WAPC 2005).

#### 3.3 Describe the soil and vegetation characteristics relevant to the project area

#### SOILS

Soil Landscape and Land System mapping (DAFWA 2014) indicate the soils of the site are mapped as being part of the Bassendean System described as "sand dunes and sandplains with pale deep sand, semi-wet and wet soil". The site contains four soil subsystems being:

• Bassendean B1 Phase - Extremely low to very low relief dunes, undulating sandplain and discrete sand rises with deep bleached grey sands sometimes with a pale yellow B horizon or a weak iron-organic hardpan at depths generally greater than 2 m

• Bassendean B2 Phase - Flat to very gently undulating sandplain with well to moderately well drained deep bleached grey sands with a pale yellow B horizon or a weak iron-organic hardpan 1-2 m.

Bassendean B3 Phase - Closed depressions and poorly defined stream channels with moderately deep, poorly to very poorly drained bleached sands with an iron-organic pan, or clay subsoil. Surfaces are dark grey sand or sandy loam.

• Bassendean B6 Phase - Sandplain and broad extremely low rises with imperfectly drained deep or very deep grey siliceous sands (Figure 4).

The soil is primarily of the Guildford Formation (Cs), with an overlying veneer of Bassendean Sands (S10) in more elevated areas. Regional Environmental geology mapping indicates that there are two main units on site which consists of Sand (S10) and Sandy Clay (Cs) (Jordan, 1986). A preliminary Geotechnical report undertaken by Douglas Partners (2011) supports the above information presented by Jordan i.e. Sand, gravely sand to clay (JDA, 2012).

DWER regional Acid Sulphate Soil (ASS) Mapping identifies the whole study area as Class 2: moderate to low risk of ASS occurring within 3m of natural soil surface.

depths below 3m). In accordance with Department of Environment Regulation (2015) [now known as DWER] Identification and investigation of ASS and acidic landscapes there are specifications for Class 2. The nature of disturbance that triggers ASS investigation includes:

- works involving lowering of watertable (temporary or permanent)
- earthworks extending to beyond 3 metres below natural ground surface
- works within 500m of wetlands

If an ASS investigation is required this typically completed prior to ground disturbance. The WAPC includes ASS investigation as part of subdivision conditions. Should ASS risk and management plan be required, this requirement can be



accommodated through the (WA) Planning and Development Act 2005, subdivision approval process.

#### **VEGETATION CHARACTERISTICS**

The site is within the Swan Coastal Plain Bioregion and Perth subregion (SWA02) of the Interim Biogeographic Regionalisation of Australia (IBRA). The SWA02 subregion is a low lying coastal plain composed of colluvial and aeolian sands, alluvial river flats and coastal limestone rising toduris crusted Mesozoic sediments in the east. Outwash plains are extensive only in the south, while a complex series of seasonal wetlands and swamps extends from north to south. Vegetation comprises heath and/or Tuart woodlands on limestone, Banksia and Jarrah-Banksia woodlands on Quarternary marine dunes of various ages, Marri on colluvial and alluvial soils, Casuarina obesa on out-wash plains, and paperbark (Melaleuca sp.) in wetland areas(Mitchell et al. 2001).

Mapping of the vegetation of the Perth region of WA was completed on a broad scale(1:250,000) by Beard (1981) which mapped the site as being of the Pinjarra 968 vegetation type being Jarrah, Eucalyptus marginata, Marri, Corymbia calophylla and wandoo, E. wandoo.

Emerge (2011) reports that "across the site, there are scattered paddock trees that consist of a number of species which include Corymbia calophylla, Casuarina obesa, Eucalyptus rudis, Melaleuca preissiana and Melaleuca rhaphiophylla. The latter three species are found either around the man-made dams or in the lower elevated areas of the site, where the soils generally become water logged during periods of inundation. In some of these areas, Juncus pallidus, a sedge species, is also present. The majority of the site is covered in annual pasture grasses and weed species which include Arctotheca calendula, Romulea rosea, Ehrharta calycina, Lupinus spp., Acetosella vulgaris, Trifolium spp. and Lolium rigidum. In addition to this, around the current dwellings and along the fence lines, a variety of planted eucalyptus species as well as other non-native species have been planted". Further to the above, an (out of season) site inspection was completed by 360 Environmental Principal Ecological/Biologist (2020a) which confirmed that the vegetation within the site is dominated by planted trees and shrubs over introduced grasses. Remnant vegetation at the site appeared to be limited to scattered Jarrah (Eucalyptus marginata), Marri (Corymbia calophylla), Flooded Gum (Eucalyptus rudis) and Melaleuca preissii and introduced Eucalyptus species. No vegetation within the site is analogous to any Commonwealth TECs.

# 3.4 Describe any outstanding natural features and/or any other important or unique values relevant to the project area

There are no outstanding natural features, landmarks or unique values within the site. The site is not within a Bush Forever site, ecological linkage or Environmentally Sensitive Area (Figure 5).

# 3.5 Describe the status of native vegetation relevant to the project area

Regionally the site is mapped within vegetation association Pinjarra 968 and Guildford vegetation complex. According to WALGA (2020) Environmental Planning Tool the site has not been mapped as containing native vegetation and based on historical aerial imagery, the site appears to have been cleared since mid 1960 (Landgate, 2020). Due to the cleared nature of the site (isolated remnant trees (with no understorey) over paddock) the site no longer represents the structure of the association/complexes. The site is in completely degraded condition, which means that the structure of the vegetation 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 and shrub (Environmental Protection Authority, 2016a).

# 3.6 Describe the gradient (or depth range if action is to be taken in a marine area) relevant to the project area

The topography on site is undulating with heights between 27 and 31 m AHD.

#### 3.7 Describe the current condition of the environment relevant to the project area

Available aerial photography indicates that since 1953, the site has been cleared for grazing purposes, with only isolated trees present over paddock. The site is in completely degraded condition, which means that the structure of the vegetation 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 and shrub (Environmental Protection Authority, 2016a).

3.8 Describe any Commonwealth Heritage places or other places recognised as having heritage values relevant to the project

There are no Commonwealth or State European heritage places (State Heritage Office 2020) in the vicinity of the site.

#### 3.9 Describe any Indigenous heritage values relevant to the project area

The Department of Planning Lands and Heritage (DPLH) (2020) Aboriginal Heritage Inquiry System was searched and there are no registered aboriginal sites within the site. There are two registered sites located north west within 100 m of the site boundary, within the Tonkin Road Reserve. Tonkin highway- Mundijong road scatters No. 11 and 12 (Attachment C). The DPLH (2020) Aboriginal Heritage Inquiry System was searched and there are is one 'other heritage' aboriginal sites



within the site (Tonkin highway-Mundijong road scatter #13) and one other heritage site (IF #2) adjacent to the site within the Tonkin Road Reserve (Attachment D). The status of these other heritage sites is 'stored data/not a site' which means that the sites have been assessed as not meeting Section 5 of the Aboriginal Heritage Act 1972.

# 3.10 Describe the tenure of the action area (e.g. freehold, leasehold) relevant to the project area

The site is freehold land.

# 3.11 Describe any existing or any proposed uses relevant to the project area

The site is currently used for grazing purposes and is zoned 'Urban' under the MRS and 'Urban Development' under the Shire's TPS2. There is an approved WAPC LSP for the site to guide and facilitate urban development. A WAPC subdivision approval has been issued for Lot 9000 Taylor Road (Application No. 152765).



# Section 4 Measures to avoid or reduce impacts 4.1 Describe the measures you will undertake to avoid or reduce impact from your proposed action Subject to engineering specifications, there is potential to retain 27 potential breeding trees (Marri, Flooded gum and Introduced Eucalyptus) and 0.06 ha of foraging habitat within POS. Should the viability assessment (AS 4970-2009) confirm tree vigour (health) the trees are likely to be retained within the POS. A Construction Environmental Management Plan (CEMP) will be developed for the site and can incorporate the following (but not limited to): Induct all personnel and contractors to the environmental requirements of the site (i.e. toolbox meetings). Include information detailing the importance of the retained vegetation and the boundaries which will be in place in the induction material. Clearly demarcate Black cockatoo habitat trees that will be retained within POS. GPS co-ordinates of approved area to be cleared will be provided to contractors. If possible, undertake clearing in a slow progressive manner towards the proposed POS area. Should clearing be undertaken in the Black cockatoo breeding season, 10 days prior to the commencement of clearing, all potential breed tree hollows on site will be inspected by a gualified ecologist to confirm whether the hollows are being utilized by Black cockatoo. Should the hollows be utilized by Black cockatoos a 10m exclusion zone will be established. No clearing activity will be undertaken within the area until the hollow is no longer in use. 4.2 For matters protected by the EPBC Act that may be affected by the proposed action, describe the proposed environmental outcomes to be achieved The proposed action is to provision clearing the site which includes the following: Potential Black cockatoo habitat trees 11 Jarrah (Eucalyptus marginata) of which: one tree had two hollows <120mm, one tree had four hollows (two <120mm and two >120mm) and two of the hollows were infested with bees, one tree had one hollow (<120mm), one tree has one hollow (>120mm) Nine Marri (Corymbia calophylla) of which: One tree had one hollow >120mm, one tree had four hollows (two <120mm and two >120mm) and two of the hollows were infested with bees Two Tuart (E. gomphocephala) with no hollows 22 Flooded Gum (E. rudis) of which: One tree had one hollow (>120mm) and one tree had one hollow (<120mm) 123 introduced eucalypts of which: one tree had four hollows (one <120mm and three >120mm) and one tree had two hollows (>120mm) Two stags (dead trees) of which: One stag had three hollows (two <120mm and one >120mm) Black Cockatoo Foraging Habitat 1.07 ha Black cockatoo foraging habitat of which 0.69 ha (59%) of the foraging habitat is recorded to be in medium to

low quality.

POS areas in accordance with landscape plans are likely to be revegetated. The incorporation tree species associated with Black cockatoo breeding habitat and foraging habitat can be considered subject to Bushfire requirements.



Section 5					
Conclusion on the likelihood of significant impacts					
5.1 You indicated the below ticked items to be of significant impact and therefore you consider the action to be a controlled					
action					
World Heritage properties					
National Heritage places					
Wetlands of international importance (declared Ramsar wetlands)					
Listed threatened species or any threatened ecological community					
Listed migratory species					
Marine environment outside Commonwealth marine areas					
Protection of the environment from actions involving Commonwealth land					
Great Barrier Reef Marine Park					
A water resource, in relation to coal seam gas development and large coal mining development					
Protection of the environment from nuclear actions					
Protection of the environment from Commonwealth actions					
Commonwealth Heritage places overseas					
Commonwealth marine areas					
5.2 If no significant matters are identified, provide the key reasons why you think the proposed action is not likely to have a significant impact on a matter protected under the EPBC Act and therefore not a controlled action					
The significant impact criteria are provided below to demonstrate that the proposed action is not a controlled action again	nst				
DEWHA (2009) and DSEWPAC (2012) guidelines.					
LEAD TO A LONG TERM DECREASE IN THE SIZE OF A POPULATION					
Section 2.1 Identities 169 potential breeding trees with a DBH of greater than 500 mm were recorded, of which 46 were					
(>120mm) for Black cockates. No ovidence of black cockates breeding, including chow marks around bellow entrances.	ioro				
observed on site	ere				
There are several Bush Forever Sites within a 10 km radius of the site which contains Black cockatoo foraging and poter	ntial				
habitat trees including local government reserves which contain Black cockatoo breed trees with hollows. Scrivener Road	l				
Gravel Reserve has recorded active hollows by Black cockatoos (Johnstone and Kirkby in Shire of Serpentine Jarrahdale,					
2015) which is 12 km from the site. Nesting has also been recorded within the Serpentine National Park.					
REDUCE THE AREA OF OCCUPANCY OF THE SPECIES					
It is unlikely that the proposed action would significantly reduce the area of occupancy of the Black cockatoos. The site is	S				
parkland cleared and in 'Completely Degraded' condition with 1.07 ha foraging habitat of which 0.69 ha (59%) of the foraging habitat of which 0.69 ha (59\%) of the foraging habitat of which 0.69 ha (59\%) of the foraging habitat of which 0.69 ha (59\%) of the foraging habitat of which 0.69 ha (59\%) of the foraging habitat of which 0.69 ha (59\%) of the foraging habitat of which 0.69 ha (59\%) of the foraging habitat of which 0.69 ha (59\%) of the foraging habitat of which 0.69 ha (59\%) of the foraging habitat of which 0.69 ha (59\%) of the foraging habitat of which 0.69 ha (59\%) of the foraging habitat of which 0.69 ha (59\%) of the foraging habitat of which 0.69 ha (59\%) of the for	ng				
habitat is recorded to be in medium to low quality. Within 7.5 km of the site are 10 Bush forever sites (No. 65, 271, 321, 34)	8,				
352, 353, 354, 361, 360, and 368) which covers approx. 1,677 ha. These sites support Black cockatoo foraging and likely	to				
potential breeding habitat.					
FRAGMENT AN EXISTING POPULATION INTO TWO OR MORE POPULATIONS	<u>ب</u> د				
The site is parkiand cleared and in Completely Degraded condition with 1.07 ha loraging habitat of which 0.69 ha (59%)	) 01				
the foraging habital is recorded to be in medium to low quality. Within 7.5 km of the site are to bush forever sites (No. 65, 271, 221, 249, 252, 252, 254, 261, 260, and 269) which covers approx 1,677 ba. These sites support Black cockates					
271, 321, 340, 352, 353, 354, 361, 360, and 366) which covers approx. 1,677 ha. These sites support black cockator					
ioraging and intervite potential breeding habitat. Therefore, the proposed action will not hagment an existing population.					
ADVERSELY AFFECT HABITAT CRITICAL TO THE SUBVIVAL OF A SPECIES					
Habitat critical to the survival of a species refers to areas that are necessary for activities such as foraging roosting or					
dispersal: long term maintenance of the species, maintain genetic diversity and long-term evolutionary development and th	iere				
introduction of populations or recovery of the species (DoE 2013). The site offers only a small foraging habitat area (1.07 h	a)				
and as such this habitat is not considered critical to the species. There was no visual evidence of Black Cockatoo breeding	ion				
the site. Of the 49 native species, five trees contained suitable hollows (>120mm) for Black cockatoo. There has been no					
recorded roosting activity within the site (Birds Australia, WALGA, 2020).					
DISRUPT THE BREEDING CYCLE OF A POPULATION					

The proposed action will clear five native trees containing suitable hollows (>120mm) for Black cockatoo and four native trees containing unsuitable hollows (<120mm) and one introduced Eucalyptus (<120mm). There was no visual evidence of Black Cockatoo breeding on the site. Given the paucity of habitat on the site, and 10 Bush Forever sites (approx. 1,677 ha) within 7.5 km radius of the site likely to support breeding habitat, the proposed action is highly unlikely to disrupt the breeding cycle.



Section 6			
Environmental record of the person proposing to take the action			
6.1 Does the person taking the action have a satisfactory record of responsible environmental management? Explain in further detail			
All projects undertaken by Parcel Property Pty Ltd have received full statutory approvals to the satisfaction of the relevant environmental agencies.			
6.2 Provide details of any past or present proceedings under a Commonwealth, State or Territory law for the protection of the environment or the conservation and sustainable use of natural resources against either (a) the person proposing to take the action or, (b) if a permit has been applied for in relation to the action – the person making the application There are no past or present proceedings under Commonwealth or State law.			
6.3 If it is a corporation undertaking the action will the action be taken in accordance with the corporation's environmental policy and framework?			
Yes  No			
6.4 Has the person taking the action previously referred an action under the EPBC Act, or been responsible for undertaking an action referred under the EPBC Act?			
Yes No			
6.4.1 EPBC Act No and/or Name of Proposal			
Kerrboyle Pty Ltd has not previously referral an action under the EPBC Act. However, the proposal action is in association with Parcel Property Pty Ltd (previously ABN Developments), who has completed EPBC referral under company subsidiary's:			
Parcel Properties, previously ABN Developments PTY LTD have submitted the following referral projects: •2016/7661: ABN Corporate Services Pty Ltd/Commercial Development/City of Rockingham, WA/WesternAustralia/Clearing of 12.8ha of native vegetation on Lots 19 and 20, Sixty Eight Road, Baldivis, WA •2014/7120: ABN DEVELOPMENTS PTY LTD/Agriculture and Forestry/Bullsbrook, City of Swan, WA/WesternAustralia/Vegetation clearing for future agricultural use, Bullsbrook, WA			



Environmental Significance. Prepared for Parcel Property, Perth.

Note: PDF may contain fields not relevant to your application. These fields will appear blank or unticked. Please disregard these fields.

Section 7		
Information sources		
Reference source		
360 Environmental (2020a) Quick assessment of Parcel landholdings in Mundiiong to identify potential Matters of National		

Reliability

Completed by Principal Botanist/Ecologist

#### Uncertainties

out-of-season assessment

#### **Reference source**

360 Environmental (2020b) Mundijong Black Cockatoo Habitat Assessment. Report No. 3869 AD Rev 2. Prepared for Parcel Property, Perth.

#### Reliability

Completed by a qualified ecologist

#### Uncertainties

no known uncertainties

#### Reference source

DEE (2017) draft referral guideline for three threatened black cockatoo species

#### Reliability

government publication

#### Uncertainties

Draft publication yet to be finalised

#### Reference source

Department of Water and Environmental Regulation (DWER) (2020) Water Register [online- retrieved from https://maps. water.wa.gov.au/#/webmap/register (assessed 28/07/2020)

#### Reliability

Government Database

## Uncertainties

no known uncertainities

#### Reference source

Jordan (1986) Serpentine Parts Sheets 2033II and 2133 III, Perth Metropolitan Regional. Environmental Geology Series. Geological Survey of Western Australia.

# Reliability

Published Geological Survey of Western Australia

#### Uncertainties

no known uncertainities



#### Reference source

Shire of Serpentine Jarrah (2015) Scrivener Road Gravel Reserve Draft Management Plan. Draft 1a. August.

#### Reliability

Local Government Publication

#### Uncertainties

Draft version of report

#### **Reference source**

Western Australia Local Government Association (WALGA) (2020) environmental Planning Tool: GIS Database [online]. Accessed 28/07/2020

#### Reliability

WALGA website database

#### Uncertainties

No known uncertainties

#### **Reference source**

WAPC (2017) Model Subdivision Conditions Schedule. Department of Planning, Lands and Heritage, Perth.

#### Reliability

Published government report

#### Uncertainties

No known uncertainties

#### **Reference source**

Emerge Associates (2011) Environmental Assessment and Justification Report: PRECINCT E - MUNDIJONG/WHITBY DISTRICT

STRUCTURE PLAN. Prepared for Investa Residential Group Pty Ltd and Qube Property Group .

#### Reliability

Submitted as part of LSP

#### Uncertainties

No known uncertainties

## Reference source

JDA (2012) Lots 4, 7 & 10 Adams Rd, Lot 43 Taylor Rd, Mundijong Local Water Management Strategy (LWMS). Prepared forInvesta Property Group & QUBE Adam Street Development Ltd

#### Reliability

Submitted as part of LSP

## Uncertainties

No known uncertainties



Section 8			
Proposed alternatives			
Do you have any feasible alternatives to taking the proposed action?			
Yes 🗹 No			



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Section 9				
Person proposing the action				
9.1.1 Is the person proposing the action a member of an organisation?				
Organisation				
Organisation name	KERRBOYLE PTY LTD			
Business name				
ABN	59604432555			
ACN				
Business address	Level 5/14 Walters Dr, Osborne Park, 6017, WA, Australia			
Postal address				
Main Phone number	(08) 9200 4000			
Fax				
Primary email address	fenualla@parcelproperty.com.au			
Secondary email address				
9.1.2 I qualify for exemption from fees under section 520(4C)(e)(v) of th	e EPBC Act because I am:			
✓ Not applicable A 0.0 I would like to each for a weight of full an activity for a weight of the line o				
9.1.2.2 I would like to apply for a waiver of full or partial fees under Sch	equie 1, 5.21A of the EPBC Regulations *			
9.1.3 Contact				
First name	Jeremy			
Last name	Cordina			
Job title	General Manager			
Phone	(08) 9200 4000			
Mobile				
Fax				
Email	jeremy@parcelproperty.com.au			
Primary address	Level 5/14 Walters Dr, Osborne Park, 6017, WA, Australia			
Address				
Declaration: Person proposing the action	Ording			
to the best of my knowledge the information I have given on, or attached	ed to the EPBC Act Referral is complete, current and			
correct. I understand that giving false or misleading information is a serious offence. I declare that I am not taking the action on behalf or for the benefit of any other person or entity.				
Signature: Date: 4.09.20				
L/	, the person			
proposing the action, consent to the designation of purposes of the action described in this EPBC Act Referral.	as the proponent for the			
Signature:Date:				



Proposed designated proponent			
9.2.1 Is the proposed designated proponent a member of an organisation?			
Yes No			
Organisation			
Organisation name	KERRBOYLE PTY LTD		
Business name			
ABN	59604432555		
ACN			
Business address	Level 5/14 Walters Dr, Osborne Park, 6017, WA, Australia		
Postal address			
Main Phone number	(08) 9200 4000		
Fax			
Primary email address	jeremy@parceiproperty.com.au		
Secondary email address			
9.2.2 Contact			
First name	Jeremy		
Last name	Cordina		
Job title			
Phone	(08) 9200 4000		
Mobile			
Fax	internet and an an		
	Jeremy@parcelproperty.com.au		
Primary address	Level 5/14 waters Dr, Osborne Park, 6017, WA, Australia		
Address			
Declaration: Proposed Designated Proponent			
I,	the		
proposed designated proponent, consent to the designation of			
myself as the proponent for the purposes of the action described in this EPBC Act Referral.			
Signature:			



1 4

Referring party (person preparing the information)		
9.3.1 Is the referring party (person preparing the information) a member of an organisation?		
Yes No		
Organisation		
Organisation name	360 Environmental Pty Ltd	
Business name		
ABN	50109499041	
ACN		
Business address	10 Bermondsey St, West Leederville, 6007, WA, Australia	
Postal address		
Main Phone number	(08)9388860	
Fax		
Primary email address	admin@360environmental.com.au	
Secondary email address		
9.3.2 Contact		
First name	Katrina	
Last name	Cooper	
Job title	Senior Environmental Scientist	
Phone	(08)93888360	
Mobile		
Fax		
Email	katrinacooper@360environmental.com.au	
Primary address	To Bermondsey SI, west Leederville, 6007, WA, Australia	
Address Declaration: Referring party (person preparing the information)		
Lectaration. Reterning party (person preparing the information)		
to the best of my knowledge the Information I have given on, or attached to this EPBC Act Referral is complete, current and correct. I understand that giving false or misleading information is a serious offence.		
Signature:		



Appendix A	
Attachment	
Document Type	File Name
action_area_images	3679 006 F1 Site Location and Clearing Footprint.pdf
action_area_images	3679 006 F2 Potential Black Cockatoo Habitat Trees.pdf
action_area_images	3679 006 F3 Black Cockatoo Foraging Habitat.pdf
action_area_images	3679 006 F4 Soils.pdf
action_area_images	3679 006 F5 Conservation Areas and Wetlands.pdf
localgov_approval_consent	Appendix A WAPC Approval_30 Oct 2013.pdf
localgov_approval_consent	Appendix B WAPC 152765 Approval letter reduced.pdf
public_consultation_reports	Appendix C DPLH Aboriginal Database Search Results
	Report and Map.pdf
public_consultation_reports	Appendix D DPLH Aboriginal Database Other heritage
supporting tech reports	Appendix E I SP Environmental Assessment ndf
supporting_tech_reports	Appendix E PMST Mundiiong pdf
supporting tech reports	Appendix G DBCA Natureman Benort ndf
supporting tech reports	Mundiiong Black Cockatoo Habitat Assessment Part 1 pdf
supporting tech reports	Mundijong Black Cockatoo Habitat Assessment Part 2 pdf
hydro investigation files	Appendix H I WMS-reduced ndf
hydro_investigation_files	Appendix I LWMS_Approval.pdf
Appendix B	
Coordinates	
Area 1	1
-32.279605250312,115.97067787763	
-32.279602442193,115.97120976544	
-32.279567951395,115.97704411542	
-32.281952504859,115.97706364453	
-32.283168396347,115.97707357749	
-32.28436570985,115.97708324414	
-32.286778902223,115.97710262011	
-32.286836010587,115.97077107033	
-32.284422945501,115.97074039201	
-32.283229417789,115.97072520692	
-32.282009947445,115.97070852766	
-32.279605250312,115.97067787763	