

APPENDIX K

Offset Management Plan



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EPBC 2021/9034 - OFFSET MANAGEMENT PLAN

Prepared for Carbone Bros
On Lot 5 Wellesley Road, Wellesley,
Shire of Harvey
VERSION 3: AUGUST 2024

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Version	Date	Description of Changes	Author	Reviewed
2	June 2023	Original management plan	AB	ML
3	August 2024	Offset management plan	ML	ML

1. Introduction

1.1 Project description

Carbone Bros intend to extract sand from the proposed extension to the extraction area (Stage 10) on Figure 1 over a period of 5 years. The proposed new extraction area, which is 3.44ha and includes 2.33ha of clearing, will be rehabilitated with pasture grasses at the completion of extraction and returned to the owner for grazing stock.

The residual impacts to conservation significant species and their habitat, as a result of this development, will be offset by covenanting and managing a total of 20.29ha of remnant native vegetation in two parcels of land within Lot 5 (shown in Figure 1).

1.2 Approvals process and context

Carbone Bros has progressed approval in accordance with legislation. The actions and engagements undertaken to date with DCCEEW are as follows:

- a) The original project proposal, which consisted of extraction over 5.18ha of land and clearing of both *Agonis flexuosa* woodland as well as *Banksia sp.* of the Swan Coastal Plan threatened ecological community (TEC) was referred to the then federal Department of Agriculture, Water and the Environment (DAWE) in September 2021, reference EPBC2021/9034.
- b) On 4th November 2021 the project was determined to be a controlled action by DAWE and a request for further information was issued.
- c) At this same time the Extractive Industry Licence application for the proposal was assessed by the Shire of Harvey, and the Shire were not willing to accept the loss of *Banksia* TEC vegetation. Through negotiation it was determined that the proponent would omit from the project footprint the *Banksia* Woodland TEC vegetation and a 20m buffer to protect it from edge effects.
- d) As a result, the proponent submitted a 'variation to proposal' to DCCEEW on 28th July 2022 to reduce the disturbance footprint to 3.4ha, within which 2.6ha is remnant native *Agonis flexuosa* woodland with 27 potential black cockatoo habitat trees impacted.
- e) The variation was approved by DCCEEW on the 25th August 2022.
- f) It was confirmed with DCCEEW on 24th October 2022, that given the proposal changes the preliminary documentation does not need to refer to impacts on Black cockatoo foraging or *Banksia sp.* TEC impacts any more. The proponent also clarified that, with better aerial imaging the area of actual impact was refined to **2.33ha** of *Agonis flexuosa* woodland and only **27** habitat trees, less than stated in the variation. DCCEEW confirmed that a further variation request for this change is not required.

1.3 Purpose and objective

This Offset Management Plan (OMP) has been prepared to demonstrate the actions and responsibilities of both the proponent and landowner at Lot 5 Wellesley Road to effectively preserve the habitat values and maintain the offset areas within the property. This OMP should be read in conjunction with the report entitled "Lot 5 Wellesley Road, 2021/9034 Preliminary Documentation Submission", prepared for Carbone Bros Pty Ltd by Lundstrom Environmental Consultants Pty Ltd.

The most significant objective of the OMP is to provide an acceptable offset and management program to cater for the clearing of 27 potential black cockatoo breeding habitat trees.

1.4 Key terms

Table 1. Contact information

Property Description	Lot 5 on Plan 5888 Wellesley Road, Wellesley, Shire of Harvey
Landowner	Lyndon Mervyn Edwards
Proponent	Carbone Bros Pty. Ltd ABN: 81 008 702 369 PO Box 61, Brunswick Junction, WA 6224 4 Papps Road, Brunswick, WA 6224 Telephone: 08 9726 1178 Email: admin@carbonebros.com.au Web: www.carbonebros.com.au/
Proposal Key Contact	Lundstrom Environmental Consultants 896 Canning Hwy Applecross WA 6153 Phone 0417934863 Email: admin@lundstrom-environmental.com.au

2. Summary of Offset Proposal

In order to sufficiently offset the adverse residual impacts of clearing for sand mining activities within Stage 10, the proponent with consent of the landowner will organize for a total of 20.29ha of remnant native bushland in two blocks within Lot 5 to be covenanted under the *National Trust of Australia (WA) Act 1964*, shown as Offset Area 1 and Offset Area 2 in Figure 1.

The size and location of the Offset areas has been calculated based on the quality and condition of habitat for matters of national environmental significance (MNES) that is being removed and the existing vegetation surrounding the proposed footprint. This has been input into the DCCEE's *Offsets Assessments Guide* along with rationale for each entry, to confirm the offset is sufficient to compensate for the unavoidable residual impacts of the proposal (discussed in detail in Section 9 of the 2021/9034 Preliminary Document Submission Rev 3).

3. Proposed Offset Sites

3.1 Size, location and zoning

Table 2. Property description

Property Description	Lot 5 on Plan 5888 335 Wellesley Road, Wellesley, Shire of Harvey
Volume	1826
Folio	663
Area	103.1 ha
Ownership	Lyndon Mervyn Edwards

The property is zoned under the Greater Bunbury Regional Scheme, as industrial and falls under the Kemerton Strategic Industry Zone which “provides for manufacturing industry, the storage and distribution of goods and associated uses”.

Currently the property is used for sand extraction, with some actively grazed pastures and the remainder remnant vegetation, including a conservation covenant.

3.2 Biological environment

This section summarises the main points made in each of the separate biological reports produced for this document as indicated below:

3.2.1 Flora

Floristic summary

A total of 61 native and 14 non-native (exotic) taxa were recorded within the site, representing 33 families and 58 genera. The dominant families containing mostly native taxa were *Fabaceae* (6 native taxa, 3 exotic taxa), *Asteraceae* (6 native taxa, 4 exotic taxa), and *Orchidaceae* (5 native taxa). For a complete species list and the individual site data refer to Appendix F.

Threatened and priority flora

No Threatened Flora pursuant to the Biodiversity Conservation Act (2016) nor the EPBC Act (1999) were recorded during the survey. One species listed as Priority Flora by the PWS was recorded during the survey. *Lasiopetalum ?membranaceum* (P3) is a low multi-stemmed shrub growing up to 1 m in height. The uncertain identification is due to all specimens observed being sterile, but the vegetative features indicate that this is most likely the correct result.

3.2.2 Vegetation

Plant associations

The survey identified two plant communities within the site:

- *Eucalyptus marginata* - *Banksia attenuata* woodland (Figure 2)

Open Woodland of *Eucalyptus marginata* and *Banksia attenuata* with *Agonis flexuosa* over *Banksia grandis* and a shrubland of *Xanthorrhoea gracilis* and *Hibbertia hypericoides* over a herbland of *Dasypogon bromeliifolius*, *Anarthria prolifera* and *Desmocladius fasciculatus* on grey sands.

- *Agonis flexuosa* Woodland (Figure 2)

Woodland of *Agonis flexuosa* with *Eucalyptus marginata* over open shrubland of *Xanthorrhoea gracilis*, *Macrozamia riedlei* and *Hibbertia hypericoides* over a herbland of *Dasypogon bromeliifolius* in grey sands.

Conservation significance

The results of the FCT assignment were inconsistent between the hierarchical clustering and non-hierarchical clustering. Much of this inconsistency is likely to be due to the high proportion of exotic species in the Wellesley Rd dataset.

The hierarchical clustering assignments indicated that Plots W01, W02 and W04 were part of FCT 21a – ‘Central *Banksia attenuata* – *Eucalyptus marginata* woodlands’, with some similarity to FCT 28 – ‘Spearwood *Banksia attenuata* or *Banksia attenuata* – *Eucalyptus* woodlands’ (Appendix F). This result would be consistent with the locality and position on the Swan Coastal Plain. Plots W03 and W05 nearest fusions were with sites from FCTs 5 and 11, respectively, which are wetland community types and are not likely correct results. These types of assignments are often seen where there is a high proportion of exotic species and low native species richness.

The non-hierarchical clustering produced different results to the hierarchical clustering and no assignment could be made with confidence. For all plots there was little difference in strengths of memberships for the first three

nearest groups, indicating an equivocal result. The influence of the high proportion of weeds is seen in the similarity to FCT 6 – ‘Weed dominated wetlands on heavy soils’.

Eucalyptus marginata - *Banksia attenuata* woodland has an open overstorey with *Banksia attenuata* as a co-dominant, which is a key diagnostic characteristic for the Commonwealth-listed TEC ‘*Banksia*-dominated woodlands of the Swan Coastal Plain IBRA Region’. For this TEC to be present, the condition of the vegetation needs to be ‘Good’ or better, which is the case for the *Eucalyptus marginata* - *Banksia attenuata* woodland as the extent of the community within the site exceeds 2 ha, it is likely that this community meets the criteria for inclusion in the ‘*Banksia*-dominated woodlands of the Swan Coastal Plain IBRA Region’ TEC.

Vegetation condition

Most of the impact site is in a ‘Degraded’ condition or worse and retains only some of its original botanical value. This is mainly in the *Agonis flexuosa* woodland where the vegetation structure has been highly modified from past grazing activity, especially in the understorey, where native herbaceous species have largely been replaced by exotic species. The shrub mid-storey has also been largely lost.

The *Eucalyptus marginata* - *Banksia attenuata* woodland is rated mostly as ‘Good’ or better with much of the original vertical structure intact as well as the original shrub and tree density. The native herbaceous understorey has been somewhat modified in some areas. Figure 3 illustrates the vegetation condition of the Offset areas.

Weeds

Fourteen of the taxa recorded during the survey are exotics (weeds). The most significant weed in the site is **Zantedeschia aethiopicum* (*Arum Lily*), which is a Declared Pest under the Biosecurity and Agriculture Management Act 2007.

3.2.3 Fauna

Fauna data has been collected from two separate surveys which also include areas outside of the two proposed offset areas. These are identified in Appendices E, G and Figure 4. Fauna data pertaining to the two offset areas as been extracted from these documents. In summary, the findings of these surveys can be discussed under the following headings:

- Black cockatoo Habitat Assessment
For discussion purposes this has been divided into three categories as follows:
 - Black cockatoo breeding habitat
 - Black cockatoo foraging habitat
 - Black cockatoo roosting habitat
- Western Ringtail Possum (WRP) Assessment
- Other Fauna of Conservation Significance

3.2.3.1 Black cockatoo habitat assessment

Black cockatoo breeding habitat

The State Forest Black Cockatoo (*Baudin’s Cockatoo Calyptorhynchus baudinii* and *Forest Red-tailed Black Cockatoo Calyptorhynchus banksii naso*) Recovery Plan (DEC, 2008) and the State Carnaby Cockatoo (*Calyptorhynchus latirostris*) Recovery Plan (DPAW, 2013) both include objectives to protect habitat critical to the black cockatoo species survival. This offset package will see 20.29 ha of important habitat protected. The vegetation in the offsets offer more than 72 identified habitat trees made up as follows:

- 40 trees with DBH \geq 50cm and one or more large hollows suitable for black cockatoo breeding
- 32 trees with DBH \geq 50cm and small or no hollows

There are significant areas of similar habitat in vegetation bordering the subject site and it is certain that these also contain numerous cockatoo habitat trees, many of which are likely to provide breeding opportunities for black cockatoos.

Black cockatoo foraging habitat

The entire offset area is considered high quality foraging habitat for black cockatoo species, given the occurrence of *Eucalyptus marginata* with *Banksia attenuata* (and to a lesser extent *Banksia grandis*). The proposed offset areas display abundant evidence of recent black cockatoo foraging, mainly on chewed *Banksia* cones.

Black cockatoo roosting habitat

Whilst there were no clearly identifiable roosting trees observed with the proposed offset areas, flocks of Forest Red-tailed Black Cockatoo (*Calyptorhynchus banksii naso*) were seen in the surrounding areas. It is therefore clear that the offset areas will be used for roosting.

3.2.3.2 Western Ringtail Possum assessment

Possum scats were recorded across the proposed offset areas, including woodland without the presence of *Agonis flexuosa*. Individual scats were generally found in clusters of 3 to 5 and were primarily observed deposited along the top surface of fallen tree trunks. The possums use these areas as runways or paths to move around the site. Some scats were also found on tree stumps and in leaf litter at the base of trees. The majority of scat forms are attributed to the Common Brushtail Possum with 6 of the 22 scat recordings potentially representing the Western Ringtail Possum.

3.2.3.3 Other fauna of conservation significance

No evidence of any fauna species of conservation significance utilising the subject site was found during the various site surveys. The habitat assessment and other observations does however suggest that some fauna species of conservation significance are likely to persist in the general area. Subject to suitable habitat being present, it is considered possible that some are also likely to reside or at least frequent the offset areas at times. The total size of the subject site is however relatively small and therefore any fauna species actually present are only likely to be represented by a small number of individuals at any one time. A summary of those species considered likely to be present is provided in Appendix E.

3.2.4 Matters of National Environmental Significance (MNES) values

Of the nine MNES administered by the EPBC Act 1999, “listed threatened species and ecological communities” is relevant on this site.

3.2.4.1 Black cockatoos

Significance criteria of impacts refer to ‘populations’ and ‘important populations’ (DEWHA, 2013). These terms have not been defined for black cockatoos due to the mobile and widely distributed nature of these species, and the variation in flock compositions (for example, between breeding and non-breeding seasons). For black cockatoos, it is more appropriate to consider significance in terms of impacts on habitat rather than a resident population (DSEWPac, 2012).

The proposed action involves the clearing of up to 2.33ha of potential breeding habitat including 27 potential black cockatoo breeding habitat trees for the three species of black cockatoo, which are recorded to occur within the region:

- Carnaby's Black-Cockatoo (*Calyptorhynchus latirostris*) – Endangered
- Baudin's Cockatoo (*Calyptorhynchus baudinii*) – Endangered
- Forest Red-tailed Black Cockatoo (*Calyptorhynchus banksii naso*) (FRTBC) – Vulnerable

Carnaby's Black Cockatoo – *Calyptorhynchus latirostris*

Family	Psittacidae
Conservation Status	Endangered under the EPBC Act 1999. The term 'endangered' is defined as a threatened species considered to be facing a very high risk of extinction in the wild. This species is also listed as Endangered under the Wildlife Conservation Act 1950 of Western Australia.
Likelihood of occurrence	Known to occur. Confirmed roosting sites recorded 3.5km to the south and 1km to the north-east of the project site, with no confirmed breeding sites recorded.
Distribution	Distribution extends north to Perth and east to Wundowie, Mount Helena, Christmas Tree Well, North Bannister, Mount Saddleback, Rocky Gully and the upper King River. They are also found on parts of the Swan Coastal Plain (DSEWPAC, 2012)
Breeding Season	Carnaby's cockatoo breeds from July/August to January/February.
Breeding Habitat	Carnaby's cockatoo nest in the wheatbelt in hollows of live or dead eucalypts, primarily the smoothbarked salmon gum (<i>Eucalyptus salmonophloia</i>) and wandoo (<i>Eucalyptus wandoo</i>) (Saunders 1979), though breeding has been reported in other wheatbelt tree species and some tree species on the Coastal Plain and jarrah forest (Saunders 1979; Storr 1991; Johnstone and Storr 1998). Success in breeding is dependent on the quality and proximity of feeding habitat within 12 km of nesting sites (Saunders 1977, 1986; Saunders and Ingram, 1987). There has been an apparent expansion in the breeding range to include areas further west and south since the middle of last century with a more rapid increase in the past 10-30 years into the jarrah-marri forests and the coastal tuart forests south of Perth (Johnstone and Storr, 1998; Johnstone et al., 2011). Some non-breeding birds remain in non-breeding areas all year round.
Feeding Habitat	During the non-breeding season (January to July) the majority of the birds migrate to the higher rainfall coastal regions of their range in the midwest coast, Swan Coastal Plain and south coast. Marri seeds are a major food of Carnaby's black cockatoo (TSSC, 2016). Also feeds on jarrah (<i>Eucalyptus marginata</i>) in south-west forests and blackbutt (<i>E. patens</i>), Albany blackbutt (<i>E. staeri</i>), sheoak (<i>Allocasuarina fraseriana</i>), and snottygobble (<i>Persoonia longifolia</i>). candlestick banksia (<i>Banksia attenuata</i>) seeds and the weevil larvae in the fruiting cones are an important food source. Non-indigenous food sources include native spotted gum (<i>E. maculata</i>) and Cape lilac (<i>Melia azedarach</i>) on the Swan Coastal Plain.

Key considerations of this species

There are a number of threats that have contributed to the decline in population numbers of *Carnaby's black cockatoo* including habitat loss due to clearing and urbanisation, habitat degradation and competition for hollows from other birds and feral bees.

Carnaby's black cockatoo mostly breed in the wheatbelt and require corridors of *Banksia* and *Eucalyptus* species for resting and feeding in their longer daily journeys to seasonal foraging areas on the Swan Coastal Plain (DPAW, 2013).

Habitat critical to survival of *Carnaby's cockatoo* includes suitable woodland breeding habitat with tree hollows and nearby feeding habitat, and foraging habitat with available night roosts.

Carnaby's cockatoos are dependent on water being available in the vicinity (within 12 km) of roosting sites (Shah, 2006; Johnstone and Kirkby, 2008; Burnham et al., 2010).

Some non-breeding birds remain in non-breeding areas all year round in areas that have better natural water sources over the summer period and proteaceous woodlands and shrublands for foraging.

Carnaby's black cockatoo typically prefer long unburnt (10-30 years since the last fire) natural areas.

Baudin's Black Cockatoo - *Calyptorhynchus baudinii*

Family	Psittacidae
Conservation Status	Endangered under the Commonwealth EPBC Act 1999. Endangered under the <i>Wildlife Conservation Act 1950</i> of Western Australia.
Likelihood of Occurrence	Known to occur
Distribution/DWER Districts	Baudin's cockatoo occurs in temperate forest and woodland dominated by jarrah (<i>Eucalyptus marginata</i>), marri (<i>Corymbia calophylla</i>) and karri (<i>E. diversicolor</i>) in the following districts: Swan Coastal, Perth Hills, Narrogin, Katanning, Albany, Frankland, Donnelly, Blackwood, and Wellington.
Breeding Season	August/September to February/March
Breeding Habitat	The species nests in the hollows of mature eucalypts, particularly marri, karri, jarrah, wandoo (<i>E. wandoo</i>), tuart (<i>E. gomphocephala</i>) and bullich (<i>E. megacarpa</i>) (Johnstone et al. 2010, WAM 2017). Analyses show that trees with hollows large enough for use by Baudin's cockatoo may be between 200 and 500 years of age (Johnstone et al. 2002). Breeding occurs in the south-west of the species range bounded by Leschenault (near Bunbury), Collie (inland east of Bunbury) and Albany (DSEWPac 2012). Breeding has also been recorded north of this area at Perth Hills, Harvey (BirdLife International 2016), Lowden (Johnstone & Storr 1998), Serpentine (hills area), and to the east at Kojonup (Johnstone & Kirkby 2008). Old-growth jarrah-marri forest with suitable hollows for Baudin's cockatoo now only occur in severely fragmented stands.
Feeding Habitat	The species mainly feeds on the seeds and flowers of marri in the forested regions of the south-west, the seeds of the Proteaceous <i>Banksia grandis</i> , <i>B. littoralis</i> , <i>B. ilicifolia</i> , <i>Hakea undulata</i> , <i>H. prostrata</i> , <i>H. trifurcata</i> , and <i>Dryandra</i> spp., as well as <i>Erodium botrys</i> , jarrah and insect larvae. It also feeds on apple and pear seeds in orchards.

Key considerations of this species

Baudin's cockatoo has undergone substantial long-term decline in population size and range. Nest hollow shortage is a principal threat to *Baudin's cockatoo* (TSSC, 2018). Primary threatening processes that contribute to nest hollow shortage are land clearing, fire events, competition with invasive and native species and habitat modification due to phytopathogens and climate change.

Forest Red-tailed Black Cockatoo– Calyptorhynchus banksii naso

Family	Psittacidae
Conservation Status	Vulnerable under the Commonwealth EPBC Act 1999 and vulnerable under the Wildlife Conservation Act 1950 of Western Australia. It is a threatened species considered to be facing a high risk of extinction in the wild.
Likelihood of Occurrence	Known to occur
Distribution	Humid and sub-humid forests of southwest WA, mainly in the hilly interior. Distribution extends north to Perth and east to Wundowie, Mount Helena, Christmas Tree Well, North Bannister, Mount Saddleback, Rocky Gully and the upper King River. They are also found on parts of the Swan Coastal Plain. The forest red-tailed black cockatoo inhabits the dense jarrah, karri and marri forests receiving more than 600mm of annual average rainfall (Saunders et al., 1985; Saunders and Ingram, 1995).
Breeding Season	The forest red-tailed black cockatoo is thought to breed in October/November, but in years with good autumn rainfall they may breed in March/April.
Breeding Habitat	The species nests high in the hollows of mature eucalypts, particularly marri, karri, and jarrah, and may only breed in years when marri is fruiting in abundance. Lately some breeding has been recorded in artificial hollows (Kaarakin, 2020).
Feeding Habitat	The species is a canopy feeder that feeds predominantly on marri and jarrah and occasionally blackbutt (<i>E. patens</i>), Albany blackbutt (<i>E. staeri</i>), sheoak and snottygobble. It also feeds a wide variety of non-native trees such as Cape lilac, olives, liquid amber, lemon-scented gum, sweet introduced tree fruits and rosewood on the Swan Coastal Plain (Kaarakin, 2020).

Key considerations of this species

Nest hollow shortage is a principal threat to FRTBC (TSSC, 2018). Analyses show that trees with hollows large enough for use by FRTBC cockatoo are becoming increasingly rare (Johnstone et al. 2002). Primary threatening processes that contribute to nest hollow shortage are land clearing, fire events, competition with invasive and native species and habitat modification due to phytopathogens and climate change.

3.2.4.2 Western Ringtail Possum (*Pseudocheirus occidentalis*)

Western Ringtail Possum *Pseudocheirus occidentalis* – Critically Endangered (BC/EPBC Act)

Not recorded during the survey period despite targeted day and night surveys. Known to occur in the general area though it appears to be more commonly encountered west of Forrest Highway. Listed as a potential species based on available information.

Family	Pseudocheiridae
Conservation Status	Critically endangered under <i>EPBC Act 1999</i> (Commonwealth), <i>BC Act 2016</i> (WA), International for Union Conservation of Nature (IUCN) Red List
Likelihood of Occurrence	Potential to occur

Description	WRP is a nocturnal marsupial to 1.3 kg in weight and approximately 40 cm in body length. The fur is dark brown above with cream to grey fur underneath. The tail has a white tip and grows to 41 cm long (Australian Government 2009). WRPs breed once or occasionally twice a year giving birth to one to three off springs. Breeding can occur any time of the year, but most common in autumn (April-June). Their lifespan is three to five years on average in the wild.
Distribution	Once widely distributed across southern and south-western WA and now restricted to patches in forests and woodlands with records from only three areas. Due to the scattered distribution, surveys are difficult and estimates on population details are unknown.
Habitats	WRPs are arboreal and spend most of their time in trees. Their habitats are typically located close to water courses, swamps or on floodplains (Jones et al. 1994). The highest density populations are generally found in mature peppermint (<i>Agonis flexuosa</i>) remnants.

Key considerations of this species

WRP populations predominately occurs in peppermint forest and woodland and tuart (*Eucalyptus gomphocephala*) forest with a peppermint understorey. Areas with an understorey containing *Lepidosperma spp.* are also important habitat areas for WRPs. Young and vigorous peppermint trees are identified as an important nutritional source for the WRPs and both intact habitat patches and vegetation remnants are considered important.

WRPs populations of the southern Swan Coastal Plain face a range of threats, with habitat loss and fragmentation as a result of clearing being the most extensive major threat to populations. Other key threats include increased predation by foxes and cats, particularly where there is reduced understorey cover; altered fire regimes resulting in changes to habitat quality; and competition with brushtail possum (*Trichosurus vulpecula*) for resources (DEWHA, 2009).

4. Offset Management Measures

4.1 Offset plan objectives

The offset plan objective is to offset the residual impacts of clearing 2.33ha of black cockatoo species habitat and potential Western Ringtail Possum and the clearing of 27 potential black cockatoo breeding habitat trees. It is intended to reserve as covenant for conservation purposes under the *National Trust of Australia Act 1964* two blocks of remnant vegetation totalling 20.29 ha of land within Lot 5 Wellesley Road. The proposed offset area has approximately nine times the area of proposed clearing, that is less degraded, and has intact mid and understoreys. The land is dominated by Jarrah-Marri-Banksia woodland which provides breeding, foraging and roosting habitat for black cockatoos and with a high density of good to very good quality *Agonis flexuosa* WRP habitat throughout.

4.2. Offset plan management, performance criteria and targets

4.2.1 Establishing offsets through conservation covenant

Direct offsets will involve a statutory covenant being agreed between the landowner and the National Trust WA under s21A of the *National Trust of Australia Act 1964*. The covenant will be binding upon the current and all future owners of the land.

The covenant will be registered as a restricted covenant for conservation of bushland, over the offset area on the Certificate of Title. The owner continues to own the land and will agree to manage the covenanted vegetation in such a way as to preserve and maintain its ecological values. The proponent will achieve this through fencing the land and abiding by all National Trust of WA covenant limitations, conditions and restrictions.

4.2.1.1 Proposed covenant restrictions

Proposed covenant restrictions will include:

- Subdivision or construction of buildings
- Removal or clearing of native vegetation
- Mining
- Erecting transmission lines
- Rubbish storage

Exemptions may include:

- Seed collection
- Passive scientific study
- Fire mitigation activity

Proposed offset management, performance criteria and targets are listed in Table 3.

Table 3. Offset management, performance criteria and targets

Management Action	Interim Criteria	Completion Criteria	Roles and Responsibilities	Monitoring/ Reporting
Registration of Covenant				
<ul style="list-style-type: none"> The offset areas will be registered and accepted as restrictive conservation covenants by the National Trust of WA prior to clearing of the extraction footprint. 	<ul style="list-style-type: none"> Registration forms and supplementary information submitted to National Trust WA. 	<ul style="list-style-type: none"> Covenant approval received and title updated prior to clearing Stage 10. 	<ul style="list-style-type: none"> Proponent to ensure offset areas are surveyed and covenanted. Lodge signed document with Landgate for registration of the memorial on the Certificate of Title. Proponent to prepare submission forms and supplementary information necessary for covenanting. Landowner to submit forms and information to National Trust WA to legally secure the covenants in the perpetuity. Pay any reasonable fee that the National Trust of WA charges. 	<ul style="list-style-type: none"> Annual EPBC compliance report as per DCCEEW EPBC Act Approval (once approved). Covenants added to Certificate of Title
Fencing & Signposting				
<ul style="list-style-type: none"> The offset areas will be surveyed and marked prior to clearing of the Stage 10 extraction area starting. After the extraction footprint has been cleared, the offset areas shall be fenced (allowing fauna 	<ul style="list-style-type: none"> Covenant is marked with pegs by surveyor Fencing and signage around the boundary 	<ul style="list-style-type: none"> Site perimeter fence is intact at completion of clearing and gates have signage. 	<ul style="list-style-type: none"> Proponent to ensure fencing and gates are installed at the completion of clearing Proponent to maintain fencing and access points throughout the time they are actively 	<ul style="list-style-type: none"> Annual EPBC compliance report as per DCCEEW EPBC Act Approval (once approved). National Trust WA covenant compliance

Management Action	Interim Criteria	Completion Criteria	Roles and Responsibilities	Monitoring/ Reporting
<p>to enter the offset vegetation unhindered during clearing action).</p> <ul style="list-style-type: none"> Access tracks into the offset areas shall be gated and signposted with “No Entry” to prevent unauthorized access. 	<p>will be installed at the completion of clearing</p>		<p>operating or rehabilitating the site.</p> <ul style="list-style-type: none"> Landowner to maintain fencing and gates after proponent activities have ceased. 	<p>inspections (3 – 4 yearly).</p>
Phytophthora (Dieback) Prevention & Weed Management				
<ul style="list-style-type: none"> Access into offset areas is controlled and limited to existing access tracks. Vehicles, ground engaging equipment and boots are cleaned on entry to prevent spread of dieback and weeds into the offset area 	<ul style="list-style-type: none"> Gates installed and clean-down signage included on entry locations 	<ul style="list-style-type: none"> No new dieback infestations within offset areas. 	<ul style="list-style-type: none"> Proponent to ensure signage is included on offset entrances and clean down adhered to by any contractors entering the offset Landowner to ensure offset areas are only accessed as needed for maintenance or study requirements and that clean down on entry is adhered to for perpetuity once proponent operations have ceased on site. 	<ul style="list-style-type: none"> Annual EPBC compliance report as per DCCEEW EPBC Act Approval (once approved). National Trust WA covenant compliance inspections (3 – 4 yearly).
<ul style="list-style-type: none"> Offset areas shall be checked for weeds on an annual basis and if newly established populations of weeds are identified they shall be managed to prevent spread 	<ul style="list-style-type: none"> Landowner reports any weed sightings to proponent (during their tenure) Weed sightings are mitigated through spot applications of appropriate and approved chemicals or through biological or physical controls that protect the habitat values of the offset 	<ul style="list-style-type: none"> No newly established invasive weeds within the offset left unmanaged 	<ul style="list-style-type: none"> Proponent to provide weed control if weeds are identified and ensure access restrictions are adhered to Landowner to advise proponent of any weeds sighted during inspections of the offset so that they are managed in a timely manner. Landowner to ensure weeds sightings are mitigated after the proponent has ceased their tenure. 	<ul style="list-style-type: none"> Annual inspections (informal) Weed spraying/removal records Annual EPBC compliance report as per DCCEEW EPBC Act Approval (once approved). National Trust WA covenant compliance inspections (3 – 4 yearly).

Management Action	Interim Criteria	Completion Criteria	Roles and Responsibilities	Monitoring/ Reporting
Preservation of Habitat Logs & Hollows				
<ul style="list-style-type: none"> No timber, dead trees or other vegetation shall be removed from the offset areas except where required for fence, access track or firebreak maintenance or where permitted, for recovery of seed or scientific study. No dead trees or fallen logs containing hollows shall be removed from the offset 	<ul style="list-style-type: none"> Dead or fallen trees left as is in offsets 	<ul style="list-style-type: none"> Dead or fallen trees left as is in offsets 	<ul style="list-style-type: none"> Proponent and Landowner to adhere to management action. 	<ul style="list-style-type: none"> Annual EPBC compliance report as per DCCEEW EPBC Act Approval (once approved). National Trust WA covenant compliance inspections (3 – 4 yearly).
Feral Animal & Pest Species Control				
<ul style="list-style-type: none"> Feral animal populations to be controlled within the offset areas through development and implementation of a baiting or trapping and monitoring program by a licensed and experienced service operator. 	<ul style="list-style-type: none"> Proponent has engaged the services of a consultant to develop a feral animal control plan for the offset within 1 year of it being registered. 	<ul style="list-style-type: none"> Trapping/ Baiting program developed and implemented Numbers of feral animals reduce by year 5 of offset being fenced. 	<ul style="list-style-type: none"> Proponent to resource and engage feral animal control consultant to prepare and implement a suitable program for the offset areas. Proponent to resource at a minimum annual baiting or trapping during their tenure on Lot 5. Landowner to continue feral animal control activities at a rate suggested by the animal control expert to maintain low numbers of feral animals within the offset areas. 	<ul style="list-style-type: none"> Annual EPBC compliance report as per DCCEEW EPBC Act Approval (once approved). National Trust WA covenant compliance inspections (3 – 4 yearly).
<ul style="list-style-type: none"> No non-indigenous fauna or flora shall be introduced into the offset areas (such as stock, new plants, domestic animals) 	<ul style="list-style-type: none"> Fencing and gates intact No evidence of introduced species or strayed stock in offset area 	<ul style="list-style-type: none"> No evidence of introduced species activity in the offset area 	<ul style="list-style-type: none"> Proponent to ensure no new species are establish within offset areas and fencing is intact during their tenure. Landowner to ensure mitigation actions are adhered to and any stock/ domestic animals are 	<ul style="list-style-type: none"> Annual EPBC compliance report as per DCCEEW EPBC Act Approval (once approved) National Trust WA covenant compliance

Management Action	Interim Criteria	Completion Criteria	Roles and Responsibilities	Monitoring/ Reporting
			controlled from entering the offsets.	inspections (3 – 4 yearly).
Fire Management				
<ul style="list-style-type: none"> • Fire hazards will be managed to prevent wildfire. Fire management will consider fauna risks particularly for WRP and black cockatoos. <ul style="list-style-type: none"> ○ WRP give birth May –June with a secondary peak in October – November. Fire activities shall avoid these times. ○ If prescribed burning is required it should aim to be low intensity and to retain the dead-leaf skirts on large, multi-headed balga grass trees (e.g. more than 4 per hectare, where present) and avoid impact to middle storey vegetation utilized for construction and concealment of dreys (Wayne, 2006) ○ Fires should be planned to create a mosaic of fuels and minimise mature canopy being burnt. (DBCA, 2021) ○ Occasional (every 30-50yrs) moderate-high intensity fire may be required to regenerate dense mid-storey vegetation before moderate-advanced senescence occurs and to assist in the development of a sustainable supply of tree hollows. (Wayne, 2006) ○ Burns should be kept low height to prevent impact to habitat trees and hollows utilized by black cockatoo. 	<ul style="list-style-type: none"> • Fire fuel is managed to prevent high intensity wildfire • Midstorey and canopy intact after prescribed burning • Habitat trees hollows showing no signs of damage from fire 	<ul style="list-style-type: none"> • No evidence of intense or inappropriate prescribed burning practices within the offset areas 	<ul style="list-style-type: none"> • Proponent to provide resources for fire management for the duration of their tenure. • Landowner to take responsibility of fire management actions after the proponent has ceased activities on site and for perpetuity. 	<ul style="list-style-type: none"> • Annual firebreak inspections • National Trust WA covenant compliance inspections (3 – 4 yearly).
Repair and Restoration				
<ul style="list-style-type: none"> • In the event that vegetation within either offset area is damaged causing the habitat values of that offset to be adversely impacted, the affected area must be assessed for restoration. 	<ul style="list-style-type: none"> • No damage to fence or gates 	<ul style="list-style-type: none"> • Fence is intact • Vegetation that has been 	<ul style="list-style-type: none"> • Proponent to provide the resources for repairing and restoring any damage caused to the offset areas as a result of 	<ul style="list-style-type: none"> • Annual EPBC compliance report as per DCCEEW EPBC Act Approval (once approved).

Management Action	Interim Criteria	Completion Criteria	Roles and Responsibilities	Monitoring/ Reporting
<p>This may include weed management or revegetation.</p> <ul style="list-style-type: none"> In the case where fence or gates are damaged, allowing unauthorized access or entry for feral animals, it shall be repaired as soon as possible. 	<ul style="list-style-type: none"> Areas of damaged vegetation have been restored. 	<p>damaged has been restored.</p>	<p>their tenancy during operations and rehabilitation.</p> <ul style="list-style-type: none"> Landowner to provide the resources for repairing and restoring any damage caused to the offset beyond the proponent's tenancy. 	<ul style="list-style-type: none"> National Trust WA covenant compliance inspections (3 – 4 yearly).

5. Adaptive Management and Review

5.1 Management plan review

This management plan shall be reviewed regularly and management actions amended as necessary. This will ensure the habitat value for black cockatoo and Western Ringtail Possum are maintained throughout both offset areas and preserved in perpetuity. Management plan review will be based on monitoring inspections which will include consideration of the following:

- Presence of fire and extent of burning
- Presence of pests, feral animals or weed species and success control measures
- Condition of access tracks, fire breaks, fence and gateways
- Evidence of stock or other unauthorized access within offset
- Evidence of illegal harvesting for firewood or timber
- Damage as a result of offsite impacts from Proponent activities

5.2 Reporting

Monitoring for both offset areas will be undertaken informally in the form of visual inspections by the Site Manager and Landowner over the course of their day-to-day business and formally on an annual basis by qualified consultants as required for the EPBC compliance report. Annual reports will be submitted to DCCEEW and DWER.

Table 4. Reporting Requirements

Regulatory Instrument	Report Title	Report Timing	Description of standard	Reported to
DWER CPS 8561/1 Clearing Permit	Part V Division 2 of EP Act - Monitoring Report	Annually	Compliance with Clearing Permit Conditions	Native Vegetation Branch
DWER Licence for a Prescribed Premises	Part V Division 3 of EP Act – Monitoring Report	Annually	Compliance with Licence Conditions	Industry Regulation Compliance Branch
DCCEEW EPBC Act Approval (once approved)	EPBC Act Compliance Report	Annually	Compliance with EIL EMP, Rehabilitation Management and Monitoring Plan and Permit Conditions	Compliance and Enforcement Branch
Shire DA & EIL (Planning and Development Act 2005, EIL Local Law 2017)	Shire Compliance Report	Annually	Compliance with EIL EMP and licence conditions	Shire of Harvey Planning Department

As well as the above compliance reporting, the National Trust of WA will undertake Stewardship visits to assess the management activities and general condition of the covenant and review relevant records.

6. Management & Monitoring Actions

Management and monitoring actions have been comprehensively addressed in Table 3 and in Sections 4.1 and 4.2.

7. National Trust of WA & Conservation Covenants

The landowner has opted to register the offset areas as a restrictive conservation covenant with the National Trust under Section 21A of the *National Trust of Australia (WA) Act 1964*. The landowner already has an existing 13.49ha conservation covenant ID#K526740 in the North-western corner of Lot 5 which was also formed under the National Trust of Australia Act.

Conservation covenants developed through National Trust WA are perpetual and restrictive in nature to ensure the landowner does not do anything on the land that may damage the natural qualities of the bushland. The existing covenant has a management plan which includes the following restrictions:

- No dwellings or structures to be placed in the bushland
- No destruction or removal of any native flora or fauna within the bushland, with exception of seed collection for revegetation purposes on the land. *With commercial seed collection only allowed with prior written approval from the trust.*
- No planting of non-local indigenous flora within the bushland
- No removal of any timber, including fallen timber from the bushland
- No introduction of non-indigenous fauna into the bushland including but not limited to livestock, cat, dog, domestic animals (with the exception of 2 dogs supervised by their owners at any time).
- No acts unless required by law, that may adversely affect the natural state, flow, supply and quantity/quality of any body of water in the bushland.
- No displaying of advertising material relating to the bushland (with the exception of signs approved by the Trust)
- No permitting or consent is required for prospecting, exploration, or mining within the bushland, unless mandated by law
- No subdivision or placement of transmission lines within the bushland;
- No 4WD, trailbike or other recreational use of the bushland, except where unavoidably required for proper management and protection of the bushland.
- No access to the bushland by the public other than along defined walk trails, except where the owner has invited special interest groups or friends.
- No storage or disposal of rubbish or materials that are not consistent with the conservation of the vegetation and fauna in the bushland
- No use of guns or other hunting weapons or animal traps or poisons, except for the control of non-indigenous animals where they are posing a threat to the natural values of the bushland.

To monitor compliance with these restrictions the National Trust carry out stewardship visits to support covenant landowners and conduct compliance inspections every 3 to 4 years.

Table 5. Timeframe for the covenanting process

Actions	Timeframe	Number of months
Proponent to ensure offset areas are surveyed	Immediately after acceptance of the PD	1
Parties to sign documents	Immediately after survey	1.5
Proponent to prepare submission forms and supplementary information necessary for covenanting	Immediately after signatures	2
Lodge signed document with Landgate for registration of the memorial on the Certificate of Title	Immediately after above action	2.5

Landowner to submit forms and information to National Trust WA to legally secure the covenants in the perpetuity	At the same time as above action	2.5
Pay any reasonable fee that the National Trust of WA charges	At the same time as above action	2.5
Receive notification from Landgate	Variable	4
Receive notification from National Trust WA	Variable	6

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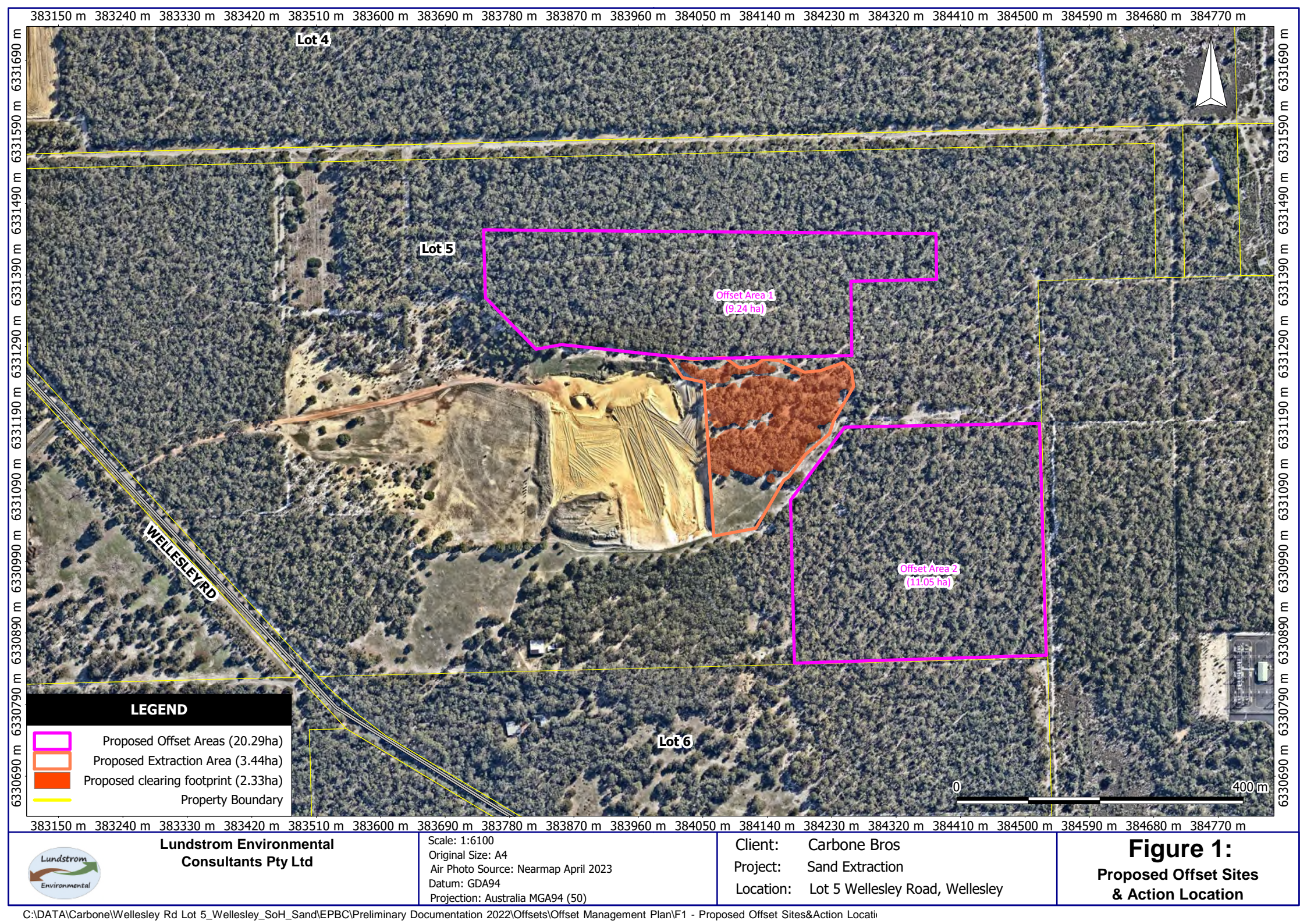
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Figures



Lot 4

Lot 5

Lot 6

Offset Area 1
(9.24 ha)

Offset Area 2
(11.05 ha)

WELLESLEY RD


LEGEND

- Proposed Offset Areas (20.29ha)
- Proposed Extraction Area (3.44ha)
- Proposed clearing footprint (2.33ha)
- Property Boundary



383150 m 383240 m 383330 m 383420 m 383510 m 383600 m 383690 m 383780 m 383870 m 383960 m 384050 m 384140 m 384230 m 384320 m 384410 m 384500 m 384590 m 384680 m 384770 m

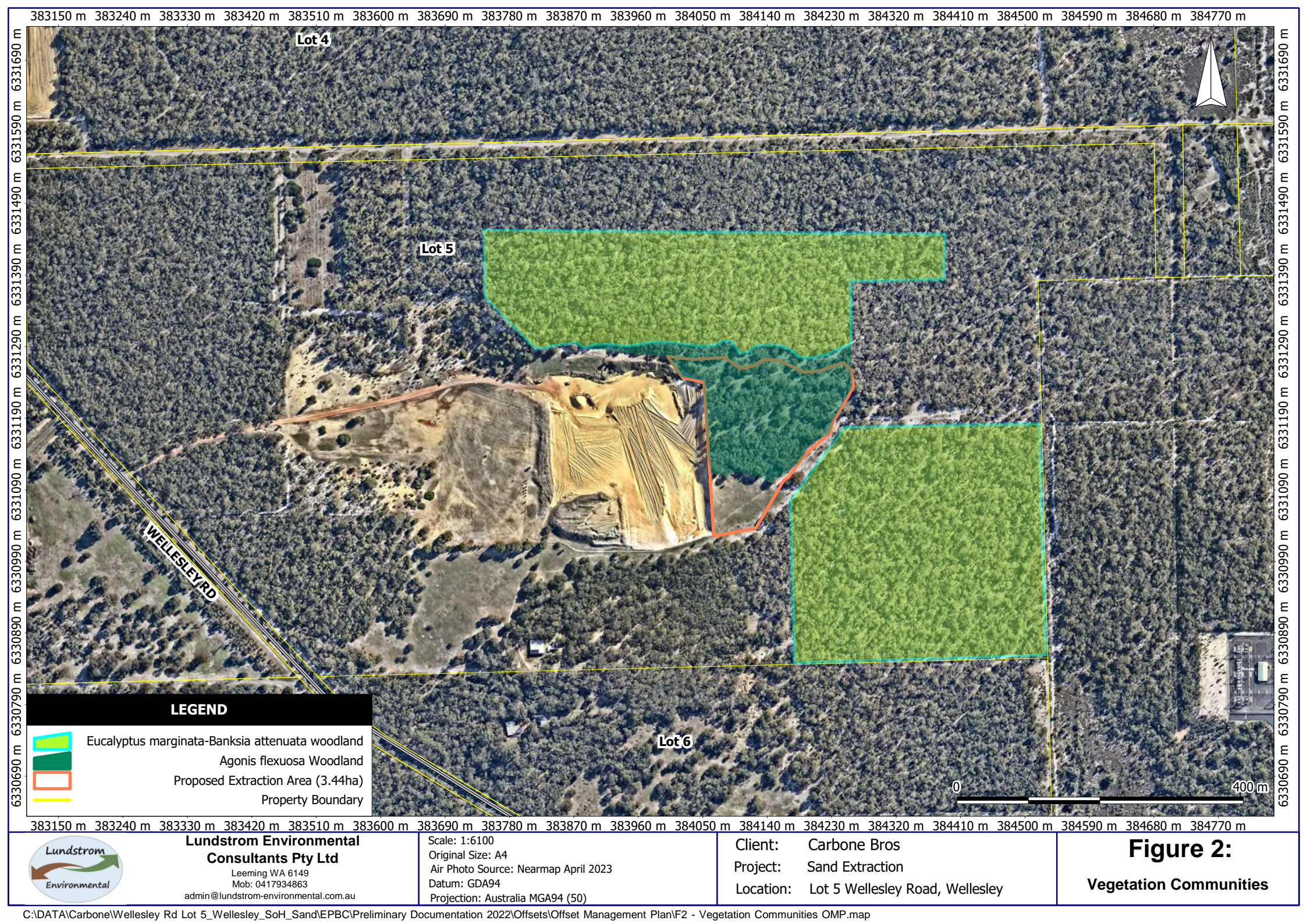
Lundstrom Environmental Consultants Pty Ltd



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 Projection: Australia MGA94 (50)

Client: Carbone Bros
 Project: Sand Extraction
 Location: Lot 5 Wellesley Road, Wellesley

Figure 1:
Proposed Offset Sites & Action Location



Lot 4

Lot 5

Lot 6

WELLESLEY RD

LEGEND

- Eucalyptus marginata-Banksia attenuata woodland
- Agonis flexuosa Woodland
- Proposed Extraction Area (3.44ha)
- Property Boundary

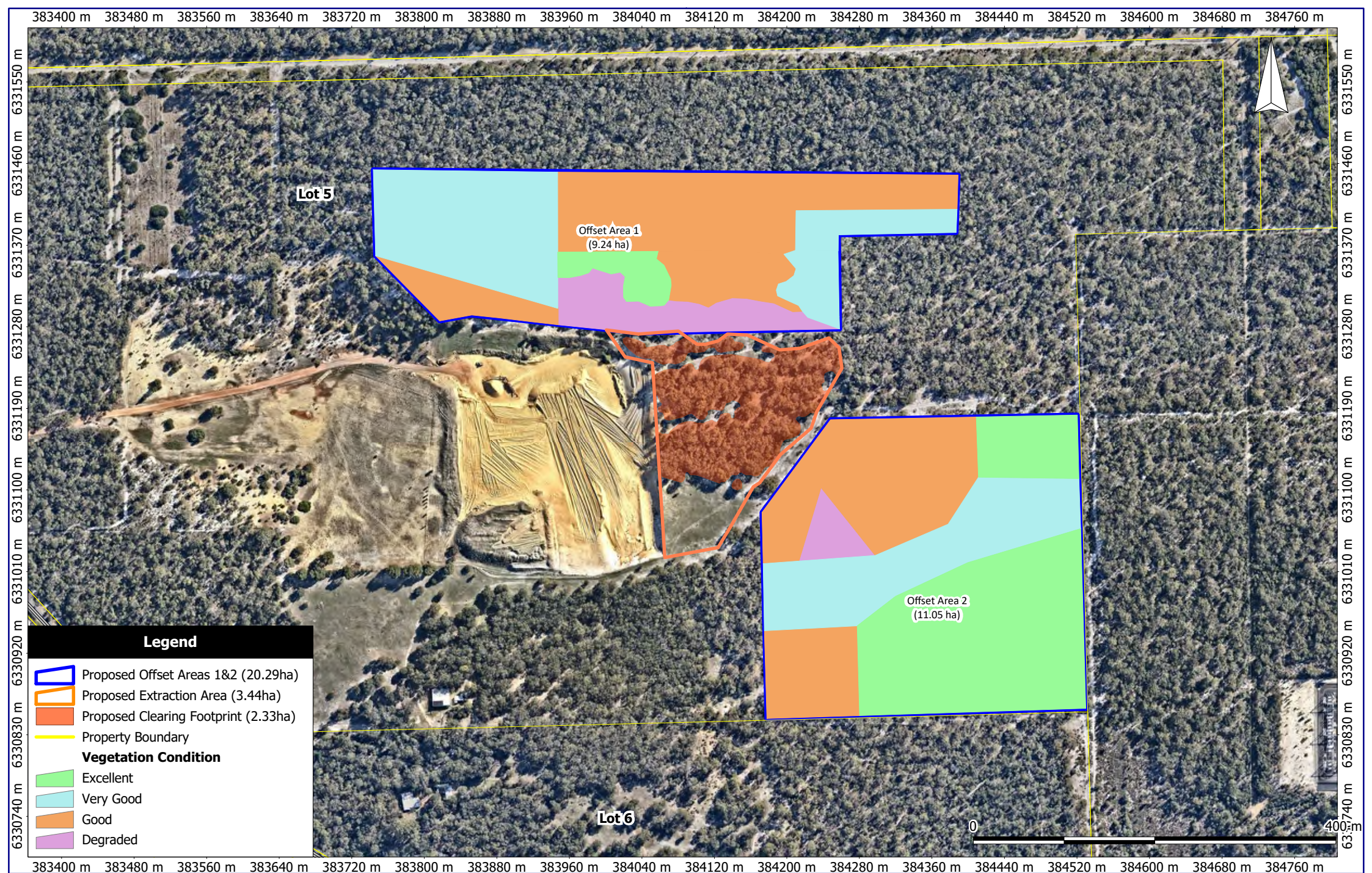
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Figure 2:
Vegetation Communities

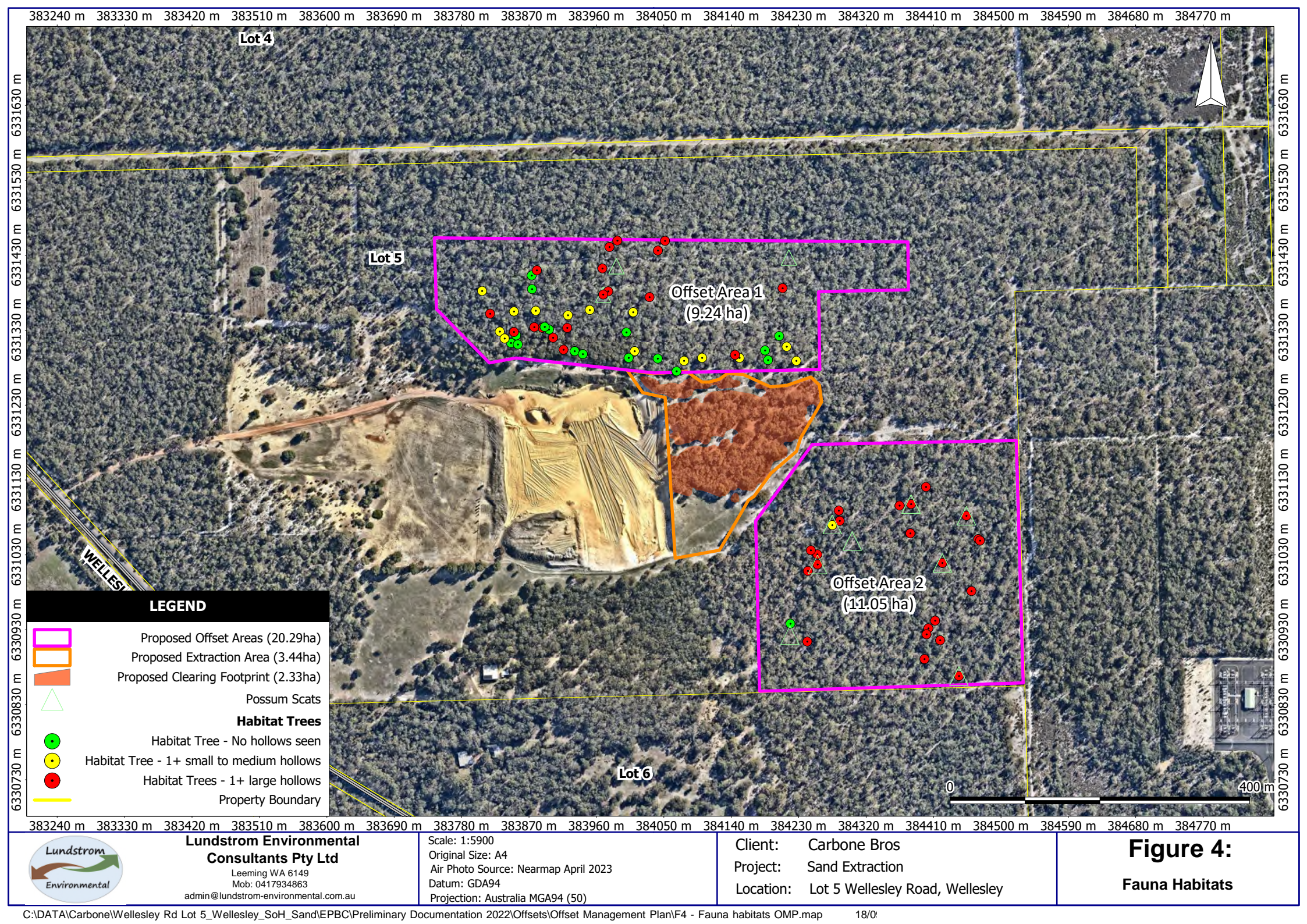


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Client: Carbone Bros
 Project: Sand Extraction
 Location: Lot 5 Wellesley Road, Wellesley

Figure 3:
Vegetation Condition



Lot 4

Lot 5

Lot 6

Offset Area 1
(9.24 ha)

Offset Area 2
(11.05 ha)

LEGEND

- Proposed Offset Areas (20.29ha)
- Proposed Extraction Area (3.44ha)
- Proposed Clearing Footprint (2.33ha)
- Possum Scats
- Habitat Trees**
- Habitat Tree - No hollows seen
- Habitat Tree - 1+ small to medium hollows
- Habitat Trees - 1+ large hollows
- Property Boundary



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Figure 4:
Fauna Habitats