

EGLINTON ESTATES

CONSERVATION MANAGEMENT PLAN

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1 INTRODUCTION

1.1 Background

Eglinton Estates Pty Ltd (Eglinton) is developing their landholding located 45km north west of the Perth Central Business District (Figure 1). The land will be developed in accordance with the approved Local Structure Plan (LSP) for residential and commercial purposes and includes Urban Development, the Eglinton District Centre, primary schools and playing fields, the Eglinton Marina and Coastal Village, Regional Open Space and Public Open Space (Figure 2).

Development of the LSP area will result in the clearing of Carnaby's Black Cockatoo (CBC) (*Calyptorhynchus latirostris*) habitat, which is listed as an Endangered species under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act). A Referral (EPBC 2010/5777) under the EPBC Act was submitted in December 2010 for the eastern LSP area. The proposed development was approved subject to environmental conditions by the Commonwealth Environment Minister on 30 April 2013 (Appendix 1) and modified on 17 July 2013 (Appendix 2).

To offset clearing of CBC habitat from the eastern LSP area Eglinton are/have undertaken the following;

- Retained CBC habitat (10.61ha) in three conservation Public Open Space (POS) areas totalling 16.45ha (Figure 3);
- Provided funds to the Department of Parks and Wildlife (DPAW) who purchased an offset site (900ha) in the Gingin area that contains good quality CBC habitat;
- Creating 12.7ha of new CBC habitat in completely degraded areas within Yellagonga Regional Park (YRP);
- Planting 1.9ha of CBC foraging species in Public Open Space (POS) in the Eglinton development; and
- Establishing 50% of the streetscapes with known CBC foraging species.

1.2 Requirement for a Conservation Management Plan

In accordance with Condition 9 of the EPBC Approval 2010/5777, Eglinton is required to retain the vegetation identified in Figure 3 within the POS conservation areas.

Condition 10(a) of EPBC Approval 2010/5777 requires Eglinton to prepare a Conservation Management Plan (CMP) for the three areas of POS conservation. The specific intent of the CMP is to protect, enhance and manage the CBC habitat retained in the POS conservation areas. The plan must include:

- i. Measures to physically delineate (through fencing or other means) areas that will be retained;
- ii. Erosion and dust control measures during construction;
- iii. The management of weeds, phytophthora dieback, bushfire and feral animals;
- iv. Identification of any degraded habitat for listed threatened species and revegetation of those areas;

- v. A monitoring program for listed threatened species and their habitat;
- vi. Performance indicators and corrective actions;
- vii. Roles and responsibilities;
- viii. Time frames for the implementation of the above measures; and
- ix. How condition 10(b) will be implemented, including who will be responsible for the long-term management of the retained land, and how the land will protected in the long-term.

Condition 10(b) requires Eglinton to provide evidence that the POS conservation areas has been transferred to the City of Wanneroo for the purposes of conservation within five years of substantial commencement of the action (4 November 2018).

1.3 Conservation Management Plan

1.3.1 Objective

The objective of this CMP is to provide a framework of actions which are appropriate to manage, maintain and enhance retained CBC habitat (Figure 3). The POS conservation areas will be managed to maintain and enhance the CBC habitat in a manner which will benefit the seasonal presence of CBC in the Yanchep Eglinton region. The POS conservation will also provide passive recreational and educational opportunities for the local residents.

1.3.2 Structure

This CMP has been structured to meet the requirements of Condition 10(a) as shown in Table 1.

Table 1: Conservation Management Plan Structure

Condition 10(a)i-ix	Section	Management Action
i. Measures to physically delineate (through fencing or other means) areas that will be retained	4.5.1	1, 3 & 4
ii. Erosion and dust control measures during construction	4.5.3	19, 20 ,21 & 23
iii. The management of weeds, phytophthora dieback, bushfire and feral animals	4.5.2	5, 6, 7, 8, 11, 12, 13, 16, 17, 18, 22 & 28
iv. Identification of any degraded habitat for listed threatened species and revegetation of those areas	4.5.2	6, 7, 9, 10, 14 & 15
v. A monitoring program for listed threatened species and their habitat	4.6	14, 30 & 31
vi. Performance indicators and corrective actions	4.7	14, 28,
vii. Roles and responsibilities	4.3	
viii. Time frames for the implementation of the above measures	4.4	
ix. How condition 10(b) will be implemented, including who will be responsible for the long-term management of the retained land, and how the land will protected in the long-term	4.5.1	2

2 CARNABY'S BLACK COCKATOO

2.1 Distribution and Population

Carnaby's cockatoo is endemic to the south-west of Western Australia, with a widespread distribution. The species is highly mobile and displays a seasonal migratory pattern that is linked to breeding (Saunders 1980, 1990; Berry 2008). Breeding takes place between late July and December and most breeding occurs in the inland parts of its distribution, in areas receiving between 300 and 750 mm of annual average rainfall (Saunders 1974). During the non-breeding season (January to July) the majority of the birds move to the higher rainfall coastal regions of their range including the midwest coast, Swan Coastal Plain and south coast (Saunders 1980, 1990; Berry 2008; Saunders et al. 2011b; Johnstone et al. 2011).

The number of breeding CBC is thought to be between 16, 000 to 60,000 although the current population is considered to be around 40,000 (DEC, 2012).

2.2 Breeding Habitat

Carnaby's Black-Cockatoo breed between July and November, mostly in Eucalypt woodland (Saunders, 1980; 1986). Carnaby's Black-Cockatoo nest in tree hollows that are created by fire, fungi, termites or old age, with hollows between 2.5m and 12m above the ground (Saunders, 1979b; Higgins, 1999). Hollows are large, ranging from 10cm to over 250cm in depth (Saunders, 1979b). These hollows are usually in live or dead smooth-barked Salmon Gum (*Eucalyptus salmonophloia*) or Wandoo (*Eucalyptus wandoo*). However, Carnaby's Black-Cockatoo will also nest in Red Morrell (*E. longicornis*), York Gum (*E. loxophleba*), Tuart (*E. gomphocephala*), Flooded Gum (*E. rudis*), Gimlet (*E. salubris*), Swamp Yate (*E. occidentalis*) and Marri (*C. calophylla*; Saunders, 1979b; Cale, 2003). When breeding they most often forage in the surrounding shrubland and kwongan heath (Higgins, 1999). On the Swan Coastal Plain, breeding could occur in Tuart, Flooded Gum, Swamp Yate and Marri.

2.3 Regional Context for Cockatoo foraging habitat

Areas of Cockatoo feeding habitat in secure conservation areas in the vicinity of the Eglinton Site include:

- Yanchep National Park and areas of adjacent bushland (2 696.85 ha);
- Neerabup National Park (1 519 ha);
- Links between Yanchep and Neerabup National Parks (Bush Forever site 130 (78.39 ha); and
- The proposed Gngangara Regional Park (70 000 ha).

2.4 Carnaby's Black Cockatoo in the Eglinton Area

2.4.1 Foraging

The CBC foraging habitat at Eglinton consists of two main types:

- *Banksia attenuata/Banksia menziesii* Woodland; and

- *Banksia sessilis* (formerly known as *Dryandra sessilis*) Shrubland.

A *Banksia* carrying capacity survey to determine the quality of the foraging habitat at Eglinton was undertaken by Coffey Environments (2010). The *Banksia* carrying capacity assessment involved:

- Mapping the extent of the foraging habitat (based on the presence or absence of *Banksia* species) and density of *Banksia* species;
- A search for any evidence of CBC feeding on the site; and
- Estimating the numbers of CBC the site can potentially support using the methodology detailed in Valentine and Stock (2008) and Cooper *et al.* (2002).

Based on the results of the *Banksia* carrying capacity survey the eastern part of the Eglinton Estates development site can potentially support approximately 100 CBCs per year based on the area and density of *Banksia* species dominated vegetation types. The *Banksia attenuata* and *Banksia menziesii* dominated vegetation types can support approximately 89 Carnaby's Black Cockatoos. This is an estimate due to the lack of information on the energy content of *Banksia sessilis* seeds and cones.

Based on the estimation that Eglinton site can currently support 100 CBCs per year, it is reasonable to assume that when the site is cleared and the POS conservation areas (approximately 10% of total foraging habitat) will support 10 CBCs per year.

2.4.2 Roosting and Breeding

There are no known breeding or roosting sites within the Eglinton landholding.

Roosting and breeding has been reported in nearby Yanchep National Park (Johnstone and Kirkby, 2011).

3 EXISTING ENVIRONMENT

3.1 Topography and Landform

The topography of the POS conservation areas is largely undulating consistent with both the Quindalup and Spearwood Dune landforms. POS conservation area AE contains the highest point (Eglinton Hill) at an elevation of 58m AHD in the Eglinton region. A portion of a Quindalup parabolic dune ridge line extends through POS conservation areas AE and AG.

3.2 Vegetation

3.2.1 Vegetation Types

The three POS conservation areas (total 16.45ha of which 10.61ha is CBC foraging habitat) contain the vegetation types listed in Table 2 and shown in Figure 6. Some of the vegetation types are not CBC foraging species but have been included in the POS conservation areas to provide habitat for other fauna species.

Table 2: Vegetation Types

POS Conservation	Portion of Total Area which is CBC Foraging Habitat	Vegetation Type		CBC Foraging Habitat (Y/N)
AE (Area 7.31ha)	5.3ha	CqDs	<i>Calothamnus quadrifidus</i> , <i>Dryandra sessilis</i> Open Heath to Closed Heath	Y
		MsLm	<i>Melaleuca systema</i> , <i>Lomandra maritima</i> Low Open Heath	N
		BaBm	<i>Banksia attenuata</i> , <i>Banksia menziesii</i> Low Woodland	Y
		AsJf	<i>Acacia saligna</i> and <i>Jacksonia furcellata</i> Open Scrub	N
		Ds	<i>Dryandra sessilis</i> Open to Closed Heath	Y
AG (Area 4.74ha)	3.42ha	BaBmDs	<i>Banksia attenuata</i> , <i>Banksia menziesii</i> Low Woodland over <i>Dryandra sessilis</i> (now <i>Banksia sessilis</i>)	Y
		Ds	<i>Dryandra sessilis</i> Open to Closed Heath	Y
		MsLm	<i>Melaleuca systema</i> , <i>Lomandra maritima</i> Low Open Heath	N
		BaBmJf	<i>Banksia attenuata</i> , <i>Banksia menziesii</i> Low Woodland over <i>Jacksonia furcellata</i>	Y
		AsSgOa	<i>Acacia saligna</i> , <i>Spyridium</i>	N

			<i>globulosm, Olearia axillaris</i> Heath	
AH (Area 4.40ha)	1.89ha	Ds	<i>Dryandra sessilis</i> Open to Closed Heath	Y
		BaBm	<i>Banksia attenuata, Banksia menziesii</i> Low Woodland	Y
		MsLm	<i>Melaleuca systema, Lomandra maritima</i> Low Open	N
		Sa	<i>Santalum acuminatum</i> Heath	N

3.2.2 Vegetation Condition

The condition of the vegetation in the POS conservation areas have been rated based on the vegetation condition scale provided by Keighery in Bush Forever (2000) (Table 3).

Table 3: Vegetation Condition Rating Scale

Condition	Description
Pristine	Pristine or nearly so, no obvious signs of disturbance.
Excellent	Vegetation structure intact, disturbance affecting individual species and weeds are non-aggressive species.
Very Good	Vegetation structure altered, obvious signs of disturbance. For example, disturbance to vegetation structure caused by repeated fires, the presence of some more aggressive weeds, dieback, logging and grazing.
Good	Vegetation structure significantly altered by very obvious signs of multiple disturbance. Retains basic vegetation structure or ability to regenerate it. For example, disturbance to vegetation structure caused by very frequent fires, the presence of some very aggressive weeds at high density, partial clearing, dieback and grazing.
Degraded	Basic vegetation structure severely impacted by disturbance. Scope for regeneration but not to a state approaching good condition without intensive management. For example, disturbance to vegetation structure caused by very frequent fires, the presence of very aggressive weeds, partial clearing, dieback and grazing.
Completely Degraded	The structure of the vegetation is no longer intact and the area is completely or almost completely without native species. These are often described as 'parkland cleared' with the flora comprising weed or crop species with isolated native trees or shrubs.

Source: Government of Western Australia, 2000

The vegetation condition as mapped by ATA Environmental (2005) was largely confirmed by a site assessment undertaken by PGV Environmental in February 2014. The vegetation condition rating is shown in Figure 7 and listed below in Table 4.

Table 4: Vegetation Condition Rating

POS conservation	Vegetation Type	Condition
AE	CqDs	Very Good
	MsLm	Good
	BaBm	Very Good
	AsJf	Very Good
	Ds	Degraded
AG	BaBmDs	Very Good
	MSLm	Good to Very Good
	BaBmJf	Good to Very Good
	AsSgOa	Good to Very Good
AH	Ds	Very Good
	BaBm	Good to Degraded
	MsLm	Very Good
	Sa	Very Good

3.2.3 Flora

The flora of the eastern half of the Eglinton landholding was included in a survey of the larger Alkimos-Eglinton area as part of MRS Amendment 1029/33 (Bennett, 2004 as reported in ATA Environmental, 2005). As a result, no flora list specific to the site or the three POS Conservation areas is available. The Alkimos-Eglinton flora survey identified a total of 292 species from a range of vegetation types on Quindalup and Spearwood Dune soils. No Declared Rare flora were recorded in the Alkimos-Eglinton area, however the following Priority flora species were recorded:

- *Leucopogon* sp. Perth coastal (A.S. George 17305) – P1
- *Stylidium maritimum* – P3
- *Conostylis pauciflora* subsp. *euryrhipis* – P4
- *Conostylis pauciflora* subsp. *pauciflora* – P4
- *Hibbertia spicata* subsp. *leptotheca* – P3

These Priority species were recorded in similar vegetation types and landforms as occur in the three POS Conservation areas. A spring flora survey of each of the three POS Conservation areas will be undertaken to identify the species composition of each area and to determine whether any conservation significant species are present.”

3.3 Fauna

A vertebrate fauna survey of the Alkimos-Eglinton MRS Amendment Area was undertaken in October, 1996 (Alan Tingay & Associates, 1996). This survey included a trapping program using Elliott, pit fall and cage traps as well as bird transect surveys, active searching and opportunistic recordings.

The habitats within the Alkimos-Eglinton Amendment Area were broadly separated into three major types that dominate the area. These are based primarily on the broad vegetation units that strongly reflect the underlying soil types and geomorphic features.

The main broad habitat types comprise:

- Old Quindalup Heath
- Limestone Heath
- Banksia Woodland

The survey recorded 1 amphibian, 18 species of reptiles, 49 bird species, and 3 indigenous and 3 introduced mammal species. The Alkimos-Eglinton area is expected to support relatively high species diversity due to areal extent, range of habitats and general quality of the habitats within the Alkimos-Eglinton area, combined with the connectivity of the area to other extensive vegetated areas to the north, south and east of similar and different habitat types (ATA Environmental, 2005).

The survey noted marked differences in the diversity of fauna across major habitat types within the Alkimos-Eglinton area with the greatest species diversity recorded in the Banksia Woodland and Old Quindalup Heath habitats. A higher vertebrate faunal diversity within the Banksia Woodlands is expected due to the greater vertical complexity of this habitat. The suite of species occurring within each main habitat type differs with some species largely restricted to certain habitat types such as the sands of the Quindalup Dunes or rocky outcrops and crevices, while others occur across the range of habitats.

3.3.1 Significant Fauna Species Predicted to Occur in the Project Area

ATA Environmental (1996) and Coffey Environments (2009) list seven species of conservation significance at State or Commonwealth level that may occur in the POS conservation areas (Table 5).

Table 5: Fauna Species of Significance

Species	Wildlife Conservation Act 1950	EPBC Act 1999	DEC Priority List	Expected to Occur in the POS conservation areas
Carnaby's Black Cockatoo (<i>Calyptorhynchus latirostris</i>)	Schedule 1	Endangered		Yes
Peregrine Falcon (<i>Falco peregrinus</i>)	Schedule 4			No
Southern Carpet Python (<i>Morelia spilota</i>)	Schedule 4		Priority 4	Possible
Souther Brown Bandicoot/Quenda (<i>Isodon obesulus</i>)			Priority 4	Possible
Western Brush Wallaby (<i>Macropus Irma</i>)			Priority 4	No
Rainbow Bee-eater (<i>Merops ornatus</i>)		Migratory		Possible

Species	Wildlife Conservation Act 1950	EPBC Act 1999	DEC Priority List	Expected to Occur in the POS conservation areas
Black-striped Snake (<i>Neelaps calonotus</i>)			Priority 3	Possible

Carnaby's Cockatoo (*Calyptorhynchus latirostris*) - This species inhabits the southwest of WA. Its preferred habitat is the woodland where it preferentially feeds on plants of the Proteaceae family. In winter, flocks can be found in heaths. Carnaby's Black Cockatoo occurs within the Perth metropolitan area and are seen in the urban fringe areas on a seasonal basis, utilising native bushland and suitable vegetation along roads, remnant vegetation, reserves and where suitable food is available.

Peregrine Falcon (*Falco peregrinus*) – This species is uncommon, although widespread throughout much of Australia, excluding the extremely dry areas and has a wide and patchy distribution. It shows a habitat preference for areas near cliffs along coastlines, rivers and ranges and within woodlands along watercourses and around lakes.

Quenda or Southern Brown Bandicoot (*Isodon obesulus fusciventer*) – Quenda preferred habitat is dense scrub and undergrowth. They will often feed in adjacent forest and woodland and in areas of pasture and crop land lying close to dense cover. This species has been recorded in the vicinity in *FaunaBase*. The Amendment area is toward the northern end of its distribution (*FaunaBase*, www.calm.wa.gov.au/plants_animals/pdf_files/sp_quenda.pdf).

It is possible this species is in the POS conservation areas.

Western Brush Wallaby (*Macropus irma*) – This species was very common in the early days of settlement, however, its range has been seriously reduced and fragmented due to clearing for agriculture and there is a significant decline in abundance within most remaining habitats. It is now distributed across the southwest of WA from north of Kalbarri to Cape Arid. The optimum habitat is open forest or woodland, particularly favouring open, seasonally wet flats with low grasses and open scrub thickets (www.calm.wa.gov.au/plants_animals/pdf_files/sp_western_brush_wallaby.pdf).

This species may be present in the POS conservation areas.

Carpet Python (*Morelia spilota imbricata*) – The southwest Carpet Python is a large snake found across the southwest of Western Australia, north to Geraldton and Yalgoo, and east to Kalgoorlie, Fraser Range and Eyre. They inhabit forest, heath, or wetland areas and shelter in hollow logs or in branches of large trees. Carpet Pythons are often found in colonies, particularly when breeding in spring. This species is widespread within the southwest, but is not in high density across its distribution. There are anecdotal reports of them being caught on the Pipidiny Road (amateur herpetologists, CALM staff).

ATA Environmental (1998) has sighted this species around Yanchep, and they have been reported in the Burns Beach (Biota Environmental Sciences, 2000) area and as far north as Green Head all on the Quindalup Dune system. It is likely it may be present in the POS conservation areas.

Black-striped Snake (*Neelaps calonotus*) – This species occurs on dunes and sand plains vegetated with heaths and eucalypt/Banksia woodlands. It feeds largely on skinks and its distribution is restricted and threatened by urban development. How and colleagues (How, 1998; How *et al.*, 1996) reported finding them in similar habitat in the Bold Park area.

It is possible that Black-striped Snake will be found in the POS conservation areas.

Rainbow Bee-eater (*Merops ornatus*) – This species is a migratory bird that arrives in the southwest of WA in late September – early October and nests in a burrow dug in the ground. It is found in a wide variety of sandy habitats on the Swan Coastal Plain.

Rainbow Bee-eater is a possible likely seasonal visitor to the POS conservation areas. This species is listed as a migratory species under the EPBC Act. There are many other suitable foraging and breeding sites for this species in the general vicinity. Individuals that foraged and bred in this area, now and in the future, could possibly find alternative suitable habitat.

3.4 Heritage

A search of the Department of Indigenous Affairs (DIA) Aboriginal Heritage Enquiry System revealed there are no registered sites within the POS conservation areas. The nearest Aboriginal Site is Pipidiny Lake which is found east of the LSP area. It is listed on the Permanent register as a mythological site. An Aboriginal heritage study confirmed that there no sites within the LSP Area (Ethnoscience, 2010)

Searches from the Heritage Council of Western Australia and the Australian Heritage Database showed no European Heritage sites (Landgate 2014) are listed for the POS conservation areas.

4 MANAGEMENT PLAN

4.1 Objective

The objective of this CMP is to provide a framework of actions which are appropriate to manage, maintain and enhance retained CBC habitat (Figure 3). The POS conservation areas will be managed to maintain and enhance the CBC habitat in a manner which will benefit the seasonal presence of CBC in the Yanchep Eglinton region. The POS conservation will also provide passive recreational and educational opportunities for the local residents.

4.2 Goals for Success

This CMP will be successful when the POS conservation areas are ceded to the City of Wanneroo if:

- CBC continue to forage in the POS conservation areas;
- The extent of CBC habitat has not been reduced in the conservation POS areas; and
- The CBC habitat quality has not been reduced in the conservation POS areas.

4.3 Timeframes

This CMP outlines the management of the POS conservation areas until they are vested in the Crown under the management of the City of Wanneroo. Condition 10(b) requires that the POS conservation areas are transferred to the City of Wanneroo (meaning that the POS conservation will be vested in the Crown and managed by the City of Wanneroo) within five years from the date of substantial commencement (substantial commencement date of 4 November 2013).

While it is anticipated that the POS conservation will be under the control and responsibility of the City of Wanneroo by November 2018, if any of the POS conservation areas have not been ceded by that date a request will be made to the Minister to modify Condition 10(b) of the EPBC approval.

Rehabilitation works covering the degraded vegetation and provision of passive recreation infrastructure (paths, seating, lookout points, boardwalks) in the POS conservation areas will be completed prior to their being vested to the Crown.

4.4 Responsibilities

After the approval of this CMP by the Department of the Environment, ownership and management responsibilities of the POS conservation will remain with the landowner until the POS conservation an area are vested in the Crown and is under the management of the City of Wanneroo.

Management of the POS conservation areas pass to the City of Wanneroo when the subdivision incorporating the POS Conservation areas has been completed and the areas of POS conservation areas are vested in the Crown as POS.

4.5 Management Actions

The management actions described in Table 6 will be implemented to ensure construction activities do not harm individual Carnaby's Black-Cockatoos (if present) and to maximise the potential for the POS conservation to continue to be utilised by Carnaby's Black-Cockatoos during and following development.

4.5.1 Habitat Retention and Protection

The Eglinton LSP is the guiding structure for development of the Eglinton landholding. As the current LSP does not show the POS conservation areas AG and AH, an amendment to the LSP is being prepared and will be submitted to the Western Australian Planning Commission (WAPC) and the City of Wanneroo in June 2014.

The City of Wanneroo has provision under their *Local Planning Policy 4.3: Public Open Space*, Section 2.8 "A minimum of three percent (3%) of the gross sub-divisible area shall be provided as POS for the purposes of conservation and passive recreation". The City will take over management for the POS conservation when there is an approved subdivision and generally after two years from practical completion. In the longer term it is not envisaged that the POS dunal protection area would be excluded from passive recreational uses. However, it is expected that the impact of human activity would be restricted to a small number of defined pathways and any activities throughout the broader POS area would be discouraged. The indicative routes of these potential pedestrian / bicycle access pathways will be selected to have a minimal impact on the remnant vegetation. These pathways will be constructed to allow access for management vehicles only and provide functional control lines for fire management.

Farm style fencing (or other as approved by the City of Wanneroo) will be installed around the boundary of the POS conservation areas as soon as possible. The basic conservation fencing is to be constructed as rural farm style five strand post and wire (approximately height 1.5m). This fencing will be important in delineating the POS and clearly identifying the area to be excluded from any impacts associated with construction works.

Three metre wide fire breaks will be put in place when the farm style fencing around the POS conservation areas is constructed. The fire breaks will be maintained until the subdivision construction stage has been completed.

Prior to clearing and subdivision construction a 1.8m chain mesh fence with dust curtains will be installed around the conservation fencing with locked access points. Once the construction period is completed the chain mesh fence will be removed.

The subdivision will be planned with a single fronted road and footpath adjacent to and outside of the POS conservation areas. No garden beds or landscaped areas should be established adjacent to the POS conservation without a hard surface providing separation along the interface.

ACTIONS

- 1 Retain the 16.45ha of vegetation in the POS conservation areas as shown in Figure 3 and manage as POS conservation. Within these areas, no clearing of trees or understorey will

- be permitted other than for approved paths, boardwalks, seating, lookout points and educational signage which where possible will be established on existing tracks.
- 2 Negotiate and document the procedure for ceding the POS conservation to the City of Wanneroo for the purpose of preservation of bushland.
 - 3 Mitigate the impact of subdivision by fronting the POS conservation area with single fronted roads (to be designed by the developer).
 - 4 Construct appropriate fencing (e.g. standard stock/farm fencing with lockable gates) around the POS conservation to control access and passive recreational use to minimise impacts on native vegetation prior to subdivision.
 - 5 Prepare 3m fire breaks around POS conservation (outside of the fencing) and maintain prior to development.

4.5.2 Habitat Rehabilitation

A vegetation and flora survey will be undertaken in each of the three POS conservation areas in Spring 2014 to provide baseline information on the number of flora species present, identify key weed species and to set up long term monitoring quadrats.

A revegetation contractor will be engaged to undertake the rehabilitation planning and site works which will include weed control, seed collection, planting and maintenance for the rehabilitation areas identified in Figures 7, 8 and 9.

Concept plans for the paths, rest points and educational signage will be designed as part of the subdivision process to provide residents with passive recreation opportunities for each of the POS conservation areas. The concept plans will be provided to the DOE in the annual compliance report required under the EPBC approval.

The POS conservation areas do not have any evidence of dieback. To protect the POS conservation areas from dieback any additional soil brought into the development will be dieback free and vehicle and pedestrian access to the POS conservation areas will be restricted and managed during construction to minimise the risk of introducing dieback or spreading the disease from areas that are infested via tyres and footwear and by eliminating the dumping of refuse and soil. This will be managed by the installation of boundary fencing.

ACTIONS

- 6 Undertake a vegetation and flora survey in Spring 2014 in the POS conservation areas.
- 7 Undertake a baseline weed mapping survey in CBC habitat in accordance with DPaW's Standard Operating Procedure No. 22.1.
- 8 Set up two permanent quadrats in each area of POS conservation areas for annual vegetation/weed monitoring.
- 9 Contract a qualified rehabilitation and revegetation contractor to undertake on-ground planning and revegetation works
- 10 Prepare revegetation site works plan, schedule and costs.
- 11 Collect seed from core CBC foraging species and propagate for infill planting.
- 12 Undertake weed control programme targeting invasive weeds recorded during Action 2.
- 13 Undertake monitoring of weed control success to identify any outbreaks following weed removal or suppression.

- 14 Implement revegetation site works plan.
- 15 Monitor health of planted species and replace dead plants as necessary.
- 16 Install signage to ensure that residents are aware of the POS conservation and rehabilitation activity.
- 17 Provide locked access for management vehicles into the POS conservation using access points away from major roads. The minimum required vehicle access is to be established.
- 18 Install tree guards where required to control rabbit grazing.

4.5.3 Construction Management

A 1.8m high chain mesh fence with dust curtains will be installed around the conservation fencing and POS conservation areas prior to clearing and subdivision construction in adjacent land. The construction fencing will be removed once the subdivision works are completed.

No infrastructure associated with residential subdivision or recreation will be permitted to impact, either directly or indirectly, on the POS conservation areas unless specified in this plan. This includes works associated with drainage, stormwater retention, energy, transport, communications, amenity and any other construction works, temporary or permanent. Where runoff from outside the POS conservation areas has the potential to enter the area, sediment and erosion control measures will be installed outside the POS conservation areas to prevent this impact during the construction period.

Drainage associated with the surrounding development will be constructed such that there will be no significant discharge of storm water or overland flows into the POS conservation areas. This is to ensure there are no detrimental impacts to habitat values or quality of the vegetation as a result of run-off from the development and associated urban zone. All of these matters should be included in any relevant Construction Environment Management Plan (CEMP) and in the Urban Water Management Plans. A process for communicating relevant information within this CEMP to any contractors working within the precinct shall be developed. As a minimum, a process shall be in place for ensuring all contractors on site (not just managers) are aware of the POS conservation areas and that access or disturbance (e.g. dumping of rubbish or soil) within these areas is prohibited.

ACTIONS

- 19 A 1.8m high chain mesh fence will be placed around the conservation fencing prior to clearing and subdivision construction.
- 20 Installation of dust curtains prior to clearing to protect remnant vegetation from sand drift during construction.
- 21 Maintain fencing in functional condition and repair promptly if damage occurs. Fencing to be upgraded to rabbit-proof if and where required.
- 22 Dispose of food waste into covered waste facilities to ensure that feral or other animals are not attracted to the site.
- 23 Prepare and deliver an Environmental Induction Program to all personnel, which includes information on:
 - Requirement to remain within marked clearing line;

- Identification of Carnaby's Black-Cockatoo birds and care to be taken in avoiding clearing areas if they are present; and
 - fauna encounter procedures.
- 24 All construction staff, sub-contractors and other personnel working on site will complete the Environmental Induction Program prior to commencing work on the site.
- 25 Carnaby's Black-Cockatoos encountered during construction shall be allowed to make their own way from the works area.
- 26 If Carnaby's Black-Cockatoos are present feeding on site, work in the immediate area shall cease until they have flown away from the area.
- 27 If an injured Carnaby's Black-Cockatoo is encountered, the nominated carer or Wildlife Hotline shall be called to rescue the animal.

4.5.4 Post Construction

The POS conservation areas will require maintenance post construction. Educational signage will be installed to inform the residents on the conservation values associated with the POS. Opportunities for community monitoring of CBC activity will be discussed with the residents group.

A formal monitoring program will be undertaken to determine CBC activity on an annual basis. This program will specifically look for evidence of CBC foraging.

ACTIONS

- 28 Site maintenance to be carried out. This will include regular watering schedules, maintenance of tree guards and perimeter fence, weed management and rabbit control as required.
- 29 Install educational signage that clearly states that access is restricted to defined pathways, fauna/flora interpretation, importance of domestic animal control and include a contact number to report any dumping or inappropriate activity.
- 30 Discuss community monitoring of CBC activity with residents group
- 31 Monitor CBC activity on an annual basis.

The EPBC approval requirements for condition 10(a) have been addressed by the following management actions (Table 6.)

Table 6: Management Actions for Conservation of Carnaby's Black Cockatoo Habitat

Topic	Action	Timing	Responsibility	
Habitat Retention and Protection				
	1	Retain the 16.45ha of vegetation in the POS conservation area as shown in Figure 3 and manage as POS conservation. Within these areas, no clearing of trees or understorey will be permitted other than for approved paths, boardwalks, seating, lookout points and educational signage which where possible will be established on existing tracks.	Pre-construction	Developer
	2	Negotiate and document the procedure for ceding the POS conservation to the City of Wanneroo for the purpose of preservation of bushland.	During Construction	Developer
	3	Mitigate the impact of subdivision by fronting the POS conservation area with single fronted roads (to be designed by the developer).	Pre-construction	Developer
	4	Construct appropriate fencing (e.g. standard stock/farm fencing with lockable gates) around the POS conservation to control access and passive recreational use to minimise impacts on native vegetation prior to subdivision.	Pre-construction	Developer
	5	Prepare 3m fire breaks around POS conservation and maintain prior to development.	Ongoing	Developer
Habitat Rehabilitation				
	6	Undertake a vegetation and flora survey in Spring 2014 in the POS conservation areas.		
	7	Undertake a baseline weed mapping survey in CBC habitat, in accordance with DPaW's Standard Operating Procedure No. 22.1.	Pre-construction	Environmental Consultant
	8	Set up two permanent quadrats in each area of POS conservation for annual vegetation/weed monitoring.	Pre-construction	Environmental Consultant
	9	Contract a qualified rehabilitation and revegetation contractor to undertake on-ground planning for revegetation works	Pre- construction	Environmental Consultant
	10	Prepare revegetation site works plan, schedule and costs.	Pre-construction	Rehabilitation Contractor
	11	Collect seed from core CBC foraging species and propagate for infill planting	Pre-construction	Rehabilitation Contractor
	12	Undertake weed control programme targeting invasive weeds recorded during Action 2.	Pre/During/Post-construction	Rehabilitation Contractor

	13	Undertake short term monitoring of weed control programme to identify any outbreaks following weed removal or suppression.	Ongoing	Rehabilitation Contractor
	14	Implement revegetation site works plan.	Ongoing	Rehabilitation Contractor
	15	Monitor health of planted species and replace dead plants as necessary.	Ongoing	Rehabilitation Contractor
	16	Install signage to ensure that residents are aware of the POS conservation and rehabilitation activity.	During/Post Construction	Rehabilitation Contractor
	17	Provide locked access for management vehicles into the POS conservation using access points away from major roads. The minimum required vehicle access is to be established.	During/Post Construction	Developer
	18	Install tree guards where required to control rabbit grazing	During Construction	Rehabilitation Contractor
Construction Management				
	19	A 1.8m high chain mesh fence will be installed around the conservation fencing prior to construction.	During construction	Environmental Consultant/Site Manager
	20	Installation of dust curtains prior to clearing to protect remnant vegetation from sand drift during construction.	Pre-construction	Site Manager
	21	Maintain fencing in functional condition and repair promptly if damage occurs. Fencing to be upgraded to rabbit-proof if and where required.	During Construction	Site Manager
	22	Dispose of food waste into covered waste facilities to ensure that feral or other animals are not attracted to the site.	During Construction	Site Manager
	23	Prepare and deliver an Environmental Induction Program to all personnel, which includes information on: - Requirement to remain within marked clearing line; - identification of Carnaby's Black-Cockatoo birds and the care to be taken in avoiding clearing areas if they are present; and -fauna encounter procedures.	During Construction	Site Manager
	24	All construction staff, sub-contractors and other personnel working on site will complete the Environmental Induction Program prior to commencing work on the site.	During Construction	Site Manager

	25	Carnaby's Black-Cockatoos encountered during construction shall be allowed to make their own way from the works area.	During Construction	Site Manager
	26	If Carnaby's Black-Cockatoos are present feeding on site, work in the immediate area shall cease until they have flown away from the area.	During Construction	Site Manager
	27	If an injured Carnaby's Black-Cockatoo is encountered, the nominated carer or Wildlife Hotline shall be called to rescue the animal.	During Construction	Site Manager
Post Construction				
	28	Site maintenance to be carried out. This will include regular watering schedules, maintenance of tree guards and perimeter fence, weed management and rabbit control as required.	Post construction	Rehabilitation Contractor
	29	Install educational signage that clearly states that access is restricted to defined pathways, fauna/flora interpretation, importance of domestic animal control and include a contact number to report any dumping or inappropriate activity.	Post construction	Developer
	30	Discuss community monitoring of CBC activity with residents group	Post Construction	Environmental Consultant
	31	Monitor CBC activity on an annual basis	Post Construction	Environmental Consultant

4.6 Monitoring

Table 7 details the monitoring program for Carnaby's Black-Cockatoo habitat in the POS conservation. It consists of a program of:

- Construction area inspections;
- Dust inspections;
- Vegetation monitoring;
- Inspection of rehabilitation within the POS conservation areas;
- Fire break inspections; and
- Survey for evidence of Carnaby's Black Cockatoo foraging.

For the vegetation monitoring, two 10m x 10m quadrats will be established within the CBC habitat in each of the three POS conservation areas (Figure 3). These will be surveyed annually in late September/early October (mid-Spring) for tree health, species richness, percentage cover of natives, and percentage cover of weeds.

Table 7: Monitoring Program

Parameter	Purpose	Location	Frequency	Responsibility
Temporary Fence	Protect POS conservation areas from accidental clearing and vehicle access.	Three POS conservation areas	Weekly during construction period.	Site Manager
Dust curtains	Protect POS conservation from airborne dust during construction.	Three POS conservation areas	Monthly during construction period.	Environmental Consultant
Fire Breaks	To protect POS conservation from fire prior to construction.	Three POS conservation areas	Annually prior to construction	Site Manager
Species richness, percentage cover and plant health within monitoring quadrats	To monitor condition of POS conservation areas following clearing of surrounding vegetation.	Two permanent quadrats within each of the POS conservation areas	Annually until the POS conservation area is handed to the City of Wanneroo	Environmental Consultant
Percentage cover of weeds in quadrats.	To identify any new infestations of significant weeds within .	Two permanent quadrats within each of the POS conservation areas.	Annually until the POS conservation area is handed to the City of Wanneroo	Environmental Consultant
Emergence of seedlings in rehabilitated	To determine success of rehabilitation	Rehabilitation areas within the POS conservation	Annually until the POS conservation area is handed to	Rehabilitation Contractor

areas.		areas	the City of Wanneroo	
Occurrence of weeds	To establish need for weed control as required	Rehabilitation areas within the POS conservation areas	Annually until the POS conservation area is handed to the City of Wanneroo	Rehabilitation Contractor
Evidence of Carnaby's Black Cockatoo foraging (fresh chewed Banksia nuts)	To determine if Carnaby's Black Cockatoo continue to forage in the POS conservation	Three POS conservation areas	Annually until the POS conservation area is handed to the City of Wanneroo	Environmental Consultant

4.7 Targets and Performance Indicators

A number of environmental targets, based on the management objective, have been developed for the management of Carnaby's Black-Cockatoos habitat. Performance indicators have also been developed for use in assessing the achievement of these targets (Table 8).

Table 8: Management Plan Targets and Performance Indicators

Objective	Target	Performance Indicator
Maximise the potential for the POS conservation areas to continue to be utilised by Carnaby's Black- Cockatoo during and following development.	No clearing or disturbance within the POS conservation areas other than that approved by the DOE throughout the duration of the development.	No evidence of clearing activities within the POS conservation areas. No evidence of unauthorised access to POS conservation areas during construction in construction site assessment reports.
	The POS conservation areas as depicted in Figure 3 of this CMP are temporarily fenced and dust curtains installed prior to clearing activities and permanent fencing installed post development to the standard required by CoW.	Pre-clearing check of temporary fencing. Post development check of permanent fencing.
	No decline in the number of species, percentage cover and condition of vegetation within the POS conservation	Results of annual vegetation monitoring quadrats in POS conservation areas
	No significant increase in number of invasive weeds in POS conservation areas	Results of annual vegetation monitoring in POS conservation areas

4.8 Contingencies

The following contingency measures will be put in place if monitoring indicates that management measures have not been effective and/or targets are not being achieved (Table 9).

Table 9: Contingency Measures

Trigger	Action		Responsibility
Significant decrease in species richness, percentage cover or plant health within monitoring quadrats in POS conservation areas over time	1	Investigate cause	Environmental Manager
	2	Undertake remediation works	Rehabilitation Contractor
	3	Plant seedling stock from seed collected from the LSP area.	Rehabilitation Contractor
Poor emergence/survival in rehabilitated areas in POS conservation.	1	Undertake top-up broadcast-seeding and infill planting with seedlings.	Rehabilitation Contractor
Significant increase in percentage covers of invasive weed density in monitoring quadrats	1	Investigate cause	Environmental Manager
	2	Implement measures to prevent further weed infestations and carry out weed control activities as required	Rehabilitation Contractor
Weed infestation in rehabilitated areas	1	Investigate cause	Environmental Manager
	2	Implement measures to prevent further infestation (eg weed control, screening to stop airborne weed vectors)	Rehabilitation Contractor
Impacts from uncontrolled pedestrian access	1	Investigate cause	Environmental Manager
	2	Implement access controls and install additional signage.	Rehabilitation Contractor

4.9 Reporting

Implementation status and monitoring results for this CMP will be provided in the annual compliance report provided to the Department of Environment.

5 REFERENCES

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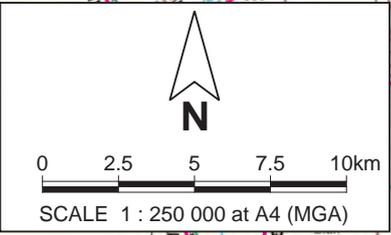
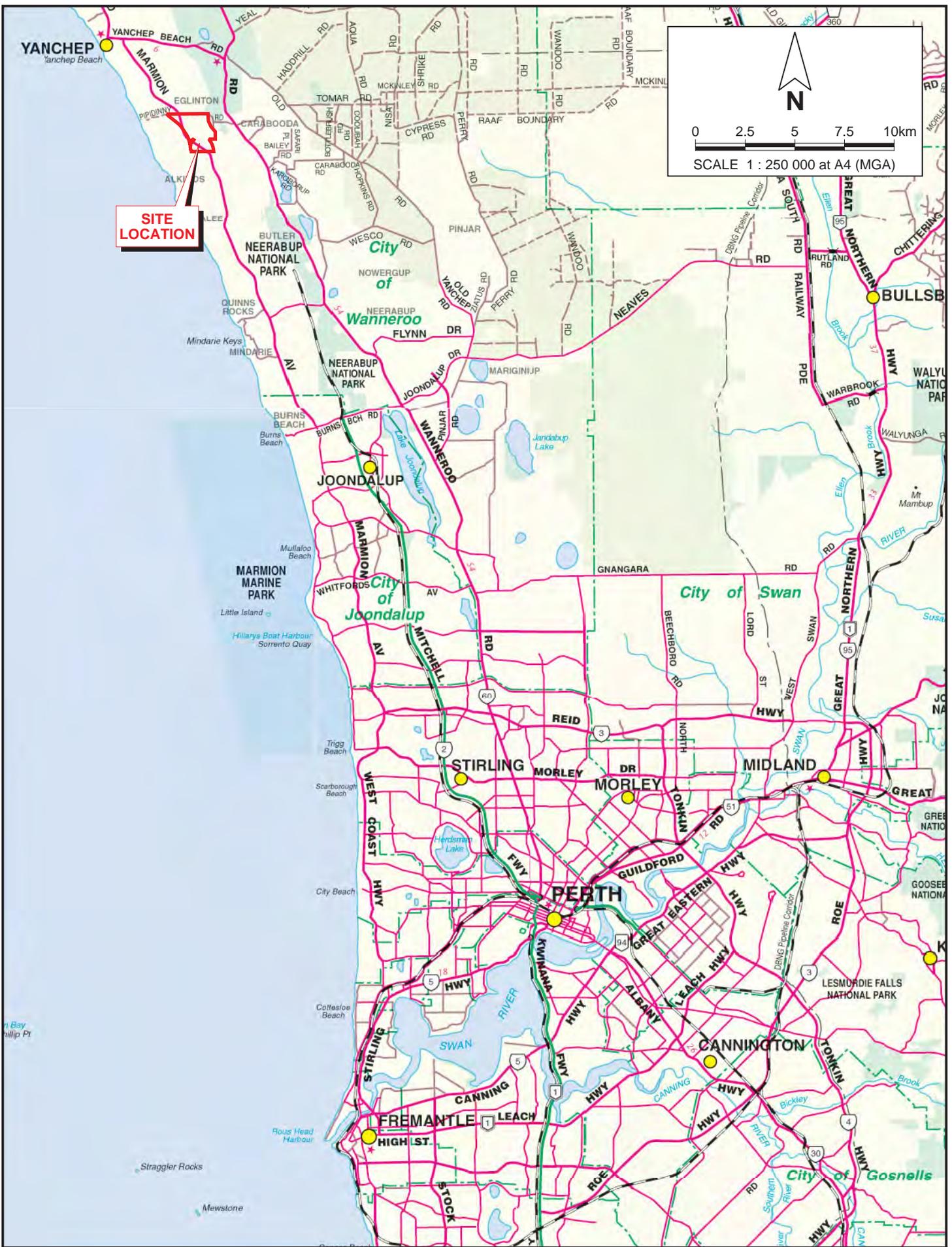
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FIGURES



SITE LOCATION

2014-142-01.dgn
 PINPOINT CARTOGRAPHICS (08) 9562 7136

		Eglinton Estates Pty Ltd EPBC CONSERVATION PUBLIC OPEN SPACE MANAGEMENT PLAN EGLINTON	
Drawn: B. Heath Job: 10007 Rpt: 2014-142	Date: 23 Apr 2014 Revision: A	SITE LOCATION	

Figure 1



LEGEND

ZONES

- Residential
- Centre
- Commercial
- Mixed Use

RESERVES

- Parks & Recreation
- Railway

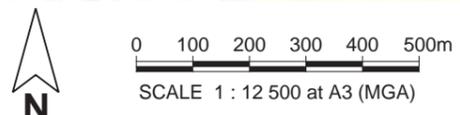
MOVEMENT

- Railway Station
- Primary Distributor
- Integrator Arterial (A)
- Integrator Arterial (B)
- Neighbourhood Connector
- Coastal Road
- Light Controlled Intersection
- Special Transit System/ Indicative Bus Stops
- Principal Shared Path
- Shared Path
- Regional Foreshore Shared Path
- Social/Pedestrian/Cyclist Linkages

OTHER

- Eglinton Local Structure Plan Boundary
- Proposed 132kV Transmission Line
- Proposed Zone Substation
- Primary School
- Inclusive School - Kindergarten to year 12
- Centre 1 - Eglinton Marina Centre
- Centre 2 - Neighbourhood Centre
- Centre 3 - Neighbourhood Centre
- Centre 4 - District Activity Centre
- Indicative Strategic Open Spaces
- Land to be subject to MRS Amendment
- Regional Road Drainage
- Possible Beachside Restaurant/ Cafe/Corner Store
- Proposed Water Corporation Groundwater Bore Sites
- 300 metre Well Head Protection Zones
- Possible Foreshore Recreation Development Node
- Walkable Catchment (400m - 5 min walk)
- Walkable Catchment (800m - 10 min walk)

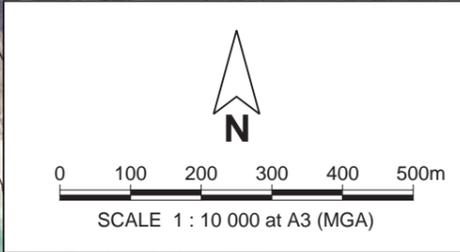
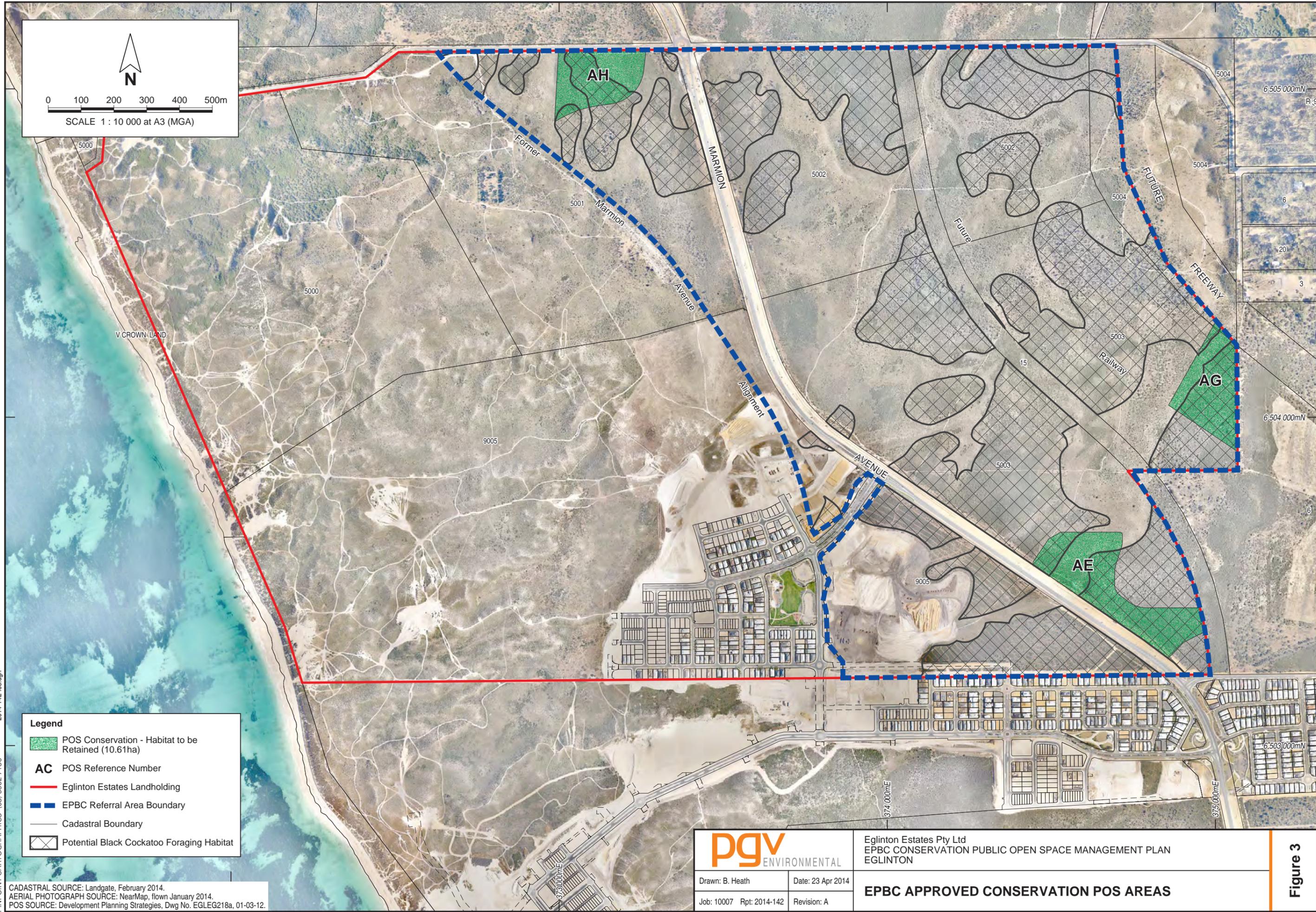
- NOTES**
- 1) Areas identified as being of National Environmental Significance under the Environmental Protection and Biodiversity Conservation Act 1999 may be subject to assessment by the Federal Department of Sustainability, Environment, Water, Population and Communities, in accordance with this Act. The outcome of any such assessment may require either a modification to the LSP or minor variations from the LSP at the subdivision or development stage.
 - 2) The taking of individual Graceful Sun Moths, as a result of the clearing of habitat such as Lomandra Hermaphrodita and Maritima, requires the permission of the Minister for Environment, or their delegate, pursuant to the Wildlife Conservation Act 1950.
 - 3) An easement of up to 32 metres may be required for the proposed 132kV overhead transmission line. This may have implications on adjacent land uses. Final width of the easement and the location of the substation will need to be confirmed as part of the future structure planning of Centre Zones.
 - 4) Location of the proposed Water Corporation Groundwater Bore Sites and associated 300 metre Well Head Protection Zones is indicative only, to be confirmed at subdivision stage.



SOURCE: Plan No. EGLEG191d, 10-05-2012.

		Eglinton Estates Pty Ltd EPBC CONSERVATION PUBLIC OPEN SPACE MANAGEMENT PLAN EGLINTON	
Drawn: B. Heath Job: 10007 Rpt: 2014-142	Date: 23 Apr 2014 Revision: A	EGLINTON LOCAL STRUCTURE PLAN	

Figure 2



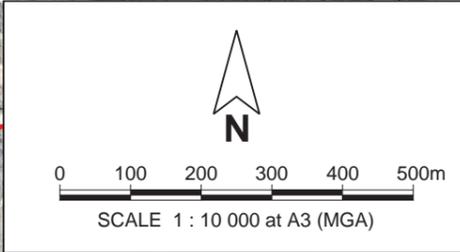
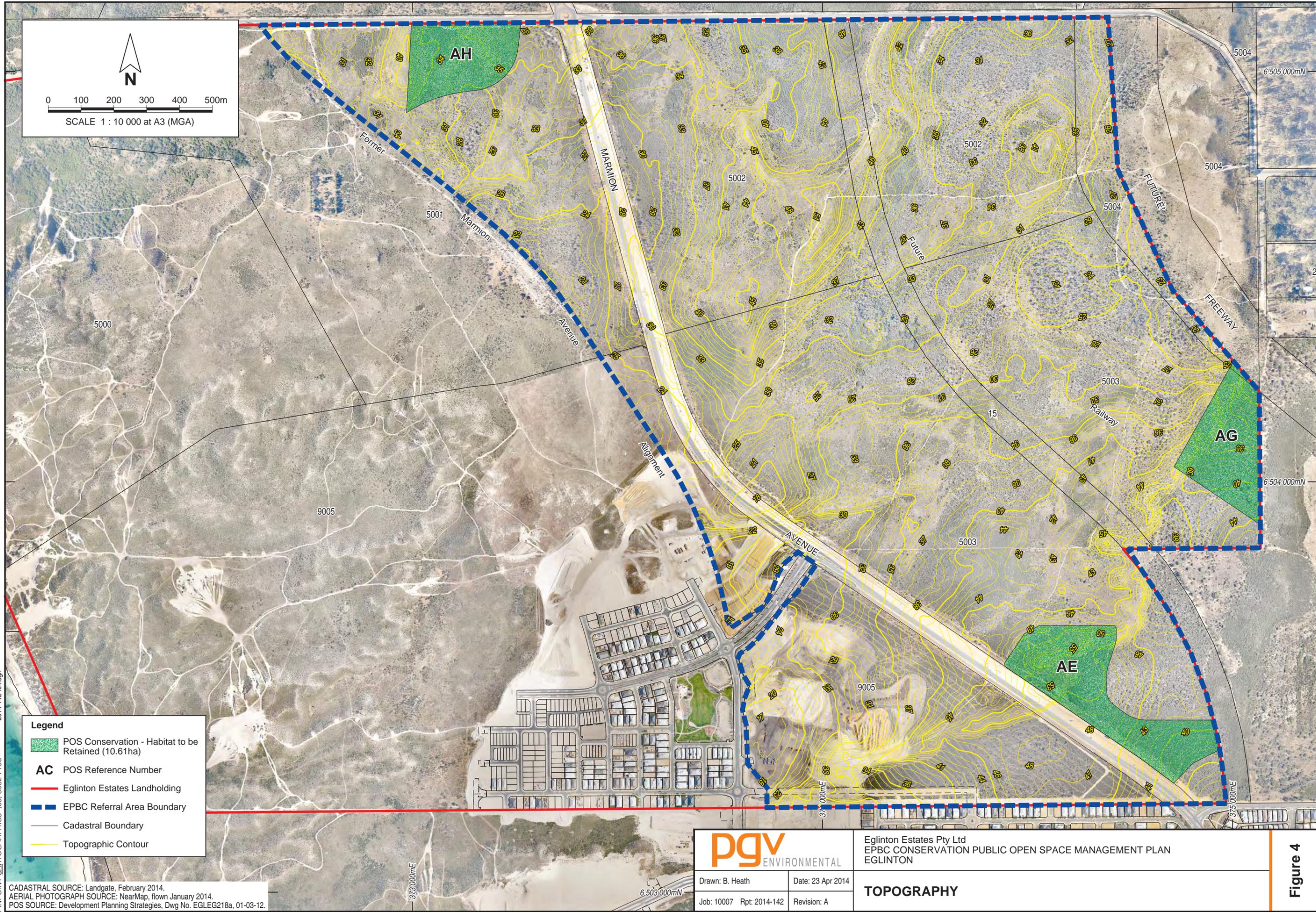
Legend	
	POS Conservation - Habitat to be Retained (10.61ha)
AC	POS Reference Number
	Eglinton Estates Landholding
	EPBC Referral Area Boundary
	Cadastral Boundary
	Potential Black Cockatoo Foraging Habitat

CADASTRAL SOURCE: Landgate, February 2014.
 AERIAL PHOTOGRAPH SOURCE: NearMap, flown January 2014.
 POS SOURCE: Development Planning Strategies, Dwg No. EGLEG218a, 01-03-12.

		Eglinton Estates Pty Ltd EPBC CONSERVATION PUBLIC OPEN SPACE MANAGEMENT PLAN EGLINTON	
		EPBC APPROVED CONSERVATION POS AREAS	
Drawn: B. Heath	Date: 23 Apr 2014		
Job: 10007 Rpt: 2014-142	Revision: A		

Figure 3

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PINPOINT CARTOGRAPHICS (08) 9562 7136



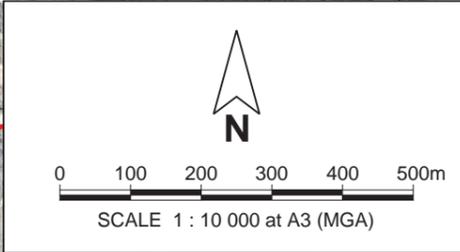
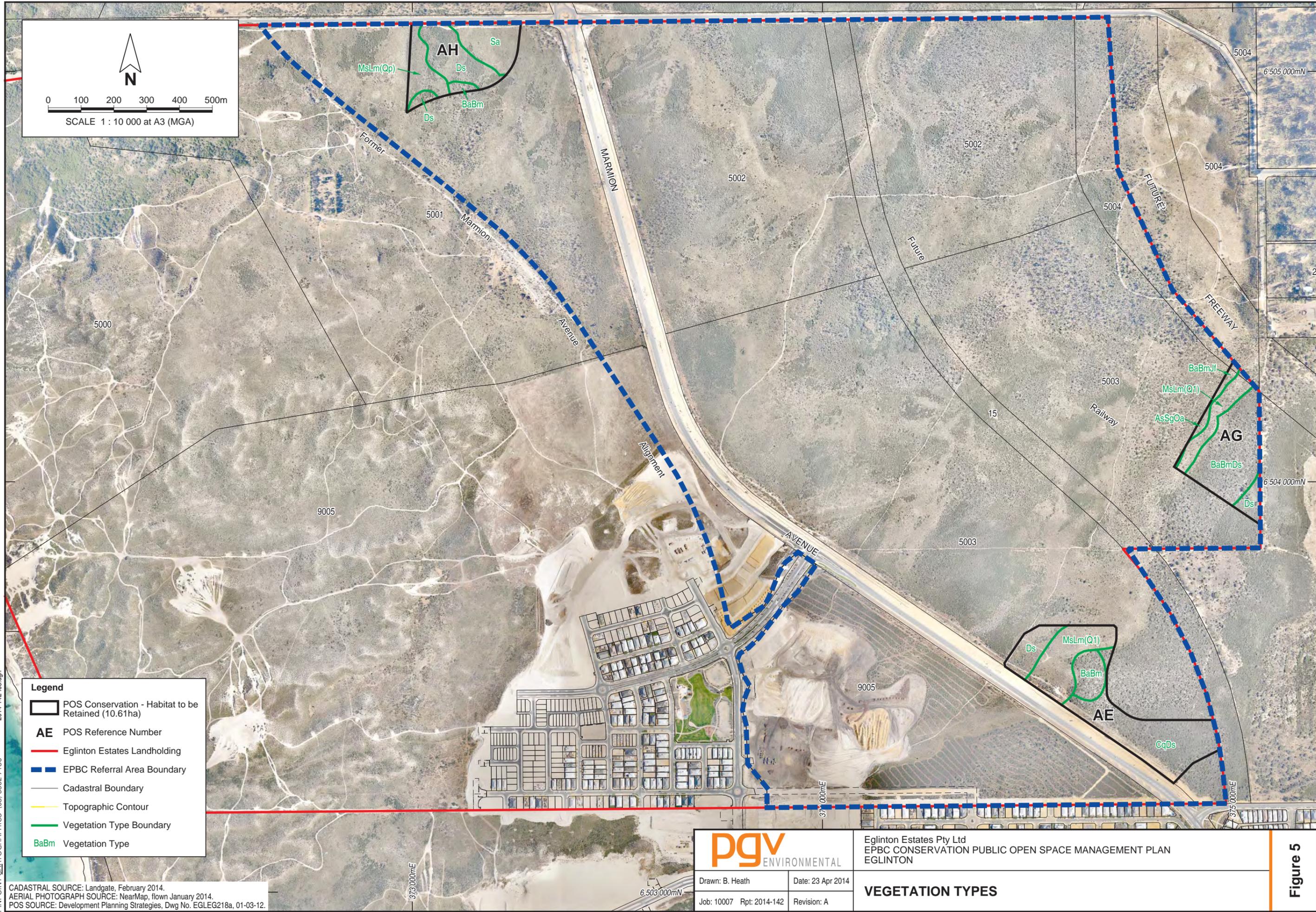
Legend	
	POS Conservation - Habitat to be Retained (10.61ha)
AC	POS Reference Number
	Eglinton Estates Landholding
	EPBC Referral Area Boundary
	Cadastral Boundary
	Topographic Contour

2014-142-104.dgn
PINPOINT CARTOGRAPHICS (08) 9562 7136

CADASTRAL SOURCE: Landgate, February 2014.
AERIAL PHOTOGRAPH SOURCE: NearMap, flown January 2014.
POS SOURCE: Development Planning Strategies, Dwg No. EGLEG218a, 01-03-12.

		Eglinton Estates Pty Ltd EPBC CONSERVATION PUBLIC OPEN SPACE MANAGEMENT PLAN EGLINTON	
		TOPOGRAPHY	
Drawn: B. Heath	Date: 23 Apr 2014		
Job: 10007 Rpt: 2014-142	Revision: A		

Figure 4



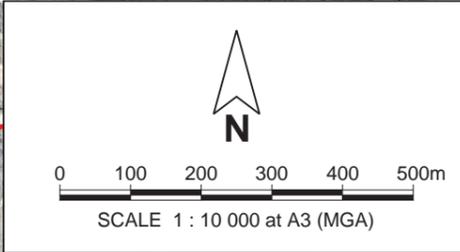
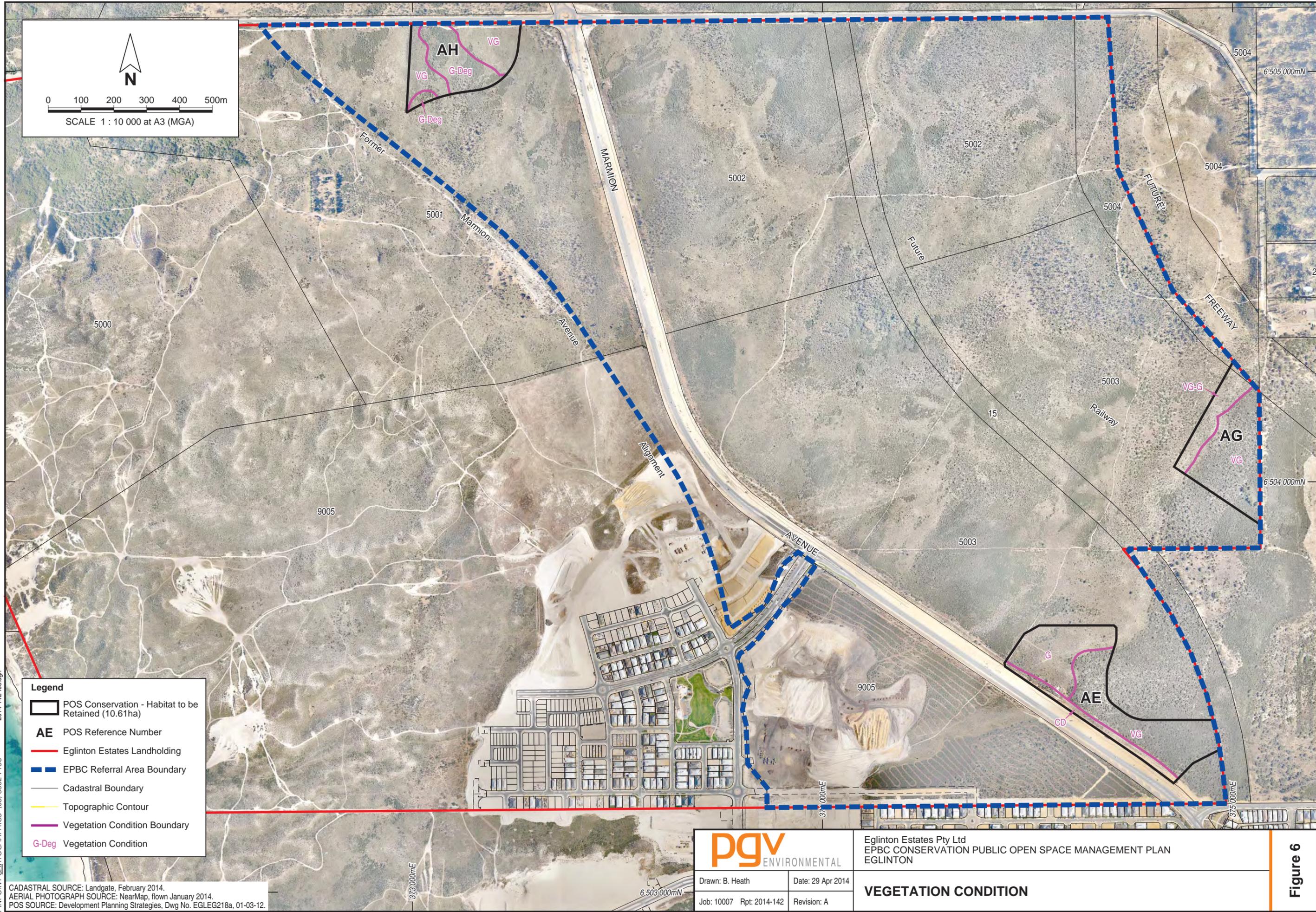
Legend	
	POS Conservation - Habitat to be Retained (10.61ha)
AE	POS Reference Number
	Eglington Estates Landholding
	EPBC Referral Area Boundary
	Cadastral Boundary
	Topographic Contour
	Vegetation Type Boundary
	BaBm Vegetation Type

		Eglington Estates Pty Ltd EPBC CONSERVATION PUBLIC OPEN SPACE MANAGEMENT PLAN EGLINTON	
		VEGETATION TYPES	
Drawn: B. Heath Job: 10007 Rpt: 2014-142	Date: 23 Apr 2014 Revision: A		

2014-142-105.dgn
 PINPOINT CARTOGRAPHICS (08) 9562 7136

CADASTRAL SOURCE: Landgate, February 2014.
 AERIAL PHOTOGRAPH SOURCE: NearMap, flown January 2014.
 POS SOURCE: Development Planning Strategies, Dwg No. EGLEG218a, 01-03-12.

Figure 5



Legend	
	POS Conservation - Habitat to be Retained (10.61ha)
AE	POS Reference Number
	Eglinton Estates Landholding
	EPBC Referral Area Boundary
	Cadastral Boundary
	Topographic Contour
	Vegetation Condition Boundary
	G-Deg Vegetation Condition

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PINPOINT CARTOGRAPHICS (08) 9562 7136

CADASTRAL SOURCE: Landgate, February 2014.
AERIAL PHOTOGRAPH SOURCE: NearMap, flown January 2014.
POS SOURCE: Development Planning Strategies, Dwg No. EGLEG218a, 01-03-12.

		Eglinton Estates Pty Ltd EPBC CONSERVATION PUBLIC OPEN SPACE MANAGEMENT PLAN EGLINTON	
		Drawn: B. Heath Job: 10007 Rpt: 2014-142	Date: 29 Apr 2014 Revision: A

Figure 6



Legend

-  POS Conservation - Habitat to be Retained
- AE** POS Reference Number
-  Eglinton Estates Landholding
-  EPBC Referral Area Boundary
-  Cadastral Boundary
-  Topographic Contour
-  Potential Black Cockatoo Foraging Habitat
-  Rehabilitation Area
-  Fenceline
-  3m Firebreak

		Eglinton Estates Pty Ltd EPBC CONSERVATION PUBLIC OPEN SPACE MANAGEMENT PLAN EGLINTON	
Drawn: B. Heath	Date: 29 Apr 2014	<h2 style="margin: 0;">CONSERVATION MANAGEMENT PLAN POS AE</h2>	
Job: 10007 Rpt: 2014-142	Revision: A		

CADASTRAL SOURCE: Landgate, February 2014.
 AERIAL PHOTOGRAPH SOURCE: NearMap, flown January 2014.
 POS SOURCE: Development Planning Strategies, Dwg No. EGLEG218a, 01-03-12.

Figure 7

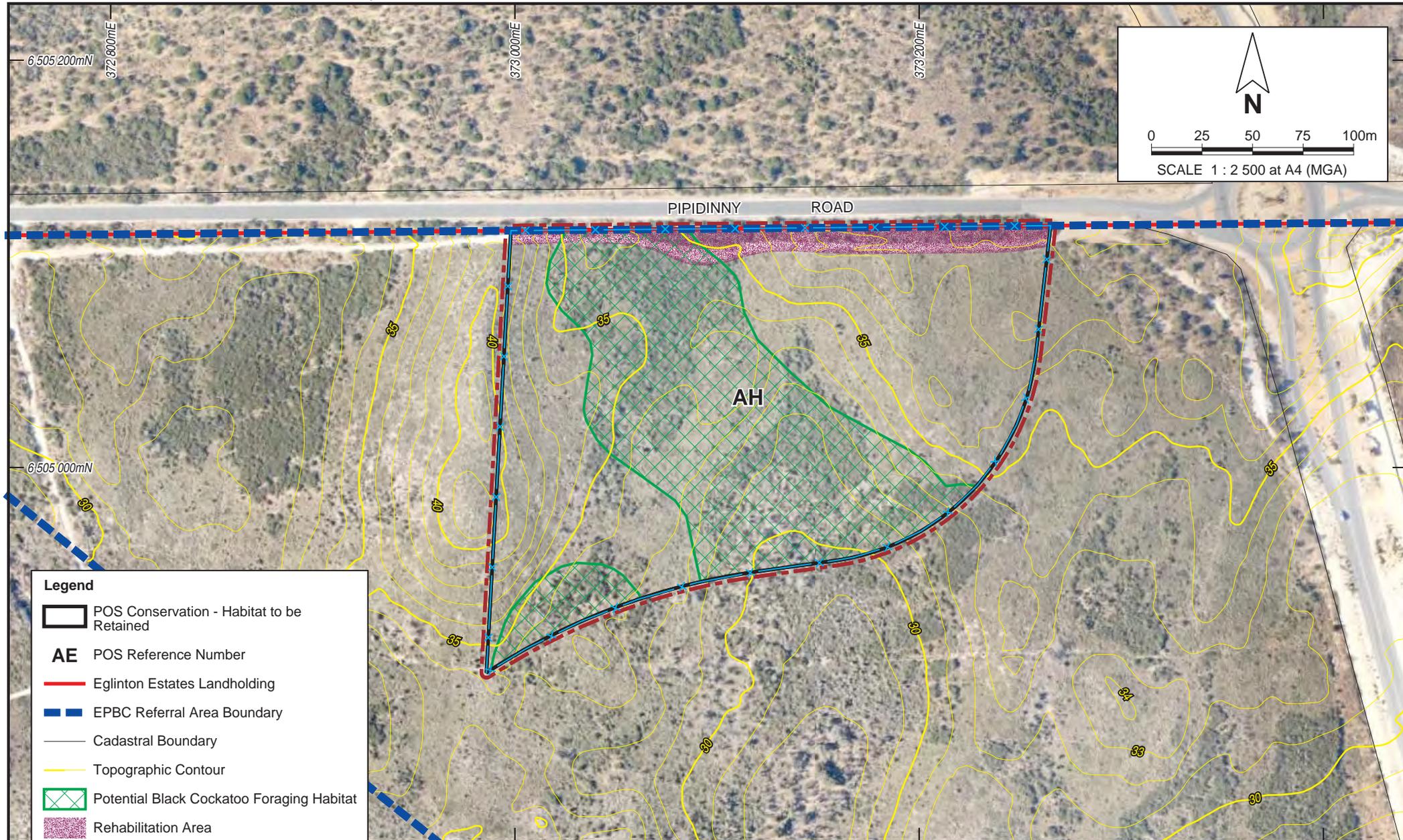


Legend

- POS Conservation - Habitat to be Retained
- AE** POS Reference Number
- Eglinton Estates Landholding
- EPBC Referral Area Boundary
- Cadastral Boundary
- Topographic Contour
- Potential Black Cockatoo Foraging Habitat
- x Fenceline
- 3m Firebreak

		Eglinton Estates Pty Ltd EPBC CONSERVATION PUBLIC OPEN SPACE MANAGEMENT PLAN EGLINTON		Figure 8
Drawn: B. Heath	Date: 29 Apr 2014	CONSERVATION MANAGEMENT PLAN POS AG		
Job: 10007 Rpt: 2014-142	Revision: A			

CADASTRAL SOURCE: Landgate, February 2014.
 AERIAL PHOTOGRAPH SOURCE: NearMap, flown January 2014.
 POS SOURCE: Development Planning Strategies, Dwg No. EGLLEG218a, 01-03-12.



Legend

- POS Conservation - Habitat to be Retained
- AE** POS Reference Number
- Eglinton Estates Landholding
- EPBC Referral Area Boundary
- Cadastral Boundary
- Topographic Contour
- Potential Black Cockatoo Foraging Habitat
- Rehabilitation Area
- Fenceline
- 3m Firebreak

		Eglinton Estates Pty Ltd EPBC CONSERVATION PUBLIC OPEN SPACE MANAGEMENT PLAN EGLINTON		Figure 9
Drawn: B. Heath	Date: 29 Apr 2014	CONSERVATION MANAGEMENT PLAN POS AH		
Job: 10007 Rpt: 2014-142	Revision: A			

CADASTRAL SOURCE: Landgate, February 2014.
 AERIAL PHOTOGRAPH SOURCE: NearMap, flown January 2014.
 POS SOURCE: Development Planning Strategies, Dwg No. EGLEG218a, 01-03-12.

APPENDIX 1



Approval

Eglinton Estates Residential Development, Lot 1007 & Part Lot 1008, Pipidinny Road, Eglinton, WA (EPBC 2010/5777)

This decision is made under sections 130(1) and 133 of the *Environment Protection and Biodiversity Conservation Act 1999*.

Proposed action

person to whom the approval is granted Eglinton Estates Pty Ltd

proponent's ACN (if applicable) ABN: 48 009 460 397

proposed action The clearing of approximately 298 ha of native vegetation for the urban development of Lot 1007 and the eastern portion of Lot 1008, Pipidinny Road, Eglinton, WA, [See EPBC Act referral 2010/5777], within the footprint shown as a blue dotted line in Attachment A.

Approval decision

Controlling Provision	Decision
Listed threatened species and communities (sections 18 & 18A)	Approved

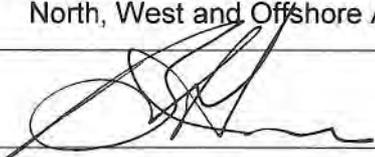
conditions of approval This approval is subject to the conditions specified below.

expiry date of approval

This approval has effect until 28 February 2038.

Decision-maker

name and position Barbara Jones
Assistant Secretary
North, West and Offshore Assessment Branch

signature 

date of decision 30/4/2013

Conditions attached to the approval

1. Within 30 days after the **commencement** of the action, the person taking the action must advise the **department** in writing of the actual date of **commencement**.
2. The person taking the action must maintain accurate records substantiating all activities associated with or relevant to the conditions of approval, including measures taken to implement the management plans required by this approval, and make them available upon request to the **department**. Such records may be subject to audit by the **department** or an independent auditor in accordance with section 458 of the **EPBC Act**, or used to verify compliance with the conditions of approval. Summaries of audits will be posted on the **department's** website. The results of audits may also be publicised through the general media.
3. Within three months of every 12 month anniversary of the **commencement** of the action, the person taking the action must publish a report on their website addressing compliance with the conditions of this approval over the previous 12 months, including implementation of any management plans as specified in the conditions. Non-compliance with any of the conditions of this approval must be reported to the **department** at the same time as the compliance report is published.
4. Upon the direction of the **Minister**, the person taking the action must ensure that an independent audit of compliance with the conditions of approval is conducted and a report submitted to the **Minister**. The independent auditor must be approved by the **Minister** prior to the commencement of the audit. Audit criteria must be agreed to by the **Minister** and the audit report must address the criteria to the satisfaction of the **Minister**.
5. If the person taking the action wishes to carry out any activity otherwise than in accordance with the management plans as specified in the conditions, the person taking the action must submit to the **department** for the **Minister's** written approval a revised version of that management plan. The varied activity shall not commence until the **Minister** has approved the varied management plan in writing. The **Minister** will not approve a varied management plan unless the revised management plan would result in an equivalent or improved environmental outcome over time. If the **Minister** approves the revised management plan, the revised management plan must be implemented in place of the management plan originally approved.
6. If the **Minister** believes that it is necessary or convenient for the better protection of listed threatened species to do so, the **Minister** may request that the person taking the action make specified revisions to the management plan/s specified in the conditions and submit the revised management plan/s for the **Minister's** written approval. The person taking the action must comply with any such request. The revised approved management plan/s must be implemented. Unless the **Minister** has approved the revised management plan/s, then the person taking the action must continue to implement the management plan/s originally approved, as specified in the conditions.
7. If, at any time after 5 years from the date of this approval, the person taking the action has not **substantially commenced** the action, then the person taking the action must not **substantially commence** the action without the written agreement of the **Minister**.

8. Unless otherwise agreed to in writing by the **Minister**, the person taking the action must publish all management plans referred to in these conditions of approval on their website. Each management plan must be published on the website within 1 month of being approved.
9. To mitigate impacts to Carnaby's Black Cockatoo (*Calyptorhynchus latirostris*), the person taking the action must not **clear** any land that is proposed to be **retained** that is also habitat for Carnaby's Black Cockatoo, (as shown in Attachment B).
10. To protect and enhance habitat for **listed threatened species** that is **retained** on the proposal site, the person taking the action must:
 - (a) prepare and submit, within 12 months of the date of this approval, a *Conservation Management Plan* detailing management of habitat for **listed threatened species** that is **retained** on the **proposal site** for the **Minister's** approval. The plan must include:
 - i. measures to physically delineate (through fencing or other means) areas that will be **retained**;
 - ii. erosion and dust control measures during construction;
 - iii. the management of weeds, *Phytophthora* dieback, bushfire and feral animals;
 - iv. identification of any degraded habitat for **listed threatened species** and **revegetation** of those areas;
 - v. a monitoring program for **listed threatened species** and their habitat;
 - vi. performance indicators and corrective actions;
 - vii. roles and responsibilities;
 - viii. time frames for the implementation of the above measures; and
 - ix. how condition 10(b) will be implemented, including who will be responsible for the long-term management of the **retained** land, and how the land will be protected in the long-term.

If the Minister approves the plan, the approved plan must be implemented.

- (b) within 5 years of the **substantial commencement** of the action, the person taking the action must provide the **department** with written evidence, including certificates of title, that the 'POS Conservation' areas (marked in green in Attachment A) has been transferred to the City of Wanneroo for the purpose of conservation.
11. To mitigate impacts to Carnaby's Black Cockatoo, the person taking the action must fully implement the **revegetation** of at least 12.7 ha of native vegetation (including **primary feeding plants** for Carnaby's Black Cockatoo) in the Yellagonga Regional Park (in consultation with the **DEC**) using seed and topsoil collected in accordance with the *Clearing and Revegetation Management Plan* required under condition 12.
12. To mitigate impacts to Carnaby's Black Cockatoo, the person taking the action must prepare and submit a *Clearing and Revegetation Management Plan* (the plan) for the **Minister's** approval. The plan must include:
 - (a) a commitment to the staged collection of native seed prior to **clearing**, and collection of topsoil following clearing, from within Carnaby's Black Cockatoo foraging habitat as shown in Attachment B (checked in black, but excluding those areas shaded green in Attachment B), for use in **revegetation**;
 - (b) a commitment to store native seed and topsoil, and transport it to a receiving site(s) where **revegetation** is being undertaken by the **DEC** or another receiving party (or parties), and at least 50% of the collected seed and topsoil must be used within 20 km of the **proposal site**;

(c) detailed protocols for staged collection and use of native seed and topsoil required by conditions 12(a) and 12(b) to be developed in consultation with an **independent revegetation expert** (approved in writing by the department) and the **DEC** or other receiving party (or parties) including:

- i. the optimal methodology for native seed and topsoil collection from the **proposal site**;
- ii. how clearing will be staged to best harvest utilise the native seed and topsoil resource for **revegetation**;
- iii. how native seed and topsoil will be stored and transported,
- iv. measures to manage any topsoil from the site that contains invasive weeds (at a level that makes that soil not suitable for use in **revegetation**) or soil infestations such as *Phytophthora*; and
- v. onsite supervision and implementation monitoring mechanisms.

(d) a commitment to **revegetate** at least 1.9 ha of native vegetation within Public Open Space on the **proposal site**;

(e) methodology for **revegetation**, both on-site, and in Yellagonga Regional Park (as required under condition 11), using native seed and topsoil collected in accordance with the protocols required by condition 12(c), along with:

- i. survival targets proposed for plantings;
- ii. performance indicators and corrective measures;
- iii. roles and responsibilities; and
- iv. timeframes for the implementation and management of the above measures.

(f) a commitment for at least 50% of plantings for trees and shrubs in street-scaping to consist of plants known to be **primary feeding plants** for Carnaby's Black Cockatoo. Site selection for street-scaping must take account of any risk of vehicle strike to Carnaby's Black Cockatoos.

If the **Minister** approves the plan, then the approved plan must be implemented.

13. To offset the loss of habitat for Carnaby's Black Cockatoo, within 12 months of the date of this approval, the person taking the action must:

(a) provide monies to the **DEC** to fully fund the acquisition of:

- i. an offset property that contains at least 850 ha of good quality foraging habitat for Carnaby's Black Cockatoo, that is within the 'Regans Ford' locality according to Landgate's WA Atlas; or
- ii. another parcel of land approved in writing by the **department**; and

(b) provide the **department** with a textual description and map clearly defining the location and boundaries of the offset property described in condition 13(a), which must be accompanied with the **offset attributes** and a **shapefile**.

14. The person taking the action must not undertake any **clearing** of habitat for Carnaby's Black Cockatoo (as shown in Attachment B hatched in black) apart from of the area outlined in yellow in Attachment D, unless:

(a) the *Clearing and Revegetation Management Plan* required under condition 12 has been approved by the **Minister**; and

(b) for each proposed clearing stage, the **department** has been provided written evidence that the **DEC** or other receiving party (or parties) agree(s) to utilise the seed and soil for the purposes of **revegetation** in accordance with the protocols developed under condition 12(c).

15. To mitigate impacts to the Graceful Sun Moth (*Synemon gratiosa*) and offset the loss of habitat for that species, the person taking the action must:

- (a) not **clear** any land that is proposed to be **retained** that is also habitat for the Graceful Sun Moth (as shown in Attachment C);
- (b) provide monies to the **DEC** to maintain and improve the quality of at least 180 ha of Graceful Sun Moth habitat within the Wilbinga Conservation Park. This funding must be adequate to fully fund, for a period of 20 years, all management actions deemed necessary by the **DEC** to mitigate known threats to Graceful Sun Moths and their habitat; and improve habitat quality through **revegetation** or restoration. All funding must be provided within 12 months of the date of this approval; and
- (c) prepare and submit, within 6 months of the date of this approval, a *Wilbinga Conservation Park Graceful Sun Moth Habitat Management Funding Plan* (the plan) detailing how condition 15(b) will be satisfied, for the **Minister's** approval. The plan must include:
 - i. what management actions are likely to be funded;
 - ii. the amount of funding that will be provided;
 - iii. written evidence that the **DEC** agree that the funding is adequate for them to undertake the management actions.

If the **Minister** approves the plan, the approved plan must be implemented.

Definitions

Clearing of native vegetation, including the cutting down, felling, thinning, logging, removing, killing, destroying, poisoning, ringbarking, uprooting or burning of native vegetation.

Construction includes any preparatory works required to be undertaken including the erection of any onsite temporary structures and the use of heavy duty equipment for the purpose of breaking the ground for buildings or infrastructure.

Substantial commencement of the action is when more than 1 ha of land on the proposal site has been impacted by **clearing** or **construction**.

DEC is the Western Australian Government's Department of Environment and Conservation (or equivalent agency).

Department is the Australian Government Department administering the *Environment Protection and Biodiversity Conservation Act 1999*.

EPBC Act is the *Environment Protection and Biodiversity Conservation Act 1999*.

Independent revegetation expert. A scientist with relevant qualifications and expertise in best-practise **revegetation** (including the use of native seed and topsoil in **revegetation**), who is not affiliated with the person taking the action.

Listed Threatened Species are species listed under the EPBC Act including Carnaby's Black Cockatoo (*Calyptorhynchus latirostris*) and the Graceful Sun Moth (*Synemon gratiosa*).

Minister is the Minister administering the *Environment Protection and Biodiversity Conservation Act 1999* and includes a delegate of the Minister.

Offset attributes means an '.xls' file capturing relevant attributes of the Offset Area, including the EPBC reference ID number, the physical address of the offset site, coordinates of the boundary points in decimal degrees, the EPBC protected matters that the offset compensates for, any additional EPBC protected matters that are benefiting from the offset, and the size of the offset in hectares.

Primary feeding plants for Carnaby's Black Cockatoo include: any *Banksia*; any plants identified in a relevant search of the DEC's Plants for Carnaby's Search Tool (at <http://www.dec.wa.gov.au/management-and-protection/threatened-species/5983-plants-for-carnabys-search-tool.html>); or other plants approved in writing by the **Department**.

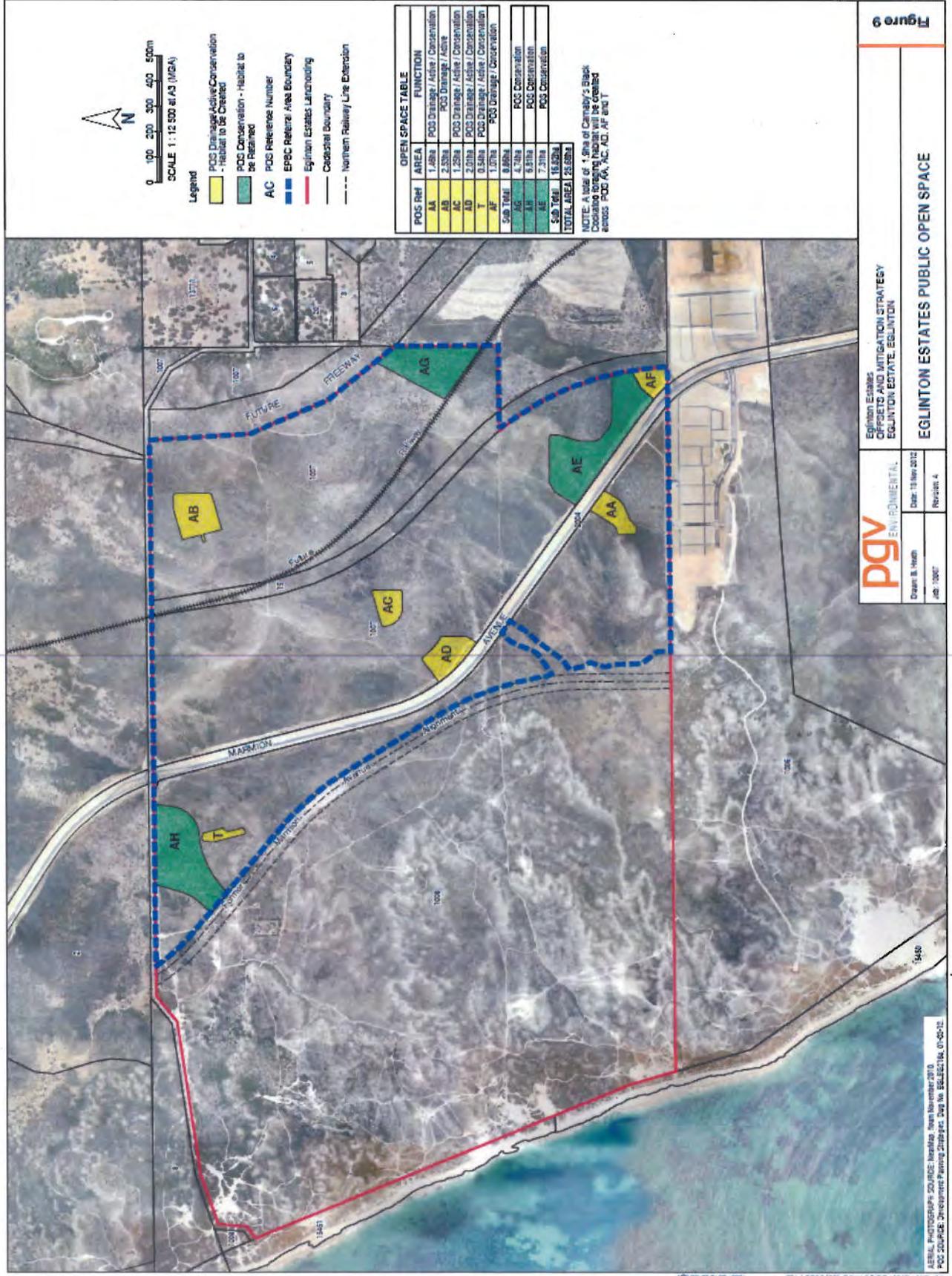
Proposal site is the area shown at Attachment A as EPBC Referral Area Boundary.

Retained land means: the 'POS Conservation' areas marked in green in Attachment A.

Revegetation is the removal of weeds and the long-term establishment of native vegetation.

Shapefile means an ESRI Shapefile containing '.shp', '.shx' and '.dbf' files and other files capturing attributes of the Offset Area, including the shape, EPBC reference ID number and EPBC protected matters present at the relevant site. Attributes should also be captured in '.xls' format.

Attachment A



PGV ENVIRONMENTAL

Eglinton Estates
OPSETS AND MITIGATION STRATEGY
EGLINTON ESTATE, EGLINTON

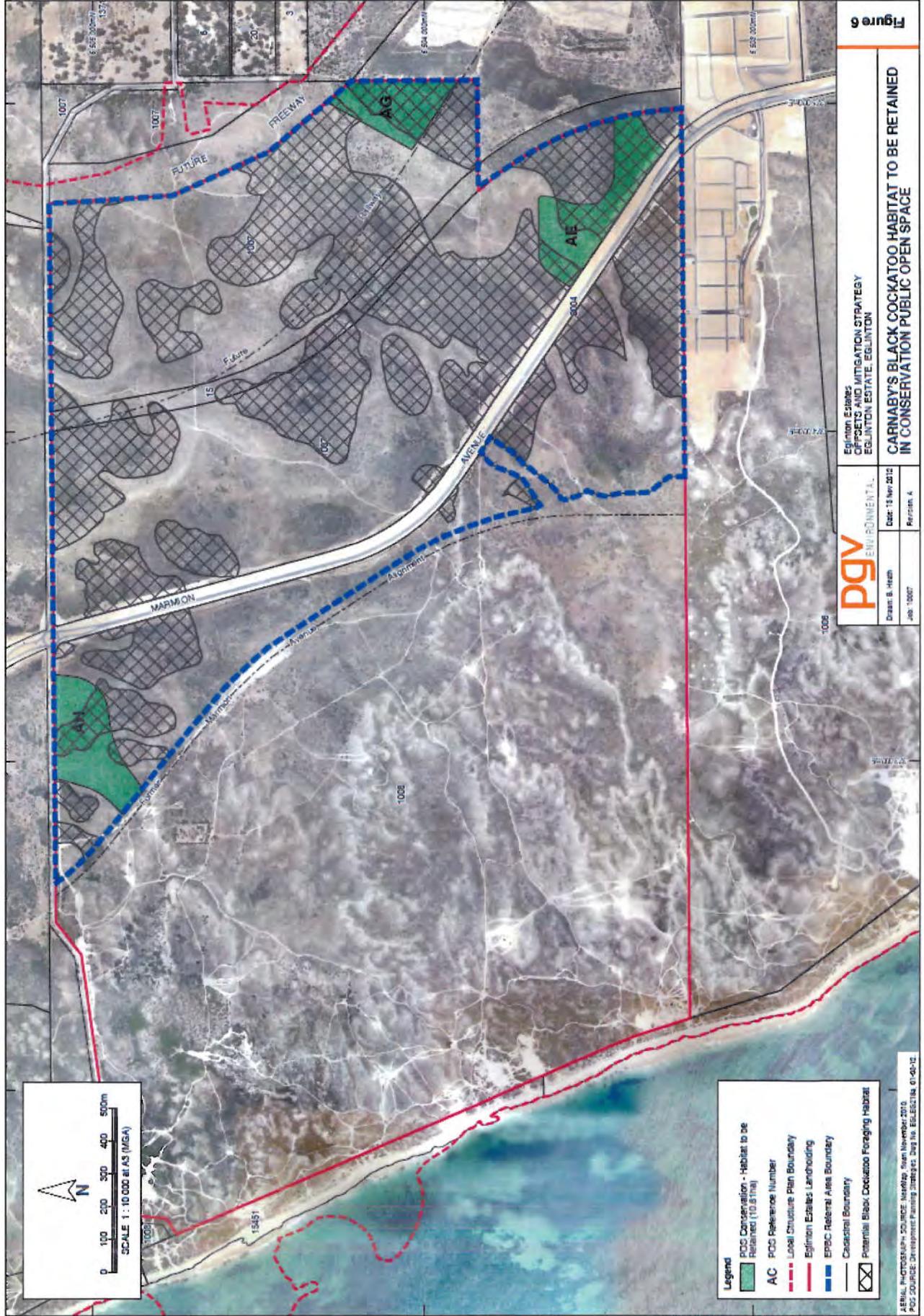
EGGLINTON ESTATES PUBLIC OPEN SPACE

Open: 8.14ha Date: 13 Nov 2012
Job: 10077 Revises: 4

Figure 9

AERIAL PHOTOGRAPHY SOURCE: Imagisys, 18th November 2011
POS SOURCE: Precincts Planning Strategy, 2007 No. E200216, 01-032

Attachment B



- Legend**
- POC Conservation - Habitat to be Retained (10.9 Ha)
 - AC** POC Reference Number
 - Local Structure Plan Boundary
 - Eglinton Estates Landholding
 - EPCC Referral Area Boundary
 - Coastal Boundary
 - Potential Black Cockatoo Foraging Habitat

PGV
ENVIRONMENTAL

Eglinton Estates LANDSCAPE MITIGATION STRATEGY
EGLINTON ESTATE, EGLINTON

CARNABY'S BLACK COCKATOO HABITAT TO BE RETAINED
IN CONSERVATION PUBLIC OPEN SPACE

Drawn By: Hutch	Date: 15 Nov 2012
Job: 10007	Revision: A

AERIAL PHOTOGRAPHY: © MICE, November 2010.
POC SOURCE: Development Planning Strategies, Dwg No. BLS/EG/018, 01-09-12

Figure 6

Attachment C



Figure 8

Eglinton Estates Mitigation Strategy
EGLINTON ESTATE, EGLINTON

PGV ENVIRONMENTAL

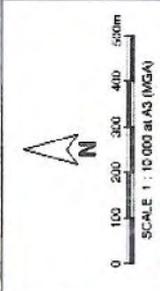
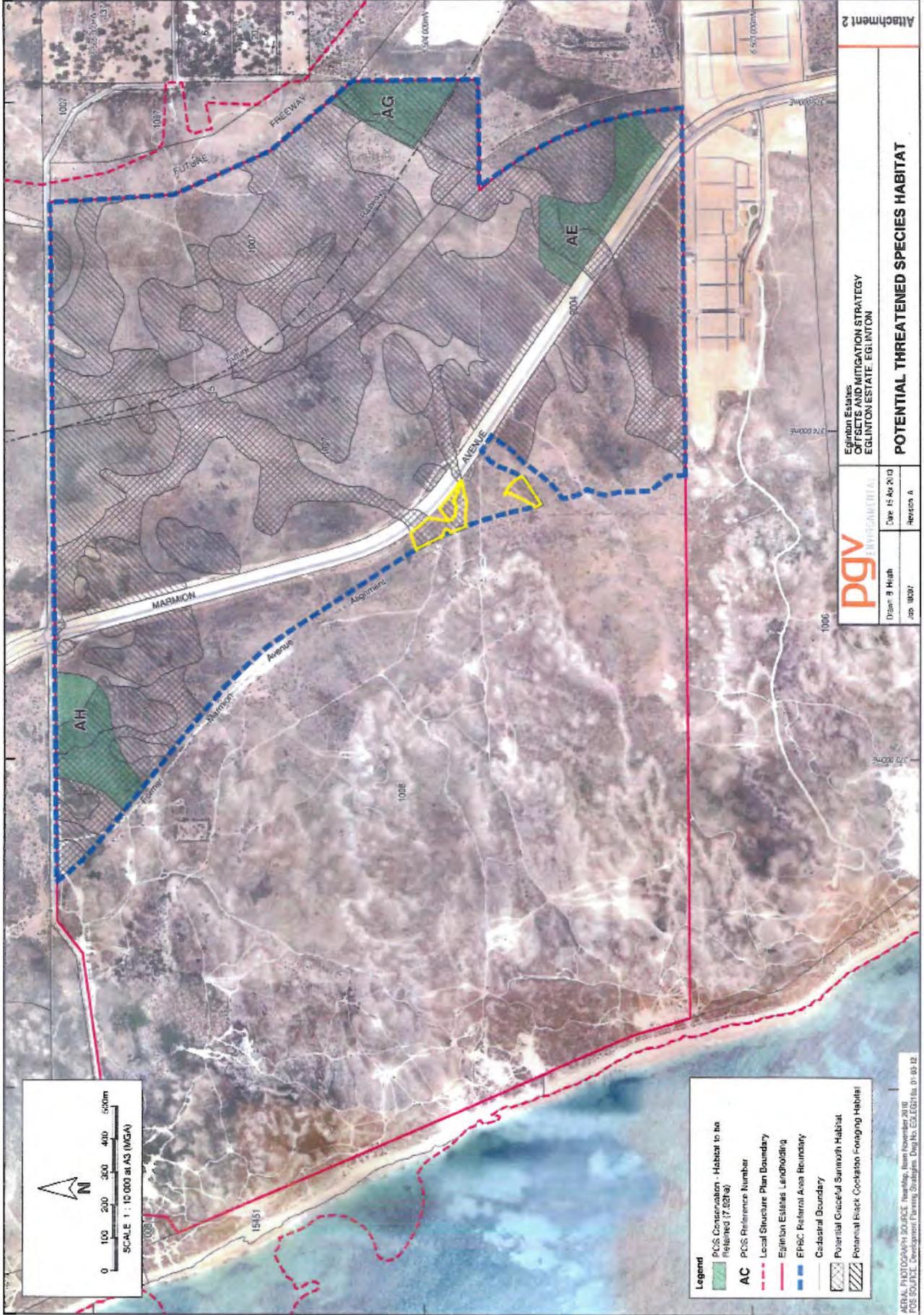
Client: B. Hoeh	Date: 13 Nov 2022	Revision: 4
Job: 10007		

**GRACEFUL SUN-MOTH HABITAT TO BE RETAINED
 IN CONSERVATION PUBLIC OPEN SPACE**

- Legend**
- PCC Conservation - Habitat to be Retained (7,420sqm)
 - AC** PCC Reference Number
 - Level Structure Plan Boundary
 - Eglinton Estates Laneshedding
 - EPCC Referral Area Boundary
 - Coastal Boundary
 - Potential Graceful Sun-moth Habitat

AEPL PHOTOGRAPHY SOURCE: Hoehma, 16th November 2010
 PCC SOURCE: Development Planning Strategy, Stage No. EBL021114, 0-02-01

Attachment D



Legend

- PCS Concentration - Habitat to be Retained (17,621 ha)
- AC** PCS Reference Number
- Local Structure Plan Boundary
- Eglinton Estates Landholding
- EPBC Referral Area Boundary
- Cadastral Boundary
- Potential Great/Small Samuoh Habitat
- Potential Black Cockatoo Foraging Habitat

MAPS: J:\10302049\SOURCE\MapInfo\Map Documents\1010
 PCS SOURCE: Management Planning Strategies: Map No. EE-EGT/1a, 01/05/12

	Eglinton Estates OFFSETS AND MITIGATION STRATEGY EGLINTON ESTATE, EGLINTON	
	Date: 15 Aug 2013 Drawn: B. High Job: 10007	Revision: A Attachment 2

POTENTIAL THREATENED SPECIES HABITAT

APPENDIX 2



VARIATION TO CONDITIONS ATTACHED TO APPROVAL

**Eglinton Estates Residential Development, Lot 1007 & Part Lot 1008,
Pipidinny Road, Eglinton, WA (EPBC 2010/5777)**

This decision to vary a condition of approval is made under section 143 of the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act).

Approved action

Person to whom the approval is granted Eglinton Estates Pty Ltd
ABN: 48 009 460 397

Approved action The clearing of approximately 298 ha of native vegetation for the urban development of Lot 1007 and the eastern portion of Lot 1008, Pipidinny Road, Eglinton, WA, [See EPBC Act referral 2010/5777], within the footprint shown as a blue dotted line in Attachment A of the approval notice, dated 30 April 2013.

Variation

Variation of conditions of approval The variation is:
Revoke condition 15 attached to the approval dated 30 April 2013.
Revoke Attachment C attached to the approval dated 30 April 2013.
Delete the definition for 'listed threatened species' attached to the approval dated 30 April 2013 and substitute with the definition specified below.
Delete Attachments A, B, and D attached to the approval decision notice, dated 30 April 2013 and substitute with Attachment A, B and D specified below.

Date of effect This variation has effect on the date the instrument is signed.

Person authorised to make decision

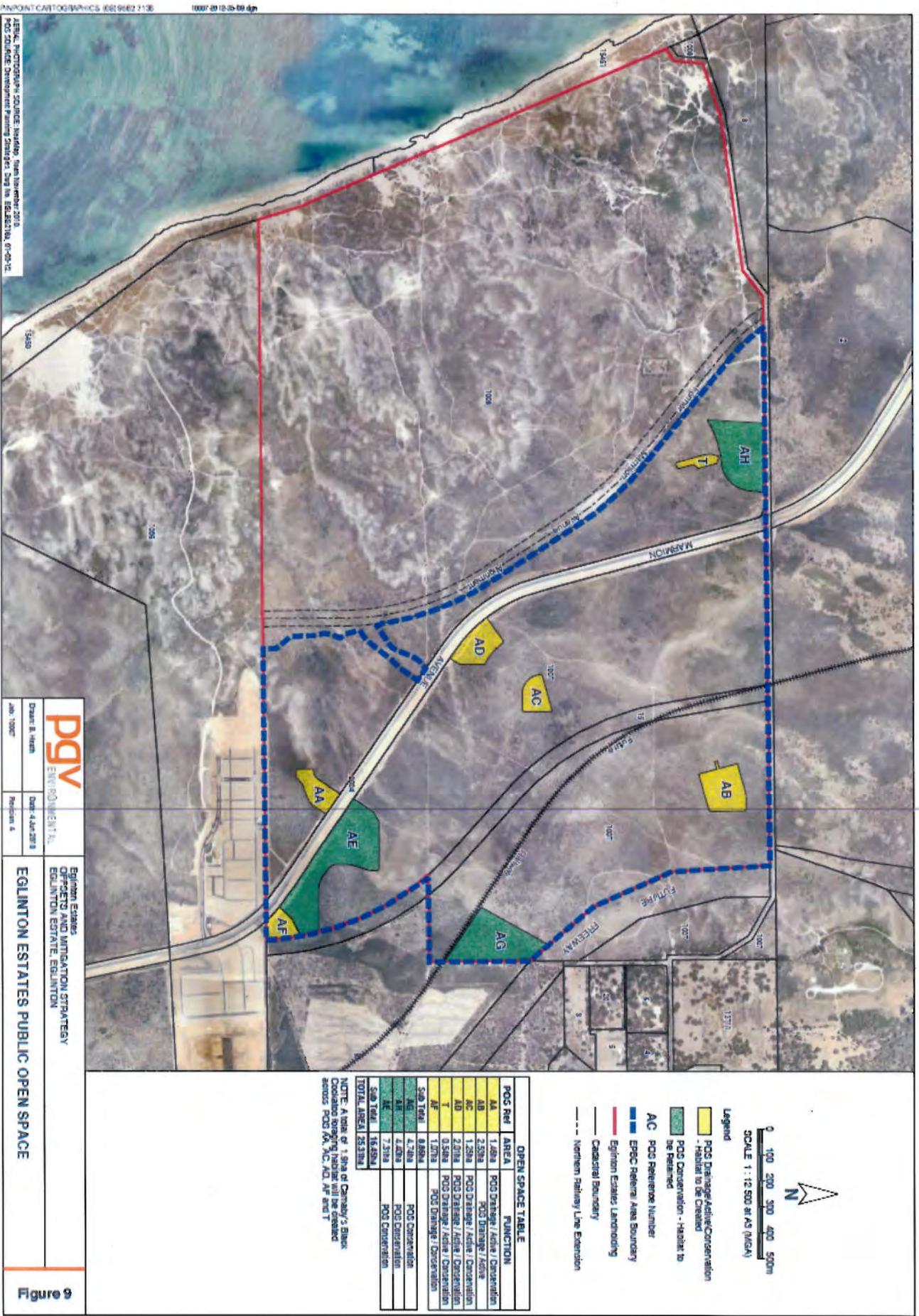
name and position Barbara Jones
Assistant Secretary
North, West and Offshore Assessment Branch

Signature

Date of decision 17/7/2013

Definition attached to the approval

Listed Threatened Species are species listed under the EPBC Act including Carnaby's Black Cockatoo (*Calyptorhynchus latirostris*).



MAPPOINT CARTOGRAPHICS 602 9662 2136 10/07/20 10:25:09 AM

RETAIL PHOTOGRAPHY SOURCE: iStock, Sun, November 2018
Aerial photography source: iStock, Sun, November 2018
Aerial photography source: iStock, Sun, November 2018

pgv
ENVIRONMENTAL

Project: Eglington Estates
Projects and Mitigation Strategy
Eglington Estates Public Open Space

Drawn: S. Hogg Date: 4 Jun 2019
App: 10007 Region: 4

Figure 9

