

Westminster Estates Pty Ltd
Jindee Innovation Project
Clearing and Revegetation Management Plan

9 December 2020 57481/130,997 (Rev 7) JBS&G Australia Pty Ltd T/A Strategen-JBS&G



EPBC number: EPBC 2012/6631

Project name: Jindee Innovation Project **Proponent:** Westminster Estates Pty Ltd

Proposed/approved action: To clear native vegetation on Lot 9036 and part lot 3054 Marmion

Avenue, Jindalee, WA for development of a residential estate

Location: 37km north of Perth and 14km west of Joondalup City Centre within lot 9006

Marmion Avenue

Date: 8 December 2020

Declaration of Accuracy

In making this declaration, I am aware that section 491 of the *Environmental Protection and Biodiversity Conservation Act 1999* (Cth) (EPBC Act) makes it an offence in certain circumstances to knowingly provide false or misleading information or documents to specified persons who are known to be performing a duty or carrying out a function under the EPBC Act or the *Environment Protection and Biodiversity Conservation Regulations 2000* (Cth). The offence is punishable on conviction by imprisonment or a fine, or both. I am authorised to bind the approval holder to this declaration and that I have no knowledge of that authorisation being revoked at the time of making this declaration.

Signed

Full name (please print)

Darren Walsh

Organisation (please print)

JBS&G Australia Pty Ltd T/A Strategen-JBS&G

Date

9 December 2020



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1. Introduction

Westminster Estates Pty Ltd (Westminster) entered into an agreement in 2007 with the Western Australian Planning Commission (WAPC) and the City of Wanneroo to undertake an innovative residential development, known as the Jindee Innovation Project. The Jindee Innovation Project is located approximately 37 km north of Perth, and 14 km west of the Joondalup City Centre, Western Australia, in the City of Wanneroo (CoW) (the Project Area; Figure 1.1). The development will occur on land owned by Westminster within Lot 9006 Marmion Avenue.

The Project Area covers a total area of 119.5 ha, including 6.9 ha of Parks and Recreation which was developed in consultation with the WAPC and the Environmental Protection Authority (EPA) with an objective to maximise the biodiversity protected on site.

This Clearing and Revegetation Management Plan (CRMP) has been prepared in accordance with condition 12 of the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) approval for the Jindee Innovation Project (EPBC 2012/6631). The purpose of this CRMP is to address the collection, use and transfer of native seed, as well as revegetation, with the aim of enhancing Carnaby's Cockatoo habitat.

1.1 Objectives

The objectives of this CRMP are to:

- provide a commitment to the collection of native seed prior to clearing, from within Carnaby's Cockatoo habitat in accordance with **condition 12a** of EPBC 2012/6631
- provide a commitment to provide native seed (not proposed to be utilised onsite) to the Department of Parks and Wildlife (DPaW) or another receiving party for use in revegetation in accordance with **condition 12b** of EPBC 2012/6631
- detail protocols for the collection and use of native seed in accordance with **condition 12c** of EPBC 2012/6631.

1.2 Land details

The Project Area includes Lots 9006, 8001 and 8002 Marmion Avenue and has approximately 800 m frontage to the Indian Ocean. It is located in proximity to the Brighton District Centre, the Brighton rail station and the Mitchell Freeway extension.

Table 1.1: Land identification information

Street address	Suburb	Cadastral information	Title	Zoning	Structure Plan
2469 Marmion	Jindalee	Lot 9006 Marmion	Lot 9006 on	Urban	LSP 84
Avenue		Avenue	DP 403862		
2409K Marmion	Jindalee	Lot 8001 Marmion	Lot 8001 on	Parks and Recreation	LSP 84
Avenue		Avenue	DP 403862		
1000K Maritime	Jindalee	Lot 8002 Marmion	Lot 8002 on	Parks and Recreation	LSP 84
Drive		Avenue	DP 403862		

1.3 Statutory and policy context

1.3.1 MRS Amendment

The Project Area includes Lots 9006, 8001 and 8002 Marmion Avenue. The coastal environment within and adjacent to Lot 9006 includes both limestone cliffs and beaches underpinned by limestone formation, which can support development closer to the coast than contemplated by the former Metropolitan Regional Scheme (MRS) boundary. An MRS amendment application was lodged in 2008 to amend the boundary (1152/41) and was approved in November 2009.



The MRS amendment was referred under s 48A of the *Environmental Protection Act 1986* (EP Act) to the EPA in March 2008. The level of assessment was set at 'Scheme Amendment Not Assessed – Advice Given' in May 2008. The EPA supported the scheme amendment on the basis that two Parks and Recreation reserves were to be provided to offset the area of the foreshore Parks and Recreation Reserve that was proposed to be zoned Urban. As a result a land exchange was completed between the landowner and the WAPC for part of the reserves that are now Lots 8001 and 8002.

1.3.2 Environment Protection and Biodiversity Conservation Act 1999

The Project Area is the subject of EPBC Act approval, EPBC 2012/6631, referred to the Department of the Environment (DotE) on 16 November 2012 and approved 18 July 2013. The CRMP has been prepared in accordance with condition 12 of EPBC 2012/6631 as indicated in Table 1.2.

Table 1.2: Condition 12 and corresponding section where condition has been addressed

Condition	Relevant section
12. To mitigate impacts to Carnaby's Black Cockatoo, the approval holder must prepare and submit a Clearing and Revegetation Management Plan for the Minister's approval. The plan must include:	N/A
(a) a commitment to the staged collection of native seed prior to clearing from the shaded areas as per <u>Attachment A</u> , for use in revegetation ;	Section 3.1
(b) a commitment to store native seed and either use it on-site for revegetation or transport it to a seed bank or receiving site(s) where revegetation is being undertaken by the WA DPaW or another receiving party (or parties).	Section 3.1
(c) detailed protocols for collection and use of native seed required by condition 12 (a) and 12 (b) including: i the optimal methodology for native seed collection from the proposal site	Section 3.2
ii how clearing will be staged to best utilise the native seed resource for revegetation	Section 3
iii how native seed will be stored and transported; and	Section 3.2
iii onsite supervision and implementation monitoring mechanisms.	Section 4 & 6
If the Minister approves the plan, then the approved plan must be implemented.	N/A





2. Carnaby's Cockatoo

2.1 Species information

Carnaby's Cockatoos (*Calyptorhynchus latirostris*) are endemic to the South West of Western Australia. They mainly occur in uncleared remnant native eucalypt woodlands, especially those that contain salmon gum, wandoo, and in shrubland or Kwongan heathland dominated by *Hakea*, *Dryandra*, *Banksia* and *Grevillea* species (DSEWPaC 2012). Current data on distribution of this species shows that there are numerous records along the northern Swan Coastal Plain, including records in and around the Project Area.

2.2 Habitat within the Project Area

The vegetation within the Project Area is varied, reflecting the topography and soils found on site. Areas of *Banksia* woodland as well as the *Banksia* (formerly *Dryandra*) sessilis thickets within the Project Area have the potential to support flora species known to be a food source for Carnaby's Cockatoo (Bamford 2006). The Project Area is not considered to contain breeding habitat for this species as it does not contain trees suitable for breeding purposes (RPS 2012).

The development will result in the removal of no more than 43.45 ha of potential Carnaby's Cockatoo foraging habitat. No more than 1.72 ha of good – excellent potential Carnaby's Cockatoo foraging habitat will be retained in ROS areas (Figure 2.1).





3. Management measures for Carnaby's Cockatoo and its habitat

3.1 Habitat management

The purpose of this CRMP is to address the collection, use and transfer of native seed, as well as revegetation, with the aim of enhancing Carnaby's Cockatoo habitat within the Project Area. Within the Project Area Carnaby's Cockatoo foraging habitat will be retained in Parks and Recreation Reserves.

The management program for vegetation clearing and revegetation has been developed to minimise the impact to retained Carnaby's Cockatoo habitat during and post development of the Jindee Innovation Project. As such, the proponent has incorporated the following environment management commitments into the development to achieve these outcomes:

- 1. Collection of suitable native seed from habitat planned to be cleared.
- 2. Use of collected suitable seed to revegetate degraded habitat areas (degraded areas were identified in the Conservation Management Plan).
- 3. Transfer of any remaining native seed to DPaW or another receiving party for use in revegetation projects.

Detailed protocols, management actions and timing for these commitments are provided in the following sections.

3.2 Detailed protocols for the collection and use of native seed

Condition 12(c) of EPBC 2012/6631 requires the preparation of protocols for the collection and use of suitable native seed from within Carnaby's Cockatoo habitat proposed to be cleared for use in revegetation. The overall aim for revegetation within the Project Area is to improve the condition of degraded habitat.

There is approximately 0.75 ha of degraded habitat that has been identified within the proposal site (Figure 3.1). Some of these degraded areas are not proposed to be revegetated as they are proposed to be used in the creation of formal pedestrian pathways (up to 3 m wide) and associated recreational infrastructure (such as an observation deck and seating). Westminster intends to use the existing degraded areas for this purpose to reduce any requirement for additional clearing within the Parks and Recreation Reserves. All degraded areas not proposed to be used for pathways and recreational infrastructure will be revegetated.

An assessment was undertaken on the amount of degraded habitat required for pathways (assuming a 3 m wide access pathway) and recreational infrastructure. As a result it is anticipated that a minimum of 50% (0.38 ha) of the degraded areas would be able to be revegetated. Revegetation will be achieved through the removal of weeds and the long-term establishment of native vegetation, in accordance with EPBC 2012/6631.

The collection and use of native seed will be managed in accordance with the management actions described in Table 3.1 in order to meet targets described in Table 4.1. Weeds will be managed and monitored as described Table 3.1 and Table 4.2 to meet targets in Table 4.1.





Table 3.1: Detailed protocols for the collection and use of native seed

Actions	Timing	Responsibility
Seed collection and transport	In:	Trac
Seek quotations and engage contractor licensed by DPaW to collect seed from	Pre-construction	Westminster
areas of Carnaby's Cockatoo habitat to be cleared when Carnaby's Cockatoo		
foraging species are seeding based on advice from seed collectors.	Day and the street	D
Undertake seed collection in designated areas of Carnaby's Cockatoo habitat	Pre-construction	Revegetation
proposed to be cleared (Figure 2.1).	Dec O deside a	contractor
Ensure seed for on-site revegetation plus any off-site use is stored and	Pre & during	Revegetation
transported in accordance with Revegetation Industry of Western Australia	Construction	contractor
(RIAWA) standards to ensure seed viability (RIAWA 2014a, 2014b).	Day a superior at it is a	D
Monitor native seed and maintain a register of volumes, species collected,	Pre construction	Revegetation
locations and quantities.	D	contractor
Any native seed that cannot be utilised in the Project Area will be provided to	During construction	Westminster
DPaW or other receiving party (or parties).		
Site preparation and maintenance for onsite revegetation	I	1
Select on-site reference sites containing landforms and vegetation comparable	Pre or during	Revegetation
(or likely to have been comparable) to those areas proposed to be revegetated.	construction	contractor
Survey the onsite reference sites to determine indicator species, density of	During construction	Revegetation
native species, % cover of native species, native species richness and % weed		contractor
cover.		
Determine success criteria for revegetation sites based on the survey of the	During construction	Revegetation
reference sites.		contractor
Provide temporary barriers to prevent pedestrian access; such as fencing, and	During construction	Revegetation
signage around degraded areas identified for revegetation.		contractor
Undertake weed control as required at the revegetation site until targets are	During construction	Revegetation
achieved as per Section4and 6.		contractor
Primary feeding plants for the Carnaby's Cockatoo will not be planted along	During construction	Westminster
roads with speed limits exceeding 50 km/hr (to minimise the risk to Carnaby's		
Cockatoo).		
Broadcast seeding for onsite revegetation		.
Determine the quantity of seed of various native flora species required for	During construction	Revegetation
broadcasting within on-site revegetation areas.		contractor
Prior to direct seeding, seed should undergo the appropriate treatments	During construction	Revegetation
required to break dormancy and improve germination rates. The treatments		contractor
could include smoking, freezing, boiling or scarifying.		
Undertake seed viability and germination testing if deemed necessary.	During construction	Revegetation
		contractor
After achieving required weed control, area should be raked (scarified) in	During construction	Revegetation
preparation for direct seeding.		contractor
The treated seed should be combined with an appropriate medium (e.g. yellow	During construction	Revegetation
sand or vermiculite) and manually distributed (i.e. broadcast by hand) by an		contractor
experienced operator, ensuring an even coverage over the whole area.		
	•	
Plant propagation for onsite revegetation	Pre-construction	Westminster
Plant propagation for onsite revegetation Determine the quantity of various flora species required to be propagated for	Pre-construction	Westminster
Plant propagation for onsite revegetation Determine the quantity of various flora species required to be propagated for on-site revegetation annually.	Pre-construction During construction	Westminster Westminster
Plant propagation for onsite revegetation Determine the quantity of various flora species required to be propagated for on-site revegetation annually. Engage a nursery to propagate seedlings (if seedlings are included as part of the		
Plant propagation for onsite revegetation Determine the quantity of various flora species required to be propagated for on-site revegetation annually. Engage a nursery to propagate seedlings (if seedlings are included as part of the annual revegetation program).	During construction	Westminster
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Plant propagation for onsite revegetation Determine the quantity of various flora species required to be propagated for on-site revegetation annually. Engage a nursery to propagate seedlings (if seedlings are included as part of the annual revegetation program). For on-site revegetation produce propagated plants from local provenance seed in an accredited nursery. Ensure the quantities of plants are available for pick-up or delivery to the	During construction During construction	Westminster Revegetation contractor
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experienced operator, ensuring an even coverage over the whole area. Plant propagation for onsite revegetation Determine the quantity of various flora species required to be propagated for on-site revegetation annually. Engage a nursery to propagate seedlings (if seedlings are included as part of the annual revegetation program). For on-site revegetation produce propagated plants from local provenance seed in an accredited nursery. Ensure the quantities of plants are available for pick-up or delivery to the contractor. Determine appropriateness of additives, which could include Seasol (or equivalent), water granules, soil breaker, water retainer, wetting agent or fertiliser tablets. If required, they will be added at the relevant time (i.e. in the hole prior to planting or upon watering-in plants).	During construction During construction During construction	Westminster Revegetation contractor Revegetation contractor Revegetation
Plant propagation for onsite revegetation Determine the quantity of various flora species required to be propagated for on-site revegetation annually. Engage a nursery to propagate seedlings (if seedlings are included as part of the annual revegetation program). For on-site revegetation produce propagated plants from local provenance seed in an accredited nursery. Ensure the quantities of plants are available for pick-up or delivery to the contractor. Determine appropriateness of additives, which could include Seasol (or equivalent), water granules, soil breaker, water retainer, wetting agent or fertiliser tablets. If required, they will be added at the relevant time (i.e. in the nole prior to planting or upon watering-in plants).	During construction During construction During construction During construction	Revegetation contractor Revegetation contractor Revegetation contractor
Plant propagation for onsite revegetation Determine the quantity of various flora species required to be propagated for on-site revegetation annually. Engage a nursery to propagate seedlings (if seedlings are included as part of the annual revegetation program). For on-site revegetation produce propagated plants from local provenance seed in an accredited nursery. Ensure the quantities of plants are available for pick-up or delivery to the contractor. Determine appropriateness of additives, which could include Seasol (or equivalent), water granules, soil breaker, water retainer, wetting agent or fertiliser tablets. If required, they will be added at the relevant time (i.e. in the hole prior to planting or upon watering-in plants). Place plants in a hole that is approximately twice the size of the plant pot,	During construction During construction During construction	Revegetation contractor Revegetation contractor Revegetation contractor Revegetation contractor
Plant propagation for onsite revegetation Determine the quantity of various flora species required to be propagated for on-site revegetation annually. Engage a nursery to propagate seedlings (if seedlings are included as part of the annual revegetation program). For on-site revegetation produce propagated plants from local provenance seed in an accredited nursery. Ensure the quantities of plants are available for pick-up or delivery to the contractor. Determine appropriateness of additives, which could include Seasol (or equivalent), water granules, soil breaker, water retainer, wetting agent or fertiliser tablets. If required, they will be added at the relevant time (i.e. in the hole prior to planting or upon watering-in plants).	During construction During construction During construction During construction	Westminster Revegetation contractor Revegetation contractor Revegetation



Actions	Timing	Responsibility
base of the plant will be flush with the soil surface within the basin to prevent collar rot.		
Water seedlings when planted as required.	During construction	Revegetation contractor
Install stakes (10-12 mm diameter) and a protective guard (plastic) around the seedlings to protect the seedlings from rabbits (Note: protective guards are only required in areas outside rabbit-proof fencing).	During construction	Revegetation contractor



4. Performance indicators and monitoring actions

Table 4.1 lists a number of environmental targets and performance indicators that have been developed for the management of Carnaby's Cockatoo habitat being cleared, as per condition 12 of EPBC 2012/6631.

Table 4.1: Targets and indicators

Target	Key Performance Indicator
Utilise suitable native seed collected from within Carnaby's Cockatoo habitat	Proportion of native seed collected used
proposed to be cleared in revegetation projects (including on-site degraded	on-site or transferred to receiving party
areas illustrated in Figure 3.1).	as per seed register.
Revegetate 0.38 ha of degraded land (Figure 3.1) so that native species	Comparison of vegetation community
richness and/or density are within 80% of the native species richness and/or	type and weeds within the degraded
density recorded in reference quadrats.	areas proposed to be revegetated with
	that recorded in the survey of the
	reference site.
Manage weeds in 0.38 ha of degraded land proposed to be revegetated so	Comparison weeds density/species and
that weed species density and/or cover are not greater than 10% of the weed	cover within the degraded areas
species density and/or cover recorded in reference quadrats, and to ensure	proposed to be revegetated with that
that there is no addition of new weed species compared to the on-site	recorded in the survey of the reference
reference site.	site.

Table 4.2 details the monitoring program for the CRMP to achieve the performance targets mentioned above. The monitoring program has been developed focusing on monitoring of retained Carnaby's Cockatoo habitat within the site rather than monitoring of individual Carnaby's Cockatoos utilising the site. This species is highly mobile in nature and relies on different areas of habitat at different times of the year and between years. It would therefore be difficult to obtain a true representation of the effects of the development on this species through the monitoring of individual cockatoos.

Table 4.2: Monitoring program

Parameter	Frequency	Location	Purpose	Responsibility		
Seed collection and use						
Proportion of native seed collected, used onsite and transferred to receiving party.	Annually by 30 June during construction until the suitable native seed as per Table 3.1 is utilised on-site or transferred.	Seed register.	To ensure native seed collected from within Carnaby's Cockatoo habitat is used for revegetation.	Westminster Estates		
On-site revegetation	Daile denina annaturation	0	To analyze was incoderant	Davianatatian		
Integrity of temporary fencing.	Daily during construction as part of construction area inspections.	On-site areas to be revegetated.	To ensure no inadvertent clearing of areas to be retained.	Revegetation contractor		
Plant density	Annually after	Monitoring	To determine success of	Revegetation		
Species richness	planting/direct seeding	quadrats in on-	rehabilitation.	Contractor		
Weed species density	(September - October)	site				
Weed species richness.	until achievement of targets as per Section 6.	revegetated areas.				
Presence of feral animals	Annually after planting/direct seeding (September - October) until achievement of targets as described in Section 6.	On-site revegetated areas.	To ensure no feral animals are present within the on-site revegetated areas.	Revegetation contractor		



5. Contingency actions

Contingency actions will be initiated if monitoring indicates that management measures have not been successful or effective and/or environmental targets are not being achieved (Table 5.1).

Table 5.1: Contingency actions

Trigger Action				
Trigger	-	7-17		
Inappropriate species used in on-	1.	Identify cause.		
site revegetation areas to meet		Remove inappropriate species and replace (if required) with appropriate		
onsite revegetation targets		species.		
determined in Table 4.1	3.	Ensure inappropriate species are not used in future.		
Insufficient quantity or quality of	1.	Identify alternative source of seed for revegetation species.		
local provenance seed available to	2.	Seed will be sourced from a collection location which is as close as possible to		
fulfil the requirements of the		the project site, and within the Swan Coastal Plain, if seed is available.		
CRMP to meet onsite revegetation	3.	Broader provenances (outside the Swan Coastal Plain) will be considered as a		
targets determined in Table 4.1.		last option if no other suitable alternatives are available.		
Inadequate native flora species	1.	Identify cause.		
richness and/or cover to achieve	2.	Implement approach to remedy cause, which could include:		
revegetation targets determined in	•	collecting additional provenance seed for direct seeding or plant propagation t		
Table 4.1*		compensate for the insufficient native plant species richness and/or cover		
	•	undertake infill seedling planting and direct seeding		
	•	application of fertilisers or wetting agents etc, as approved by DPaW.		
	3.	Monitor success of remedy.		
Unacceptable weed infestations in	1.	Investigate cause (e.g. adjacent sources of weed seed).		
on-site revegetated sites as	2.	Implement measures to prevent further weed infestations (e.g. screening		
determined in Table 4.1 based on a		fencing, weed control in adjacent land), as practicable.		
10% increase in weed density and	3.	Undertake weed control activities as required.		
cover or the addition of new weed				
species compared to the on-site				
reference site*				
Feral animals noted within	1.	Investigate cause (e.g. breach in fencing or other barrier).		
revegetated areas	2.	Implement measures to prevent further feral animal intrusions, as practicable.		
	3.	Engage a qualified and licensed subcontractor, if necessary to undertake pest		
		fauna control/removal appropriate to the species detected.		

^{*} Weeds will be controlled in revegetation areas prior to planting. Activation of the inadequate native flora species or the unacceptable weed infestations trigger after planting will be determined by vegetation monitoring. Baseline native/weed species richness and cover will be quantified via the establishment of reference monitoring quadrats within vegetated areas prior to construction (Refer to Table 3.1). If, following a monitoring event within revegetated areas, there is greater than 10% difference between weed species richness and/or density and greater than 20% different native species richness and/or density within revegetation quadrats in comparison to reference quadrats (i.e. 20% lower for native species and 10% higher for weed species); the relevant trigger will be activated.



6. Plan implementation

In accordance with condition 12 of EPBC 2012/6631 this CRMP will be implemented by Westminster Estates until performance targets have been achieved as per Table 6.1.

Table 6.1: Long-term management and timeframes for implementation

Туре	Responsible for long term management	Legal mechanisms for protection in the future
Retained habitat in	The CRMP will be implemented by	Vested as Parks and Recreation Reserves as part
Parks and	Westminster until the performance targets	of the MRS amendment.
Recreation Reserves	outlined in Table 4.1 are achieved to the	
	satisfaction of CoW.	
	Formal transfer of management responsibility	
	to CoW (in the form a of a revestment order	
	over the lot) will be the responsibility of WAPC	
	(refer to Section 6.1).	
	WAPC will initiate the revestment order once	
	Westminster Estate has completed the works	
	required under 10 (g) of the EPBC approval.	

6.1 Roles and responsibilities

All contractors and staff will be required to operate in accordance with this CRMP. Key developer personnel and responsibilities are described in the following sections:

6.1.1.1 Project manager

The primary responsibilities of the project manager include:

- act as primary liaison between the construction contractor, revegetation contractor, DotE and the CoW
- ensure all construction contracts contain relevant environmental management provisions, and that these are implemented to comply with EPBC 2012/6631
- review progress activity reports provided by the revegetation contractor
- overall accountability to ensure native seed collection is undertaken in appropriate areas
- ensure all site personnel are aware of the requirements of the CRMP and related management plans
- report to DotE in accordance with Condition 4 of EPBC Approval 2012/6631.

6.1.1.2 Revegetation contractor

The primary responsibilities of the revegetation contractor include:

- ensure native seed is collected, stored and transported as per the procedures outlined in this plan unless otherwise agreed by the CoW
- to provide progress activity reports to the Project Manager which include details of activities undertaken and current status of the seed collection (species, quantities available, date and location of collection)
- ensure all revegetation personnel are aware of the requirements of the CRMP and related management plans
- provide support to the project manager and CoW as required during the construction phase.



6.1.1.3 Western Australian Planning Commission

The primary responsibilities of the WAPC include:

- facilitation of formal transfer of management responsibility of the Parks and Recreation Reserves to the long term manager (CoW).
- WAPC will initiate the revestment order once Westminster Estate has completed the works required under 10 (g) of the EPBC approval.
- As provincial landowner, ensure the land is managed consistent with the requirements of EPBC approval 2012/6631.

6.1.1.4 City of Wanneroo

The primary responsibilities of the CoW include:

• undertake the long term management and protection of retained habitat within the Project Area.



7. References

- Birdlife Australia 2012, Plants for Carnabys, [Online], Birdlife Australia, Available from: http://birdlife.org.au/projects/carnabys-black-cockatoo-recovery/plants-for-carnabys, [1 November 2013].
- Department of Environment and Conservation (DEC) 2009, DEC Swan Region Environmental Weed List, [Online]. Government of Western Australia. Available online: http://www.dec.wa.gov.au/management-and-protection/plants/invasive-plants/invasive-plantprioritisation-process.html?showall=&start=1 [October 2013].
- Department of Environment and Conservation (DEC) 2012, *Plants for Carnaby's Search Tool*, [Online], Department of Environment and Conservation, Government of Western Australia, Available from: http://www.dec.wa.gov.au/apps/plantsforcarnabys/index.php, [31 October 2013].
- Department of Sustainability, Environment, Water, Population & Communities (DSEWPaC) 2012, Calyptorhynchus latirostris—Carnaby's Black-Cockatoo, short billed black-cockatoo, (SPRAT), [Online], Available at http://www.environment.gov.au/cgi-bin/sprat/public/publicspecies.pl?taxon_id=59523 [6 August 2013].
- Glevan Consulting 2013, *Phytophthora Dieback Occurrence Assessment*, prepared for Strategen Environmental Consultants, Perth.
- Groom C 2011, Plants used by Carnaby's Black Cockatoo, [Online], Department of Environment and Conservation, Government of Western Australia, Available from:

 http://www.dec.wa.gov.au/management-and-protection/threatened-species/5983-plants-for-carnabys-search-tool.html, [31 October 2013].
- Heydenrych B. 2012, A preliminary investigation into restoring landscapes for Carnaby's Black Cockatoos in the Fitz-Stirling area of Gondwana Link on the south coast of Western Australia, *Greening Australia*, Western Australia.
- Johnstone, R. E., Johnstone, C. and Kirkby, T. 2011. *Black-cockatoos on the Swan Coastal Plain*.

 Report prepared for the Department of Planning, Western Australia, by the Western Australian Museum, Welshpool, Western Australia.
- Lee J, Finn H & Calver MC 2013, 'Ecology of Black Cockatoos at a Mine site in the Eastern Jarrah-Marri Forest, Western Australia', *Pacific Conservation Biology* vol. 19 pp. 76–90.
- M.J. & A.R. Bamford Consulting Ecologists (Bamford) 2006, *Jindee Fauna Assessment*, prepared for RPS Bowman Bishaw Gorham, Perth.
- Revegetation Industry Association of Western Australia (RIAWA) 2014a, *Seed Supply Standards Review Guidelines April 06,* [Online], RIAWA, Available from http://riawa.com.au/wordpress/?page_id=23 [1 July 2014].
- Revegetation Industry Association of Western Australia (RIAWA) 2014b, *RIAWA Standards Review Paper April 2006,* [Online], RIAWA, Available from http://riawa.com.au/wordpress/wp-content/uploads/2009/08/RIAWA-Accr-Stds-SC-Rev-Ppr-0604-PJG-Refmt.pdf [1 July 2014].
- RPS Environment and Planning Pty Ltd (RPS) 2012, Environmental Assessment Report, District Planning Scheme Amendment Lot 9036 and Part Lot 3054 Marmion Avenue, Jindalee, report prepared for Estates Development Company, Nedlands.
- Strategen 2013, *Weed assessment Jindee*, memorandum prepared for Westminster Estates Pty Ltd, November 2013, Western Australia.



8. Limitations

Scope of services

This report ("the report") has been prepared by Strategen-JBS&G in accordance with the scope of services set out in the contract, or as otherwise agreed, between the Client and Strategen-JBS&G. In some circumstances, a range of factors such as time, budget, access and/or site disturbance constraints may have limited the scope of services. This report is strictly limited to the matters stated in it and is not to be read as extending, by implication, to any other matter in connection with the matters addressed in it.

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