LEX-22947

s. 47F(1)

From: Sent:	A04299 Mondav, 9 July 2018 10:23 AM
То:	s. 47F(1)
Subject:	FW: Environment feedback on the draft BODP [DLM=For-Official-Use-Only]
Attachments:	WSA - Dept comments on BODP - July 2018.docx

From: S. 47F(1) Sent: Friday, 6 July 2018 2:38 PM To: S. 47F(1) Cc: TAYLOR Garth ; S. 47F(1) ; S. 47F(1) Subject: Environment feedback on the draft BODP [DLM=For-Official-Use-Only]

Hi ^{s.} 47F(1)

Please find attached our comments of the draft Biodiversity Offset Delivery Plan (BODP) for the Western Sydney Airport approval.

As discussed, this should be considered draft commentary to be finalised at or shortly after our meeting next week. While it is a little more detailed than I had promised, most of the comments seek clarification on key points and timeframes.

Wednesday morning would suit us best to talk through the comments on the BODP and we are equally happy to come to your offices if that is better.

Cheers s. 47F(1)

s. 47F(1)

Director Post Approvals Section Environmental Standards Division Ph: (02) S. 47F(1) | e: S. 47F(1)@environment.gov.au GPO Box 787 | CANBERRA ACT 2601 | AUSTRALIA www.environment.gov.au/epbc



The Department acknowledges the traditional owners of country throughout Australia and their continuing connection to land, sea and community. We pay our respects to them and their cultures and to their elders both past and present.

COMMENTS ON BODP

Biodiversity Assessment Report (and revised version)

Section	Page	Comment
1.2	2	 More clarity around the vegetation that forms habitat for the Swift Parrot and Grey-headed Flying-fox should be provided. The Biodiversity assessments reports generally state that all native woodland and forest in the Orchard Hills offset site provide foraging habitat for these species. However: This is not made clear in various tables across the BAR, revised BAR and Chapter 2 of the BODP. For example Tables 3.5 and 3.6 of the revised BAR, Table 14 of the original BAR and Table 3.1 of the Chapter 2 of the BODP.
		 We've inferred that habitat for these species includes the additional 35.9 ha of good quality HN526 and 6.1 ha of medium quality HN528. Please clarify the tables.
3.3.2	31	Text describing Cumberland Plains Woodland condition thresholds should include the following "or contiguous with a native vegetation remnant ≥1 ha".

Chapter 1 – Introduction

Section	Page	Comment
1.2	2	The statement 'The offset sites will be secured by mechanisms such as the registration of an appropriate conservation covenant on the title of the relevant property' should be clarified to note that the largest offset (Orchard Hills) will not be secured through such mechanisms and that it is protected via the CHL and TEC listing.
1.2	3-4	Delivery of offsets:
		The Department acknowledges the delay in identifying and securing some offset properties and the BODP describes the process to identify offsetting opportunities. However, the proposed implementation of the BODP should be less open-ended and timeframes should be provided around field surveys and the delivery of offsets (staged or otherwise).
1.2	4	Point e – please clarify the 'Approver'.
1.6	15	The statement 'A secure conservation mechanism would be placed over offset sites' should be revised as per the comments above. See comment 2 above. The BODP should demonstrate a greater commitment to delivering offsets within a reasonable timeframe. The EPBC Act Offsets Policy states that offsets must be timely and should

	be implemented either before or at the same time as the impact. As
	such, the BODP should provide completion timeframes for identifying
	and delivering offsets (rather than the proposal to report such more
	generally in ongoing audit reports).

Chapter 2 – Offset requirements for affected EPBC Act-listed Biota

Section	Page	Comment
All	All	Chapter 2 describes impacted EPBC habitats in the construction impact zone and is generally consistent with the Biodiversity Assessment report and the revised Biodiversity Assessment Report.
All	All	The chapter provides a comprehensive qualitative description of the relevant EPBC listed ecological communities and species with respect to area, vegetation type, fragmentation, weed cover and other site attributes that inform the site quality attributes (site condition, site context and species stocking rate). Quantitative weights and scores have been applied to the site quality attributes. However, further clarity regarding the determination of these values is required:
		• There appears to be a missing link between qualitative descriptions of the site quality attributes and the quantitative values.
		• This could be resolved with a scoring table that defines site quality attributes for specific scores or a scoring range.
2.2.1	10	Identification of affected threatened biota:
		There is a general statement that Cumberland Plains Woodland was determined in accordance with the listing advice for this ecological community. More detail should be provided regarding:
		 how the ecological community meets the specific condition thresholds defined in the conservation advice along
		• the survey methodology and definitions of patch size and buffers is consistent with the conservation advice.
		Alternatively, specific references can be made to where this is provided in the BAR.
2.2.4	20	Impacts to Pimelea spicata:
		Impacts on this species are based on area of occupied habitat rather than number of individuals. The Department has the following questions:
		• Given that the EPBC offsets calculator can determine offset requirements based on individuals, why has occupied habitat been chosen?

• Figure 6A identifies clumps but lacks a polygon for the occupied habitat (noting that this is provided in Figure 4A of the original BAR).
• How is occupied habitat defined and what will a potential offset look like? The Department notes a reference to potential habitat in Table 6.7 (Chapter 6) but it is unclear how this is defined and how polygons will be determined.

Chapter 3 – Offset requirements for plants, animals and their habitat

Section	Page	Comment
All	All	Chapter 3 describes impacted EPBC habitats in the construction impact zone and is generally consistent with the Biodiversity Assessment report and the revised Biodiversity Assessment Report.

Chapter 4 - Consultation and Chapter 5 – Biodiversity Experts Group

Section	Page	Comment
All	All	Chapters 5 includes advice of the Biodiversity Experts Group as required by condition 31(5) of the Airport Plan. This chapter also includes a summary of each member's advice and each component includes a paragraph on how this advice has informed development of the BODP. Chapter 5 should also reference the relevant sections of the BODP that were informed by the advice or provide a summary of how the advice was considered/informed the BODP.

Chapter 6 – Direct Offsets

Section	Page	Comment
6.1.2	21	This section refers to 'notable revisions to previous vegetation mapping at the site' (Orchard Hills):
		Who made and endorsed the revisions?
		What is the consequence of these revisions?
6.1.2	31-32	The text on page 31 indicates that Table 6.1 refers to Orchard Hills.
		However, the table appears to refer to offset sites more broadly.
		Please revise the text and/or table accordingly.
6.1.6	35	This section states that 'Defence would prepare an Offset
		Improvement Plan (OIP) within 18 months of the commencement date
		of the MoU'. The content of the future OIP is unenforceable given that

		the management actions are set out in Schedule 2 of the MoU. Accordingly, the BODP needs to set out:
		• The existing and additional management actions and monitoring/reporting/auditing requirements that are generally set out respectively in Schedules 2 and 4 of the MoU (as at 22 April 2018) and will be included in the OIP.
		The BODP currently lacks detail on existing management actions at Orchard Hills and inclusion of the point above should inform justification for site quality improvements.
6.1.7	36	This section indicates that additional biodiversity assessments are required for Orchard Hills. The Department's comments on this are:
		• Noting the revisions to vegetation mapping that have already occurred at the site (see comment 1), what additional information is being sought.
		• What is the level of confidence in the current vegetation assessment and to what extent could additional assessment change the value of Orchard Hills as an offset site?
6.1.7	36	The text indicates the presence of Grey-box – Forest Red Gum grassy woodland on hills, but this appears to be missing on Figure 10.
6.1.7	37-55	Similar comment to that provided for Chapter 2, comment 2. The chapter provides a comprehensive qualitative description of the relevant EPBC listed ecological communities and species with respect to area, vegetation type, fragmentation, weed cover and other site attributes that inform the site quality attributes (site condition, site context and species stocking rate). Quantitative weights and scores have been applied to the site quality attributes. However, it is unclear how these values were determined, i.e.:
		• There appears to be a missing link between qualitative descriptions of the site quality attributes and the quantitative values.
		This could be resolved with a scoring table that defines site quality attributes for specific scores or a scoring range.
6.1.7	37-55	The Department seeks further clarification of several of the input parameters used in the EPBC Offsets calculator (Tables 6.2-6.5). Specifically, these are:
		• Quantum of impact quality – consistent with the values in Chapter 2, but as per the Department's previous comment it is unclear how the value was determined.
		 Risk of loss with and without offset – The risk of averted loss (15%- 8% = 7%) appears to be too high given the current circumstances associated with the site. The EPBC Offsets Policy defines risk of

Chapter 7 – Other compensatory measures

Section	Page	Comment
7.4	80	Longer term other compensatory measures:

	Please provide indicative timeframes for delivery of the 'other
	compensatory proposals'.

Chapter 8 – Offset proposal

Section	Page	Comment
All	All	Implementation of the BODP:
		This section should include a commitment to implement the management actions and reporting/monitoring/auditing activities that will be included in the OIP (i.e. a strong link to the MOU).

From:	TAYLOR Garth
To:	s. 47F(1); <u>A04299</u> ; s. 47F(1)
Cc:	s. 47F(1) ; s. 47F(1)
Subject:	Updated material, BODP [DLM=For-Official-Use-Only]
Date:	Friday, 20 July 2018 8:27:45 PM
Attachments:	WSA - BODP early updates for review AS SENT.docx

Dear ^{s. 47F(1 s. 47F(1)} and ^{s. 47F(1)}

Please find attached some updates to the BODP for your review, as agreed at our workshop on 11 July. These updates are:

• Wording on securing Orchard Hills as an offset site;

- Further justification to support the averted risk of loss calculation in the Offsets Assessment Guide; and
- A comparison table with qualitative descriptions of a range of site quality scores.

For the second and third items above, we have provided an example for Cumberland Plain Woodland. There will be similar updated words on the averted risk of loss for Grey-headed Flying-fox habitat and for Swift Parrot habitat in the final version of the BODP. Likewise, there will also be comparison tables for site quality for Grey-headed Flying-fox habitat, Swift Parrot habitat, and *Pimelea spicata*.

We would appreciate your feedback on these updates by COB Wednesday 25 July. This will give us the necessary time to make any consequential edits to the BODP before submitting it to you by Friday 27 July.

Kind regards Garth Taylor

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Words on securing Orchard Hills as an offset site

The offset area will be secured as a result of a number of factors including:

- The site is located on Commonwealth owned land
- The EPBC Act provides a comprehensive environment and planning framework for the site under the control of the Environment Minister including through controls contained in Parts 3 (Requirements for environmental approvals) and Part 13 (Species and Communities)

The core offset area is contained within a Commonwealth Heritage Listed area that is subject to additional controls under Part 15 of the EPBC Act. The obligations contained in the MOU are intended to be additional to the Commonwealth Heritage Listing requirements.

The MOU is expected to include provision for:

- the area and boundaries of the Orchard Hills offset site to be formalised, with an expectation that the area will include a core area of no less than 900 hectares and any other additional areas agreed between Defence and the Department
- an Offset Plan to be developed, funded and implemented over a period, expected to be up to 20 years to provide measurable ecological improvements to the quality of habitat for the affected threatened biota at the Orchard Hills offset site consistent with the EPBC Act Offsets Policy
- various monitoring, record keeping, reporting and auditing arrangements to be put in place consistent with this BODP and the Airport Plan
- the Orchard Hills offset site to be maintained so as to retain long term benefits of the quality improvements following implementation of the Offset Plan.

A comparison table with qualitative descriptions of a range of site quality scores

The link between the qualitative assessment provided above and the quantitative site quality scores is summarised in Table 2.1. Table 2.1 includes site quality scores for the impact area at the airport site and the 'current', 'future with offset' and 'future without offset' quality scores for the Orchard Hills offset site. Values in the table that relate to these various inputs to the offsets assessment guide calculations for the project are indicated in bold. Each value includes a description of the attributes that define the given score at the airport site or at Orchard Hills and references to source documents. Table 2.1 confirms the consistency of the approach to scoring site quality between the impact and offset areas. Descriptions of the relevant attribute values for the range of site quality scores are provided for context.

Score	Site condition values 50% of Site Quality Score	Site context values 50% of Site Quality Score
10	Undisturbed old growth patches of the community. Plant species richness, native vegetation cover and habitat attributes all at benchmark values including abundant over- mature and hollow-bearing trees. ¹ Exotic plant cover very low to nil. Pest fauna and overabundant native herbivores absent or being actively suppressed.	Part of a continuous remnant patch of native vegetation greater than 500 hectares in area. Minimal clearing and fragmentation of habitat in the surrounding region.
9	EPBC Act Cumberland Plain Woodland at Orchard Hills future condition with offset score - a mix of mature regrowth and old growth patches of the community. Plant species richness, native vegetation cover and habitat attributes all at benchmark values including moderate numbers of over-mature and hollow-bearing trees. ² Exotic plant cover very low. Pest fauna and overabundant native herbivores being actively suppressed.	EPBC Act Cumberland Plain Woodland at Orchard Hills future context with offset score - part of a near-continuous remnant patch of native vegetation greater than 500 hectares in area. Occasional <10 m wide gaps in habitat associated with access tracks, fencelines etc. Widespread clearing and fragmentation of habitat in the surrounding region. Poorer quality Cumberland Plain Woodland and other gaps in habitat regenerated to improve connectivity.
8	A mix of mature regrowth and old growth patches of the community. Plant species richness and the majority of native vegetation cover and habitat attributes at or close to benchmark values including moderate numbers of over-mature and hollow-bearing trees. Exotic plant cover low. Pest fauna and overabundant native herbivores absent or being actively suppressed.	Part of a near-continuous remnant patch of native vegetation greater than 100 hectares in area. Occasional 10-100 m wide gaps in habitat associated with localised clearing of vegetation, access tracks, fencelines, etc.

Offsets assessment guide site quality score values for Cumberland Plain Woodland

Score	Site condition values	Site context values
	50% of Site Quality Score	50% of Site Quality Score
7	EPBC Act Cumberland Plain Woodland at Orchard Hills start condition score - a mix of mature regrowth and old growth patches of the community. Plant species richness and the majority of native vegetation cover and habitat attributes at or close to benchmark values including moderate numbers of over-mature and hollow-bearing trees. Exotic plant cover is low. ³ Pest fauna and overabundant native herbivores present.	EPBC Act Cumberland Plain Woodland at Orchard Hills start context score -part of a near-continuous remnant patch of native vegetation greater than 100 hectares in area. Frequent 10-100 m wide gaps in habitat associated with cleared land, access tracks, fencelines, etc. Remnant patches exposed to moderate edge effects and generally adjoin derived native grassland.
	Poorer quality Cumberland Plain Woodland at Orchard Hills future condition with offset score - meets the EPBC Act Cumberland Plain Woodland condition thresholds. A mix of regrowth and mature regrowth with canopy cover >10%. Plant species richness, native vegetation cover and habitat attributes all at benchmark values with the exception of low numbers of over-mature and hollow-bearing trees. Exotic plant cover very low. Pest fauna and overabundant native herbivores being actively suppressed. ⁴	Poorer quality Cumberland Plain Woodland at Orchard Hills future context with offset score - poorer quality Cumberland Plain Woodland regenerated to comprise regrowth patches within a near- continuous patch of native vegetation greater than 100 hectares in area. Occasional 10-100 m wide gaps in habitat associated with less mature regrowth, access tracks, fencelines, etc. Remnant patches exposed to moderate edge effects and generally adjoin derived native grassland.
6	EPBC Act Cumberland Plain Woodland at the airport site condition score - meets the EPBC Act Cumberland Plain Woodland condition thresholds but plant species richness and native vegetation cover and habitat attributes frequently below benchmark values. ⁵ Low numbers of over- mature and hollow-bearing trees. Exotic plant cover moderate to low. Pest fauna and domestic exotic herbivores present.	EPBC Act Cumberland Plain Woodland at the airport site context score- part of a network of remnant patches of native vegetation 5-100 hectares in area. Fragmented by frequent >100 m wide gaps in habitat associated with extensive clearing of vegetation, sealed roads etc. Remnant patches exposed to moderate to severe edge effects including edges adjacent to dense exotic plant infestations.
	EPBC Act Cumberland Plain Woodland at Orchard Hills future condition without offset score - a mix of mature regrowth and old growth patches of the community. Plant species richness and native vegetation cover and habitat attributes frequently below benchmark values. Moderate numbers of over-mature and hollow-bearing trees with abundance declining along with senescence, die back, low recruitment and inappropriate fire regimes. Exotic plant cover moderate. Pest fauna and domestic exotic herbivores present.	EPBC Act Cumberland Plain Woodland at Orchard Hills future context without offset score - part of a near-continuous remnant patch of native vegetation greater than 100 hectares in area. Frequent 10- 100 m wide gaps in habitat associated with access tracks, fencelines, etc. and more substantial barriers associated with sealed roads and other infrastructure. Remnant patches exposed to moderate to severe edge effects including edges adjacent to dense exotic plant infestations.
5	Poorer quality Cumberland Plain Woodland at Orchard Hills start condition score - does not meet the EPBC Act Cumberland Plain Woodland condition thresholds because of canopy cover <10% or is part of a remnant patch less than 0.5 hectares in area. Plant species richness and native ground cover at or close to benchmark values. Exotic plant cover moderate to low. ⁶ Pest fauna and overabundant native berbivores	Poorer quality Cumberland Plain Woodland at Orchard Hills start context score - comprises treeless gaps in habitat associated with partial clearing of vegetation contiguous with continuous remnant patches of native vegetation greater than 100 hectares in area.

fauna and overabundant native herbivores

present.

Score	Site condition values 50% of Site Quality Score	Site context values 50% of Site Quality Score
4	Poorer quality Cumberland Plain Woodland at Orchard Hills future condition without offset score - does not meet the EPBC Act Cumberland Plain Woodland condition thresholds and plant species richness and/or most native ground cover and habitat attributes are below benchmark values. No hollow-bearing trees. Exotic plant cover moderate to high. Domestic exotic herbivores and/or pest fauna present.	Poorer quality Cumberland Plain Woodland at Orchard Hills future context without offset score- comprises treeless gaps in habitat associated with partial clearing of vegetation. Contiguous with near-continuous remnant patches of native vegetation 5-100 hectares in area. Includes edges adjacent to dense exotic plant infestations.
3	Does not meet the EPBC Act Cumberland Plain Woodland condition thresholds and plant species richness and native ground cover are below benchmark values. No mature or hollow-bearing trees. Exotic plant cover moderate to high. Domestic exotic herbivores and/or pest fauna present.	Part of an extensively fragmented landscape with all contiguous patches below 100 hectares in area and frequent >100 m wide gaps in habitat associated with extensive clearing of vegetation, sealed roads etc Includes edges adjacent to dense exotic plant infestations.
2	Minimal native vegetation cover or habitat at the site. Domestic exotic herbivores and pest fauna present.	Minimal native vegetation cover or habitat at the site or the surrounding area.
1	No native vegetation cover or habitat at the site. Domestic exotic herbivores and pest fauna present.	No native vegetation cover or habitat at the site or the surrounding area.

Notes: 1) Benchmark values as for the relevant plant community types (PCTs) as defined in the NSW Vegetation Information System: Classification 2.1 (OEH 2018c).

2) Based on likely improvements in site condition along with active management outlined in Section 6.1.4 when compared with baseline condition recorded in plot/transects, observations against the EPBC Act condition thresholds completed in the site inspection of Orchard Hills and biodiversity monitoring data from the site (SKM 2014) as documented in Sections 6.1.2 and 6.1.7 of the BODP.

3) As recorded in plot/transects, observations against the EPBC Act condition thresholds completed in the site inspection of Orchard Hills and biodiversity monitoring data from the site (SKM 2014) as documented in Sections 6.1.2 and 6.1.7 of the BODP.

4) Based on likely improvements in site condition along with active management outlined in Section 6.1.4 when compared with baseline condition set in observations against the EPBC Act condition thresholds completed in the site inspection of Orchard Hills and biodiversity monitoring data from the site (SKM 2014) as documented in Sections 6.1.2 and 6.1.7 of the BODP.

5) As recorded in plot/transects and observations against the EPBC Act condition thresholds at the airport site as documented in Section 4.2.2, Section 4.5.1 and Appendix A of the Stage 1 BAR (GHD 2017).

6) Based on observations against the EPBC Act condition thresholds completed in the site inspection of Orchard Hills and biodiversity monitoring data from the site (SKM 2014) as documented in Sections 6.1.2 and 6.1.7 of the BODP.

Further justification to support the averted risk of loss calculation

Averted risk of loss of offset site – Cumberland Plain Woodland

The offset site is located in the Defence Establishment Orchard Hills within the buffer areas between the armaments storage and demolition areas and surrounding public land. Defence's land use strategy enables a range of activities and developments to occur while preserving the function of the land as a buffer area.

There is a risk that the threats that are currently functioning to degrade the community would increase in severity to the extent that the entire local occurrence would be lost without active management. Notably there is a risk of catastrophic wildfire given the substantial areas of native Blackthorn scrub at the site. There is an associated risk that weed infestation and grazing by pest fauna would suppress post-fire regeneration. In considering this risk it is important to note that a decline in condition below the thresholds for the EPBC Act listed form of the community would comprise complete loss (i.e. reduction of canopy cover to less than 10% and/or reduction of native groundcover to below 30% of the groundcover present) (DEWHA 2010).

Aside from these site specific risks, the risk of complete degradation of the community is also affected by regional scale threats such as climate change, *Eucalyptus* dieback and weed infestation. It should also be noted that DoEE have set the 'annualised probability of extinction' of the community at 6.8% in the Offsets assessment guide (i.e. the risk that the entire Australian extent of the community would be lost to development and other threats in a single year). Taking into account both the site specific risks and regional scale threats, a risk of loss without offset of a single occurrence of the community over a 20 year period of 15% was considered appropriate.

The MOU would substantially reduce the risk of loss of the offset area through the quality improvements to the community. For instance, heightened monitoring and more intensive management would help avert the risk of complete degradation by weed infestation or grazing. The proposed mechanical removal of Native Blackthorn in strategic areas would help avert the risk of a catastrophic wildfire. The provision of dedicated funds for management activities would reduce the risk that the threats currently functioning to degrade the community would increase in extent or severity.

In addition to environmental risk of loss, the offset site is subject to development pressures as a result of population growth. The quality improvements to the community will strengthen the offset site's natural heritage values under its listing on the Commonwealth Heritage List and reduce the risk of the offset site being considered suitable for development in the future.

In this context, the proposal would result in a minor but tangible averted risk of loss of the offset site from 15% to 8%.

Averted risk of loss of offset site – Grey-headed Flying Fox habitat

As described above for Cumberland Plain Woodland, should the site not be secured under the MOU agreement, the land could be used for more intensive purposes or development by Defence as long as the function of the buffer was maintained. There is also a notable risk that the offset area could be disposed of and developed for major infrastructure. There are recent precedents of this on Defence land, such as the Moorebank Intermodal Terminal and The Northern Road upgrade at Defence Establishment Orchard Hills.

There is a risk that the threats and land management issues that are currently functioning to degrade Grey-headed Flying-fox habitat would increase in severity to the extent that all habitat resources at the

site would be lost without active management. Notably there is a risk of catastrophic wildfire that could not be fully mitigated under Defence's current site management and funding arrangements. There is an associated risk that weed infestation and grazing by pest fauna would suppress post-fire regeneration. In considering these risks it is important to note that the loss of mature food trees that comprise viable Grey-headed Flying-fox habitat would comprise complete loss. The risk of complete degradation of foraging habitat is also affected by regional scale threats such as climate change, *Eucalyptus* dieback and weed infestation. In this context a risk of loss without offset of all foraging resources at the site over a 20 year period of 15% was considered appropriate.

The MOU represents an increase in the level of protection of the site and would substantially reduce the risk of the loss of the offset area due to Defence activities or a major infrastructure project. The provision of dedicated funds for management activities would reduce the risk that the threats currently functioning to degrade habitat would increase in extent or severity. For instance heightened monitoring and more intensive management would help avert the risk of complete degradation by weed infestation or grazing. The proposed mechanical removal of Native Blackthorn in strategic areas would help avert the risk of a catstrophic wildfire. In this context, the proposal would result in a minor but tangible averted risk of loss of the offset site from 15 % to eight %.

Averted risk of loss of offset site – Swift Parrot habitat

As described above for Cumberland Plain Woodland, should the site not be secured under the MOU agreement, the land could be used for more intensive purposes or development by Defence as long as the function of the buffer was maintained. There is also a notable risk that the offset area could be disposed of and developed for major infrastructure. There are recent precedents of this on Defence land, such as the Moorebank Intermodal Terminal and The Northern Road upgrade at Defence Establishment Orchard Hills.

There is a risk that the threats and land management issues that are currently functioning to degrade Swift Parrot foraging habitat would increase in severity to the extent that all habitat resources at the site would be lost without active management. Notably there is a risk of catastrophic wildfire that could not be fully mitigated under Defence's current site management and funding arrangements. There is an associated risk that weed infestation and grazing by pest fauna would suppress post-fire regeneration. In considering these risks it is important to note that the loss of mature food trees that comprise viable Swift Parrot foraging habitat would comprise complete loss. The risk of complete degradation of foraging habitat is also affected by regional scale threats such as climate change, *Eucalyptus* dieback and weed infestation. In this context a risk of loss without offset of all foraging resources at the site over a 20 year period of 15% was considered appropriate.

The MOU represents an increase in the level of protection of the site and would substantially reduce the risk of the loss of the offset area due to Defence activities or a major infrastructure project. The provision of dedicated funds for management activities would reduce the risk that the threats currently functioning to degrade habitat would increase in extent or severity. For instance heightened monitoring and more intensive management would help avert the risk of complete degradation by weed infestation or grazing. The proposed mechanical removal of Native Blackthorn in strategic areas would help avert the risk of a catstrophic wildfire. In this context, the proposal would result in a minor but tangible averted risk of loss of the offset site from 15 % to eight %. The above values have been entered in the offsets assessment guide calculations for the Orchard Hills offset site proposal for Swift Parrot foraging habitat included in this BODP as summarised in XXXX below.

RESPONSE TO ENVIRONMENT COMMENTS ON BODP

Biodiversity Assessment Report (and revised version)

Section	Environment Comment	Infrastructure Response	Where addressed
1.2	 More clarity around the vegetation that forms habitat for the Swift Parrot and Grey-headed Flying-fox should be provided. The Biodiversity assessments reports generally state that all native woodland and forest in the Orchard Hills offset site provide foraging habitat for these species. However: This is not made clear in various tables across the BAR, revised BAR and Chapter 2 of the BODP. For example Tables 3.5 and 3.6 of the revised BAR, Table 14 of the original BAR and Table 3.1 of the Chapter 2 of the BODP. We've inferred that habitat for these species includes the additional 35.9 ha of good quality HN526 and 6.1 ha of medium quality HN528. Please clarify the tables. 	Noted. As agreed at the workshop on 10 July 2018, updates have been limited to the BODP.	BODP Table 3.1
3.3.2	Text describing Cumberland Plains Woodland condition thresholds should include the following "or contiguous with a native vegetation remnant ≥1 ha".	Noted. As agreed at the workshop on 10 July 2018 updates, have been limited to the BODP.	BODP sections 2.2.1, 6.1.2

Chapter 1 – Introduction

Section	Environment Comment	Infrastructure Response	Where addressed
1.2	The statement 'The offset sites will be secured by mechanisms such as the registration of an appropriate conservation covenant on the title of the relevant property' should be clarified to note that the largest offset (Orchard Hills) will not be secured through such mechanisms and that it is protected via the CHL and TEC listing.	Text has been added, clarifying that Orchard Hills is not secured through a conservation covenant, rather through a combination of other factors including the EPBC Act and the CHL listing.	BODP Section 1.2
1.2	Delivery of offsets:The Department acknowledges the delay in identifying and securing some offset properties and the BODP describes the process to identify offsetting opportunities. However, the proposed implementation of the BODP should be less open- ended and timeframes should be provided around field surveys and the delivery of offsets (staged or otherwise).	Indicative timeframes for identifying and delivering offsets have been added to Chapter 8.	Table 8.1
1.2	Point e – please clarify the 'Approver'.	Removed section in which 'Approver' is mentioned as it is identical text to that which is in the glossary. Replaced with "(see Glossary)".	BODP Section 1.2
1.6	The statement 'A secure conservation mechanism would be placed over offset sites' should be revised as per the comments above. See comment 2 above. The BODP should demonstrate a greater commitment to delivering offsets within a reasonable timeframe. The EPBC Act Offsets Policy states that offsets must be timely	First point - added text, clarified that Orchard Hills is not secured through a conservation covenant, rather through a combination of other factors including the EPBC Act and CHL listing.	First point - BODP Section 1.6 Second point - Table 8.1

and should be implemented either before or at the same time as the impact. As such, the BODP should provide completion timeframes for identifying and delivering offsets (rather than the proposal to	Draft words on securing Orchard Hills as an offset site were provided to Environment and Energy for review on 20 July 2018.	
report such more generally in ongoing audit reports).	Second point – indicative timeframes for identifying and delivering offsets have been added to Chapter 8.	

Chapter 2 – Offset requirements for affected EPBC Act-listed Biota

Section	Environment Comment	Infrastructure Response	Where addressed
All	Chapter 2 describes impacted EPBC habitats in the construction impact zone and is generally consistent with the Biodiversity Assessment report and the revised Biodiversity Assessment Report.	Noted.	n/a
All	The chapter provides a comprehensive qualitative description of the relevant EPBC listed ecological communities and species with respect to area, vegetation type, fragmentation, weed cover and other site attributes that inform the site quality attributes (site condition, site context and species stocking rate). Quantitative weights and scores have been applied to the site quality attributes. However, further clarity regarding the determination of these values is required:	Noted. Scoring tables have been added to clarify how quantitative field survey data has contributed to site quality scores. Draft scoring tables were provided to Environment and Energy for review on 20 July 2018.	Section 2.2 Tables 2.1, 2.2, 2.3 and 2.4

	 There appears to be a missing link between qualitative descriptions of the site quality attributes and the quantitative values. This could be resolved with a scoring table that defines site quality attributes for specific scores or a scoring range. 		
2.2.1	Identification of affected threatened biota:There is a general statement that Cumberland Plains Woodland was determined in accordance with the listing advice for this ecological community. More detail should be provided regarding:• how the ecological community meets the specific condition thresholds defined in the conservation advice along• the survey methodology and definitions of patch size and buffers is consistent with the conservation advice.Alternatively, specific references can be made to where this is provided in the BAR.	Noted. Additional detail added to the BODP including cross references to field survey data in the Stage 1 BAR and addendum.	Section 2.2.1
2.2.4	 Impacts to Pimelea spicata: Impacts on this species are based on area of occupied habitat rather than number of individuals. The Department has the following questions: Given that the EPBC offsets calculator can determine offset requirements based on 	Environment and Energy has previously expressed a preference for this approach given seasonal survey limitations and uncertainty about the number of individuals impacted, particularly for cryptic flora species (e.g. Pacific	n/a

individuals, why has occupied habitat been chosen?	Highway NH2U as per Boraso, C, DotE, email of 20 November 2014).Please also note that this is also now the standard approach in the NSW Biodiversity Assessment Method.	
 Figure 6A identifies clumps but lacks a polygon for the occupied habitat (noting that this is provided in Figure 4A of the original BAR). 	Noted. Figure 6E has been added showing occupied habitat. This has been kept separate to Figure 6A to allow mapping at a larger scale and to avoid confusion with the TEC polygons.	Figure 6E
How is occupied habitat defined and what will a potential offset look like?	The extent of occupied habitat at the airport site was mapped using GIS as a 20 metre wide buffer around recorded clumps of <i>Pimelea</i> <i>spicata</i> where the buffer area contained areas of suitable grassland or grassy woodland habitat. The buffer area was modified to exclude clearly unsuitable habitat such as gravel tracks, water, fill, dense exotic vegetation or rubbish. The same approach will be used at offset sites. In some cases, this may rely on <i>Pimelea spicata</i> point data collected earlier and/or by other ecologists but a supplementary survey would be conducted to specifically confirm and map the extent and quality of habitat as inputs to offsets assessment guide calculations.	Section 2.2.4
• The Department notes a reference to potential habitat in Table 6.7 (Chapter 6) but	The potential habitat described in Table 6.7 is the area of better condition Grey Box - Forest Red Gum grassy woodland on flats and Broad-	Table 6.7

it is unclear how this is defined and how polygons will be determined.	leaved Ironbark - <i>Melaleuca decora</i> shrubby open forest on clay soils. As stated in Note 1) below the table, this is "pending confirmation of the presence of the species at the site and definition of a species polygon encompassing occupied habitat".	

Chapter 3 – Offset requirements for plants, animals and their habitat

Section	Environment Comment	Infrastructure Response	Where addressed
All	Chapter 3 describes impacted EPBC habitats in the construction impact zone and is generally consistent with the Biodiversity Assessment report and the revised Biodiversity Assessment Report.	Noted.	n/a

Chapter 4 - Consultation and Chapter 5 – Biodiversity Experts Group

Section	Environment Comment	Infrastructure Response	Where addressed
All	Chapters 5 includes advice of the Biodiversity	Noted and updated. At relevant points	Chapter 5.
	Experts Group as required by condition 31(5) of the	throughout Chapter 5, reference has been made	
	Airport Plan. This chapter also includes a summary	to other sections of the BODP that were	

of each member's advice and each component	informed by the advice of the Biodiversity	
includes a paragraph on how this advice has	Experts Group.	
informed development of the BODP. Chapter 5		
should also reference the relevant sections of the		
BODP that were informed by the advice or provide a		
summary of how the advice was		
considered/informed the BODP.		

Chapter 6 – Direct Offsets

Section	Environment Comment	Infrastructure Response	Where addressed
6.1.2	 This section refers to 'notable revisions to previous vegetation mapping at the site' (Orchard Hills): Who made and endorsed the revisions? What is the consequence of these revisions? 	The revisions were made by GHD ecologists based on the site inspection and desktop assessment as described in Section 6.1.2. Additional detail has been added with regards the scale and consequence of the revisions. However, it should be noted that the ultimate scale and consequence of the revisions will not be established until detailed site surveys and the biodiversity assessment report have been completed.	Section 6.1.2
6.1.2	The text on page 31 indicates that Table 6.1 refers to Orchard Hills. However, the table appears to refer to	Table 6.1 updated to make the link to Orchard Hills more explicit.	Table 6.1

	offset sites more broadly. Please revise the text and/or table accordingly.		
6.1.6	 This section states that 'Defence would prepare an Offset Improvement Plan (OIP) within 18 months of the commencement date of the MoU'. The content of the future OIP is unenforceable given that the management actions are set out in Schedule 2 of the MoU. Accordingly, the BODP needs to set out: The existing and additional management actions and monitoring/reporting/auditing requirements that are generally set out respectively in Schedules 2 and 4 of the MoU (as at 22 April 2018) and will be included in the OIP. The BODP currently lacks detail on existing management actions at Orchard Hills and inclusion of the point above should inform justification for site quality improvements. 	Noted and updated. The content of Schedule 2 to the MOU (Offset Plan Objectives, Offset Plan Potential Management Actions) has been reproduced in Section 6.1.4. The reporting requirements from Schedule 4 are now contained in Clause 13 of the MOU and are discussed in Section 6.1.5 of the BODP.	Section 6.1.4 Section 6.1.5
6.1.7	 This section indicates that additional biodiversity assessments are required for Orchard Hills. The Department's comments on this are: Noting the revisions to vegetation mapping that have already occurred at the site (see comment 1), what additional information is being sought. What is the level of confidence in the current vegetation assessment and to what extent could 	Updated text has been added to Chapter 6 to describe the scale and consequences of potential future revisions to the initial biodiversity assessment and offset calculations for Orchard Hills.	Section 6.1.7

	additional assessment change the value of Orchard Hills as an offset site?		
6.1.7	The text indicates the presence of Grey-box – Forest Red Gum grassy woodland on hills, but this appears to be missing on Figure 10.	The reference to Red Gum grassy woodland on hills was an error and has been removed.	Section 6.1.7
6.1.7	 Similar comment to that provided for Chapter 2, comment 2. The chapter provides a comprehensive qualitative description of the relevant EPBC listed ecological communities and species with respect to area, vegetation type, fragmentation, weed cover and other site attributes that inform the site quality attributes (site condition, site context and species stocking rate). Quantitative weights and scores have been applied to the site quality attributes. However, it is unclear how these values were determined, i.e.: There appears to be a missing link between qualitative descriptions of the site quality attributes and the quantitative values. 	Noted. Scoring tables have been added to clarify how quantitative field survey data has contributed to site quality scores. Draft scoring tables were provided to Environment and Energy for review on 20 July 2018.	Section 2.2 Tables 2.1, 2.2, 2.3 and 2.4
	site quality attributes for specific scores or a scoring range.		
6.1.7	The Department seeks further clarification of several of the input parameters used in the EPBC Offsets calculator (Tables 6.2-6.5). Specifically, these are:	Noted. As above, scoring tables have been added.	Section 2.2 Tables 2.1, 2.2, 2.3 and 2.4
	• Quantum of impact quality – consistent with the values in Chapter 2, but as per the Department's		

previous comment it is unclear how the value was determined.		
 Risk of loss with and without offset – The risk of averted loss (15%-8% = 7%) appears to be too high given the current circumstances associated with the site. The EPBC Offsets Policy defines risk of loss as total loss of value. The Department's view is that this is very unlikely and would suggest that both values are more realistically close to zero. Please provide supporting justification for the values by identifying the circumstances under which entire loss of value is foreseen. The 75% confidence in achieving an averted risk of loss also seems too high. 	Additional justification has been added to the section. Confidence level remains the same given the additional text. Draft words providing further justification to support the averted risk of loss calculation for an Orchard Hills offset site were provided to Environment and Energy for review on 20 July 2018 and were the subject of further discussions between Infrastructure and Environment and Energy.	Section 6.1.7
 Start area and quality – please clarify how site quality has been quantified (see the second comment under Chapter 2). 	Noted. As above, scoring tables have been added.	Section 2.2 Tables 2.1, 2.2, 2.3 and 2.4
• Future area quality with offset – the increase in value requires justification with reference to existing management actions and the proposed additional management actions (which should be included in the BODP).	Justification relating to management actions added.	Sections 6.1.3, 6.1.4 and 6.1.7
 Future area quality without offset – how is loss of quality justified given existing management activities by Defence - what are the current management activities? 	Detail added to support loss of quality numbers.	Section 6.1.7

6.1.8	Quantum of offsets: The statement that 'The biodiversity values of the Orchard Hills offset site will probably be assessed using the Biobanking methodology' needs to be revised to provide a stronger commitment than 'probably'.	Noted. Text changed to change to "will be assessed…"	Section 6.1.8
	 This section states that the Orchard Hills offset will be quantified using the NSW Framework for Biodiversity Assessment. However, the requirement to have regard to the CPW condition thresholds should be added. Regarding the trade of 'like-for-like' ecosystem credits, this section should clarify that this can only occur where the relevant vegetation zones meet the EPBC condition thresholds for CPW. 	Noted. Reference to the CPW condition thresholds added, however it should be noted that this requirement would only apply to vegetation being presented as offsets for EPBC Act Cumberland Plain Woodland.	Section 6.1.8
6.1.8	Pultenea parviflora: Please clarify whether the Orchard Hills offset site will meet the offset requirements for this species. This may or may not occur depending on whether offset requirements are based on individuals or habitat. As previously requested with respect to Pimelea spicata, please provide clarity around the justification of proposals to offset P. parviflora based on species habitat.	<i>Pultenaea parviflora</i> offsets would be calculated in terms of species credits, based on the number of individuals in accordance with the BioBanking Assessment Methodology. References to areas of <i>Pultenaea parviflora</i> habitat in this section is because the SKM (2014) monitoring report presented the information in this way. As stated in Section 6.1.8 a total of 9 <i>Pultenaea parviflora</i> and 28 <i>Dillwynia tenuifolia</i> would generate the species credits required to offset the airport's impacts on these species. Despite the low abundance of these species at the Orchard Hills	n/a

		 offset site in 2018 it could easily generate the required quantum of offset given: 8.5 hectares of mapped <i>Pultenaea parviflora</i> habitat and up to 20 individuals in a single 20m x 20m monitoring plot in 2013 0.9 hectares of mapped <i>Dilwynia tenuifolia</i> habitat and up to 110 individuals in a single 20m x 20m monitoring plot in 2013 (SKM 2014)". The targeted field surveys and biodiversity assessment report for Orchard Hills will confirm the number of individuals of these threatened species at the site and whether it meets the offset requirements for these species. 	
6.2.1	Please elaborate how biodiversity credits will be converted to hectares. An example to support this will be useful.	 Credits will not be converted to hectares. As stated in section 6.2.1, sites containing suitable biodiversity offset areas (i.e. Cumberland Plain Woodland and/or habitat for the affected threatened biota) would be located and: Each relevant site would be surveyed to confirm the extent and quality of habitat for the affected threatened biota (i.e. the offset area). 	Section 6.2.1

 Direct offsets for the affected EPBC Actlisted biota will be calculated using the offsets assessment guide in accordance with the EPBC Act Offsets Policy based on the area of habitat for the affected threatened biota. The area of habitat would be converted to biodiversity credits based on the rate of generation of credits per hectare in the appropriate vegetation zone(s) within the offset area. The number and type of biodiversity credits that are linked to the offset areas for the affected threatened biota would then be purchased and retired.
Section 6.2 has been reworded to make this clearer.

Chapter 7 – Other compensatory measures

Section	Environment Comment	Infrastructure Response	Where addressed
7.4	<i>Longer term other compensatory measures:</i> Please provide indicative timeframes for delivery of the 'other compensatory proposals'.	Timeframes on identifying and delivering longer term other compensatory measures have been added to Chapter 8.	Table 8.1

Chapter 8 – Offset proposal

Section	Environment Comment	Infrastructure Response	Where addressed
All	<i>Implementation of the BODP:</i> This section should include a commitment to implement the management actions and reporting/monitoring/auditing activities that will be included in the OIP (i.e. a strong link to the MOU).	The content of Schedule 2 to the MOU (Offset Plan Objectives, Offset Plan Potential Management Actions) has been reproduced in Section 6.1.4. The reporting requirements from Schedule 4 are now contained in Clause 13 of the MOU and are discussed in Section 6.1.5 of the BODP.	Sections 6.1.4, 6.1.5

ADDITIONAL REVISIONS TO BODP BY INFRASTRUCTURE (SEPARATE TO ENVIRONMENT COMMENTS)

Section	Infrastructure Comment	Status		
Stage 1 Biodiversity Assessment Report Addendum (Stage 1 BAR Addendum) – figures and offset calculations. Minor changes throughout the document to reflect updated areas and calculations.	 Changes to the Stage 1 Construction Impact Zone (CIZ) required edits to the figures, vegetation zone descriptions, area calculations and offset calculations. Magnitude of change = 2.7 hectare increase in area of CIZ, including 0.7 hectares of native vegetation. 	Stage 1 BAR Addendum has been independently verified.		
	• Edits were made to the vegetation mapping to correct minor errors (overlaps and gaps between polygons) arising from changes to the airport site boundary and updated Stage 1 CIZ. Magnitude of change = 2.7 hectare increase in area of CIZ, including 0.7 hectares of native vegetation. Magnitude of change = less than 1 hectare change to vegetation areas overall, less than 0.2 hectares of change to any given vegetation zone.			
	• The area of EPBC Act Cumberland Plain Woodland in the Stage 1 CIZ was updated to correct an error in GIS calculations in the previous version of the report. Magnitude of change = a 4 hectare reduction in the extent of impact, associated with patches of vegetation that should have been excluded based on the condition thresholds.			
BODP – figures and offset calculations. Minor changes throughout the document to reflect updated areas and calculations.	• As above, changes to the Stage 1 CIZ require edits to the figures, vegetation zone descriptions, area calculations and offset calculations.	Updates included in the Final BODP.		

Section	Infrastructure Comment	Status		
	• As above, minor edits were made to the vegetation mapping to correct minor errors arising from changes to the airport site boundary and updated Stage 1 CIZ.			
	• As above, the area of EPBC Act Cumberland Plain Woodland in the Stage 1 CIZ was updated to correct an error in GIS calculations in the previous version of the report. This has resulted in 4 hectare reduction in the extent of impact included in offset calculations, associated with patches of vegetation that should have been excluded based on the condition thresholds.			
BODP – Section 6, Section 8.2.1	Changes were made to make the BODP consistent with the current wording in the draft MOU between Infrastructure and Defence.	BODP is consistent with the current version of the MOU.		
BODP – all chapters	Minor editorial changes have been made to ensure consistency throughout the BODP and proper referencing, grammar and adherence to the APS writing style.	Minor updates made throughout the BODP.		

From:	s. 47F(1)
To:	Gregory Manning
Cc:	<u>TAYLOR Garth;</u> s. 47F(1); ^{s. 47F(1)} ; s. 47F(1)
Subject:	For your attention - submission of Biodiversity Offset Delivery Plan for approval [DLM=For-Official-Use-Only]
Date:	Wednesday, 15 August 2018 6:28:16 PM
Attachments:	WSA BODP Submission Letter.pdf

Dear Greg,

On behalf of Garth Taylor, General Manager, Environment, Communications, Legal, please find attached correspondence notifying that the Infrastructure Department has submitted for approval a Biodiversity Offset Delivery Plan in accordance with Condition 30 of the Airport Plan for Western Sydney Airport.

The Biodiversity Offset Delivery Plan has been uploaded to our Department's secure file transfer website (accounting for the size of the document), which can be accessed via

<u>https://sft.infrastructure.gov.au</u> and by entering the username and password below. The Biodiversity Offset Delivery Plan can be found in the folder labelled "Submitted Biodiversity Offset Delivery Plan".

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If you have any queries in relation to the attached correspondence, please do not hesitate to contact me. Thank you

Kind regards,

s. 47F(1)

Director – Environmental Conditions and Approvals Section Communication, Environment and Legal Branch

Western Sydney Unit

Department of Infrastructure and Regional Development

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Australian Government

Department of Infrastructure, Regional Development and Cities

Mr Greg Manning Assistant Secretary Assessments and Post Approvals Department of the Environment and Energy By email

Dear Mr Manning 500

Western Sydney Airport Biodiversity Offset Delivery Plan submission

I am pleased to submit for approval a Biodiversity Offset Delivery Plan in accordance with Condition 30 of the Airport Plan for Western Sydney Airport. I acknowledge the work between our teams and the input provided by the Environment Department over the past four months in regards to the Infrastructure Department meeting all relevant Airport Plan requirements for developing a Biodiversity Offset Delivery Plan.

We look forward to working closely with Environment when reporting on implementation of the Biodiversity Offset Delivery Plan. Condition 39(3) of the Airport Plan requires the Infrastructure Department to report to the Environment Department every 12 months on the implementation of the BODP. We will also submit reports to Environment on the outcomes of regular independent audits to be carried out on the implementation of the Biodiversity Offset Delivery Plan, as required by Airport Plan Condition 30(11).

Consistent with Condition 42 of the Airport Plan, the Infrastructure Department will publish the Biodiversity Offset Delivery Plan on its website within one month of its approval.

If you have any queries in relation to this letter, please contact s. 47F(1) Director, Environmental Conditions and Approvals Section, by email to s. 47F(1) @infrastructure.gov.au.

Yours sincerely

Garth Taylor General Manager, Environment, Communications, Legal Western Sydney Unit Department of Infrastructure, Regional Development and Cities

15 August 2018

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