



Commonwealth Approval EPBC 2012/6394 Conditions Compliance Tracking and Management Annual Report

Woolgoolga to Ballina Pacific Highway Upgrade

May 2015 – May 2016

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Glossary / Abbreviations

Acronyms used in this document

Acronym	Definition
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Approval Holder	The person to whom the approval is granted (Roads and Maritime Services (ABN 76 236 371 088), or to whom the approval is transferred under s145B of the <i>Environment Protection and Biodiversity Conservation Act 1999</i>)
Ballia Koala Population	Means the Ballina Shire Council Local Government Area Koala populations as identified in the <i>Koala Habitat and Population Assessment: Ballina Shire Council LGA Final Report to Ballina Shire Council (November 2013)</i>
Commence, Commencement and Commenced	Commencement of construction in Woolgoolga to Ballina Upgrade Section 1 where threatened species and communities or suitable habitat for threatened species and communities is directly or indirectly impacted
CEMP	Construction Environmental Management Plan
Department	The Australian Government Department administering the <i>Environment Protection and Biodiversity Conservation Act 1999</i>
EPBC Act	<i>Environment Protection and Biodiversity Conservation Act 1999</i>
EPBC Offsets Policy	Refers to the Department's <i>Environment Protection and Biodiversity Conservation Act 1999</i> Environmental Offset Policy and Offsets Assessment Guide (2012), available at http://www.environment.gov.au/epbc/publications/epbc-act-environmental-offsets-policy
Minister	The Minister administering the <i>Environment Protection and Biodiversity Conservation Act 1999</i> and includes a delegate of the Minister
Migratory Species	Refers to Migratory Species listed under the <i>Environment Protection and Biodiversity Conservation Act 1999</i>
NSW Approval Condition(s)	Conditions of approval specified in schedule 2 of the New South Wales Government's project approval decision, dates 24 June 2014, at Annexure 1 of this approval
Section 10	Refers to Section 10 of the Pacific Highway Upgrade as described in the documents referred to in condition A2 of the New South Wales Government's project approval decision, dated 24 June 2014, at <u>Annexure 1</u> of this approval
Stages	Refers to the stages of the action as defined in the staging plan required by Condition 1 of this approval
Suitably qualified expert	A qualified ecologist with at least 5 years of experience in the relevant field of expertise that has been approved in writing by the Minister
Threatened species and ecological communities	Includes the threatened species and communities listed under the EPBC Act. It also includes any other EPBC Act threatened species or community identified in surveys required by the NSW Conditions of Approval that is considered by the Department as being significantly impacted by the action

Introduction

Purpose of this document

NSW Roads and Maritime is upgrading the Pacific Highway between Woolgoolga and Ballina on the NSW North Coast. An overview of the project is provided in figure 1.1 below. The EIS has divided the project into 11 sections which are also outlined in figure 1.1. The project does not include the Devils Pulpit Upgrade or the Glenugie Upgrade as these have been completed previously.

The project involves the duplication of 155km of the Pacific Highway to motorway class (Class M) or arterial road (Class A) generally between Woolgoolga and Ballina.

The project is approved as State Significant Infrastructure under Part 5.1 of the NSW Environmental Planning and Assessment Act 1979 (SSI-4963) and under the Commonwealth Environmental Protection and Biodiversity 1998 (012/6394).

The purpose of this document is to facilitate demonstration by Roads and Maritime Services (Roads & Maritime) of satisfactory compliance with the Commonwealth approval conditions for the Woolgoolga to Ballina Pacific Highway Upgrade project with particular reference to Condition 21. The report covers the first period from May 2015 to May 2016.

For each condition, one or more actions are identified which, once implemented, will achieve satisfactory compliance with the condition. Where appropriate, the timing for completion of individual actions is identified.

For each action, the minimum relevant documentation to support demonstration of compliance is identified. This documentation would inform any future compliance audit.

Where an approval condition makes reference to information being provided to the Commonwealth Minister for the Environment, the associated action(s) assumes that this information will be provided, in the first instance, to the Commonwealth Department of the Environment.

Key dates

The timing for compliance with certain approval conditions is linked to specific dates as follows:

- Commonwealth approval: 14 Aug 2014
- Start of construction: Stage 1 commenced on 1 June 2015
- Start of Construction; Stage 2 commenced 8 April 2016
- Scheduled completion of construction: December 2019
- Expiry of Commonwealth approval: 31 Dec 2064

Responsibility for compliance

Responsibility for compliance with all approval conditions sits with Roads & Maritime Services.

Project Status

Stage 1 of the Woolgoolga to Ballina Project commenced on 19 May 2015 with the approval of the Construction Environmental Management Plan for the Woolgoolga to Halfway creek (Section 1) section of the project.

In June 2015, the Halfway Creek to Glenugie (Section 2) section of the project commenced.

Stage 1 of the project also included soft soils works at Section 4 (Maclean), Section 5 (Harwood), Section 8 (Trustums Hill) and Section 11 (Pimlico). Soft soils work commenced as part of Stage 1 of the project at Harwood in October 2015 and Pimlico in November 2015.

Detailed design for the Woolgoolga to Glenugie (Section 1 and Section 2) section of the project has been completed.

Detailed design for the Glenugie to Ballina section (Section 3 – Section 11) is currently being undertaken with an anticipated completion in December 2016. Detailed design is being staged to allow early construction of critical aspects of the project to enable completion by 2020.

The project's Staging Reports have been written to address design and construction staging. These have been provided to both the Department of Planning and Environment and Department of Environment, and are also on the project web site.

Geotechnical and other activities not considered as part of the "commencement" provisions were also undertaken between Glenugie and Ballina. It is noted that activities subject to the provisions of the approval of the Koala Management Plan and the Ballina Koala plan were not undertaken during the period.

The report for Stage 2 of the Woolgoolga to Ballina project was submitted in April 2016 as a precursor to the commencement of stage 2 and construction works between Glenugie and Ballina. Roads and Maritime advised the Department of the proposed commencement of construction of Stage 2 on 8 April 2016.

Definitions for action status conditions

TBA	To Be Arranged - Further works required prior to starting action.
In progress	Action initiated but not yet complete.
Ongoing	Action in place but ongoing works required to ensure compliance.
Complete	Action completed.

Non Compliance with EPBC Conditions

Condition four of this approval requires that the action must be undertaken in accordance with NSW approval condition B39. This condition outlines that bridges are to be provided in Giant Barred Frog habitat instead of culverts. The condition also

states that where bridges are not provided, monitoring is to be undertaken for 3 consecutive years post construction to ensure connectivity is maintained.

During the construction phase pre-clearing inspection at the existing Boney's Creek culvert in Section 1, a Giant Barred Frog was found. This has been treated as an unexpected find. The design at this location requires that the existing culvert be extended under the new alignment. As a result it is not feasible to build a bridge at this location. During the initial threatened species studies, no Giant Barred Frogs were identified at this location and suitable habitat was only identified at the downstream crossing location.

A monitoring regime will be established in accordance with the requirements of NSW condition of approval B39 which will include monitoring for 3 consecutive years post construction to ensure connectivity is maintained at this location. Note, recent monitoring of culverts (2016) on the Sapphire to Woolgoolga project confirmed Giant Barred frogs making complete crossing of culvert underpass structures.

The Threatened Frog Management Plan will be updated accordingly.

Condition 1

Staging of the Action

The Staging Report as required by NSW approval condition A7 must be submitted to the **Minister** prior to the **commencement** of each of the proposed **stages**. In accordance with **NSW approval condition A7**, the Staging Report must outline how the proposal will be staged. The Staging Report must also outline the **threatened species and communities**, and **migratory species** impacted in each stage.

Action	Timing	Status	Compliance evidence
A7 (a) Outline how the State Significant Infrastructure will be staged, including general details of work activities associated with each stage and the general timing of when each stage would commence, within the Staging Report *	Pre-construction	In progress noting that the proponent may choose to provide additional Staging Reports as the project develops	Stage 1 Report date March 2015 Stage 2 Report dated May 2016
A7 (b) Provide details of the relevant conditions of approval, which would apply to each stage and how these shall be complied with across and between the stages of the SSI*	Pre-construction	In progress	Stage 1 Report date March 2015 Stage 2 Report dated May 2016
* Where staging of the SSI is proposed, these conditions of approval are only required to be complied with at the relevant time and to the extent that they are relevant to the specific stage(s).			

Condition 2

Avoidance and Mitigation of Impacts

In order to minimise impacts to **threatened species and communities**, and **migratory species**, the **approval holder** must:

- a. Adhere to the clearance limits outlined in the **NSW approval condition B1**;
- b. Undertake pre-clearance surveys in accordance with **NSW approval condition B5**;
- c. Undertake all soil and water management measures in accordance with **NSW approval condition B34**; and
- d. Design and construct any additional ancillary facilities in accordance with the requirements of **NSW approval condition B73** to ensure that no impacts occur to **threatened species and communities**, **migratory species** or their habitat.

Action	Timing	Status	Compliance evidence
<p>B1</p> <p>a) Clearing of native vegetation shall be limited to a total area of 931.7 hectares, within the SSI boundary defined in the document referred to in condition A2(c), subject to condition B1(b);</p> <p>b) (b) Clearing of native vegetation for ancillary facilities specified in the document referred to in condition A2(d) and outside the SSI boundary defined in the document referred to in condition A2(c) shall be limited to 4.75 hectares</p> <p>c) (c) Clearing of threatened ecological communities shall be limited to the areas</p> <p>d) specified in Table 6-1 under the column titled: Revised—direct impact (hectares)) of Appendix J of the document referred to in condition A2(c), subject to condition B1(d)</p> <p>e) (d) Clearing of the Littoral Rainforest in the New South Wales North Coast, Sydney Basin and South East Corner Bioregions shall be limited to a total area of 0.5 hectares</p> <p>f) (e) Clearing of Koala (<i>Phascolarctos cinereus</i>) primary and secondary habitat shall be limited to a total area of 375 hectares</p>	<p>Detail Design and Construction Phase</p>	<p>Open</p>	<p>Approved clearing limits will be specified during the detailed design phase and monitored and managed during the construction phase.</p> <p>The forecast clearing quantities based on the current stage of detailed design are provided in the Table 1.1 below.</p> <p>The forecast quantities are based on the clearing undertaken in Section 1 and Section 2 and the detailed design work undertaken to date for</p>

				Sections 3 to 11.
B5	<p>Prior to construction, pre clearing surveys and inspections for endangered and threatened species shall be undertaken. The surveys and inspections, and any subsequent relocation of species, shall be undertaken under the guidance of a suitably qualified ecologist and shall be in accordance with the methodology incorporated into the approved Construction Flora and Fauna Management Plan.</p> <p>All clearing of Koala habitat trees shall be undertaken in the presence of a Koala Spotter.</p>	Construction Phase	Open	<p>Construction Flora and Fauna Management Plans have been developed, submitted and approved for Stage 1 and Stage 2 of the project. Pre-clearing surveys have been completed to date in accordance with the requirements of this condition. Pre-clearing survey activities will continue in all sections of the project and as such the status remains open.</p>
B34	<p>Soil and water management measures consistent with <i>Managing Urban Stormwater - Soils and Construction</i> Vols 1 and 2, 4th Edition (Landcom, 2004) and <i>Managing Urban Stormwater Soil and Construction</i> Vols 2A and 2D <i>Main Road Construction</i> (Department of EEnvironment and Climate Change, 2008) shall be employed during the construction of the SSI to minimise soil erosion and the discharge of sediment and other pollutants to land and/or water</p>	Pre-construction, Construction	Open	<p>Construction Soil and Water Quality Management Plans have been developed submitted and approved for Stage 1 and Stage 2 of the project. Soil and Water Management Plans have been implemented to ensure that soil erosion and the discharge of sediment to land or water is minimised. The project has engaged Soil Conservationists to ensure compliance is achieved with the relevant guidelines.</p>
B73	The sites for ancillary facilities that are associated with the construction of the SSI and	Pre-	Complete	Ancillary Facilities

that have not been identified and assessed in the documents listed in condition A2 shall:

- a) Be located more than 50 metres from a waterway (100 metres for a State Environmental Planning Policy No. 14 wetland or known Oxleyan Pygmy Perch habitat waterway);
- b) Not impact on connectivity structures or vegetation leading to a connectivity structure;
- c) Be located within or adjacent to the SSI boundary;
- d) Have ready access to the road network;
- e) Be located in areas of low ecological significance and require no clearing of Native vegetation;
- f) Be located more than 50 metres from threatened species and endangered Ecological communities and their habitats;
- g) Be located on relatively level land;
- h) Be separated from the nearest residences by at least 200 metres (or at least 300 metres for a temporary batching plant) and comply with construction noise management levels at sensitive receivers;
- i) Be above the 20 year ARI flood level unless a contingency plan to manage flooding is prepared and implemented;
- j) Have minor impacts on flood storage and not result in obstruction of floodplain flow or blockage of culverts and drains;
- k) Not unreasonably affect the land use of adjacent properties;
- l) Operate in accordance with the construction hours set out in conditions B15 and B16;
- m) Provide sufficient area for the storage of material to minimise, to the greatest extent practical, the number of deliveries required outside standard construction hours; and
- n) Be located in areas of low heritage conservation significance (including areas identified as being of Aboriginal cultural value) and not impact on heritage sites beyond those already impacted by the SSI.

The Applicant shall undertake an assessment of the facility against the above criteria in consultation with the relevant public authority(s) and the relevant council. The assessment shall be approved by the Environmental Representative and included in the Ancillary Facilities Management Plan required under condition D21.

construction,
Construction

for Stage
1 and
Stage 2

Management Plans have
been approved for Stage 1
and Stage 2 of the project
in accordance with this
compliance requirement.

Table 1 Vegetation Clearing Summary

Item	Approved quantity (Ha)	Forecast cleared quantity (Ha)
Total native vegetation clearing	931.7	898
Koala Vegetation clearing	375.0	336.8
Native Vegetation clearing – Ancillary Facilities	4.75	4.75
Coastal Cypress Pine Forest in NSW North Coast Bioregion	3.3	3.14
Freshwater Wetlands on Coastal Floodplains	5.1	4.7
Littoral Rainforest	0.2	0.21
Lowland Rainforest on Coastal Floodplains	4.2	4.24
Subtropical Coastal Floodplain Forest on Coastal Floodplains	93.7	82.15
Swamp Oak Floodplain Forest on Coastal Floodplains	43.1	38.49
Swamp Sclerophyll Forest on Coastal Floodplains	112.1	110.55

Condition 3

In order to minimise impacts to the Oxleyan Pygmy Perch, the **approval holder** must undertake the action in accordance with **NSW approval conditions** B7, B8, B9, B13, B40, B41 and B42.

Action	Timing	Status	Compliance evidence
<p>B7 High risk construction activities in known Oxleyan Pygmy Perch habitat shall not be undertaken during the Oxleyan Pygmy Perch spawning period, or on days when the relevant Bureau of Meteorology site predicts a 90% chance of 10mm of rain or more unless otherwise agreed by DPI (Fisheries)</p>	<p>During construction - 1 October to 30 April or weather dependent</p>	<p>Open</p>	<p>High risk activities have not been undertaken during the Oxleyan Pygmy Perch (OPP) spawning period.</p> <p>Construction activities for Stage 1 of the project have not been undertaken in known OPP habitat.</p> <p>Geotechnical investigation works associated with Stage 2 have been undertaken in accordance with this requirement. Environmental Work Method Statements have been developed and implemented in consultation with DPI Fisheries.</p>
<p>B8 Temporary bridge or arch structures in know Oxleyan Pygmy Perch habitat shall be used if the crossing is intended to be in place for more than 3 months.</p>	<p>Construction</p>	<p>Open</p>	<p>Construction activities for Stage 1 of the project have not been in known OPP habitat.</p> <p>Stage 2 works have not required the construction of waterway crossings to date.</p>
<p>B9 Where temporary crossings in known Oxleyan Pygmy Perch habitat are proposed with culverts or pipes, the Applicant shall, in consultation with DPI (Fisheries):</p> <ul style="list-style-type: none"> a) Determine the size of the culverts or pipes to facilitate fish passage; and b) Identify the minimum size of clean rock to be used to ensure that rock material will not wash into the waterway in periods of high flows. <p>Remove temporary culvert or pipe crossings</p>	<p>Construction during the OPP spawning period</p>	<p>Open</p>	<p>Construction activities for Stage 1 of the project have not been undertaken in known OPP habitat.</p> <p>Stage 2 works have not required the construction of waterway crossings to date.</p> <p>This matter will be addressed during the detailed design phase for the temporary crossing structures in consultation with DPI Fisheries.</p>
<p>B13 The Applicant shall minimise riparian vegetation clearing</p>	<p>Post construction</p>	<p>Open</p>	<p>Rehabilitation of riparian vegetation has been</p>

	during construction and undertake a targeted rehabilitation program post construction to restore in-stream and riparian habitat to at least the pre-construction condition or better, unless otherwise agreed by DPI (Fisheries). All areas disturbed by the SSI that are in the vicinity of known Oxleyan Pygmy Perch habitat waterways shall be stabilised prior to the Oxleyan Pygmy Perch spawning period.	Construction	addressed in the Urban Design and Landscape Management Plans and associated construction deliverables. Construction activities for Stage 1 of the project have not been undertaken in known OPP habitat. Activities requiring the rehabilitation of riparian vegetation for Stage 2 works have not commenced in OPP habitat.
B40	Unless otherwise agreed by DPI (Fisheries) all crossings of Class 1 watercourses in known Oxleyan Pygmy Perch habitat shall be designed and constructed with a bridge or arch structure and where feasible and reasonable, no supporting structure installed within affected waterways	Pre-construction	Construction activities for Stage 1 of the project have not been in known OPP habitat. For Stage 2 of the project, this requirement will be addressed in the detailed design. Consultation is ongoing with DPI (Fisheries) to ensure this requirement is addressed.
B41	Where an Oxleyan Pygmy Perch habitat waterway is realigned or its stream profile is change, or an in-stream structure is installed in the waterway (both permanent and temporary construction structures), the Applicant shall ensure that the final design of that waterway does not result in water velocities exceeding 0.4m/sec under normal flow conditions. The Applicant shall determine normal flow conditions to the satisfaction of DPI (Fisheries) through baseline monitoring of know Oxleyan Pygmy Perch habitat waterways.	Pre-construction	Construction activities for Stage 1 of the project have not been in known OPP habitat. For Stage 2 of the project, this requirement will be addressed in the detailed design. Consultation is ongoing with DPI (Fisheries) to ensure this requirement is addressed.
B42	The Applicant shall ensure that the SSI does not increase afflux of waterways with known Oxleyan Pygmy Perch habitat by more than the relevant flood management objective in the documents referred to in condition A2 for flood events up to the 1 in 100 year event.	Pre-construction	Construction activities for Stage 1 of the project have not been undertaken in known OPP habitat. For Stage 2 of the project, this requirement will be addressed in the detailed design. Consultation is ongoing with DPI (Fisheries) to ensure this requirement is addressed.

Condition 4

In order to minimise impacts on the Giant Barred Frog, the **approval holder** must undertake the action in accordance with the requirements of **NSW approval condition B39**.

Action	Timing	Status	Compliance evidence
<p>B39 All crossings of known Giant Barred Frog habitat or waterways with the confirmed presence of the species shall be designed and constructed with bridges. Should the Applicant construct a crossing structure other than a bridge, the Applicant shall demonstrate maintained connectivity for the Giant Barred Frog upstream and downstream of that crossing for a monitoring period of three consecutive years, or such other period agreed by the Secretary in consultation with the OEH.</p> <p>Demonstration of maintained habitat connectivity shall:</p> <p>(a) Be based on baseline data that confirms the presence, nature and distribution of Giant Barred Frog population using a survey methodology that has been endorsed by the OEH, and detailed in the Mitigation Framework required in condition D1, and an assessment of the connectivity of the crossing site prior to commencement; or, if adequate baseline data is not provided to the satisfaction of the Secretary, be based on the assumption of occurrence of a population on either side of the crossing site; and</p> <p>(b) Be based on evidence that the Giant Barred Frog has remained present upstream and downstream of the crossing site for the monitoring period, with periodic monitoring to occur at least biannually. Should the results of any instance of periodic monitoring record an absence of the Giant Barred Frog, the Applicant shall be required to demonstrate that this change is not as a result of the SSI within one month of the completion of that instance of periodic monitoring, to the satisfaction of the Secretary. Should the Secretary not be satisfied that the change is not a result of the SSI, the SSI will be deemed as the cause of the impact and the Applicant shall offset the loss of the habitat in accordance with this approval.</p>	<p>Detailed Design, Construction Phase and Post-Construction</p>	<p>Open</p>	<p>All bridges in known Giant Barred Frog habitat have been designed and constructed as bridges.</p> <p>During pre-clearing survey works, a Giant Barred Frog was identified at the Boney's Creek culvert in Section 1. Confirmed presence of Giant Barred Frog was only identified during the construction phase and as a result a bridge was not constructed. Monitoring to demonstrate the maintenance of connectivity will be undertaken for three consecutive years as required by the condition.</p>

Condition 5

In order to ensure the long-term viability of the **Ballina Koala population**, the **approval holder** must engage a **suitably qualified expert** to undertake population viability modelling of the **Ballina Koala population** over a time period of no less than 50 years, taking into account the impacts resulting from the road upgrade in **Section 10**. This modelling should consider the current proposed route and any proposed avoidance or mitigation measures as appropriate.

Action	Timing	Status	Compliance evidence
5.1 Engage a suitably qualified expert	Pre-construction	Complete	Niche Environment & Heritage (Dr Rod Kavanagh) has been engaged as the suitably qualified expert to address this requirement.
5.2 Undertake population viability modelling of the Ballina Koala population over a time period of no less than 50 years, taking into account the impacts resulting from the road upgrade in Section 10	Pre-construction	Complete	Dr Kavanagh has completed the Population Viability Analysis (PVA) and Ballina Koala Plan.
5.3 Within the modelling, consider the current proposed route and any proposed avoidance or mitigation measures as appropriate	Pre-construction	Complete	The requirements associated with this condition have been included in the Ballina Koala Plan.

Condition 6

The **approval holder** must have the modelling required by Condition 5 peer reviewed by a second **suitably qualified expert**.

Action	Timing	Status	Compliance evidence
Have the Population Viability Modelling of the Ballina Koala Population, peer reviewed by a second suitably qualified expert.	Prior to construction	Complete	Dr Jonathan Rhodes is the Independent Reviewer and has completed the peer review to address this requirement. The peer review for the PVA has been completed and documented in the peer review endorsement letter provided by Dr Rhodes.

Condition 7

In addition to the Koala Management Plan(s) required by **NSW approval conditions** D8 and D9, to ensure that an unacceptable impact will not occur to the **Ballina Koala population**, the **approval holder** must submit for the **Minister's** approval, a Ballina

Koala Plan no less than 3 months prior to **commencement** of **Section 10**. The **Minister** will only approve the plan and the **commencement** of **Section 10** of the action, if the impacts to the **Ballina Koala population** are demonstrated to be acceptable within the Ballina Koala Plan.

The Ballina Koala Plan must include:

- a. The modelling required by Condition 5 and the results of this modelling and in the peer review required by Condition 6;
- b. Discussion of the future viability of the **Ballina Koala population**;
- c. the context of relevant environmental, social and economic considerations, any additional avoidance, mitigation or offsets, beyond those required by the NSW approval conditions, proposed to minimise the impacts to the Ballina Koala population; and
- d. Evidence that any additional avoidance and mitigation measures proposed have been considered in the modelling required in Condition 5.

Action	Timing	Status	Compliance evidence
Prepare a Ballina Koala Plan which includes: <ol style="list-style-type: none"> a) The modelling required by Condition 5 and the results of this modelling, and the peer review required by Condition 6; b) Discussion of the future viability of the Ballina Koala population; c) In the context of relevant environmental, social and economic considerations, any additional avoidance, mitigation or offsets, beyond those required by the NSW approval conditions, proposed to minimise the impacts to the Ballina Koala population; and d) Evidence that any additional avoidance and mitigation measures proposed have been considered in the modelling required in Condition 5 	Prior to construction	Complete	Niche Environment and Heritage (Dr Rod Kavanagh), has been engaged to complete the plan to address the requirements of this condition. Dr Jonathan Rhodes is the Independent Reviewer and has completed the peer review to address this requirement. The peer review for the PVA has been completed and documented in the peer review endorsement letter provided by Dr Rhodes.
Submit the plan for the Minister's approval, no less than 3 months prior to commencement of Section 10			The Plan was submitted for approval and was approved on 19 July 2016.

Condition 8

The **approval holder** must develop a Koala Management Plan(s) pursuant to the requirements of **NSW approval conditions** D8 and D9 for each relevant stage(s). The Koala Management Plan must minimise impacts to the Koala to the satisfaction of the **Minister** and must be submitted to the **Minister** for approval. The relevant **stage(s)** cannot **commence** until the Koala Management Plan for that **stage** is approved by the **Minister**. The approved plan(s) must be implemented.

Action	Timing	Status	Compliance evidence
<p>D8 Prepare and implement Threatened Species Management Plans to detail how impacts of the SSI will be minimised and managed specifically for each species identified as significantly impacted in the documents listed in condition A2 or in accordance with condition D1. The Plans shall be developed from the draft Threatened Species Management Plans included in the documents listed in condition A2(c) (subject to condition D9), in consultation with OEH, DPI (Fisheries) and DoE, and to the satisfaction of the Secretary, and shall include but not necessarily be limited to:</p> <ul style="list-style-type: none"> a) Demonstration that adequate surveys have been undertaken to assess the impacts of the SSI with reference to the Mitigation Framework developed under condition D1, including baseline data collected from surveys, undertaken by a suitably qualified and experienced ecologist on threatened species and ecological communities within all habitat areas to be cleared of vegetation for the SSI, that are likely to contain these species and that are likely to be adversely impacted by the SSI (as determined by a suitably qualified expert). The data shall address the densities, distribution, habitat use and movement patterns of these species; b) Identification of potential impacts on each species; c) Details of and demonstrated effectiveness of the proposed avoidance and mitigation and management measures to be implemented for each threatened species including measures to at least maintain habitat values of habitat areas compared to baseline data and maintain connectivity for the relevant species; d) An adaptive monitoring program to assess the use of the mitigation measures identified in conditions B10 and D2. The monitoring program shall nominate appropriate and justified monitoring periods, performance parameters and criteria against which effectiveness of the mitigation measures will be measured and include operational road kill and fauna crossing surveys to assess the use of fauna crossings and exclusion fencing implemented as part of the SSI; 	<p>Prior to construction</p>	<p>Open</p>	<p>The Koala Management Plan was approved for Section 1 and Section 2 on 11 May 2015</p> <p>Update 2 was developed to address Sections 1 to 8 and 11 not including the Illuka/Woomba populations and was approved on 29 February 2016.</p> <p>The Koala Management Plan for the remaining sections was submitted for approval on the 20 July 2016.</p>

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- e) Monitoring methodology for threatened flora and fauna adjacent to the SSI footprint,
 - f) Goals and performance indicators to measure the success of mitigation measures, which shall be specific, measurable, achievable, realistic and timely (SMART), and be compared against baseline data;
 - g) Methodology for the ongoing monitoring of road kill, the species densities, distribution, habitat use and movement patterns, and the use of fauna crossings during construction and operation of the SSI, including the proposed timing, and duration of that monitoring;
 - h) Provision for the assessment of monitoring data to identify changes to habitat usage and whether this can be attributed to the SSI;
 - i) Details of contingency measures that would be implemented in the event of changes to habitat usage patterns, entities, distribution, and movement patterns attributable to the construction or operation of the SSI, based on adequate baseline data;
 - j) Mechanisms for the monitoring, review and amendment of these plans;
 - k) Provision for ongoing monitoring during operation of the SSI (for operation/ongoing impacts) until such time as the use and effectiveness of mitigation measures can be demonstrated to have been achieved over a minimum of three successive monitoring periods, unless otherwise agreed by the Secretary in consultation with the OEH, DPI (Fisheries) and DoE; and
 - l) Provision for annual reporting of monitoring results to the Secretary and the OEH, DPI (Fisheries) and DoE, or as otherwise agreed by those agencies.

In developing the Plans, the Applicant shall demonstrate to the satisfaction of the Secretary and DoE, how the public authorities and expert reviewer recommendations provided for each draft plan in the documents listed in condition A2(c) have been addressed, including detailed justification of any variance from the recommendations of the expert reviewer of the management plans, including analysis of potential risk to the threatened species. The Plans must be submitted and approved by the Secretary prior to commencement of construction of the relevant stages of the action, and implemented prior to commencement of construction of the relevant stages, unless otherwise agreed by the Secretary

D9	As part of the Threatened Species Management Plans required under condition D8, the Applicant shall prepare and implement a Koala Management Plan to demonstrate the	Prior to construction	Open	The Koala Management Plan Update 2 has been
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ongoing survival of the Koala populations at Coolgardie/Bagotville, Broadwater and Woombah/Iluka. The Plan shall be prepared by a suitably qualified and experienced species expert and shall include, but not necessarily be limited to:

- a) Results of detailed surveys to determine:
 - (i) the population status of the Coolgardie/Bagotville, Broadwater and Woombah/Iluka Koala populations;
 - (ii) habitat use and movement patterns of Koala populations within five kilometres of the proposed upgrade, or such area as determined by the independent ecologist; and
 - (iii) habitat areas likely to be fragmented by the SSI; including the results of SPOT assessment and radio tracking. The results and adequacy of surveys shall be verified by an independent suitably qualified and experienced ecologist with appropriate qualifications and experience in Koala and road ecology. Where appropriate, the Applicant may vary the required area of survey specified under condition D9(a)(ii) to the satisfaction of the independent ecologist;
- b) A detailed assessment of the impacts to the Koala populations based on the survey results required by condition D9(a), including population impacts and the identification of habitat likely to be fragmented and/or isolated as a result of the SSI;
- c) A detailed description, including the location and design, of all proposed avoidance and mitigation measures;
- d) Justification that the location and design of mitigation measures:
 - (i) have been designed with the objective of no Koala road kill from the commencement of construction of the SSI. In the event that a Koala is injured or killed during construction or operation, this shall be reported on the Applicant's website within 24 hours of this occurring, and the record shall remain available for a period of at least five years, unless otherwise agreed by the Secretary;
 - (ii) include permanent fencing of the entire SSI for the length of the distribution of the Coolgardie/Bagotville, Broadwater and Woombah/Iluka populations and for two kilometres beyond the distribution of the Coolgardie/Bagotville, Broadwater and Woombah/Iluka population, following the highway or to the nearest natural barrier to Koala movement (e.g. river), after baseline

developed to address (Sections 1 to 8 and 11 not including the Illuka/Woombah populations) and was approved on 29 February 2016.

The Koala Management Plan for the remaining sections was submitted for approval on the 20 July 2016.

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- surveys are complete in accordance with condition D9(a) and prior to operation;
- (iii) result in the complete, safe crossing of fauna crossings by the Koala. Fauna crossings shall be provided at a sufficient frequency to ensure that habitat connectivity is maintained or improved from pre-construction conditions, as determined by the independent ecologist and agreed by OEH;
 - (iv) provide sufficient opportunities for species dispersal and re-colonisation as determined by the independent ecologist and OEH;
 - (v) are in areas that, and are at a sufficient frequency to, achieve (i) - (iv), based on site specific information contained in the survey results required by condition D9(a) and the ecological requirements of the Koala, including but not limited to home range size, local movement patterns and habitat use, in accordance with the advice of the independent ecologist and OEH;
 - (vi) all koala underpass structures shall have a minimum height and width of 2.4 metres and a maximum length of 40 metres, or a minimum height and width of 3 metres and a maximum length of 50 metres. The underpass/culvert entrance shall be located at ground level, and no higher in the fill. Structures that provide passage over the road shall have a minimum width of 30 metres and shall be treated with contiguous habitat features;
 - (vii) provide passage for Koalas under or over the existing highway (where the existing highway forms part of the SSI) and service roads or local roads (servicing over 100 vehicles per day);
 - (viii) effectively minimise the risk of predation from dogs in both dedicated and combined crossings;
 - (ix) provide dry passage for dedicated fauna crossings and for combined fauna crossings to the satisfaction of OEH and DoE, at a flood immunity level determined in accordance with condition D2(c)(j);
 - (x) provide habitat linkages to crossing structures from adjacent Koala habitat; and
 - (xi) ensures that pathways to connectivity structures are not impeded by ancillary facilities, rest areas, service roads or local roads;
- e) If the mitigation measures discussed in condition D9(d) cannot be demonstrated to be effective to the satisfaction of the Secretary, in consultation with OEH and DoE, provision for the Plan to be revised to include the design and construction of a
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minimum of one dedicated underpass or land bridge every 500 metres. Underpass structures shall have a minimum height and width of three metres and a maximum length of 50 metres;

- f) Provision for the installation and vegetation planting of fauna overpasses prior to the commencement of construction;
- g) A revegetation strategy to be implemented to increase connectivity adjacent to the SSI and leading to crossing locations, and the provision of vegetation planting on land bridges, to ensure the establishment of the vegetation prior to the commencement of construction;
- h) Details of the proposed monitoring methodology to ensure the effectiveness of the mitigation measures and the ongoing survival of the Coolgardie/Bagotville, Broadwater and Woombah/Illuka Koala populations.

Monitoring shall:

- (i) include goals that demonstrate the mitigation measures are effective, including clear objectives, milestones, performance measures, corrective actions, and thresholds for corrective actions, and timeframes for completion;
 - (ii) occur until such time as the mitigation measures are demonstrated to be effective for three consecutive monitoring periods, or as agreed by the Secretary, to the satisfaction of the independent ecologist and OEH; and
 - (iii) for the purposes of the Coolgardie/Bagotville population, consider the results of the surveys undertaken in the Koala habitat and population assessment: Ballina Shire Council LGA (Biolink Ecological Consultants Pty Ltd, November 2013) in determining the baseline population;
- i) Where the results of monitoring undertaken in accordance with condition D9(h) suggests that the mitigation measures are ineffective or changes to the population have occurred, the Applicant shall provide the Secretary, within one month of recording the changes, the corrective actions that have been implemented and/or proposed to be implemented, or a procedure for demonstrating that this change is not a result of the SSI. Should the Applicant be unable to demonstrate to the satisfaction of the Secretary that any change to the population is not attributable to
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the SSI, the SSI shall be deemed as the cause of the impact and the Applicant shall, within one month of these findings, provide, to the satisfaction of the Secretary, in consultation with the OEH and DoE, the proposed corrective actions to address the impacts of the SSI. Any required corrective actions shall include, but not necessarily be limited to:

- (i) installation of further crossings or modifications to existing crossings and the provision of evidence of the complete, safe crossing of these fauna crossings by the Koala. Any additional crossings shall be provided at a sufficient frequency to ensure that habitat connectivity is maintained or improved from pre-construction conditions, within two years of their installation; and
 - (ii) (ii) reassessment of all revegetation areas and frequent reporting and maintenance including addressing failures;
- j) If the measures in condition D9(i) cannot be demonstrated to be successful within one year of their implementation, procedure for the submission of further offsets in accordance with conditions D5 and D6(j), to be provided within one year of these findings. Further offsets may include:
- (i) The legal protection and conservation management of additional areas of existing habitat that actively regenerated and secured into conservation management; and/or
 - (ii) Strategic revegetation of cleared areas to improve connectivity; and/or
 - (iii) Development of a supplementary feeding program and/or breeding program; and/or
 - (iv) Development of a long term predator control program; and
- k) Evidence of consultation with species experts, OEH and DoE in addressing the requirements of this condition, and demonstration of how comments provided by the species experts, OEH and DoE, as a result of this consultation, have been addressed. The Koala Management Plan shall be submitted and approved by the Secretary prior to the commencement of construction of the relevant stages of the SSI.

The approved Koala Management Plan shall be implemented prior to the commencement of construction of the relevant stages.

Condition 9

The Koala Management Plan, relevant to **Section 10**, must be consistent with the approved Ballina Koala Plan and can only be submitted to the **Minister** for approval after the Ballina Koala Plan has been approved by the **Minister**.

Action	Timing	Status	Compliance evidence
Ensure consistency between the Approved Ballina Koala Plan and the Koala Management Plan, relevant to Section 10.	Prior to construction	Completed	The Koala Management Plan has been reviewed in accordance with the requirements of the condition and is considered consistent with the Ballina Koala Plan.
Submit the Koala Management Plan, relevant to Section 10, to the Minister for approval, after the Ballina Koala Plan has been approved by the Minister	Prior to construction	Submitted for approval	The Ballina Koala Plan has been approved by the Minister on 19 July 2016. The Koala Management Plan was submitted for approval on the 20 July 2016. .

Condition 10

Should further offsets be required in accordance with **NSW approval condition D9(d)** or be proposed as part of the Ballina Koala Plan, these must be in accordance with the **EPBC Offsets Policy**.

Action	Timing	Status	Compliance evidence
D9 (j) If the measures in condition D9(i) cannot be demonstrated to be successful within one year of their implementation, procedure for the submission of further offsets in accordance with conditions D5 and D6(j), to be provided within one year of these findings. Further offsets may include: <ul style="list-style-type: none"> (i) the legal protection and conservation management of additional areas of existing habitat that actively regenerated and secured into conservation management; and/or (ii) strategic revegetation of cleared areas to improve connectivity; and/or (iii) development of a supplementary feeding program and/or breeding program; and/or (iv) development of a long term predator control program 	Post Construction	Not triggered	
Ensure further or proposed offsets as part of the Ballina Koala Plan are in accordance with the EPBC Offsets Policy	Post Construction	Not triggered	Within detailed design phase

Condition 11

The **approval holder** must develop a Threatened Mammal Management Plan(s) pursuant to the requirements of **NSW approval condition D8** for each **stage** impacting on the Spotted-tail Quoll and the Long-nosed Potoroo. The Threatened Mammal Management Plan must minimise impacts on the Spotted-tail Quoll and Long-nosed Potoroo to the satisfaction of the **Minister** and must be submitted to the **Minister** for approval. The relevant **stage(s)** cannot **commence** until the Threatened Mammal Management Plan for that **stage** is approved by the **Minister**. The approved Plan(s) must be implemented.

Action	Timing	Status	Compliance evidence
<p>D8 Prepare and implement Threatened Species Management Plans to detail how impacts of the SSI will be minimised and managed specifically for each species identified as significantly impacted in the documents listed in condition A2 or in accordance with condition D1. The Plans shall be developed from the draft Threatened Species Management Plans included in the documents listed in condition A2(c) (subject to condition D9), in consultation with OEH, DPI (Fisheries) and DoE, and to the satisfaction of the Secretary, and shall include but not necessarily be limited to:</p> <ul style="list-style-type: none"> a) Demonstration that adequate surveys have been undertaken to assess the impacts of the SSI with reference to the Mitigation Framework developed under condition D1, including baseline data collected from surveys, undertaken by a suitably qualified and experienced ecologist on threatened species and ecological communities within all habitat areas to be cleared of vegetation for the SSI, that are likely to contain these species and that are likely to be adversely impacted by the SSI (as determined by a suitably qualified expert). The data shall address the densities, distribution, habitat use and movement patterns of these species; b) Identification of potential impacts on each species; c) Details of and demonstrated effectiveness of the proposed avoidance and mitigation and management measures to be implemented for each threatened species including measures to at least maintain habitat values of habitat areas compared to baseline data and maintain connectivity for the relevant species; d) An adaptive monitoring program to assess the use of the mitigation measures identified in conditions B10 and D2. The monitoring program shall nominate appropriate and justified monitoring periods, performance parameters and criteria against which effectiveness of the mitigation measures will be measured and 	<p>Prior to construction, construction and post construction</p>	<p>Ongoing</p>	<p>The Threatened Mammal Management Plan has been developed, submitted and approved in accordance with the requirements of the condition.</p> <p>The plan was approved by the Minister on 25 October 2016.</p> <p>Implementation of the plan has commenced for Stage 1 and Stage 2 of the project where relevant.</p> <p>The requirements have been incorporated into the detailed design requirements and the approved Construction Environmental Management Plans for Stage 1 and Stage 2 of the</p>

include operational road kill and fauna crossing surveys to assess the use of fauna crossings and exclusion fencing implemented as part of the SSI;

project.

- e) Monitoring methodology for threatened flora and fauna adjacent to the SSI footprint,
- f) Goals and performance indicators to measure the success of mitigation measures, which shall be specific, measurable, achievable, realistic and timely (SMART), and be compared against baseline data;
- g) Methodology for the ongoing monitoring of road kill, the species densities, distribution, habitat use and movement patterns, and the use of fauna crossings during construction and operation of the SSI, including the proposed timing, and duration of that monitoring;
- h) Provision for the assessment of monitoring data to identify changes to habitat usage and whether this can be attributed to the SSI;
- i) Details of contingency measures that would be implemented in the event of changes to habitat usage patterns, entities, distribution, and movement patterns attributable to the construction or operation of the SSI, based on adequate baseline data;
- j) Mechanisms for the monitoring, review and amendment of these plans;
- k) Provision for ongoing monitoring during operation of the SSI (for operation/ongoing impacts) until such time as the use and effectiveness of mitigation measures can be demonstrated to have been achieved over a minimum of three successive monitoring periods, unless otherwise agreed by the Secretary in consultation with the OEH, DPI (Fisheries) and DoE; and
- l) Provision for annual reporting of monitoring results to the Secretary and the OEH, DPI (Fisheries) and DoE, or as otherwise agreed by those agencies.

In developing the Plans, the Applicant shall demonstrate to the satisfaction of the Secretary and DoE, how the public authorities and expert reviewer recommendations provided for each draft plan in the documents listed in condition A2(c) have been addressed, including detailed justification of any variance from the recommendations of the expert reviewer of the management plans, including analysis of potential risk to the threatened species. The Plans must be submitted and approved by the Secretary prior to commencement of construction of the relevant stages of the action, and implemented prior to commencement of construction of the relevant stages, unless otherwise agreed by the Secretary

Condition 12

The **approval holder** must develop a Threatened Flora Management Plan(s) pursuant to the requirements of **NSW approval condition D8** for each **stage** impacting on **EPBC Act** listed flora species. The Threatened Flora Management plan must minimise impacts to **EPBC Act** listed flora species to the satisfaction of the **Minister** and be submitted to the **Minister** for approval. The relevant **stage(s)** cannot **commence** until the Threatened Flora Management Plan for that **stage** is approved by the **Minister**. The approved Plan(s) must be implemented.

Action	Timing	Status	Compliance evidence
Develop, submit and have approved a Threatened Flora Management Plan pursuant to the requirements of NSW approval condition D8 for each stage impacting on EPBC Act listed flora species	Prior to construction	Approved	The plan was approved by the Minister on 4 September 2015. The requirements of the plan have been incorporated into the detailed design and the approved Construction Environmental Management Plans for Stage 1 and Stage 2 of the project.

Condition 13

The **approval holder** must develop a Connectivity Strategy(ies) pursuant to the requirements of the **NSW approval conditions D2** for each **stage** impacting on **Threatened species and ecological communities**. The Connectivity Strategy must minimise impacts to **Threatened species and ecological communities** to the satisfaction of the **Minister** and must be submitted to the **Minister** for approval. **Commencement** of the relevant **stage(s)** cannot occur until the Connectivity Strategy for that **stage** is approved by the **Minister**. The approved strategy(ies) must be implemented.

Action	Timing	Status	Compliance evidence
Prepare a Connectivity Strategy pursuant to the requirements of the NSW approval condition D2 for each stage impacting on Threatened species and Ecological Communities	Prior to commencement of relevant stage, during detailed design stage		The Connectivity Strategy for Woolgoolga to Glenugie (Section 1 and Section 2) has been approved and is being implemented during the construction phase for these sections. The Connectivity Strategy for Glenugie to Ballina (Sections 3 to 11) is currently progressing through detailed design.
Within The Connectivity Strategy, demonstrate how impacts to Threatened species and ecological communities will be minimised			The Connectivity Strategy for Woolgoolga to Glenugie (Section 1 and Section 2) has been approved and is being implemented during the construction phase for

	<p>these sections.</p> <p>Impacts to Threatened species and ecological communities will be addressed in the Connectivity Strategy for the Glenugie to Ballina (Sections 3 – 11) as part of the detailed design and the final Connectivity Strategy.</p>
<p>Submit plan to the Minister for approval</p>	<p>The Connectivity Strategy for Stage 1 which includes the Woolgoolga to Glenugie (Section 1 and Section 2) has been approved by the Minister on 11 May 2015</p>

Condition 14

In order to minimise impacts to **threatened species and communities**, and **migratory species**, the **approval holder** must develop and implement all Frameworks, Strategies, Plans or Programs, in accordance with the requirements of the following **NSW approval conditions**:

- a) The Mitigation Framework required by **NSW approval condition D1**;
- b) The Connectivity Strategy required by **NSW approval condition D2** and the requirements of **NSW approval condition B12**;
- c) The Threatened Species Management Plans required by **NSW approval condition D8** and **D9**;
- d) The Construction Soil and Water Quality Management Plan required by **NSW approval condition D26(c)**;
- e) The Construction Flora and Fauna Management Plan required by **NSW approval condition D26(e)**;
- f) The Borrow Site Management Plan required by **NSW approval condition D22**;
- g) The Water Quality Monitoring Program required by **NSW approval condition D12**; and
- h) The Ancillary Activities Management Plan required by **NSW approval condition D21**.

Action	Timing	Status	Compliance evidence
a) Develop a Mitigation Framework required by NSW approval condition D1 ;	Prior to construction	Closed	The Mitigation Framework was approved on 8/5/15
b) Develop a Connectivity Strategy required by NSW approval condition D2 and the requirements of NSW approval condition B12	Prior to construction	Open	The Connectivity Strategy for Stage 1 has been developed and approved. The Strategy was approved on 11 May 2015

<p>c) Develop Threatened Species Management Plans required by NSW approval condition D8 and D9;</p>	<p>Prior to construction</p>	<p>Closed</p>	<p>Threatened Species Management Plans as required by the NSW approval have been developed and approved by DoE.</p> <p>This includes:</p> <p>Threatened Frog Management Plan approved on 7 May 2015</p> <p>Coastal Emu Management Plan approved on 3 June 2015</p> <p>Threatened Flora Management Plan approved on 5 May 2015</p> <p>Threatened Invertebrate Management Plan approved on 30 July 2015</p> <p>Threatened Bat Management Plan approved on 25 May 2015</p> <p>Threatened Mammal Management Plan approved on 21 October 2015</p> <p>Koala Management Plan (Update 2) approved on 3 February 2016</p> <p>Threatened Glider Management Plan approved on 5 May 2015</p> <p>Threatened Fish Management Plan approved on 30 July 2015</p>
<p>d) Develop Construction Soil and Water Quality Management Plan required by NSW approval condition D26(c);</p>			<p>Construction Soil and Water Management Plans have been developed and approved as part of Stage 1 and Stage 2 of the project. This includes:</p> <p>Section 1 Soil and Water Quality Management Plan</p> <p>Section 2 Soil and Water Quality Management Plan</p> <p>Wave 1 Soil and Water Quality Management Plan</p> <p>Wave 2 Soil and Water Quality Management Plan</p> <p>Sections 3-11 Soil and Water Quality Management Plan</p>

<p>e) Develop Construction Flora and Fauna Management Plan required by NSW approval condition D26(e);</p>	<p>Construction Flora and Fauna Management Plans have been developed and approved as part of Stage 1 and Stage 2 of the project. This includes:</p> <p>Section 1 Flora and Fauna Management Plan</p> <p>Section 2 Flora and Fauna Management Plan</p> <p>Wave 1 Flora and Fauna Management Plan</p> <p>Wave 2 Flora and Fauna Management Plan</p> <p>Sections 3-11 Flora and Fauna Management Plan</p>
<p>f) Develop a Borrow Site Management Plan required by NSW approval condition D22;</p>	<p>This requirement has not been triggered for DoE approval.</p>
<p>g) Develop a Water Quality Monitoring Program required by NSW approval condition D12; and</p>	<p>A Water Quality Monitoring Program was developed and approved for the Woolgoolga to Glenugie (Section 1 and Section 2) was developed and approved.</p> <p>A Water Quality Monitoring Program has been developed and approved for Glenugie to Ballina (Sections 3 to 11).</p>
<p>h) Develop an Ancillary Facilities Management Plan required by NSW approval condition D21.</p>	<p>Ancillary Facilities Management Plans have been developed and approved as part of Stage 1 and Stage 2 of the project. This includes:</p> <p>Section 1 Ancillary Facilities Management Plan</p> <p>Section 2 Ancillary Facilities Management Plan</p> <p>Wave 1 Ancillary Facilities Management Plan</p> <p>Wave 2 Ancillary Facilities Management Plan</p> <p>Sections 3-11 Ancillary Facilities Management Plan</p>

Condition 15

Offsetting of residual impacts

The **approval holder** must prepare and implement a Biodiversity Offset Strategy and Biodiversity Offset Package that compensates for any residual significant impacts on **threatened species and communities**. The Biodiversity Offset Strategy and Biodiversity offset package must meet the requirements of the **EPBC Offsets Policy** and must be submitted to the **Minister** for approval.

Action	Timing	Status	Compliance evidence
Prepare a Biodiversity Offset Strategy that meets the requirements of the EPBC Offsets Policy and compensates for any residual significant impacts on threatened species and communities	Prior to construction	Closed	Biodiversity Offset Strategy approved by DPE 6 January 2016 and DoE 7 January 2016.
Prepare a Biodiversity Offset Package that meets the requirements of the EPBC Offsets Policy and compensates for any residual significant impacts on threatened species and communities	Within 24 months of approval of the Biodiversity Offset Strategy	In progress	A Biodiversity Offset Package will be prepared (Program currently being prepared).

Condition 16

The Biodiversity Offset Strategy and Biodiversity Offset Package must be prepared in accordance with the requirements **NSW approval conditions** D3, D4 and D5.

Action	Timing	Status	Compliance evidence
<p>D3 The Applicant shall prepare and implement a Biodiversity Offset Strategy to outline how the ecological values lost as a result of the SSI will be offset in perpetuity. The Strategy shall be developed from the draft Biodiversity Offset Strategy in the documents listed in condition A2, in consultation with the OEH, DPI (Fisheries) and DoE, to the satisfaction of the Secretary. Unless otherwise agreed to by the OEH, DPI (Fisheries) and DoE, offsets shall be provided on a like-for-like basis and at a minimum ratio of 4:1 for native vegetation (including salt marsh) impacted by the SSI or as required by the Environment Protection and Biodiversity Conservation Act 1999 Environmental Offsets Policy (Commonwealth of Australia 2012) and Offsets Assessment Guide (Commonwealth of Australia 2012), whichever is the greater. The Strategy shall include, but not necessarily be limited to:</p> <ul style="list-style-type: none"> a) the objectives and outcomes that would be sought through a biodiversity offset package, including to achieve a neutral or net beneficial outcome for all threatened species and endangered ecological communities likely to be impacted directly or indirectly during both the construction and operation of the SSI; b) confirmation of the vegetation type/habitat (in hectares) to be cleared and their condition, and the size of offsets required (in hectares); c) details of the available offset measures that have been selected to compensate for the loss of existing native vegetation (including mangroves, salt marsh and riparian vegetation), threatened and vulnerable species and Endangered Ecological Communities and their habitats, and identification of potential offset sites; 	<p>Prior to Construction.</p>	<p>Complete</p>	<p>The requirements have been addressed within the strategy. The strategy has been approved by the NSW Department of Planning and the Commonwealth Department of Environment.</p>

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- d) consideration of contingency measures for offsets to address potential changes to impacted areas as a result of detailed design changes;
 - e) a process for addressing and incorporating offset measures arising from changes in biodiversity impacts (where these changes are generally consistent with the biodiversity impacts identified for the SSI in documents listed under condition A2), including:
 - (i) changes to the SSI footprint due to detailed design;
 - (ii) changes to predicted impacts as a result of changes to mitigation measures;
 - (iii) the identification of additional species/habitat through pre-clearance surveys and construction; and
 - (iv) additional impact associated with the establishment of ancillary facilities;
 - f) the decision-making framework that would be used to select the final suite of offset measures to achieve the objectives and outcomes established within the Strategy, including the ranking of offset measures; and
 - g) options for securing and management of biodiversity offsets in perpetuity.

The Applicant may elect to satisfy the requirements of this condition by identifying a suitable offset strategy which addresses impacts from multiple Pacific Highway Upgrade projects within the North Coast bioregion. Any such strategy, including an agreement made with OEH and DoE, shall be approved by the Secretary within a timeframe agreed to by the Secretary. The Biodiversity Offset Strategy shall be submitted to, and approved by, the Secretary prior to the commencement of construction work that would result in the disturbance of the relevant existing ecological communities, threatened species, or their habitat, unless otherwise agreed by the Secretary

D4	Prior to the commencement of construction work that would result in the disturbance of the relevant existing ecological communities, threatened species, or their habitat, unless otherwise agreed by the Secretary, the Applicant shall submit for the approval of the Secretary, the offset sites for the species listed under condition D4(a). The selection of the offset sites should be undertaken in consultation with the OEH, DPI (Fisheries) and DoE. Submission of the offset sites for approval shall be accompanied by:	Prior to construction	Complete	Threatened Biodiversity Offset Status Report Update 2 approved by DPE 6 January 2016 and DoE 7 January 2016. This covered the Woombah/Iluka Koala
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<p>a) details of offset sites to compensate the impacts on:</p> <ul style="list-style-type: none"> (i) Koala populations in Coolgardie/Bagotville, Broadwater and Woombah/Iluka; (ii) Moonee Quassia (<i>Quassia</i> sp. Moonee Creek); (iii) Sandstone Rough-Barked Apple (<i>Angophora robur</i>); (iv) Singleton Mint Bush (<i>Prostanthera cineolifera</i>); and (v) Lowland Rainforest in Sub-tropical Australia; <p>b) a map that defines the locations and boundaries of the sites;</p> <p>c) demonstration, through ground truthing survey or an alternative method(s), the adequacy of the site(s), in terms of habitat suitability and presence of the relevant species, to offset the impacts of the SSI;</p> <p>d) consideration of how the offsets achieve the outcomes required by the Environment Protection and Biodiversity Conservation Act 1999 Environmental Offsets Policy to the satisfaction of DoE; and</p> <p>e) details of how the offset sites would be secured and managed in perpetuity.</p>	<p>population, Moonee Quassia, Sandstone Rough-Barked Apple and Singleton Mint Bush.</p> <p>Update 3 was approved by DPE 30 June 2016 and DoE 18 July 2016, covering the remaining priority species/communities, Broadwater and Coolgardie/Bagotville koala populations and Lowland Rainforest.</p>		
<p>D5 The Applicant shall prepare and implement (following approval) a Biodiversity Offset Package, within twenty-four months of approval of the Biodiversity Offset Strategy, or as otherwise agreed by the Secretary. The package shall detail how the ecological values lost as a result of the SSI will be offset. The Biodiversity Offset Package shall be prepared in consultation with the OEH, DPI (Fisheries) and DoE, for the approval of the Secretary, and shall (unless otherwise agreed by the Secretary) include, but not necessarily be limited to:</p> <ul style="list-style-type: none"> a) the identification of the extent and types of habitat that would be lost or degraded as a result of the final design of the SSI; b) the objectives and biodiversity outcomes to be achieved; c) details of the final suite of the biodiversity offset measures selected and secured in accordance with the Biodiversity Offset Strategy including the identification of all offset sites, including, offset attributes, shapefiles, textual descriptions and 	<p>Within 24 months of approval of the Biodiversity Offset Strategy</p>	<p>Open</p>	<p>The Biodiversity Offset Package is currently being prepared in line with the required timeframe.</p>

maps that clearly define the location, boundaries of the offset areas;

- d) an assessment demonstrating how the offset area(s) achieve the outcomes required by the Environment Protection and Biodiversity Conservation Act 1999 Environmental Offsets Policy and user guide to the written satisfaction of DoE;
 - e) the management and monitoring requirements for compensatory habitat works and other biodiversity offset measures proposed to ensure the outcomes of the package are achieved, including:
 - (i) the monitoring of the condition of species and ecological communities at offset locations;
 - (ii) the methodology for the monitoring program(s), including the number and location of offset monitoring sites, and the sampling frequency at these sites;
 - (iii) provisions for the annual reporting of the monitoring results for a set period of time as determined in consultation with the OEH, DPI (Fisheries) and DoE; and
 - (iv) the monitoring and reporting on the effectiveness of these measures, and progress against the performance and completion criteria;
 - f) the results of targeted field surveys within the offset sites (undertaken at any ecologically appropriate time of the year) to assess and describe habitat suitability, presence/absence of threatened species and ecological communities and an assessment of the baseline population;
 - g) a description of the current quality (prior to any management activities) of the offset area(s);
 - h) targeted management actions, regeneration and/or revegetation strategies to be undertaken on the offset area(s) to improve the ecological quality of these areas for the relevant species and communities;
 - i) clear performance objectives for management actions that will enable maintenance and enhancement of habitat within the offset area, as well as contribute to the better protection of individuals and/or populations of the relevant
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species;

- j) performance and completion criteria for evaluating the management of the offset area, including contingency actions, criteria for triggering contingency actions and a commitment to the implementation of these actions in the event that performance objectives are not met; a program to monitor and report on the effectiveness of these measures, and progress against the performance and completion criteria;
- k) timing and responsibilities for the implementation of the provisions of the Biodiversity Offset Package and achieving performance objectives;
- l) details of who would be responsible for monitoring, reviewing, and implementing the Biodiversity Offset Package; and
- m) a description of funding arrangements or agreements including work programs and responsible entities.

Land offsets shall be consistent with the Principles for the use of Biodiversity Offsets in NSW. Any land offset shall be enduring and be secured by a conservation mechanism which protects and manages the land in perpetuity. Where land offsets cannot solely achieve compensation for the loss of habitat, additional measures shall be provided to collectively deliver an improved or maintained biodiversity outcome for the region. The Biodiversity Offset Package shall include details of the offset sites approved under condition D4, and timeframe for the delivery of the offset sites. Where monitoring required under conditions D8 and/or D9 indicates that biodiversity outcomes are not being achieved, remedial actions, as approved by the Secretary, shall be undertaken to ensure that the objectives of the Biodiversity Offset Package are achieved. The requirements of the Biodiversity Offset Package shall be implemented by the responsible parties according to the timeframes set out in the Biodiversity Offset Package, unless otherwise agreed by the Secretary. Note: If an offset site proposed as a part of the Biodiversity Offset Strategy or Biodiversity Offset Package is already required to be protected as a result of a separate approval, only the management actions which can be demonstrated to be additional to those required for the separate approval, can be considered as an offset for this project in accordance with the EPBC Act Environmental Offsets Policy 2012 (or subsequent published revisions).

Condition 17

Commencement cannot occur until the Biodiversity Offset Strategy required by Condition 15 is approved by the **Minister**. **Commencement** of the relevant **stage(s)** cannot occur until the information required by **NSW approval condition D4** is approved by the **Minister**.

Action	Timing	Status	Compliance evidence
<p>D4 Prior to the commencement of construction work that would result in the disturbance of the relevant existing ecological communities, threatened species, or their habitat, unless otherwise agreed by the Secretary, the Applicant shall submit for the approval of the Secretary, the offset sites for the species listed under condition D4(a). The selection of the offset sites should be undertaken in consultation with the OEH, DPI (Fisheries) and DoE. Submission of the offset sites for approval shall be accompanied by:</p> <ul style="list-style-type: none"> a) details of offset sites to compensate the impacts on: <ul style="list-style-type: none"> (i) Koala populations in Coolgardie/Bagotville, Broadwater and Woombah/Iluka; (ii) Moonee Quassia (<i>Quassia</i> sp. Moonee Creek); (iii) Sandstone Rough-Barked Apple (<i>Angophora robur</i>); (iv) Singleton Mint Bush (<i>Prostanthera cineolifera</i>); and (v) Lowland Rainforest in Sub-tropical Australia; b) a map that defines the locations and boundaries of the sites; c) demonstration, through ground truthing survey or an alternative method(s), the adequacy of the site(s), in terms of habitat suitability and presence of the relevant species, to offset the impacts of the SSI; d) consideration of how the offsets achieve the outcomes required by the Environment Protection and Biodiversity Conservation Act 1999 Environmental Offsets Policy to the satisfaction of DoE; and e) details of how the offset sites would be secured and managed in perpetuity 	<p>Prior to construction</p>	<p>Complete</p>	<p>Biodiversity Offset Strategy and Threatened Biodiversity Offset Status Report, Update 2 approved by DPE 6 January 2016 and DoE 7 January 2016. Threatened Biodiversity Offset Status Report, Update 3 covering the remaining three priority species/communities approved by DPE 30 June 2016 and DoE 18 July 2016.</p>

Condition 18

The Biodiversity Offset Package required by Condition 15 must be approved by the **Minister** and the approved Biodiversity Offset Package must be implemented within 24 months of the approval of the Biodiversity Offset Strategy.

Action	Timing	Status	Compliance evidence
Submit the Biodiversity Offset Package as per Condition 15, to the Minister for approval	By 7 January 2018	In progress	The Biodiversity Offset Package is currently being developed
Implement the approved Biodiversity Offset Package within 24 months of the approval of the Biodiversity Offset Strategy	By 7 January 2018	In progress	The Biodiversity Offset Package is currently being developed

Condition 19

Reporting and auditing

Any survey data collected for the project must be collected and recorded so as to confirm to a reasonable standard such that it can be readily used by a third party or to data standards notified from time to time by the **Department**. When requested by the **Department**, the proponent must provide to the **Department** all species and ecological survey data and related survey information from ecological surveys undertaken for matters of national environmental significance. This survey data must be provided within 30 business days of request, or in a timeframe agreed by the **Department** in writing. The **Department** may use the survey data for other purposes.

Action	Timing	Status	Compliance evidence
Maintain survey data and related survey information to a reasonable standard such that it can be readily used by a third party or to data standards notified from time to time by the Department	Ongoing	In progress	Survey data and associated information is maintained within the Proponent's document management system and compliance tracking program.

Condition 20

Within 14 days after the **commencement** of the action, the **approval holder** must advise the **Department** in writing of the actual date of **commencement**.

Action	Timing	Status	Compliance evidence
Advise Department in writing of actual date of commencement	14 days after the commencement		The proponent notified the Department of the commencement of the

of the action

project as follows:

Stage 1 date 5 June 2015

Stage 2 date 8 April 2016

Condition 21

Within three months of every 12 month anniversary of the **commencement** of the action, the **approval holder** must publish a report on their website addressing compliance with each of the conditions of this approval, including implementation of any Frameworks, Strategies, Plans, or Package as specified in the conditions. Documentary evidence providing proof of the date of publication and non-compliance with any of the conditions of this approval must be provided to the **Department** at the same time as the compliance report is published. The **approval holder** must continue to publish the report until such time as agreed in writing by the **Minister**.

Action	Timing	Status	Compliance evidence
Publish a report on Roads and Maritime Service website addressing compliance with each of the conditions of the approval, including any implementations	Within three months of every 12 month anniversary of the commencement of the action	Ongoing	The first annual compliance report was published on the W2B project web site on the 19/08/2016
Provide to the Department documentary evidence, providing proof of the date of publication and non-compliance of any of the conditions of this approval	Each time compliance report is published	Ongoing	Web site address provided to the Department on 19/08/2016

Condition 22

Upon the direction of the **Minister**, the **approval holder** 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**.

Action	Timing	Status	Compliance evidence
Conduct independent audit of compliance with the conditions of approval	Upon direction of the Minister	TBA	Not required to date
Have independent auditor approved by the Minister	Prior to commencement of audit	TBA	Not required to date
Submit audit criteria to the	Prior to commencement	TBA	Not required to date

satisfaction of the Minister	of audit		
Submit independent audit of compliance to the Minister	Upon direction of the Minister	TBA	Not required to date

Condition 23

Revisions

If the **approval holder** wishes to carry out any activity otherwise than in accordance with Frameworks, Strategies, Plans, Report or Package required by Conditions 7, 8, 10, 11, 12, 14, 15, 16 and 17, the **approval holder** must submit to the **Department** for the **Minister's** written approval a revised version of those Frameworks, Strategies, Plans, Report or Package. The varied activity shall not **commence** until the **Minister** has approved the revised plan or agreement in writing. The **Minister** will not approve a revised plan or agreement, unless the revised plan or agreement would result in an equivalent or improved environmental outcome. If the **Minister** approves the revised plan or agreement, that plan or agreement must be implemented in place of the plan or agreement originally approved.

Action	Timing	Status	Compliance evidence
If required, develop a revised version of a Framework, Strategy, Plan, Report or Package which results in an equivalent or improved environmental outcome	Construction phase	Ongoing	Koala Management Plan
Submit revised version of a Framework, Strategy, Plan, Report or Package to the Minister for approval	Prior to commencement of the varied activity	Ongoing	Ballina Koala Plan Koala Management Plan

Condition 24

If the **Minister** believes that it is necessary or convenient for the better protection of listed threatened species or communities to do so, the **Minister** may request that the **approval holder** submit for the **Minister** approval, or make revisions to any Frameworks, Strategies, Plans, Package, or Program specified in the conditions and submit the revised Frameworks, Strategies, Plans, Package, or Program for the **Minister's** written approval. The **approval holder** must comply with any such request. The approved or revised approved Frameworks, Strategies, Plans, Package, or Program must be implemented. Unless the **Minister** has approved the revised management plans, then the **approval holder** must continue to implement the management plans originally approved, as specified in the conditions.

Action	Timing	Status	Compliance evidence
On request from the Minister, revise the Framework, Strategy, Plan, Package or Program specified in the conditions and submit for approval	Construction and post construction	Not triggered to date	Not required to date

Implement the revised and approved Framework, Strategy, Plan, Package or Program	Construction and post construction	Not triggered to date	Not required to date
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Condition 25

If, at any time after 5 years from the date of this approval, the **approval holder** has not substantially **commenced** the action, then the **approval holder** must not substantially **commence** the action without the written agreement of the **Minister**.

Action	Timing	Status	Compliance evidence
Request written agreement from the Minister to commence the action	After 5 years from the date of approval from Minister	Complete	The action has been substantially commenced

Condition 26

Publication of Plans

The **approval holder** must maintain accurate records substantiating all activities associated with or relevant to the conditions of approval, including measures taken to implement the Frameworks, Strategies, Plans, or Package required by this approval, and then 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.

Action	Timing	Status	Compliance evidence
Maintain accurate records substantiating all activities associated with or relevant to the conditions of approval, including measures taken to implement the Frameworks, Strategies, Plans, or Package required by this approval, and then make them available upon request to the Department	Ongoing	Ongoing	Evidence of compliance with activities associated with the approval is maintained in the Proponent's document management system and compliance tracking program.

Condition 27

Unless otherwise agreed to in writing by the **Minister**, the **approval holder** must publish all Frameworks, Strategies, Plans, or Package 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.

Action	Timing	Status	Compliance evidence
Publish all Frameworks, Strategies, Plans, or Package referred to in the conditions on the Roads and Maritime Service website	Within one month of being approved	Completed	All Frameworks, Strategies and Plans have been published to the Roads and Maritime project website

Attachment 1

Ballina Koala Plan Peer Endorsement

Bob Higgins
General Manager, Pacific Highway
21 Prince Street
GRAFTON, NSW 2460

20th January 2015

Dear Bob,

I have now reviewed the Ballina Koala Plan that details the outcomes of the koala population viability analysis (PVA) of the proposed Pacific Highway upgrade near Wardell, NSW and I am happy to endorse the contents of that report. Within the constraints of limited data and the time frames within which the report had to be produced, I believe that this report is scientifically sound. The report details estimates of the potential impact of the road upgrade on the koala population in the region and identifies the extent to which habitat restoration may offset these impacts. It then considers other potential management strategies, which could further compensate for the impact of the road upgrade, by reducing mortality on other roads, or by increasing fecundity through measures such as disease management. It also assesses the robustness of the estimates of the impact of the road.

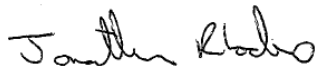
As with all models, the models underlying PVA are only as good as the data used to develop them and the appropriateness of the assumptions made in the model structures. PVA generally requires large amounts of data over many years to reliably parameterise the models that underpin PVA. In particular, reliable estimates of demographic rates and their variability through time are very hard to obtain without large sample sizes and many years of data. However, extensive data of this kind are rarely available (as is the case with this study) and therefore the reliability of absolute estimates of risks of extinction are generally highly unreliable. However, even when absolute estimates of extinction risk are unreliable, it has been demonstrated that *relative* measures of extinction risk or population size predictions will tend to be much more robust. Consequently, using PVA to compare the likely relative outcome of alternative management scenarios is a much more reliable use of PVA than using it to meet targets based on absolute measures of extinction risk. Consequently, this report focuses on comparing predicted outcomes among alternative scenarios (e.g., the impact of the road upgrade is estimated based on the difference between scenarios with the road upgrade and scenarios without the road upgrade) rather than on absolute predictions of extinction risk or population size.

Given considerable uncertainties about the input parameters for the model underpinning the PVA and the appropriate structure of that model, estimates of the impact of the road upgrade are uncertain. These uncertainties translate into a range of plausible outcomes being presented for the impact of the road upgrade, rather than a single value. Based on

a consideration of a range of values for parameter inputs, the impact of the road upgrade is estimated to have a plausible range between having no effect to having a small affect equal to around a 10% decline in population size relative to the no road case (assuming that fencing will completely prevent mortalities on the road). This impact will be partially offset by proposed habitat restoration activities (with the predicted effect varying with assumptions). In addition, the PVA shows that other mitigation activities, such as fencing on other roads to reduce mortality, or measures to increase fecundity, could compensate for the impact of the road upgrade.

Nonetheless, considerable uncertainties inevitably still exist and I recommend that a robust long-term monitoring strategy be put in place to evaluate the actual impact of the road upgrade and to inform future modelling efforts. What this monitoring strategy should look like will depend ultimately on the monitoring objectives, but the baseline studies that were used to inform the PVA surveys (e.g., Ecosure 2015) could provide an appropriate baseline for future monitoring. The outcomes of this monitoring should then explicitly inform decisions on whether to implement further mitigation activities in the future if necessary.

Yours sincerely,

A handwritten signature in black ink, appearing to read "Jonathan Rhodes". The signature is written in a cursive, slightly slanted style.

Associate Professor Jonathan Rhodes



rms.nsw.gov.au/projects/northern-nsw/woolgoolga-to-ballina/project-documents.html



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Customer feedback
Roads and Maritime
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August 2016