

# **CONSTRUCTION ENVIRONMENTAL MANAGEMENT PLAN**

Woolgoolga to Ballina

Pacific Highway Upgrade (sections 3 to  
11)

MAY 2017



# Document approval

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This CEMP and the following plans and their associated subplans and procedures are approved for publication by the undersigned:

- Appendix B1 Construction traffic and access management plan
- Appendix B2 Construction flora and fauna management plan
- Appendix B3 Construction noise and vibration management plan
- Appendix B4 Construction soil and water quality management plan
- Appendix B5 Construction heritage management plan
- Appendix B6 Construction air quality management plan
- Appendix B7 Construction waste, resource and energy management plan
- Appendix B8 Construction contaminated land management plan
- Appendix B9 Ancillary facilities management plan
- Appendix B10 Borrow sites management plan



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28/9/17

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5	29/4/2016	Management Plan Review	Chris Greenaway

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6	Roads and Maritime Environmental Services Manager, Pacific Highway	

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<i>Appendix B10</i>	<i>Borrow sites management plan</i>





## Glossary/Abbreviations

ASS	Acid sulfate soils
BBA	Ballina Bypass Alliance
CCEMP	Contractor's construction environmental management plan
CEMP	Construction environmental management plan
Compliance audit	Verification of how implementation is proceeding with respect to a construction environmental management plan (CEMP) (which incorporates the relevant approval conditions).
CoA	Conditions of Approval
DIPNR	Department of Infrastructure, Planning and Natural Resources
DoE	Commonwealth Department of the Environment
DP	Delivery Partner – consisting of Pacific Complete the team appointed by Roads and Maritime to assist with delivery of the project
DP&E	Department of Planning and Environment
DPI	NSW Department of Primary Industries
Ecological sustainable development	Using, conserving and enhancing the community's resources so that the ecological processes on which life depends are maintained and the total quality of life now and in the future, can be increased (Council of Australian Governments, 1992).
EEC	Endangered Ecological Communities.
EIS	Environmental Impact Statement
EMS	Environmental Management System
Environmental aspect	Defined by AS/NZS ISO 14001:2016 as an element of an organisation's activities, products or services that can interact with the environment.
Environmental impact	Defined by AS/NZS ISO 14001: 2016 as any change to the environment, whether adverse or beneficial, wholly or partially resulting from an organisation's environmental aspects.
Environmental incident	An unexpected event that has, or has the potential to, cause harm to the environment and requires some action to minimise the impact or restore the environment.
Environmental objective	Defined by AS/NZS ISO 14001: 2016 as an overall environmental goal, consistent with the environmental policy, that an organisation sets itself to achieve.
Environmental policy	Statement by an organisation of its intention and principles for environmental performance.
EP&A Act	<i>Environmental Planning and Assessment Act 1979</i>
EPA	Environment Protection Authority
EPBC Act	<i>Environment Protection and Biodiversity Conservation Act 1999</i>
EPBC-CoA	Federal Conditions of Approval under the EPBC Act.

EPL	Environment Protection Licence under the <i>Protection of the Environment Operations Act 1997</i> .
Environmental Representative	A suitably qualified and experienced person independent of project design and construction personnel employed for the duration of construction. The principal point of advice in relation to all questions and complaints concerning environmental performance. Equates to Environmental Management Representative under Ballina Bypass project Ministerial conditions of approval.
ERG	Environmental Review Group – comprising representatives of Roads and Maritime, Pacific Complete, Environmental Representative, , regulatory authorities (EPA, DPI – Fisheries Conservation and Aquaculture, NOW) and local councils. The ERG will be maintained for the duration of the project and will meet regularly and undertake environmental inspections. The role of the ERG is to provide proactive advice on environmental management issues and review the environmental performance of the project.
EWMS	Environmental Work Method Statement
MCoA	NSW Minister for Planning Conditions of Approval
Minister, the	Minister for Planning
Non-compliance	Failure to comply with the requirements of the Project Approval or any applicable license, permit or legal requirements.
Non-conformance	Failure to conform to the requirements of project system documentation including this CEMP or supporting documentation.
NOW	NSW Office of Water
OEH	NSW Office of Environment and Heritage
PC	Pacific Complete – entity composed of Laing O’Rourke and Parsons Brinckerhoff appointed by Roads and Maritime as Delivery Partner for the project
PoEO Act	<i>Protection of the Environment Operations Act 1997</i>
project, the	The Woolgoolga to Ballina Pacific Highway Upgrade Project – sections 3 to 11 for the purposes of this CEMP
Project Approval	The CoAs and approval of the project by the Secretary of the DP&E
RMS, Road and Maritime Services	Roads and Maritime
Secretary	Secretary of the Department of Planning and Environment
SPiR	Submissions Preferred Infrastructure Report
SSI	State significant infrastructure

# 1 Introduction

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## 1.1 Background

On behalf of the Australian and NSW governments, NSW Roads and Maritime Services are progressively upgrading the Pacific Highway to dual carriageway between the Hunter and NSW/Queensland border.

The Woolgoolga to Ballina Project was declared critical State significant infrastructure under section 115V of the *Environmental Planning and Assessment Act 1979* (EP&A Act) and was assessed under Part 5.1 of the EP&A Act.

An environmental impact statement (EIS) was prepared to support the project application (Roads and Maritime, December 2012). The application was made under Part 5.1 of the *Environmental Planning and Assessment Act 1979* (EP&A Act). Before approving the application, the project EIS was publically displayed for 60 days between December 2012 and February 2013, inclusively. The exhibition generated 145 submissions, which were responded to in a joint Response to Submissions Report and Preferred Infrastructure Report (SPIR) issued in November 2013. The project was approved by the NSW Government on 24 June 2014.

The project has also been subject to approval under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act). The Woolgoolga to Ballina Project was declared by the Commonwealth Minister for Sustainability, Environment, Water, Populations and Communities to be a controlled action under this Act on 20 June 2012. Approval was granted on 14 August 2014.

The Ballina Bypass Alliance (BBA) portion of the Pacific Highway Upgrade is also subject to existing approval conditions by the NSW Minister for Planning, and was assessed under the Ballina Bypass Environmental Impact Statement (RMS, 1998). Modifications were identified in the Pimlico to Teven Environmental Impact Statement (RMS, 2012). Ministerial approval for the Ballina Bypass Alliance project is referred to in this document as Ballina Bypass Alliance Minister's Conditions of Approval – BBA MCoA.

The BBA project includes three stages. Stage 1 was completed and the final section opened to traffic on 28 April 2012. Roads and Maritime recently completed the second stage of Ballina Bypass, known as the Pimlico Road to Teven Road Upgrade Stage 2. This stage was completed in May 2016.

The third and final stage of the Ballina Bypass Stage 2 project, known as the Pimlico to Teven Stage 3 (P2T3) project, will be constructed as part of the Woolgoolga to Ballina Project. The P2T3 works are located within Section 11 of the Woolgoolga to Ballina upgrade. The P2T3 works were approved as part of the Stage 2 project in 2012. No additional clearing works are required for the P2T3 works, however these works include:

- Construction of a section of southbound carriageway on the Pacific Highway from chainage 123,063 to chainage 124,940
- Demolition of the existing bridges over Duck Creek and Emigrant Creek (both of which are on the old Pacific Highway alignment)
- Construction of new bridges over the same creek crossings for the new southbound alignment
- Excavation of sections of the existing Pacific Highway formation
- Ground treatment, earthworks and pavement construction for the new southbound Pacific Highway

- Realigning Pimlico Road intersection to create a new permanent junction with the Pacific Highway.

The project will be delivered by Pacific Complete, appointed as the Delivery Partner (DP). Pacific Complete (PC) comprises Laing O'Rourke Australia Construction Pty Ltd and Parsons Brinckerhoff Australia Pty Limited working in close collaboration with Roads and Maritime Services (Roads and Maritime).

## 1.2 Purpose of this CEMP

This Construction Environmental Management Plan (CEMP) and its associated management plans have been prepared to comply with the NSW Minister for Planning's conditions of approval (MCoA) and the Federal Minister for the Environment's conditions of approval under the *Environment Protection and Biodiversity Conservation (EPBC) Act (EPBC-CoA)*. This CEMP also includes measures to ensure compliance with the BBA MCoAs for the final stage of Pimlico Road to Teven Road. The above conditions cover the activities as described in Chapter 2.

This document forms the construction environmental management plan (CEMP) for the planned construction of sections 3 to 11 of the Woolgoolga to Ballina Pacific Highway Upgrade. Environmental control measures either apply to the entire length of the project between sections 3 to 11 or to specific locations within the project. Separate CEMPs for Sections 1 and 2 of the upgrade project have been developed to cover the works or activities within these sections. The CEMPs for Sections 1 and 2, Soft Soils early works have been approved separately by the Department of Planning and Environment.

The CEMP has been prepared in accordance with Roads and Maritime quality assurance (QA) specification *G36: Environmental Protection (Management System)* (Roads and Maritime, 2014) and the *Guideline for the Preparation of Environmental Management Plans* (DIPNR, 2004). It is also consistent with the Australian and New Zealand environmental management international standard (AS/NZS ISO 14001) (Standards Australia, 2016).

The purpose of this CEMP is to provide a structured approach to the management of environmental issues during construction of the project. The CEMP outlines the requirements, controls and management procedures that direct Pacific Complete staff and provides an overall approach to the project. It also provides requirements for and directs contractors and suppliers for the project regarding specific measures that they need to adopt for their own work for the project. Implementing this CEMP effectively will ensure that Pacific Complete and any contractors/suppliers to the project meet regulatory and policy requirements in a systematic manner and continually improves environmental performance.

The CEMP is to ensure that the requirements of Roads and Maritime and the Minister's conditions of approval are met (see Appendix A1 and Compliance Tracking Program).

This CEMP has been developed to:

- Outline the strategy and approach to be applied to the project by Pacific Complete to ensure that contractors and suppliers comply with environmental obligations under the contract
- Meet the commitments of the Conditions of Approval (Federal and State), the EIS and the SPIR
- Meet the requirements of ISO 14001 including the need for continual improvement
- Provide Pacific Complete personnel and contractors with systems, procedures and documentation necessary to complete the project in accordance with environmental requirements.

Sections 1 and 2 of the Woolgoolga to Ballina Pacific Highway Upgrade as well as soft soils works have been covered in separate CEMPs which have been submitted separately for approval as detailed in the project Staging Report prepared in accordance with MCoA A7.

The CEMP ensures that Pacific Complete procures and manages the works and that the contractors will undertake their work in accordance with the EIS, the Submissions/Preferred Infrastructure Report (SPIR), the Minister's Conditions of Approval, legal and other regulatory requirements. In particular, this CEMP:

- Describes the project in detail including activities to be undertaken and relative timing
- Provides specific mitigation and management measures and controls that can be applied onsite to avoid or minimise adverse environmental impacts and how these will be managed
- Provides specific mechanisms to comply with applicable policies, approvals, licences, permits, consultation agreements and legislation,
- Describes environmental management roles and responsibilities
- Sets key environmental performance objectives and targets
- Describes how the management and mitigation controls will be monitored to ensure they are being adequately implemented.

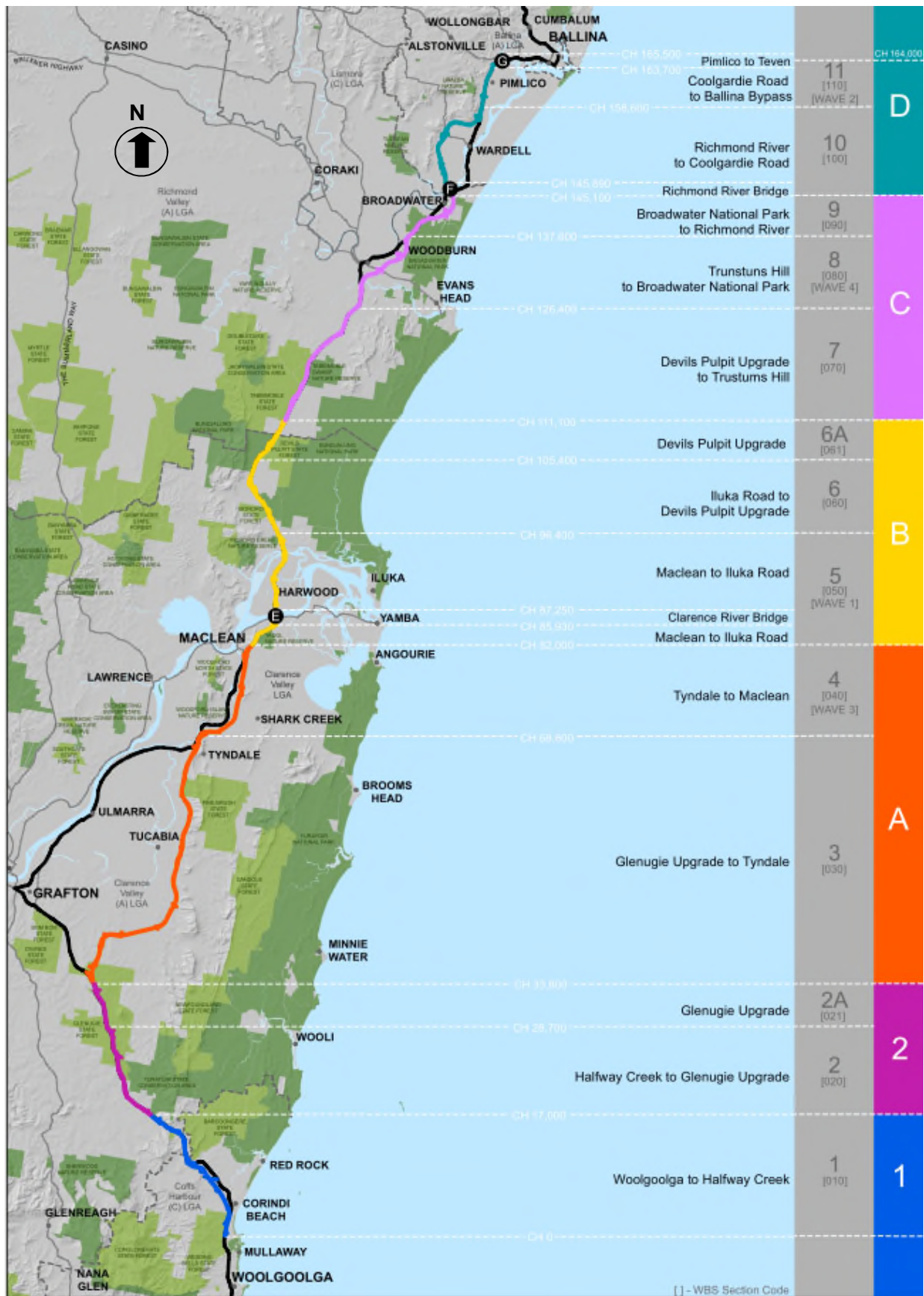


Figure 1-1 Woolgoolga to Ballina project

### 1.2.1 Minister's conditions of approval

This CEMP meets the requirements of MCoA D25 and D26 relating to a Construction Environmental Management Plan. The requirements of these conditions and where they are met in this CEMP are shown in Table 1-2.

**Table 1-1 NSW MCoA requirements for a CEMP**

MCoA no.	Requirement	Reference
D25	The Applicant shall prepare and implement (following approval) a Construction Environmental Management Plan for the SSI, prior to the commencement of construction, or as otherwise agreed by the Secretary. The Plan shall be prepared in consultation with the EPA, DPI (Fisheries), NOW and DoE and outline the environmental management practices and procedures that are to be followed during construction, and shall be prepared in consultation with the relevant government agencies and in accordance with the <i>Guideline for the Preparation of Environmental Management Plans</i> (Department of Infrastructure, Planning and Natural Resources, 2004). The plan shall include but not necessarily be limited to:	This plan
D25 (a)	a description of activities to be undertaken during construction of the SSI (including staging and scheduling);	Chapter 2
D25 (b)	statutory and other obligations that the Applicant is required to fulfil during construction, including approvals, consultations and agreements required from authorities and other stakeholders under key legislation and policies;	Chapter 3 and Appendix A1
D25 (c)	a description of the roles and responsibilities for relevant employees involved in the construction of the SSI, including relevant training and induction provisions for ensuring that employees, including contractors and sub-contractors are aware of their environmental and compliance obligations under the conditions of approval;	Chapter 4 and Chapter 5
D25 (d)	an environmental risk analysis to identify the key environmental performance issues associated with the construction phase and details of how environmental performance would be managed and monitored to meet acceptable outcomes, including what actions will be taken to address identified potential adverse environmental impacts (including any impacts arising from the staging of the construction of the SSI). In particular, the following environmental performance issues shall be addressed in the Plan:	Section 3.4 and Appendix A2
	i. measures to monitor and manage dust emissions including dust from stockpiles, blasting, traffic on unsealed public roads and materials tracking from construction sites onto public roads;	Appendix B6
	ii. measures to minimise hydrology impacts, including measures to stabilise bed and bank structures as required;	Appendix B4
	iii. measures for the handling, treatment and management of contaminated materials;	Appendix B8
	iv. measures to monitor and manage waste generated during construction including but not necessarily limited to: general procedures for waste classification, handling, reuse, and disposal; use of secondary waste material in construction wherever feasible and reasonable; procedures or dealing with green waste including timber and mulch from clearing activities; and measures for reducing demand on water resources (including potential for reuse of treated water from sediment control basins);	Appendix B7



MCoA no.	Requirement	Reference
	v. measures to monitor and manage spoil, fill and materials stockpile sites including details of how spoil, fill or material would be handled, stockpiled, reused and disposed in a <b>Stockpile Management Protocol</b> . The protocol shall include details of the locational criteria that would guide the placement of temporary stockpiles, and management measures that would be implemented to avoid/minimise amenity impacts to surrounding residents and environmental risks (including surrounding water courses). Stockpile sites that affect heritage, threatened species, populations or endangered ecological communities require the approval of the Secretary, in consultation with the EPA and DPI (Fisheries);	Appendix B4
	vi. measures to monitor and manage hazard and risks including emergency management and management measures to address potential risks to the Woodburn borefield drinking water catchment. These measures shall be developed in consultation with Rous Water;	Appendix B4
	vii. the issues identified in condition D26;	Appendices B1-B8
	viii. details of community involvement and complaints handling procedures during construction, consistent with the requirement of conditions C1 to C4;	Chapter 6
	ix. details of compliance and incident management consistent with the requirements of condition D27;	Chapter 7 and Appendix A5
	x. procedures for the periodic review and update of the Construction Environmental Management Plan and Plans required under condition D26, as necessary (including where minor changes can be approved by the Environmental Representative).	Chapter 9
	<p>The plan shall be submitted for the approval of the Secretary no later than one month prior to the commencement of construction, or as otherwise agreed by the Secretary. The Plan may be prepared in stages, however, construction works shall not commence until written approval of the relevant state has been received from the Secretary.</p> <p>The approval of a Construction Environmental Management Plan does not relieve the Applicant of any requirement associated with this SSI approval. If there is an inconsistency with an approved Construction Environmental Management Plan and the conditions of this SSI approval, the requirements of this SSI approval shall prevail.</p>	Section 1.4
D26	As part of the Construction Environmental Management Plan for the SSI, the Applicant shall prepare and implement: [a]	
D26 (a)	<b>Construction noise and vibration management plan</b>	Appendix B3
D26 (b)	<b>Construction traffic and access management plan</b>	Appendix B1
D26 (c)	<b>Construction soil and water management plan</b> , including:	Appendix B4
D26 (c-iv)	<i>Groundwater and soil salinity report</i>	Appendix B4 (a)
D26 (c-v)	<i>Acid sulphate soils contingency plan</i>	Appendix B4 (b)
D26 (c-vi)	<i>Tannin leachate management protocol</i>	Appendix B4 (c)
D26 (c-vii)	<i>Oxleyan pygmy perch habitat waterway management framework</i>	Appendix B4 (d)
D26 (d)	<b>Construction heritage management plan</b>	Appendix B5
D26 (e)	<b>Construction flora and fauna management plan</b>	Appendix B2



MCoA no.	Requirement	Reference
D26 (e-iv)	Protocol for the removal and relocation of fauna during clearing.	Appendix B2 (a)

Relevant management measures and requirements for the work are included within the attached plans to this CEMP (Appendix B):

- Appendix B1 – Construction traffic and access management plan
- Appendix B2 – Construction flora and fauna management plan
- Appendix B3 – Construction noise and vibration management plan
- Appendix B4 – Construction soil and water quality management plan
- Appendix B5 – Construction heritage management plan
- Appendix B6 – Construction air quality management plan
- Appendix B7 – Construction waste, resource and energy management plan
- Appendix B8 – Construction contaminated land management plan
- Appendix B9 – Ancillary facilities management plan
- Appendix B10 – Borrow sites management plan.

Appendix B9 and B10 will be submitted separately and prior to construction in accordance with MCoA D21 and D22.

A list of the above management plans and their associated procedures and plans required under the NSW and Commonwealth Conditions of Approval is located in Appendix A4. The Flora and Fauna Management Plan includes the threatened species management plans, the weed management plan and a number of other plans for measuring and managing flora and fauna issues for the project. The Soil and Water Management Plan also includes the requirements under MCoA D26(c) for the following:

- Groundwater and soil salinity report
- Acid sulfate soils contingency plan
- Tannin leachate management protocol
- Oxleyan Pygmy Perch habitat waterway management framework.

Other relevant management measures to be addressed in construction (visual, land use and property and social and economic) which have not been captured by specific plans are described in Appendix A6.

This CEMP is the overarching environmental management system document. It includes a number of supporting management plan documents that are described in Section 4.1. The CEMP and its plans apply to all staff and sub-contractors associated with the project's construction.

### 1.2.2 Compliance of Minister's conditions of approval for Ballina Bypass

The Minister's Conditions of Approval for Pimlico to Teven Stage 3 have been reviewed against the MCoAs for the Woolgoolga to Ballina Project. The review has found that P2T3 requirements are adequately reflected within the Woolgoolga to Ballina (sections 3–11) CEMP and Sub-plans. It should be noted that the adequacy of existing Sub-plans is relevant to the current design for P2T. In the event that design changes and additional land is required to complete the P2T3 works, the requirements for additional Sub-plans may be triggered. This includes but may not be limited to, an integrated Wetland Management Sub-plan and a Cumulative Impact assessment study Sub-plan.

### 1.3 Consultation

Extensive project consultation started during the route selection phase and continued during the environmental impact assessment of the concept design. The primary objective of the consultation was to inform and involve stakeholders during each stage of the project's development.

Further consultation with relevant stakeholders and Government agencies continued through the development of this CEMP and its associated plans. Those consulted included:

- NSW Department of Planning and Environment (DP&E)
- NSW Environment Protection Authority (EPA)
- NSW Department of Primary Industries (Fisheries) (DPI (Fisheries))
- NSW Department of Primary Industries (Water) (DPI (Water))
- NSW Office of Environment and Heritage (OEH)
- Commonwealth Department of the Environment (DoE).

Some of the sub plans were also reviewed by additional stakeholders. The stakeholders consulted are outlined in the individual plans and may include:

- Rous Water
- Ballina Shire Council
- Clarence Valley Council
- Coffs Harbour City Council
- Richmond Valley Council
- W2B Aboriginal Focus Groups.

Consultation will continue with agencies, councils and other relevant stakeholders throughout the project. The outcomes of this consultation will be documented in subsequent revisions of the CEMP and the management review process (refer to Chapter 9).

### 1.4 Certification and approval

This CEMP has been reviewed and approved by the Roads and Maritime Project Manager and Roads and Maritime Environmental Services Manager, Pacific Highway prior to submission to DP&E.

This CEMP will be submitted for approval by the Secretary of the Department of Planning and Environment at least one month prior to commencement of construction or as otherwise agreed.

The plans prepared under MCoA D25 and the BBA MCoA also require approval by the Secretary prior to commencement of construction. Further explanation and details of these documents are provided in Section 4.1.

### 1.5 Distribution

All personnel and sub-contractors have access to this CEMP and its plans via the project document control management system. An electronic copy can be found on the project website:

<http://www.rms.nsw.gov.au/projects/northern-nsw/woolgoolga-to-ballina/index.html>

This document is uncontrolled when printed. One controlled hard copy will be maintained by the quality manager at the project office.

Registered copies will be distributed to the relevant project positions listed in the distribution table at the front of this CEMP.

## **1.6 Revision**

The CEMP and the management processes described in the document will be subject to a process of periodic review. This will ensure the document is updated as appropriate to the specific work taking place onsite. It will also ensure that the provisions of the CEMP and its plans are being correctly implemented, monitored, managed and audited.

Should the document review process identify any issues or items within the documents that are either redundant or in need of updating, it is the responsibility of the Pacific Complete Environment Manager to revise the documents. The revised document will then be issued to the Roads and Maritime Project Manager (General Manager, Pacific Highway) and the Environmental Representative for certification of the changes. The Environmental Representative can approve minor changes to the CEMP such as:

- Editorial changes e.g. staff and agency/authority name changes
- Changes that do not increase the magnitude of impacts on the environment when considered individually or cumulatively
- Changes that do not compromise the ability of the project to meet approval or legislative requirements.

Where the Environmental Representative deems it necessary, the amended CEMP will be forwarded to the Secretary of the Department of Planning and Environment for approval.

Section 1.5 describes the process for making the revised versions of the CEMP available.

Project Contractors will be advised when this CEMP is updated. They will be required to review their own environmental management documentation and make the necessary amendments to remain compliant with this CEMP.



## 2 Project description

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This Chapter describes the work detailing its design parameters including major design features as well as the planned construction method.

### 2.1 General features

The project will be delivered through a horizontal packaging strategy with a wide variety of package sizes, risk profile and contractors. This is a unique delivery strategy since this has not been undertaken for a road project previously. Where traditional projects procured Tier 1 contractors to undertake construction management of a number of sub-contractors, the horizontal packaging strategy will directly procure certain activities, that may be required along the whole project alignment, to provide the most effective and efficient solution for the project. Each will have different levels of environmental risk and environmental obligations depending on the scope of works, sensitivity of the receiving environment and relevant statutory requirements and obligations.

For consistency, project section references (i.e. 3 to 11) are as described in the EIS. However construction packages will be split into four main packages (A to D), together with the bridge design and construct packages E (Clarence River Bridge, Harwood), F (Richmond River Bridge) and G (Pimlico to Teven) with some smaller packages of specialised work to be considered separately. The sections, construction packages and other features of the project are shown in Figure 1-1.

Certain requirements and management measures will apply across the project. Other measures will only apply in certain locations referred to either by the road section or the distance (kilometre mark) from the start of the project in Section 1. Table 2-1 summarises the sections and distances covered by this CEMP.

**Table 2-1 Sections and distances**

Section	Location	Start and end (km)	Length (km)
Section 3	Glenugie Upgrade to Tyndale	33.8 to 68.8	35
Section 4	Tyndale to Maclean	68.8 to 82.0	13.2
Section 5	Maclean to Iluka Road	82.0 to 96.4	14.4
Section 6	Iluka Road to Devils Pulpit	96.4 to 111.1	14.7
Section 7	Devil's Pulpit to Trustums Hill	111.1 to 126.4	15.3
Section 8	Trustums Hill to Broadwater National Park	126.4 to 137.6	11.2
Section 9	Broadwater National Park to Richmond River	137.6 to 145.1	7.5
Section 10	Richmond River to Coolgardie Road	145.1 to 158.6	13.5
Section 11	Coolgardie Road to Ballina Bypass	158.6 to 164.0	5.4
	Pimlico to Teven	163.8 to 165.7	1.9

The project is as described in the EIS (Roads and Maritime, December 2012) for sections 3 to 11 of the Woolgoolga to Ballina Pacific Highway Upgrade. The project comprises the general features described in Table 2-2. As detailed design progresses this will be subject to changes as required. Processes such as consistency reports and/or modification reports will be undertaken where design changes are proposed – see section 3.7.2 for more details.

**Table 2-2 General features of the project**

Feature	Description
General	<ul style="list-style-type: none"> <li>• About 127 kilometres of four-lane divided motorway (two lanes in each direction) that can be upgraded to six-lanes in the future if required</li> <li>• Fencing relocation and provision (including wildlife fauna exclusion fencing and security fencing)</li> <li>• Lighting provision</li> <li>• Utility and services relocation and provision</li> <li>• Service and property roads and access routes.</li> </ul>
Bypasses	<ul style="list-style-type: none"> <li>• Grafton (section 3)</li> <li>• South Grafton (section 3)</li> <li>• Ulmarra bypass (section 3)</li> <li>• Woodburn bypass (section 8)</li> <li>• Broadwater bypass (section 9)</li> <li>• Wardell bypass (section 10).</li> </ul>
Interchanges	<p>Eight main interchanges:</p> <ul style="list-style-type: none"> <li>• Glenugie: Eight Mile Lane (start of section 3)</li> <li>• Tyndale: Sheehys Lane and Bensons Lane (end of section 3)</li> <li>• Maclean: Goodwood Street (start of section 5)</li> <li>• Harwood: Yamba Road and Watts Lane (within section 5)</li> <li>• Woombah: Iluka Road (end of section 5)</li> <li>• Woodburn: Trustums Hill Road (start of section 8)</li> <li>• Broadwater: Evans Head Road (within section 9)</li> <li>• Wardell: Coolgardie Road (end of section 10).</li> </ul>
Tie-in points	<ul style="list-style-type: none"> <li>• Glenugie upgrade</li> <li>• Devils Pulpit upgrade</li> <li>• Ballina bypass</li> </ul>
Bridges	<ul style="list-style-type: none"> <li>• Major crossings of the Clarence River and Richmond River</li> <li>• Waterway and floodplain crossings comprising embankment and viaduct structures where the work will cross low-lying flood-prone land</li> <li>• Overpasses and underpasses of existing roads and other infrastructure.</li> </ul>
Wildlife structures	<ul style="list-style-type: none"> <li>• Wildlife structures and crossings to maintain population connectivity in the area including fauna fencing, widened medians, dedicated and combined culverts and arboreal crossing structures.</li> </ul>
Rest areas	<ul style="list-style-type: none"> <li>• Rest areas including toilet facilities, seating and amenity areas located at approximately 50-kilometre intervals at: <ul style="list-style-type: none"> <li>○ Pine Brush, Tyndale: For northbound and southbound traffic (within section 3)</li> <li>○ North of Mororo Road: For southbound traffic (start of section 6).</li> </ul> </li> </ul>

Feature	Description
Roadside facilities	<ul style="list-style-type: none"> <li>• Heavy vehicle inspection station near the Richmond River rest area</li> <li>• Emergency layby and stop facilities</li> <li>• U-turn bays</li> <li>• Bus stops</li> <li>• Street furniture relocation and provision.</li> </ul>
Environmental controls	<ul style="list-style-type: none"> <li>• Surface water drainage and water quality basins (ponds)</li> <li>• Noise walls</li> <li>• Landscape planting.</li> </ul>

## 2.2 Staging

Roads and Maritime has engaged the Delivery Partner to assist with the delivery of the project. Design, procurement and construction of the project will be undertaken in a number of separate packages of works. Given the scale of the project, these packages of work may commence at different times as outlined in Section 2.3. A project staging report has been developed in accordance with MCoA A7 and submitted for the project and contains further information concerning staging of the project.

The Staging Report will be updated as necessary or advice provided that no changes to staging are proposed, and submitted to the Secretary of the Department of Planning and Environment prior to the commencement of each stage, identifying any changes to the proposed staging or applicable MCoAs and/or EPBC-CoAs.

Sections 3 to 11 of the project are described in the EIS and a summary is provided in Table 2-3.

**Table 2-3 Staging works for the project**

Portion*	Section*	Start	Chainage	End	Chainage	Bypasses	Interchanges	Rest areas
D	G	Pimlico	163.8	Teven	165.7	-	-	-
	11	Coolgardie Road	158.6	Ballina Bypass	164.0	-	-	-
	10	Richmond River	145.1	Coolgardie Road	158.6	Wardell	Coolgardie Road	Old Bagotville Road (North & southbound)
	F	Richmond River Bridge	145.1	Richmond River Bridge	145.9			
C	9	Broadwater National Park	137.6	Richmond River	145.1	Broadwater	Evans Head Road	-
	8	Trustums Hill	126.4	Broadwater National Park	137.6	Woodburn	Trustums Hill Road	-
	7	Devils Pulpit Upgrade	111.1	Trustums Hill	126.4	-	-	-
B	6	Iluka Road	96.4	Devils Pulpit Upgrade	111.1	-		North of Mororo Road (Southbound)
	5	Maclean	82.0	Iluka Road	96.4	-	Iluka Road Yamba Road Watts Lane	-
	E	Clarence River Bridge	85.9	Clarence River Bridge	87.3			
A	4	Tyndale	68.8	Maclean	82.0	-	Goodwood Street	-
	3	Glenugie Upgrade	33.8	Tyndale	68.8	Grafton South Grafton Ulmarra	Sheehys Lane Bensons Lane Eight Mile Lane	Pine Brush (Northbound)

\*Notes:  
P – portions, S - sections  
Chainages and distances subject to change during detailed design



## 2.3 Construction activities and sequence

Table 2-4 provides an overview of the anticipated sequence of construction activities associated with the project. The need to complete each activity will depend on the location and nature of construction and what work needs to take place in a given area. Generally there would be up to nine sequential construction activities taking place onsite, including eight sub-activities. Each activity and sub-activity will comprise a number of actions as described below.

**Table 2-4 General overview of construction activities**

Component	Typical activity
Enabling works	<ul style="list-style-type: none"> <li>Progressive installation of environmental controls including temporary or permanent fencing, enabling noise mitigation measures</li> <li>Conduct pre-clearing vegetation fauna surveys (to allow for utility adjustments)</li> <li>Clearing of vegetation and processing of materials (to allow for utility adjustments)</li> <li>Demolition of existing buildings and structures.</li> </ul>
Relocation or protection of services	<ul style="list-style-type: none"> <li>Preclearance checks</li> <li>Gas</li> <li>Water</li> <li>Telecommunications infrastructure.</li> </ul>
Site establishment	<ul style="list-style-type: none"> <li>Installation of boundary fencing</li> <li>Establishment of construction facilities</li> <li>Establishment of stockpile sites and ancillary facilities</li> <li>Installation of environmental controls</li> <li>Pre-clearing vegetation fauna surveys</li> <li>Temporary traffic management arrangements</li> <li>Construction of access roads</li> <li>Progressive installation of environmental controls including temporary or permanent fencing, construction and operational noise mitigation measures</li> <li>Construction of diversion and catch drains along the formation and sedimentation control basins or swales (where required)</li> <li>Clearing of vegetation and processing of materials</li> <li>Removal of harvestable timber</li> <li>Temporary upgrade work for existing local roads and intersections.</li> </ul>
Bulk earthworks	<ul style="list-style-type: none"> <li>Implementation and construction of local roadworks and any local road diversions including any construction of side roads to maintain existing traffic movement (where required)</li> <li>Stripping topsoil and stockpiling it for reuse in landscaping</li> <li>Embankment foundation or soft soils treatments, such as the installation of wick drains and drainage blankets</li> <li>Excavation of cuttings, including the processing, stockpiling or haulage of material; blasting activities and stabilisation of batters</li> <li>Construction of embankments, including foundation drainage.</li> </ul>
Drainage and structures	<ul style="list-style-type: none"> <li>Installation of cross-drainage, including culverts and inlet and outlet work including any channel diversions and scour protection work</li> <li>Construction of any retaining walls</li> <li>Installation of fauna connectivity structures</li> <li>Construction of subsurface drainage</li> <li>Installation of longitudinal and vertical drainage in cuttings and embankments.</li> </ul>
Bridge construction	<ul style="list-style-type: none"> <li>Additional geotechnical works</li> <li>Establishment of bridge work compounds</li> <li>Installation of rock caissons or cofferdams or temporary access roads/platforms across waterways</li> <li>Installation of bridge foundations (driven or bored piles, pile caps and footings)</li> <li>Construction of bridge abutments and piers</li> <li>Construction of bridge superstructure including deck and pavement work</li> </ul>

Component	Typical activity
	<ul style="list-style-type: none"> <li>• Construction of scour protection along the waterway or waterfront land.</li> </ul>
Rest areas	<ul style="list-style-type: none"> <li>• Establishment of rest area work compounds</li> <li>• Construction of base and select layers of materials</li> <li>• Construction of pavement layers</li> <li>• Installation of structures (wash rooms, seating, information boards, line markings)</li> <li>• Reuse of topsoil</li> <li>• Planting of native plants and seeding disturbed areas with native and cover crops species.</li> </ul>
Pavement work	<ul style="list-style-type: none"> <li>• Construction of base and select layers of materials</li> <li>• Construction of pavement layers</li> <li>• Construction of pavement drainage, including kerb and gutter (where required)</li> <li>• Construction of concrete barriers, wire rope fencing and guardrails.</li> </ul>
Road furniture	<ul style="list-style-type: none"> <li>• Installation of signage</li> <li>• Line marking</li> <li>• Installation of safety barriers.</li> </ul>
Landscaping and restoration	<ul style="list-style-type: none"> <li>• Reuse of topsoil</li> <li>• Planting of native plants and seeding disturbed areas with native and cover crops species (note this will take place throughout construction as elements of the work are complete where ongoing disturbance is not anticipated).</li> </ul>
Open to traffic	<ul style="list-style-type: none"> <li>• Electrical and signage testing</li> <li>• Commissioning and final check</li> <li>• Decommissioning of construction facilities</li> <li>• Remove construction environmental controls</li> <li>• Handover the road to the operations and maintenance team</li> <li>• Road open to traffic.</li> </ul>

Planning approval was received for the Woolgoolga to Ballina Pacific Highway Upgrade on 24 June 2014, with construction for Sections 3 to Section 11 anticipated to commence in 2016. As detailed in Table 2-5, the total period for construction works is expected to be about five years. Portion G – Pimlico to Teven occurs within the Ballina Bypass approval boundary and is subject to separate conditions of approval.

**Table 2-5 Construction activities and timeframes**

	2016				2017				2018				2019			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
<b>Portion A</b>		■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
<b>Portion B</b>		■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
<b>Portion C</b>		■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
<b>Portion D</b>		■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
<b>Portion E</b>			■	■	■	■	■	■	■	■	■	■	■	■	■	■
<b>Portion F</b>				■	■	■	■	■	■	■	■	■	■	■	■	■
<b>Portion G</b>					■	■	■	■	■	■	■	■	■	■	■	■

## 2.4 Ancillary facilities

A number of temporary compound and ancillary facilities will be required to support construction of the project. Primary site compounds will be established for each stage of the project. These sites will accommodate the majority of management, engineering, specialist and administrative personnel. Typically these facilities include:

- Office accommodation
- Staff amenities
- Light vehicle parking
- A plant and equipment maintenance workshop
- Material and chemical storage.

Due to the geographical scale of the project, a number of ancillary facilities will also be required. These are generally located closer to active work zones and support site based construction personnel. Typically these facilities will include:

- Crib sheds and minimal office accommodation
- Concrete batching plant
- Equipment storage
- Material storage
- Concrete casting areas.

A summary of the assessment criteria for ancillary facilities is provided in Section 3.7.2. The ancillary facilities assessment informs the Ancillary Facilities Management Plan and details the location, composition and purpose of compound and ancillary facilities required and approved for the project. The Ancillary Facilities Management Plan will be submitted for separate approval during detailed design.

## 3 Planning

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### 3.1 Project environmental obligations

All construction personnel working on the project have the following general obligations:

- Minimise pollution of land, air and water
- Use pollution control equipment and keep it in proper working order
- Preserve the natural and cultural heritage environment
- Give notice to the Roads and Maritime and relevant authorities of a non-Aboriginal or Aboriginal heritage discovery
- Minimise the occurrence of offensive noise
- Be a good neighbour to surrounding land users
- Keep the community informed of work milestones, upcoming activities and duration of relevant aspects of the works
- Use equipment with noise control features where available and ensure that it is properly maintained
- Take all feasible and reasonable steps to ensure compliance with the requirements of this CEMP and subplans.

### 3.2 Legal and other requirements

A register of legal and other requirements for the work is contained in Appendix A1. This register is maintained as a checklist. This register will be reviewed at regular intervals e.g. during management reviews, and updated with any applicable changes. Any changes made to the legal requirements register will be communicated to the wider team where necessary through toolbox talks, specific training and other methods detailed in Chapter 4.

A checklist of compliance with Roads and Maritime specification G36 is also included in Appendix A1 (Table 2) with a reference to where each requirement is addressed by this CEMP or other work documentation.

### 3.3 Approvals, permits and licences

A number of approvals permits and licences have and/or will be obtained for the project. Appendix A1 contains a register of all relevant environmental approvals, permits and licences. The register will be maintained by the Environment Manager and will be reviewed prior to the commencement of construction and/or stages of construction, and at regular intervals during construction and at least annually as part of the management review.

The EIS recognised that the following approvals and licences identified in the planning approval process would be obtained or are required for the work:

- Project Approval under the EP&A Act.
- Environment protection licence (EPL) under the *Protection of the Environment Operations Act 1997* (PoEO Act) for road construction and/or for the operation of ancillary facilities.
- Approvals under the *Water Act 1912* for access to ground or surface water during construction.
- EPBC Approval under the *Environment Protection and Biodiversity Conservation Act 1999* for Commonwealth listed threatened species.

In accordance with MCoA A6, all necessary licences, permits and approvals required for the development of the work will be obtained and maintained as required throughout the life of the work. No condition of the Project Approval removes the obligation for Roads and Maritime, the delivery partner or contractors to obtain, renew or comply with such necessary licences, permits or approvals except as provided under Section 115ZG of the EP&A Act.

The Project Approval is contained in the Compliance Tracking Program, which provides a reference to where each requirement is addressed by this CEMP or other work documentation. A checklist of compliance with Roads and Maritime specification G36 is included as Appendix A1.

### **3.4 Environmental aspects and impacts**

A risk management approach will be used to determine the severity and likelihood of an activity's impact on the environment and to prioritise its significance. This process considers potential regulatory and legal risks as well as taking into consideration the concerns of community and other key stakeholders.

The objectives of risk assessment are to:

- Identify activities, events or outcomes that have the potential to adversely affect the local environment and/or human health/property
- Qualitatively evaluate and categorise each risk item
- Assess whether risk issues can be managed by environmental protection measures
- Qualitatively evaluate residual risk with implementation of measures.

Risk assessments for the work are based on AS/NZS 4360:1999, the Australian standard for risk assessments.

Appendix A2 includes a list of activities associated with the project, related aspects and corresponding risks. Measures to minimise the identified environmental risks are also provided.

### **3.5 Environmental policy**

The environmental policy describes Pacific Complete's commitment to continual improvement in environmental performance and compliance with applicable legal requirements (refer Appendix A3).

The environmental policy will be displayed on the project website and at the site office, and communicated to staff and other interested parties via inductions and ongoing awareness programs.

All contractors/suppliers for the project will need to provide a conforming environmental policy or will need to adhere to Pacific Complete's environmental policy.

### **3.6 Objectives and targets**

As a means of assessing environmental performance during construction of the project, environmental objectives and targets have been established. These objectives and targets have been developed with consideration of key issues identified through the environmental assessment and risk assessment process. The objectives and targets are consistent with the project environmental policy and will assist in monitoring whether the commitments of the policy are being met.

The targets are incorporated into relevant environmental management plans.

The performance of the project against the objectives and targets will be documented in the project construction compliance reports and at least on an annual basis as part of the management review.

Environmental objectives and targets for the project are provided in Table 3-1.

**Table 3-1 Environmental objectives and targets**

Objective	Target	Reporting/monitoring
Construction of the project in accordance with environmental approvals.	<ul style="list-style-type: none"> <li>• Full compliance with statutory approvals.</li> </ul>	Audits, construction compliance reporting, management view.
Compliance with all legal requirements.	<ul style="list-style-type: none"> <li>• No regulatory infringements (PINs or prosecutions).</li> <li>• No formal regulatory warning.</li> </ul>	Audits, construction compliance reporting, management view.
Implementation of a rigorous and comprehensive EMS that meets the requirements of AS/NZS ISO 14001.	<ul style="list-style-type: none"> <li>• Address non-conformances and corrective actions within specific timeframes.</li> </ul>	Audits, management reviews.
Engagement with the effected and broader community, minimise complaints and respond to any complaints within a suitable timeframe.	<ul style="list-style-type: none"> <li>• Disseminate regular work updates and other information through the Project website and other tools identified in the Community Communication Strategy.</li> <li>• Record and response to complaints within the timeframe specified in the Community Communication Strategy.</li> </ul>	Review complaints register, construction compliance report, audits.
Continuous improvement of environmental performance.	<ul style="list-style-type: none"> <li>• Develop and maintain a program of ongoing environmental training.</li> <li>• Capture lessons learnt from environmental incidents to minimise repeat issues.</li> <li>• Encourage and reward innovation and effort throughout the works force.</li> </ul>	Construction compliance report, management review.

## 3.7 Project refinements

### 3.7.1 Refinements to date

The EIS was based on the initial concept design for the Woolgoolga to Ballina Pacific Highway Upgrade. Further refinements were made through ongoing review of the concept design and consultation with community and government agencies. Roads and Maritime prepared submissions/preferred infrastructure report (SPIR) to assess the impacts of these design refinements and where required, provided additional management and mitigation measures. This design was subsequently approved by NSW and Federal Ministers.

### 3.7.2 General changes

Further refinements to the project may result from detailed design refinement or changed circumstances throughout construction. Roads and Maritime is responsible for formally seeking approval from the Minister for any project modifications that would be considered inconsistent with the approval and for documenting refinements that are deemed consistent with the approved project.

The Roads and Maritime Environmental Manager, Pacific Highway is responsible for the assessment of project refinements and management of the consistency assessment process. The PC Environment Manager is responsible for incorporating any new environmental impacts and/or new statutory approval requirements into the appropriate environmental management documentation.

Any design changes or changes in scope of works will be communicated to the Roads and Maritime Environmental Manager. The Pacific Complete Environment Manager will then arrange relevant party i.e. Detailed Designer or Project Contractor to provide an additional environmental assessment and consistency review. This will then be reviewed by the Roads and Maritime Environmental Manager, Pacific Highway to determine if a modification may be required.

Should the consistency review determine that a modification may be required i.e. the impacts are of a nature and scale that it is not considered consistent with the Project Approval, the Environmental Representative will be informed and a modification application under Section 115ZI of the EP&A Act 1979 prepared and submitted to the Secretary of the Department of Planning and Environment for determination.

The Roads and Maritime General Manager, Pacific Highway will approve all refinements that are deemed consistent with the Project Approval and advise the Pacific Complete Environment Manager and Pacific Complete Project Director accordingly.

### 3.7.3 Ancillary facilities assessment criteria

Ancillary facilities are defined as a “temporary facility for construction, including for example an office and amenities compound, construction compound, batch plant (concrete or bitumen), materials storage compound, maintenance workshop, testing laboratory or material stockpile area”. Where a stockpile management protocol has been approved by the Secretary for the SSI, material stockpile areas are not considered to be ancillary facilities.

The location of the main site compound and ancillary facilities are nominated, assessed and detailed in the Ancillary Facilities Management Plan which will be submitted for separate approval during detailed design. Circumstances may arise during construction where additional, or changes to the location of, ancillary facilities are required. These will be assessed in accordance with the relevant MCoA and appropriate approval sought where required.

A number of temporary compound and ancillary facilities were assessed as part of the EIS/ SPIR documentation. Sites proposed for ancillary facilities, whether they were detailed in the EIS and SPIR, or post-approval, will be reviewed against the MCoAs for ancillary sites establishment to determine compliance and relevant approval authority. Pacific Complete is proposing to establish primary site compounds for each stage of the project (Type A sites). These sites will accommodate the majority of management, engineering, specialist and administrative personnel. Typically these facilities include:

- Office accommodation
- Staff amenities
- Light vehicle parking
- A plant and equipment maintenance workshop
- Material and chemical storage.



Due to the geographical scale of the project, a number of smaller ancillary facilities (Type B sites) will also be required. These are generally located closer to active work zones and support site based construction personnel. Typically these facilities will include:

- Crib sheds and minimal office accommodation
- Concrete batching plant
- Equipment storage
- Material storage
- Concrete casting areas.

The Ancillary Facilities Management Plan will detail the location, composition and purpose of compound and ancillary facilities required for the project as specified under MCoA D21 and MCoA B73, B74 and B75. It will also detail the required approval pathway for ancillary facilities in accordance with the relevant MCoA requirements.

Where additional facilities are required, an assessment against the criteria detailed in MCoA B73 will be undertaken. This criteria requires that ancillary facilities:

- 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 MCoA D21.

Ancillary facilities that do not meet the above criteria must demonstrate how the potential environmental impacts can be mitigated and managed to an acceptable standard, as prescribed in MCoA B74. If the proposed facility will result in additional impacts beyond those approved for the project, a copy of the assessment report must be provided to the Secretary for approval at least one month prior to the establishment of the facility, as prescribed in condition B75.

Note that any proposed additional ancillary facilities and changes to ancillary facilities will be required to meet all relevant MCoA where applicable as described in Appendix A1 and a copy of the ancillary facility assessment included in the Ancillary Facilities Management Plan.

Once the procurement process for the ancillary facilities is finalised, this will be included in the Ancillary Facilities Management Plan and submitted for approval.

### **3.7.4 Stockpile management**

The MCoA definitions of ancillary facility note that '*Where a stockpile management protocol has been approved by the Secretary for the SSI, material stockpile areas are not considered to be ancillary facilities.*' This CEMP includes a stockpile management protocol which outlines the locational criteria used to guide the placement of temporary stockpiles and provides both standard and site-specific mitigation measures to be implemented to minimise impacts on the environment and community. Stockpile sites may typically be required to store material including, but not limited to:

- Temporary storage of excavated material to be used in fill embankments and other design features
- Acid Sulphate Soil (ASS) subject to treatment prior to reuse
- Temporary storage of excavated material unsuitable for reuse in the formation
- Excess concrete, pavement, rock, steel and other material stored for either future use in the Project or prior to removal from site
- Topsoil, mulch, excess timber for landscaping and revegetation works
- Temporary stockpiles would be removed for re-use within the project or disposed off-site.

Stockpiles on the project will be located according to the following criteria:

- At least 5 metres clear of all areas of possible concentrated water flow
- At least 10 metres from a waterway
- At least 100 metres from an Oxleyan Pygmy Perch habitat waterway
- On land with slopes less than 10%
- With ready access to the road network or direct access to the construction corridor
- On land that does not require the removal of threatened species, EECs or roosting habitat for listed threatened fauna species
- In areas of low heritage conservation significance (including identified Aboriginal cultural value) and not impact on heritage sites beyond those already impacted by the project.

### 3.7.5 Portable crushing & screening plant

The project will require a number of areas for the temporary positioning of portable rock crushing plant. The crushers will be located on cut/fill lines wherever possible. This will allow the crushers to be positioned early in the programme as these points are on existing grades and are accessible without major cutting or filling operations. This will also allow rock to be crushed from the cuts without stockpiling large quantities of processed and unprocessed materials. The cut/fill lines are generally completed late in the cut works so the crusher can remain in one location for a long time without multiple moves around the cut. This reduces movement of material and subsequently reduces fuel usage and noise impacts along the cut.

Operation of the crushing plants will be distributed along the project alignment and not concentrated in a single area, reducing potential cumulative impacts on noise and air quality.

Temporary crushing plant will be located in accordance with the following criteria:

- At least 5 metres clear of all areas of possible concentrated water flow
- At least 10 metres from a waterway
- At least 100 metres from an Oxleyan Pygmy Perch habitat waterway
- At least 200m from residences (or 300 metres from sensitive receivers as identified in the *Interim Construction Noise Guidelines*)
- On land with slopes less than 10%
- With ready access to the road network or direct access to the construction corridor
- On land that does not require the removal of threatened species, EECs or roosting habitat for listed threatened fauna species
- In areas of low heritage conservation significance (including identified Aboriginal cultural value) and not impact on heritage sites beyond those already impacted by the project.

If the above criteria cannot be met, the Project Contractor will seek approval from the Environmental Representative and outline what additional mitigation measures will be implemented to minimise potential impacts from the crushing operations.



## 4 Implementation and operation

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### 4.1 Pacific Complete environment management framework

Pacific Complete operates in accordance with and is compliant with AS/NZS ISO 14001. The Pacific Complete Environmental Policy is in Appendix A3.

All works carried out on the site will be in accordance with:

- Roads and Maritime Services' requirements as detailed in the Contract and specification G36 Environmental Management System
- ISO 14001 Environmental Management System
- All legal requirements
- This CEMP and the various subplans that are contained within it.

Pacific Complete's Environmental Management System is part of an integrated management system which is known as iGATE.

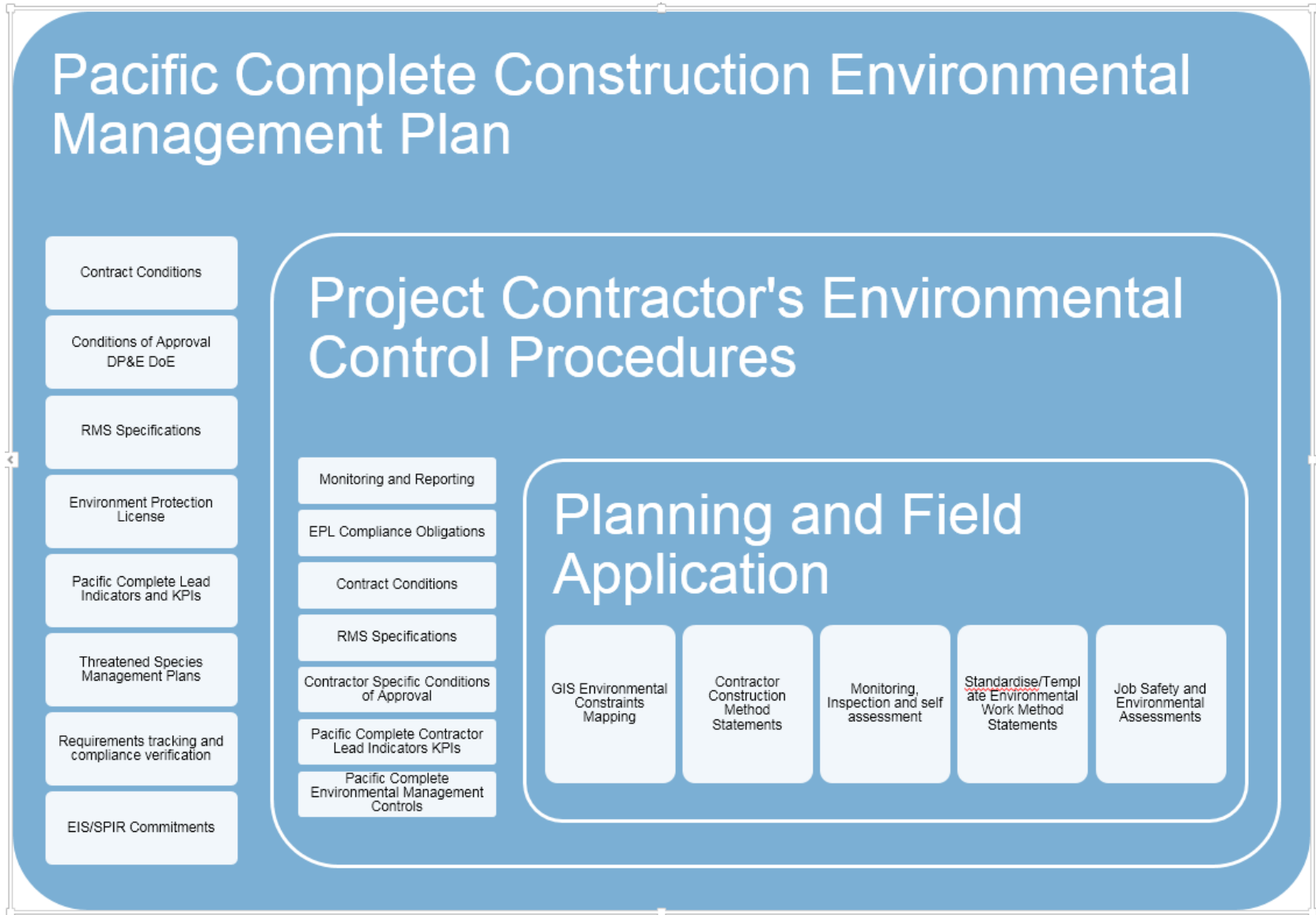
An outline of the Pacific Complete Environmental Management System is provided below.

This CEMP is the overarching management plan for a suite of environmental management documents. It provides a structured and systematic approach to environmental management.

The primary purpose of the system of documentation is to:

- Ensure compliance with all applicable environmental laws, obligations and approvals
- To minimise environmental impacts.

The structure of the environmental management system for the project is shown in Figure 4-1.



**Figure 4-1 Environmental management system structure**

## 4.2 Environmental management system documentation

### 4.2.1 Pacific Complete construction environmental management plan

The Pacific Complete CEMP provides the system to manage and control the environmental aspects of the project during pre-construction and construction. It identifies all requirements applicable to activities described in Chapter 2. It also provides the overall framework for the system and procedures to ensure environmental impacts are minimised and legislative and other requirements are fulfilled. The strategies defined in this CEMP have been developed with consideration of the Project Approval requirements, safeguards and mitigation measures presented in the environmental assessment and approval documents. This CEMP establishes the system for implementation, monitoring and continuous improvement to minimise impacts from the work on the environment.

This CEMP is consistent with:

- Guideline for the preparation of Environmental Management Plans (DIPNR, 2004).
- AS/NZS ISO14001: 2016, 'Environmental Management Systems – requirements with guidance for use'.
- Roads and Maritime QA Specification G36.

The CEMP and associated plans required under MCoA D25 and D26 will be provided to the Secretary of the Department of Planning and Environment for approval.

### 4.2.2 Other environmental management plans and strategies

A number of environmental management plans support the CEMP. These documents are prepared to identify requirements and processes applicable to specific impacts or aspects of the activities described in Chapter 2. They address requirements of the MCoA and mitigation measures identified in the environment impact assessment documentation.

Environmental strategies may also be developed as required throughout the work. These will also guide environmental management of potential impacts on-site.

A list of construction plans and strategies for the work, and their approval requirements, are provided in Table 4-1. The Project Staging Report documents the required Project-wide environmental documentation to be prepared for the work and the timing required for submission where required. This will be submitted for approval separately in accordance with MCoA A7.

**Table 4-1 Environmental management plans and strategies**

Document name	Document number	Approval pathway
Construction traffic and access management plan (Appendix B1)	W2B-PC0-0-ZH-PLN-00004-01	DP&E approval
Construction flora and fauna management plan, including weed management plan (Appendix B2)	W2B-PC0-0-ZH-PLN-00004-02	DP&E approval
Construction noise and vibration management plan including a blast management plan and out of hours work procedure (Appendix B3)	W2B-PC0-0-ZH-PLN-00004-03	DP&E approval
Construction soil and water quality management plan (Appendix B4)	W2B-PC0-0-ZH-PLN-00004-04	DP&E approval

Document name	Document number	Approval pathway
Construction heritage management plan (Appendix B5)	W2B-PC0-0-ZH-PLN-00004-05	DP&E approval
Construction air quality management plan including dust management (Appendix B6)	W2B-PC0-0-ZH-PLN-00004-06	Roads and Maritime approval
Construction waste, resources and energy management plan (Appendix B7)	W2B-PC0-0-ZH-PLN-00004-07	Roads and Maritime approval
Construction contaminated land management plan (Appendix B8)	W2B-PC0-0-ZH-PLN-00004-08	Roads and Maritime approval
Ancillary facilities management plan (Appendix B9)	W2B-PC0-0-ZH-PLN-00004-09	Environmental Representative
Borrow sites management plan (Appendix B10)	W2B-PC0-0-ZH-PLN-00004-10 ... 14	DP&E approval

#### 4.2.3 Contractors Construction environmental management plan

Construction Contractors will be required to develop project specific environmental management documentation to address the operational control requirements outlined in the Pacific Complete CEMP.

Pacific Complete will review the Contractor's Construction Environmental Management Plan (CCEMP) for compliance with the approved Pacific Complete CEMP.

Specific operational controls relevant to each Project Contractor's work and to manage environmental issues are defined in either or all of the following:

- Their Contractor's Construction Environmental Management Plan (CCEMP) and associated management plans
- Project Contractor's environmental management documentation
- Project specific EWMS
- JSEA's, Inspection and Test Plans/check sheets (as appropriate)
- Contractor's work instructions and project specific procedures and protocols (e.g. refuelling and servicing)
- Construction Contractors' monthly progress reports against the requirements of their EMP including incidents, complaints, non-conformances and corrective actions
- Schedule of obligations and requirements against conditions of approval.

#### 4.2.4 Environmental work method statements

Environmental Work Method Statements (EWMS) will be prepared by contractors to manage and control all activities that have the potential to negatively impact on the environment. EWMS will be prepared prior to the commencement of construction activities on site and will incorporate relevant mitigation measures and controls from management plans. EWMS will identify key procedures to be used concurrently with the EWMS. EWMS are specifically designed to communicate requirements, actions, processes and controls to construction personnel using plans, diagrams and simply written instructions.

EWMS will be prepared progressively in the lead up to and throughout construction in consultation with relevant members from the project team, and approved by the PC Environment Manager.



EWMS for activities identified as having high environmental risk will undergo a period of consultation with stakeholders and authorities prior to approval. Upcoming/future EWMS will be discussed with the Environmental Review Group (ERG) participants during regular meetings and other suitable consultation forums. In collaboration with the ERG participants the activities which EWMS are required and need consultation will be determined. EWMS will be provided to the ERG where consultation is agreed or required.

EWMS for activities likely to be considered high risk include (but are not limited to):

- Working platforms in or adjacent to waterways
- Temporary waterway crossings
- Site compound establishment
- Stockpile management
- Public road accesses and managing mud tracking
- Batch plant establishment and operation
- Managing runoff from curing processes
- Clearing and grubbing
- Sediment basin, construction and management
- Dewatering activities
- Soft soil treatment
- Piling
- Blasting
- Excavation and management of Acid Sulphate Soils
- Excavation and management of contaminated soils.

All construction personnel and sub-contractors undertaking a task governed by an EWMS must participate in training on the EWMS, and acknowledge that they have read and understood their obligations prior to commencing work.

Regular monitoring, inspections and auditing against compliance with the EWMS will be undertaken by project management, quality, and environmental personnel to ensure that all controls are being followed and that any non-conformances are recorded and corrective actions implemented. Where non-conformances are found, the EWMS will be reviewed to ensure that any improvements are incorporated as required.

A register of EWMS will be maintained within project systems (refer section 8.4 for further details) and will be updated as EWMS are approved.

#### **4.2.5 Environmental procedures**

Environmental procedures are tools to document an environmental process. They include procedures, protocols and strategies developed for the project. Each includes details of relevant work activities, relevant legislative requirements and guidelines, and the procedures to be followed for each activity. Relevant EWMS and ESCPs can be provided as needed. Examples of environmental procedures include but are not limited to:

- Sediment basin flocculation
- Stockpile management
- Working around trees
- Fauna handling and rescue
- Native Stingless Bees Protocol Procedure
- Flagging Protocol/Guide for Clearing and Flagging Boundary

#### **4.2.6 Erosion and sediment control plans**

Erosion and Sediment Control Plans (ESCPs) are planning documents that clearly show the site layout and the approximate location of erosion and sediment control structures onsite. They cover all construction stages from initial vegetation clearing through to rehabilitation when erosion and sediment control are no longer required and are removed. ESCP will be developed and implemented across the project where there is a risk of erosion and sediment loss.

ESCPs may be produced in conjunction with EWMS to provide more detailed site-specific environmental mitigation measures.

ESCPs will be developed by Project Contractors in consultation with suitably qualified environment staff and the Pacific Complete environment team, as required. They will be modified to reflect progressive site conditions at the time of construction. The Pacific Complete Environment Manager will approve ESCPs in the first instance with review provided by a qualified soil conservationist. Minor changes thereafter will be approved by environment staff in consultation with the Pacific Complete Environment Manager, as required.

ESCPs will be developed for all work areas prior to commencing activities.

Project contractors will be assigned responsibility for the implementation and management of the erosion and sediment controls within their work area. A project area handover process will be used to document each contractor's work area and associated environmental controls.

#### **4.2.7 Sensitive area plans**

The work traverses a diversity of environmental and socially sensitive areas/sites. To assist pre-construction planning and on-site construction management, these site constraints are captured in an online GIS mapping system which incorporates sensitive area plans. Sensitive area plans include information pertaining, but not limited to:

- Noise sensitive receivers e.g. residential dwellings, educational institutions
- Flora features, including threatened species and endangered ecological communities
- Aboriginal and non-Aboriginal heritage sites including assessment boundaries, items, places, objects and sites
- Local waterways
- Recorded threatened fauna sightings
- State Forest/National Parks/Nature Reserves/Flora Reserves/Wetlands

- Areas of vegetation to be retained
- Potential or actual acid sulphate soil areas
- Contaminated sites
- Monitoring locations for groundwater, surface water and dust
- Clearing limit boundary.

Due to the extent and complexity of the work, sensitive area plans are available via an online GIS mapping system called SiteMap. SiteMap will be live and will provide current information on a range of issues as above for the project and will be accessible to all staff, contractors and agencies for the project. SiteMap will be able to be used in conjunction with EWMS and ESCPs to help identify key risk areas and to promote ongoing communication to construction personnel during the project.

#### **4.2.8 System procedures, forms and other documents**

The project environmental management system procedures, forms and other documents provide instructions and records related to both environmental and non-environmental activities throughout the project.

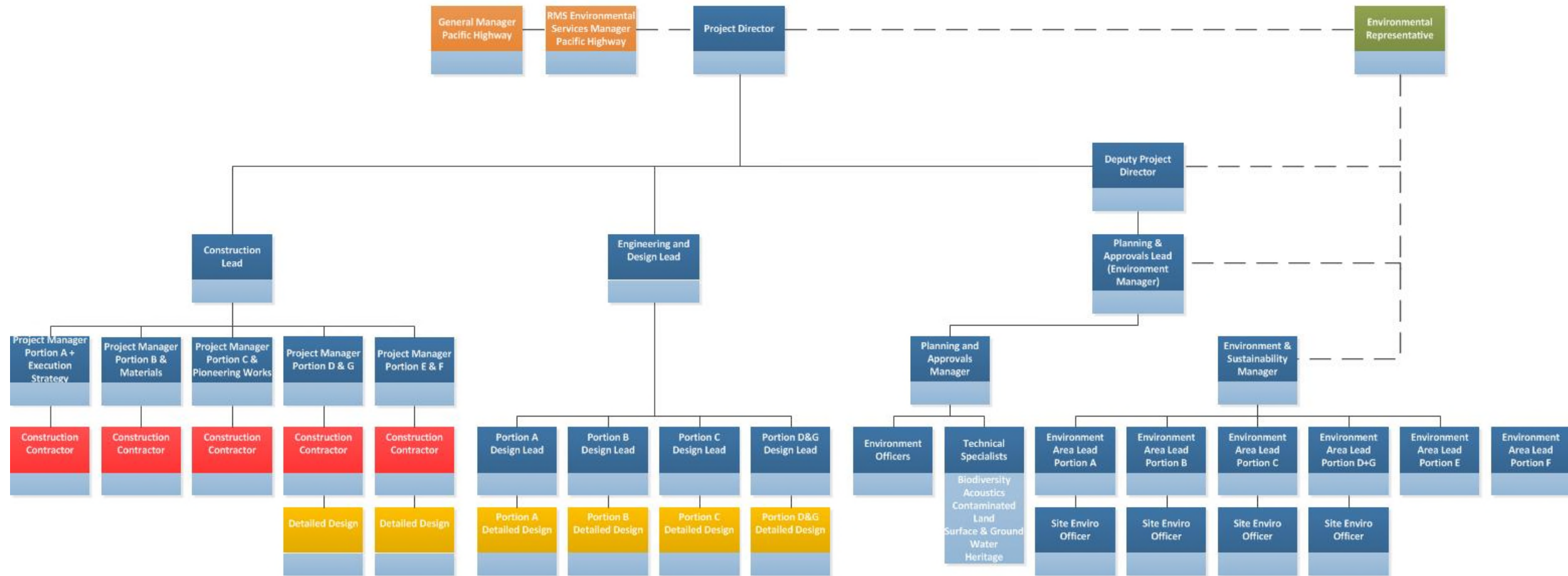
Project specific procedures will be developed in accordance with the requirements for the work. Where applicable, existing contractor procedures and work instructions will be applied or amended for use on the work.

A register of relevant environmental procedures and forms will be maintained within project systems.

### **4.3 Resources, roles, responsibilities and authority**

The key environmental management roles and responsibilities for the construction phase of the work are described below. The structure of these roles is shown in Figure 4-2.

Construction Lead and Planning & Approvals



- Pacific Complete
- Construction – External Contractor
- Detailed Design – External Contractor
- RMS
- Independent Representative

- Portion A = Sections 3+4
- Portion B = Sections 5+6
- Portion C = Sections 7, 8 & 9
- Portion D = Section 10 & 11
- Portion E = Clarence River Bridge
- Portion F = Richmond River Bridge
- Portion G = Pimlico to Teven

Figure 4-2 Woolgoolga to Ballina (sections 3–11) organisation chart

### **4.3.1 External**

#### **4.3.1.1 Environmental Representative**

The environmental responsibilities of the Environmental Representative are detailed in MCoA D23 and include:

- a) Be the principal point of advice in relation to the environmental performance of the work
- b) Monitor the implementation of environmental management plans and monitoring programs required under the Project Approval and advise Pacific Complete and contractors upon the achievement of these plans/programs
- c) Consider and advise Pacific Complete and RMS on matters specified in the MCoA, and other licences and approvals related to the environmental performance and impacts of the work
- d) Ensure that environmental auditing is undertaken in accordance with the Pacific Complete environmental management system
- e) Approve/reject minor amendments to the CEMP
- f) Approve/reject Out of Hours Works activities. These works shall be conducted in accordance with the Out of Hours Works Protocol (OOHW Protocol)
- g) Approve/reject ancillary facilities in accordance with MCoA B73 and B74
- h) Require reasonable steps be taken to avoid or minimise unintended or adverse environmental impacts, and failing the effectiveness of such steps, to direct that relevant actions be ceased immediately should an adverse impact on the environment be likely to occur
- i) Be consulted in responding to the community concerning the environmental performance of the work where the resolution of points of conflict between the Proponent and the community is required.

Also in accordance with MCoA D24:

The Environmental Representative shall prepare and submit to the Secretary a monthly report on the Environmental Representative's actions and decision on matters specified in condition D23 for the preceding month. The reports shall be submitted for the duration of construction of the SSI, unless otherwise agreed by the Secretary.

#### **4.3.1.2 General Manager Pacific Highway (Roads and Maritime Project Manager)**

The environmental responsibilities of the Roads and Maritime Representative include (but are not limited to):

- Evaluate and advise on compliance with Roads and Maritime environmental requirements
- Review and approve any environmental management plans for the work or related activities that are not required to be approved by the Secretary of the Department of Planning and Environment.

#### **4.3.1.3 Roads and Maritime Environmental Services Manager, Pacific Highway**

The environmental responsibilities of the Roads and Maritime Environmental Manager include (but are not limited to):

- Review any environmental management plans and related documents prepared for the work

- Review minor work refinements that are consistent with the work environmental assessment and approval documentation and recommend they be approved to the General Manager, Pacific Highway
- Monitor the environmental performance of the work in relation to Roads and Maritime requirements.

#### **4.3.2 Pacific Complete**

##### **4.3.2.1 Project Director**

- Ensure that independent audits of the system are conducted
- Review audit outcomes and take action as necessary
- Review environmental performance through the monthly reporting cycle
- Authorise resourcing on environmental issues
- Resolve major issues which cannot be resolved by the project's leadership team
- Ensure that Pacific Complete's environmental and sustainability policies, code of conduct and associated procedures are developed and implemented in accordance with the project objectives.

##### **4.3.2.2 Planning and Approvals Team Leader (Pacific Complete Environment Manager)**

The position leads the planning, approvals and environmental function and is responsible for the ongoing delivery of the environmental requirements as follows:

- Ensure compliance with all relevant statutes, regulations, rules, procedures, standards and policies
- Liaise with Roads and Maritime General Manager Pacific Highway and Roads and Maritime Environmental Services Manager, Pacific Highway on environmental issues, including the written notification of non-conformances
- Ensure that an appropriate environmental induction and training program is developed such that personnel are aware of their environmental responsibilities under relevant legislation and the contract
- Report to the Project Director on the performance of the system and improvement opportunities
- Provide support to the project team to enable them to meet their environmental commitments
- Ensure that environmental records and files are collected and maintained
- Regular compliance checking
- Ensure that non-conformances and environmental incidents are recorded and written reports provided to Roads and Maritime Services' Nominated Representative and Environmental Manager within 24-hours. Liaise with the required stakeholders to confirm the nature of the corrective action required and comply with the timeframe within which corrective actions must occur
- Report any reportable incidents to EPA
- Ensure that environmental controls, materials and equipment are maintained.

#### **4.3.2.3 Planning and Approvals Manager**

The Planning and Approvals Manager is responsible for the ongoing management of the requirements and commitments related to the project's conditions of approval as they apply to Pacific Complete. This includes the operation of Pacific Complete's CoA Compliance Tracking Program development of systems aspects of the CEMP and associated plans.

In addition, the Planning and Approvals Manager will coordinate the ongoing planning and approvals requirements, the development of the relevant NCRs necessary as the project evolves.

#### **4.3.2.4 Environment and Sustainability Manager**

The Environment and Sustainability Manager leads the projects construction environmental team and reports to the Planning and Approvals Leader.

Lead the development and maintenance of the CEMP inclusive of requirements for programs, strategies and campaigns.

Provides expert advice on compliance matters and lead environmental incident investigations.

This position leads the development and implementation of the Pacific Complete Sustainability Strategy.

In detail the Environment and Sustainability Manager is responsible for the following:

- Ensure that the CEMP is effectively established, implemented and maintained at the project level
- Ensure project contractors comply with all relevant statutes, regulations, rules, procedures, standards and policies
- Ensure that all personnel on site receive appropriate environmental induction and training and are aware of their environmental responsibilities under relevant legislation and the contract.

#### **4.3.2.5 Portion Environmental Leads**

- Provide assistance and support to the Environmental and Sustainability Leader and the Planning and Approvals Manager
- Lead area specific environmental teams inclusive of ongoing studies, design, tendering, on-boarding and assurance activities
- Ensure project contractor's environmental management documentation is developed and implemented in accordance with Pacific Complete's CEMP
- Work collaboratively with the Site Environmental Officer to ensure desired environmental outcomes are achieved.

#### **4.3.2.6 Portion Environmental Adviser**

- Complete site-based environmental assurance activities and facilitate environmental incident investigations
- Daily interaction and coordination with project contractor representatives to ensure their environmental management requirements are discharged.
- Work collaboratively with the Environment Area Leads to ensure desired environmental outcomes are achieved.

#### **4.3.2.7 Portion Project Manager**

- Ensure environmental management requirements are discharged by project contractors in accordance with the Contract, CoA and G36
- Ensure that Pacific Complete environmental management activities are undertaken in accordance with the CEMP (D25)
- Ensure that internal audits of the system are conducted
- Review audit corrective actions and take action as necessary to ensure timely close out of issues.

#### **4.3.2.8 Pacific Complete Design Manager**

- Ensure that they and their team members are aware of the environmental requirements
- Ensure collaboration between the detailed designers such that the environmental requirements are achieved over the full scope of the project
- Ensure Environmental Assessment/Consistence Reviews are undertaken for changes during concept design or detailed design
- Ensure Pacific Complete Sustainability requirements are addressed through the detailed design
- Ensure the project's environmental requirements are communicated to the detailed design consultants within the contract documentation
- Ensure that design outputs are able to demonstrate compliance with the Pacific Highway Design Guidelines as amended and the project's regulatory approvals, including the NSW Minister's Conditions of Approval and the requirements of the Commonwealth approval.

#### **4.3.2.9 Pacific Complete Construction Personnel**

- Ensure that they and their team members are aware of the environmental requirements
- Ensure the works are planned and achieve compliance with the environmental management plans and environmental requirements
- Participate in field verification of the environmental requirements.

#### **4.3.3 Project Construction Contractor**

- Construction entities to deliver the works on the ground
- Comply with all legal and contractual requirements
- Comply with site environmental requirements
- Comply with management/supervisory directions from Pacific Complete
- Participate in induction and training as directed
- Ensure that environmental responsibilities and authorities are defined and communicated to their personnel
- Provide specialist environmental resources to meet environmental objectives
- Ensure that their environmental documentation is effectively implemented and maintained



- Report to Pacific Complete management on the performance of the system and environmental breaches
- Take action to resolve environmental non-conformances and incidents
- Ensure suppliers and subcontractors comply with requirements
- Report all environmental incidents to Pacific Complete immediately
- Supervise all site construction activities and personnel by ensuring that they meet environmental and other requirements
- Organise and manage site plant, labour and temporary materials
- Ensure that site environmental controls are properly maintained and provide support for their environmental management personnel
- Report all non-conformances within appropriate reporting timeframes
- Take action to resolve non-conformances and incidents
- Carefully select suppliers and subcontractors based upon their ability to meet stated requirements
- Ensure that purchase orders and agreements include environmental requirements as necessary
- Where practical, select materials which are “environmentally friendly”.

#### **4.3.4 Pacific Complete Supply Chain Environmental Resources**

The project will be delivered through a horizontal packaging strategy with a wide variety of package sizes, risk profiles and contractors. Each will have different levels of environmental risk and environmental obligations depending on the scope of works, sensitivity of the receiving environment and relevant statutory requirements and obligations.

The environmental personnel resourcing approach for the likely packaging and delivery options will include:

- Environmental Managers for larger construction contractors
- Suitably qualified environmental resources to manage environmental obligations during detailed design
- Suitably qualified environmental resources for the development and implementation of project specific environmental management documentation for project contractors.

## **4.4 Contractor management**

Environmental requirements and responsibilities will be specified to contractors in the contract documentation. As part of the selection process, consideration will also be given to their past environmental performance. The PC Environment Manager, or delegate, in conjunction with Roads and Maritime will participate in the tender assessment and selection process where it is deemed necessary due to associated environmental risks.

All contractors will be required to develop and submit environmental management documents to outline how they will undertake their own works. They will need to be in accordance with the approved CEMP, conditions of approval, relevant specifications, regulations and legal requirements. Contractor’s environmental management documents will need to address the specific requirements of RMS specifications and to reflect the requirements of their contract and scope of works.

Contractor EWMS will need to be submitted to PC. These will be reviewed and approved by the PC Environment Manager prior to starting any works on site. EWMS for high risk activities will also be reviewed by the ERG as outlined in Section 4.2.4. Where the Contractor has identified a different approach or methodology than an existing Pacific Complete EWMS, then the Contractor will prepare the EWMS in accordance with the procedures outlined in section 4.2.4.

Contractors will be responsible for staff and subcontractors under their control and will be required to oversee works on site to ensure that environmental controls are implemented and maintained, and review their performance against the requirements of the CEMP by regular inspections and audits.

Contractors will be required to participate in environmental inspections and audits of their works.

At any stage of the works if subcontractor personnel are found to have ignored environmental controls or have caused environmental harm, their activities will cease, a non-conformance issued in accordance with Pacific Complete quality systems and works will not recommence until the non-conformance is successfully closed out. For further details about non-conformances, corrective and preventive actions, see Section 8.6 of this plan.

All contractors are required to attend work and/or site inductions where the requirements and obligations of the CEMP are communicated. A record of all contractors inducted will be maintained as part of the work induction and training register.

A standard monitoring form will be developed that will be used to assess:

- Contractor's general work practices
- Effectiveness of the sub-contractor's environmental protection measures
- Contractor's compliance with the requirements of this CEMP
- Maintenance of environmental measures.

## **4.5 CEMP availability**

This CEMP will be made available for public inspection on request. Confidential information, which may include the location of threatened species, Aboriginal objects or places and personnel contact details, will be removed from all documents provided or made available to the public.

An electronic copy of the CEMP is provided on the project website.

## 5 Competence, training and awareness

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To ensure that this CEMP is effectively implemented, each level of management is responsible for ensuring that all personnel reporting to them are aware of the requirements of this CEMP. The PC Environment Manager will coordinate the environmental training in conjunction with other training and development activities (e.g. safety).

### 5.1 Environmental induction

All personnel (including sub-contractors) are required to attend a compulsory site induction that includes an environmental component prior to commencement on-site. This is done to ensure all personnel involved in the project are aware of the requirements of the CEMP and to ensure the implementation of environmental management measures.

Short-term visitors to site for purposes such as deliveries will be required to be accompanied by inducted personnel at all times. A visitors' induction will also be undertaken for visitor's onsite for short periods as agreed with the Safety Manager.

The PC Environment Manager (or delegate) will be responsible for providing the environmental component of the site inductions.

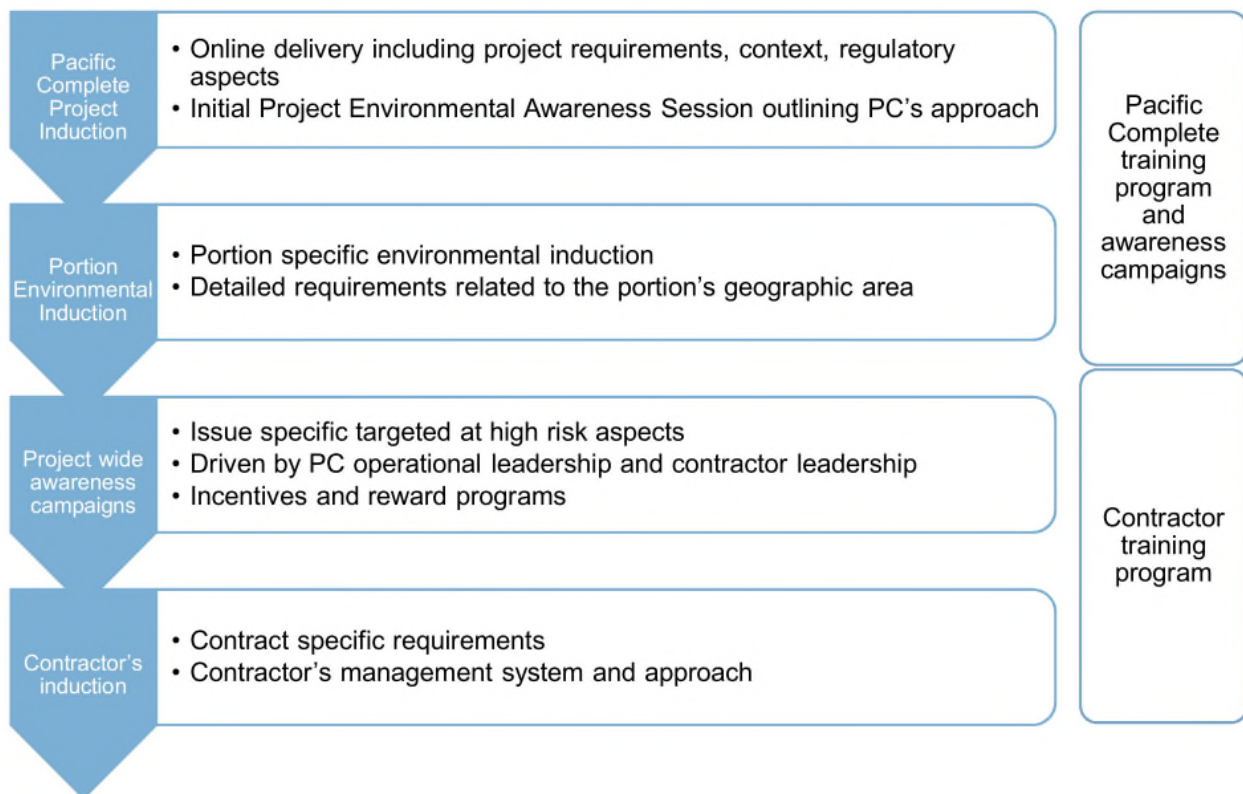
The environmental component will include, but not limited to, an overview of:

- Relevant details of the CEMP including purpose and objectives
- Key environmental issues
- Conditions of environmental licences, permits and approvals
- Specific environmental management requirements and responsibilities
- Mitigation measures for the control of environmental issues
- Incident response and reporting requirements
- Information relating to the location of environmental constraints.

A Koala Zero Harm program has been developed to demonstrate Pacific Completes' commitment to ensuring no harm comes to an individual koala because of the Woolgoolga to Ballina Pacific Highway Upgrade. This program has been developed into an induction which is presented alongside the environmental induction component.

A record of all environment inductions will be maintained and kept on-site. The PC Environment Manager may authorise amendments to the induction at any time. Possible reasons for changes to the induction may be work modifications, legislative changes or amendments to this CEMP or related documentation.

In addition to the Pacific Complete induction, contractors will be required to develop and implement their own environmental training and induction program relevant to their scope of works. Each Contractor's induction will include the relevant site specific requirements and control measures and the necessary instruction on the implementation of their environmental management systems.



**Figure 5-1 Pacific Complete training and awareness campaigns development and implementation during the project**

## 5.2 Toolbox talks, training and awareness

Toolbox talks will be one method of raising awareness and educating personnel on issues related to all aspects of construction including environmental issues. The toolbox talks are used to ensure environmental awareness continues throughout construction.

Toolbox talks will include details of EWMS for relevant personnel. Toolbox talks will also be tailored to specific environmental issues relevant to upcoming works.

Relevant environmental issues may include (but are not limited to):

- Erosion and sedimentation control
- Hours of work
- Emergency and spill response
- Aboriginal and non-Aboriginal heritage
- Threatened species, endangered ecological communities, clearing controls and vegetation protection
- Weed management
- Dust control
- Incident reporting requirements and complaints handling
- Working near or over water and water pollution controls
- Noise and vibration control
- Storage and handling of chemicals

- Management of concrete pours
- Liming operations
- Acid sulfate soil or contaminated land issues
- Results/actions from any site inspections or audits
- Koala Zero Harm Assurance
- Mulch Stockpiles

Records of training and toolbox meetings will be retained by Project Construction Contractors and provided on a monthly basis to the Pacific Complete Environment Manager and the training manager. Toolbox attendance is mandatory and attendees of toolbox talks are required to sign an attendance form and the records maintained.

Targeted environmental awareness training will be provided to individuals or groups of workers with a specific authority or responsibility for environmental management or those undertaking an activity with a high risk of environmental impact. Topics covered may include those detailed above, or others deemed necessary in the lead up to or during construction.

Key personnel who control construction work impacting erosion and sedimentation will undertake training in Volume 2D of the Blue Book (or an approved equivalent training). In addition, a practical one-day training course in Volume 2D of the Blue Book, and how it applies to the work, will be presented to all personnel engaged in earthworks and sediment control on the site.

Another way to inform construction personnel will be through the development and distribution of awareness notes. These will typically take the form of a poster, booklet, or similar and will be distributed to engineers, leading hands, foreman and others with a responsibility for managing specific work locations or activities. This documentation will be used to inform the broader workforce through either daily pre-starts meeting (see section 5.3) or provision in worker crib sheds/break facilities.

The PC Environment Manager will establish a schedule of environmental training.

Training in high risk aspects shall be undertaken as the project progresses. An outline of the proposed training program is provided in Table 5-1. The training shall be scheduled to reflect the requirements of the construction program.

### **5.3 Daily pre-start meetings**

The pre-start meeting is a tool for informing the workforce of the day's activities, safe work practices, environmental protection practices, work area restrictions, activities that may affect the works, coordination issues with other trades, hazards and other information that may be relevant to the day's work.

The Construction contractors will be responsible for conducting a daily pre-start meeting with the site workforce before the commencement of work each day (or shift) or where changes occur during a shift. Daily pre-start meetings are generally succinct in nature and take about 10–15 minutes.

The environmental component of pre-starts will be determined by relevant foreman and environmental personnel and will include any environmental issues that could potentially be impacted by, or impact on, the day's activities. All attendees will be required to sign on to the pre-start and acknowledge their understanding of the issues explained.

Pre-start topics, dates delivered and a register of attendees will be recorded.



## 6 Communication

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### 6.1 Internal communication

Clear lines of communication throughout all levels and functions (e.g. management, staff and sub-contracted service providers) are key to minimising environmental impacts and achieving continual improvements in environmental performance.

The Pacific Complete environmental team will meet regularly with project contractors to discuss any issues with environmental management on-site any amendments to plans that might be required or any new/changes to construction activities.

Regular meetings may also be scheduled with the Environmental Representative and relevant Roads and Maritime environmental staff. The purpose of these meetings would be to communicate ongoing environmental performance and to identify any issues to be addressed.

In addition, Pacific Complete environment team members will participate in toolbox talks on at least a weekly basis. This forum will provide an opportunity for the environment team members to communicate on environmental performance, to advise on any upcoming sensitive environmental matters for future work areas and to receive feedback from on-site personnel.

Project Contractor's environmental personnel will participate in toolbox talks on a weekly basis. Contractor toolbox sessions will be used to communicate internal environmental matters and any matters advised by Pacific Complete.

Further internal communications regarding environmental issues and aspects will be through awareness training as described in Section 5.2.

### 6.2 External and government authority consultation & ERG

The Pacific Complete Environment Manager will be the main point of contact regarding specific environmental issues. The PC Environment Manager has the responsibility to report on the ongoing environmental performance of the work to Roads and Maritime, Environmental Representative and EPA. The PC Environment Manager will report regularly to Roads and Maritime on progress and any key environmental matters and to the EPA through monthly EPL reports.

In order to maintain ongoing engagement and consultation with the relevant regulatory authorities associated with the project, an Environmental Review Group (ERG) has been established.

The purpose of the ERG is to ensure prompt and effective consultation with Government agencies, Council (where required) and Roads and Maritime on environmental issues on the project.

The ERG will meet on a monthly basis and will include relevant Project Contractors, Detailed Designers and representatives from Pacific Complete. The form of meeting and agenda will evolve with the phase of the project – detailed design, construction and operational readiness.

In addition to agencies, Roads and Maritime, contractor and delivery partner representatives, the independent Environmental Representative will attend all ERG meetings. Where required and in consultation with the ERG stakeholders, the Pacific Completes Biodiversity Specialist and the appointed Soil Conservationist will attend the ERG Meetings.

External communication methods include:

- W2B ERG Meetings – to be undertaken on a monthly basis in consultation with Roads and Maritime
- Project website information and communication of management plans and operational requirements as required by the conditions of approval
- Six Monthly Environmental Performance Reporting
- EPL Annual Return
- EPL environmental monitoring data
- Meetings and correspondence with interested parties (e.g. local councils and EPA) as necessary.

## 6.3 Stakeholder and community communication

### 6.3.1 Communications and Stakeholder Engagement Strategy

A Communications and Stakeholder Engagement Strategy has been developed to provide an approach to stakeholder and community communications in accordance with the requirements of MCoA C1. The strategy identifies opportunities for providing information and consulting with the community and stakeholders during the construction phase of the work. The strategy defines:

- The engagement groups
- The key messages of the work
- The range of tools that will be used to interact with community and stakeholders
- The complaints management system
- Protocols, roles and responsibilities.

Communication tools defined in the strategy include:

- Community brochure
- Community update
- Letters
- Project website ([www.rms.nsw.gov.au/projects/northern-nsw/woolgoolga-to-ballina/](http://www.rms.nsw.gov.au/projects/northern-nsw/woolgoolga-to-ballina/))
- Press advertising
- Media release
- Traffic alert
- Static information display
- SMS alerts
- Staffed information display
- Face-to-face meetings
- Woolgoolga to Ballina project information centre
- Community focus groups
- 1800 number (1800 778 900) and project email (W2B@rms.nsw.gov.au)



- Mapping tools.

The Communications and Stakeholder Engagement Strategy was approved by DP&E on 5 May 2015.

### 6.3.2 Complaints and enquires procedure

A Complaints and Enquiries Procedure, consistent with *AS 4269: Complaints Handling*, has been developed for the work, in accordance with the requirements of MCoA C2 and C3 and RMS Specification G36.

All community inquiries and complaints related to the construction activities will be referred to the 24-hour community information line (1800 778 900). A postal address (Woolgoolga to Ballina upgrade, PO Box 546 Grafton NSW 2460 and email address ([W2B@rms.nsw.gov.au](mailto:W2B@rms.nsw.gov.au))) has been provided for receipt of complaints and enquiries. The telephone number, the postal address and the email address will be published in newspapers circulating in the local area prior to the commencement of construction and is provided on the project website.

The engagement team will take the lead in responding to complainants. Attempts will be made to resolve all complaints in accordance with the Communication and Stakeholder Engagement Strategy. Timeframes for initial responses to complaints are outlined below.

- Telephone complaints received during work hours will be provided a response within two hours. Complaints received outside of works hours will be provided a response within two hours of when works next starts
- Email and postal complaints will be responded to within two business days of receipt.

The aim is to resolve the complaint at the first point of contact, by providing a solution or negotiating an agreed course of action. The complainant will be provided updates on the progress of their complaint and a written response will be provided within 10 working days if the complaint cannot be resolved by the initial or follow up verbal response. Complaints handling will follow that identified in Appendix D of the W2B Stakeholder and Community Liaison Plan.

The community contacts database will be used as a complaints register. The database will be used to record, track and respond to complaints efficiently. Information on all complaints received, the means by which they were address and whether resolution was reached with or without mediation shall be included in the construction compliance reports.

The PC Environment Manager will apply an adaptive approach to ensure that corrective actions are applied in consultation with the appropriate construction staff to allow modifications and improvements in the management of any environmental issues resulting in community complaints.



## 7 Incidents and emergencies

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In the event of an environmental incident, Roads and Maritime Environmental Incident Classification and Reporting Procedure will be implemented. The full procedure is provided in Appendix A5.

The procedure provides references to:

- Types of incidents
- Criteria for classifying of environmental incidents
- Processes for systematically responding to and managing emergency situations
- Processes, and legal requirements (e.g. Acts, Regulations, EPL), for reporting and notification of an environmental incident.

The procedure covers the management of events such as, but not limited to:

- Spills of fuels, oils, chemicals and other hazardous materials
- Unauthorised discharge from sediment basins or other containment devices
- Unauthorised clearing or clearing beyond the extent of the work boundary or premises
- Inadequate installation and subsequent failure of temporary erosion and sediment controls
- Unauthorised damage or interference to threatened species, endangered ecological communities or critical habitat
- Unauthorised harm or desecration to Aboriginal objects and Aboriginal places
- Unauthorised damage or destruction to any State or locally significant relic or Heritage item
- Unauthorised damage to marine vegetation and mangroves
- Unauthorised dredging or reclamation works within a watercourse
- Potential contamination of waterways or land
- Accidental starting of a fire or a fire breaking out of containment
- Any potential breach of legislation, including a potential breach of a condition of: an environment protection licence; CoA approval; or any agency permit condition
- Works undertaken without appropriate approval or assessment under the EP&A Act
- Works undertaken that are not in accordance with a project assessment
- Unauthorised dumping of waste.

## 7.1 Incident reporting

In accordance with the requirements of MCoA D27, the Compliance Tracking Program will document:

- Mechanisms for reporting and recording incidents and actions taken in response to those incidents
- Provisions for reporting environmental incidents to the Director General during construction and operation
- Procedures for rectifying any non-compliance identified during review of incident management.

This will be done through Pacific Complete's online incident reporting form and entered into the incident management system (IMPACT). IMPACT will be utilised to raise, track and close out incident corrective actions.

The Construction Contractor will be responsible for reporting any incidents in accordance with the Roads and Maritime Procedure to the Pacific Complete Environment Manager. The PC Environment Manager will co-ordinate the response and reporting protocol to the Environmental Representative and others as per the Roads and Maritime Procedure.

All incidents and complaints (including potential incidents) must be reported so that they can be investigated and prevented from recurring. Project Contractors will be required to investigate their environmental incidents in accordance with the Pacific Complete protocol based on the RMS procedure in Appendix A5. Category 1 environmental incidents will be investigated using a recognised incident investigation protocol.

Contractors' senior managers will be involved in the investigation and communication of outcomes Category 1 environmental incidents. Pacific Complete has established a protocol for the involvement of contractor senior managers in the investigation and communication of Category 1 environmental incidents.

Contractors' environmental management documentation must include protocols for investigating incidents and developing meaningful corrective action.

Typically, environmental incidents will be notified verbally immediately and in writing within one hour of any incident occurring to the Roads and Maritime Representative and the Environmental Representative. Incident reports will be provided to the Roads and Maritime Representative and the Environmental Representative within 24 hours of the incident occurring, including lessons learnt from each environmental incident and proposed measures to prevent the occurrence of a similar incident. All efforts will be undertaken immediately to avoid and reduce impacts of incidents and suitable controls put in place. Incidents will be closed out as quickly as possible, taking all required action to resolve each environmental incident.

Pacific Complete will be responsible for any external notification of environmental incidents. Project Contractors are required to inform the Pacific Complete Environment Manager of any incidents that may require notification to the EPA.

Section 148 of the *Protection of the Environment Operations Act 1997*, requires notification to the EPA of pollution incidents causing or threatening to cause material harm to the environment. Under Section 147, 'material harm' is defined if:

- (i) *it involves actual or potential harm to the health or safety of human beings or to ecosystems that is not trivial, or*
- (ii) *it results in actual or potential loss or property damage of an amount, or amounts in aggregate, exceeding \$10,000 (or such other amount as is prescribed by the regulations), and*

*Loss includes the reasonable costs and expenses that would be incurred in taking all reasonable and practicable measures to prevent, mitigate or make good harm to the environment.*

*For the purposes of this part of the PoEO Act, it does not matter that harm to the environment is caused only in the premises where the pollution incident occurs.*

Project Contractors must notify RMS/PC of any environmental incidents that could cause or threaten to cause material environmental harm as soon as practicable.

The EPA will be notified of any environmental incidents or pollution incidents on or around the site via the EPA Environment Line (telephone 131 555) in accordance with Part 5.7 of the PoEO Act. The circumstances where this will take place include:

- a) If the actual or potential harm to the health or safety of human beings or ecosystems is not trivial
- b) If actual or potential loss or property damage (including clean-up costs) associated with an environmental incident exceeds \$10,000.

Where an incident involves an Aboriginal site, relevant Registered Aboriginal Parties will be notified and their input sought in closing out the incident.

Roads and Maritime Environment Branch and Pacific Complete will maintain all records relating to environmental incidents.



## 8 Inspections, monitoring and auditing

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### 8.1 Environmental inspections

#### 8.1.1 Weekly and post rainfall site inspections

The Environment Area Lead and/or Site Environmental Officer for each portion will undertake joint weekly and post rainfall inspections of the work sites with the contractor's environmental staff to evaluate the effectiveness of environmental controls. Findings will be recorded on an inspection checklist form which will form part of Pacific Complete's Field View system of data capture or other suitable register.

If any maintenance and/or deficiencies in environmental controls or in the standard of environmental performance are observed, they will be recorded on the checklist form. Records will also include details of any maintenance required, the nature of the deficiency, any actions required and an implementation priority.

Actions raised during inspections will be documented through a suitable register by Pacific Complete and by the contractors. Pacific Complete actions will be issued to the relevant Project Contractor for action. If they represent an actual or potential significant environmental risk, these issues shall be reviewed at the Project Planning meetings and will have non-conformances raised if not closed out in the nominated timeframe (*Non-conformance Report*).

#### 8.1.2 Joint inspections

The Environmental Representative, Pacific Complete Environment Manager (or delegate), Roads and Maritime staff, and members of the ERG will undertake regular inspections of works sites, and in particular critical activities throughout construction of the work. Joint inspections by Pacific Complete Environment Manager, the Environmental Representative and Roads and Maritime Environmental Services Manager, Pacific Highway (or delegated staff) would typically occur on a fortnightly basis depending on the complexity and anticipated risks associated with the stage of construction. ERG inspections will be undertaken on a monthly or three-monthly basis depending on the construction staging of the work.

A member of the Pacific Complete environment team will participate in all Environmental Representative, client and ERG inspections, and records maintained. Deficiencies and required actions will be analysed and prioritised at the completion of the inspection and timeframes for implementation of corrective actions agreed. Inspection reports will be issued to the contractors for capture within their system and close out as required.

#### 8.1.3 Pre-work inspections

Prior to the commencement of works on each shift, an inspection will be carried out by the Project Contractor's staff and will include a check of relevant environmental controls and resources required to ensure effective operation and maintenance. Works are not to commence unless inspections are found to be satisfactory.

The contractor's site staff will undertake the inspections and record and findings, and actions taken or required, in the Site Diary. Responsibilities for the completion of pre-work inspections will be documented in the Project Contractor's environmental management documentation.

#### 8.1.4 Severe Environmental Risks

The Severe Environmental Risks (SERs) Controls Standard describes the various minimum mandatory requirements which must be in place, demonstrated and working effectively with the intent of managing severe environmental harm risks on the project.

The standard provides specific management requirements for flora and fauna, heritage (Aboriginal and Torres Strait Islander and European), water quality and wastewater storage and erosion and sediment control as the main high-consequence environmental impact within the project's current risk profile. The focus of these risks is on high consequence environmental harm risks rather than regulatory exposure.

The SERs Control Standard provides clear guidance on the required controls and expectations relating to preventing high consequence environmental impact. Contractors are required to implement the Severe Environmental Risk controls and demonstrate compliance.

The required elements for the successful completion of the monthly SER activities are described below. This may be undertaken collaboratively between Pacific Complete and the contractor.

1. The monthly field check should be recorded on the SER Field Report and form part of evidence to meet the monthly SER review. The field check is to be completed by the operational team.
2. System-based controls are to be reviewed for application and effectiveness on a monthly basis with the bounds of the project's construction environmental management plan.
3. The monitoring activity frequency will be dependent on occurrence of activities with the potential to cause high-consequence environmental impact on the project and reflect the current construction risk processes and methodologies.
4. The SER Field Report and SER Planning and Control Report or suitable alternative should be completed on a monthly basis
5. SER outcomes shall be monitored monthly
6. Actions to address items requiring attention shall be documented and closed out.

The Pacific Complete - Severe Environmental Risks Control Adequacy Assessment Tool is to be used as guidance for the implementation of the standard.

The Severe Environmental Risks Control Adequacy Assessment Work Instruction defines the procedural requirements for completing the monitoring activities.

## 8.2 Monitoring

Monitoring will be undertaken to validate the impacts predicted for the work, to measure the effectiveness of management plans, environmental controls and implementation of this CEMP, and to address approval requirements. The monitoring requirements for required aspects are included in the relevant management plans and summarised in Table 8-1.

**Table 8-1 Summary of environmental monitoring required by Project Approval**

MCoA	Description	Relevant sub-plan	Reporting requirements
B24 (c)	Monitoring procedures to be implemented in regards to blast management and mitigation measures	Construction noise and vibration management plan (Appendix B3)	Refer to plan
D8 (d)	Ecological monitoring as part of Threatened Species Management Plans	Construction flora and fauna management plan (Appendix B2).	Annual reporting of results to the Secretary, EPA, DPI (Fisheries) and DoE//
D12 (e)(f)	Water Quality Monitoring Program to monitor impacts on surface and groundwater quality and resources and wetlands.	Construction soil and water quality management plan (Appendix B4).	Reporting of results to DP&E, EPA, DPI (Fisheries) Rous Water and DPI



<b>MCoA</b>	<b>Description</b>	<b>Relevant sub-plan</b>	<b>Reporting requirements</b>
			(Water).
D20 (j)	Monitoring procedures for the built elements and landscaping (including weed control).	Urban Design and Landscape Plan	Refer to Urban Design and Landscape Plan
D21 (l)	Monitoring of the construction compound and ancillary facilities management.	Ancillary Facilities Management Plan	Refer to Ancillary Facilities Management Plan
D23 (b)	Monitoring the implementation and outcomes of EMPs and monitoring programs by the Environmental Representative.	N/A	Report to Roads and Maritime
D26 (a)(v)	Monitoring of noise and vibration proposed, how results of monitoring recorded and reported, how to rectify any non-compliance	Construction noise and vibration management plan (Appendix B3)	Refer to plan
D26 (b)(vii)	Monitoring of construction traffic and access management plan.	Construction traffic and access management plan (Appendix B1)	Refer to plan
D26 (c)(ix)	Monitoring of effectiveness of soil and water quality management measures and the soil and water quality management plan.	Construction soil and water quality management sub plan (Appendix B4).	Refer to plan
D26 (d)(iii)	Protection/monitoring of Aboriginal cultural heritage sites and historic heritage items and the heritage management plan.	Construction heritage management plan (Appendix B5)	Refer to plan
D26 (e)	Monitoring of the flora and fauna management plan.	Construction flora and fauna management plan (Appendix B2).	Refer to plan
D28 (a)	Monitoring of noise and vibration, effectiveness of noise mitigation measures	Construction noise and vibration management plan (Appendix B3)	Operational Noise Compliance Report
D25 (d) (viii)	Monitoring of waste generation, and disposal and resource reuse and recycling and energy and fuel consumption	Construction waste, resource and energy management plan (Appendix B7)	Refer to plan
D25 (d) (v)	Monitoring of dust and air quality	Construction air quality management plan	Refer to plan

A monitoring procedure will address how these activities will be undertaken.

The monitoring procedure will include:

- Purpose and scope
- Minimum acceptable frequency and standards listed in applicable approvals, licences and regulations

- Relevant EPA approved methods, Australian Standards or, in the absence of an Australian Standard, industry acceptable procedures
- Targets and parameters
- Processes for response to any exceedances of targets/standards
- Processes for recording and reporting results.

The Environmental Representative and Roads and Maritime Representative will be advised of any non-conformances from monitoring and details reported in the monthly report.

Where a non-conformance is detected or monitoring results are outside of the expected range and are directly attributable to the work (i.e. are influenced by factors under the direct control of the work e.g. noise from construction equipment), the process described in Section 8.6 will be implemented. Steps in the process will typically include:

- An analysis of the results by the Environmental Manager in more detail with a view of determining possible causes for the non-conformance
- A site inspection by the Environmental Manager or delegate
- Advising relevant personnel of the problem
- Identifying and agreeing on actions to resolve or mitigate the non-conformance
- Implementing actions to rectify or mitigate the non-conformance.

A non-conformance Environmental Incident Report and/or Environmental Improvement Notice may be issued by the Environmental Manager in response to the non-conformance problem if it is found to be construction related.

The timing for any improvement will be agreed between the relevant Engineer/Superintendent and Environmental Manager based on the level of risk (e.g. a significant risk will require immediate action).

All environmental monitoring equipment shall be maintained and calibrated according to manufacturer's specifications and appropriate records kept.

## 8.3 Auditing and reporting

### 8.3.1 Internal/Pacific Complete audits

Pacific Complete will conduct internal audits generally on a six monthly basis throughout the project. The purpose of auditing is to verify compliance with:

- This CEMP and associated plans
- Approval requirements (CoAs)
- Any relevant legal and other requirements (e.g. licences, permits, regulations, Roads and Maritime contract documentation).

An audit checklist will be developed and amended as necessary to reflect changes to this CEMP, subsequent approvals and changes to Acts, regulations or guidelines.

The audit requirements are listed in Table 8-2.

**Table 8-2 Audit requirements**

Audit	Scope	Timing	Responsibility
Project Audit	System operation and	Six monthly and in accordance with Pacific Complete Assurance Program	Pacific Complete & Roads and

<b>Audit</b>	<b>Scope</b>	<b>Timing</b>	<b>Responsibility</b>
Program	implementation. Statutory compliance verification	& RMS Project Management Office audit requirements	Maritime
Existing Construct Only Contracts	Verification of system implementation and field application and effectiveness of environmental control measures	Within three months of commencement of construction and then at six monthly intervals	Pacific Complete
Pacific Complete Construct Only Contracts  High risk work packages and contracts of value greater than \$20M  Low risk work packages of six months duration or less.  Low risk work packages greater than six months duration	Verification of system implementation and field application and effectiveness of environmental control measures	<b>High risk:</b>  Within three months of commencement on site, then at six monthly intervals	Pacific Complete
D&C Bridge Contracts	Verification of system implementation and field application and effectiveness of environmental control measures	One audit during the Detailed Design phase  Within three months of commencement of construction and then at three monthly intervals	Pacific Complete

In addition to the above, Project Contractors will be required to include within their project specific environmental management procedures provision for internal audits.

An audit report will be issued for action. A follow up/close out audit will be coordinated within one month of the issue of the audit report.

Audits shall be captured within the Pacific Complete Assurance application in IMPACT. Actions associated with audits will also be logged in IMPACT.

### **8.3.2 Contractor audits**

Contractors will be responsible for undertaking their own internal audits – these may be combined with Pacific Complete audits. Contractors will be required to submit an audit schedule for review by Pacific Complete. Contractors will also be required to submit any outcomes including NCRs or observations.

### **8.3.3 Independent external audits**

External auditing will be undertaken by an independent environment auditor in accordance with ISO 19011:2003 – *Guidelines for Quality and/ or Environmental Management Systems Auditing*.

In accordance with MCoA D30, an independent environmental audit will be undertaken within 12 months of the commencement of operation, and then as required by the Secretary. The independent audit will be commissioned and paid by Roads and Maritime/Pacific Complete and will include the following:

- a) Be conducted by a suitably qualified, experienced and independent team of experts whose appointment has been endorsed by the Secretary
- b) Include consultation with the relevant agencies
- c) Assess the environmental performance of the SSI and assess whether it is complying with the requirements of the approval, and any other relevant approvals (including any assessments, plan or program required under these approvals)
- d) Review the adequacy of any approved strategy, plan or program required under the abovementioned approvals
- e) Recommended measures or actions to improve the environmental performance of the SSI, and/or any strategy, plan or program required under these approvals.

Independent external audits pertaining to the P2T3 works would be submitted to the Office of Environment and Heritage (formerly DECC) and other relevant government authorities, in addition to the Secretary (formerly the Director General) within 6 months of the completion of the Audit, (unless otherwise agreed by the Director General).

## 8.4 Compliance tracking program

A Compliance Tracking Program has been developed for the work. The requirements of the Compliance Tracking Program, as prescribed in MCoA D27 are:

*The Applicant shall develop and implement a **Compliance Tracking Program** to track compliance with the requirements of this approval. The Program shall be submitted to the Director General for approval prior to the commencement of construction and operate for a minimum of one year following commencement of operation, or as otherwise agreed by the Director General. The Program shall include, but not necessarily be limited to:*

- a) *Provisions for the notification of the Secretary prior to the commencement of construction and prior to the commencement of operation of the work (including prior to each stage, where works are being staged)*
- b) *Provisions for periodic review of the compliance status of the work against the requirements of the Project Approval*
- c) *Provisions for periodic reporting of compliance status to the Secretary, including a Pre-Construction Compliance Report, during construction reporting and a Pre-Operation Compliance Report*
- d) *A program for independent environmental auditing in accordance with ISO 19011:2003 - Guidelines for Quality and/ or Environmental Management Systems Auditing*
- e) *Mechanisms for recording environmental incidents during construction and actions taken in response to those incidents*
- f) *Provisions for reporting environmental incidents to the Secretary and relevant public authorities during construction*
- g) *Procedures for rectifying any non-compliance identified during environmental auditing, review of compliance or incident management*
- h) *Provisions for ensuring all employees, contractors and sub-contractors are aware of, and comply with, the conditions of this approval relevant to their respective activities.*

The Compliance Tracking Program describes how the requirements of MCoA D27 will be met and sets out a program and frequency for compliance reporting and independent auditing. The

compliance reporting required under the Compliance Tracking Program will record how the MCoA has been addressed. A summary of the required compliance reporting, as required by MCoA D27, is provided in Table 8-3.

Note: Contractors will be required to track and report on the compliance status of all construction related CoA.

**Table 8-3 Compliance reporting**

No.	Report	Requirement	Timing	Responsibility	Recipient
1	Compliance tracking program MCoA D27	Describes how the requirements of MCoA D27 will be met and sets out a program and frequency for compliance reporting and independent auditing.	Prior to construction	Pacific Complete	Roads and Maritime DP&E
2	Pre-Construction Compliance Report MCoA D27	Review of compliance status of the project against the requirements of the Project Approval prior to construction	Prior to construction commencing	Detailed design houses to prepare compliance reports during detailed design Pacific Complete to review prior to submission to Roads and Maritime	DP&E
3	Construction reporting MCoA D27	Periodic review of compliance status of the work against the requirements of the Project Approval during construction	Six months following the commencement of construction and then at six-monthly intervals thereafter	Contractor to prepare Roads and Maritime to Review and submit	DP&E
4	Pre-Operation Compliance Report MCoA D27	Review of compliance status of the work against the requirements of the Project Approval prior to operation	Prior to operation commencing	Pacific Complete to prepare Roads and Maritime to Review and submit	DP&E

## 8.5 Pacific Complete compliance systems

Pacific Complete will develop and maintain for the life of the project, a compliance tracking database called *Comply Pro* which will capture and track all environmental requirements including conditions of approval and mitigation requirements from the SPIR and all of the subsequent management plans. It will also capture timing requirements and assign ownership to each requirement. *Comply Pro* will provide a comprehensive tracking system for the life of the project and monthly reporting which will be provided to Roads and Maritime and DP&E.

Contractors and suppliers for the project will be required to establish system links and assurance processes to implement *Comply Pro*. KPIs for compliance, tracking and reporting will be monitored in *Comply Pro*.

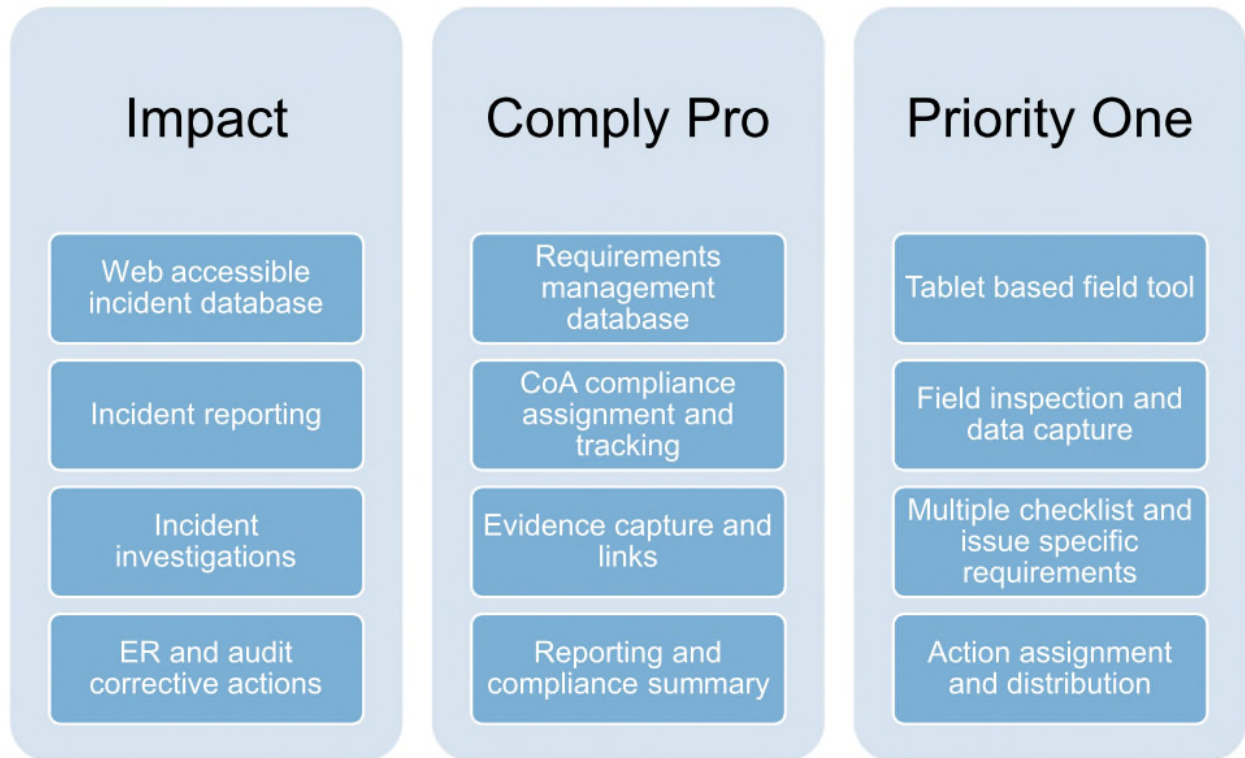
Issues identified during environmental inspections requiring further action beyond normal practice or maintenance will be logged into IMPACT. In addition, monthly oversight of inspection

outcomes, audit issues, incidents, and corrective actions will be provided through the actions created within the IMPACT application

*Priority One* is a tablet enabled and cloud based task management, forms & process control system that provides field inspection and data capture that can be assigned actions.

The compliance systems that Pacific Complete will use for the project are shown in Figure 8-1.

## CEMP compliance systems



**Figure 8-1 Pacific Complete compliance systems to be used during the project**

### 8.6 Other reporting

Prior to, during and following construction, various reports will be prepared to fulfil internal Roads and Maritime and contractor reporting needs, and requirements under the Project Approval. Table 8-4 sets out the reporting requirement applicable to the work, timing of the reporting, who is responsible for managing preparation of the reports and the intended recipient(s).

Additional reporting may be necessary as the works progress. In such a circumstance, Table 8-4 will be amended to reflect these changes.

**Table 8-4 Other reporting requirements**

No.	Report	Requirement	Timing	Responsibility	Recipient
1	Monthly environmental report	For incorporation in Project Monthly Reports including environmental statistics (i.e. incidents, regulatory action, complaints on environmental issues), regulatory and authority considerations, monitoring program performance and key environmental issues.	Monthly	Contractors to supply from their works to the PC Environment Manager who will collate a monthly report	Roads and Maritime
2	EPL monthly report	Details of all non-compliances with conditions of EPL, measures taken to prevent recurrence, and details of discharges from sediment basins where water quality results exceed EPL conditions, or reporting on other licence requirements.	Within 10 working days of the end of each calendar month.	PC Environment Manager	EPA
3	EPL annual returns	Report on compliance with EPL.	Within 60 days of the anniversary of the EPL.	PC Environment Manager	EPA
4	ER inspection report	Report of site environmental performance following routine inspections.	Monthly	Environmental Representative	PC Environment Manager, Roads and Maritime/ DP&E
5	Environmental risk assessment	Conducted for each construction stage, work changes and significant issues.	Prior to construction during development of CEMP and as required thereafter.	PC Environment Manager, Construction Contractors	Roads and Maritime, ER
6	Monitoring results	Report on monitoring data recorded and potential exceedances against criteria.	Monthly	PC Environment Manager	Roads and Maritime
7	RMS and/or EPA environmental inspection reports	Response to matter raised in RMS and/or EPA site inspections.	As required. (Typically every two weeks for RMS inspection reports and monthly for EPA inspection reports).	Construction Contractors	PC Environment Manager, Roads and Maritime/ EPA

## 8.7 Non-conformance, corrective and preventive actions

Any member of the project team and Contractors may raise a non-conformance or improvement opportunity. The Pacific Complete Quality Management Plan, which refers to *Non-conformance Reporting* and *Corrective Action Reports*, describes the process for managing non-conforming work practises and initiating corrective/preventative actions or system improvements.

The Environmental Representative, Roads and Maritime Representative or public authority may also raise a non-conformance or improvement opportunity using the same process.

A non-conformance is the failure or refusal to comply with the requirements of this CEMP and supporting documentation.

For each non-conformance identified a corrective/preventive action (or actions) must be implemented. In addition any environmental management improvement opportunities can be initiated as a result of incidents or emergencies, monitoring and measurement, audit findings or other reviews. Improvement opportunities may also result in the implementation of corrective/preventive actions.

Corrective/preventive actions and improvement opportunities will be entered into the Construction Contractor's quality system database and include detail of the issue, action required and timing and responsibilities. The record will be updated with date of close out and any necessary notes. The database will be reviewed regularly to ensure actions are closed out as required. Each month the Construction Contractor will update Pacific Complete with this information in the monthly report.

Non-conforming activities undertaken by Project Contractors may be stopped, if necessary, by the PC Environment Manager, Portion Environment Area Leads, Project/Site Engineers or Site Environmental Officers. The works will not commence until a corrective/preventive action has been closed out. The Environmental Representative may also stop works in these circumstances. In such circumstances a non-conformance report must be prepared by the Project Contractor in accordance with the Pacific Complete Quality Management Plan.

Procedures for rectifying any non-compliance identified during environmental auditing, review of compliance or incident management are also documented in the Compliance Tracking Program.



## 9 Review and improvement

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Management reviews are undertaken as part of the continual improvement process. The management review can consist of group reviews, or executive reviews.

A group review is initiated by the PC Environment Manager and includes relevant project team members and stakeholders. The environment team also meet as least quarterly, or at other pre-determined periods, to review environmental management issues for the work. The environment team meeting can be run in conjunction with a wider group meeting if the PC Environment Manager deems it appropriate.

The environment group meetings include:

- A review of the aspects and impacts register, legal register and environmental induction
- Consideration of monitoring, inspection and audit results
- Consideration of incidents and any lessons learnt
- Consideration of any new regulatory issues
- A review of the effectiveness of erosion and sediment controls
- Consideration of issues raised by ERG
- Consideration of changes in operational needs such as resourcing
- Feedback from management reviews.

An executive review will involve the management team. This review will be held every 12 months and will include a review of:

- Effectiveness of environmental management documentation implementation
- Management effectiveness
- Potential improvements to the environmental management documentation
- Adequacy of resources
- Findings of audits
- Environmental objectives and targets
- Environmental performance
- Compliance with legal and other requirements
- Critical non-conformance or repeated non-conformances
- Organisation changes
- Effectiveness of training and inductions.

The outcomes of the group and executive reviews could include amendments to this CEMP and related documentation, revision to the project's environmental management system, risk assessment review, re-evaluation of the project objectives and targets as well as feeding into other project documents.



# 10 Documentation

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## 10.1 Environmental records

The PC Environment Manager is responsible for maintaining all environmental management documents as current at the point of use. Types of records include:

- All monitoring, inspection and compliance reports/records
- Correspondence with public authorities
- Induction and training records
- Reports on environmental incidents, other environmental non-conformances, complaints and follow-up action
- Community engagement information
- Minutes of CEMP and construction environmental management system review meetings and evidence of any action taken.

All environmental management documents are subject to ongoing review and continual improvement. This includes times of change to scheduled activities or to legislative or licensing requirements.

Only the PC Environment Manager, or delegate, has the authority to change any of the environmental management documentation. Environmental documents and records will be kept and updated in accordance with the Pacific Complete Quality Management Plan.

## 10.2 Document control

Pacific Complete, or Roads and Maritime where relevant, will coordinate the preparation, review and distribution, as appropriate, of the environmental documents listed above. All documents will be accessible through TeamBinder – an online document system.

Document control procedures have been implemented through TeamBinder to control the flow of documents within and between Pacific Complete, Roads and Maritime, stakeholders and subcontractors.

The procedure will also ensure that documentation is:

- Developed, reviewed and approved prior to issue
- Issued for use
- Controlled and stored for the legally required timeframe
- Removed from use when superseded or obsolete
- Archived.

A register and distribution list will identify the current revision of particular documents or data.



## 11 References

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Roads and Maritime 2012 *Woolgoolga to Ballina Pacific Highway Upgrade Environmental Impact Statement*, Roads and Maritime Services, Sydney.

Roads and Maritime 2014 Quality assurance (QA) specification G36: *Environmental Protection (Management System)*, Roads and Maritime Services, Sydney.

DIPNR, 2004 *Guideline for the Preparation of Environmental Management Plans*, Department of Infrastructure, Planning and Natural Resources, Sydney.

Standards Australia 2001 *Australian and New Zealand environmental management international standard (AS/NZS ISO 14001)*, Standards Australia, NSW.



## **12 Environmental Representative Certification**

## Hawkins, Toni (PB)

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**From:** ERM ANZ W2B ER Murray Curtis Project Mailbox  
<W2B.ER.Murray.Curtis@erm.com>  
**Sent:** Sunday, 23 July 2017 9:09 PM  
**To:** Morris, Chris  
**Cc:** Hawkins, Toni (PB); LAWRENCE Scott B (Scott.LAWRENCE@rms.nsw.gov.au)  
**Subject:** RE: CEMP Revision 5 (with track changes), Appendix A1 (with P2T3) and CEMP Edit Schedule

Chris,

I have reviewed the proposed amendments to the W2B Sections 3-11 CEMP Rev 4 and agree that they are minor in nature.

I note there is no signature box for the ER, therefore please accept this email as ER approval for W2B Section 3-11 CEMP Rev 5.

Regards,

Murray Curtis  
Partner  
**ERM**

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Please consider the environment before printing this message  
Check out ERM's 2015 Sustainability Report: [Sustainability Report](#)  
[ERM Foundation Review](#)

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**From:** [system@teambinder.com](mailto:system@teambinder.com) [<mailto:system@teambinder.com>]  
**Sent:** Thursday, May 18, 2017 9:45 AM  
**To:** ERM ANZ W2B ER Murray Curtis Project Mailbox  
**Subject:** CEMP Revision 5 (with track changes), Appendix A1 (with P2T3) and CEMP Edit Schedule





## **Appendix A1** Legal and other requirements

**Table A1.1 Legal Requirements**

Act	Activity/aspect	Requirement	Reference	Part 5.1 applicability
<b>General</b>				
<i>Environmental Planning and Assessment Act 1979</i>	All	Comply with the terms Minister for Planning and Infrastructure's approval for the project. Obtain the Minister's approval for any project modifications that are not consistent with the planning approval.	S115ZI	Yes
<b>Water</b>				
<i>Water Management Act 2000</i>	Water access and use.	Do not take water from a water source (a lake, river or estuary or place where water occurs naturally on or below the surface of the ground, and includes coastal waters) without an access licence.	S56 S60A S89	No
	With the exception of controlled activity approvals, the <i>Water Management Act 2000</i> (WM Act) only applies in relation to those water sources covered by operational water sharing plans – these areas cover most of the State's major regulated river systems.	Do not use water on land (unless supplied by a water utility, irrigation corporation or in accordance with basic landholder rights) without a water use approval.	S91A	
<i>Water Management Act 2000</i>	Water management works	Do not construct/use a water supply work, drainage work or flood work without the appropriate approval.	S90 S91B S91C S91D	No

Act	Activity/aspect	Requirement	Reference	Part 5.1 applicability
<i>Water Management Act 2000</i>	Waterfront land.	Do not deposit material, excavate, or remove material within a watercourse bank, shore or bed, or on land 40 metres inland, or interfere with the likely flow of water to such a body, without a controlled activity approval.	S91	No  Public authorities are exempt from the need to obtain a controlled activity approval.  Water Management (General) Regulation 2004 (cl.39A)
<i>Water Act 1912</i>  Note that this Act is being progressively repealed by the <i>Water Management Act 2000</i> (WM Act).  With the exception of controlled activity approvals, the WM Act only applies in relation to those water sources covered by operational water sharing plans – these areas cover most of the State's major regulated river systems.	Surface water	Obtain a licence or permit for construction or use of 'work' for purposes including the taking and using of water.	S21B	Yes
	Groundwater	Obtain a licence where interference with groundwater is likely to occur.	S112 S121A	S112 does not apply to the Crown. RMS is therefore not required to obtain a licence under this provision.
	Floodplains	Obtain an approval for controlled works. These include works which occur on a designated floodplain, which can prevent land from being flooded or which can affect water flow to or from a river or lake.	S180	An exemption in relation to roads potentially applies – see clause 4 of the Water (Part 8-General) Regulation 1995.
<i>Protection of the Environment Operations Act 1997</i>	Water pollution	Do not cause water pollution (other than to a sewer), except in accordance with the conditions of any EPA licence.	S120 S122	Yes

Act	Activity/aspect	Requirement	Reference	Part 5.1 applicability
<b>Noise</b>				
<i>Protection of the Environment Operations Act 1997</i>	Plant maintenance and operation	Do not operate plant if it emits noise caused by poor maintenance or operation.	S139	Yes
<i>Protection of the Environment Operations Act 1997</i>	Materials management	Do not cause noise by failing to properly and efficiently deal with materials.	S140	Yes
Protection of the Environment Operations (Noise Control) Regulation 2008	Marine vessels – offensive noise and noise control equipment	As owner or captain, do not allow a vessel to be used on navigable waters so as to emit offensive noise.  Do not use a vessel on navigable waters if its noise control equipment is defective.	cl. 30-31 cl. 32	NA
<b>Contaminated material</b>				
<i>Protection of the Environment Operations Act 1997</i>	Land pollution	Do not cause or permit land pollution other than under authority of a licence or regulation. (However it is not a land pollution offence to place virgin excavated natural material or lawful pesticides and fertilisers on land, or by placing matter on land that has been notified to the EPA as an unlicensed landfill and which is operated in accordance with the regulations.)	S142A – S142E	Yes
<i>Contaminated Land Management Act 1997</i>	Reporting contamination	Notify the EPA if: <ul style="list-style-type: none"> <li>Contaminants exceed thresholds contained in guidelines or the regulations where contamination has entered or will foresee ably enter neighbouring land, the atmosphere, groundwater or surface water.</li> <li>Contaminants in soil are equal to or exceed guideline levels with respect to the current or approved use of the land.</li> <li>Contamination meets other criteria that may be prescribed by the regulations.</li> </ul>	S60	Yes

Act	Activity/aspect	Requirement	Reference	Part 5.1 applicability
Biodiversity				
<i>Noxious Weeds Act 1993</i>	Weed control	As a public authority occupier of land, control noxious weeds on the land as required under the control category or categories specified in relation to the weeds concerned.  Notify relevant control authority within three days of becoming aware that a notifiable weed (W1 weed) is on land. (or ought reasonably to have known).  Must not scatter or cause to scatter notifiable weed material.	S13 S16 S30	Yes
<i>National Parks and Wildlife Act 1974</i>	Native fauna	Do not harm any animal that is of a threatened species population or ecological community, or its habitat except in accordance with a planning approval.	Part 8A	Yes
		Do not harm critical habitat except as in accordance with a planning approval.	S98	Yes
		Do not harm native fauna (other than listed unprotected fauna) except in accordance with a planning approval or licence.	S120, S127, 132C	Yes
<i>Native Vegetation Act 2003</i>	Flora and native vegetation conservation	Only clear native vegetation in accordance with a planning approval or property vegetation plan.	S12	Yes
<i>National Parks and Wildlife Act 1974</i>	Flora and native vegetation conservation	Do not pick protected native plants without a licence.	S117 S131	Yes
<i>Fisheries Management Act 1994</i>	Dredging or reclamation	Provide the Minister for Primary Industries 28 days notice of planned dredging or reclamation work.	S199	Yes

Act	Activity/aspect	Requirement	Reference	Part 5.1 applicability
<i>Fisheries Management Act 1994</i>	Mangroves, seagrasses and marine vegetation	Do not harm any mangroves, seagrasses or other marine vegetation on public water land protected by the regulations without a permit.	S205	No
<i>Fisheries Management Act 1994</i>	Fish passage	Do not block fish passage without a permit.	S219	No
<i>Environment Protection Biodiversity Conservation Act, 1999 (Commonwealth)</i>	Flora and fauna conservation	Do not kill, injure or take a member of a listed threatened species without a permit.	Part 13	Yes
	All	Comply with the terms of any EPBC Act approval for the project.		Yes
<b>Waste</b>				
<i>Protection of the Environment Operations Act 1997</i>	Littering	Do not litter in a public place or an open private place. Do not litter from a vehicle.  Only deposit advertising material in receptacles provided for mail or newspapers or under the door of the premises.  Do not deposit advertising material on or in vehicles.	Part 5.6A	Yes
<i>Protection of the Environment Operations Act 1997</i>	Waste and transportation	Do not undertake a scheduled waste activity unless in accordance with an environmental protection licence.  A licence must be obtained when construction and demolition wastes are applied to land under certain circumstances. This includes the reincorporation of crushed road base material back into roads and the placing of excess fill material onto properties. A licence is not required if the material: <ul style="list-style-type: none"> <li>• Is VENM.</li> <li>• Does not exceed 200 tonnes in the Sydney, Newcastle and Wollongong areas, or 20,000 tonnes outside these areas.</li> <li>• Is covered by a “general exemption”. Current exempted materials are ENM, recycled aggregates and raw mulch. These exemptions are conditional and require some chemical testing of materials before they are placed onto land.</li> </ul>	Part 3.2  Schedule 1	Yes

Act	Activity/aspect	Requirement	Reference	Part 5.1 applicability
		A licence must be obtained if more than 2,500 tonnes (or cubic metres, whichever is lesser) are stored on a stockpile site at any one time, or more than 30,000 tonnes of waste is received per year from off site.		
		Only transport waste to a facility that can lawfully accept the waste.	S143	Yes
		Do not dispose of waste in a manner that harms or is likely to harm the environment.	S115	Yes
Protection of the Environment Operations (Waste) Regulation 2014	Waste and transportation	Comply with general requirements for the transport of waste. For example, any vehicle used by the person to transport waste must be kept in a clean condition and be maintained so as to prevent spillage of waste. For some wastes only licensed transporters can be used.	Regulation cl.49	Yes
		Comply with record keeping requirements in relation to the transport of certain types of waste.	Regulation Part 3	Yes
<b>Heritage</b>				
<i>Heritage Act 1977</i>	Heritage	Do not undertake an activity that will affect a place, building, work, relic, moveable object or precinct which is subject to an Interim Heritage Order or is listed on the State Heritage Register without approval from the Heritage Council.	S56-57	No
		Do not disturb or excavate land with knowledge or reasonable cause to suspect that the disturbance or excavation will or is likely to result in a relic being discovered, exposed, moved, damaged or destroyed. Do not disturb or excavate land on where a relic has been discovered or exposed.	S139	No
		Notify the heritage Council on discovery of a relic.	S146	Yes

Act	Activity/aspect	Requirement	Reference	Part 5.1 applicability
<i>National Parks and Wildlife Act 1974</i>	Aboriginal places and objects	Do not harm or desecrate an Aboriginal object or Aboriginal place without consent.	S86 S90	No
		Notify the NPWS within reasonable time of becoming aware of the location or discovery of certain Aboriginal objects.	S89A	Yes
<i>Aboriginal and Torres Strait Islander Heritage Protection Act 1984 (Commonwealth)</i>	Protection of areas and objects	Report any discovery of Aboriginal remains to the Federal Minister for the Environment and Heritage.	S20	Yes
		Comply with the provisions of any declaration in relation to a significant Aboriginal area or object.	S22	Yes
<b>General</b>				
<i>Protection of the Environment Operations Act 1997</i>	Harming the environment	Do not risk harming the environment by wilfully or negligently:	S115	Yes
		• Disposing of waste unlawfully.	S116	
		• Causing any substance to leak, spill or otherwise escape (whether or not from a container).	S117	
		• Emitting an ozone depleting substance.		
<i>Protection of the Environment Operations Act 1997</i>	Control equipment	Properly and efficiently maintain and operate any installed pollution control equipment (including monitoring devices).	S167	Yes
		Notify the EPA immediately of pollution incidents where material harm to the environment is caused or threatened.	S148	Yes



Act	Activity/aspect	Requirement	Reference	Part 5.1 applicability
<i>Protection of the Environment Operations Act 1997</i>	Site licensing	Do not carry out or allow an activity listed in Schedule 1, or carry out work to enable such an activity, unless the premises are licensed by the EPA. This applies to: <ul style="list-style-type: none"> <li>road construction: meaning the construction, widening or re-routing of roads if it results in the existence of four or more traffic lanes (other than bicycle lanes or lanes used for entry or exit) for 1 kilometres of their length in the metropolitan area, or 5 kilometres in length in any other area, where the road is classified, or proposed to be classified, as a freeway or tollway under the Roads Act 1993.</li> </ul>	S47 S48	Yes
<i>Environmentally Hazardous Chemicals Act, 1985</i>	Hazards and risks	Obtain a licence to undertake prescribed activities involving environmentally hazardous chemicals or declared chemical wastes.	S28	Yes
<i>Dangerous Goods (Road and Rail Transport) Act 2008</i>	Hazards and risks	Ensure that dangerous goods are transported in a safe manner.	S9	Yes
<i>Pesticides Act 1999</i>	Hazards and risks	Use pesticides in an environmentally sensitive manner. Do not use an unregistered pesticide without a permit. Read the label or permit for the pesticide. Use registered pesticides in accordance with instructions on the label. Do not use any restricted pesticide unless authorised by a certificate of competency or a pesticide control order under the Act. Compliance with pesticide codes of practice is required.	S12 S13 S14 S15 S17	Yes
<i>National Greenhouse and Energy Reporting Act, 2007 and Regulations 2008</i>	Greenhouse gas emissions	Accounting and reporting of greenhouse gases produced and energy consumed during construction. Applicability dependent on thresholds.	-	Yes

**Table A1.1 RMS G36 requirements**

Requirement	Relevant section of CEMP or supporting documentation
Implement a Contractors Environmental Management System (CEMS)	This document
An environmental policy must be included in the CEMS	Appendix A3
Prepare and implement a CEMP in accordance with ISO 14001 Clause 4.	This document
Nominate the Environmental Manager directly responsible for ensuring that the requirements of the CEMS are implemented and maintained.	Section 4.3
Indicate how suitable resources will be assigned to ensure that the CEMP is fully implemented.	Section 4.3
Detail the relationship between the designated Environmental Manager and other personnel responsible for implementing the CEMP.	Section 4.3
Include a matrix or index in the CEMP showing where the environmental protection requirements of G36 have been addressed.	This table
Advise RMS Representative of any changes to the CEMS or CEMP	Chapter 9
Monitor and evaluate environmental performance.	Chapter 8
Detail how control of non-conformity, corrective and preventive actions will be implemented and closed out.	Section 8.6
Schedule and undertake CEMS audits and CEMP compliance audits.	Section 8.3
A CEMP must be prepared and include environmental protection practices, resources and sequence of activities required to comply with relevant environmental legislation, conditions of any applicable licence, approval and permit, ISO 14001 Clause 4.	This document
The CEMP must be either incorporated or part of the project quality plan.	Noted

Requirement	Relevant section of CEMP or supporting documentation
The CEMP must identify potential adverse environmental effect, applicable regulatory requirements and/or compliance limits, with a particular emphasis on a risk-based approach. Appropriate environmental protection measures must be documented to keep environmental effects within compliance limits.	Appendix A2
The CEMP must include all supplementary plans for environmental protections	Appendix B1 – Appendix B10
The CEMP must indicate the names, responsibilities and authority of your site management personnel who have primary responsibility for implementing the CEMP, monitoring its effectiveness, rectifying and reporting any environmental deficiencies, controlling further construction activities until deficiencies are rectified and keeping your environmental records.	Section 4.3
The CEMP must identify the Environmental Manager as the authorised contact person for communications with the RMS Representative and EPA on environmental matters.	Section 4.3
The CEMP must detail how changes to the environmental management documentation and data are to be identified and communicated to relevant project personnel.	Section 1.6
<p>The CEMP must include details of:</p> <ul style="list-style-type: none"> <li>• Key emergency response personnel showing responsibilities and contact details including all-hours telephone numbers.</li> <li>• Emergency services (e.g. ambulance, fire brigade, spill clean-up services).</li> <li>• Communications strategy (internal and external).</li> <li>• Containment measures to be taken in the event of emergency situations that may arise during the Contractor's Work and procedures for restoration.</li> </ul>	Contacts, Section 4.3, Chapter 6, Chapter 7
All Environmental Incidents must be managed and reported in accordance with the RTA <i>Environmental Incident Classification and Management Procedure</i> .	Appendix A5

Requirement	Relevant section of CEMP or supporting documentation
<p>EPA will be notified via the EPA Environment Line (telephone 131 555) of any environmental incidents or pollution incidents on or around the Site in accordance with Part 5.7 of the Protection of the Environment Operations Act 1997 (NSW) (POEO Act), in the following circumstances:</p> <ul style="list-style-type: none"> <li>• If the actual or potential harm to the health or safety of human beings or ecosystems is not trivial.</li> <li>• If actual or potential loss or property damage (including clean-up costs) associated with an environmental incident exceeds \$10,000.</li> </ul> <p>Notify RMS verbally immediately, and in writing within 24 hours, of all environmental incidents.</p>	Chapter 7 and Appendix A5
<p>Ensure that all staff and subcontractors working on the Site are provided with environmental training to achieve a level of competence and awareness appropriate to their assigned activities before they commence their assigned activities.</p>	Chapter 5
<p>Include in the CEMP the procedures to be implemented to ensure subcontractor compliance.</p>	Section 4.4
<p>The CEMP must identify at least two people (and their contact telephone numbers) who will be available to be contacted by the EPA on a 24 hour basis and who have authority to take immediate action to shut down any activity, or to effect any pollution control measures, as directed by an authorised officer of the EPA.</p>	Contacts
<p>Notify local residents about new or changed construction activities which will affect access to their properties or otherwise significantly disrupt residents' use of their premises.</p>	Section 6.3
<p>Inform residents of the proposed work outside normal working hours.</p>	Section 6.3
<p>The CEMP must include a procedure for notifying RMS and all relevant authorities in advance of proposed extension to hours of work.</p>	Section 6.3
<p>Report on complaint about any environmental issue, including pollution, arising from the Works.</p>	Section 6.3
<p>Maintain environmental records to demonstrate compliance with the CEMP.</p>	Chapter 8
<p>Document in the CEMP and implement a checking procedure to verify that work is in compliance with this Specification.</p>	Section 8.4
<p>Undertake inspections and surveillance, and report on performance on high risk events and activities, works in environmentally sensitive areas, the adequacy of operational controls, and measurements</p>	Chapter 8

Requirement	Relevant section of CEMP or supporting documentation
for aspects where compliance limits have been specified.	
Develop and implement a risk-based auditing program.	Section 8.3
Implement and document in the CEMP a waste and recycling material data collection program.	Appendix B7
Detail in the CEMP the location of environmental controls in environmentally sensitive areas.	Section 4.2.6
Identify obligations under environmental legislation relevant to the Work.	Appendix A1
Obtain all necessary approvals, licences and permits required for the work and carry out work in accordance with the requirements.	Section 3.3
Identify construction activities and access requirements to the construction site and the other areas affected by the Work.	Appendix B1
Prepare and implement a construction traffic and access management plan	Appendix B1
Prepare and implement a construction soil and water quality management plan addressing: <ul style="list-style-type: none"> <li>• Erosion and sedimentation control.</li> <li>• Water extraction.</li> <li>• Dewatering.</li> <li>• Works in waterways</li> <li>• Impacts on groundwater from construction.</li> </ul>	Appendix B4
Prepare and implement a construction air quality management plan.	Appendix B6
Prepare and implement a construction noise and vibration management plan.	Appendix B3
Manage clearing, mulch, flora and fauna. Prepare and implement a construction flora and fauna management plan.	Appendix B2
Include fauna habitat conservation measures in the CEMP. The CEMP must include provisions for compliance with the EPBC Act and Threatened Species Conservation Act where listed threatened species or migratory species are affected.	Appendix B2

Requirement	Relevant section of CEMP or supporting documentation
Plan and execute the Work so as to minimise the possibility of pollution of the Site and adjoining areas from chemicals, dangerous goods and other potential contaminants.	Appendix B4
The CEMP must include details of the management of the bunded area including, but not be limited to, monitoring of the bunded areas, drainage requirements and procedures to meet environmental requirements and to ensure that bund capacities are maintained.	Appendix B4
Plan and execute the Work so as to minimise the possibility of pollution of the Site and adjoining areas from chemicals, dangerous goods and other potential contaminants.	Appendix B4
Prepare and implement a construction heritage management plan to manage Aboriginal and non-Aboriginal heritage.	Appendix B5
Manage contaminated land.	Appendix B8
Prepare and implement a construction waste and energy management Plan.	Appendix B7
The CEMP must contain details of types and quantities of proposed material likely to be generated and proposed methods of disposal, recycling or re-use of such surplus materials.	Appendix B7
Reinstate all disturbed areas both on and off the Site.	Appendix B4, Design and Landscape Plan
Prepare and implement an ancillary facilities management plan.	Appendix B9
Prepare and implement a borrow sites management plan.	Appendix B10
Prepare and implement a construction contaminated land management plan	Appendix B8
Prepare and implement a construction acid sulphate materials management plan	Appendix B4



2	The Proponent shall comply with, or ensure compliance with all requirements of the Director-General in respect of the implementation of any measures arising from the Conditions of this Approval. The Proponent shall bring to the attention of the Director-General any matter that may require further investigation and the issuing of instructions from the Director-General. The Proponent shall ensure that these instructions are implemented to the satisfaction of the Director-General within such time that the Director-General may specify.	Compliant as certified by Rob van Iersel (Environmental Management Representative) 22-JUN-2016	A9 - A11	W2B CEMP Section 8.4 Compliance Tracking; Table 8.3
3	The Proponent may elect to construct the project in discrete work packages or defined stages. In that situation the Conditions of Approval must be complied with separately for each discrete work package or defined stage.	Compliant as certified by Rob van Iersel (Environmental Management Representative) 22-JUN-2016	A7b	The final stage of Stage 2 is commencing February 2017
<i>Pre-Construction Compliance Report</i>				
	<p>At least one month prior to commencement of substantial construction (or within such period as otherwise agreed by the Director-General), the Proponent shall submit a report detailing how all conditions to be addressed prior to substantial construction have been complied with. The project must not commence until the proponent has been advised in writing that the Director-General has approved the Pre-Construction Compliance Report.</p> <p>The Director-General shall provide a response within 1 month of receiving the Pre-Construction Compliance Report. The Director-General may request additional information if the Pre-Construction Compliance Report is considered incomplete. In such cases, the time between the date on which the Proponent receives the request, and the date on which the additional information is provided to the Director-General, shall not be taken into account in the 1 month period. The Director-General shall make any request for additional information in writing. This report shall provide the following information as a minimum:</p> <p>(a) Details demonstrating how the activities leading up to substantial construction have been addressed. Amongst other matters, these</p> <p>(i) nomination and approval of <i>Environmental Management Representative</i></p> <p>(ii) site surveying (assuming no clearance or site works are required);</p> <p>(iii) community consultation including copies of publications and media releases;</p> <p>(iv) the geological and hydrogeological report required under Condition 26;</p> <p>(v) noise monitoring;</p> <p>(vi) EMP preparation;</p> <p>(vii) communications with Department of Planning and other relevant agencies;</p> <p>(viii) compliance with all relevant Conditions of Approval.</p> <p>(b) a timeframe indicating when each of the conditions were complied with. This may include dates of submissions of the various studies</p> <p>(c) conditions placed on any approvals or licences issued by other agencies and action taken (or proposed) to satisfy the requirements</p> <p>(d) a plan indicating how the conditions which apply to the construction</p>	<p>Pimlico to Teven Staging Report submitted and certified by Rob van Iersel (Environmental Management Representative) 22-JUN-2016.</p> <p>Compliant as certified by Rob van Iersel (Environmental Management Representative) 22-JUN-2016.</p> <p>Compliant as certified by Rob van Iersel (Environmental Management Representative) 22-JUN-2016.</p>	D27a, b, c)	<p><i>27a) Provisions for notification to the Secretary prior to commencement of construction 27b) provisions for periodic review of the compliance status against the requirements of the approval 27c) provisions for periodic reporting of compliance status to the Secretary, including a Pre-construction Compliance Report, prior to the commencement of construction, and a pre-operation compliance report prior to the commencement of operation.</i> The P2T second stage was completed in May 2016, final stage estimated February 2017. Additional to this, on 23rd December 2016 a Pre-construction Compliance Report was appended to the Staging Report submitted to the Department to cover requirements of Condition 4 - Pre-Construction Compliance Report and therefore negate the need to submit a separate report for approval in compliance with Condition 4. The Pre-Construction Compliance Report detailed specific compliance for the current stage of works as covered under the W2B project CEMP and associated Sub-plans. Notation was made to the Staging Report detailing that a Pre-Construction Compliance Report was submitted prior to commencement of construction of the BBA project as per requirements of Condition 4; and that the formation in Staging Report Appendix detailed specific compliance for the current stage of works.</p> <p>On 17th January 2017 notification was received from the Department acknowledging receipt of the Staging Report, Pre-construction Compliance Report attached.</p> <p>On 17th January 2017 notification was received from the Department acknowledging receipt of the Staging Report that included the Pre-construction Compliance Report as an Appendix.</p>



4	<p>Note: If construction is undertaken in discrete stages then a Pre-Construction Compliance Report will need to be prepared in accordance with Condition 4 for each discrete work package or defined stages.</p>			Staging Report submitted for final stage confirmed as received by Department 17th January 2017
<b>Pre-Operation Compliance Report</b>				
5	<p>At least one month (or within such period as otherwise agreed by the Director-General) prior to commencement of operation of any part of the project (or defined stages of the project), the Proponent shall submit a Compliance Report for approval of the Director-General. This report shall detail how all conditions that apply prior to commencement of operation have been complied with. The report shall provide the following information as a minimum:</p> <ul style="list-style-type: none"> <li>(a) details demonstrating how each condition was satisfied during construction;</li> <li>(b) a timeframe indicating when each condition was complied with. This may include dates of submissions of the various studies and/or requirements of various relevant conditions, approval dates, completion of any necessary works etc.;</li> <li>(c) summaries of major issues raised through the ongoing Community Consultation process and how these issues were addressed;</li> <li>(d) summaries of major environmental issues, how they were managed, and lessons learned;</li> <li>(e) conditions placed on any operational approvals or licences issued by other agencies; and action taken (or proposed) to satisfy the requirements of approvals and/or studies; and,</li> <li>(f) a plan indicating how the conditions which apply during the operation stage will be satisfied.</li> </ul> <p>Note: The Director-General shall provide a response within 1 month of receiving the Pre-Construction Compliance Report required by Condition 4 or the Pre-Operation Compliance Report required by Condition 5. The Director-General may request additional information if the report is considered incomplete. In such cases, the time between the date on which the Proponent receives the request, and the date on which the additional information is provided to the Director-General, shall not be taken into account in the 1 month period. The Director-General shall make any requests for additional information within 2 weeks of receipt of the Pre-Construction Compliance Report or the Pre-Operation Compliance Report from the Proponent.</p>	A Pre-operation compliance report submitted at least one month prior to the commencement of operation of the final stage of works. Compliant as certified by Rob van Iersel (Environmental Management Representative) 22-JUN-2016.	D27c)	<p>27c) provisions for periodic reporting of compliance status to the Secretary, including a Pre-construction Compliance Report, prior to the commencement of construction, and a pre-operation compliance report prior to the commencement of operation.</p> <p>P2T second stage was completed in May 2016 and Pre-Operation Plan provided. Noted and prior to the operation of the final stage this condition will be met (W2B CEMP Section 8.4 details this requirement in compliance Tracking Program)</p>
<b>Project Commencement</b>				
6	The Proponent shall notify the Director-General and all relevant authorities in writing at least 1 week prior to commencement of construction and operation. For the purposes of assessing compliance with these Conditions, the Proponent shall explicitly identify a date for construction and a date for substantial construction.	Compliant as certified by Rob van Iersel (Environmental Management Representative) 22-JUN-2016	D27a, b, c)	Substantial construction for Stage 2 commenced in late 2013. The RMS notified the Director-General of the CPB's intention to commence construction of the project on 14 November 2013 and substantial construction on 21 November 2013 in a letter dated 7 November 2013. DoPI response received 5 December 2013. The final stage of P2T has been awarded for construction and a letter will be submitted to the Department in writing at least one week prior to substantial construction. This letter shall explicitly identify a date for construction and a date for substantial construction and is anticipated to be set on or around April 2017 (Contractor program dependant).
<b>Dispute Resolution</b>				

7

The Proponent shall endeavour, as far as possible, to resolve any dispute with relevant public authorities arising out of the implementation of the Conditions of this Approval. Should this not be possible, the matter shall be referred firstly to the chief executives and directors of the agencies involved and if the matter cannot be resolved then to the Minister for resolution. The Minister's determination of the disagreement shall be final and binding on all parties.

Compliant as certified by Rob van Iersel (Environmental Management Representative) 22-JUN-2016

W2B CEMP Section 6.3.2 "A Complaints and Enquiries Procedure, consistent with AS 4269: Complaints Handling, has been developed for the work, in accordance with the requirements of MCoA C2 and C3 and RMS Specification G36."

**Complaints Management System**

The Proponent shall implement a Complaints Management system prior to the commencement of construction, which ensures all complaints received during construction are recorded and managed as expeditiously as possible. Minimum requirements of the Complaints Management System shall include:

- (a) a 24 hour, toll free telephone number that is listed with a telephone company and advertised by means (e.g. newspapers, site signage etc.) that would maximise public awareness of the number. This telephone number shall enable any member of the public to reach a person who can arrange appropriate response(s) to the complaint(s);
- (b) adequate resourcing to implement the Complaints Management System including human resources, communication and transport etc.
- (c) an appropriate person(s) to receive, log, track and respond to complaints within the specified timeframe. The name and contact details of the nominated person(s) shall be provided to Ballina Shire Council, relevant authorities and the Director-General upon appointment or upon any changes to that appointment;
- (d) details of all complaints received during construction are to be recorded, in accordance with (c) above and at least a verbal response on the action undertaken or proposed to be undertaken shall be provided to the complainant within two hours of the complaint in the case of night time works (or within an alternate time agreed to by the complainant) and within 24 hours of the complaint in the case of standard construction hours or non-construction times;
- (e) a process for the provision of a more detailed response to the complainant within 10 days, if additional information exists (over and above that provided in the initial response);
- (f) appropriate management structures to allow effective resolution of complaints; and,
- (g) a mediation system to ensure that all complaints are satisfactorily addressed to the greatest extent practicable. Where external or independent mediation is required, the mediator is to be approved by the Director-General.

Compliant as certified by Rob van Iersel (Environmental Management Representative) 22-JUN-2016

Part C

W2B CEMP Section 6.3.2 ; Communications and Stakeholder Engagement Strategy Section s 6.3.1 and Section 7 "All community inquiries and complaints related to the construction activities will be referred to the 24-hour community information line (1800 778 900). A postal address (Woolgoolga to Ballina upgrade, PO Box 546 Grafton NSW 2460 and email address (W2B@rms.nsw.gov.au) has been provided for receipt of complaints and enquiries. The telephone number, the postal address and the email address will be published in newspapers circulating in the local area prior to the commencement of construction and is provided on the project website."

8	<p>Information on all complaints received, including the means by which they were addressed and whether resolution was reached with or without mediation, shall be included in the six-monthly Construction Compliance Report required by Condition 15 and shall be made available to the Director-General upon request.</p>			
<b>Advertisement of Activities</b>				
9	<p>Prior to the commencement of construction, and then at three (3)-monthly intervals, the Proponent shall advertise in relevant local newspapers, the nature of the works proposed for the forthcoming three months, the areas in which these works are proposed to occur, the hours of operation and a contact telephone number.</p> <p>The Proponent shall ensure that the local community and businesses are kept informed (by appropriate means such as: newsletters, leaflets, newspaper advertisements, community noticeboards, etc.) of the progress of the project, including any traffic disruptions and controls, construction of temporary detours and work required outside the nominated working hours, in particular noisy works, prior to such works being undertaken.</p>	<p>Compliant as certified by Rob van Iersel (Environmental Management Representative) 22-JUN-2016</p>	<p>Part C</p> <p>Part C</p>	<p>W2B Communications and Stakeholder Engagement Strategy (Section 5.2.2 and Appendix C Section 1.5 Press Advertising)</p> <p>W2B Communications and Stakeholder Engagement Strategy (Section 5.2.2 and W2B Stakeholder and Community Liaison Plan Appendix C, Section 1.2 Community Updates)</p>
10	<p>The Proponent shall establish a project internet site prior to the commencement of construction and maintain the internet site until 12 months after opening the project to traffic. This internet site shall contain monthly updates of work progress, consultation activities and a planned work schedule, including but not limited to:</p> <ul style="list-style-type: none"> <li>(a) a description of relevant approval authorities and their areas of responsibility;</li> <li>(b) a list of reports and plans that are publicly available under this Approval and the executive summaries of those reports;</li> <li>(c) minutes of community liaison group meetings;</li> <li>(d) contact names and phone numbers of the project communications staff; and,</li> <li>(e) the 24 hour toll-free complaints contact telephone number.</li> </ul> <p>Updates of work progress, construction activities and planned work schedules shall be provided more frequently where significant changes in noise impacts are expected.</p>	<p>Compliant as certified by Rob van Iersel (Environmental Management Representative) 22-JUN-2016</p>	<p>Part C (C2)</p>	<p>The existing website will be updated to include the final stage of the P2T works (2017) in accordance with the W2B Communication and Stakeholder Engagement Strategy  <a href="http://www.rms.nsw.gov.au/projects/northern-nsw/woolgoolga-to-ballina/">www.rms.nsw.gov.au/projects/northern-nsw/woolgoolga-to-ballina/</a></p>
<b>Community Engagement Strategy</b>				
	<p>The Proponent shall, prior to the commencement of substantial construction, prepare a Community Engagement Strategy for the project. This Strategy shall provide mechanisms to facilitate communication between the Proponent, the constructor, the Environmental Management Representative and the local community (including adjoining landowners, businesses and Council, as relevant) on the progress and the related environmental management of the project. The Strategy shall include, but not be limited to:</p> <ul style="list-style-type: none"> <li>(a) identification of community stakeholders to be consulted as part of the Strategy;</li> </ul>			

<p>(b) procedures and mechanisms for the regular distribution of information to the community on the progress of the project and matters associated with environmental management of the project;</p> <p>(c) procedures and mechanisms through which the community can discuss or provide feedback to the Proponent and or Environmental Management Representative in relation to the environmental management and delivery of the project. This may include focused discussion forums and site inspections;</p> <p>(d) procedures and mechanisms through which the Proponent can respond to any enquiries or feedback from the community in relation to the environmental management and delivery of the project;</p> <p>(e) procedures and mechanisms to be implemented to resolve issues/ disputes that may arise between the community and the Proponent on matters relating to environmental management and delivery of the project. This may include the use of an appropriately qualified and experienced independent mediator.</p> <p>Issues that may be addressed through the Community Engagement Strategy include: flora and fauna controls, noise control measures, property access arrangements, air and water quality, and landscaping requirements.</p> <p>A copy of the Strategy shall be provided to the Director –General prior to the commencement of construction and the Proponent shall maintain and implement of the Strategy during the construction stage.</p>	<p>Compliant as certified by Rob van Iersel (Environmental Management Representative) 22-JUN-2016</p>	<p>Part C</p>	<p>W2B Community and Stakeholder Engagement Strategy. W2B Construction Environmental Management Plan approved by (approved Bob Higgins 29th April 2015; DP&amp;E in October 2015)</p>
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**Environmental Management Representative**

<p>Prior to the commencement of construction, the Director-General shall approve the appointment of the person nominated by the Proponent to serve as the Environmental Management Representative (EMR). In considering the appointment, the Director-General shall take into account:</p> <p>(a) the qualifications and experience of the EMR including</p> <p>(b) the role and responsibility of the EMR; and,</p> <p>(c) the authority and independence of the EMR including details of the Proponent's internal reporting structure.</p> <p>The EMR shall have responsibility for:</p> <p>(i) considering and advising the Proponent on matters specified in the Conditions of Approval and compliance with such;</p> <p>(ii) certifying the environmental/community impacts as minor for all activities defined by the Proponent as not constituting substantial construction;</p> <p>(iii) endorsing the Construction EMP in accordance with Condition 14;</p> <p>(iv) reviewing the Proponent's induction and training program for all persons involved in the construction activities and monitor implementation;</p> <p>(v) periodically monitoring the Proponent's environmental activities to evaluate the implementation, effectiveness and level of compliance of on-site construction activities with the Construction EMP and associated plans and procedures, including carrying out site inspections at least fortnightly;</p> <p>(vi) recording and providing a written report to the Proponent of non-conformances with the Construction EMP and require the Proponent to undertake mitigation measures to avoid or minimise any adverse impacts on the environment or report required changes to the Construction EMP:</p>	<p>The EMR, Rob Van Iersel of GeoLink, was approved by the Department of Planning and Infrastructure on 29 October 2013.</p>	<p>D23</p>	<p>W2B CEMP revision 4 has been revised to incorporate P2T and this revision includes a definition for the W2B Pacific Complete Environmental Representative being synonymous. Letter received by Department on 17th January 2017 confirming Murray Curtis authorised as EMR for P2T.</p>
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12	<p>(vii) directing the Proponent to stop work immediately, if in the view of the EMR an unacceptable impact on the environment is likely to occur, or require other reasonable steps such as the authorisation of hold points to be taken to avoid or minimise any adverse impacts;</p> <p>(viii) reviewing corrective and preventative actions to ensure the implementation of recommendations made from the audits and site inspections;</p> <p>(ix) reviewing minor revisions to the Construction EMP;</p> <p>(x) providing regular (as agreed with the Department) reports to the Department on matters relevant to the carrying out of the EMR role, including notifying the Director-General of any stop work notices; and,</p> <p>(xi) endorsing the Operational EMP in accordance with Condition 16.</p> <p>The EMR shall immediately, and at the same time, advise the Proponent and the Director-General of any major issues resulting from the construction of the project that have not been dealt with expediently or adequately by the Proponent.</p> <p>The EMR shall be available during construction activities at the site and be present on-site during any critical construction activities as identified in the Construction EMP.</p>			
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**Environmental Management System**

13	<p>The Proponent shall ensure the appointment of contractors that have a demonstrated capability and experience in the implementation of an Environmental Management System prepared in accordance with the AS/NZS ISO 14000 series or BS7750-1994 certified by an accredited certifier and/or have a proven environmental management performance record.</p>	<p>Compliant as certified by Rob van Iersel (Environmental Management Representative) 22-JUN-2016</p>	<p>D29</p>	<p>Environmental Management Systems a requirement of SSI-4963. Additionally, RMS Tender package ID RMS.16.0000002544.0689 (P2T3 work pack) requirement</p>
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**Construction Environmental Management Plan**

	<p>Prior to the commencement of substantial construction, a Construction Environmental Management Plan (EMP) shall be prepared, following consultation with the DECC, DWE, NSW Agriculture, DPI (AHPU) and Ballina Shire Council. Where construction activities may be undertaken in discrete work packages or defined stages, the Proponent may prepare individual EMPs relating to specific work packages or stages of construction.</p> <p>The Construction EMP shall be prepared in accordance with the Conditions of this Approval, all relevant Acts and Regulations and accepted best practice management procedures. The Construction EMP requires approval by the Director-General prior to substantial construction works or within such time as otherwise agreed to by the Director-General. The EMP shall be certified as being in accordance with the Conditions of Approval by the EMR prior to seeking approval of the Director-General.</p>			<p>The W2B CEMP has been revised (Rev 4) to incorporate the P2T works as they are being constructed by the W2B project. The W2B CEMP identifies mitigation measures that satisfy those outlined in the conditions of approval for:</p> <ul style="list-style-type: none"> <li>- Ballina Bypass Ministerial Conditions of Approval (2012);</li> <li>- State Significant Infrastructure conditions of approval (SSI #4963); and</li> <li>- those under approval granted by Section 130(1) and 133 of the Environmental Protection and Biodiversity Conservation Act 1999 (EPBC 2012/6394).</li> </ul> <p>Notwithstanding, since the approval of the Ballina Bypass and associated MODs, state government agencies have been restructured and renamed. P2T3 inclusion in W2B CEMP was tabled at the ERG October 2016 with no objections from DPI or EPA. Further, Ballina Shire Council meet 18th November has confirmed CEMP to be submitted for information once approved by DP&amp;E. As a result, the updated W2B CEMP will be distributed to the overarching agencies that still take effect i.e. Department of Primary Industries and Ballina Shire Council, for their information. Refer P2T3 Staging</p> <p>The W2B CEMP revision 4 is currently undergoing review (December 2016)</p>
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The Director-General shall provide a response to the Construction EMP within one (1) month of receipt of all relevant information from the Proponent assuming receipt of adequate and sufficient information. If a request is made by the Director-General for additional information the period of time that elapses between the date on which the Proponent receives the request and the date on which the additional information is provided to the Director-General shall not be taken into account in the one (1) month period referred to above.

The Construction EMP shall:

- (a) address construction activities associated with all key construction sites, including staging and timing of the proposed works;
- (b) cover specific environmental management objectives and strategies for the main environmental system elements and include, but not be limited to: noise and vibration; geotechnical issues; air quality; water; erosion and sedimentation; access and traffic; heritage and archaeology; groundwater; contaminated spoil and acid sulfate soils, spoil stockpiling and disposal; waste/resource management; flora and fauna; flooding and stormwater control; impacts on SEPP 14 Wetlands; visual screening; landscaping and rehabilitation; hazards and risks; energy use, resource use and recycling; and utilities; and,
- (c) address, but not be limited to:
  - (i) identification of the statutory and other obligations which the Proponent is required to fulfil during project construction, including all approvals and consultations/agreements required from other authorities and stakeholders, and key legislation and policies which control the Proponent's construction of the project;
  - (ii) definition of the role, responsibility, authority, accountability and reporting of personnel relevant to compliance with the Construction EMP;
  - (iii) measures to avoid and/or control the occurrence of environmental impacts;
- (iv) measures (where possible and cost-effective) to provide positive environmental offsets to unavoidable environmental impacts;
- (v) the role of the EMR;
- (vi) environmental management procedures for all construction processes which are important for the quality of the environment in respect of permanent and/or temporary works;

Compliant as certified by Rob van Iersel (Environmental Management Representative) 22-JUN-2016

and will be certified by the ER prior to be submitted to DP&E for approval.

The W2B CEMP revision 4 satisfies these requirements in the following sections:  
Section 2

W2B CEMP appendices:

- Appendix B1 Construction traffic and access management plan
- Appendix B2 Construction flora and fauna management plan
- Appendix B3 Construction noise and vibration management plan
- Appendix B4 Construction soil and water quality management plan
- Appendix B5 Construction heritage management plan
- Appendix B6 Construction air quality management plan
- Appendix B7 Construction waste, resource and energy management plan
- Appendix B8 Construction contaminated land management plan

W2B CEMP Section .3 and Appendix A1, Legal and other requirements for P2T3

W2B CEMP Section 1.2

W2B CEMP Section 4.1 (commitment and framework to minimising environmental impacts). Section 4 identifies environmental management system, subplans and frameworks; and the requirement for EWMS to identify and mitigate environmental risks, therefore controlling and reducing environmental impacts).

W2B CEMP Appendix B2 Flora and Fauna Management Plan Section 6.2 (Biodiversity Offset Strategy)

W2B CEMP Section 4.3.1

W2B CEMP Section 4, and specifics are contained within Appendices

Appendix A1 Legal and other requirements

Appendix A2 Environmental aspects and impacts

Appendix A3 Environmental policies

Appendix A4 Document register

Appendix A5 Roads and Maritime Environmental incident classification and reporting

Appendix A6 Other relevant management measures

- Appendix B1 Construction traffic and access management plan
- Appendix B2 Construction flora and fauna management plan
- Appendix B3 Construction noise and vibration management plan
- Appendix B4 Construction soil and water quality management plan
- Appendix B5 Construction heritage management plan
- Appendix B6 Construction air quality management plan
- Appendix B7 Construction waste, resource and energy management plan
- Appendix B8 Construction contaminated land management plan
- Appendix B9 Ancillary facilities management plan
- Appendix B10 Borrow sites management plan

14	<p>(vii) monitoring, inspection and test plans for all activities and environmental qualities which are important to the environmental management of the project, including performance criteria, specific tests, protocols (e.g.. frequency and location) and procedures to follow;</p> <p>(viii) environmental management instructions for all complex environmental control processes which do not follow common practice or where the absence of such instructions could be potentially detrimental to the environment;</p> <p>(ix) the sub plans required under this Approval including: the Groundwater and Settlement Management Sub Plan (Conditions 27), the Construction Traffic Management Sub Plan (Condition 31), the Flora and Fauna Management Sub Plan (Condition 33), the Integrated Wetland Management Sub Plan (Condition 40), the Construction Noise and Vibration Management Sub Plan (Condition 42), the Soil and Water Management Sub Plan (Condition 57), the Acid Sulfate Soils Management Sub Plan (Condition 68), the Spoil and Fill Management Sub Plan (Condition 69), the Landscaping and Rehabilitation Sub Plan (Condition 71), the Indigenous Heritage Management Sub Plan (Condition 74), the Construction Air Quality Sub Plan (Condition 77), Hazards and Risk Management Sub Plan (Condition 80), and the Waste Management and Reuse Sub Plan (Condition 80);</p> <p>(x) steps the Proponent intends to take to ensure that all plans and procedures are being complied with;</p> <p>(xi) consultation requirements with relevant government agencies; and,</p> <p>(xii) community consultation and notification strategy (including local community, relevant government agencies, and Ballina Shire Council), and complaint handling procedures.</p> <p>Specific requirements for some of the main environmental system elements referred to in (b) shall be as required under the conditions of this Approval and/or as required under any licence or approval.</p> <p>The Construction EMP(s) shall be made publicly available.</p>			<p>W2B CEMP Section 8</p> <p>W2B CEMP Section 4.2</p> <p>Integrated Wetland Management Sub-plan finalised under P2T2 (Oct 2014). The IWMS identified compensatory habitat and detailed management requirements for adequate management of the compensatory habitat site. This was required to compensate for the clearing associated with SEPP14 works. No additional clearing works will be undertaken as part of the final stage of Stage 2 PT2 therefore requirements of this condition have been met. The approved</p> <p>W2B CEMP Section 8.3.3</p> <p>W2B CEMP Section 1.3; Section 8.3.3. P2T3 inclusion in W2B CEMP was tabled at the ERG September 2016 with no objections from DPI or EPA. Further, Ballina Shire Council meet 18th November has confirmed CEMP to be submitted for information once approved by DP&amp;E. STAKEHOLDER AND COMMUNITY LIAISON PLAN (W2B-PC0-0-ZJ-PLN-00001.02.IFA) Section 3.2 Table 3 - section D Mobilisation Action Plan requirements (works notification via Community Letter, Stakeholder meetings, media release, community info session, community update, adverts). Section 7.2 Complaints and Issues Management</p> <p>Noted</p> <p>W2B CEMP is publically available via the W2B Project webpage. The W2B CEMP revision 4, once finalised and approved will be uploaded to the site also <a href="http://www.rms.nsw.gov.au/documents/projects/northern-nsw/woolgoolga-to-ballina/w2b-cemp-main-report.pdf">http://www.rms.nsw.gov.au/documents/projects/northern-nsw/woolgoolga-to-ballina/w2b-cemp-main-report.pdf</a></p>
14 A	<p>Where the project is modified, any additional construction environmental management plans or updates, prepared or amended to meet the requirements of the project approval as modified, must be approved by the Director-General prior to the commencement of substantial construction in relation to the modification.</p>	<p>Compliant as certified by Rob van Iersel (Environmental Management Representative) 22-JUN-2016</p>		<p>noted</p>
<b>Construction Environmental Monitoring</b>				
	<p>The Proponent shall submit to the Director-General reports in respect of the environmental performance of the construction works and compliance with the Construction EMP and any other relevant Conditions of this Approval. The reports shall be prepared six months after the start of substantial construction and thereafter at six monthly intervals or at other such periods as requested by the Director-General to ensure adequate environmental performance over the duration of the construction works.</p> <p>The reports shall be submitted no later than one month after the six month period to which they apply, and are to be certified by the EMR to confirm that all EMP requirements and Conditions of Approval have been complied with.</p> <p>The report(s) shall include, but not be limited to, information on:</p>			

<p>(a) applications for consents, licences and approvals, and responses from relevant authorities;</p> <p>(b) implementation and effectiveness of environmental controls and conditions relating to the work undertaken;</p> <p>(c) identification of construction impact predictions made in the EIS, Modification of the Ballina Bypass Environmental Assessment Report (August 2008) and any supplementary studies and details of the extent to which actual impacts reflected the predictions;</p> <p>(d) details and analysis of results of environmental monitoring;</p> <p>(e) number and details of any complaints, including summary of main areas of complaint, action taken, response given and intended strategies to reduce complaints of a similar nature;</p> <p>(f) the plan to be adopted for the project to ensure continued compliance over the coming six month period; and,</p> <p>(g) any other matter relating to the compliance by the Proponent with the Conditions of this Approval or as requested by the Director-General.</p> <p>The report(s) shall be provided to the DECC, DWE and Ballina Shire Council, and any other relevant government agency nominated by the Director-General. The report(s) shall also be made publicly available.</p>	<p>Compliant as certified by Rob van Iersel (Environmental Management Representative) 22-JUN-2016</p>	<p>D27</p>	<p>Appendix A1 of CEMP Rev 4 (RMS Specification 36) requires the compilation of compliance reports (e.g. Section 3.11.1 includes requirement 6-monthly Compliance Reports).</p> <p>Ballina Shire Council meeting held 18th November 2016 and confirmed CEMP Revision 4, once certified by EMR could but provided for information.</p>
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**Operational Environmental Management Plan**

<p>An Operational Environmental Management Plan (EMP) shall be prepared prior to the commencement of operation of any part of the project (or defined stages of the project). The Plan shall be prepared in consultation with the DECC, DWE, DPI (AHPU), Ballina Shire Council and any other relevant government agency nominated by the Director-General. The Plan shall be prepared in accordance with the Conditions of this Approval, all relevant Acts and Regulations and accepted best practice management procedures. The Operational EMP requires approval by the Director-General prior to commissioning or within such time as otherwise agreed to by the Director-General. The EMP shall be certified as being in accordance with the Conditions of Approval by the EMR prior to seeking approval of the Director-General.</p> <p>The Director-General shall provide a response to the Operational EMP within one (1) month of receipt of all relevant information from the Proponent assuming receipt of adequate and sufficient information. If a request is made by the Director-General for additional information, the period of time that elapses between the date on which the Proponent receives the request and the date on which the additional information is provided to the Director-General shall not be taken into account in the one (1) month period referred to above.</p> <p>The Operational EMP shall address at least the following issues:</p> <ul style="list-style-type: none"> <li>(i) identification of the statutory and other obligations which the Proponent is required to fulfil, including all licences/approvals and consultations/agreements required from authorities and other stakeholders, and key legislation and policies which control the Proponent's operation of the project;</li> <li>(ii) sampling strategies and protocols to ensure the quality of the monitoring programme, including specific requirements of the DECC and DWE;</li> <li>(iii) monitoring, inspection and test plans for all activities and environmental qualities which are important to the environmental performance of the project during its operation, including description of potential site impacts, performance criteria, specific tests and monitoring requirements, protocols (e.g. frequency and location) and procedures to follow;</li> </ul>	<p>P2T is captured under the Ballina Bypass OEMP, which was prepared in 2011 and this was deemed compliant as certified by Rob van Iersel /Environmental Management</p>		<p>P2T is captured under the Ballina Bypass OEMP, which was prepared in 2011</p>
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<p>(iv) the sub plans required under this Approval including: the Operational Noise Management Sub Plan (Condition 55), the Soil and Water Management Sub Plan (Condition 57), the Landscaping and Rehabilitation Sub Plan (Condition 71), the Hazards and Risk Management Sub Plan (Condition 79), and the Waste Management and Recycling Sub Plan (Condition 80);</p> <p>(v) steps the Proponent intends to take to ensure compliance with all plans and procedures;</p> <p>(vi) consultation requirements, including relevant government agencies, the local community and Council, and complaints handling procedures; and</p> <p>(vii) strategies for the main environmental system elements and including but not limited to: noise; water; SEPP 14 Wetlands; groundwater; flora and fauna; hydrology and flooding; visual screening, landscaping and rehabilitation; and hazards and risks.</p> <p>Specific requirements for some of the main environmental system elements referred to in (g) shall be as detailed under the conditions of this Approval and/or as required under any licence or approval. The Operational EMP shall be made publicly available.</p> <p>All sampling strategies and protocols undertaken as part of the Operational EMP shall include a quality assurance/quality control plan and shall be approved by the relevant regulatory agencies to ensure the effectiveness and quality of the monitoring program. Only accredited laboratories can be used for laboratory analysis.</p> <p>Compliance with this condition may be waived with the approval of the Director-General on the proviso that the RMS has an operational maintenance and monitoring program for the whole of the Pacific Highway which addresses the key issues relating to this activity and provided that the results of this program are made publicly available.</p>	<p>by Rob van Iersel (Environmental Management Representative) 22-JUN-2016</p>		<p>2011.</p>
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**Environmental Impact Audit Report**

<p>The Proponent shall commission an independent and suitably qualified person to undertake an Environmental Impact Audit of the project within 12 months of completion of construction. The Audit shall: (a) assess the key impact predictions made in the documents referred to under condition 1 of this approval, and detail the extent to which the actual impacts reflect the predicted impacts; (b) assess the suitability of implemented mitigation measures and safeguards; (c) assess compliance with the Operational Environmental Management Plan; and (d) discuss results of consultation with the local community in terms of feedback/ complaints on the operational phases of the project and issues of concern raised by the community.</p> <p>An Environmental Impact Audit Report shall be submitted to the Director General, the DECC and other relevant government authorities within 6 months of the completion of the Audit, unless otherwise agreed by the Director General. The Proponent shall comply with all reasonable requirements of the Director General, DECC and other relevant government authorities with respect to any reasonable measure arising from the report, including the recommendations.</p>	<p>The BBA Environmental Impact Audit Report was submitted to DoPI in July 2013. This was certified as compliant by Rob van Iersel (Environmental Management Representative) 22-JUN-2016</p>		<p>The BBA Environmental Impact Audit Report was submitted to DoPI in July 2013. Within 12 months of completion of P2T (this being the final stage), RMS will commission an Independent Environmental Audit. This requirement is noted and captured via Section 8.4 of W2B CEMP Rev 4 (Compliance Tracking)</p>
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17 The Report shall be made publicly available.

**Staging**

18	The Proponent shall prepare an updated construction program and staging report for the Stage 2 works as identified in Modification of the Ballina Bypass Environmental Assessment (August 2008). The report shall be provided to the Director-General for information prior to Stage 2 construction work commencing.	Compliant as certified by Rob van Iersel (Environmental Management Representative) 22-JUN-2016		Staging Report acknowledged as received by Department 17th January 2017.
18 A	If construction of any part of the project has not commenced by 2016, environmental impact assessment for those project elements shall be updated to the satisfaction of the Director-General prior to construction commencement. This assessment shall address all relevant issues identified in the REA and shall take into account any changes to land uses and surrounding environments as applicable at the time. The updated assessment shall be based on relevant environmental standards and criteria applicable at that time.	Substantial construction of Stage 2 commenced in 2013 and deemed compliant, certified by Rob van Iersel (Environmental Management Representative) 22-JUN-2016		Substantial construction of Stage 2 commenced in 2013.
<b>Economic Impacts</b>				
19	At least six months prior to opening the section of the project between the Cumalum Interchange and the Teven Road intersection to traffic, the Proponent shall develop appropriate signage and 'gateway' treatments in consultation with Ballina Shire Council and the Community Liaison Group. The signage policy shall be developed in accordance with the RMS's standard signposting policy, indicating the range of services in town and that the route through town may be taken as an alternative route to the bypass.	Completed as part of Stage 1 BBA works		Completed as part of Stage 1 BBA works
<b>Property and Land Use</b>				
<i>Pre-Construction</i>				
20	<p>Subject to landowner agreement, building condition surveys shall be conducted on all buildings and structures:</p> <ul style="list-style-type: none"> <li>(a) within 150 metres of excavation works or six times the maximum depth of the excavation (whichever is greatest); or</li> <li>(b) within 20 metres of filling works or three times the height of a fill embankment (whichever is greatest); or</li> <li>(c) 200 metres of blasting activities and/or other construction activities resulting in vibration impacts; or</li> <li>(d) identified as potentially affected in the report required under Condition 26.</li> </ul> <p>Building condition surveys shall be undertaken at least 30 days before construction occurs within the distance limits described in this condition.</p> <p>The building condition surveys need not be conducted if the report required under Condition 26 concludes that a building or structure is very unlikely to be affected.</p> <p><i>Note:</i> Structure is defined as any fixed artificial object that might reasonably be expected to be able to be damaged by the works (e.g. dams, cable support structures, farm buildings, residences, etc.)</p>	Pre-construction surveys completed in Jan 2014 on buildings and structures for P2T. Compliant as certified by Rob van Iersel (Environmental Management Representative) 22-JUN-2016.		Notwithstanding, as part of the W2B Pacific Highway upgrade project, Building Condition Surveys shall be undertaken by the awarded Contractor and this is identified in awarded Contract. This will form a component of the Contractor's Preconstruction Compliance Report as required under Appendix A1 of the CEMP Rev 4 (RMS Specification G36).

21	<p>The owners of all properties to be surveyed, as identified in Condition 20 are to be advised at least 14 days prior to the commencement of surveys of the scope and methodology of the survey and the process for making a property damage claim. A copy of the survey shall be given to each affected owner at least three weeks prior to the commencement of construction in the section of road affecting the property. A register of all properties surveyed and considered for survey shall be maintained by the Proponent and provided to the Director-General upon request.</p> <p>The Proponent shall consult on a regular basis with all directly affected landowners regarding any practical and cost-effective measures to minimise impacts. Agreed measures shall be implemented according to a program agreed between the relevant landowner and the Proponent.</p>			
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**Management**

23	<p>The Proponent shall ensure that access to properties fronting the project and the service road are maintained throughout the construction period. The Proponent shall ensure that any access-way affected by the project is reinstated to an equivalent standard or that adequate compensation is negotiated with the relevant landowner(s).</p>	<p>Compliant as certified by Rob van Iersel (Environmental Management Representative) 22-JUN-2016</p>	<p>C1 (Community Communication Strategy)</p>	<p>Property access Plans managed by W2B Community Liaison team in accordance with W2B Communications and Stakeholder Engagement Strategy</p>
24	<p>Any damage to buildings, structures, lawns, sheds, gardens, fencing, etc. as a result of any project construction or operation activities direct or indirect (i.e. including vibration and groundwater changes) shall be rectified at no cost to the owner(s).</p>			
25	<p>Where a licensed bore, dam or other property water supply is affected by the project the Proponent shall reinstate water supplies of equivalent quality and quantity to affected landowners. Alternatively the Proponent may negotiate appropriate compensation for the loss of a water supply with the landowner.</p>			

**Geology, Groundwater and Settlement**

*Pre-Construction*

	<p>A detailed model of geological and hydrogeological conditions along the route shall be prepared prior to the commencement of construction, including locating and mapping the basalt/argillite interface. The model shall be used to predict ground movement (horizontal and vertical) caused by construction of the road including movement caused by excavation, the construction of embankments and groundwater changes. The model and analysis shall be prepared in consultation with the DWE.</p> <p>Following completion of these studies the Proponent shall prepare a report for the information of the Director-General that:</p> <ul style="list-style-type: none"> <li>(a) provides the methodology and results of the geological and hydrogeological investigations;</li> <li>(b) analyses the staging of the project based on the geological and hydrogeological conditions;</li> <li>(c) identifies all buildings and structures that may be affected by the project, including those within the limits contained in Condition 20; and,</li> <li>(d) identifies monitoring requirements for the design, construction and operation of the project.</li> </ul>	<p>A hydrogeological report was completed and submitted to DoPI as part of Stage 1 BBA works and this report covered the P2T area. Compliant as certified by Rob van Iersel (Environmental Management Representative) 22-JUN-2016</p>		<p>A hydrogeological report was completed and submitted to DoPI as part of Stage 1 BBA works and this report covered the P2T route. Compliant as certified by Rob van Iersel (Environmental Management Representative) 22-JUN-2016. Groundwater and settlement investigations revealed that ground settlement caused by surcharging is not expected to affect groundwater level. Water from wick drains will be captured via catch drains and managed in accordance with the W2B CSWQMP that identifies the requirements for treatment and management of water discharges. The water from the wick drains is expected to be small in volume, however if required treatment for physical parameters (e.g. acidity, dissolved metals, TSS, turbidity). The detailed model of geological and hydrogeological conditions along the route was prepared and certified by geotechnical and construction engineering experts with appropriate registration on the National Professional Engineers Register prior to submission and was prepared in consultation with the DWE at the BBA Stage 1 component of the works.</p>
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26	This report shall be certified by geotechnical and construction engineering experts with appropriate registration on the National Professional Engineers Register prior to submission.			
<b>Construction</b>				
27	<p>A detailed Groundwater and Settlement Management Sub Plan shall be prepared as part of the Construction EMP in consultation with the DECC and DWE. The Sub Plan shall include:</p> <ul style="list-style-type: none"> <li>(a) identification of impacts on buildings and structures from potential settlement in accordance with Condition 26;</li> <li>(b) identification of licensed bores, dams or other property water</li> <li>(c) groundwater inflow control, handling, treatment, and disposal</li> <li>(d) a detailed monitoring plan for groundwaters, settlement and instability. The plan shall identify monitoring methods, instrument types and locations, monitoring frequency, monitoring duration and analysis requirements.</li> </ul> <p><i>Note: References to settlement and instability relate only to off-site effects.</i></p>	<p>Minor amendments have been made to the BBA GSM sub plan to make it specific to P2T. The EMR has reviewed and approved the plan (ref: Nov 2013)</p> <ul style="list-style-type: none"> <li>- The amendments included the identification of impacts to buildings and structures in accordance with MCoA 26;</li> <li>- No licenced bores, dams or other property water supplies will be affected by the P2T project</li> <li>- management and monitoring of groundwater from project disturbance is addressed in the plan</li> </ul>		<p>Minor amendments were made to the BBA GSM sub plan to make it specific to P2T. The EMR has reviewed and approved the plan (ref: Nov 2013)</p> <ul style="list-style-type: none"> <li>- The amendments included the identification of impacts to buildings and structures in accordance with MCoA 26;</li> <li>- No licenced bores, dams or other property water supplies will be affected by the P2T project</li> <li>- management and monitoring of groundwater from project disturbance was addressed in the plan.</li> </ul> <p>The W2B CEMP Appendix B4 CSWQMP, Water Quality Monitoring Program identifies risks to groundwater from fill embankments for works in soft soils. How the project will manage impacts to groundwater and those related to the impact from soil soil settlement such as placement of fill locations is identified. This is applicable to the W2B project, which includes the P2T section.</p>
27 A	The Sub Plan should detail how a) to d) above have been considered in relation to the Ross Lane earthworks site. In addition how extraction activities at the site, would be managed to minimise impacts to groundwater resources. This shall include but not be limited to procedures to be implemented in the case that groundwater is intercepted, and measures for minimising, mitigating and or offsetting impacts to groundwater users, groundwater quality and groundwater dependent species.	Completed as part of Stage 1 BBA works		Completed as part of Stage 1 BBA works (not applicable to this final stage of P2T).
<b>Operation</b>				
28	<p>A detailed Groundwater and Settlement Management Sub Plan shall be prepared as part of the Operation EMP in consultation with the DECC and DWE and to the satisfaction of the Director-General. The Sub Plan shall include:</p> <ul style="list-style-type: none"> <li>(a) identification of impacts on buildings and structures from potential settlement in accordance with Condition 26;</li> <li>(b) identification of licensed bores, dams or other property water supplies affected by the project;</li> <li>(c) groundwater inflow control, handling, treatment, and disposal methods;</li> <li>(d) a detailed monitoring plan for groundwaters, settlement and instability. The plan shall identify monitoring methods, instrument types and locations, monitoring frequency, monitoring duration and analysis requirements.</li> </ul> <p><i>Note: References to settlement and instability relate only to off-site effects.</i></p>	Completed as part of OEMP (refer to condition 16). P2T is captured under the Ballina Bypass OEMP, which was prepared in 2011 and this was deemed compliant as certified by Rob van Iersel (Environmental Management Representative) 22-JUN-2016		Completed
<b>Settlement Criteria</b>				
	Should the Report required by Condition 26 indicate that exceedances of the criteria in Table 1 are likely at buildings, structures or other facilities mitigation measures shall be implemented in consultation with the relevant land and/or infrastructure owners. The mitigation measures shall be agreed, and where necessary implemented, prior to the commencement of construction.			
<b>Table 1 - Settlement Criteria for Specific Structures</b>				

Beneath Structure/Facility	Total Maximum Settlement		
<p><u>Total Maximum Distortion</u></p> <p>Existing Buildings and Structures As described in AS 2870 - 1996</p> <p>Existing Roads 40mm</p> <p>1 in 250</p> <p>Existing Parks 50mm</p> <p>1 in 250</p> <p>Existing Utilities including sewerage, To be determined by the To be determined by the gas, electricity and telecommunication relevant utility provider relevant utility provider services</p> <p>If monitoring during construction indicates off-site movement in excess of that predicted then all work affecting ground settlement shall cease immediately. Work shall not resume until the reasons for the excessive settlement are determined and mitigation measures identified, evaluated and implemented.</p> <p>The above criteria shall not remove any responsibility of the Proponent for the protection of existing structures or for rectifying any damages even if settlement is contained within the above criteria.</p> <p><i>Note: Existing is defined as existing at the date of this Approval. Total maximum settlement and angular distortion is the total cumulative settlement and angular distortion from all influences.</i></p>	<p>The report prepared for Condition 26 did not indicate or identify any exceedance of criteria. Closed</p>	<p>The report prepared for Condition 26 during BBA Stage 1 in 2008 will be referenced as applicable to the P2T3 Contractors CSWQMP. The Contractor is required to comply with the BBA MCoAs as identified in Appendix A1 of the W2B CEMP (Rev4) as illustrated here. The P2T3 Contractor will be provided all required documents for the P2T3 compliance works, as registered within Pacific Complete's ComplyPro database.</p>	

**Traffic and Access**

<p>A road dilapidation report shall be prepared for all non-arterial roads likely to be used by construction traffic prior to commencement of construction and after construction is complete. A copy of the report shall be provided to Ballina Shire Council. Any damage resulting from the construction of the project, aside from that resulting from normal wear and tear, shall be repaired at the cost of the Proponent.</p> <p>All sections of State Highway that are transferred to Ballina Shire Council as service roads shall be brought to standards as negotiated with Ballina Shire Council. The Proponent shall negotiate with Ballina Shire Council regarding contributions to costs for maintenance.</p> <p><i>Note: Nothing in this Condition shall be taken as restricting the proponent from negotiating an alternative payment for damage to local roads with Ballina Shire Council, subject to the agreement of Ballina Shire Council.</i></p>	<p>Road dilapidation surveys were conducted on 6th November 2013. The report was provided to Ballina Shire Council. No damage that required repair was noted. Compliant as certified by Rob van Iersel (Environmental Management Representative) 22-JUN-2016</p>	<p>D19</p>	<p>CEMP Revision 4 Appendix B1: Traffic and Access Management Plan.</p> <p>P2T may use Pimlico Rd, however this road a not State Hwy. Pimlico Rd will be transferred back to Ballina Shire Council following completion of the final stage of P2T in accordance with W2B Traffic and Access Management Plan.</p>
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<p>A detailed Construction Traffic Management Sub Plan shall be prepared as part of the Construction EMP in consultation with Ballina Shire Council. The Sub Plan shall include, but not be limited to:</p> <ul style="list-style-type: none"> <li>(a) identification of all public roads to be used by construction traffic, in particular for the transport of earthworks and pavement materials;</li> <li>(b) the timing and duration of the use of these roads;</li> <li>(c) impacts on existing traffic (including pedestrians, vehicles, cyclists and disabled persons) including the staging of construction works to minimise lane closures during peak periods and delay to traffic;</li> <li>(d) access to construction sites;</li> <li>(e) truck ingress and egress routes, entry and exit locations and the nature of loads;</li> </ul>	<p>Minor amendments were made to the BBA TM Sub plan to make it specific to P2T and this was integrated with the Spoil and Fill Management Sub plan. This was completed in 2013.</p>	<p>B56 - B59; B62, B63, B65, B68,</p>	<p>This will be completed in accordance with the requirements of CEMP Revision 4 Appendix B1: Traffic and Access Management Plan.</p> <p>Table 6-1 ID#T&amp;T-1 details the preparation of CTMPs to include identification of al public roads to be used that may be partially or completely closed during construction and the expected timing and duration of closures.</p>
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31	<p>(f) an analysis of the need to construct the grade separated Cumbalum interchange at the earliest opportunity possible;</p> <p>(g) temporary and interim traffic arrangements including intersection and property access;</p> <p>(h) strategies to minimise construction heavy vehicles travelling through Ballina;</p> <p>(i) a response plan which sets out the proposed response to any traffic, construction or other incident; and,</p> <p>(j) appropriate review and amendment mechanisms.</p> <p>This Sub Plan shall be fully integrated with the Spoil and Fill Management Sub Plan required under Condition 69.</p>		D26c)	The Construction Traffic and Access Management Plan (Appendix B1 of the W2B CEMP Revision 4) lists the integrated relationship with the W2B CEMP that includes Appendix B4 - Construction Soil and Water Quality Management Subplan. The CTAMP details spoil haulage and the CSWQMP details spoil and fill management as it relates to the identified risks to soil and water quality.
32	The Proponent shall monitor the use of local roads by construction heavy vehicle traffic in consultation with Ballina Shire Council to develop measures to minimise and/or restrict use of local roads by heavy vehicle traffic as far as reasonable and practicable.	Compliant as certified by Rob van Iersel (Environmental Management Representative) 22-JUN-2016	26bii)	The Construction Traffic and Access Management Plan (Appendix B1 of the W2B CEMP Revision 4) requires that traffic movements to minimise impacts to local roads are developed as per Section 3.5, Vehicle Movement Plans. This will be prepared by the awarded Contractor and subject to approval prior to implementation as per Section 3.5 of the W2B CTAMP (Appendix B1 of the W2B CEMP).

**Flora and Fauna**

*Construction*

	<p>As part of the Construction EMP, the Proponent shall prepare a detailed Flora and Fauna Management Sub Plan in consultation with the DECC, Ballina Shire Council, DWE and DPI(AHPU). The Sub Plan shall manage all the impacts on flora and fauna in the vicinity of the project and shall include:</p> <p>(a) the characteristics and location of the terrestrial and aquatic flora and fauna communities in the vicinity of the project;</p> <p>(b) procedures for the clearance of vegetation and soil for construction including identification of requirements for seed collection;</p> <p>(c) detailed plans and maps of the construction footprint, areas to be cleared, timing of clearing, important habitat areas, threatened species locations, and vegetation type and location;</p> <p>(d) strategies for minimising vegetation clearance within the worksite where possible and complete protection of vegetated areas outside the worksite area;</p>	<p>Minor amendments were made to the BBA Flora and Fauna sub plan to make it specific to P2T. The EIS and Representations Report mitigation measures and how they will be implemented are included in the Sub-plan. The EMR reviewed the Flora and Fauna sub plan and this was approved for P2T.</p>	<p>B1 - B9; B38, B73; D6 - D9; D26e)</p> <p>D26e)</p> <p>B23 and D26eiv)</p> <p>D26eii)</p> <p>B13)</p>	<p>Design has not been changed since the P2T works were certified as complaint. No additional clearing is required as a part of the P2T3 works. In December 2016 the CFFMP was updated to include the approved Koala Management Plan (version 4.4) and the Stingless Bee Protocol. The update to the overarching CEMP Revision 4 applies to the suite of sub plans that form appendices to this parent CEMP (Revision 4).</p> <p>For the P2T final works the construction zone is contained entirely within the design boundaries and clearing strings for that of P2T2 and as such, no direct impacts to flora or fauna are considered likely. To manage potential indirect impacts, and also in the event that design is amended, the W2B CEMP Appendix B2 FFMP identifies mitigation measures (which are also contained within the BBA Flora and Fauna Sub plan) are detailed further below. Further, W2B CEMP Revision 4 Appendix A1 - Legal and other requirements, RMS Specification G36: Contractor Construction FFMP will be required to be implemented by the awarded Contractor is required prior to the commencement of works within the P2T3 footprint:</p> <p>W2B CFFMP Section 4 - Existing Environment. This section identifies EECs, threatened flora and threatened fauna that occur within the W2B alignment (this includes P2T known species and communities) and is deemed adequate in addressing the BBA conditional requirement.</p> <p>no clearing works required for P2T3. In the event this changes, Appendix N of CFFMP will apply (fauna handling). Additionally, A1 of the W2B CEMP Revision 4 -Legal and other requirements is in effect and RMS Specification G36, G40 and R178 apply with regard to vegetation clearing procedure and the applicability of seed collection deemed adequate in addressing the BBA conditional requirement.</p> <p>SiteMap portal is deemed adequate in addressing the BBA conditional requirement, from this Sensitive Area Plans can be produced.</p> <p>Construction Flora and Fauna mitigation measure # FF5 is deemed adequate in addressing the BBA conditional requirement</p>
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<p>(e) strategies for transplanting individuals or populations of any threatened plant species affected by the road alignment where possible;</p>	D7	<p>not applicable as no threatened flora species have been identified as occurring within the already cleared P2T3 footprint (clearing works was conducted for P2T earlier stage, as deemed compliant by EMR 22nd June 2016). In the event this changes due to design modifications W2B CEMP Revision 4, Appendix B4 CFFMP Appendix N applies (Translocation Strategy). In the event this is required, the existing W2B Management Plans are deemed adequate in addressing the BBA conditional requirement.</p>
<p>(f) Noxious Weed Management Action Plan including but not limited to: scope of works, minimising physical disturbance, revegetating cleared areas with local native plant species and regular removal of weeds and application of herbicide to newly establishing weed species. This plan shall address weed management for both terrestrial and aquatic flora;</p>	D26ev)	<p>W2B CEMP Revision 4, Appendix B2 CFFMP Appendix P Noxious Weeds and Pathogen Management is deemed adequate in addressing the BBA conditional requirement</p>
<p>(g) reuse of topsoil and cleared vegetation including weed eradication;</p>	D26c) and D26ev); EPBC-14	<p>W2B CEMP Revision 4, Appendix B2 CFFMP and Appendix B4 Construction Soil and Water Management Plan are identified as integrated plans in order to minimise the impacts on threatened species and communities (EPBC-14). The reuse of topsoil and cleared vegetation is not applicable to the final stage of P2T works as no vegetation clearing is anticipated, however in the event that the design is modified mitigation measures identified with the W2B CEMP Appendix B2 - CFFMP and Appendix B4 CSWQMP are deemed adequate to address this BBA conditional requirement.</p>
<p>(h) replanting and rehabilitation of indigenous species, including trees suitable as a food resource for threatened species, preferably using materials that have been obtained from the site;</p>	B3, D20, D26evi)	<p>W2B CEMP Revision 4, Appendix B2 CFFMP identifies targets for native rehabilitation (Section 2.3) and details general work practices and mitigation measures to be implemented during construction. As a side note, landscaping following the completion of the P2T final stage works will be required to be carried out in accordance with RMS specification R178 and will be in accordance with the approved W2B Urban Design and Landscape Plan. This will be in accordance with the design principles outlined in the Environmental Impact Statement - Working Paper Biodiversity. The W2B MCoAs are as such, deemed adequate in addressing the BBA MCoA.</p>
<p>(i) measures to use any surplus vegetation shall be identified including donation to community groups and distribution to the local community;</p>	D20	<p>Vegetation clearing is not required for the final stage of P2T as identified by the Approved Project Boundary and Limits of Clearing for these works. Should this changed based on a design modification, amendments to the awarded Contractors Construction Environmental Management Plan and associated sub plans will be required and this shall include the MCoA requirements relevant to vegetation clearing and the associated landscaping in accordance with the Urban Design and Landscaping Plan. Based on vegetation clearing not being included in the final stage of the P2T works, existing W2B Plans and Procedures are deemed adequate in addressing this conditional requirement, should the scope change to include vegetation clearing. This BBA MCoA is therefore deemed addressed adequately by W2B CEMP (and associated Subplans).</p>
<p>(j) derivation of rehabilitation materials;</p> <p>(k) a program for the active management and maintenance of all preserved, planted and rehabilitated vegetation (including aquatic vegetation) including watering regimes, fencing, replacement of vegetation that may have died and weed management; and,</p>		

<p>(l) a program for reporting on the effectiveness of terrestrial and aquatic flora and fauna management measures against performance goals.</p>			<p>The P2T Project has established the following flora and fauna performance goals:</p> <ul style="list-style-type: none"> <li>• EPA and DPI (Fisheries and NOW) will be consulted in the development of EWMS considered to be high risk for flora and/or fauna.</li> <li>• Regular inspections (or maintenance) of erosion and sedimentation controls will be conducted, to ensure impacts to the quality of receiving waters is minimised.</li> <li>• Vegetation clearing procedure will be implemented. No unauthorised clearing of vegetation.</li> <li>• A Safety Health Environment Quality (SHEQ) Coordinator or delegate will be present to closely monitor in-stream construction activities, e.g. piling platforms in waterways.</li> <li>• All identified threatened species that occur adjacent to the Project Footprint will be protected with exclusion fencing or otherwise protected.</li> <li>• Any injured / killed fauna caused from construction activities will be recorded and reported to EPA. The circumstances of the injury will be reviewed.</li> <li>• Any impacted threatened flora species caused from construction activities will be recorded and EPA notified. The circumstances of the impacts will be reviewed.</li> </ul> <p>These goals are analogous with the requirements of the W2B CEMP and associated FFMP Subplan.</p>		
<p>The Flora and Fauna Management Sub Plan shall clearly show how the mitigation measures identified in Section 6.6.5 of EIS and the Representations Report will be implemented during construction and operation.</p>			<p>No vegetation clearing is required as part of P2T3, as such impacts to flora and fauna identified in the Connell Wagner EIS report are adequately managed as per mitigation measures identified in the W2B CEMP and associated subplans and the RMS Specifications. Mitigation measures for flora and fauna impacts have in the most part been closed following the Integrated Wetland Management Plan and Compensatory Habitat Agreements, and the fact no works are required in vegetated/ wetland areas. The remaining mitigation measures are predominantly erosion and sediment controls:</p> <table border="1"> <tr> <td> <p><b>Flora and Fauna</b>  - impact on SEPP 14 wetland  - impact on fauna habitat  - barrier effects</p> </td> <td> <ul style="list-style-type: none"> <li>• Full bridging of creek and bank section of SEPP 14 Wetland</li> <li>• use of appropriate residual land acquired by the RTA for vegetation regeneration in both forest and wetland communities</li> <li>• Preparation a habitat regeneration plan for the wetland area</li> <li>• Mesh fencing of the construction easement across the wetland to limit disturbance beyond road</li> <li>• Construction methods and controls to limit movement of machinery in wetland area</li> <li>• Placement of a geotextile silt fence around the construction site to prevent alteration of water quality</li> <li>• Surface stabilisation and progressive revegetation using alongside and beneath bridge structures and other disturbed areas.</li> </ul> </td> </tr> </table>	<p><b>Flora and Fauna</b>  - impact on SEPP 14 wetland  - impact on fauna habitat  - barrier effects</p>	<ul style="list-style-type: none"> <li>• Full bridging of creek and bank section of SEPP 14 Wetland</li> <li>• use of appropriate residual land acquired by the RTA for vegetation regeneration in both forest and wetland communities</li> <li>• Preparation a habitat regeneration plan for the wetland area</li> <li>• Mesh fencing of the construction easement across the wetland to limit disturbance beyond road</li> <li>• Construction methods and controls to limit movement of machinery in wetland area</li> <li>• Placement of a geotextile silt fence around the construction site to prevent alteration of water quality</li> <li>• Surface stabilisation and progressive revegetation using alongside and beneath bridge structures and other disturbed areas.</li> </ul>
<p><b>Flora and Fauna</b>  - impact on SEPP 14 wetland  - impact on fauna habitat  - barrier effects</p>	<ul style="list-style-type: none"> <li>• Full bridging of creek and bank section of SEPP 14 Wetland</li> <li>• use of appropriate residual land acquired by the RTA for vegetation regeneration in both forest and wetland communities</li> <li>• Preparation a habitat regeneration plan for the wetland area</li> <li>• Mesh fencing of the construction easement across the wetland to limit disturbance beyond road</li> <li>• Construction methods and controls to limit movement of machinery in wetland area</li> <li>• Placement of a geotextile silt fence around the construction site to prevent alteration of water quality</li> <li>• Surface stabilisation and progressive revegetation using alongside and beneath bridge structures and other disturbed areas.</li> </ul>				
<p>The Sub Plan shall clearly detail how the mitigation measures identified in Section 4.5.6 of the Modification of the Ballina Bypass Environmental Assessment (August 2008) will be implemented during construction of the modified project.</p>	<p>The requirements of MOD 2 (2008) were included in the BBA Construction Flora and Fauna Subplan. In 2012 a Consistency Assessment was prepared for P2T Scope Change. This CA determined that: Impacts to Swamp Oak Forest would be minimal and have been found to be insignificant through a 7-part Test. Impacts to SEPP 14 wetlands have been shown to be consistent with the existing Project Approvals for BBA. No additional need for clearing of SEPP 14 wetlands is required. Compliant as certified by Rob van Iersel (Environmental Management Representative) 22-JUN-2016:</p>	<p>n/a</p>	<p>The requirements of MOD 2 (2008) were included in the BBA Construction Flora and Fauna Subplan. In 2012 a Consistency Assessment was prepared for P2T Scope Change. This CA determined that: Impacts to Swamp Oak Forest would be minimal and have been found to be insignificant through a 7-part Test. Impacts to SEPP 14 wetlands have been shown to be consistent with the existing Project Approvals for BBA. No additional need for clearing of SEPP 14 wetlands is required. Compliant as certified by Rob van Iersel (Environmental Management Representative) 22-JUN-2016:</p>		

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34	All locations of the threatened species <i>Macadamia tetraphylla</i> and <i>Tinospora tinosporoides</i> that occur adjacent to the project footprint shall be fenced and protected from the direct and, as far as practicable, indirect impacts of the project. Protection from indirect impacts shall include as a minimum the erection of appropriate sedimentation and erosion controls prior to construction and educating construction contractors of the environmental significance of these areas.	Compliant as certified by Rob van Iersel (Environmental Management Representative) 22-JUN-2016	D26e)	Closed. Fencing installed as part of the previous P2T works. Regardless, the W2B CEMP Revision 4 Section 1.3 details the requirement for Environmental Work Method Statements that adequately reflect direct and indirect impacts to flora and fauna. The W2B CEMP Appendix B4 - FFMP also highlights the requirement for pre-clearance surveys to be undertaken by the awarded Contractor. Mitigation measure #FF8 in Table 6-1 of the CFFMP details the requirements for the erection of fencing as No Go Areas in ecologically sensitive areas should there be an additional requirement to install fencing due to design modifications, fencing damage and also in support of the awarded contractors pre-work checklist (as per Appendix A1 of the W2B CEMP Revision 4, Legal and other responsibilities, RMS Specification G36 and G40). No clearing is anticipated for P2T3 as it is within existing road corridor/ bridge structures however in accordance with Appendix A1 of the W2B CEMP (Legislative and Appendix B2 - Flora and Fauna Management Plan details the requirements for Unexpected Threatened Species / EEC Finds Procedure (Appendix O of the FFMP). The W2B CFFMP is deemed adequate in addressing the BBA conditional requirement.
35	If, during the course of construction, the Proponent becomes aware of the presence of any threatened species not identified and assessed in the REA and which are likely to be significantly affected, the Proponent shall immediately advise the Director-General of the DECC and/or DPI (AHPU). No activity which places any of these species at risk shall be undertaken until advice has been received from the DECC and/or DPI (AHPU). All recommendations by the DECC and DPI (AHPU) shall be complied with prior to any works likely to affect any threatened species.	Compliant as certified by Rob van Iersel (Environmental Management Representative) 22-JUN-2016	n/a	W2B CEMP Appendix B4 FFMP, Appendix O Unexpected Threatened Species Finds Procedure addresses this condition and therefore is deemed adequate in addressing the BBA conditional requirement.
36	The Proponent shall prepare a Bush Regeneration Plan in consultation with DECC and DWE This plan shall identify disjunct parcels of land, consistent with the EIS and Representations Report, suitable for regeneration and potential connection with existing remnants with the objective of reducing exposure to edge effects, increasing connectivity between remnants and creating wildlife corridors. The Plan shall also include the areas of Closed Forest/Rainforest Communities. Ongoing management of these remnants shall also be addressed.	Completed and closed out during Stage 1 BBA works. The Bush Regeneration Plan, Ballina Bypass Alliance (Australian Wetlands 2009) was prepared to address the requirements of MCoA 36. The plan was finalised in August 2009 following its review by the project's Environmental Review Group. The plan recommended regeneration of three sites at Cumbalum Interchange, Sandy Flat and Ross Lane. The recommendations contained in the plan have been implemented by EnviTE Environmental. Quarterly monitoring reports are being prepared by EnviTE Environmental for the implementation (weeding and planting) and maintenance phases of the plan)	n/a	Completed.
37	Where possible, seed of locally endemic species shall be collected prior to the commencement of construction to provide seed stock for revegetation purposes to the satisfaction of a qualified bushland regeneration officer acceptable to the DECC. Topsoil and mulch shall be stripped and stored for placement back in the vegetation zone from where it was removed.	Compliant as certified by Rob van Iersel (Environmental Management Representative) 22-JUN-2016	D20	W2B CEMP Flora and Fauna Management Plan; Woolgoolga to Ballina • Pacific Highway upgrade   Draft urban design and landscape plan Section 10 and 11 (W2B-SMC-D-LX-RPT-00001.02.SDD) Section 4.4.1, as well as R178 specify the requirement for this to be undertaken. This BBA MCoA is therefore deemed addressed adequately by W2B CEMP (and associated Appendices, A1 Legal and other requirement, RMS specifications; and Appendices B1 - B9).

38	<p>The Proponent shall provide compensatory habitat (or funding for such) to offset the loss of 1.3 hectares of mangroves at a ratio of 2:1 and to the satisfaction of DPI (AHPU).</p>	<p>Compensatory habitat has been provided in accordance with the approved Integrated Wetland Management Sub Plan. In 2009 the RMS negotiated an alternative wetland compensatory habitat agreement with DPI Fisheries. The McLeay Wetland Compensatory Habitat Agreement (CHA) commits the RMS to the rehabilitation of about 17.53 hectares of degraded saltmarsh and freshwater wetland at Teven. A revised Integrated Wetland Management Plan (IWMP) based on the CHA was finalised in March 2010 (refer MCoA 40A) and approved by the Director-General on 27 October 2010. The RMS lodged a section 96 application to modify DA for the components of the sub-plan that require approval from Ballina Shire Council on 13 August 2010. Approval of the section 96 application was received on 22 July 2011.</p> <p>A 5-year works program to implement and monitor the IWMP and CHA has commenced and is proposed to end in October 2013. Refer to MCoA 40 for details of the implementation of the CHA. The Integrated Wetland Management Plan (IWMP) was updated in 2012 (rev F 23rd April 2012) to reflect changes to the management actions.</p>	n/a	<p>This condition has been addressed for Stage 2 works and is closed. In the event that design changes are required for the completion of the final stage of P2T works, provisions have been made in CEMP Revision 4 Section 1.2.2 "It should be noted that the adequacy of existing Sub-plans is relevant to the current design for P2T. In the event that design changes and additional land is required to complete the P2T3 works, the requirements for additional Sub-plans may be triggered. This includes but may not be limited to, an integrated Wetland Management Sub-plan and a Cumulative Impact assessment study Sub-plan."</p>
39	<p>Weed infested topsoil as identified by a qualified bush regeneration officer acceptable to DECC shall not be used in the rehabilitation works unless it is to be sterilised or treated as specified by the bushland regeneration officer.</p>	<p>Compliant as certified by Rob van Iersel (Environmental Management Representative) 22-JUN-2016</p>	D26c) and D26e)	<p>Weed infested topsoil shall be managed according to the requirements of the W2B CEMP Flora and Fauna Sub plan; and Soil and Water Quality management Plan. Additionally the awarded Contractor is required to submit for approval a Contractors Construction Environmental Management Plan and associated Sub-plans, Environmental Work Method Statement and work in accordance with RMS Specification G36 and G38.</p>
<p><b>Wetlands</b> <i>Wetland Management Sub Plan</i></p>				
40	<p>The Proponent shall prepare an integrated Wetland Management Sub Plan in consultation with Ballina Shire Council, DPI (AHPU), DECC and DWE and incorporate this Sub Plan into the Construction EMP. The Plan shall incorporate the SEPP 14 Conditions of Consent and include:</p> <ul style="list-style-type: none"> <li>(a) details of coastal wetland restoration and Compensatory Wetland Agreement;</li> <li>(b) control of non-endemic plants in wetlands adjacent to the roadway;</li> <li>(c) removal of rubbish from wetlands adjacent to the roadway;</li> <li>(d) potential for transplanting juvenile mangroves up to one metre in height from affected areas of Duck Creek and Emigrant Creek; and</li> <li>(e) measures for the rehabilitation of wetland areas disturbed during construction of the project that are not required for the operational project.</li> </ul>	<p>The Integrated Wetland Management Sub Plan for the entire project (including P2T) was developed, approved and implemented as part of the Stage 1 BBA works. No update is required for the P2T works.</p>	n/a	<p>No update is required for the P2T final works. Should the design for P2T final stage change, the W2B CEMP Revision 4 has included in Section 1.2.2 " It should be noted that the adequacy of existing Sub-plans is relevant to the current design for P2T. In the event that design changes and additional land is required to complete the P2T3 works, the requirements for additional Sub-plans may be triggered. This includes but may not be limited to, an integrated Wetland Management Sub-plan and a Cumulative Impact assessment study Sub-plan"</p> <p>No clearing works are required for the final stage of P2T. With regards to 40b), this is identified within the W2B CEMP Appendix B4 CFFMP (Appendix P)</p> <p>With regards to 40c) control of rubbish and suitable disposal is identified in W2B CEMP Appendix B7 CWREMP</p>
40 A	<p>Within 12 months of the date of approval of the design modifications (or such period as otherwise agreed by the director general), the Proponent shall submit an updated Wetlands Management Sub Plan to the Director General for approval. The Plan shall include details of coast wetland restoration and Compensatory Habitat Agreement for the additional 1ha of SEPP 14 wetlands that would be directly impacted under Stage 1 and Stage 2 modified design.</p>	<p>The Integrated Wetland Management Sub Plan for the entire project (including P2T) was developed, approved and implemented as part of the Stage 1 BBA works. No update is required for the P2T works.</p> <p>The Director-General approved the refined design of the Ballina bypass project (MOD2) on 20 March 2009. During 2009 BBA negotiated an alternative CHA with DPI Fisheries. An updated IWMP was prepared based on the alternative CHA and was finalised in March 2010. The updated Integrated Wetland Management Sub-plan was not submitted to the DoP within 12 months of the design modifications, however, the proponent (RMS) submitted the plan to the DoP on 14 September 2010 once the oversight was identified.</p>	n/a	<p>No update is required for the P2T works.</p>

Noise and Vibration				
Background Noise Monitoring				
41	<p>The Proponent shall complete additional background noise monitoring in consultation with the DECC to be used in the development of the Construction Noise and Vibration Monitoring Sub Plan required by Condition 42 and the Operational Noise Management Sub Plan required by Condition 56.</p>	<p>Noise monitoring was undertaken during investigations for the BBA Environmental Impact Assessment and at the planning stages for the Mod 2 works, to obtain background noise data and to establish noise exceedance criteria for assessing noise impacts on sensitive receivers. As there has been no additional significant sources of noise introduced at the locality since the assessments undertaken for BBA, the noise assessments undertaken (Basset Acoustics, 2008), the noise assessment previously conducted is considered to be representative of the current noise environment.</p> <p>The Operational Noise Assessment. Pacific Highway Upgrade -</p>	<p>D11); D28)</p> <p>The SS1- 4963 MCoAs require an Operational Noise Review; and an Operational Noise Compliance Report to be prepared in accordance with the specifics of these two conditional requirements. D11 and D28 are deemed sufficient in addressing the requirements of BBA MCoA 41 and will be prepared and submitted within the specified timeframes for Operational Noise assessments.</p>	
Construction Noise and Vibration Management Sub Plan				
42	<p>A detailed Construction Noise and Vibration Management Sub Plan shall be prepared as part of the Construction EMP and in consultation with the DECC and where relevant, sufficient to address the technical requirements for obtaining DECC licences. The Sub Plan shall include, but not be limited to:</p> <ul style="list-style-type: none"> <li>(a) identification of each work area, site compound and construction depot and the specific activities which will be carried out that these locations;</li> <li>(b) construction timetabling;</li> <li>(c) identification of all potentially affected noise sensitive receivers;</li> <li>(d) identification of appropriate construction noise objectives with regard to the requirements of Condition 44;</li> <li>(e) identification of appropriate vibration objectives with regard to the requirements of Conditions 49 and 52;</li> <li>(f) assessment of potential noise and vibration from the proposed construction methods including noise from construction vehicles and noise impacts from required traffic diversions;</li> <li>(g) detailed examination of all reasonable and feasible noise mitigation measures;</li> <li>(h) consideration of erecting operational stage noise mitigation measures prior to construction commencement;</li> <li>(i) details of all mitigation and management strategies to be implemented;</li> <li>(j) noise and vibration monitoring, reporting and response procedures;</li> <li>(k) community consultation and complaints handling procedures;</li> <li>(l) contingency plans to be implemented in the event of non-compliances and/or noise complaints; and,</li> <li>(m) education of construction personnel about noise minimisation.</li> </ul> <p>With respect to (g) above, the Proponent shall consider the use of a range of structural and non-structural measures during construction including barriers, acoustic treatment of residences, scheduling of construction activities to minimise impacts and temporary relocation of affected residents. The Proponent shall ensure that the mitigation measures referred to in Working Paper 3 of the EIS and in these Conditions are incorporated into the Sub Plan.</p>	<p>Minor amendments were made to the BBA CNVMP to make it specific to the P2T works, these were certified as compliant in November 2013. Compliant as certified by Rob van Iersel (Environmental Management Representative) 22-JUN-2016.</p>	<p>D26a)</p> <p>A2d)</p>	<p>No additional sensitive receivers have established since the Mod 2 EA. The W2B CEMP Revision 4 Appendix B3 (Construction Noise and Vibration Management Plan) is deemed adequate in addressing the requirements of BBA MCoA Conditions 42a) - g).</p> <p>The site compound and construction depot as AF Site 11-2</p> <p>W2B CEMP Appendix B3 CNVMP Table 7-1 Working Hours Community Consultation and Engagement - ID#NV39. Construction Timetabling is a requirement as part of the community consultation process and will be determined under this requirement of the excising CEMP Appendix B3 CVNMP and incorporated into the awarded contractors CNVMP Subplans as required.</p> <p>W2B CEMP Appendix B3 CNVMP Table 7 1 Noise and vibration management and mitigation measures</p>
Construction Hours				
	<p>All construction activities, including entry and departure of heavy vehicles are restricted to the hours of 7:00 am to 6:00 pm (Monday to Friday); <b>8:00 am to 1:00 pm (Saturday)</b> and at no time on Sundays and public holidays.</p>	<p>Compliant as certified by Rob van Iersel (Environmental Management Representative) 22-JUN-2016</p>	<p>B15 and B16</p> <p>Compliance with BBA MCoA will be achieved under the W2B CEMP Revision 4 Appendix A1, Legal and other requirements G36. This specifies the Contractor Construction Environmental Management Plan shall reflect all relevant MCoAs. As such the awarded Contractor's CCEMP and associated</p>	

Notwithstanding the above, construction activities are permitted between the hours of 7:00am and 4:00pm on Saturdays between chainage 130100-134810, including the operation of the Cumbalum and Ross Lane ancillary facilities.

Works outside these hours that may be permitted include:

- (a) any works which do not cause noise emissions to be audible at any nearby residential property;
- (b) the delivery of materials which is required outside these hours as requested by Police or other authorities for safety reasons;
- (c) emergency work to avoid the loss of lives, property and/or to prevent environmental harm; and,
- (d) any other work as agreed through the Construction Noise and Vibration Management Sub Plan Process.

Local residents should be informed of the timing and duration of works covered under clause (d) at least 48 hours prior to commencement.

Sub-plans, i.e. Contractors Noise and Vibration Subplans shall identify the BBA work hours, the difference being Saturday works hours must cease at 13:00 unless prior approval is obtained (as outlined in the W2B OOWH Procedure). In the event that work is required to be completed during Saturdays for the P2T works, the awarded Contractor may elect to apply to be granted Outside of Work Hours dispensation, to align with the remainder of the W2B Project (as outlined in the W2B OOWH Procedure of Appendix B3 to the CEMP Revision 4).

43

*Construction Noise Criteria*

The Proponent shall manage noise from construction activities so as to not exceed the following objectives, unless otherwise specified in the Construction Noise and Vibration Management Sub Plan:

- (a) For a construction period of four weeks or less, the L10 level measured over a period of not less than 15 minutes when the construction site is in operation shall not exceed the background level by more than 20dB(A).
- (b) For a construction period of greater than four weeks but less than 26 weeks, the L10 level measured over a period of not less than 15 minutes when the construction site is in operation shall not exceed the background level by more than 10dB(A).
- (c) For a construction period greater than 26 weeks, the L10 level measured over a period of not less than 15 minutes when the construction site is in operation shall not exceed the background level by more than 5dB(A).

The Proponent shall ensure that all feasible and reasonable noise mitigation and management measures are implemented with the aim to achieve the applicable construction noise objective. Any activities that may cause noise emissions that exceed the objective shall be identified and managed in accordance with the Construction Noise and Vibration Management Sub Plan required by Condition 42.

The noise criteria contained in MCoA 44 were included in the Construction Noise and Vibration Management Sub-plan for P2T works. The sub-plan included an acoustic model of the construction works based on a schedule of works contained in Appendix C of the sub-plan. The results of the modelling were compared to the noise criteria in Section 5.1.6 of the sub-plan. The modelling showed that the construction works would generally comply with the noise criteria. Controls are presented in Appendix A of the sub-plan to mitigate these impacts. Compliant as certified by Rob van Iersel (Environmental Management Representative) 22-JUN-2016

Results from Section 5.1.6 are displayed below:  
 DAY: Existing Background Level, LAeq (15hour)  
 Site 1: 56 Site 2: 53 Site 3: 54  
 Daytime Noise Management Levels LAeq dB(A)  
 Site 1: 61 Site 2: 58 Site 3: 59  
 NIGHT: Existing Background level, LAeq (9hour)  
 Site 1: 56 Site 2: 50 Site 3: 54  
 Evening Noise Management Levels LAeq dB(A)  
 Site 1: 61 Site 2: 55 Site 3: 59  
 Site 1: 105 Smith Drive, West Ballina  
 Site 2: 55 Pimlico Road, Pimlico  
 Site 3: 14 Uralba Road, Uralba

D10

Controls are presented in Appendix A of the P2T Sub-plan to mitigate the impacts identified for P2T works list industry standard controls which are analogous to those identified within W2B CEMP Revision 4 Appendix B3 CNVMP Section 4.2.6, Table 4-2 and Table 7-1. Sensitive receivers in the locality of the P2T works are displayed on the W2B project's SiteMap portal. As there has been no additional significant sources of noise introduced at the locality since the assessments undertaken for P2T the controls identified within W2B CEMP Revision 4 Appendix B3 CNVMP are deemed adequate in addressing the BBA MCoA. Noise Management for P2T3 will be in accordance with the BBA MCoAs as identified by awarded contractors CNVMP

W2B CEMP Revision 4 Appendix B3 CNVMP Table 5-4 lists the noise management levels for each catchment area. The P2T works falls within NML K. Table 5-4 listed levels are more conservative than those identified by the previous P2T works, these will be applied in the first instance to ensure no detrimental impacts are felt to sensitive receivers and to ensure compliance with the requirements of the BBA MCoAs. The W2B established noise monitors (151 Uralba Road, Coolgardie Road to Ballina bypass, EIS NCA 11-f; and Monitoring site #18, Pimlico Rd) are located 500 and 70m away from the P2T works, respectively. Following submission of the Contractors Noise and Vibration Management Plan background noise levels may be further refined following background noise data and amendments to the noise criteria made (as approved). The quantitative assessment criteria listed with Table 5-1 of the W2B CEMMP Revision 4 Appendix B3 CNVMP would be referenced. Based on the previous noise assessments undertaken for P2T and in conjunction with the existing mitigation controls identified within W2B CEMP Revision 4 Appendix B3 CNVMP, the W2B CEMP Revision 4 is deemed adequate in addressing the BBA MCoA.

44

*Construction Noise Management*

Noise Management for P2T3 will be in accordance with the BBA MCoAs as identified by awarded contractors CNVMP

45	Construction noise levels shall be monitored to verify compliance with the Construction Noise and Vibration Management Sub Plan. Should monitoring indicate exceedances of construction noise goals, the Proponent shall consult with the DECC and implement all reasonable and feasible mitigation measures to the satisfaction of the DECC.	Compliant as certified by Rob van Iersel (Environmental Management Representative) 22-JUN-2016	B14	W2B CEMP Appendix B3 CNVMP Table 7-1 mitigation criteria #NV10 and Section 8.3 Noise Monitoring.
45 A	<p>Within one month of the commencement of extraction at the Ross Lane Earthworks, the Proponent shall monitor noise levels generated by extraction activities at the sites, consistent with the NSW Industrial Noise Policy (DECC, 2000), at sensitive receivers identified in Table 1 of the Environmental Assessment (for the modification of Ross Lane).</p> <p>Where exceedances of the levels specified in Table 1 of the Environmental Assessment (for the modification of Ross Lane) are identified, the Proponent shall identify and assess the activities resulting in the noise exceedances and any additional mitigation measures to be implemented with the objective of meeting the criteria identified in Table 1 of the Environmental Assessment (for the modification of Ross Lane), when these measures would be implemented and how their effectiveness would be measured and reported to the Director-General and the DECC.</p>	All works in the vicinity of Ross Lane have been completed	n/a  n/a	All works in the vicinity of Ross Lane have been completed
46	<p>The Proponent shall ensure that wherever practicable:</p> <p>(a) the offset distance between noisy plant items and sensitive receivers is maximised;</p> <p>(b) the co-occurrence of noisy plant working simultaneously, close together and close to sensitive receivers is minimised;</p> <p>(c) bored piles are used in place of driven piles in close proximity to residences; and</p> <p>(d) loading and unloading is carried out away from noise sensitive areas.</p>	Compliant as certified by Rob van Iersel (Environmental Management Representative) 22-JUN-2016	B14 and B25	<p>W2B CEMP Revision 4 Appendix B3 CNVMP Table 7-1 NV#21</p> <p>W2B CEMP Revision 4 Appendix B3 CNVMP Table 7-1 NV#24</p> <p>W2B CEMP Revision 4 Appendix B3 CNVMP Table 7-1 NV#1</p> <p>W2B CEMP Revision 4 Appendix B3 CNVMP Table 7-1 NV#18</p>
47	<p>The Proponent shall ensure that sheet piling and any other <b>activities which result in impulsive or tonal noise</b> generation close to residences and other sensitive receptors are only scheduled between the following hours unless otherwise specified in the Construction Noise and Vibration Management Sub Plan:</p> <p>(a) <b>9 am to 3 pm, Monday to Friday; and,</b></p> <p>(b) <b>9 am to 12 pm, Saturday</b></p> <p>Where activities are undertaken for a continuous three hour period and are audible to noise sensitive receptors, a minimum respite period of at least one hour shall be scheduled before activities recommence.</p>	Compliant as certified by Rob van Iersel (Environmental Management Representative) 22-JUN-2016	B18	<p>W2B CEMP Revision 4 Appendix B3 - CNVMP Table 7-1 Noise and Vibration Mitigation measures ID# NV35 impulsive or tonal noise emission activities work hours.</p> <p>Compliance with BBA MCoA will be verified by the W2B CEMP Revision 4 Appendix A1, Legal and other requirements G36. This specifies the Contractor Construction Environmental Management Plan shall reflect all relevant MCoAs. As such the awarded Contractor's CCEMP and associated Sub-plans, i.e. Contractors Noise and Vibration Subplans shall identify the BBA work hours, the difference being a shorter time period allowable for impulsive or tonal noise unless prior approval is received (as outlined in the W2B OOWH Procedure). The W2B CEMP Revision 4 which encompasses works for the final stage of Stage 2, BBA may be updated with minor revisions and if so will be submitted to the D-G for information within 2 weeks of updating the CEMP if this is deemed to be required.</p>
<b>Blasting</b>				
48	Blasting shall only be undertaken between the hours of 9:00 am and 3:00 pm, Monday to Friday, and 9:00 am to 12:00 pm on Saturday.	Not applicable to P2T works because no blasting is being undertaken as part of this stage of the project	n/a	Not applicable to P2T works because no blasting is being undertaken as part of this stage of the project. Noise Management for P2T3 will be in accordance with the BBA MCoAs as identified by awarded contractors CNVMP
49	<p>The vibration level due to blasting activities shall meet the requirements of the EPA as specified in its Licence.</p> <p>In general the Guideline entitled "Technical Basis for Guidelines to Minimise Annoyance due to Blasting Overpressure and Ground Vibration" prepared by the Australian and New Zealand Environment and Conservation Council (ANZECC) shall be applicable.</p>	Not applicable to P2T works because no blasting is being undertaken as part of this stage of the project	n/a	Not applicable to P2T works because no blasting is being undertaken as part of this stage of the project

50	For any section of the project where blasting is proposed, the Proponent shall undertake a series of initial trials at reduced scale prior to commencement of the proposed blasting to determine site-specific blast response characteristics and to define allowable blast sizes to meet the criteria specified in the Construction Noise and Vibration Sub Plan.	Not applicable to P2T works because no blasting is being undertaken as part of this stage of the project	n/a	Not applicable to P2T works because no blasting is being undertaken as part of this stage of the project								
50 A	<p>For the Ross Lane Earthworks Site the proponent blasting shall be limited to comply with the criteria outlined in Table 1 and Table 2 below, when measured at the most affected sensitive receiver (subject to the provisions of Condition 45A).</p> <table border="1"> <thead> <tr> <th colspan="2">Table 1 - Air blast Overpressure Criteria</th> </tr> <tr> <th>Peak Particle Velocity (mms-1)</th> <th>Allowable Exceedance</th> </tr> </thead> <tbody> <tr> <td>5</td> <td>5% of total number of blasts over a 12 month period</td> </tr> <tr> <td>0</td> <td>Never</td> </tr> </tbody> </table>	Table 1 - Air blast Overpressure Criteria		Peak Particle Velocity (mms-1)	Allowable Exceedance	5	5% of total number of blasts over a 12 month period	0	Never	Not applicable to P2T works because no blasting is being undertaken as part of this stage of the project	n/a	Not applicable to P2T works because no blasting is being undertaken as part of this stage of the project
Table 1 - Air blast Overpressure Criteria												
Peak Particle Velocity (mms-1)	Allowable Exceedance											
5	5% of total number of blasts over a 12 month period											
0	Never											
51	The Proponent shall make all reasonable attempts to advise occupants of residences within 500 metres of a blast of the blasting. The advice shall be provided at least 48 hours in advance and include a schedule of blast time(s) and a telephone contact name and number should the resident have concerns.	Not applicable to P2T works because no blasting is being undertaken as part of this stage of the project	n/a	Not applicable to P2T works because no blasting is being undertaken as part of this stage of the project								
<i>Construction Vibration</i>												
52	Vibration resulting from construction of the project shall be limited to: (a) For structural damage vibration - German Standard DIN 4150 and BS 7385: Part 2 – 1993; and, (b) For human exposure to vibration - the evaluation criteria presented in British Standard BS 6472 for low probability of adverse comment, unless otherwise agreed by the DECC through the Construction Noise and Vibration Management Sub Plan.	Compliant as certified by Rob van Iersel (Environmental Management Representative) 22-JUN-2016	B20	W2B CEMP Appendix B3 CNVMP Table 8-1 (item 5)  Noise Management for P2T3 will be in accordance with the BBA MCoAs as identified by awarded contractors CNVMP								
53	Vibration levels shall be monitored to verify compliance with the limits specified in Conditions 52 and 49. Monitoring shall occur at representative properties within a minimum of 500 metres of blasting works. Should monitoring indicate exceedances, the Proponent shall consult with the DECC and implement best available mitigation measures to the satisfaction of the DECC.	No blasting is occurring on the project.	n/a	No blasting is occurring on the project.								
54	Vibratory compactors and rock breakers shall not be used within 50m of residential buildings, unless the requirements of Condition 52 are satisfied.	Compliant as certified by Rob van Iersel (Environmental Management Representative) 22-JUN-2016	n/a	No residential premises within 50m of work zone. Additionally, the use of rock breakers in the P2T alignment is unlikely.								
<i>Operational Noise Management Sub Plan</i>												
	A detailed Operational Noise Management Sub Plan shall be prepared as part of the Operational EMP, to the satisfaction of the Director-General. The Sub Plan shall provide details of noise control measures to be undertaken during the operation stage and in accordance with the NSW Government's Environmental Criteria for Road Traffic Noise and the RMS's Environmental Noise Management Manual. The Sub Plan shall include, but not be limited to: (a) clearly identify appropriate operational noise criteria; (b) predictions of noise levels at all affected residential, recreational, commercial and industrial land uses;	Compliant as certified by Rob van Iersel (Environmental Management Representative) 22-JUN-2016		P2T is captured under the Ballina Bypass OEMP.  The operational noise report formed a standalone document for P2T.								

55	<p>(c) specific reasonable and feasible physical and managerial measures for controlling noise;</p> <p>(d) the location, type and timing of erection of permanent noise barriers and/or other noise mitigation measures demonstrating best practice;</p> <p>(e) the urban design issues relating to noise control measures; and,</p> <p>(f) noise monitoring, reporting and response procedures including monitoring on surrounding roads which experience significantly increased traffic volumes as a result of the project.</p>			
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**Operational Noise Management**

56	<p>Monitoring of road traffic noise shall be undertaken as stated in the Operational Noise Management Sub Plan and in accordance with the NSW Government Guideline Environmental Criteria for Road Traffic Noise. The Proponent shall review the monitoring results and assess the adequacy of the traffic noise mitigation measures in accordance with the 'Post Construction Noise Monitoring Practice Note viii' contained in the RMS's Noise Management Manual.</p>	<p>An operational noise assessment was completed in March 2014. The results of the noise modelling indicate that no additional noise mitigation measures were required in accordance with ENMM as the road traffic noise levels at the design years are lower than the Future Existing noise levels and are not acute. Compliant as certified by Rob van Iersel (Environmental Management Representative) 22-JUN-2016</p>	D11); D28)	<p>The SS1- 4963 MCoAs require an Operational Noise Review; and an Operational Noise Compliance Report to be prepared in accordance with the specifics of these two conditional requirements. D11 and D28 are deemed sufficient in addressing the requirements of BBA MCoA 41 and will be prepared and submitted within the specified timeframes for Operational Noise assessments.</p>
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**Soil and Water Management**

**Soil and Water Management Sub Plan(s)**

	<p>As part of the Construction and Operational EMPs, a detailed Soil and Water Management Sub Plan(s) shall be prepared in consultation with the DECC, DWE, DPI (AHPU), and Ballina Shire Council. The Sub Plan(s) shall be prepared in accordance with the Department of Housing's guideline Managing Urban Stormwater - Soils and Construction and where appropriate, DWE's Constructed Wetlands Manual.</p> <p>The Sub Plan(s) shall be prepared prior to construction or operation as appropriate.</p> <p>The Soil and Water Management Sub Plan(s) shall contain, but not be limited to:</p> <p>(a) management of the cumulative impacts of the development on the quality and quantity of surface and groundwaters, including stormwater in storage, sedimentation dams and flooding impacts;</p> <p>(b) preparation of a catchment analysis to determine the capacity of existing drainage systems and changes resulting from the construction of the project including detention requirements;</p> <p>(c) details of short and long-term measures to be employed to minimise soil erosion and the discharge of sediment to land and/or waters including the exact locations and capacities of sedimentation basins;</p> <p>(d) details of strategies to manage the stage construction of embankments including mitigation measures to be implemented, maintenance and responsibility;</p> <p>(e) management of the impacts of the development on creeks and water bodies, in particular Duck Creek, Emigrant Creek, Maguires Creek, Richmond River and SEPP 14 Wetlands No. 108, 108A and 95;</p> <p>(f) identification of all potential sources of water pollution and a detailed description of the remedial action to be taken or management systems to be implemented to minimise emissions of these pollutants from all sources within the project;</p>	<p>Compliant as certified by Rob van Iersel (Environmental Management Representative) 22-JUN-2016</p>	<p>D26c)</p> <p>D26ciii)</p> <p>D12f)</p> <p>D13c) D20i) D26ciii)</p> <p>D26cix)</p> <p>D25dvi)</p> <p>D12c)</p>	<p>W2B CEMP Appendix B4 SWQMP:</p> <p>management of surface and groundwater impacts during construction - Appendix C of CSWQMP (Appendix B4 of W2B CEMP Revision 4)</p> <p>W2B CEMP Revision 4 Appendix B4 - CSWQMP, Appendix G - Section 8.1 Surface Water Management Actions.</p> <p>W2B CEMP Revision 4 Appendix B4 - CSWQM Table 6-1 mitigation control ID# SW26, ID#48, ID#51</p> <p>Monitoring of effectiveness of soil and water quality management measures and the soil and water quality management plan is contained within Appendix B4 - CSWQMP of the W2B CEMP Revision 4</p> <p>Appendix C (Stockpile management protocol) and Appendix G of CSWQMP (which is Appendix B4 of W2B CEMP Revision 4). Table 4-8 lists the waterways the W2B project crosses, Duck and Emigrant Creeks are identified. Table 5-1 describes pre-construction water quality characteristics and the monitoring locations for Duck Creek surface water quality monitoring (SW15 / GDE09)</p> <p>Appendix G of CSWQMP (which is Appendix B4 of W2B CEMP Revision 4), Section 8.3 Surface Water Management Action procedure</p>
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57	<p>(g) detailed description of water quality monitoring to be undertaken during the pre-construction, construction and operation stages of the project including identification of monitoring locations;</p> <p>(h) contingency plans to be implemented in the event of fuel spills or turbid water discharge from the site; and,</p> <p>(i) a program for reporting on the effectiveness of the sediment and erosion control system against performance goals.</p> <p>The Soil and Water Management Sub Plan(s) shall clearly show how the mitigation measures identified in Section 6.4 of EIS and the Representations Report will be implemented during construction and operation.</p>		<p>D12</p> <p>D12c) and D12f)</p> <p>D26ix)</p>	<p>CSWQMP - Water Quality Monitoring Program W2B Sections 3- 11 (P2T within Section 11), Table 6-1 Mitigation control ID# SW84 and Appendix G</p> <p>Appendix G of CSWQMP (which is Appendix B4 of W2B CEMP Revision 4), Section 8.3 Surface Water Management Action procedure</p> <p>W2B CEMP Revision 4 Appendix B4 - CSWQMP Section 7, Table 6-1 mitigation control ID#SW35</p> <p>The EIS for the BBA (Connel Wagner, 1998) assessed the potential for soil and water quality impacts during construction and subsequent operation of the project. It outlined generic construction management strategies for the BBA project to mitigate key water quality and soil stability risks. These risks were identified as being mainly associated with the clearance of vegetated areas for road construction, spoil management, construction works around water courses and use / spillage of chemicals and other pollutants. The EIS concluded that provided mitigation measures were implemented the construction and operation of the BBA project (of which P2T forms the final component) will not substantially impact on water quality of soil stability.</p>
<i>Erosion and Sediment Control Works</i>				
58	<p>The Soil and Water Management Sub Plan(s) shall incorporate detailed erosion and sedimentation controls including a strategy to manage the extent of exposed ground surface during construction and progressive site rehabilitation requirements (in accordance with Conditions 71 and 77). The Sub Plan shall be prepared in consultation with DWE, DECC and DPI (AHPU).</p>	<p>Compliant as certified by Rob van Iersel (Environmental Management Representative) 22-JUN-2016</p>	<p>D26c)</p>	<p>W2B CEMP Revision 4 Section 4.2.6, Section 6.2 and Appendix B4 SWQMP Section 4.2.6, Appendix B4 - SWQMP Section 1.3, Table 6-1 SW#4, SW#83</p>
<i>Construction</i>				
59	<p>The DWE, or other appropriately qualified soil conservationist, shall be consulted on a regular basis to undertake inspections of temporary and permanent erosion and sedimentation control devices to ensure that the most appropriate controls are being implemented and that they are being maintained in an efficient condition at all times and meet the requirements of any relevant approval/licence condition(s).</p> <p>The results of these inspections and any follow-up actions shall be reported in the six monthly Environmental Performance and Compliance Report required by Condition 15.</p>	<p>Compliant as certified by Rob van Iersel (Environmental Management Representative) 22-JUN-2016</p>	<p>D24 and D27</p>	<p>W2B CEMP Appendix B4 SWQMP Section 1.3, Table 6-1 SW#85</p> <p>W2B CEMP Section 8</p>
60	<p>All runoff collected during construction which is likely to be contaminated, shall be tested, treated, handled and disposed of in accordance with the provision of the Protection of the Environment Operations Act 1997 and the conditions of any Licence issued by the DECC.</p>	<p>Compliant as certified by Rob van Iersel (Environmental Management Representative) 22-JUN-2016</p>	<p>B36</p>	<p>W2B CEMP Revision 4 Appendix B4 SWQMP Table 6-1 SW#20, SW#75</p>
61	<p>All runoff from disturbed areas shall be contained by appropriate erosion and sedimentation controls designed in accordance with the Department of Housing's guideline <i>Managing Urban Stormwater - Soils and Construction</i>.</p>	<p>Compliant as certified by Rob van Iersel (Environmental Management Representative) 22-JUN-2016</p>	<p>B34</p>	<p>W2B CEMP Revision 4 Appendix B4 SWQMP Section 3 - Environmental Requirements, Section 6, Table 6-1 SW#16</p>
<i>Operation Stage Control Measures</i>				



62	All stormwater drainage, erosion, sedimentation and water pollution control systems and facilities of the project shall be located, designed, constructed, operated and maintained to meet the requirements of the relevant authorities including the DECC, DPI (AHPU), Ballina Shire Council and the DWE. All facilities including wetland filters, grass filter strips, gross pollutant traps and sedimentation basins shall be inspected regularly and maintained in a functional condition for the life of the project. Construction stage water quality structures shall be maintained for a minimum of six months after commissioning of the project or until revegetation has provided groundcover to at least 70% of the exposed ground surface.	Compliant as certified by Rob van Iersel (Environmental Management Representative) 22-JUN-2016	D12f) and D30	Where applicable to the final stage of the P2T works, construction stage water quality structures will be maintained for a minimum of six months after commissioning of the project or until revegetation has provided groundcover to at least 70% of the exposed ground surface. W2B CEMP Revision 4 Appendix B4 SWQMP (e.g. SW#28).
63	The Proponent shall provide appropriate detention systems for containment of spills and materials arising from accidents that are consistent with the RMS's "Code of Practice for Water Management – Road Development and Management" in consultation with the DECC.	Compliant as certified by Rob van Iersel (Environmental Management Representative) 22-JUN-2016	D26c)	The W2B CEMP Revision 4 Appendix B4 SWQMP Section 3 - Environmental Requirements, Section 6, Table 6-1 SW#6, SW#15, SW#20 details the requirement for spill containment and this is incorporated into the design.

**Hydrology and Flooding**

<i>Inundation Levels</i>				
64	The project shall be designed to "not worsen" the existing flooding characteristics in any waterway upstream or downstream of the project elements. 'Not worsen' shall be defined as:  (a) a maximum increase in inundation levels upstream of the project of 50 mm in a 1 in 100 year ARI rainfall event; and,  (b) a maximum increase in inundation time of one hour for any rainfall event.	BBA flood model was updated to include the P2T design which confirmed the project meets this condition (A flood model was developed for the project and used during the design of the project to ensure that the project does not worsen existing flooding characteristics in compliance with MCoA 64.).		Completed as per Stage 2 as verified as compliant by the EMR 22nd June 2016
65	The Proponent shall endeavour to resolve amicably any dispute between itself and any landowner about alterations to flooding characteristics caused by the project. If the parties cannot reach a mutually satisfactory resolution, the matter shall be referred firstly to the hydrologist referred to in Condition 66 for resolution. If the hydrologist cannot resolve the issue then the dispute resolution requirements of Condition 7 shall apply.	For Stage 2, all complaints and disputes would be managed in accordance with the Community Engagement Strategy. No complaints or disputes were raised relating to this condition during Stage 2. A Flooding Focus Group was established prior to construction of Stage 2, which consisted of community members and representatives of the RMS and Ballina Shire Council. The Ballina Bypass Alliance received a groundwater-related enquiry from the owner of a property located in the vicinity of the Ross Lane earthworks in April 2010. The enquiry centred on the potential for the project's excavation works to have affected the water table level and, as a result, the productivity of the property owner's fruit tree plantation. In response to the enquiry the RMS engaged the hydrological specialist required under MCoA 66 to investigate the local hydrology and document their findings in a report. The hydrologist investigated drainage issues at the property owner's plantation and a letter report was prepared in October 2010. The report concluded that the excavation works appear to have had minimal impact on the plantation and that the lack of rainfall during the spring and summer of 2009 was the likely cause of the reduced harvest in 2010. A groundwater specialist inspected the site in November 2010 and reviewed groundwater data collected by BBA and groundwater observations made during excavation works in the locality. A report summarising the findings of this investigation was issued in December 2010. The report concluded that there was no direct evidence that the groundwater table was lowered by the excavation works. The hydrologist prepared a second letter report in December 2010 summarising the results of their October 2010 report and the groundwater specialist's report, and also addressing comments received from the property owner in November 2010. The RMS provided the above documents to the property owners in early 2011 (where they had not already been issued). The hydrologist was available to explain the contents and conclusions of the reports to the property owner, in accordance with MCoA 66. The RMS investigated other property owner concerns in mid 2012 and an independent hydrologist was engaged to assist.	C1 (Community Communication Strategy)	Completed as per Stage 2 as verified as compliant by the EMR 22nd June 2016

66	<p>The Proponent shall provide appropriate funding for the DWE to engage a qualified hydrologist(s) to ensure that each landowner affected by the project has appropriate technical resources to understand hydrologic issues and to receive advice concerning the provision of appropriate flood/drainage facilities consistent if not better than would exist without the project. The RMS shall notify all affected landowners of the availability of the hydrologist(s) as soon as practicable and prior to commencement of substantial construction activities likely to affect flood/drainage patterns.</p>	<p>RMS appointed a qualified hydrologist in 2005 to investigate any landowner concerns regarding hydrological effects on local properties. Final hydrological mapping has been completed and the potentially impacted residents were informed in September 2014 that hydrological advice is available. A memorandum of understanding has been established between Roads and Maritime and WMA Water to provide hydrological information services should they be required.</p>	n/a	<p>completed as part of the Stage 2 works as verified as compliant by the EMR 22nd June 2016</p>
<b>Bridge and Culvert Design</b>				
67	<p>The Proponent shall consult the DECC and DPI (AHPU) in relation to the design and timing of bridge and culvert construction. In undertaking bridge design and construction, the Proponent shall ensure that: no culverts are used to cross creeks and rivers; no earthen platforms for driving piles are constructed; and all embankments are located away from the edge of waterways unless otherwise agreed by DPI (AHPU). The Proponent shall also investigate in consultation with DECC designing bridge structures that are suitable for fauna use. This may require incorporating features such as locating bridge abutments a sufficient distance from the edge of creek or river bank to allow for fauna movement and measures to ensure that adequate light and moisture is maintained underneath bridges to facilitate native vegetation growth.</p> <p>In undertaking culvert design and construction, the Proponent shall ensure that there is no drop or 'waterfall' effect at the end of the structure, water levels above and below the crossing are the same and the base of the culvert is set into (rather than on) the floodplain so that natural sediments cover the bottom, providing a less alien habitat for fish passage.</p>	<p>Compliant as certified by Rob van Iersel (Environmental Management Representative) 22-JUN-2016</p>	D23c)	<p>The proposed construction method for the bridges and culverts will be discussed at the Environmental Review Group meetings and any comments addressed prior to construction commencing. The comments are incorporated in the Environmental Work Method Statements to ensure implementation on site in accordance with W2B CEMP Revision 4 Section 4.2.4</p>
<b>Acid Sulfate Soils Management</b>				
68	<p>A detailed Acid Sulfate Soil Management Sub Plan shall be prepared in consultation with DECC, DPI (AHPU) and DWE prior to any construction activity in potentially affected areas. The Sub Plan shall include reference to the water quality monitoring program contained in the Soil and Water Quality Management Sub Plan. The Sub Plan shall be prepared in accordance with the Acid Sulfate Soils Manual (ASSMC, 1998). As part of the Sub Plan, a Contingency Plan to deal with the unexpected discovery of actual or potential acid sulfate soils shall be prepared to the satisfaction of the DWE and in consultation with the DECC.</p>	<p>Compliant as certified by Rob van Iersel (Environmental Management Representative) 22-JUN-2016</p>	D26cv)	<p>W2B CEMP Revision 4 Appendix B4 Table 6-1 ID# SW5, ID# SW46, SW#59, SW#81, SW# 82 - Appendix A: Acid Sulfate Soil Contingency and management control measures mitigation measure ID#A1-A5.</p>
<b>Spoil and Fill Management</b>				
	<p>The Proponent shall prepare a Spoil and Fill Management Sub Plan and incorporate this Sub Plan into the Construction EMP. This Sub Plan shall include:</p> <ul style="list-style-type: none"> <li>(a) details of the volumes of fill required in relation to staging of the project;</li> <li>(b) how spoil and fill material will be sought, handled, stockpiled, reused and disposed;</li> <li>(c) details of disposal sites and the volumes of spoil to be transported to each site;</li> <li>(d) details of the any contaminated soil and appropriate management and monitoring measures for potential contaminants; and,</li> <li>(e) a contingency plan to be implemented in the case of unanticipated discovery of contaminated material during construction.</li> </ul>	<p>Compliant as certified by Rob van Iersel (Environmental Management Representative) 22-JUN-2016</p>	D25dix) and D26cii)	<p>The BBA Spoil and Fill sub plan was amended in 2013 to make it specific to P2T. The EMR reviewed and approved the plan (ref: Nov 2013). Additionally, W2B CEMP B4 - Construction Soil and Water Quality Management Plan Section 7 and Appendix C, Stockpile Management Procedure and CEMP Appendix B8, Construction Contaminated Land MP will be referenced when the awarded Contractor is preparing their Contractor Construction Environmental Management Plan as the associated sub plans (as per Appendix A1 of W2B CEMP Revision 4).</p>



<i>Indigenous Heritage Management Sub Plan</i>				
74	<p>The Proponent shall prepare an Indigenous Heritage Management Sub Plan, in consultation with the Jali Local Aboriginal Land Council and DECC as part of the Construction EMP. This Sub Plan shall include:</p> <p>(a) details of the archaeological investigations to be undertaken;</p> <p>(b) details of any licences and approvals required,</p> <p>(c) detailed plans to be implemented if previously unidentified items/areas are located during construction;</p> <p>(d) an education program for all personal on obligations with regard to Aboriginal cultural materials; and,</p> <p>(e) management/salvage measures for all identified features.</p>	Compliant as certified by Rob van Iersel (Environmental Management Representative) 22-JUN-2016	D26d)	No known indigenous artefacts are located within the P2T project site. The unexpected finds procedure will be implemented in the event of a suspected find. There have been no unexpected finds. The W2B CEMP Revision 4 Appendix B5 CHMP Appendix A Unexpected Finds Procedure details process should any unexpected heritage items be uncovered.
<i>Non-Indigenous Heritage Survey</i>				
75	The Proponent shall prepare a Report on the European Heritage Survey of the Historic House at Cumbalum (the Campbell Property) and the remains of the Ballina to Booyong Rail Line in consultation with Ballina Shire Council prior to the commencement of construction. The Report shall include a photographic record in colour, monochrome print and colour transparency prepared in accordance with the guidelines by the Department and the Heritage Office entitled How to Prepare Archival Records of Heritage Items and Photographic Records of Heritage Sites, Buildings and Structures. Copies of the Report shall be forwarded to Ballina Shire Council and local libraries.	Completed as part of the Stage 1 BBA works and certified as compliant EMR 22nd July 2016.	n/a	Completed as part of the Stage 1 BBA works. The W2B CEMP Revision 4 Appendix B5 CHMP Appendix B Unexpected Finds Procedure details process should any unexpected heritage items be uncovered.
<i>Unexpected Items</i>				
76	If during the course of construction the Proponent becomes aware of any heritage items or archaeological material, all work likely to affect the site(s) shall cease immediately and the relevant authorities, including DECC, NSW Heritage Council and the relevant Local Aboriginal Land Council shall be consulted to determine an appropriate course of action prior to the recommencement of work at that site. Appropriate supporting documentation would need to accompany any application for required permit/consent(s).	Compliant as certified by Rob van Iersel (Environmental Management Representative) 22-JUN-2016	RMS Standard Management Procedure - Unexpected Archaeological Finds	W2B CEMP Appendix 5 CHMP, Appendix B Unexpected Archaeological Finds Procedure
76A	<p>Prior to the commencement of any construction for the Ross Lane Earthworks the Proponent shall:</p> <p>(i) identify the area containing the potential hut site (as identified in Appendix 1) and exclude from any construction impacts until the completion of any required archaeological excavations; and</p> <p>(ii) (ii) provide the Department of Planning with the process to be implemented if previously unidentified heritage items are located during construction (outside of the area identified in Condition 76A i) above).</p>	All works in the vicinity of Ross Lane were completed as part of the Stage 1 BBA works.	n/a	All works in the vicinity of Ross Lane were completed as part of the Stage 1 BBA works.
76B	Prior to the commencement of any construction activities within the potential 'hut' site (identified in Condition 76A ii) the Proponent shall undertake an archaeological testing program of this area, and any salvage excavations, if required. The Proponent shall ensure that these works are	All works in the vicinity of Ross Lane were completed as part of the Stage 1 BBA works.	n/a	All works in the vicinity of Ross Lane were completed as part of the Stage 1 BBA works.
<b>Air Quality</b>				
<i>Construction Air Quality Sub Plan</i>				
	<p>As part of the Construction EMP, a detailed Construction Air Quality Sub Plan shall be prepared in consultation with the DECC. The Sub Plan shall provide details of all dust control measures to be implemented during the construction stage, including, but not limited to:</p> <p>(a) pro-active measures to reduce dust from stockpiles and cleared areas and other exposed surfaces;</p>	Compliant as certified by Rob van Iersel (Environmental Management Representative) 22-JUN-2016	B66, B80, D25v)	W2B CEMP Appendix B6 Table 7-1 ID AQ#4, AQ#10, AQ#11; AQ#33 - AQ#39.

77	(b) progressive revegetation strategy for exposed surfaces in accordance with Conditions 58 and 71; and, (c) monitoring and maintenance requirements.			
78	Where there is a risk of losing material, construction vehicles using public roads shall be maintained and covered to prevent any loss of load, whether in the form of dust, liquid or soils. Construction vehicles and construction roads shall be maintained in such a manner to minimise tracking of any track mud, dirt or other material onto any street which is opened and accessible to the public. In the event of any spillage, the Proponent is required to remove the spilt material within 24 hours.	Compliant as certified by Rob van Iersel (Environmental Management Representative) 22-JUN-2016		W2B CEMP Appendix B6 AQMP (Table 7-5 AQ#21)
<b>Hazards and Risk Management</b>				
79	As part of the Construction and Operational EMPs, the Proponent shall prepare and implement a Hazards and Risk Management Sub Plan. This Sub Plan shall include, but not be limited to the following:  (a) details of the hazards and risks associated with the project; and, (b) pro-active and reactive mitigation measures including contingency plans to be implemented in the event of a pollution incident.	Compliant as certified by Rob van Iersel (Environmental Management Representative) 22-JUN-2016	25dx)	W2B CEMP Section 3.4, Appendix A2 Aspects and Impacts
<b>Waste Management and Recycling</b>				
<i>Waste Management and Recycling Sub Plan</i>				
80	As part of the Construction and Operational EMPs as relevant, a detailed Waste Management and Reuse Sub Plan shall be prepared in consultation with the DECC. The Sub Plan shall address the management of wastes during the construction and operation stages respectively in accordance with Government's Waste Reduction and Purchasing Policy. It shall be prepared prior to construction, and shall identify requirements for:  (a) waste avoidance; (b) reduction; (c) reuse; and, (d) recycling, and details of requirements for: (e) handling; (f) stockpiling; (g) disposal of wastes: specifically contaminated soil or water, concrete, demolition material, cleared vegetation, oils, grease, lubricants, sanitary wastes, timber, glass, metal, etc.; (h) implementation of energy conservation best practice; and, (i) identifying any site for final disposal of any material and any remedial works required at the disposal site before accepting the material.	Compliant as certified by Rob van Iersel (Environmental Management Representative) 22-JUN-2016	B68 B69 and B70.	W2B CEMP Appendix B7 CWERMP: Section 5-1 "Figure 5-1 illustrates the waste hierarchy that should be followed to reduce the generation of waste and limit the amount of waste to disposal. Where waste cannot be avoided, reused or recycled it will be classified and appropriate disposal will then occur."  W2B CEMP Appendix B7 CWERMP: Section 5-6 "Waste (and spoil) disposal is to be in accordance with the Protection of the Environment Operations Act 1997 and the Waste Avoidance and Resource Recovery Act 2001. Wastes that are unable to be reused or recycled will be disposed of offsite to an EPA approved waste management facility following classification (refer to section 5.1). The location of waste management / disposal facilities are included in Appendix A. Details of waste types, volumes and destinations are to be recorded in the Waste Management Register (Appendix D). Where possible wastes will be removed off-site to a recycling facility or will be disposed of at a licensed waste facility." W2B CEMP Appendix B7 CWERMP Table 6-1 IDWE#9 - WE#26
81	Any waste material that is unable to be reused, reprocessed or recycled shall be disposed at a landfill licensed by the DECC to receive that type of waste. The Waste Management and Reuse Sub Plan shall be framed using the waste minimisation hierarchy principles of avoid-reduce-reuse-recycle-dispose. This shall also include the demand for water.	Compliant as certified by Rob van Iersel (Environmental Management Representative) 22-JUN-2016		as above
<b>Utilities and Services</b>				
82	The Proponent shall identify the services potentially affected by construction activities to determine requirements for diversion, protection and/or support. This shall be undertaken in consultation with the relevant service provider(s). Any alterations to utilities and services shall be carried out to the satisfaction of the relevant service provider(s), and unless otherwise agreed to, at no cost to the service/utility provider(s).	Compliant as certified by Rob van Iersel (Environmental Management Representative) 22-JUN-2016	B72	Utilities were relocated for P2T3 in November 2016, refer to the RMS File Note P2T3 Telstra Relocations (W2B-PC0-D-EX-NOT-00008)

83	The Proponent in consultation with utility authorities shall ensure that disruption to services resulting from the project are minimised and advised to customers.	Compliant as certified by Rob van Iersel (Environmental Management Representative) 22-JUN-2016		Utilities were relocated for P2T3 in November 2016, refer to the RMS File Note P2T3 Telstra Relocations (W2B-PC0-D-EX-NOT-00008)
<b>Cumulative Impact Assessment</b>				
84	As part of the Construction and Operation EMPs the Proponent shall identify parameters to be monitored during construction and operation of the project which have the potential for cumulative effects to occur. The Proponent shall also define the time period for which the identified parameters will be monitored. The results of such monitoring shall then be used as an input to the RMS's Cumulative Impact Assessment Study and made available to relevant government agencies and the Community Liaison Group.	<p>The environmental parameters identified in Stage 2 as having the potential for generating cumulative impacts were addressed in the relevant Environmental Management Sub Plan and an appropriate monitoring program (taking into account the cumulative nature of each parameter), included within these Sub Plans for Stage 2 works. Environmental monitoring data collected during the construction phase of the Stage 2 was made available for inclusion in the RMS's Cumulative Impact Assessment Study.</p> <p>Some environmental monitoring data was continued to be monitored during the operation phase of the project in accordance with the monitoring measures contained in the Operational EMP. This data has also be available for inclusion in the Cumulative Impact Assessment Study as required and as carried out by the responsible parties for the Stage 2 works.</p>		The Condition relating to the Cumulative Impact Assessment Study has been met and closed with findings included in a report developed to address the whole Pacific Highway Upgrade.
<b>Location of Construction Facilities</b>				
85	<p>Unless otherwise agreed to by the Director-General, the Proponent shall only construct concrete batching plants and construction compounds required for the construction of the project, in those locations that satisfy the following criteria:</p> <ul style="list-style-type: none"> <li>(a) sites to be located within the road corridor assessed in the EIS and Representations Report to the greatest extent possible;</li> <li>(b) sites to be located with ready access to the local road network;</li> <li>(c) sites to be located to minimise the need for heavy vehicles to travel through Ballina;</li> <li>(d) sites on relatively level land;</li> <li>(e) sites to be separated from nearest residences by at least 200 m unless it can be demonstrated to the satisfaction of the Director-</li> <li>(f) sites are not to be permitted within 100m of, or drain directly to SEPP 14 wetlands;</li> <li>(g) sites are not to be located within 100m of waterways unless adequate erosion and sediment controls are implemented to protect water quality;</li> <li>(h) sites must be above the 20 ARI flood level unless a contingency plan to manage flooding issues is prepared and implemented;</li> <li>(i) sites are to have low conservation significance for flora, fauna or heritage and they are not to require any clearing of native vegetation beyond that which must be cleared for the project in any case; and</li> <li>(j) sites are to be selected so that the operation of the plant or compound does not impact on the land use of adjacent properties.</li> </ul> <p>The location of any concrete batching plants/construction compounds considered under these Conditions of Approval shall be detailed in the Construction EMP and shall demonstrate that the above criteria have been met.</p>	Noted, no concrete batch plants required for the P2T project. The CEMP details the requirements for compounds and these requirements have been adhered to. The NVMP details the location of the compounds.		Noted, no concrete batch plants required for the P2T project. The W2B CEMP details the requirements for compounds (Ancillary Facility 11-2) The requirements of the approved facility 11-2 will be adhered to. Contractors will be provided the approved 11-2 document to include specific mitigation measures in the development of EWMS prior to works commencing.
<b>Ross Lane Earthworks</b>				
86A	The Proponent shall ensure that material extracted from the extraction component of the project is only used for the construction of the road component of the project subject to this approval and no other section of the Pacific Highway or other works.	All works in the vicinity of Ross Lane were completed as part of the Stage 1 BBA works.		All works in the vicinity of Ross Lane were completed as part of the Stage 1 BBA works.
86B	The Proponent shall ensure that extraction at the Ross Lane Earthworks site	All works in the vicinity of Ross Lane were completed as part of the Stage 1 BBA works.		All works in the vicinity of Ross Lane were completed as part of the Stage 1 BBA works.



2	The Proponent shall comply with, or ensure compliance with all requirements of the Director-General in respect of the implementation of any measures arising from the Conditions of this Approval. The Proponent shall bring to the attention of the Director-General any matter that may require further investigation and the issuing of instructions from the Director-General. The Proponent shall ensure that these instructions are implemented to the satisfaction of the Director-General within such time that the Director-General may specify.	Compliant as certified by Rob van Iersel (Environmental Management Representative) 22-JUN-2016	A9 - A11	W2B CEMP Section 8.4 Compliance Tracking; Table 8.3
3	The Proponent may elect to construct the project in discrete work packages or defined stages. In that situation the Conditions of Approval must be complied with separately for each discrete work package or defined stage.	Compliant as certified by Rob van Iersel (Environmental Management Representative) 22-JUN-2016	A7b	The final stage of Stage 2 is commencing February 2017
<i>Pre-Construction Compliance Report</i>				
	<p>At least one month prior to commencement of substantial construction (or within such period as otherwise agreed by the Director-General), the Proponent shall submit a report detailing how all conditions to be addressed prior to substantial construction have been complied with. The project must not commence until the proponent has been advised in writing that the Director-General has approved the Pre-Construction Compliance Report.</p> <p>The Director-General shall provide a response within 1 month of receiving the Pre-Construction Compliance Report. The Director-General may request additional information if the Pre-Construction Compliance Report is considered incomplete. In such cases, the time between the date on which the Proponent receives the request, and the date on which the additional information is provided to the Director-General, shall not be taken into account in the 1 month period. The Director-General shall make any request for additional information in writing. This report shall provide the following information as a minimum:</p> <p>(a) Details demonstrating how the activities leading up to substantial construction have been addressed. Amongst other matters, these</p> <ul style="list-style-type: none"> <li>(i) nomination and approval of <i>Environmental Management Representative</i></li> <li>(ii) site surveying (assuming no clearance or site works are required);</li> <li>(iii) community consultation including copies of publications and media releases;</li> <li>(iv) the geological and hydrogeological report required under Condition 26;</li> <li>(v) noise monitoring;</li> <li>(vi) EMP preparation;</li> <li>(vii) communications with Department of Planning and other relevant agencies;</li> <li>(viii) compliance with all relevant Conditions of Approval.</li> </ul> <p>(b) a timeframe indicating when each of the conditions were complied with. This may include dates of submissions of the various studies</p> <p>(c) conditions placed on any approvals or licences issued by other agencies and action taken (or proposed) to satisfy the requirements</p> <p>(d) a plan indicating how the conditions which apply to the construction</p>	<p>Pimlico to Teven Staging Report submitted and certified by Rob van Iersel (Environmental Management Representative) 22-JUN-2016.</p> <p>Compliant as certified by Rob van Iersel (Environmental Management Representative) 22-JUN-2016.</p> <p>Compliant as certified by Rob van Iersel (Environmental Management Representative) 22-JUN-2016.</p>	D27a, b, c)	<p><i>27a) Provisions for notification to the Secretary prior to commencement of construction 27b) provisions for periodic review of the compliance status against the requirements of the approval 27c) provisions for periodic reporting of compliance status to the Secretary, including a Pre-construction Compliance Report, prior to the commencement of construction, and a pre-operation compliance report prior to the commencement of operation.</i> The P2T second stage was completed in May 2016, final stage estimated February 2017. Additional to this, on 23rd December 2016 a Pre-construction Compliance Report was appended to the Staging Report submitted to the Department to cover requirements of Condition 4 - Pre-Construction Compliance Report and therefore negate the need to submit a separate report for approval in compliance with Condition 4. The Pre-Construction Compliance Report detailed specific compliance for the current stage of works as covered under the W2B project CEMP and associated Sub-plans. Notation was made to the Staging Report detailing that a Pre-Construction Compliance Report was submitted prior to commencement of construction of the BBA project as per requirements of Condition 4; and that the formation in Staging Report Appendix detailed specific compliance for the current stage of works.</p> <p>On 17th January 2017 notification was received from the Department acknowledging receipt of the Staging Report, Pre-construction Compliance Report attached.</p> <p>On 17th January 2017 notification was received from the Department acknowledging receipt of the Staging Report that included the Pre-construction Compliance Report as an Appendix.</p>



4	<p>Note: If construction is undertaken in discrete stages then a Pre-Construction Compliance Report will need to be prepared in accordance with Condition 4 for each discrete work package or defined stages.</p>			Staging Report submitted for final stage confirmed as received by Department 17th January 2017
<b>Pre-Operation Compliance Report</b>				
5	<p>At least one month (or within such period as otherwise agreed by the Director-General) prior to commencement of operation of any part of the project (or defined stages of the project), the Proponent shall submit a Compliance Report for approval of the Director-General. This report shall detail how all conditions that apply prior to commencement of operation have been complied with. The report shall provide the following information as a minimum:</p> <ul style="list-style-type: none"> <li>(a) details demonstrating how each condition was satisfied during construction;</li> <li>(b) a timeframe indicating when each condition was complied with. This may include dates of submissions of the various studies and/or requirements of various relevant conditions, approval dates, completion of any necessary works etc.;</li> <li>(c) summaries of major issues raised through the ongoing Community Consultation process and how these issues were addressed;</li> <li>(d) summaries of major environmental issues, how they were managed, and lessons learned;</li> <li>(e) conditions placed on any operational approvals or licences issued by other agencies; and action taken (or proposed) to satisfy the requirements of approvals and/or studies; and,</li> <li>(f) a plan indicating how the conditions which apply during the operation stage will be satisfied.</li> </ul> <p>Note: The Director-General shall provide a response within 1 month of receiving the Pre-Construction Compliance Report required by Condition 4 or the Pre-Operation Compliance Report required by Condition 5. The Director-General may request additional information if the report is considered incomplete. In such cases, the time between the date on which the Proponent receives the request, and the date on which the additional information is provided to the Director-General, shall not be taken into account in the 1 month period. The Director-General shall make any requests for additional information within 2 weeks of receipt of the Pre-Construction Compliance Report or the Pre-Operation Compliance Report from the Proponent.</p>	A Pre-operation compliance report submitted at least one month prior to the commencement of operation of the final stage of works. Compliant as certified by Rob van Iersel (Environmental Management Representative) 22-JUN-2016.	D27c)	<p>27c) provisions for periodic reporting of compliance status to the Secretary, including a Pre-construction Compliance Report, prior to the commencement of construction, and a pre-operation compliance report prior to the commencement of operation.</p> <p>P2T second stage was completed in May 2016 and Pre-Operation Plan provided. Noted and prior to the operation of the final stage this condition will be met (W2B CEMP Section 8.4 details this requirement in compliance Tracking Program)</p>
<b>Project Commencement</b>				
6	The Proponent shall notify the Director-General and all relevant authorities in writing at least 1 week prior to commencement of construction and operation. For the purposes of assessing compliance with these Conditions, the Proponent shall explicitly identify a date for construction and a date for substantial construction.	Compliant as certified by Rob van Iersel (Environmental Management Representative) 22-JUN-2016	D27a, b, c)	Substantial construction for Stage 2 commenced in late 2013. The RMS notified the Director-General of the CPB's intention to commence construction of the project on 14 November 2013 and substantial construction on 21 November 2013 in a letter dated 7 November 2013. DoPI response received 5 December 2013. The final stage of P2T has been awarded for construction and a letter will be submitted to the Department in writing at least one week prior to substantial construction. This letter shall explicitly identify a date for construction and a date for substantial construction and is anticipated to be set on or around April 2017 (Contractor program dependant).
<b>Dispute Resolution</b>				

7

The Proponent shall endeavour, as far as possible, to resolve any dispute with relevant public authorities arising out of the implementation of the Conditions of this Approval. Should this not be possible, the matter shall be referred firstly to the chief executives and directors of the agencies involved and if the matter cannot be resolved then to the Minister for resolution. The Minister's determination of the disagreement shall be final and binding on all parties.

Compliant as certified by Rob van Iersel (Environmental Management Representative) 22-JUN-2016

W2B CEMP Section 6.3.2 "A Complaints and Enquiries Procedure, consistent with AS 4269: Complaints Handling, has been developed for the work, in accordance with the requirements of MCoA C2 and C3 and RMS Specification G36."

**Complaints Management System**

The Proponent shall implement a Complaints Management system prior to the commencement of construction, which ensures all complaints received during construction are recorded and managed as expeditiously as possible. Minimum requirements of the Complaints Management System shall include:

- (a) a 24 hour, toll free telephone number that is listed with a telephone company and advertised by means (e.g. newspapers, site signage etc.) that would maximise public awareness of the number. This telephone number shall enable any member of the public to reach a person who can arrange appropriate response(s) to the complaint(s);
- (b) adequate resourcing to implement the Complaints Management System including human resources, communication and transport etc.
- (c) an appropriate person(s) to receive, log, track and respond to complaints within the specified timeframe. The name and contact details of the nominated person(s) shall be provided to Ballina Shire Council, relevant authorities and the Director-General upon appointment or upon any changes to that appointment;
- (d) details of all complaints received during construction are to be recorded, in accordance with (c) above and at least a verbal response on the action undertaken or proposed to be undertaken shall be provided to the complainant within two hours of the complaint in the case of night time works (or within an alternate time agreed to by the complainant) and within 24 hours of the complaint in the case of standard construction hours or non-construction times;
- (e) a process for the provision of a more detailed response to the complainant within 10 days, if additional information exists (over and above that provided in the initial response);
- (f) appropriate management structures to allow effective resolution of complaints; and,
- (g) a mediation system to ensure that all complaints are satisfactorily addressed to the greatest extent practicable. Where external or independent mediation is required, the mediator is to be approved by the Director-General.

Compliant as certified by Rob van Iersel (Environmental Management Representative) 22-JUN-2016

Part C

W2B CEMP Section 6.3.2 ; Communications and Stakeholder Engagement Strategy Section s 6.3.1 and Section 7 "All community inquiries and complaints related to the construction activities will be referred to the 24-hour community information line (1800 778 900). A postal address (Woolgoolga to Ballina upgrade, PO Box 546 Grafton NSW 2460 and email address (W2B@rms.nsw.gov.au) has been provided for receipt of complaints and enquiries. The telephone number, the postal address and the email address will be published in newspapers circulating in the local area prior to the commencement of construction and is provided on the project website."

8	<p>Information on all complaints received, including the means by which they were addressed and whether resolution was reached with or without mediation, shall be included in the six-monthly Construction Compliance Report required by Condition 15 and shall be made available to the Director-General upon request.</p>			
<b>Advertisement of Activities</b>				
9	<p>Prior to the commencement of construction, and then at three (3)-monthly intervals, the Proponent shall advertise in relevant local newspapers, the nature of the works proposed for the forthcoming three months, the areas in which these works are proposed to occur, the hours of operation and a contact telephone number.</p> <p>The Proponent shall ensure that the local community and businesses are kept informed (by appropriate means such as: newsletters, leaflets, newspaper advertisements, community noticeboards, etc.) of the progress of the project, including any traffic disruptions and controls, construction of temporary detours and work required outside the nominated working hours, in particular noisy works, prior to such works being undertaken.</p>	<p>Compliant as certified by Rob van Iersel (Environmental Management Representative) 22-JUN-2016</p>	<p>Part C</p> <p>Part C</p>	<p>W2B Communications and Stakeholder Engagement Strategy (Section 5.2.2 and Appendix C Section 1.5 Press Advertising)</p> <p>W2B Communications and Stakeholder Engagement Strategy (Section 5.2.2 and W2B Stakeholder and Community Liaison Plan Appendix C, Section 1.2 Community Updates)</p>
10	<p>The Proponent shall establish a project internet site prior to the commencement of construction and maintain the internet site until 12 months after opening the project to traffic. This internet site shall contain monthly updates of work progress, consultation activities and a planned work schedule, including but not limited to:</p> <ul style="list-style-type: none"> <li>(a) a description of relevant approval authorities and their areas of responsibility;</li> <li>(b) a list of reports and plans that are publicly available under this Approval and the executive summaries of those reports;</li> <li>(c) minutes of community liaison group meetings;</li> <li>(d) contact names and phone numbers of the project communications staff; and,</li> <li>(e) the 24 hour toll-free complaints contact telephone number.</li> </ul> <p>Updates of work progress, construction activities and planned work schedules shall be provided more frequently where significant changes in noise impacts are expected.</p>	<p>Compliant as certified by Rob van Iersel (Environmental Management Representative) 22-JUN-2016</p>	<p>Part C (C2)</p>	<p>The existing website will be updated to include the final stage of the P2T works (2017) in accordance with the W2B Communication and Stakeholder Engagement Strategy  <a href="http://www.rms.nsw.gov.au/projects/northern-nsw/woolgoolga-to-ballina/">www.rms.nsw.gov.au/projects/northern-nsw/woolgoolga-to-ballina/</a></p>
<b>Community Engagement Strategy</b>				
	<p>The Proponent shall, prior to the commencement of substantial construction, prepare a Community Engagement Strategy for the project. This Strategy shall provide mechanisms to facilitate communication between the Proponent, the constructor, the Environmental Management Representative and the local community (including adjoining landowners, businesses and Council, as relevant) on the progress and the related environmental management of the project. The Strategy shall include, but not be limited to:</p> <ul style="list-style-type: none"> <li>(a) identification of community stakeholders to be consulted as part of the Strategy;</li> </ul>			

<p>(b) procedures and mechanisms for the regular distribution of information to the community on the progress of the project and matters associated with environmental management of the project;</p> <p>(c) procedures and mechanisms through which the community can discuss or provide feedback to the Proponent and or Environmental Management Representative in relation to the environmental management and delivery of the project. This may include focused discussion forums and site inspections;</p> <p>(d) procedures and mechanisms through which the Proponent can respond to any enquiries or feedback from the community in relation to the environmental management and delivery of the project;</p> <p>(e) procedures and mechanisms to be implemented to resolve issues/ disputes that may arise between the community and the Proponent on matters relating to environmental management and delivery of the project. This may include the use of an appropriately qualified and experienced independent mediator.</p> <p>Issues that may be addressed through the Community Engagement Strategy include: flora and fauna controls, noise control measures, property access arrangements, air and water quality, and landscaping requirements.</p> <p>A copy of the Strategy shall be provided to the Director –General prior to the commencement of construction and the Proponent shall maintain and implement of the Strategy during the construction stage.</p>	<p>Compliant as certified by Rob van Iersel (Environmental Management Representative) 22-JUN-2016</p>	<p>Part C</p>	<p>W2B Community and Stakeholder Engagement Strategy. W2B Construction Environmental Management Plan approved by (approved Bob Higgins 29th April 2015; DP&amp;E in October 2015)</p>
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**Environmental Management Representative**

<p>Prior to the commencement of construction, the Director-General shall approve the appointment of the person nominated by the Proponent to serve as the Environmental Management Representative (EMR). In considering the appointment, the Director-General shall take into account:</p> <p>(a) the qualifications and experience of the EMR including</p> <p>(b) the role and responsibility of the EMR; and,</p> <p>(c) the authority and independence of the EMR including details of the Proponent's internal reporting structure.</p> <p>The EMR shall have responsibility for:</p> <p>(i) considering and advising the Proponent on matters specified in the Conditions of Approval and compliance with such;</p> <p>(ii) certifying the environmental/community impacts as minor for all activities defined by the Proponent as not constituting substantial construction;</p> <p>(iii) endorsing the Construction EMP in accordance with Condition 14;</p> <p>(iv) reviewing the Proponent's induction and training program for all persons involved in the construction activities and monitor implementation;</p> <p>(v) periodically monitoring the Proponent's environmental activities to evaluate the implementation, effectiveness and level of compliance of on-site construction activities with the Construction EMP and associated plans and procedures, including carrying out site inspections at least fortnightly;</p> <p>(vi) recording and providing a written report to the Proponent of non-conformances with the Construction EMP and require the Proponent to undertake mitigation measures to avoid or minimise any adverse impacts on the environment or report required changes to the Construction EMP:</p>	<p>The EMR, Rob Van Iersel of GeoLink, was approved by the Department of Planning and Infrastructure on 29 October 2013.</p>	<p>D23</p>	<p>W2B CEMP revision 4 has been revised to incorporate P2T and this revision includes a definition for the W2B Pacific Complete Environmental Representative being synonymous. Letter received by Department on 17th January 2017 confirming Murray Curtis authorised as EMR for P2T.</p>
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12	<p>(vii) directing the Proponent to stop work immediately, if in the view of the EMR an unacceptable impact on the environment is likely to occur, or require other reasonable steps such as the authorisation of hold points to be taken to avoid or minimise any adverse impacts;</p> <p>(viii) reviewing corrective and preventative actions to ensure the implementation of recommendations made from the audits and site inspections;</p> <p>(ix) reviewing minor revisions to the Construction EMP;</p> <p>(x) providing regular (as agreed with the Department) reports to the Department on matters relevant to the carrying out of the EMR role, including notifying the Director-General of any stop work notices; and,</p> <p>(xi) endorsing the Operational EMP in accordance with Condition 16.</p> <p>The EMR shall immediately, and at the same time, advise the Proponent and the Director-General of any major issues resulting from the construction of the project that have not been dealt with expediently or adequately by the Proponent.</p> <p>The EMR shall be available during construction activities at the site and be present on-site during any critical construction activities as identified in the Construction EMP.</p>			
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**Environmental Management System**

13	<p>The Proponent shall ensure the appointment of contractors that have a demonstrated capability and experience in the implementation of an Environmental Management System prepared in accordance with the AS/NZS ISO 14000 series or BS7750-1994 certified by an accredited certifier and/or have a proven environmental management performance record.</p>	<p>Compliant as certified by Rob van Iersel (Environmental Management Representative) 22-JUN-2016</p>	<p>D29</p>	<p>Environmental Management Systems a requirement of SSI-4963. Additionally, RMS Tender package ID RMS.16.0000002544.0689 (P2T3 work pack) requirement</p>
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**Construction Environmental Management Plan**

	<p>Prior to the commencement of substantial construction, a Construction Environmental Management Plan (EMP) shall be prepared, following consultation with the DECC, DWE, NSW Agriculture, DPI (AHPU) and Ballina Shire Council. Where construction activities may be undertaken in discrete work packages or defined stages, the Proponent may prepare individual EMPs relating to specific work packages or stages of construction.</p> <p>The Construction EMP shall be prepared in accordance with the Conditions of this Approval, all relevant Acts and Regulations and accepted best practice management procedures. The Construction EMP requires approval by the Director-General prior to substantial construction works or within such time as otherwise agreed to by the Director-General. The EMP shall be certified as being in accordance with the Conditions of Approval by the EMR prior to seeking approval of the Director-General.</p>			<p>The W2B CEMP has been revised (Rev 4) to incorporate the P2T works as they are being constructed by the W2B project. The W2B CEMP identifies mitigation measures that satisfy those outlined in the conditions of approval for:</p> <ul style="list-style-type: none"> <li>- Ballina Bypass Ministerial Conditions of Approval (2012);</li> <li>- State Significant Infrastructure conditions of approval (SSI #4963); and</li> <li>- those under approval granted by Section 130(1) and 133 of the Environmental Protection and Biodiversity Conservation Act 1999 (EPBC 2012/6394).</li> </ul> <p>Notwithstanding, since the approval of the Ballina Bypass and associated MODs, state government agencies have been restructured and renamed. P2T3 inclusion in W2B CEMP was tabled at the ERG October 2016 with no objections from DPI or EPA. Further, Ballina Shire Council meet 18th November has confirmed CEMP to be submitted for information once approved by DP&amp;E. As a result, the updated W2B CEMP will be distributed to the overarching agencies that still take effect i.e. Department of Primary Industries and Ballina Shire Council, for their information. Refer P2T3 Staging</p> <p>The W2B CEMP revision 4 is currently undergoing review (December 2016)</p>
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The Director-General shall provide a response to the Construction EMP within one (1) month of receipt of all relevant information from the Proponent assuming receipt of adequate and sufficient information. If a request is made by the Director-General for additional information the period of time that elapses between the date on which the Proponent receives the request and the date on which the additional information is provided to the Director-General shall not be taken into account in the one (1) month period referred to above.

The Construction EMP shall:

- (a) address construction activities associated with all key construction sites, including staging and timing of the proposed works;
- (b) cover specific environmental management objectives and strategies for the main environmental system elements and include, but not be limited to: noise and vibration; geotechnical issues; air quality; water; erosion and sedimentation; access and traffic; heritage and archaeology; groundwater; contaminated spoil and acid sulfate soils, spoil stockpiling and disposal; waste/resource management; flora and fauna; flooding and stormwater control; impacts on SEPP 14 Wetlands; visual screening; landscaping and rehabilitation; hazards and risks; energy use, resource use and recycling; and utilities; and,
- (c) address, but not be limited to:
  - (i) identification of the statutory and other obligations which the Proponent is required to fulfil during project construction, including all approvals and consultations/agreements required from other authorities and stakeholders, and key legislation and policies which control the Proponent's construction of the project;
  - (ii) definition of the role, responsibility, authority, accountability and reporting of personnel relevant to compliance with the Construction EMP;
  - (iii) measures to avoid and/or control the occurrence of environmental impacts;
- (iv) measures (where possible and cost-effective) to provide positive environmental offsets to unavoidable environmental impacts;
- (v) the role of the EMR;
- (vi) environmental management procedures for all construction processes which are important for the quality of the environment in respect of permanent and/or temporary works;

Compliant as certified by Rob van Iersel (Environmental Management Representative) 22-JUN-2016

and will be certified by the ER prior to be submitted to DP&E for approval.

The W2B CEMP revision 4 satisfies these requirements in the following sections:  
Section 2

W2B CEMP appendices:

- Appendix B1 Construction traffic and access management plan
- Appendix B2 Construction flora and fauna management plan
- Appendix B3 Construction noise and vibration management plan
- Appendix B4 Construction soil and water quality management plan
- Appendix B5 Construction heritage management plan
- Appendix B6 Construction air quality management plan
- Appendix B7 Construction waste, resource and energy management plan
- Appendix B8 Construction contaminated land management plan

W2B CEMP Section .3 and Appendix A1, Legal and other requirements for P2T3

W2B CEMP Section 1.2

W2B CEMP Section 4.1 (commitment and framework to minimising environmental impacts). Section 4 identifies environmental management system, subplans and frameworks; and the requirement for EWMS to identify and mitigate environmental risks, therefore controlling and reducing environmental impacts).

W2B CEMP Appendix B2 Flora and Fauna Management Plan Section 6.2 (Biodiversity Offset Strategy)

W2B CEMP Section 4.3.1

W2B CEMP Section 4, and specifics are contained within Appendices

Appendix A1 Legal and other requirements

Appendix A2 Environmental aspects and impacts

Appendix A3 Environmental policies

Appendix A4 Document register

Appendix A5 Roads and Maritime Environmental incident classification and reporting

Appendix A6 Other relevant management measures

- Appendix B1 Construction traffic and access management plan
- Appendix B2 Construction flora and fauna management plan
- Appendix B3 Construction noise and vibration management plan
- Appendix B4 Construction soil and water quality management plan
- Appendix B5 Construction heritage management plan
- Appendix B6 Construction air quality management plan
- Appendix B7 Construction waste, resource and energy management plan
- Appendix B8 Construction contaminated land management plan
- Appendix B9 Ancillary facilities management plan
- Appendix B10 Borrow sites management plan

14	<p>(vii) monitoring, inspection and test plans for all activities and environmental qualities which are important to the environmental management of the project, including performance criteria, specific tests, protocols (e.g.. frequency and location) and procedures to follow;</p> <p>(viii) environmental management instructions for all complex environmental control processes which do not follow common practice or where the absence of such instructions could be potentially detrimental to the environment;</p> <p>(ix) the sub plans required under this Approval including: the Groundwater and Settlement Management Sub Plan (Conditions 27), the Construction Traffic Management Sub Plan (Condition 31), the Flora and Fauna Management Sub Plan (Condition 33), the Integrated Wetland Management Sub Plan (Condition 40), the Construction Noise and Vibration Management Sub Plan (Condition 42), the Soil and Water Management Sub Plan (Condition 57), the Acid Sulfate Soils Management Sub Plan (Condition 68), the Spoil and Fill Management Sub Plan (Condition 69), the Landscaping and Rehabilitation Sub Plan (Condition 71), the Indigenous Heritage Management Sub Plan (Condition 74), the Construction Air Quality Sub Plan (Condition 77), Hazards and Risk Management Sub Plan (Condition 80), and the Waste Management and Reuse Sub Plan (Condition 80);</p> <p>(x) steps the Proponent intends to take to ensure that all plans and procedures are being complied with;</p> <p>(xi) consultation requirements with relevant government agencies; and,</p> <p>(xii) community consultation and notification strategy (including local community, relevant government agencies, and Ballina Shire Council), and complaint handling procedures.</p> <p>Specific requirements for some of the main environmental system elements referred to in (b) shall be as required under the conditions of this Approval and/or as required under any licence or approval.</p> <p>The Construction EMP(s) shall be made publicly available.</p>			<p>W2B CEMP Section 8</p> <p>W2B CEMP Section 4.2</p> <p>Integrated Wetland Management Sub-plan finalised under P2T2 (Oct 2014). The IWMS identified compensatory habitat and detailed management requirements for adequate management of the compensatory habitat site. This was required to compensate for the clearing associated with SEPP14 works. No additional clearing works will be undertaken as part of the final stage of Stage 2 PT2 therefore requirements of this condition have been met. The approved</p> <p>W2B CEMP Section 8.3.3</p> <p>W2B CEMP Section 1.3; Section 8.3.3. P2T3 inclusion in W2B CEMP was tabled at the ERG September 2016 with no objections from DPI or EPA. Further, Ballina Shire Council meet 18th November has confirmed CEMP to be submitted for information once approved by DP&amp;E. STAKEHOLDER AND COMMUNITY LIAISON PLAN (W2B-PC0-0-ZJ-PLN-00001.02.IFA) Section 3.2 Table 3 - section D Mobilisation Action Plan requirements (works notification via Community Letter, Stakeholder meetings, media release, community info session, community update, adverts). Section 7.2 Complaints and Issues Management</p> <p>Noted</p> <p>W2B CEMP is publically available via the W2B Project webpage. The W2B CEMP revision 4, once finalised and approved will be uploaded to the site also <a href="http://www.rms.nsw.gov.au/documents/projects/northern-nsw/woolgoolga-to-ballina/w2b-cemp-main-report.pdf">http://www.rms.nsw.gov.au/documents/projects/northern-nsw/woolgoolga-to-ballina/w2b-cemp-main-report.pdf</a></p>
14 A	<p>Where the project is modified, any additional construction environmental management plans or updates, prepared or amended to meet the requirements of the project approval as modified, must be approved by the Director-General prior to the commencement of substantial construction in relation to the modification.</p>	<p>Compliant as certified by Rob van Iersel (Environmental Management Representative) 22-JUN-2016</p>		<p>noted</p>
<b>Construction Environmental Monitoring</b>				
	<p>The Proponent shall submit to the Director-General reports in respect of the environmental performance of the construction works and compliance with the Construction EMP and any other relevant Conditions of this Approval. The reports shall be prepared six months after the start of substantial construction and thereafter at six monthly intervals or at other such periods as requested by the Director-General to ensure adequate environmental performance over the duration of the construction works.</p> <p>The reports shall be submitted no later than one month after the six month period to which they apply, and are to be certified by the EMR to confirm that all EMP requirements and Conditions of Approval have been complied with.</p> <p>The report(s) shall include, but not be limited to, information on:</p>			

<p>(a) applications for consents, licences and approvals, and responses from relevant authorities;</p> <p>(b) implementation and effectiveness of environmental controls and conditions relating to the work undertaken;</p> <p>(c) identification of construction impact predictions made in the EIS, Modification of the Ballina Bypass Environmental Assessment Report (August 2008) and any supplementary studies and details of the extent to which actual impacts reflected the predictions;</p> <p>(d) details and analysis of results of environmental monitoring;</p> <p>(e) number and details of any complaints, including summary of main areas of complaint, action taken, response given and intended strategies to reduce complaints of a similar nature;</p> <p>(f) the plan to be adopted for the project to ensure continued compliance over the coming six month period; and,</p> <p>(g) any other matter relating to the compliance by the Proponent with the Conditions of this Approval or as requested by the Director-General.</p> <p>The report(s) shall be provided to the DECC, DWE and Ballina Shire Council, and any other relevant government agency nominated by the Director-General. The report(s) shall also be made publicly available.</p>	<p>Compliant as certified by Rob van Iersel (Environmental Management Representative) 22-JUN-2016</p>	<p>D27</p>	<p>Appendix A1 of CEMP Rev 4 (RMS Specification 36) requires the compilation of compliance reports (e.g. Section 3.11.1 includes requirement 6-monthly Compliance Reports).</p> <p>Ballina Shire Council meeting held 18th November 2016 and confirmed CEMP Revision 4, once certified by EMR could but provided for information.</p>
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**Operational Environmental Management Plan**

<p>An Operational Environmental Management Plan (EMP) shall be prepared prior to the commencement of operation of any part of the project (or defined stages of the project). The Plan shall be prepared in consultation with the DECC, DWE, DPI (AHPU), Ballina Shire Council and any other relevant government agency nominated by the Director-General. The Plan shall be prepared in accordance with the Conditions of this Approval, all relevant Acts and Regulations and accepted best practice management procedures. The Operational EMP requires approval by the Director-General prior to commissioning or within such time as otherwise agreed to by the Director-General. The EMP shall be certified as being in accordance with the Conditions of Approval by the EMR prior to seeking approval of the Director-General.</p> <p>The Director-General shall provide a response to the Operational EMP within one (1) month of receipt of all relevant information from the Proponent assuming receipt of adequate and sufficient information. If a request is made by the Director-General for additional information, the period of time that elapses between the date on which the Proponent receives the request and the date on which the additional information is provided to the Director-General shall not be taken into account in the one (1) month period referred to above.</p> <p>The Operational EMP shall address at least the following issues:</p> <ul style="list-style-type: none"> <li>(i) identification of the statutory and other obligations which the Proponent is required to fulfil, including all licences/approvals and consultations/agreements required from authorities and other stakeholders, and key legislation and policies which control the Proponent's operation of the project;</li> <li>(ii) sampling strategies and protocols to ensure the quality of the monitoring programme, including specific requirements of the DECC and DWE;</li> <li>(iii) monitoring, inspection and test plans for all activities and environmental qualities which are important to the environmental performance of the project during its operation, including description of potential site impacts, performance criteria, specific tests and monitoring requirements, protocols (e.g. frequency and location) and procedures to follow;</li> </ul>	<p>P2T is captured under the Ballina Bypass OEMP, which was prepared in 2011 and this was deemed compliant as certified by Rob van Iersel /Environmental Management</p>		<p>P2T is captured under the Ballina Bypass OEMP, which was prepared in 2011</p>
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<p>(iv) the sub plans required under this Approval including: the Operational Noise Management Sub Plan (Condition 55), the Soil and Water Management Sub Plan (Condition 57), the Landscaping and Rehabilitation Sub Plan (Condition 71), the Hazards and Risk Management Sub Plan (Condition 79), and the Waste Management and Recycling Sub Plan (Condition 80);</p> <p>(v) steps the Proponent intends to take to ensure compliance with all plans and procedures;</p> <p>(vi) consultation requirements, including relevant government agencies, the local community and Council, and complaints handling procedures; and</p> <p>(vii) strategies for the main environmental system elements and including but not limited to: noise; water; SEPP 14 Wetlands; groundwater; flora and fauna; hydrology and flooding; visual screening, landscaping and rehabilitation; and hazards and risks.</p> <p>Specific requirements for some of the main environmental system elements referred to in (g) shall be as detailed under the conditions of this Approval and/or as required under any licence or approval. The Operational EMP shall be made publicly available.</p> <p>All sampling strategies and protocols undertaken as part of the Operational EMP shall include a quality assurance/quality control plan and shall be approved by the relevant regulatory agencies to ensure the effectiveness and quality of the monitoring program. Only accredited laboratories can be used for laboratory analysis.</p> <p>Compliance with this condition may be waived with the approval of the Director-General on the proviso that the RMS has an operational maintenance and monitoring program for the whole of the Pacific Highway which addresses the key issues relating to this activity and provided that the results of this program are made publicly available.</p>	<p>by Rob van Iersel (Environmental Management Representative) 22-JUN-2016</p>		<p>2011.</p>
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**Environmental Impact Audit Report**

<p>The Proponent shall commission an independent and suitably qualified person to undertake an Environmental Impact Audit of the project within 12 months of completion of construction. The Audit shall: (a) assess the key impact predictions made in the documents referred to under condition 1 of this approval, and detail the extent to which the actual impacts reflect the predicted impacts; (b) assess the suitability of implemented mitigation measures and safeguards; (c) assess compliance with the Operational Environmental Management Plan; and (d) discuss results of consultation with the local community in terms of feedback/ complaints on the operational phases of the project and issues of concern raised by the community.</p> <p>An Environmental Impact Audit Report shall be submitted to the Director General, the DECC and other relevant government authorities within 6 months of the completion of the Audit, unless otherwise agreed by the Director General. The Proponent shall comply with all reasonable requirements of the Director General, DECC and other relevant government authorities with respect to any reasonable measure arising from the report, including the recommendations.</p>	<p>The BBA Environmental Impact Audit Report was submitted to DoPI in July 2013. This was certified as compliant by Rob van Iersel (Environmental Management Representative) 22-JUN-2016</p>		<p>The BBA Environmental Impact Audit Report was submitted to DoPI in July 2013. Within 12 months of completion of P2T (this being the final stage), RMS will commission an Independent Environmental Audit. This requirement is noted and captured via Section 8.4 of W2B CEMP Rev 4 (Compliance Tracking)</p>
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17 The Report shall be made publicly available.

**Staging**

18	The Proponent shall prepare an updated construction program and staging report for the Stage 2 works as identified in Modification of the Ballina Bypass Environmental Assessment (August 2008). The report shall be provided to the Director-General for information prior to Stage 2 construction work commencing.	Compliant as certified by Rob van Iersel (Environmental Management Representative) 22-JUN-2016		Staging Report acknowledged as received by Department 17th January 2017.
18 A	If construction of any part of the project has not commenced by 2016, environmental impact assessment for those project elements shall be updated to the satisfaction of the Director-General prior to construction commencement. This assessment shall address all relevant issues identified in the REA and shall take into account any changes to land uses and surrounding environments as applicable at the time. The updated assessment shall be based on relevant environmental standards and criteria applicable at that time.	Substantial construction of Stage 2 commenced in 2013 and deemed compliant, certified by Rob van Iersel (Environmental Management Representative) 22-JUN-2016		Substantial construction of Stage 2 commenced in 2013.
<b>Economic Impacts</b>				
19	At least six months prior to opening the section of the project between the Cumalum Interchange and the Teven Road intersection to traffic, the Proponent shall develop appropriate signage and 'gateway' treatments in consultation with Ballina Shire Council and the Community Liaison Group. The signage policy shall be developed in accordance with the RMS's standard signposting policy, indicating the range of services in town and that the route through town may be taken as an alternative route to the bypass.	Completed as part of Stage 1 BBA works		Completed as part of Stage 1 BBA works
<b>Property and Land Use</b>				
<i>Pre-Construction</i>				
20	<p>Subject to landowner agreement, building condition surveys shall be conducted on all buildings and structures:</p> <ul style="list-style-type: none"> <li>(a) within 150 metres of excavation works or six times the maximum depth of the excavation (whichever is greatest); or</li> <li>(b) within 20 metres of filling works or three times the height of a fill embankment (whichever is greatest); or</li> <li>(c) 200 metres of blasting activities and/or other construction activities resulting in vibration impacts; or</li> <li>(d) identified as potentially affected in the report required under Condition 26.</li> </ul> <p>Building condition surveys shall be undertaken at least 30 days before construction occurs within the distance limits described in this condition.</p> <p>The building condition surveys need not be conducted if the report required under Condition 26 concludes that a building or structure is very unlikely to be affected.</p> <p><i>Note:</i> Structure is defined as any fixed artificial object that might reasonably be expected to be able to be damaged by the works (e.g. dams, cable support structures, farm buildings, residences, etc.)</p>	Pre-construction surveys completed in Jan 2014 on buildings and structures for P2T. Compliant as certified by Rob van Iersel (Environmental Management Representative) 22-JUN-2016.		Notwithstanding, as part of the W2B Pacific Highway upgrade project, Building Condition Surveys shall be undertaken by the awarded Contractor and this is identified in awarded Contract. This will form a component of the Contractor's Preconstruction Compliance Report as required under Appendix A1 of the CEMP Rev 4 (RMS Specification G36).

21	<p>The owners of all properties to be surveyed, as identified in Condition 20 are to be advised at least 14 days prior to the commencement of surveys of the scope and methodology of the survey and the process for making a property damage claim. A copy of the survey shall be given to each affected owner at least three weeks prior to the commencement of construction in the section of road affecting the property. A register of all properties surveyed and considered for survey shall be maintained by the Proponent and provided to the Director-General upon request.</p> <p>The Proponent shall consult on a regular basis with all directly affected landowners regarding any practical and cost-effective measures to minimise impacts. Agreed measures shall be implemented according to a program agreed between the relevant landowner and the Proponent.</p>			
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**Management**

23	<p>The Proponent shall ensure that access to properties fronting the project and the service road are maintained throughout the construction period. The Proponent shall ensure that any access-way affected by the project is reinstated to an equivalent standard or that adequate compensation is negotiated with the relevant landowner(s).</p>	<p>Compliant as certified by Rob van Iersel (Environmental Management Representative) 22-JUN-2016</p>	<p>C1 (Community Communication Strategy)</p>	<p>Property access Plans managed by W2B Community Liaison team in accordance with W2B Communications and Stakeholder Engagement Strategy</p>
24	<p>Any damage to buildings, structures, lawns, sheds, gardens, fencing, etc. as a result of any project construction or operation activities direct or indirect (i.e. including vibration and groundwater changes) shall be rectified at no cost to the owner(s).</p>			
25	<p>Where a licensed bore, dam or other property water supply is affected by the project the Proponent shall reinstate water supplies of equivalent quality and quantity to affected landowners. Alternatively the Proponent may negotiate appropriate compensation for the loss of a water supply with the landowner.</p>			

**Geology, Groundwater and Settlement**

*Pre-Construction*

	<p>A detailed model of geological and hydrogeological conditions along the route shall be prepared prior to the commencement of construction, including locating and mapping the basalt/argillite interface. The model shall be used to predict ground movement (horizontal and vertical) caused by construction of the road including movement caused by excavation, the construction of embankments and groundwater changes. The model and analysis shall be prepared in consultation with the DWE.</p> <p>Following completion of these studies the Proponent shall prepare a report for the information of the Director-General that:</p> <ul style="list-style-type: none"> <li>(a) provides the methodology and results of the geological and hydrogeological investigations;</li> <li>(b) analyses the staging of the project based on the geological and hydrogeological conditions;</li> <li>(c) identifies all buildings and structures that may be affected by the project, including those within the limits contained in Condition 20; and,</li> <li>(d) identifies monitoring requirements for the design, construction and operation of the project.</li> </ul>	<p>A hydrogeological report was completed and submitted to DoPI as part of Stage 1 BBA works and this report covered the P2T area. Compliant as certified by Rob van Iersel (Environmental Management Representative) 22-JUN-2016</p>		<p>A hydrogeological report was completed and submitted to DoPI as part of Stage 1 BBA works and this report covered the P2T route. Compliant as certified by Rob van Iersel (Environmental Management Representative) 22-JUN-2016. Groundwater and settlement investigations revealed that ground settlement caused by surcharging is not expected to affect groundwater level. Water from wick drains will be captured via catch drains and managed in accordance with the W2B CSWQMP that identifies the requirements for treatment and management of water discharges. The water from the wick drains is expected to be small in volume, however if required treatment for physical parameters (e.g. acidity, dissolved metals, TSS, turbidity). The detailed model of geological and hydrogeological conditions along the route was prepared and certified by geotechnical and construction engineering experts with appropriate registration on the National Professional Engineers Register prior to submission and was prepared in consultation with the DWE at the BBA Stage 1 component of the works.</p>
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This report shall be certified by geotechnical and construction engineering experts with appropriate registration on the National Professional Engineers Register prior to submission.

26

**Construction**

A detailed Groundwater and Settlement Management Sub Plan shall be prepared as part of the Construction EMP in consultation with the DECC and DWE. The Sub Plan shall include:

- (a) identification of impacts on buildings and structures from potential settlement in accordance with Condition 26;
- (b) identification of licensed bores, dams or other property water
- (c) groundwater inflow control, handling, treatment, and disposal
- (d) a detailed monitoring plan for groundwaters, settlement and instability. The plan shall identify monitoring methods, instrument types and locations, monitoring frequency, monitoring duration and analysis requirements.

*Note: References to settlement and instability relate only to off-site effects.*

Minor amendments have been made to the BBA GSM sub plan to make it specific to P2T. The EMR has reviewed and approved the plan (ref: Nov 2013)

- The amendments included the identification of impacts to buildings and structures in accordance with MCoA 26;
- No licenced bores, dams or other property water supplies will be affected by the P2T project
- management and monitoring of groundwater from project disturbance is addressed in the plan

Minor amendments were made to the BBA GSM sub plan to make it specific to P2T. The EMR has reviewed and approved the plan (ref: Nov 2013)

- The amendments included the identification of impacts to buildings and structures in accordance with MCoA 26;
- No licenced bores, dams or other property water supplies will be affected by the P2T project
- management and monitoring of groundwater from project disturbance was addressed in the plan.

The W2B CEMP Appendix B4 CSWQMP, Water Quality Monitoring Program identifies risks to groundwater from fill embankments for works in soft soils. How the project will manage impacts to groundwater and those related to the impact from soil soil settlement such as placement of fill locations is identified. This is applicable to the W2B project, which includes the P2T section.

27

The Sub Plan should detail how a) to d) above have been considered in relation to the Ross Lane earthworks site. In addition how extraction activities at the site, would be managed to minimise impacts to groundwater resources. This shall include but not be limited to procedures to be implemented in the case that groundwater is intercepted, and measures for minimising, mitigating and or offsetting impacts to groundwater users, groundwater quality and groundwater dependent species.

Completed as part of Stage 1 BBA works

Completed as part of Stage 1 BBA works (not applicable to this final stage of P2T).

27 A

**Operation**

A detailed Groundwater and Settlement Management Sub Plan shall be prepared as part of the Operation EMP in consultation with the DECC and DWE and to the satisfaction of the Director-General. The Sub Plan shall include:

- (a) identification of impacts on buildings and structures from potential settlement in accordance with Condition 26;
- (b) identification of licensed bores, dams or other property water supplies affected by the project;
- (c) groundwater inflow control, handling, treatment, and disposal methods;
- (d) a detailed monitoring plan for groundwaters, settlement and instability. The plan shall identify monitoring methods, instrument types and locations, monitoring frequency, monitoring duration and analysis requirements.

*Note: References to settlement and instability relate only to off-site effects.*

Completed as part of OEMP (refer to condition 16). P2T is captured under the Ballina Bypass OEMP, which was prepared in 2011 and this was deemed compliant as certified by Rob van Iersel (Environmental Management Representative) 22-JUN-2016

Completed

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**Settlement Criteria**

Should the Report required by Condition 26 indicate that exceedances of the criteria in Table 1 are likely at buildings, structures or other facilities mitigation measures shall be implemented in consultation with the relevant land and/or infrastructure owners. The mitigation measures shall be agreed, and where necessary implemented, prior to the commencement of construction.

**Table 1 - Settlement Criteria for Specific Structures**

Beneath Structure/Facility	Total Maximum Distortion			
<p>Existing Buildings and Structures Existing Roads 1 in 250 Existing Parks 1 in 250 Existing Utilities including sewerage, To be determined by the gas, electricity and telecommunication relevant utility provider services</p> <p>If monitoring during construction indicates off-site movement in excess of that predicted then all work affecting ground settlement shall cease immediately. Work shall not resume until the reasons for the excessive settlement are determined and mitigation measures identified, evaluated and implemented.</p> <p>The above criteria shall not remove any responsibility of the Proponent for the protection of existing structures or for rectifying any damages even if settlement is contained within the above criteria.</p> <p><i>Note: Existing is defined as existing at the date of this Approval. Total maximum settlement and angular distortion is the total cumulative settlement and angular distortion from all influences.</i></p>	<p>As described in AS 2870 - 1996 40mm 50mm To be determined by the relevant utility provider</p>	<p>The report prepared for Condition 26 did not indicate or identify any exceedance of criteria. Closed</p>	<p>The report prepared for Condition 26 during BBA Stage 1 in 2008 will be referenced as applicable to the P2T3 Contractors CSWQMP. The Contractor is required to comply with the BBA MCoAs as identified in Appendix A1 of the W2B CEMP (Rev4) as illustrated here. The P2T3 Contractor will be provided all required documents for the P2T3 compliance works, as registered within Pacific Complete's ComplyPro database.</p>	

**Traffic and Access**

<p>A road dilapidation report shall be prepared for all non-arterial roads likely to be used by construction traffic prior to commencement of construction and after construction is complete. A copy of the report shall be provided to Ballina Shire Council. Any damage resulting from the construction of the project, aside from that resulting from normal wear and tear, shall be repaired at the cost of the Proponent.</p> <p>All sections of State Highway that are transferred to Ballina Shire Council as service roads shall be brought to standards as negotiated with Ballina Shire Council. The Proponent shall negotiate with Ballina Shire Council regarding contributions to costs for maintenance.</p> <p><i>Note: Nothing in this Condition shall be taken as restricting the proponent from negotiating an alternative payment for damage to local roads with Ballina Shire Council, subject to the agreement of Ballina Shire Council.</i></p>	<p>Road dilapidation surveys were conducted on 6th November 2013. The report was provided to Ballina Shire Council. No damage that required repair was noted. Compliant as certified by Rob van Iersel (Environmental Management Representative) 22-JUN-2016</p>	<p>D19</p>	<p>CEMP Revision 4 Appendix B1: Traffic and Access Management Plan.</p> <p>P2T may use Pimlico Rd, however this road is not State Hwy. Pimlico Rd will be transferred back to Ballina Shire Council following completion of the final stage of P2T in accordance with W2B Traffic and Access Management Plan.</p>
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<p>A detailed Construction Traffic Management Sub Plan shall be prepared as part of the Construction EMP in consultation with Ballina Shire Council. The Sub Plan shall include, but not be limited to:</p> <ul style="list-style-type: none"> <li>(a) identification of all public roads to be used by construction traffic, in particular for the transport of earthworks and pavement materials;</li> <li>(b) the timing and duration of the use of these roads;</li> <li>(c) impacts on existing traffic (including pedestrians, vehicles, cyclists and disabled persons) including the staging of construction works to minimise lane closures during peak periods and delay to traffic;</li> <li>(d) access to construction sites;</li> <li>(e) truck ingress and egress routes, entry and exit locations and the nature of loads;</li> </ul>	<p>Minor amendments were made to the BBA TM Sub plan to make it specific to P2T and this was integrated with the Spoil and Fill Management Sub plan. This was completed in 2013.</p>	<p>B56 - B59; B62, B63, B65, B68,</p>	<p>This will be completed in accordance with the requirements of CEMP Revision 4 Appendix B1: Traffic and Access Management Plan.</p> <p>Table 6-1 ID#T&amp;T-1 details the preparation of CTMPs to include identification of all public roads to be used that may be partially or completely closed during construction and the expected timing and duration of closures.</p>
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31	<p>(f) an analysis of the need to construct the grade separated Cumbalum interchange at the earliest opportunity possible;</p> <p>(g) temporary and interim traffic arrangements including intersection and property access;</p> <p>(h) strategies to minimise construction heavy vehicles travelling through Ballina;</p> <p>(i) a response plan which sets out the proposed response to any traffic, construction or other incident; and,</p> <p>(j) appropriate review and amendment mechanisms.</p> <p>This Sub Plan shall be fully integrated with the Spoil and Fill Management Sub Plan required under Condition 69.</p>		D26c)	The Construction Traffic and Access Management Plan (Appendix B1 of the W2B CEMP Revision 4) lists the integrated relationship with the W2B CEMP that includes Appendix B4 - Construction Soil and Water Quality Management Subplan. The CTAMP details spoil haulage and the CSWQMP details spoil and fill management as it relates to the identified risks to soil and water quality.
32	The Proponent shall monitor the use of local roads by construction heavy vehicle traffic in consultation with Ballina Shire Council to develop measures to minimise and/or restrict use of local roads by heavy vehicle traffic as far as reasonable and practicable.	Compliant as certified by Rob van Iersel (Environmental Management Representative) 22-JUN-2016	26bii)	The Construction Traffic and Access Management Plan (Appendix B1 of the W2B CEMP Revision 4) requires that traffic movements to minimise impacts to local roads are developed as per Section 3.5, Vehicle Movement Plans. This will be prepared by the awarded Contractor and subject to approval prior to implementation as per Section 3.5 of the W2B CTAMP (Appendix B1 of the W2B CEMP).

**Flora and Fauna**

*Construction*

	<p>As part of the Construction EMP, the Proponent shall prepare a detailed Flora and Fauna Management Sub Plan in consultation with the DECC, Ballina Shire Council, DWE and DPI(AHPU). The Sub Plan shall manage all the impacts on flora and fauna in the vicinity of the project and shall include:</p> <p>(a) the characteristics and location of the terrestrial and aquatic flora and fauna communities in the vicinity of the project;</p> <p>(b) procedures for the clearance of vegetation and soil for construction including identification of requirements for seed collection;</p> <p>(c) detailed plans and maps of the construction footprint, areas to be cleared, timing of clearing, important habitat areas, threatened species locations, and vegetation type and location;</p> <p>(d) strategies for minimising vegetation clearance within the worksite where possible and complete protection of vegetated areas outside the worksite area;</p>	<p>Minor amendments were made to the BBA Flora and Fauna sub plan to make it specific to P2T. The EIS and Representations Report mitigation measures and how they will be implemented are included in the Sub-plan. The EMR reviewed the Flora and Fauna sub plan and this was approved for P2T.</p>	<p>B1 - B9; B38, B73; D6 - D9; D26e)</p> <p>D26e)</p> <p>B23 and D26eiv)</p> <p>D26eii)</p> <p>B13)</p>	<p>Design has not been changed since the P2T works were certified as complaint. No additional clearing is required as a part of the P2T3 works. In December 2016 the CFFMP was updated to include the approved Koala Management Plan (version 4.4) and the Stingless Bee Protocol. The update to the overarching CEMP Revision 4 applies to the suite of sub plans that form appendices to this parent CEMP (Revision 4).</p> <p>For the P2T final works the construction zone is contained entirely within the design boundaries and clearing strings for that of P2T2 and as such, no direct impacts to flora or fauna are considered likely. To manage potential indirect impacts, and also in the event that design is amended, the W2B CEMP Appendix B2 FFMP identifies mitigation measures (which are also contained within the BBA Flora and Fauna Sub plan) are detailed further below. Further, W2B CEMP Revision 4 Appendix A1 - Legal and other requirements, RMS Specification G36: Contractor Construction FFMP will be required to be implemented by the awarded Contractor is required prior to the commencement of works within the P2T3 footprint:</p> <p>W2B CFFMP Section 4 - Existing Environment. This section identifies EECs, threatened flora and threatened fauna that occur within the W2B alignment (this includes P2T known species and communities) and is deemed adequate in addressing the BBA conditional requirement.</p> <p>no clearing works required for P2T3. In the event this changes, Appendix N of CFFMP will apply (fauna handling). Additionally, A1 of the W2B CEMP Revision 4 -Legal and other requirements is in effect and RMS Specification G36, G40 and R178 apply with regard to vegetation clearing procedure and the applicability of seed collection deemed adequate in addressing the BBA conditional requirement.</p> <p>SiteMap portal is deemed adequate in addressing the BBA conditional requirement, from this Sensitive Area Plans can be produced.</p> <p>Construction Flora and Fauna mitigation measure # FF5 is deemed adequate in addressing the BBA conditional requirement</p>
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<p>(e) strategies for transplanting individuals or populations of any threatened plant species affected by the road alignment where possible;</p>	D7	<p>not applicable as no threatened flora species have been identified as occurring within the already cleared P2T3 footprint (clearing works was conducted for P2T earlier stage, as deemed compliant by EMR 22nd June 2016). In the event this changes due to design modifications W2B CEMP Revision 4, Appendix B4 CFFMP Appendix N applies (Translocation Strategy). In the event this is required, the existing W2B Management Plans are deemed adequate in addressing the BBA conditional requirement.</p>
<p>(f) Noxious Weed Management Action Plan including but not limited to: scope of works, minimising physical disturbance, revegetating cleared areas with local native plant species and regular removal of weeds and application of herbicide to newly establishing weed species. This plan shall address weed management for both terrestrial and aquatic flora;</p>	D26ev)	<p>W2B CEMP Revision 4, Appendix B2 CFFMP Appendix P Noxious Weeds and Pathogen Management is deemed adequate in addressing the BBA conditional requirement</p>
<p>(g) reuse of topsoil and cleared vegetation including weed eradication;</p>	D26c) and D26ev); EPBC-14	<p>W2B CEMP Revision 4, Appendix B2 CFFMP and Appendix B4 Construction Soil and Water Management Plan are identified as integrated plans in order to minimise the impacts on threatened species and communities (EPBC-14). The reuse of topsoil and cleared vegetation is not applicable to the final stage of P2T works as no vegetation clearing is anticipated, however in the event that the design is modified mitigation measures identified with the W2B CEMP Appendix B2 - CFFMP and Appendix B4 CSWQMP are deemed adequate to address this BBA conditional requirement.</p>
<p>(h) replanting and rehabilitation of indigenous species, including trees suitable as a food resource for threatened species, preferably using materials that have been obtained from the site;</p>	B3, D20, D26evi)	<p>W2B CEMP Revision 4, Appendix B2 CFFMP identifies targets for native rehabilitation (Section 2.3) and details general work practices and mitigation measures to be implemented during construction. As a side note, landscaping following the completion of the P2T final stage works will be required to be carried out in accordance with RMS specification R178 and will be in accordance with the approved W2B Urban Design and Landscape Plan. This will be in accordance with the design principles outlined in the Environmental Impact Statement - Working Paper Biodiversity. The W2B MCoAs are as such, deemed adequate in addressing the BBA MCoA.</p>
<p>(i) measures to use any surplus vegetation shall be identified including donation to community groups and distribution to the local community;</p>	D20	<p>Vegetation clearing is not required for the final stage of P2T as identified by the Approved Project Boundary and Limits of Clearing for these works. Should this changed based on a design modification, amendments to the awarded Contractors Construction Environmental Management Plan and associated sub plans will be required and this shall include the MCoA requirements relevant to vegetation clearing and the associated landscaping in accordance with the Urban Design and Landscaping Plan. Based on vegetation clearing not being included in the final stage of the P2T works, existing W2B Plans and Procedures are deemed adequate in addressing this conditional requirement, should the scope change to include vegetation clearing. This BBA MCoA is therefore deemed addressed adequately by W2B CEMP (and associated Subplans).</p>
<p>(j) derivation of rehabilitation materials;</p>		
<p>(k) a program for the active management and maintenance of all preserved, planted and rehabilitated vegetation (including aquatic vegetation) including watering regimes, fencing, replacement of vegetation that may have died and weed management; and,</p>		

<p>(l) a program for reporting on the effectiveness of terrestrial and aquatic flora and fauna management measures against performance goals.</p>			<p>The P2T Project has established the following flora and fauna performance goals:</p> <ul style="list-style-type: none"> <li>• EPA and DPI (Fisheries and NOW) will be consulted in the development of EWMS considered to be high risk for flora and/or fauna.</li> <li>• Regular inspections (or maintenance) of erosion and sedimentation controls will be conducted, to ensure impacts to the quality of receiving waters is minimised.</li> <li>• Vegetation clearing procedure will be implemented. No unauthorised clearing of vegetation.</li> <li>• A Safety Health Environment Quality (SHEQ) Coordinator or delegate will be present to closely monitor in-stream construction activities, e.g. piling platforms in waterways.</li> <li>• All identified threatened species that occur adjacent to the Project Footprint will be protected with exclusion fencing or otherwise protected.</li> <li>• Any injured / killed fauna caused from construction activities will be recorded and reported to EPA. The circumstances of the injury will be reviewed.</li> <li>• Any impacted threatened flora species caused from construction activities will be recorded and EPA notified. The circumstances of the impacts will be reviewed.</li> </ul> <p>These goals are analogous with the requirements of the W2B CEMP and associated FFMP Subplan.</p>		
<p>The Flora and Fauna Management Sub Plan shall clearly show how the mitigation measures identified in Section 6.6.5 of EIS and the Representations Report will be implemented during construction and operation.</p>			<p>No vegetation clearing is required as part of P2T3, as such impacts to flora and fauna identified in the Connell Wagner EIS report are adequately managed as per mitigation measures identified in the W2B CEMP and associated subplans and the RMS Specifications. Mitigation measures for flora and fauna impacts have in the most part been closed following the Integrated Wetland Management Plan and Compensatory Habitat Agreements, and the fact no works are required in vegetated/ wetland areas. The remaining mitigation measures are predominantly erosion and sediment controls:</p> <table border="1"> <tr> <td> <p><b>Flora and Fauna</b>  - impact on SEPP 14 wetland  - impact on fauna habitat  - barrier effects</p> </td> <td> <ul style="list-style-type: none"> <li>• Full bridging of creek and bank section of SEPP 14 Wetland</li> <li>• use of appropriate residual land acquired by the RTA for vegetation regeneration in both forest and wetland communities</li> <li>• Preparation a habitat regeneration plan for the wetland area</li> <li>• Mesh fencing of the construction easement across the wetland to limit disturbance beyond road</li> <li>• Construction methods and controls to limit movement of machinery in wetland area</li> <li>• Placement of a geotextile silt fence around the construction site to prevent alteration of water quality</li> <li>• Surface stabilisation and progressive revegetation using alongside and beneath bridge structures and other disturbed areas.</li> </ul> </td> </tr> </table>	<p><b>Flora and Fauna</b>  - impact on SEPP 14 wetland  - impact on fauna habitat  - barrier effects</p>	<ul style="list-style-type: none"> <li>• Full bridging of creek and bank section of SEPP 14 Wetland</li> <li>• use of appropriate residual land acquired by the RTA for vegetation regeneration in both forest and wetland communities</li> <li>• Preparation a habitat regeneration plan for the wetland area</li> <li>• Mesh fencing of the construction easement across the wetland to limit disturbance beyond road</li> <li>• Construction methods and controls to limit movement of machinery in wetland area</li> <li>• Placement of a geotextile silt fence around the construction site to prevent alteration of water quality</li> <li>• Surface stabilisation and progressive revegetation using alongside and beneath bridge structures and other disturbed areas.</li> </ul>
<p><b>Flora and Fauna</b>  - impact on SEPP 14 wetland  - impact on fauna habitat  - barrier effects</p>	<ul style="list-style-type: none"> <li>• Full bridging of creek and bank section of SEPP 14 Wetland</li> <li>• use of appropriate residual land acquired by the RTA for vegetation regeneration in both forest and wetland communities</li> <li>• Preparation a habitat regeneration plan for the wetland area</li> <li>• Mesh fencing of the construction easement across the wetland to limit disturbance beyond road</li> <li>• Construction methods and controls to limit movement of machinery in wetland area</li> <li>• Placement of a geotextile silt fence around the construction site to prevent alteration of water quality</li> <li>• Surface stabilisation and progressive revegetation using alongside and beneath bridge structures and other disturbed areas.</li> </ul>				
<p>The Sub Plan shall clearly detail how the mitigation measures identified in Section 4.5.6 of the Modification of the Ballina Bypass Environmental Assessment (August 2008) will be implemented during construction of the modified project.</p>	<p>The requirements of MOD 2 (2008) were included in the BBA Construction Flora and Fauna Subplan. In 2012 a Consistency Assessment was prepared for P2T Scope Change. This CA determined that: Impacts to Swamp Oak Forest would be minimal and have been found to be insignificant through a 7-part Test. Impacts to SEPP 14 wetlands have been shown to be consistent with the existing Project Approvals for BBA. No additional need for clearing of SEPP 14 wetlands is required. Compliant as certified by Rob van Iersel (Environmental Management Representative) 22-JUN-2016:</p>	<p>n/a</p>	<p>The requirements of MOD 2 (2008) were included in the BBA Construction Flora and Fauna Subplan. In 2012 a Consistency Assessment was prepared for P2T Scope Change. This CA determined that: Impacts to Swamp Oak Forest would be minimal and have been found to be insignificant through a 7-part Test. Impacts to SEPP 14 wetlands have been shown to be consistent with the existing Project Approvals for BBA. No additional need for clearing of SEPP 14 wetlands is required. Compliant as certified by Rob van Iersel (Environmental Management Representative) 22-JUN-2016:</p>		

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34	All locations of the threatened species <i>Macadamia tetraphylla</i> and <i>Tinospora tinosporoides</i> that occur adjacent to the project footprint shall be fenced and protected from the direct and, as far as practicable, indirect impacts of the project. Protection from indirect impacts shall include as a minimum the erection of appropriate sedimentation and erosion controls prior to construction and educating construction contractors of the environmental significance of these areas.	Compliant as certified by Rob van Iersel (Environmental Management Representative) 22-JUN-2016	D26e)	Closed. Fencing installed as part of the previous P2T works. Regardless, the W2B CEMP Revision 4 Section 1.3 details the requirement for Environmental Work Method Statements that adequately reflect direct and indirect impacts to flora and fauna. The W2B CEMP Appendix B4 - FFMP also highlights the requirement for pre-clearance surveys to be undertaken by the awarded Contractor. Mitigation measure #FF8 in Table 6-1 of the CFFMP details the requirements for the erection of fencing as No Go Areas in ecologically sensitive areas should there be an additional requirement to install fencing due to design modifications, fencing damage and also in support of the awarded contractors pre-work checklist (as per Appendix A1 of the W2B CEMP Revision 4, Legal and other responsibilities, RMS Specification G36 and G40). No clearing is anticipated for P2T3 as it is within existing road corridor/ bridge structures however in accordance with Appendix A1 of the W2B CEMP (Legislative and Appendix B2 - Flora and Fauna Management Plan details the requirements for Unexpected Threatened Species / EEC Finds Procedure (Appendix O of the FFMP). The W2B CFFMP is deemed adequate in addressing the BBA conditional requirement.
35	If, during the course of construction, the Proponent becomes aware of the presence of any threatened species not identified and assessed in the REA and which are likely to be significantly affected, the Proponent shall immediately advise the Director-General of the DECC and/or DPI (AHPU). No activity which places any of these species at risk shall be undertaken until advice has been received from the DECC and/or DPI (AHPU). All recommendations by the DECC and DPI (AHPU) shall be complied with prior to any works likely to affect any threatened species.	Compliant as certified by Rob van Iersel (Environmental Management Representative) 22-JUN-2016	n/a	W2B CEMP Appendix B4 FFMP, Appendix O Unexpected Threatened Species Finds Procedure addresses this condition and therefore is deemed adequate in addressing the BBA conditional requirement.
36	The Proponent shall prepare a Bush Regeneration Plan in consultation with DECC and DWE This plan shall identify disjunct parcels of land, consistent with the EIS and Representations Report, suitable for regeneration and potential connection with existing remnants with the objective of reducing exposure to edge effects, increasing connectivity between remnants and creating wildlife corridors. The Plan shall also include the areas of Closed Forest/Rainforest Communities. Ongoing management of these remnants shall also be addressed.	Completed and closed out during Stage 1 BBA works. The Bush Regeneration Plan, Ballina Bypass Alliance (Australian Wetlands 2009) was prepared to address the requirements of MCoA 36. The plan was finalised in August 2009 following its review by the project's Environmental Review Group. The plan recommended regeneration of three sites at Cumbalum Interchange, Sandy Flat and Ross Lane. The recommendations contained in the plan have been implemented by EnviTE Environmental. Quarterly monitoring reports are being prepared by EnviTE Environmental for the implementation (weeding and planting) and maintenance phases of the plan)	n/a	Completed.
37	Where possible, seed of locally endemic species shall be collected prior to the commencement of construction to provide seed stock for revegetation purposes to the satisfaction of a qualified bushland regeneration officer acceptable to the DECC. Topsoil and mulch shall be stripped and stored for placement back in the vegetation zone from where it was removed.	Compliant as certified by Rob van Iersel (Environmental Management Representative) 22-JUN-2016	D20	W2B CEMP Flora and Fauna Management Plan; Woolgoolga to Ballina • Pacific Highway upgrade   Draft urban design and landscape plan Section 10 and 11 (W2B-SMC-D-LX-RPT-00001.02.SDD) Section 4.4.1, as well as R178 specify the requirement for this to be undertaken. This BBA MCoA is therefore deemed addressed adequately by W2B CEMP (and associated Appendices, A1 Legal and other requirement, RMS specifications; and Appendices B1 - B9).

38	<p>The Proponent shall provide compensatory habitat (or funding for such) to offset the loss of 1.3 hectares of mangroves at a ratio of 2:1 and to the satisfaction of DPI (AHPU).</p>	<p>Compensatory habitat has been provided in accordance with the approved Integrated Wetland Management Sub Plan. In 2009 the RMS negotiated an alternative wetland compensatory habitat agreement with DPI Fisheries. The McLeay Wetland Compensatory Habitat Agreement (CHA) commits the RMS to the rehabilitation of about 17.53 hectares of degraded saltmarsh and freshwater wetland at Teven. A revised Integrated Wetland Management Plan (IWMP) based on the CHA was finalised in March 2010 (refer MCoA 40A) and approved by the Director-General on 27 October 2010. The RMS lodged a section 96 application to modify DA for the components of the sub-plan that require approval from Ballina Shire Council on 13 August 2010. Approval of the section 96 application was received on 22 July 2011.</p> <p>A 5-year works program to implement and monitor the IWMP and CHA has commenced and is proposed to end in October 2013. Refer to MCoA 40 for details of the implementation of the CHA. The Integrated Wetland Management Plan (IWMP) was updated in 2012 (rev F 23rd April 2012) to reflect changes to the management actions.</p>	n/a	<p>This condition has been addressed for Stage 2 works and is closed. In the event that design changes are required for the completion of the final stage of P2T works, provisions have been made in CEMP Revision 4 Section 1.2.2 "It should be noted that the adequacy of existing Sub-plans is relevant to the current design for P2T. In the event that design changes and additional land is required to complete the P2T3 works, the requirements for additional Sub-plans may be triggered. This includes but may not be limited to, an integrated Wetland Management Sub-plan and a Cumulative Impact assessment study Sub-plan."</p>
39	<p>Weed infested topsoil as identified by a qualified bush regeneration officer acceptable to DECC shall not be used in the rehabilitation works unless it is to be sterilised or treated as specified by the bushland regeneration officer.</p>	<p>Compliant as certified by Rob van Iersel (Environmental Management Representative) 22-JUN-2016</p>	D26c) and D26e)	<p>Weed infested topsoil shall be managed according to the requirements of the W2B CEMP Flora and Fauna Sub plan; and Soil and Water Quality management Plan. Additionally the awarded Contractor is required to submit for approval a Contractors Construction Environmental Management Plan and associated Sub-plans, Environmental Work Method Statement and work in accordance with RMS Specification G36 and G38.</p>
<p><b>Wetlands</b> <i>Wetland Management Sub Plan</i></p>				
40	<p>The Proponent shall prepare an integrated Wetland Management Sub Plan in consultation with Ballina Shire Council, DPI (AHPU), DECC and DWE and incorporate this Sub Plan into the Construction EMP. The Plan shall incorporate the SEPP 14 Conditions of Consent and include:</p> <ul style="list-style-type: none"> <li>(a) details of coastal wetland restoration and Compensatory Wetland Agreement;</li> <li>(b) control of non-endemic plants in wetlands adjacent to the roadway;</li> <li>(c) removal of rubbish from wetlands adjacent to the roadway;</li> <li>(d) potential for transplanting juvenile mangroves up to one metre in height from affected areas of Duck Creek and Emigrant Creek; and</li> <li>(e) measures for the rehabilitation of wetland areas disturbed during construction of the project that are not required for the operational project.</li> </ul>	<p>The Integrated Wetland Management Sub Plan for the entire project (including P2T) was developed, approved and implemented as part of the Stage 1 BBA works. No update is required for the P2T works.</p>	n/a	<p>No update is required for the P2T final works. Should the design for P2T final stage change, the W2B CEMP Revision 4 has included in Section 1.2.2 " It should be noted that the adequacy of existing Sub-plans is relevant to the current design for P2T. In the event that design changes and additional land is required to complete the P2T3 works, the requirements for additional Sub-plans may be triggered. This includes but may not be limited to, an integrated Wetland Management Sub-plan and a Cumulative Impact assessment study Sub-plan"</p> <p>No clearing works are required for the final stage of P2T. With regards to 40b), this is identified within the W2B CEMP Appendix B4 CFFMP (Appendix P)</p> <p>With regards to 40c) control of rubbish and suitable disposal is identified in W2B CEMP Appendix B7 CWREMP</p>
40 A	<p>Within 12 months of the date of approval of the design modifications (or such period as otherwise agreed by the director general), the Proponent shall submit an updated Wetlands Management Sub Plan to the Director General for approval. The Plan shall include details of coast wetland restoration and Compensatory Habitat Agreement for the additional 1ha of SEPP 14 wetlands that would be directly impacted under Stage 1 and Stage 2 modified design.</p>	<p>The Integrated Wetland Management Sub Plan for the entire project (including P2T) was developed, approved and implemented as part of the Stage 1 BBA works. No update is required for the P2T works.</p> <p>The Director-General approved the refined design of the Ballina bypass project (MOD2) on 20 March 2009. During 2009 BBA negotiated an alternative CHA with DPI Fisheries. An updated IWMP was prepared based on the alternative CHA and was finalised in March 2010. The updated Integrated Wetland Management Sub-plan was not submitted to the DoP within 12 months of the design modifications, however, the proponent (RMS) submitted the plan to the DoP on 14 September 2010 once the oversight was identified.</p>	n/a	<p>No update is required for the P2T works.</p>

Noise and Vibration				
Background Noise Monitoring				
41	<p>The Proponent shall complete additional background noise monitoring in consultation with the DECC to be used in the development of the Construction Noise and Vibration Monitoring Sub Plan required by Condition 42 and the Operational Noise Management Sub Plan required by Condition 56.</p>	<p>Noise monitoring was undertaken during investigations for the BBA Environmental Impact Assessment and at the planning stages for the Mod 2 works, to obtain background noise data and to establish noise exceedance criteria for assessing noise impacts on sensitive receivers. As there has been no additional significant sources of noise introduced at the locality since the assessments undertaken for BBA, the noise assessments undertaken (Basset Acoustics, 2008), the noise assessment previously conducted is considered to be representative of the current noise environment.</p> <p>The Operational Noise Assessment. Pacific Highway Upgrade -</p>	<p>D11); D28)</p> <p>The SS1- 4963 MCoAs require an Operational Noise Review; and an Operational Noise Compliance Report to be prepared in accordance with the specifics of these two conditional requirements. D11 and D28 are deemed sufficient in addressing the requirements of BBA MCoA 41 and will be prepared and submitted within the specified timeframes for Operational Noise assessments.</p>	
Construction Noise and Vibration Management Sub Plan				
42	<p>A detailed Construction Noise and Vibration Management Sub Plan shall be prepared as part of the Construction EMP and in consultation with the DECC and where relevant, sufficient to address the technical requirements for obtaining DECC licences. The Sub Plan shall include, but not be limited to:</p> <ul style="list-style-type: none"> <li>(a) identification of each work area, site compound and construction depot and the specific activities which will be carried out that these locations;</li> <li>(b) construction timetabling;</li> <li>(c) identification of all potentially affected noise sensitive receivers;</li> <li>(d) identification of appropriate construction noise objectives with regard to the requirements of Condition 44;</li> <li>(e) identification of appropriate vibration objectives with regard to the requirements of Conditions 49 and 52;</li> <li>(f) assessment of potential noise and vibration from the proposed construction methods including noise from construction vehicles and noise impacts from required traffic diversions;</li> <li>(g) detailed examination of all reasonable and feasible noise mitigation measures;</li> <li>(h) consideration of erecting operational stage noise mitigation measures prior to construction commencement;</li> <li>(i) details of all mitigation and management strategies to be implemented;</li> <li>(j) noise and vibration monitoring, reporting and response procedures;</li> <li>(k) community consultation and complaints handling procedures;</li> <li>(l) contingency plans to be implemented in the event of non-compliances and/or noise complaints; and,</li> <li>(m) education of construction personnel about noise minimisation.</li> </ul> <p>With respect to (g) above, the Proponent shall consider the use of a range of structural and non-structural measures during construction including barriers, acoustic treatment of residences, scheduling of construction activities to minimise impacts and temporary relocation of affected residents. The Proponent shall ensure that the mitigation measures referred to in Working Paper 3 of the EIS and in these Conditions are incorporated into the Sub Plan.</p>	<p>Minor amendments were made to the BBA CNVMP to make it specific to the P2T works, these were certified as compliant in November 2013. Compliant as certified by Rob van Iersel (Environmental Management Representative) 22-JUN-2016.</p>	<p>D26a)</p> <p>A2d)</p>	<p>No additional sensitive receivers have established since the Mod 2 EA. The W2B CEMP Revision 4 Appendix B3 (Construction Noise and Vibration Management Plan) is deemed adequate in addressing the requirements of BBA MCoA Conditions 42a) - g).</p> <p>The site compound and construction depot as AF Site 11-2</p> <p>W2B CEMP Appendix B3 CNVMP Table 7-1 Working Hours Community Consultation and Engagement - ID#NV39. Construction Timetabling is a requirement as part of the community consultation process and will be determined under this requirement of the excising CEMP Appendix B3 CVNMP and incorporated into the awarded contractors CNVMP Subplans as required.</p> <p>W2B CEMP Appendix B3 CNVMP Table 7 1 Noise and vibration management and mitigation measures</p>
Construction Hours				
	<p>All construction activities, including entry and departure of heavy vehicles are restricted to the hours of 7:00 am to 6:00 pm (Monday to Friday); <b>8:00 am to 1:00 pm (Saturday)</b> and at no time on Sundays and public holidays.</p>	<p>Compliant as certified by Rob van Iersel (Environmental Management Representative) 22-JUN-2016</p>	<p>B15 and B16</p> <p>Compliance with BBA MCoA will be achieved under the W2B CEMP Revision 4 Appendix A1, Legal and other requirements G36. This specifies the Contractor Construction Environmental Management Plan shall reflect all relevant MCoAs. As such the awarded Contractor's CCEMP and associated</p>	

Notwithstanding the above, construction activities are permitted between the hours of 7:00am and 4:00pm on Saturdays between chainage 130100-134810, including the operation of the Cumbalum and Ross Lane ancillary facilities.

Works outside these hours that may be permitted include:

- (a) any works which do not cause noise emissions to be audible at any nearby residential property;
- (b) the delivery of materials which is required outside these hours as requested by Police or other authorities for safety reasons;
- (c) emergency work to avoid the loss of lives, property and/or to prevent environmental harm; and,
- (d) any other work as agreed through the Construction Noise and Vibration Management Sub Plan Process.

Local residents should be informed of the timing and duration of works covered under clause (d) at least 48 hours prior to commencement.

Sub-plans, i.e. Contractors Noise and Vibration Subplans shall identify the BBA work hours, the difference being Saturday works hours must cease at 13:00 unless prior approval is obtained (as outlined in the W2B OOWH Procedure). In the event that work is required to be completed during Saturdays for the P2T works, the awarded Contractor may elect to apply to be granted Outside of Work Hours dispensation, to align with the remainder of the W2B Project (as outlined in the W2B OOWH Procedure of Appendix B3 to the CEMP Revision 4).

43 **Construction Noise Criteria**

The Proponent shall manage noise from construction activities so as to not exceed the following objectives, unless otherwise specified in the Construction Noise and Vibration Management Sub Plan:

- (a) For a construction period of four weeks or less, the L10 level measured over a period of not less than 15 minutes when the construction site is in operation shall not exceed the background level by more than 20dB(A).
- (b) For a construction period of greater than four weeks but less than 26 weeks, the L10 level measured over a period of not less than 15 minutes when the construction site is in operation shall not exceed the background level by more than 10dB(A).
- (c) For a construction period greater than 26 weeks, the L10 level measured over a period of not less than 15 minutes when the construction site is in operation shall not exceed the background level by more than 5dB(A).

The noise criteria contained in MCoA 44 were included in the Construction Noise and Vibration Management Sub-plan for P2T works. The sub-plan included an acoustic model of the construction works based on a schedule of works contained in Appendix C of the sub-plan. The results of the modelling were compared to the noise criteria in Section 5.1.6 of the sub-plan. The modelling showed that the construction works would generally comply with the noise criteria. Controls are presented in Appendix A of the sub-plan to mitigate these impacts. Compliant as certified by Rob van Iersel (Environmental Management Representative) 22-JUN-2016

Results from Section 5.1.6 are displayed below:  
 DAY: Existing Background Level, LAeq (15hour)  
 Site 1: 56 Site 2: 53 Site 3: 54  
 Daytime Noise Management Levels LAeq dB(A)  
 Site 1: 61 Site 2: 58 Site 3: 59  
 NIGHT: Existing Background level, LAeq (9hour)  
 Site 1: 56 Site 2: 50 Site 3: 54  
 Evening Noise Management Levels LAeq dB(A)  
 Site 1: 61 Site 2: 55 Site 3: 59  
 Site 1: 105 Smith Drive, West Ballina  
 Site 2: 55 Pimlico Road, Pimlico  
 Site 3: 14 Uralba Road, Uralba

D10

Controls are presented in Appendix A of the P2T Sub-plan to mitigate the impacts identified for P2T works list industry standard controls which are analogous to those identified within W2B CEMP Revision 4 Appendix B3 CNVMP Section 4.2.6, Table 4-2 and Table 7-1. Sensitive receivers in the locality of the P2T works are displayed on the W2B project's SiteMap portal. As there has been no additional significant sources of noise introduced at the locality since the assessments undertaken for P2T the controls identified within W2B CEMP Revision 4 Appendix B3 CNVMP are deemed adequate in addressing the BBA MCoA. Noise Management for P2T3 will be in accordance with the BBA MCoAs as identified by awarded contractors CNVMP

W2B CEMP Revision 4 Appendix B3 CNVMP Table 5-4 lists the noise management levels for each catchment area. The P2T works falls within NML K. Table 5-4 listed levels are more conservative than those identified by the previous P2T works, these will be applied in the first instance to ensure no detrimental impacts are felt to sensitive receivers and to ensure compliance with the requirements of the BBA MCoAs. The W2B established noise monitors (151 Uralba Road, Coolgardie Road to Ballina bypass, EIS NCA 11-f; and Monitoring site #18, Pimlico Rd) are located 500 and 70m away from the P2T works, respectively. Following submission of the Contractors Noise and Vibration Management Plan background noise levels may be further refined following background noise data and amendments to the noise criteria made (as approved). The quantitative assessment criteria listed with Table 5-1 of the W2B CEMMP Revision 4 Appendix B3 CNVMP would be referenced. Based on the previous noise assessments undertaken for P2T and in conjunction with the existing mitigation controls identified within W2B CEMP Revision 4 Appendix B3 CNVMP, the W2B CEMP Revision 4 is deemed adequate in addressing the BBA MCoA.

The Proponent shall ensure that all feasible and reasonable noise mitigation and management measures are implemented with the aim to achieve the applicable construction noise objective. Any activities that may cause noise emissions that exceed the objective shall be identified and managed in accordance with the Construction Noise and Vibration Management Sub Plan required by Condition 42.

Noise Management for P2T3 will be in accordance with the BBA MCoAs as identified by awarded contractors CNVMP

44 **Construction Noise Management**

45	Construction noise levels shall be monitored to verify compliance with the Construction Noise and Vibration Management Sub Plan. Should monitoring indicate exceedances of construction noise goals, the Proponent shall consult with the DECC and implement all reasonable and feasible mitigation measures to the satisfaction of the DECC.	Compliant as certified by Rob van Iersel (Environmental Management Representative) 22-JUN-2016	B14	W2B CEMP Appendix B3 CNVMP Table 7-1 mitigation criteria #NV10 and Section 8.3 Noise Monitoring.
45 A	<p>Within one month of the commencement of extraction at the Ross Lane Earthworks, the Proponent shall monitor noise levels generated by extraction activities at the sites, consistent with the NSW Industrial Noise Policy (DECC, 2000), at sensitive receivers identified in Table 1 of the Environmental Assessment (for the modification of Ross Lane).</p> <p>Where exceedances of the levels specified in Table 1 of the Environmental Assessment (for the modification of Ross Lane) are identified, the Proponent shall identify and assess the activities resulting in the noise exceedances and any additional mitigation measures to be implemented with the objective of meeting the criteria identified in Table 1 of the Environmental Assessment (for the modification of Ross Lane), when these measures would be implemented and how their effectiveness would be measured and reported to the Director-General and the DECC.</p>	All works in the vicinity of Ross Lane have been completed	n/a  n/a	All works in the vicinity of Ross Lane have been completed
46	<p>The Proponent shall ensure that wherever practicable:</p> <p>(a) the offset distance between noisy plant items and sensitive receivers is maximised;</p> <p>(b) the co-occurrence of noisy plant working simultaneously, close together and close to sensitive receivers is minimised;</p> <p>(c) bored piles are used in place of driven piles in close proximity to residences; and</p> <p>(d) loading and unloading is carried out away from noise sensitive areas.</p>	Compliant as certified by Rob van Iersel (Environmental Management Representative) 22-JUN-2016	B14 and B25	<p>W2B CEMP Revision 4 Appendix B3 CNVMP Table 7-1 NV#21</p> <p>W2B CEMP Revision 4 Appendix B3 CNVMP Table 7-1 NV#24</p> <p>W2B CEMP Revision 4 Appendix B3 CNVMP Table 7-1 NV#1</p> <p>W2B CEMP Revision 4 Appendix B3 CNVMP Table 7-1 NV#18</p>
47	<p>The Proponent shall ensure that sheet piling and any other <b>activities which result in impulsive or tonal noise</b> generation close to residences and other sensitive receptors are only scheduled between the following hours unless otherwise specified in the Construction Noise and Vibration Management Sub Plan:</p> <p>(a) <b>9 am to 3 pm, Monday to Friday; and,</b></p> <p>(b) <b>9 am to 12 pm, Saturday</b></p> <p>Where activities are undertaken for a continuous three hour period and are audible to noise sensitive receptors, a minimum respite period of at least one hour shall be scheduled before activities recommence.</p>	Compliant as certified by Rob van Iersel (Environmental Management Representative) 22-JUN-2016	B18	<p>W2B CEMP Revision 4 Appendix B3 - CNVMP Table 7-1 Noise and Vibration Mitigation measures ID# NV35 impulsive or tonal noise emission activities work hours.</p> <p>Compliance with BBA MCoA will be verified by the W2B CEMP Revision 4 Appendix A1, Legal and other requirements G36. This specifies the Contractor Construction Environmental Management Plan shall reflect all relevant MCoAs. As such the awarded Contractor's CCEMP and associated Sub-plans, i.e. Contractors Noise and Vibration Subplans shall identify the BBA work hours, the difference being a shorter time period allowable for impulsive or tonal noise unless prior approval is received (as outlined in the W2B OOWH Procedure). The W2B CEMP Revision 4 which encompasses works for the final stage of Stage 2, BBA may be updated with minor revisions and if so will be submitted to the D-G for information within 2 weeks of updating the CEMP if this is deemed to be required.</p>
<b>Blasting</b>				
48	Blasting shall only be undertaken between the hours of 9:00 am and 3:00 pm, Monday to Friday, and 9:00 am to 12:00 pm on Saturday.	Not applicable to P2T works because no blasting is being undertaken as part of this stage of the project	n/a	Not applicable to P2T works because no blasting is being undertaken as part of this stage of the project. Noise Management for P2T3 will be in accordance with the BBA MCoAs as identified by awarded contractors CNVMP
49	<p>The vibration level due to blasting activities shall meet the requirements of the EPA as specified in its Licence.</p> <p>In general the Guideline entitled "Technical Basis for Guidelines to Minimise Annoyance due to Blasting Overpressure and Ground Vibration" prepared by the Australian and New Zealand Environment and Conservation Council (ANZECC) shall be applicable.</p>	Not applicable to P2T works because no blasting is being undertaken as part of this stage of the project	n/a	Not applicable to P2T works because no blasting is being undertaken as part of this stage of the project

50	For any section of the project where blasting is proposed, the Proponent shall undertake a series of initial trials at reduced scale prior to commencement of the proposed blasting to determine site-specific blast response characteristics and to define allowable blast sizes to meet the criteria specified in the Construction Noise and Vibration Sub Plan.	Not applicable to P2T works because no blasting is being undertaken as part of this stage of the project	n/a	Not applicable to P2T works because no blasting is being undertaken as part of this stage of the project								
50 A	<p>For the Ross Lane Earthworks Site the proponent blasting shall be limited to comply with the criteria outlined in Table 1 and Table 2 below, when measured at the most affected sensitive receiver (subject to the provisions of Condition 45A).</p> <table border="1"> <thead> <tr> <th colspan="2">Table 1 - Air blast Overpressure Criteria</th> </tr> <tr> <th>Peak Particle Velocity (mms-1)</th> <th>Allowable Exceedance</th> </tr> </thead> <tbody> <tr> <td>5</td> <td>5% of total number of blasts over a 12 month period</td> </tr> <tr> <td>0</td> <td>Never</td> </tr> </tbody> </table>	Table 1 - Air blast Overpressure Criteria		Peak Particle Velocity (mms-1)	Allowable Exceedance	5	5% of total number of blasts over a 12 month period	0	Never	Not applicable to P2T works because no blasting is being undertaken as part of this stage of the project	n/a	Not applicable to P2T works because no blasting is being undertaken as part of this stage of the project
Table 1 - Air blast Overpressure Criteria												
Peak Particle Velocity (mms-1)	Allowable Exceedance											
5	5% of total number of blasts over a 12 month period											
0	Never											
51	The Proponent shall make all reasonable attempts to advise occupants of residences within 500 metres of a blast of the blasting. The advice shall be provided at least 48 hours in advance and include a schedule of blast time(s) and a telephone contact name and number should the resident have concerns.	Not applicable to P2T works because no blasting is being undertaken as part of this stage of the project	n/a	Not applicable to P2T works because no blasting is being undertaken as part of this stage of the project								
<i>Construction Vibration</i>												
52	Vibration resulting from construction of the project shall be limited to: (a) For structural damage vibration - German Standard DIN 4150 and BS 7385: Part 2 – 1993; and, (b) For human exposure to vibration - the evaluation criteria presented in British Standard BS 6472 for low probability of adverse comment, unless otherwise agreed by the DECC through the Construction Noise and Vibration Management Sub Plan.	Compliant as certified by Rob van Iersel (Environmental Management Representative) 22-JUN-2016	B20	W2B CEMP Appendix B3 CNVMP Table 8-1 (item 5)  Noise Management for P2T3 will be in accordance with the BBA MCoAs as identified by awarded contractors CNVMP								
53	Vibration levels shall be monitored to verify compliance with the limits specified in Conditions 52 and 49. Monitoring shall occur at representative properties within a minimum of 500 metres of blasting works. Should monitoring indicate exceedances, the Proponent shall consult with the DECC and implement best available mitigation measures to the satisfaction of the DECC.	No blasting is occurring on the project.	n/a	No blasting is occurring on the project.								
54	Vibratory compactors and rock breakers shall not be used within 50m of residential buildings, unless the requirements of Condition 52 are satisfied.	Compliant as certified by Rob van Iersel (Environmental Management Representative) 22-JUN-2016	n/a	No residential premises within 50m of work zone. Additionally, the use of rock breakers in the P2T alignment is unlikely.								
<i>Operational Noise Management Sub Plan</i>												
	A detailed Operational Noise Management Sub Plan shall be prepared as part of the Operational EMP, to the satisfaction of the Director-General. The Sub Plan shall provide details of noise control measures to be undertaken during the operation stage and in accordance with the NSW Government's Environmental Criteria for Road Traffic Noise and the RMS's Environmental Noise Management Manual. The Sub Plan shall include, but not be limited to: (a) clearly identify appropriate operational noise criteria; (b) predictions of noise levels at all affected residential, recreational, commercial and industrial land uses;	Compliant as certified by Rob van Iersel (Environmental Management Representative) 22-JUN-2016		P2T is captured under the Ballina Bypass OEMP.  The operational noise report formed a standalone document for P2T.								

55	<p>(c) specific reasonable and feasible physical and managerial measures for controlling noise;</p> <p>(d) the location, type and timing of erection of permanent noise barriers and/or other noise mitigation measures demonstrating best practice;</p> <p>(e) the urban design issues relating to noise control measures; and,</p> <p>(f) noise monitoring, reporting and response procedures including monitoring on surrounding roads which experience significantly increased traffic volumes as a result of the project.</p>			
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**Operational Noise Management**

56	<p>Monitoring of road traffic noise shall be undertaken as stated in the Operational Noise Management Sub Plan and in accordance with the NSW Government Guideline Environmental Criteria for Road Traffic Noise. The Proponent shall review the monitoring results and assess the adequacy of the traffic noise mitigation measures in accordance with the 'Post Construction Noise Monitoring Practice Note viii' contained in the RMS's Noise Management Manual.</p>	<p>An operational noise assessment was completed in March 2014. The results of the noise modelling indicate that no additional noise mitigation measures were required in accordance with ENMM as the road traffic noise levels at the design years are lower than the Future Existing noise levels and are not acute. Compliant as certified by Rob van Iersel (Environmental Management Representative) 22-JUN-2016</p>	D11); D28)	<p>The SS1- 4963 MCoAs require an Operational Noise Review; and an Operational Noise Compliance Report to be prepared in accordance with the specifics of these two conditional requirements. D11 and D28 are deemed sufficient in addressing the requirements of BBA MCoA 41 and will be prepared and submitted within the specified timeframes for Operational Noise assessments.</p>
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**Soil and Water Management**

*Soil and Water Management Sub Plan(s)*

	<p>As part of the Construction and Operational EMPs, a detailed Soil and Water Management Sub Plan(s) shall be prepared in consultation with the DECC, DWE, DPI (AHPU), and Ballina Shire Council. The Sub Plan(s) shall be prepared in accordance with the Department of Housing's guideline Managing Urban Stormwater - Soils and Construction and where appropriate, DWE's Constructed Wetlands Manual.</p> <p>The Sub Plan(s) shall be prepared prior to construction or operation as appropriate.</p> <p>The Soil and Water Management Sub Plan(s) shall contain, but not be limited to:</p> <p>(a) management of the cumulative impacts of the development on the quality and quantity of surface and groundwaters, including stormwater in storage, sedimentation dams and flooding impacts;</p> <p>(b) preparation of a catchment analysis to determine the capacity of existing drainage systems and changes resulting from the construction of the project including detention requirements;</p> <p>(c) details of short and long-term measures to be employed to minimise soil erosion and the discharge of sediment to land and/or waters including the exact locations and capacities of sedimentation basins;</p> <p>(d) details of strategies to manage the stage construction of embankments including mitigation measures to be implemented, maintenance and responsibility;</p> <p>(e) management of the impacts of the development on creeks and water bodies, in particular Duck Creek, Emigrant Creek, Maguires Creek, Richmond River and SEPP 14 Wetlands No. 108, 108A and 95;</p> <p>(f) identification of all potential sources of water pollution and a detailed description of the remedial action to be taken or management systems to be implemented to minimise emissions of these pollutants from all sources within the project;</p>	<p>Compliant as certified by Rob van Iersel (Environmental Management Representative) 22-JUN-2016</p>	<p>D26c)</p> <p>D26ciii)</p> <p>D12f)</p> <p>D13c) D20i) D26ciii)</p> <p>D26cix)</p> <p>D25dvi)</p> <p>D12c)</p>	<p>W2B CEMP Appendix B4 SWQMP:</p> <p>management of surface and groundwater impacts during construction - Appendix C of CSWQMP (Appendix B4 of W2B CEMP Revision 4)</p> <p>W2B CEMP Revision 4 Appendix B4 - CSWQMP, Appendix G - Section 8.1 Surface Water Management Actions.</p> <p>W2B CEMP Revision 4 Appendix B4 - CSWQM Table 6-1 mitigation control ID# SW26, ID#48, ID#51</p> <p>Monitoring of effectiveness of soil and water quality management measures and the soil and water quality management plan is contained within Appendix B4 - CSWQMP of the W2B CEMP Revision 4</p> <p>Appendix C (Stockpile management protocol) and Appendix G of CSWQMP (which is Appendix B4 of W2B CEMP Revision 4). Table 4-8 lists the waterways the W2B project crosses, Duck and Emigrant Creeks are identified. Table 5-1 describes pre-construction water quality characteristics and the monitoring locations for Duck Creek surface water quality monitoring (SW15 / GDE09)</p> <p>Appendix G of CSWQMP (which is Appendix B4 of W2B CEMP Revision 4), Section 8.3 Surface Water Management Action procedure</p>
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57	<p>(g) detailed description of water quality monitoring to be undertaken during the pre-construction, construction and operation stages of the project including identification of monitoring locations;</p> <p>(h) contingency plans to be implemented in the event of fuel spills or turbid water discharge from the site; and,</p> <p>(i) a program for reporting on the effectiveness of the sediment and erosion control system against performance goals.</p> <p>The Soil and Water Management Sub Plan(s) shall clearly show how the mitigation measures identified in Section 6.4 of EIS and the Representations Report will be implemented during construction and operation.</p>		<p>D12</p> <p>D12c) and D12f)</p> <p>D26ix)</p>	<p>CSWQMP - Water Quality Monitoring Program W2B Sections 3- 11 (P2T within Section 11), Table 6-1 Mitigation control ID# SW84 and Appendix G</p> <p>Appendix G of CSWQMP (which is Appendix B4 of W2B CEMP Revision 4), Section 8.3 Surface Water Management Action procedure</p> <p>W2B CEMP Revision 4 Appendix B4 - CSWQMP Section 7, Table 6-1 mitigation control ID#SW35</p> <p>The EIS for the BBA (Connel Wagner, 1998) assessed the potential for soil and water quality impacts during construction and subsequent operation of the project. It outlined generic construction management strategies for the BBA project to mitigate key water quality and soil stability risks. These risks were identified as being mainly associated with the clearance of vegetated areas for road construction, spoil management, construction works around water courses and use / spillage of chemicals and other pollutants. The EIS concluded that provided mitigation measures were implemented the construction and operation of the BBA project (of which P2T forms the final component) will not substantially impact on water quality of soil stability.</p>
<i>Erosion and Sediment Control Works</i>				
58	<p>The Soil and Water Management Sub Plan(s) shall incorporate detailed erosion and sedimentation controls including a strategy to manage the extent of exposed ground surface during construction and progressive site rehabilitation requirements (in accordance with Conditions 71 and 77). The Sub Plan shall be prepared in consultation with DWE, DECC and DPI (AHPU).</p>	<p>Compliant as certified by Rob van Iersel (Environmental Management Representative) 22-JUN-2016</p>	<p>D26c)</p>	<p>W2B CEMP Revision 4 Section 4.2.6, Section 6.2 and Appendix B4 SWQMP Section 4.2.6, Appendix B4 - SWQMP Section 1.3, Table 6-1 SW#4, SW#83</p>
<i>Construction</i>				
59	<p>The DWE, or other appropriately qualified soil conservationist, shall be consulted on a regular basis to undertake inspections of temporary and permanent erosion and sedimentation control devices to ensure that the most appropriate controls are being implemented and that they are being maintained in an efficient condition at all times and meet the requirements of any relevant approval/licence condition(s).</p> <p>The results of these inspections and any follow-up actions shall be reported in the six monthly Environmental Performance and Compliance Report required by Condition 15.</p>	<p>Compliant as certified by Rob van Iersel (Environmental Management Representative) 22-JUN-2016</p>	<p>D24 and D27</p>	<p>W2B CEMP Appendix B4 SWQMP Section 1.3, Table 6-1 SW#85</p> <p>W2B CEMP Section 8</p>
60	<p>All runoff collected during construction which is likely to be contaminated, shall be tested, treated, handled and disposed of in accordance with the provision of the Protection of the Environment Operations Act 1997 and the conditions of any Licence issued by the DECC.</p>	<p>Compliant as certified by Rob van Iersel (Environmental Management Representative) 22-JUN-2016</p>	<p>B36</p>	<p>W2B CEMP Revision 4 Appendix B4 SWQMP Table 6-1 SW#20, SW#75</p>
61	<p>All runoff from disturbed areas shall be contained by appropriate erosion and sedimentation controls designed in accordance with the Department of Housing's guideline <i>Managing Urban Stormwater - Soils and Construction</i>.</p>	<p>Compliant as certified by Rob van Iersel (Environmental Management Representative) 22-JUN-2016</p>	<p>B34</p>	<p>W2B CEMP Revision 4 Appendix B4 SWQMP Section 3 - Environmental Requirements, Section 6, Table 6-1 SW#16</p>
<i>Operation Stage Control Measures</i>				



62	All stormwater drainage, erosion, sedimentation and water pollution control systems and facilities of the project shall be located, designed, constructed, operated and maintained to meet the requirements of the relevant authorities including the DECC, DPI (AHPU), Ballina Shire Council and the DWE. All facilities including wetland filters, grass filter strips, gross pollutant traps and sedimentation basins shall be inspected regularly and maintained in a functional condition for the life of the project. Construction stage water quality structures shall be maintained for a minimum of six months after commissioning of the project or until revegetation has provided groundcover to at least 70% of the exposed ground surface.	Compliant as certified by Rob van Iersel (Environmental Management Representative) 22-JUN-2016	D12f) and D30	Where applicable to the final stage of the P2T works, construction stage water quality structures will be maintained for a minimum of six months after commissioning of the project or until revegetation has provided groundcover to at least 70% of the exposed ground surface. W2B CEMP Revision 4 Appendix B4 SWQMP (e.g. SW#28).
63	The Proponent shall provide appropriate detention systems for containment of spills and materials arising from accidents that are consistent with the RMS's "Code of Practice for Water Management – Road Development and Management" in consultation with the DECC.	Compliant as certified by Rob van Iersel (Environmental Management Representative) 22-JUN-2016	D26c)	The W2B CEMP Revision 4 Appendix B4 SWQMP Section 3 - Environmental Requirements, Section 6, Table 6-1 SW#6, SW#15, SW#20 details the requirement for spill containment and this is incorporated into the design.
<b>Hydrology and Flooding</b>				
<i>Inundation Levels</i>				
64	The project shall be designed to "not worsen" the existing flooding characteristics in any waterway upstream or downstream of the project elements. 'Not worsen' shall be defined as:  (a) a maximum increase in inundation levels upstream of the project of 50 mm in a 1 in 100 year ARI rainfall event; and,  (b) a maximum increase in inundation time of one hour for any rainfall event.	BBA flood model was updated to include the P2T design which confirmed the project meets this condition (A flood model was developed for the project and used during the design of the project to ensure that the project does not worsen existing flooding characteristics in compliance with MCoA 64.).		Completed as per Stage 2 as verified as compliant by the EMR 22nd June 2016
65	The Proponent shall endeavour to resolve amicably any dispute between itself and any landowner about alterations to flooding characteristics caused by the project. If the parties cannot reach a mutually satisfactory resolution, the matter shall be referred firstly to the hydrologist referred to in Condition 66 for resolution. If the hydrologist cannot resolve the issue then the dispute resolution requirements of Condition 7 shall apply.	For Stage 2, all complaints and disputes would be managed in accordance with the Community Engagement Strategy. No complaints or disputes were raised relating to this condition during Stage 2. A Flooding Focus Group was established prior to construction of Stage 2, which consisted of community members and representatives of the RMS and Ballina Shire Council. The Ballina Bypass Alliance received a groundwater-related enquiry from the owner of a property located in the vicinity of the Ross Lane earthworks in April 2010. The enquiry centred on the potential for the project's excavation works to have affected the water table level and, as a result, the productivity of the property owner's fruit tree plantation. In response to the enquiry the RMS engaged the hydrological specialist required under MCoA 66 to investigate the local hydrology and document their findings in a report. The hydrologist investigated drainage issues at the property owner's plantation and a letter report was prepared in October 2010. The report concluded that the excavation works appear to have had minimal impact on the plantation and that the lack of rainfall during the spring and summer of 2009 was the likely cause of the reduced harvest in 2010. A groundwater specialist inspected the site in November 2010 and reviewed groundwater data collected by BBA and groundwater observations made during excavation works in the locality. A report summarising the findings of this investigation was issued in December 2010. The report concluded that there was no direct evidence that the groundwater table was lowered by the excavation works. The hydrologist prepared a second letter report in December 2010 summarising the results of their October 2010 report and the groundwater specialist's report, and also addressing comments received from the property owner in November 2010. The RMS provided the above documents to the property owners in early 2011 (where they had not already been issued). The hydrologist was available to explain the contents and conclusions of the reports to the property owner, in accordance with MCoA 66. The RMS investigated other property owner concerns in mid 2012 and an independent hydrologist was engaged to assist.	C1 (Community Communication Strategy)	Completed as per Stage 2 as verified as compliant by the EMR 22nd June 2016
<i>Hydrological Specialist</i>				

66	<p>The Proponent shall provide appropriate funding for the DWE to engage a qualified hydrologist(s) to ensure that each landowner affected by the project has appropriate technical resources to understand hydrologic issues and to receive advice concerning the provision of appropriate flood/drainage facilities consistent if not better than would exist without the project. The RMS shall notify all affected landowners of the availability of the hydrologist(s) as soon as practicable and prior to commencement of substantial construction activities likely to affect flood/drainage patterns.</p>	<p>RMS appointed a qualified hydrologist in 2005 to investigate any landowner concerns regarding hydrological effects on local properties. Final hydrological mapping has been completed and the potentially impacted residents were informed in September 2014 that hydrological advice is available. A memorandum of understanding has been established between Roads and Maritime and WMA Water to provide hydrological information services should they be required.</p>	n/a	<p>completed as part of the Stage 2 works as verified as compliant by the EMR 22nd June 2016</p>
<b>Bridge and Culvert Design</b>				
67	<p>The Proponent shall consult the DECC and DPI (AHPU) in relation to the design and timing of bridge and culvert construction. In undertaking bridge design and construction, the Proponent shall ensure that: no culverts are used to cross creeks and rivers; no earthen platforms for driving piles are constructed; and all embankments are located away from the edge of waterways unless otherwise agreed by DPI (AHPU). The Proponent shall also investigate in consultation with DECC designing bridge structures that are suitable for fauna use. This may require incorporating features such as locating bridge abutments a sufficient distance from the edge of creek or river bank to allow for fauna movement and measures to ensure that adequate light and moisture is maintained underneath bridges to facilitate native vegetation growth.</p> <p>In undertaking culvert design and construction, the Proponent shall ensure that there is no drop or 'waterfall' effect at the end of the structure, water levels above and below the crossing are the same and the base of the culvert is set into (rather than on) the floodplain so that natural sediments cover the bottom, providing a less alien habitat for fish passage.</p>	<p>Compliant as certified by Rob van Iersel (Environmental Management Representative) 22-JUN-2016</p>	D23c)	<p>The proposed construction method for the bridges and culverts will be discussed at the Environmental Review Group meetings and any comments addressed prior to construction commencing. The comments are incorporated in the Environmental Work Method Statements to ensure implementation on site in accordance with W2B CEMP Revision 4 Section 4.2.4</p>
<b>Acid Sulfate Soils Management</b>				
68	<p>A detailed Acid Sulfate Soil Management Sub Plan shall be prepared in consultation with DECC, DPI (AHPU) and DWE prior to any construction activity in potentially affected areas. The Sub Plan shall include reference to the water quality monitoring program contained in the Soil and Water Quality Management Sub Plan. The Sub Plan shall be prepared in accordance with the Acid Sulfate Soils Manual (ASSMC, 1998). As part of the Sub Plan, a Contingency Plan to deal with the unexpected discovery of actual or potential acid sulfate soils shall be prepared to the satisfaction of the DWE and in consultation with the DECC.</p>	<p>Compliant as certified by Rob van Iersel (Environmental Management Representative) 22-JUN-2016</p>	D26cv)	<p>W2B CEMP Revision 4 Appendix B4 Table 6-1 ID# SW5, ID# SW46, SW#59, SW#81, SW# 82 - Appendix A: Acid Sulfate Soil Contingency and management control measures mitigation measure ID#A1-A5.</p>
<b>Spoil and Fill Management</b>				
	<p>The Proponent shall prepare a Spoil and Fill Management Sub Plan and incorporate this Sub Plan into the Construction EMP. This Sub Plan shall include:</p> <ul style="list-style-type: none"> <li>(a) details of the volumes of fill required in relation to staging of the project;</li> <li>(b) how spoil and fill material will be sought, handled, stockpiled, reused and disposed;</li> <li>(c) details of disposal sites and the volumes of spoil to be transported to each site;</li> <li>(d) details of the any contaminated soil and appropriate management and monitoring measures for potential contaminants; and,</li> <li>(e) a contingency plan to be implemented in the case of unanticipated discovery of contaminated material during construction.</li> </ul>	<p>Compliant as certified by Rob van Iersel (Environmental Management Representative) 22-JUN-2016</p>	D25dix) and D26cii)	<p>The BBA Spoil and Fill sub plan was amended in 2013 to make it specific to P2T. The EMR reviewed and approved the plan (ref: Nov 2013). Additionally, W2B CEMP B4 - Construction Soil and Water Quality Management Plan Section 7 and Appendix C, Stockpile Management Procedure and CEMP Appendix B8, Construction Contaminated Land MP will be referenced when the awarded Contractor is preparing their Contractor Construction Environmental Management Plan as the associated sub plans (as per Appendix A1 of W2B CEMP Revision 4).</p>



<i>Indigenous Heritage Management Sub Plan</i>				
74	<p>The Proponent shall prepare an Indigenous Heritage Management Sub Plan, in consultation with the Jali Local Aboriginal Land Council and DECC as part of the Construction EMP. This Sub Plan shall include:</p> <p>(a) details of the archaeological investigations to be undertaken;</p> <p>(b) details of any licences and approvals required,</p> <p>(c) detailed plans to be implemented if previously unidentified items/areas are located during construction;</p> <p>(d) an education program for all personal on obligations with regard to Aboriginal cultural materials; and,</p> <p>(e) management/salvage measures for all identified features.</p>	Compliant as certified by Rob van Iersel (Environmental Management Representative) 22-JUN-2016	D26d)	No known indigenous artefacts are located within the P2T project site. The unexpected finds procedure will be implemented in the event of a suspected find. There have been no unexpected finds. The W2B CEMP Revision 4 Appendix B5 CHMP Appendix A Unexpected Finds Procedure details process should any unexpected heritage items be uncovered.
<i>Non-Indigenous Heritage Survey</i>				
75	The Proponent shall prepare a Report on the European Heritage Survey of the Historic House at Cumbalum (the Campbell Property) and the remains of the Ballina to Booyong Rail Line in consultation with Ballina Shire Council prior to the commencement of construction. The Report shall include a photographic record in colour, monochrome print and colour transparency prepared in accordance with the guidelines by the Department and the Heritage Office entitled How to Prepare Archival Records of Heritage Items and Photographic Records of Heritage Sites, Buildings and Structures. Copies of the Report shall be forwarded to Ballina Shire Council and local libraries.	Completed as part of the Stage 1 BBA works and certified as compliant EMR 22nd July 2016.	n/a	Completed as part of the Stage 1 BBA works. The W2B CEMP Revision 4 Appendix B5 CHMP Appendix B Unexpected Finds Procedure details process should any unexpected heritage items be uncovered.
<i>Unexpected Items</i>				
76	If during the course of construction the Proponent becomes aware of any heritage items or archaeological material, all work likely to affect the site(s) shall cease immediately and the relevant authorities, including DECC, NSW Heritage Council and the relevant Local Aboriginal Land Council shall be consulted to determine an appropriate course of action prior to the recommencement of work at that site. Appropriate supporting documentation would need to accompany any application for required permit/consent(s).	Compliant as certified by Rob van Iersel (Environmental Management Representative) 22-JUN-2016	RMS Standard Management Procedure - Unexpected Archaeological Finds	W2B CEMP Appendix 5 CHMP, Appendix B Unexpected Archaeological Finds Procedure
76A	<p>Prior to the commencement of any construction for the Ross Lane Earthworks the Proponent shall:</p> <p>(i) identify the area containing the potential hut site (as identified in Appendix 1) and exclude from any construction impacts until the completion of any required archaeological excavations; and</p> <p>(ii) (ii) provide the Department of Planning with the process to be implemented if previously unidentified heritage items are located during construction (outside of the area identified in Condition 76A i) above).</p>	All works in the vicinity of Ross Lane were completed as part of the Stage 1 BBA works.	n/a	All works in the vicinity of Ross Lane were completed as part of the Stage 1 BBA works.
76B	Prior to the commencement of any construction activities within the potential 'hut' site (identified in Condition 76A ii) the Proponent shall undertake an archaeological testing program of this area, and any salvage excavations, if required. The Proponent shall ensure that these works are	All works in the vicinity of Ross Lane were completed as part of the Stage 1 BBA works.	n/a	All works in the vicinity of Ross Lane were completed as part of the Stage 1 BBA works.
<b>Air Quality</b>				
<i>Construction Air Quality Sub Plan</i>				
	<p>As part of the Construction EMP, a detailed Construction Air Quality Sub Plan shall be prepared in consultation with the DECC. The Sub Plan shall provide details of all dust control measures to be implemented during the construction stage, including, but not limited to:</p> <p>(a) pro-active measures to reduce dust from stockpiles and cleared areas and other exposed surfaces;</p>	Compliant as certified by Rob van Iersel (Environmental Management Representative) 22-JUN-2016	B66, B80, D25v)	W2B CEMP Appendix B6 Table 7-1 ID AQ#4, AQ#10, AQ#11; AQ#33 - AQ#39.

77	(b) progressive revegetation strategy for exposed surfaces in accordance with Conditions 58 and 71; and, (c) monitoring and maintenance requirements.			
78	Where there is a risk of losing material, construction vehicles using public roads shall be maintained and covered to prevent any loss of load, whether in the form of dust, liquid or soils. Construction vehicles and construction roads shall be maintained in such a manner to minimise tracking of any track mud, dirt or other material onto any street which is opened and accessible to the public. In the event of any spillage, the Proponent is required to remove the spilt material within 24 hours.	Compliant as certified by Rob van Iersel (Environmental Management Representative) 22-JUN-2016		W2B CEMP Appendix B6 AQMP (Table 7-5 AQ#21)
<b>Hazards and Risk Management</b>				
79	As part of the Construction and Operational EMPs, the Proponent shall prepare and implement a Hazards and Risk Management Sub Plan. This Sub Plan shall include, but not be limited to the following:  (a) details of the hazards and risks associated with the project; and, (b) pro-active and reactive mitigation measures including contingency plans to be implemented in the event of a pollution incident.	Compliant as certified by Rob van Iersel (Environmental Management Representative) 22-JUN-2016	25dx)	W2B CEMP Section 3.4, Appendix A2 Aspects and Impacts
<b>Waste Management and Recycling</b>				
<i>Waste Management and Recycling Sub Plan</i>				
80	As part of the Construction and Operational EMPs as relevant, a detailed Waste Management and Reuse Sub Plan shall be prepared in consultation with the DECC. The Sub Plan shall address the management of wastes during the construction and operation stages respectively in accordance with Government's Waste Reduction and Purchasing Policy. It shall be prepared prior to construction, and shall identify requirements for:  (a) waste avoidance; (b) reduction; (c) reuse; and, (d) recycling, and details of requirements for: (e) handling; (f) stockpiling; (g) disposal of wastes: specifically contaminated soil or water, concrete, demolition material, cleared vegetation, oils, grease, lubricants, sanitary wastes, timber, glass, metal, etc.; (h) implementation of energy conservation best practice; and, (i) identifying any site for final disposal of any material and any remedial works required at the disposal site before accepting the material.	Compliant as certified by Rob van Iersel (Environmental Management Representative) 22-JUN-2016	B68 B69 and B70.	W2B CEMP Appendix B7 CWERMP: Section 5-1 "Figure 5-1 illustrates the waste hierarchy that should be followed to reduce the generation of waste and limit the amount of waste to disposal. Where waste cannot be avoided, reused or recycled it will be classified and appropriate disposal will then occur."  W2B CEMP Appendix B7 CWERMP: Section 5-6 "Waste (and spoil) disposal is to be in accordance with the Protection of the Environment Operations Act 1997 and the Waste Avoidance and Resource Recovery Act 2001. Wastes that are unable to be reused or recycled will be disposed of offsite to an EPA approved waste management facility following classification (refer to section 5.1). The location of waste management / disposal facilities are included in Appendix A. Details of waste types, volumes and destinations are to be recorded in the Waste Management Register (Appendix D). Where possible wastes will be removed off-site to a recycling facility or will be disposed of at a licensed waste facility." W2B CEMP Appendix B7 CWERMP Table 6-1 IDWE#9 - WE#26
81	Any waste material that is unable to be reused, reprocessed or recycled shall be disposed at a landfill licensed by the DECC to receive that type of waste. The Waste Management and Reuse Sub Plan shall be framed using the waste minimisation hierarchy principles of avoid-reduce-reuse-recycle-dispose. This shall also include the demand for water.	Compliant as certified by Rob van Iersel (Environmental Management Representative) 22-JUN-2016		as above
<b>Utilities and Services</b>				
82	The Proponent shall identify the services potentially affected by construction activities to determine requirements for diversion, protection and/or support. This shall be undertaken in consultation with the relevant service provider(s). Any alterations to utilities and services shall be carried out to the satisfaction of the relevant service provider(s), and unless otherwise agreed to, at no cost to the service/utility provider(s).	Compliant as certified by Rob van Iersel (Environmental Management Representative) 22-JUN-2016	B72	Utilities were relocated for P2T3 in November 2016, refer to the RMS File Note P2T3 Telstra Relocations (W2B-PC0-D-EX-NOT-00008)

83	The Proponent in consultation with utility authorities shall ensure that disruption to services resulting from the project are minimised and advised to customers.	Compliant as certified by Rob van Iersel (Environmental Management Representative) 22-JUN-2016		Utilities were relocated for P2T3 in November 2016, refer to the RMS File Note P2T3 Telstra Relocations (W2B-PC0-D-EX-NOT-00008)
<b>Cumulative Impact Assessment</b>				
84	As part of the Construction and Operation EMPs the Proponent shall identify parameters to be monitored during construction and operation of the project which have the potential for cumulative effects to occur. The Proponent shall also define the time period for which the identified parameters will be monitored. The results of such monitoring shall then be used as an input to the RMS's Cumulative Impact Assessment Study and made available to relevant government agencies and the Community Liaison Group.	<p>The environmental parameters identified in Stage 2 as having the potential for generating cumulative impacts were addressed in the relevant Environmental Management Sub Plan and an appropriate monitoring program (taking into account the cumulative nature of each parameter), included within these Sub Plans for Stage 2 works. Environmental monitoring data collected during the construction phase of the Stage 2 was made available for inclusion in the RMS's Cumulative Impact Assessment Study.</p> <p>Some environmental monitoring data was continued to be monitored during the operation phase of the project in accordance with the monitoring measures contained in the Operational EMP. This data has also be available for inclusion in the Cumulative Impact Assessment Study as required and as carried out by the responsible parties for the Stage 2 works.</p>		The Condition relating to the Cumulative Impact Assessment Study has been met and closed with findings included in a report developed to address the whole Pacific Highway Upgrade.
<b>Location of Construction Facilities</b>				
85	<p>Unless otherwise agreed to by the Director-General, the Proponent shall only construct concrete batching plants and construction compounds required for the construction of the project, in those locations that satisfy the following criteria:</p> <ul style="list-style-type: none"> <li>(a) sites to be located within the road corridor assessed in the EIS and Representations Report to the greatest extent possible;</li> <li>(b) sites to be located with ready access to the local road network;</li> <li>(c) sites to be located to minimise the need for heavy vehicles to travel through Ballina;</li> <li>(d) sites on relatively level land;</li> <li>(e) sites to be separated from nearest residences by at least 200 m unless it can be demonstrated to the satisfaction of the Director-</li> <li>(f) sites are not to be permitted within 100m of, or drain directly to SEPP 14 wetlands;</li> <li>(g) sites are not to be located within 100m of waterways unless adequate erosion and sediment controls are implemented to protect water quality;</li> <li>(h) sites must be above the 20 ARI flood level unless a contingency plan to manage flooding issues is prepared and implemented;</li> <li>(i) sites are to have low conservation significance for flora, fauna or heritage and they are not to require any clearing of native vegetation beyond that which must be cleared for the project in any case; and</li> <li>(j) sites are to be selected so that the operation of the plant or compound does not impact on the land use of adjacent properties.</li> </ul> <p>The location of any concrete batching plants/construction compounds considered under these Conditions of Approval shall be detailed in the Construction EMP and shall demonstrate that the above criteria have been met.</p>	Noted, no concrete batch plants required for the P2T project. The CEMP details the requirements for compounds and these requirements have been adhered to. The NVMP details the location of the compounds.		Noted, no concrete batch plants required for the P2T project. The W2B CEMP details the requirements for compounds (Ancillary Facility 11-2) The requirements of the approved facility 11-2 will be adhered to. Contractors will be provided the approved 11-2 document to include specific mitigation measures in the development of EWMS prior to works commencing.
<b>Ross Lane Earthworks</b>				
86A	The Proponent shall ensure that material extracted from the extraction component of the project is only used for the construction of the road component of the project subject to this approval and no other section of the Pacific Highway or other works.	All works in the vicinity of Ross Lane were completed as part of the Stage 1 BBA works.		All works in the vicinity of Ross Lane were completed as part of the Stage 1 BBA works.
86B	The Proponent shall ensure that extraction at the Ross Lane Earthworks site	All works in the vicinity of Ross Lane were completed as part of the Stage 1 BBA works.		All works in the vicinity of Ross Lane were completed as part of the Stage 1 BBA works.

## **Appendix A2** Environmental aspects and impacts

## Appendix A2 Environmental aspects and impacts register

The identification of significant construction activities and associated impacts that could eventuate during construction of the Project is central to the selection of appropriate environmental safeguards.

The risk management process involved an assessment of all specific project activities/aspects in or near environmentally sensitive areas and resulted in the development of a list of environmental risks (effects and impacts) and a corresponding risk mitigation strategy and risk ranking. Each environmental risk was categorised, based on the following:

- The environmental aspect.
- Relative scale of the potential impact.
- Type of potential impact.
- Likelihood of occurrence.

The identification of risks included a review of the proposed works, the CoA, and review of the environmental risks identified by the EIS and the Submissions/Preferred Infrastructure Report.



**Table A2-1 Aspects and impacts register for Sections 3–11**

Issue	Construction activity/aspect	Potential impact	Risk level prior to mitigation	Indicative mitigation measures	Risk level following mitigation	Documents/Training required
Hydrology and flooding	Waterway crossings	Alteration to flood behaviour due to road infrastructure structures placed on floodplain	A (high) i	Design drainage structures to cope with design flood events.	B (moderate) i	<i>CONSTRUCTION SOIL AND WATER QUALITY MANAGEMENT PLAN</i> <i>EWMS</i> <i>ESCP</i> <i>Sensitive Area Plans</i> <i>Establish designs for temporary waterway crossings.</i> <i>Induction</i> ENVP10-Waste and Spoil Management RMS Stockpile Management Protocol and Stockpile Site Management Guideline Toolbox Talk - ESC
	Transverse drainage	Increases in flood afflux levels during flood events	A (high) ii	Cane drain diversions to be designed in consultation with the relevant drainage unions and impacted landowners.	B (moderate) ii	
	General earthworks and construction	Increases in duration of flood inundation	A (high) iii	Locate compounds/plant/storage/stockpiles above the 20 ARI flood level unless a contingency plan to manage flooding is prepared and implemented.	B (moderate) iii	
	Bridge design & construction	Increases in flood impacts and damage costs on residential properties and cane land	B (moderate) iv	Evacuation and access will be assessed in consultation with landowners.	C (low) iv	
		Change to creek bed and bank stability due to increases in runoff volumes and flow rates	B (moderate) v	Design and build temporary crossings to be stabilised and minimise scour/erosion during flood events.	C (low) v	
		Impacts to flood evacuation and access movements	B (moderate) vi	Install scour protection as early as possible.	C (low) vi	
		Impacts to stockpiles during flood events	B (moderate) vii	Predict flood events from gauges or rainfall predictions.	C (low) vii	
Soils, sediments and water	Clearing and grubbing	Potential for groundwater discharge during construction, resulting in localised drawdown of groundwater resources	B (moderate) i	Appropriately designed erosion control structures (eg sedimentation basins, ERSED-straw bales, mulch berms, silt fences and sand bags) will be installed, maintained and cleaned regularly.	C (low) i	<i>CONSTRUCTION SOIL AND WATER QUALITY MANAGEMENT PLAN</i> EWMS ESCP Sensitive Area Plans Basin management procedure Bluebook Vol 2D training Practical ESC training RMS mulch and tannin protocol ENVP10-Waste and Spoil Management ENVP09-Spill Management ENVP-16 Dewatering Discharges RMS Stockpile Management Protocol and Stockpile Site Management Guideline Unexpected discovery of contamination land procedure Induction
	Earthworks	Changes to water chemistry altering aquatic habitats, including threatened species habitats	A (high) iii	Locate spoil stockpiles, plant and equipment away from drainage lines, watercourses or stormwater drains in accordance with established criteria.	B (moderate) iii	
	Storage of fuels, chemicals and other dangerous goods	Major impacts to various sensitive receiving environments through accidental release of water pollutants during construction	B (moderate) iv	Develop and implement a groundwater management strategy	C (low) iv	
	Material stockpiles	Impact to water quality due to fuels and leaks and inappropriate storage of material	B (moderate) v	Install clean water diversions to ensure clean and dirty water are not mixed on site.	C (low) v	
	Maintenance of plant and equipment, including servicing and refuelling	Changes in water chemistry, in particular pH values, affecting aquatic ecosystems	B (moderate) vi	Storage, compound access and parking areas sealed, as early during works as practicable.	C (low) vi	
	Sediment basin management	Exposed soils during earthworks or landscaping will erode and cause sedimentation of waterways and aquatic environments	A (high) vii	Chemical storage meets WorkCover and EPA bunding/storage requirements.	B (moderate) vii	
	Drainage works	Potential acidic leachate from exposure of acid sulphate soils	B (moderate) viii	Wheel mud reduction/ cleaning measures at exit of all sites where required.	C (low) viii	
	Water use/extraction	Potential release of tannins from stored mulch piles	A (high) ix	Well designed temporary waterway crossings minimising risk of fines in waterways and designed to address larger flow volumes.	B (moderate) ix	
	Concrete works	Disturbance of contaminated material causing pollution	B (moderate) x	Buffer zones of vegetation will be maintained adjacent to waterways for as long as practical.	C (low) x	
	Batch plant operations	Degradation of local soils due to erosion	B (moderate) xi	Rehabilitation and landscaping works of disturbed areas undertaken as soon as the works are completed and/or	C (low) xi	
	Temporary access road construction/ removal from waterway areas.					
Bridge construction						
Waterway crossings						
Landscaping						
Noxious weed treatment						

Issue	Construction activity/aspect	Potential impact	Risk level prior to mitigation	Indicative mitigation measures	Risk level following mitigation	Documents/Training required
		Smothering of vegetation from erosion	B (moderate) xii	<p>progressively where possible.</p> <p>Appropriately designed, implemented and maintained silt control systems to mitigate risk of water pollution during upgrade of the creek bridges.</p> <p>Implement concrete washout process within bunded areas.</p> <p>Provide and maintain spill kits.</p> <p>Consult/confirm with EPA and Primary Industries for temporary creek crossings construction/removal methods.</p>	C (low) xii	Toolbox Talk - ESC
		OPP habitat degradation of water quality – change in pH	A (high) xiii	<p>Establish clean water catch drains/diversion early in Project before topsoil stripping.</p> <p>Design drainage to maximise dirty water to sediment basins.</p> <p>Engage soil conservationist to advise on ERSED issues.</p> <p>Install signage at discharge points to assist workers to understand implications of dirty water release in sensitive areas.</p> <p>Implement the RMS dewatering guidelines.</p> <p>Implement the RMS Acid Sulfate Soil Management Procedure.</p> <p>Implement appropriate procedures to identify, contain, handle and management contaminated material.</p> <p>Implement the RMS mulch and tannin protocol.</p>	C (low) xiii	
Biodiversity	Clearing of native vegetation	Clearing and fragmentation of native vegetation, including threatened ecological communities and loss of habitat for threatened species	A (high) i	<p>Induct personnel on biodiversity issues and mitigation measures.</p> <p>Ensure vegetation clearing boundaries are clearly marked and visible as per Construction Flora and Fauna Management Plan</p>	B (moderate) i	<p>CONSTRUCTION FLORA AND FAUNA MANAGEMENT PLAN</p> <p>EWMS-Clearing and Grubbing</p> <p>Sensitive Area Plans</p> <p>JSEA</p> <p>ENVP-19 Managing Wildlife and Habitat</p> <p>Environmental Induction</p> <p>Koala Zero Harm Induction</p> <p>Koala Rescue Procedure</p> <p>Severe Environmental Risk # 5 (SER5)</p> <p>Toolbox Presentation</p>
	Stockpile/haul road construction near vegetation	Loss and fragmentation of terrestrial fauna habitat impacting on threatened species and populations, including direct impacts on threatened flora and potential impacts on threatened fauna as a result of habitat loss and fragmentation	A (high) ii	<p>Prior to construction, identify and fence all flora and fauna habitat areas required to be protected.</p> <p>Minimise clearing of all vegetation and undertake progressive revegetation.</p>	B (moderate) ii	
	Works near/in creeks and temporary crossings	Loss and fragmentation of riparian and aquatic habitat	A (high) iii	<p>Offset vegetation in accordance with the Biodiversity Offset Strategy.</p>	B (moderate) iii	
	General earthworks near vegetation	Direct injury or mortality of protected and threatened fauna	B (moderate) iv	<p>Locate and construct fauna crossings in accordance with the Connectivity Strategy</p>	C (low) iv	
	Vehicular movements	Direct injury or mortality of protected and threatened Koala	A (high)	<p>All personnel to be engaged on site and aware of the requirements for all works in Koala habitat and have completed the induction and awareness training prior to commencing works on site.</p>	B (moderate)	
	Open excavation works	Creation of barriers to fauna movement	B (moderate) v	<p>Implement ongoing weed monitoring and management programs.</p>	C (low) v	
	Use of chemicals	Edge effects from road noise, light and wind turbulence	B (moderate) vi	<p>Disturbed areas will be monitored for effective soil stabilisation and restoration/rehabilitation.</p>	B (moderate) vi	
	Noise impacts	Invasion and spread of terrestrial and aquatic weeds and pest fauna species	B (moderate) vii	<p>Implement a staged clearing process and undertake fauna rescue during clearing as required.</p>	C (low) vii	
	Bushfires	Impacts on aquatic habitat resulting from impacts on hydrology, groundwater and water quality	A (high) viii	<p>Engage arborist to provide advice on habitat tree health and</p>	B (moderate) viii	
		Potential spread of disease pathogens	B (moderate) ix		C (low) ix	

Issue	Construction activity/aspect	Potential impact	Risk level prior to mitigation	Indicative mitigation measures	Risk level following mitigation	Documents/Training required
		Direct or indirect injury or mortality of fauna in general Impacts on koala populations – Koala Zero Harm Initiative Impacts on threatened rainforest invertebrates	B (moderate) x	provide ongoing advice. Design and construct all temporary and permanent waterway crossings to maintain fish passage. Undertake threatened species management as required under the Conditions of Approval. Implement washing procedures to prevent the spread of pests and disease. Undertake monitoring as required in the Approval. Obtain permits from Fire authorities during high risk fire periods Ongoing monitoring and management of koala and offset strategy. Design lighting to minimise light spill in relevant habitat of threatened rainforest invertebrates	C (low)x	
Visual amenity, urban design and landscaping	General earthworks and construction	Change to landscape character and visual environment as a result of large cuttings, bridges, interchanges and realignment of the highway away from the existing road corridor	B (moderate) i	Landscape and rehabilitation plan including extensive seeding planting in required areas will be developed and implemented. Landscape treatments will incorporate the surrounding landscape types and vegetation patterns and address view scapes.	C (low) i	Urban Design Landscape Plan EWMS CONSTRUCTION FLORA AND FAUNA MANAGEMENT PLAN Sensitive Area Plans Induction
	Stockpiling Open excavation works Clearing of vegetation Construction site compounds Rehabilitation of disturbed land Bridge design Cuttings and cut finishes Evening / night works	Temporary visual impacts as a result of construction activities and ancillary facilities	B (moderate) ii	Embankments and cuttings will be stabilised by the use of appropriate landscape treatments. The use of night-lighting will be minimised where possible during the construction phase and directed away from residential areas. Site compounds and areas surrounding them will be kept tidy and be regularly cleaned and maintained. Undertake landscaping and revegetation works in accordance with the approved Urban Design and Landscape Plan. Monitoring and weed control.	C (low) ii	
		Poor management of revegetation by contractor	B (moderate) iii		C (low) iii	
Aboriginal heritage	Early works including non-substantial construction activities e.g. services relocations	Disturbance and/or destruction of Aboriginal sites, artefacts and cultural places	B (moderate) i	Prior to construction, identify and assess Aboriginal heritage items on proposed sites and predict potential impacts.	C (low) i	CONSTRUCTION HERITAGE MANAGEMENT PLAN EWMS CONSTRUCTION NOISE AND VIBRATION MANAGEMENT PLAN Sensitive Area Plans ENVP15-Heritage Discovery and Protection Toolbox Talk - Heritage Induction
	Planned salvage of Aboriginal heritage items	Impacts on unknown Aboriginal sites or artefacts	A (high) ii	Induct personnel on heritage issues and mitigation measures. Protect identified heritage items with protective fencing, exclusion zones or flagging and signage from being disturbed during construction.	B (moderate) ii	
	Clearing of vegetation	Change in visual integrity of cultural area	A (high) iii		B (moderate) iii	
	Initial removal of topsoil	Finding/disturbing burials or human remains	B (moderate) iv	Undertake salvage works in accordance with the Construction Heritage Management Plan prior to impacting site.	C (low) iv	
	Construction of site compounds and stockpile areas Temporary access roads	Impact (machinery vibration, stockpiles, blasting) during the construction period to identified sites	C (low) v	If design changes or construction activities impact on areas outside of those identified in the EIS, EPA and relevant Aboriginal groups will be consulted and approval obtained pre any required salvage. Implement unexpected find procedures as required.	C (low) v	
Non-Aboriginal historic heritage	Early works Clearing of vegetation Initial removal of topsoil	Disturbance and/or destruction of items of heritage significance, including items listed on heritage registers	B (moderate) i	Prior to construction, identify and assess non- Aboriginal heritage items on proposed sites and predict potential impacts. Induct personnel on heritage issues and safeguards.	C (low) i	CONSTRUCTION HERITAGE MANAGEMENT PLAN EWMS CONSTRUCTION NOISE AND
	Construction of site compounds and	Change in the visual character of historic heritage items, precincts or places	B (moderate) ii	Protect identified heritage items with protective fencing, exclusion	C (low) ii	

Issue	Construction activity/aspect	Potential impact	Risk level prior to mitigation	Indicative mitigation measures	Risk level following mitigation	Documents/Training required
	stockpile areas Temporary access roads	Vibration damage during the construction period to identified sites	B (moderate) iii	zones or flagging from being disturbed during construction. Undertake archival recording as specified in the Construction Heritage Management Plan Regular inspection of heritage protection fencing. Implement unexpected find procedures as required. Landholder consultation	C (low) iii	VIBRATION MANAGEMENT PLAN Sensitive Area Plans ENVP15-Heritage Discovery and Protection Toolbox Talk - Heritage Induction
		Impact on undiscovered or undocumented heritage sites.	B (moderate) iv		C (low) iv	
Traffic and transport	Temporary access roads General earthworks and construction Import of material/plant/equipment. Construction site compounds Construction vehicle movements and deliveries Travel to/from site	Temporary disruptions/delays to local and highway traffic	A (high) i	Develop and update Traffic Management Plans for all stages of work.  Identify and assess roads likely to be affected by Project construction and develop methods to minimise traffic increases. Undertake before and after dilapidation surveys on local roads  Traffic controllers and/or signage for both egress and ingress off the work sites.  All vehicles carrying materials to be adequately covered to prevent any loss of material, which may cause driver safety issues.	B (moderate) i	CONSTRUCTION TRAFFIC AND ACCESS MANAGEMENT PLAN  CONSTRUCTION AIR QUALITY MANAGEMENT PLAN CONSTRUCTION WASTE AND ENERGY MANAGEMENT PLAN EWMS ENVP18-Dust Management ENVP09-Spill Management Induction Toolbox Talk – Access and Careful Driving
		Temporary restrictions to private access roads	B (moderate) ii		C (low) ii	
		Permanent adjustment to some private property access roads and local/regional roads	A (high) iii		B (moderate) iii	
		Changed traffic patterns	B (moderate) iv		C (low) iv	
		Noise vibration and dust nuisance to residents on haul routes	A (high) v		B (moderate) v	
		Vehicle accident resulting in fuel/chemical spill	B (moderate)vi		C (low) vi	
Noise and vibration	Site establishment Clearing and grubbing Demolition	Temporary noise impacts on sensitive receivers during construction	A (high) i	Liaise (agreements where applicable) with local communities and affected residents.  Adherence to working hours in Construction Noise & Vibration Management Plan unless otherwise approved.	B (moderate) i	CONSTRUCTION NOISE AND VIBRATION MANAGEMENT PLAN  EWMS
		Temporary vibration impacts on sensitive receivers during construction	B (moderate) ii		C (low) ii	

Issue	Construction activity/aspect	Potential impact	Risk level prior to mitigation	Indicative mitigation measures	Risk level following mitigation	Documents/Training required
	<p>Earthworks and drainage</p> <p>Batch plant</p> <p>Bridge work</p> <p>Piling</p> <p>Paving</p> <p>Saw cutting</p> <p>Blasting crushing and screening</p> <p>Rock hammering and drilling</p> <p>Quarrying</p> <p>Road furnishing</p>			<p>Implement operational noise mitigation measures as early as possible.</p> <p>Respite periods for particularly noisy/short duration activities (in accordance with regulatory guidelines and/or Construction Noise &amp; Vibration Management Plan).</p> <p>Construction equipment selected, operated and maintained to minimise noise impacts and where necessary fitted with silencers and “smart” reversing alarms.</p> <p>Reduced use of horns to signal trucks loaded where residences close by.</p> <p>Minimise impacts from saw cutting / use effective shielding.</p> <p>Regular noise monitoring to monitor predicted verses actual noise levels.</p> <p>Implementing management measures where regenerated noise is found to be excessive and agreements are not in place.</p> <p>Managing construction vehicle routes and speed of vehicles.</p> <p>Modelling vibration impacts and monitoring where impacts are predicted.</p> <p>Establish and maintain complaints management system.</p> <p>Building condition reports on potentially impacted buildings as required by Project approval.</p> <p>Undertake trial blasting to establish site law for follow up blasting.</p>		<p>Blasting procedure</p> <p>Complaints procedure</p> <p>Induction</p> <p>Toolbox Talk – Interaction with the Community</p>
Greenhouse gas emissions	<p>Vehicular movements</p> <p>Vehicle emissions</p>	Greenhouse gases emitted from construction plant, equipment and vehicles	B (moderate) i	<p>Vegetation clearance minimised where feasible.</p> <p>Reuse of materials maximised where possible.</p>	C (low) i	CONSTRUCTION WASTE AND ENERGY MANAGEMENT PLAN
	<p>Equipment/plant use</p> <p>Vegetation clearing</p>	Greenhouse gases embodied in materials consumed in construction or impacted by the project, such as vegetation removal and soil disturbance	B (moderate) ii	<p>Maximise use of resources with recycled components / contents.</p> <p>Consider feasibility of use of biofuels.</p>	C (low) ii	<p>EWMS</p> <p>Induction</p>
Air quality	<p>Site establishment</p> <p>General earthworks</p> <p>Vegetation clearing</p>	Potential for decreases in air quality during construction associated with dust generating activities and emissions from heavy construction machinery	B (moderate) i	<p>Induct personnel on air quality issues and safeguards.</p> <p>Suppress dust on unsealed surfaces, stockpiles and other exposed surfaces.</p>	C (low) i	<p>CONSTRUCTION AIR QUALITY MANAGEMENT PLAN</p> <p>EWMS</p>
	<p>Bulk earthworks</p> <p>Drilling and blasting</p>	Impacts on residential sensitive receivers, including impacts on living areas, swimming pools and general amenities	C (low) ii	<p>Modify or cease operations during high winds.</p> <p>All trucks on public roads to cover loads.</p>	C (low) ii	<p>CONSTRUCTION SOIL AND WATER QUALITY MANAGEMENT PLAN</p>
	<p>Spoil handling – including liming of Acid Sulphate Soils.</p>	Potential adverse health effects	C (low) iii	<p>Vehicles, equipment, machinery used and all facilities – designed, operated and maintained to control the emission of smoke, dust, odours and fumes.</p>	C (low) iii	<p>ESCP</p>
	<p>Stockpiling</p>	Impacts on water quality and vegetation health from dust deposition	C (low) iv	<p>Vegetation clearing to be staged to minimise time and area that surfaces are exposed.</p>	C (low) iv	<p>ENVP18-Dust Management</p>
	<p>Vehicular movements</p> <p>Material haulage</p>	Complaints from neighbours	B (moderate) v	<p>All disturbed areas stabilised, revegetated and/or landscaped as soon as practicable.</p>	C (low) v	<p>Complaints procedure</p>
	<p>Quarrying</p> <p>Batch plant</p> <p>Vehicle emissions</p>			<p>Install wheel wash facilities</p> <p>No burning or incineration of any material at any time.</p>		<p>Induction</p> <p>Toolbox Talk – Interaction with the Community</p>
	<p>Handling of chemicals, waste and hazardous goods</p>			<p>Regularly inspect erosion control measures.</p> <p>Dust monitoring.</p>		<p>Toolbox Talk – Access and Careful Driving</p>



Issue	Construction activity/aspect	Potential impact	Risk level prior to mitigation	Indicative mitigation measures	Risk level following mitigation	Documents/Training required
Resource management and waste	General earthworks	Disposal of unsuitable or surplus earthworks material	B (moderate) i	Refine cut-and-fill balance and maximise reuse of material on site.	C (low) i	CONSTRUCTION WASTE AND ENERGY MANAGEMENT PLAN EWMS ENVP09-Spill Management Induction
	Vegetation clearing	Disposal of green waste (not including millable timber)	B (moderate) ii	Develop and implement a resource management strategy.	C (low) ii	
	Open excavation works	Disposal of materials resulting from replacement of existing pavements	B (moderate) iii	Maintain a waste register.	C (low) iii	
	Spoil handling	Depletion or sterilisation of non-renewable resources, including sand and aggregate materials	B (moderate) iv	Manage waste in accordance with the Waste Classification Guidelines and PoEO Act.	C (low) iv	
	Stockpiling	Direct impacts to existing quarries	B (moderate) v	Use recycled products where possible	C (low) v	
	Quarrying	Difficult disposal of waste materials including hazardous waste	B (moderate) vi	Undertake additional waste classification where required	C (low) vi	
	Material haulage			Locate appropriate waste removal contractor and/or appropriately licenced waste facilities in the area		
Handling of chemicals, waste and hazardous goods						



## **Appendix A3** Environmental policy



## Pacific Complete Environmental Policy

Pacific Complete is committed to the protection and enhancement of the environment.

High environmental performance is an ongoing priority and is achieved by our actions in line with this policy. This policy sits alongside our Sustainability policy as part of our project policy framework, underpinned by the Pacific Complete Code of Conduct.

Through innovation and application of industry leading practices, we aim to challenge the industry to design and construct a sustainable and high-quality asset in an environmentally responsible manner that maintains its performance through the whole life-cycle.

Our goal will be realised by:

- Continuously improving the environmental performance of our activities, products and services through clear objectives, targets and programmes
- Complying with relevant legislation and project requirements and regularly evaluating this compliance
- Engaging our supply chain in improving their environmental performance and responsible sourcing
- Enhancing employee and supply chain understanding of environmental sustainability, through providing clear direction and stimulating cultural change
- Maintaining a culture of active consultation with project stakeholders including employees, agencies and the community on the development and implementation of environmental management approach
- Proactively minimise impacts recognising the importance of maintaining environmental performance of the entire asset life-cycle
- Improving industry resource efficiency by reducing the use of natural resources, reducing waste and diverting waste away from landfill
- Reducing our water consumption and improving water efficiency
- Minimising polluting emissions or discharges to the environment
- Proactively protecting, preserving and enhancing biodiversity and natural habitats
- Maintaining compliance with our systems to AS/NZS ISO 14001:2016
- Clear and transparent governance of our environmental agenda, underpinned by monitoring, robust assurance and reporting of progress against the project environmental targets and objectives

This Policy will be reviewed and updated annually and will evolve to meet the needs of the project.

The Pacific Complete Board endorses this Policy.

We personally commit Pacific Complete to this Policy.



Christopher Wilkinson  
Programme Director



Michael O'Dwyer  
Deputy Project Director



## **Appendix A4** Document register

**Table A4-1 Construction Environmental Management Plan Document Register**

Appendix No.	Plans, sub plans and procedures	Condition of Approval Reference	Status
	<b>Construction Environmental Management Plan</b>	<b>MCoA D25</b>	<b>Approved</b>
<b>B1</b>	<b>Construction Traffic and Access Management Plan</b>	MCoA D26 (b)	Approved
<b>B2</b>	<b>Construction Flora and Fauna Management Plan</b>	MCoA D26 (e)	Approved
A	Nest Box Management Plans	MCoA D6	Approved
B	Threatened Flora Management Plan	MCoA D8 EPBC 12	Approved
C	Connectivity Strategy	MCoA B10 EPBC 13	Approved
E	Threatened Frog Management Plan	MCoA D8	Approved
F	Threatened Invertebrates Management Plan	MCoA D8	Approved
G	Coastal Emu Management Plan	MCoA D8	Approved
H	Koala Management Plan	MCoA D9 EPBC 7	Approved
I	Threatened Glider Management Plan	MCoA D8	Approved
J	Threatened Fish Management Plan	MCoA D8	Approved
K	Threatened Rainforest Communities and Rainforest Plants Management Plan	MCoA D8	Approved
N	Fauna Handling Procedure	MCoA D26 (e-iv)	Approved
P	Noxious Weed and Pathogen Management Plan	MCoA D26 (e-vii)	Approved
Q	Biodiversity Mitigation Framework	MCoA D1	Approved
R	Threatened Flora Translocation Management Plan	MCoA D7	Approved
S	Threatened Bat Management Plan	MCoA D8	Approved
T	Threatened Mammal Management Plan	MCoA D8 EPBC 11	Approved
U	Stingless Bee Protocol	n/a	Approved
<b>B3</b>	<b>Construction Noise and Vibration Management Plan</b>	<b>MCoA D26 (a)</b>	<b>Approved</b>
A	Blast Management Plan	MCoA D26 (a-iv)	Approved
C	Out of Hours Work Procedure	MCoA D26 (a-vi)	Approved
<b>B4</b>	<b>Construction soil and water quality management plan</b>	<b>MCoA D26 (c)</b>	<b>Approved</b>

Appendix No.	Plans, sub plans and procedures	Condition of Approval Reference	Status
A	Acid Sulfate Soil Contingency and Management Controls	MCoA 26 (c-v)	Approved
B	Oxleyan Pygmy Perch Habitat Waterway Management Framework	MCoA 26 (c-vii)	
C	Stockpile Management Protocol	MCoA 25 (d-ix)	
D	Tannin Leachate Management Control	MCoA 26 (c-vii)	
E	Groundwater and Soil Salinity Report	MCoA 26 (c-iv)	
<b>B5</b>	<b>Construction heritage management plan</b>	<b>MCoA 26 (d)</b>	<b>Approved</b>
B	Roads and Maritime Standard Management Procedure – Unexpected Archaeological Finds	MCoA 26 (d-iC&D)	Approved
<b>B6</b>	<b>Construction air quality management plan</b>	<b>MCoA D25 (d-v)</b>	<b>Approved</b>
B	Dust Deposition Gauge Procedure	MCoA D25 (d-v)	Approved
<b>B7</b>	<b>Construction waste and energy management plan</b>	<b>MCoA D25 (d-viii)</b>	<b>Approved</b>
<b>B8</b>	<b>Construction contaminated land management plan</b>	<b>MCoA D25 (d-vii)</b>	<b>Approved</b>
A	Unexpected Discovery of Contaminated Lands Procedure	MCoA D25 (d-vii)	Approved
B	Procedure to Assess Potential Contaminated Sites	MCoA D25 (d-vii)	Approved
<b>B9</b>	<b>Ancillary facilities management plan</b>	<b>MCoA D21</b>	<b>Approved</b>
<b>B10</b>	<b>Borrow sites management plan</b>	<b>MCoA D22</b>	<b>Approved</b>

Note:

- MCoA – NSW Minister’s Conditions of Approval
- EPBC – Commonwealth Conditions of Approval



**Appendix A5** Roads and Maritime environmental  
incident classification and reporting



Transport  
Roads & Maritime  
Services

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# **ENVIRONMENTAL INCIDENT CLASSIFICATION AND REPORTING PROCEDURE**

June 2015



# About this release

<b>Title</b>	Environmental Incident Classification and Reporting Procedure
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Approval and authorisation		Name
Prepared By	Environment Manager Environment Performance Improvement	Sean Hardiman
Approved By	Principal Manager Environment Operations	David Featherston

Document Status		Date
Version 4.11		02 June 2015
Version	Date	Revision Description
1.0	14.11.2007	Classification and Management of Environmental Incidents and Hazards. Environmental incidents classified under two categories.
1.1	22.11.2007	Additional definitions included.
1.2	10.12.2007	Clarified definition of Senior Environmental Officer
2.0	08.02.2008	Title change. New incident category (Cat 3) included.
2.1	14.02.2008	Appendix 1 Environmental Incident Report Form & instructions included.
2.2	11.04.2008	Environmental Incident Report Form & instructions included in Guidance material
2.3	09.07.2008	Minor changes to category 1 incident types; discharge of waters, critical habitat and failure to comply with a REF determination.
3.0	16.06.2011	Sections from Guidance document included in Procedure. Requirement to notify Chief Executive and relevant Directors of significant category 1 incidents. Appendices included.
3.1	22.12.2011	Significant changes to formatting.
4.0	27.04.2012	Title change to Environmental Incident Classification And Reporting Procedure. Update to include Maritime Division. Unexpected threatened species find to be managed in accordance with Biodiversity Guidelines included in reportable events. Significant changes to notification of material harm. Reportable event category included.
4.2	29.05.2012	Changes to reportable events, including unexpected contamination finds. Update to notification of material harm.
4.3	31.08.2013	Legal Branch revision and update following recommendations in "The External Review of Roads and Maritime Services' Handling of Contaminated Material on the Pacific Highway Herons Creek to Stills Road Section" by Brian Gilligan dated February 2013.
4.4	01.10.2013	Update Maritime Division contact and inclusion of document history
4.5	11.11.2013	Update contact positions, edit references to RMS
4.6	10.06.2014	Update contact positions, update incident form.
4.7	06.08.2014	Clarify that unexpected find of asbestos is a reportable event. Update to meet Web Content Accessibility Guidelines version 2.0 (WCAG 2.0)
4.8	16.09.2014	Update Contacts page
4.9	25.09.2014	Clarification on reportable event notification email address
4.10	13.03.2015	Update on report sign off process to ensure Environment Manager signoff and acknowledgement. Reference to RMD incident fact sheet. Priority reference to Part 5.7 incidents. General formatting and editorial amendments
4.11	20.05.2015	Update of the incident form work flow to ensure Project Manager approval and Regional Environment Manager concurrence. Clarification of a Category 2 procedural / administrative/ documentation incident

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# 1 BACKGROUND

## 1.1 Purpose

To ensure that Roads and Maritime Services has processes to classify and report environmental incidents that may occur during Roads and Maritime managed activities and to comply with its statutory obligations to report certain incidents.

## 1.2 Scope and Coverage

This Procedure is for the use of all Roads and Maritime staff in all regions and divisions where environmental incidents may occur, including where incidents occur during the course of Roads and Maritime's contractors or alliance members undertaking works. The procedure is to clearly define the requirements of Roads and Maritime staff and contractors to report environmental incidents. The procedure does NOT cover environmental incidents caused by traffic accidents or boating accidents nor marine oil and chemical spills covered by the National Plan<sup>1</sup>.

The Roads and Maritime Environmental Incident Classification and Reporting Procedure relates to incidents involving Roads and Maritime or its contractor/alliance partners and is for internal reporting processes as outlined in this procedure..

## 1.3 Responsibilities

All Roads and Maritime staff and contractors are responsible for reporting an environmental incident in accordance with this procedure when they become aware of the incident. Regional Maintenance Delivery (RMD) shall manage environmental incidents in accordance with the RMD Environmental Incident Fact Sheet at this [link](#).

# 2 CLASSIFICATION, NOTIFICATION AND REPORTING PROCESS

## 2.1 Environmental Incident Classification

There are three categories of environmental incidents / events that are to be identified and managed as shown in shown in Table 1.

- Category 1 Incidents -- potentially the most serious incidents. They generally reflect breaches of environmental legislation.
- Category 2 Incidents - are generally less environmentally serious and generally have lower maximum penalties. Nevertheless, there are sound policy reasons why these incidents need to be identified and reported, including in order to track potential trends that may lead to Category 1 incidents if not addressed
- Reportable Events - This category captures events that occur outside the scope of reasonable controls and mitigation.

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<sup>1</sup> The National Plan to Combat Pollution of the Sea by Oil and Other Noxious and Hazardous Substances

**Table I Environmental Incident Classification Categories**

Incident Category	Primary Legislative Requirements and offence provisions
<p><b>Pollution Incidents</b> Breaches of the <i>Protection of the Environment Operations Act POEO Act (1977)</i> particularly s.148 (notification requirements).</p> <div style="border: 1px solid black; padding: 5px; margin: 10px 0;"> <p><b>Pollution incidents which cause, or threaten to cause, material harm to the environment, that is, actual or potential harm to the health or safety of humans or ecosystems that is not trivial or that results in actual or potential loss or damage over \$10K must be NOTIFIED to the EPA and other relevant authorities.</b></p> </div>	<p>Discharge of waters from site not in accordance with any applicable Minor Works memo or safeguard / Part 5 determination / approval / licence condition</p> <ul style="list-style-type: none"> <li>▪ (EP&amp;A Act particularly s.115W, s.76A, s.115W: POEO Act particularly s.64)</li> </ul> <p>Pollution, or potential pollution, of waters with sediment or chemicals/fuels/oils that travel beyond the site boundary causing or potentially causing adverse impact to the environment, including discharges or spills to waters from the Rozelle Maritime marina or Maritime operated vessels</p> <ul style="list-style-type: none"> <li>▪ (s.120 POEO Act – water pollution, sediment laden water, chemical/oil spill and sewage/septic overflow)</li> </ul> <p>Emission of excessive levels of dust, or an offensive odour or noise that travel beyond the site boundary and might impact on nearby land users</p> <ul style="list-style-type: none"> <li>▪ (s.126 POEO Act - dust exceeding reasonable levels without active management measures in place, s.129 - offensive odour;.s.139 - offensive noise)</li> </ul> <p>Unauthorised disposal or transport of waste</p> <ul style="list-style-type: none"> <li>▪ s.143 POEO Act – Unlawful transporting or depositing of waste</li> </ul> <p>A spill or other incident that causes pollution to land or residual environmental impact.</p> <ul style="list-style-type: none"> <li>▪ (s.116 POEO Act – spills and leaks generally, s.142 – pollution of land)</li> </ul>
<p><b>Conservation Breaches</b> Breaches of the <i>National Parks &amp; Wildlife Act (1974)</i> NPW Act Fisheries Management Act (1999) FMA Act and the <i>Environment Protection and Biodiversity Conservation Act (1999)</i>. EPBC Act</p>	<p>Unauthorised harm or damage to native vegetation, threatened species, endangered populations, endangered ecological communities or critical habitat.</p> <ul style="list-style-type: none"> <li>▪ NPW Act particularly s.118A, s.118C and s.118D</li> </ul> <p>Unauthorised harm to threatened aquatic species and protected marine vegetation or unauthorised dredging or reclamation works within a watercourse.</p> <ul style="list-style-type: none"> <li>▪ FMA Act (1994) particularly s. 199 and 204A.NPW Act particularly s.118A, s.118C and s.118D.</li> </ul> <p>A fire that travels beyond the boundary causing or potentially causing adverse impact on the environment or community.</p>

Category 1

	<p><b>Heritage Breaches</b> Breaches of the Heritage Act (1977) and NPW Act (1974), EPBC Act (1999)</p>	<p>Unauthorised harm to Aboriginal objects and Aboriginal places.</p> <ul style="list-style-type: none"> <li>▪ <i>NPW Act</i> particularly s.86 and s.87. <i>EPBC Act 1999 s.15A, B &amp; C</i></li> </ul>
		<p>Unauthorised damage to any State or locally significant relic or Heritage item</p> <ul style="list-style-type: none"> <li>▪ <i>Heritage Act 1977</i> particularly s. 57, s.119, s.139 and s.156. <i>EPBC Act 1999 s.15A, B &amp; C</i></li> </ul>
	<p><b>Planning Breaches</b> Breaches of the Environmental Planning &amp; Assessment Act (1979) EP&amp;A Act, Protection of the Environment Operations Act (1977) POEO Act.</p> <p>(also refer Category 2 exception)</p>	<p>Works undertaken outside approved areas, without required approval, without environmental assessment.</p> <ul style="list-style-type: none"> <li>▪ EP&amp;A Act particularly s.115W, and s.111</li> <li>▪ POEO Act particularly s.64</li> </ul>
		<p>Failure to comply with a Minor Works memo or safeguard / Part 5 determination / approval or permit/ environment protection licence condition.</p> <ul style="list-style-type: none"> <li>▪ EP&amp;A Act particularly s.75D, s.76A, s.115 ;</li> <li>▪ POEO Act s. 64</li> </ul>
Category 2	A procedural, administrative or technical breach that relates to the preparation or submission of documents, reports or other correspondence.	
	Failure to implement component of Environment Management Plan or work method statement that does not result in a Category 1 incident.	
	Spills that do not leave a site boundary and are cleaned up without environmental harm or residual environmental impact	
	A fire that is contained on site and does not cause or potentially cause adverse impact to the environment or community	
Reportable Events	Material travelling beyond a site boundary, and where it can be demonstrated that the erosion and sediment controls have been installed and maintained well, and the weather (rain, wind etc) event exceeds the design capacity of controls.	
	An unexpected archaeological and is being managed in accordance with the " Roads and Maritime Standard Management Procedure - Unexpected Archaeological Finds"	
	An expected threatened species find that has been discovered and not previously identified during previous environmental assessments and is being managed in accordance with the "Roads and Maritime Biodiversity Guidelines – unexpected threatened species finds procedure"	
	An unexpected find of contaminated soils, asbestos or other potentially hazardous substances.	
	A formal complaint or warning from a regulatory agency	

## 2.2 Environmental Incident Response

Table 2 details the response to each incident category and Appendix 2 gives information in relation to who is responsible for the various management actions described below. The table provides information of the type of response and whether it is required to be undertaken by Roads and Maritime and/or the Roads and Maritime contractor. Regional Maintenance Delivery (RMD) shall manage environmental incidents in accordance with the RMD Environmental Incident Fact Sheet at this [link](#).

If in doubt, treat all incidents as Category 1 and in consultation with the PME0, a decision can be made to reclassify the category.

**Table 2: Environmental Incident Response**

Category 1 Incident Response	
1	<p>Stop work in relevant area (if necessary) and take immediate actions to prevent adverse impact to the environment or community.</p> <p>Note that the health and safety of workers is the primary concern, and no action should be taken if it is not safe to do so.</p>
2	<p>For <b>NOTIFIABLE POLLUTION INCIDENTS</b> refer to section 2.4 below.</p> <p>For all other Category 1 incidents <b>immediately</b> advise RMS Project Site Management and relevant RMS Regional Environment Manager who <b>must immediately</b> advise Principal Manager Environment Operations (PME0) by phone.</p>
3	<p>Complete the environmental incident report form 624 and submit to Regional Environment Manager and the Environment Operations mailbox <b>within 3 days</b> of the date of the incident. The RMS Project Manager must approve the incident report and submit to the RMS Regional Environment Manager who will signoff as concurrence of receipt and submit to PME0 and the Environment Operations mailbox by email on the same day of receipt.</p>
Category 2 Incident Response	
1	<p>Stop work in relevant area (if necessary) and take immediate actions to prevent adverse impact to the environment or community.</p> <p>Note that the health and safety of workers is the primary concern, and no action should be taken if it is not safe to do so.</p>
2	<p>Advise relevant RMS Regional Environment Manager (Roads and Maritime contractors to advise Roads and Maritime Project Site Management).</p>
3	<p>Complete the environmental incident report form 624 (and submit to RMS Regional Environment Manager and the Environment Operations mailbox within 3 days of the date of the incident. The Regional Environment Manager will signoff and submit to PME0 and the Environment Operations mailbox by email on the same day of receipt.</p>
Reportable Event Response	
1	<p>RMS Regional Environment Manager to advise Principal Manager Environment Operations by email with copy to the Environment Operations mailbox. Roads and Maritime contractors to advise Roads and Maritime Project Site Management</p>

## 2.3 Environmental Incident Reporting

It is important that there is consistency in the way that an environmental incident is reported. The incident report form and any subsequent reports must only include factual information. Speculation about the causes and outcomes are not to be included. The completed reports must be forwarded through regional Environment Managers or relevant Project Manager to the Principal Manager Environment Operations.

The following email conventions must be used when emailing and reporting on environmental incidents:

### 2.3.1 The Environment Incident Report Form

All environmental incidents must be reported by project staff and project managers through the Environment Incident Report Form (refer Appendix 1, Form 624 available here or Form 400 for Regional Maintenance Delivery projects available here).

### 2.3.2 Environmental Incident Report Form Completion

All parts of the form must be completed

- The form must be signed off by:
  - the person making the report; and
  - the RMS Regional Environment Manager.
  - It is the responsibility of the RMS Regional Environment Manager to complete the section regarding the notification of the incident to the EPA and other relevant authorities.

### 2.3.3 Environment Operations mailbox

The Environment Operations mailbox is [envops@rms.nsw.gov.au](mailto:envops@rms.nsw.gov.au)

### 2.3.4 Email Subject Line

When emailing an Environmental Incident Report to the Environment Operations mailbox, the subject line must include the incident category level (1 or 2), the project name and date. This will ensure that any subsequent emails relating to the incident may be adequately captured and tracked by Environment Branch. For example, the email subject line convention would be written as "Category 1 – Raleigh Road Upgrade – 1/10/15".

### 2.3.5 Submitting the Form

All environmental incident report forms must follow the following signoff workflow:

1. preparation and signoff by the person preparing the report (RMS or contractor staff)



2. approval by the RMS Project Manager,



3. signoff concurrence by the relevant RMS Regional Environment Manager and forwarding to the Environment Operations mailbox.

The Regional Environment Manager may also request further information regarding the incident. The Regional Environment Manager should submit the form within timeframes and include DRAFT in the subject line while waiting for the information which must be provided and resubmitted within the timeframes requested.

## 2.4 Regulatory Agency Notification

There are specific statutory requirements relating to the notification of pollution or environmental incidents to relevant regulatory agencies. These are summarised in table 3 below

**Table 3: Environmental Incident Notification Requirements**

Legislation	Regulating Authority	Section
POEO Act 1997 (see Section 2.5)	EPA and relevant authorities	Section 148 – requirement to immediately notify pollution incidents occurring during an activity that cause or threaten material harm to the environment.
Heritage Act 1977	EPA	Section 146 – requirement to notify the Heritage Council of the location of the relic once a relic has been discovered or located.
National Parks and Wildlife Act 1974	EPA	Section 89A – requirement to notify the location of an Aboriginal object that is the property of the Crown.
Commonwealth Aboriginal and Torres Strait Islanders Heritage Protection Act, 1984	Department of Environment	Section 20 – requirement to notify the Minister of the discovery of Aboriginal remains.
Contaminated Land Management Act 1997	EPA	Section 60 – requirement to notify if Roads and Maritime activities have contaminated land or if Roads and Maritime owns land that has been contaminated.
Rural Fires Act 1997	NSW Fire Brigades	Section 64 – requirement to notify an appropriate fire officer of the inability to extinguish any fire burning during a bush fire danger.

Should an environmental incident have the potential to impact on a drinking water supply, the relevant water supply authority must also be advised.

It is the responsibility of Environment Managers to liaise with Environment Operations Section prior to notifying regulatory agencies of relevant environmental incidents.

## 2.5 POEO Act Notification of Material Harm

Under Part 5.7 of the POEO Act, there is a duty to notify each relevant authority (identified below) of a pollution incident, where material harm to the environment is caused or threatened. Material harm includes actual or potential harm to the health or safety of human beings or to ecosystems that is not trivial or that results in actual or potential loss (refer definitions in s147 of POEO Act) or property damage of an amount over \$10,000.



**The following notification procedure only relates to pollution incidents.**

Conservation, heritage and planning breaches described in Section 2.1 are not included in the definition of a pollution incident with respect to Part 5.7 of the POEO Act.

Roads and Maritime is not responsible for notifying a pollution incident caused by a traffic or vehicle accident where notification has already occurred. Notification is required by the person carrying on the activity “immediately upon becoming aware” of the incident.

**IMPORTANT NOTE**

- The following procedure is to be followed by all Roads and Maritime staff and contractors.
- Any actual or potential material harm to a person’s health or well being or the environment as a result of a pollution incident must be reported immediately to Principal Manager Environment Operations on (02) 8588 5765.
- Contractors who hold an environment protection licence for their activities are responsible for implementing their compliant Pollution Incident Response Management Plan including notifying EPA and the other relevant authorities in accordance Part 5.7 of the POEO Act **and** any relevant Conditions of their EPL
- Contractors undertaking works without an EPL are responsible for notifying Roads and Maritime, EPA and the relevant authorities in accordance Part 5.7 of the POEO Act.

As soon as a Roads and Maritime employee becomes aware of a **Category 1 pollution incident**, all Roads and Maritime environment officers and project managers are to **immediately** notify Principal Manager Environment Operations on (02) 8588 5765 of all **Category 1 pollution incidents**. RMD staff are to notify according to RMD Environmental Incident Fact Sheet. PME0 will assist in making an assessment of the incident and determine whether or not to formally notify the incident to the EPA and other relevant authorities.

If for any reason that PME0 is not contactable, staff should contact their regional Roads and Maritime Environment Managers (or Regional Maintenance Delivery Environmental Manager for Regional Maintenance Delivery projects) to assist in assessing whether an incident triggers the notification requirement.

If no assistance can be obtained within a reasonable time, you are required to notify the relevant authorities in the order of notification outlined in the table below and provide each agency with the information required in section 2.5 of this procedure. Even if you do not have all the information, you must notify each agency with the information you have at hand and ensure that they are updated as soon as further relevant information becomes available.

In circumstances where there is doubt about the need to notify or the relevance of a particular agency, Roads and Maritime should always err on the side of notification.  
**When in doubt, communicate!**

### 2.5.1 Relevant Authorities to Notify

Table 4 provides the contact details for the authorities that need to be notified in the event of a material harm pollution incident.

**Table 4: Appropriate Authorities for Part 5.7 Incident Notification**

Relevant Authority	Contact Number
Fire and Rescue NSW	000 (for pollution incidents that present an immediate threat to human health or property) 1300 729 579 (for pollution incidents that do <b>not</b> present an immediate threat to human health or property)
EPA environment line	131 555
The Ministry of Health	Via the local Public Health Unit see Appendix 3
WorkCover Authority	131 050
The appropriate regulatory authority	Your Local Council or Western Lands Commissioner for the Western Division (except any part of the Western Division within the area of a local council)
Local Council	Please call Division of Local Government on 4428 4100 to find relevant local council contacts or visit their website on <a href="http://www.dlg.nsw.gov.au/">http://www.dlg.nsw.gov.au/</a>

The appropriate contact for the relevant local council and Public Health Unit will vary. All necessary contact numbers should be found in advance and stored for immediate access should a pollution incident need to be notified.

### Relevant authorities notification order

- **If the incident presents an immediate threat to human health or property, Fire and Rescue NSW, the NSW Police and the NSW Ambulance Service should be contacted first for emergency assistance**
  - call Fire and Rescue NSW on 000 first then
  - EPA environment line
  - The Ministry of Health
  - WorkCover Authority
  - Local Authority (Council)
  
- **If there is not an immediate threat to human health or property:**
  - call EPA environment line first then
  - Local Authority (Council)
  - The Ministry of Health
  - WorkCover Authority
  - Fire and Rescue NSW on 1300 729 579

All of the above authorities (whether considered relevant or not) must be contacted for each material harm pollution incident to satisfy notification obligations

### 2.5.2 The relevant information to provide

Section 150 of the POEO Act provides the information that needs to be notified. It is important to avoid speculation on origin, causes or outcomes of a pollution incident in discussions with the authorities. While it is important not to speculate on the causes of an incident, s150 (1) (d) of the POEO Act requires notification of the circumstances in which the incident occurred (including the cause of the incident, if known) and there is an ongoing duty ensure that relevant information be notified after it becomes known.

### Section 150 POEO Act - Relevant information to given

1. The relevant information about a pollution incident required under section 148 consists of the following:
  - a. the time, date, nature, duration and location of the incident,
  - b. the location of the place where pollution is occurring or is likely to occur, the nature, the estimated quantity or volume and the concentration of any pollutants involved, if known,
  - c. the circumstances in which the incident occurred (including the cause of the incident, if known),
  - d. the action taken or proposed to be taken to deal with the incident and any resulting pollution or threatened pollution, if known,
  - e. other information prescribed by the regulations.
2. The information required by this section is the information known to the person notifying the incident when the notification is required to be given.

If the information required to be included in a notice of a pollution incident by subsection (1) (c), (d) or (e) is not known to that person when the initial notification is made but becomes known afterwards, that information must be notified in accordance with section 148 immediately after it becomes known.

Note: if a pollution incident occurs, the above information is to be initially communicated verbally to each relevant authority and is to be followed by written notification within 7 days of the date on which the incident occurred (Clause 101 POEO (Gen) Regs).

Complying with these notification requirements does not remove the need to comply with any other obligations for incident notification, for example, those that apply under other environment protection legislation such as an EPL condition or legislation administered by WorkCover.

Should Roads and Maritime receive a request from a regulatory authority for a written report regarding an environmental incident, the relevant Project Manager must immediately contact Environment Branch and Legal Branch for advice. Communications with Legal Branch, for the purpose of obtaining legal advice in relation to incidents, may be subject to legal professional privilege. Documents that may be the subject to legal privilege should be clearly identified and sent to Legal Branch prior to producing them to a regulatory agency. Such documents may not be required to be produced to the agencies under written notices to provide information. Environment Branch will provide advice and will co-ordinate a response with Legal Branch. Environment Branch and Legal Branch will assist in the investigation of incidents, prepare legal advice and assist with the preparation of reports to EPA, OEH and DP&I.

# Appendix 1 Environmental Incident Report Form

Form 624 available [here](#) or Form 400 for Regional Maintenance Delivery projects available [here](#)

<b>Environmental Incident Report – 624</b>		<b>Transport Roads &amp; Maritime Services</b>														
<p><b>Complete this form for all environmental incidents that occur due to Roads and Maritime Services works or on Roads and Maritime worksites.</b> The purpose of this form 624 is to alert Environment Branch to potential environmental incidents. It does not represent the Roads and Maritime final position for any incident reported on this form.</p>																
<b>Remember!</b>	Complete all fields prior to submitting form. Be succinct, stick to the facts and <b>do not</b> make assumptions. Only record information you know to be correct.															
Project name:	Region:															
Contractor name:																
<b>Incident details</b>	Date	Time : am <input type="checkbox"/>   pm <input type="checkbox"/> Duration hr: min														
<b>Description</b> (provide a brief description of what happened during the incident)	SAMPLE															
<b>EXACT location of the incident</b> (include chainage, landmarks, features, nearest cross street, etc to make it easier to identify later) - provide a sketch if appropriate																
<b>Quantity or volume of material escaped or causing incident</b> (provide an estimate if quantity unknown)																
<b>Estimated distance to nearest waterway</b> (can include stormwater drains and dry watercourses)																
<b>What activity was being undertaken when the incident occurred?</b>																
<b>How was the incident identified?</b> (e.g. Roads and Maritime employee, Council, community, complaint)																
<b>Potential Category 1 Incident:</b> (may involve one or more of the following – tick category, fill in table over page)																
<table style="width: 100%; border: none;"> <tr> <td style="width: 50%; padding: 5px;"><input type="checkbox"/> Pollution, or potential pollution, of waters with sediment or chemicals/fuels/oils that travel beyond the site boundary causing or potentially causing adverse impact to the environment, including discharges or spills to waters from the Rozelle Maritime marina or Maritime operated vessels.</td> <td style="width: 50%; padding: 5px;"><input type="checkbox"/> Unauthorised harm or damage to native vegetation, threatened species, endangered populations, endangered ecological communities or critical habitat.</td> </tr> <tr> <td style="padding: 5px;"><input type="checkbox"/> Discharge of waters from site not in accordance with any applicable Minor Works memo or safeguard / Part 5 determination / approval / licence condition.</td> <td style="padding: 5px;"><input type="checkbox"/> Material harm to the environment or persons as per Part 5.7 of POEO Act.</td> </tr> <tr> <td style="padding: 5px;"><input type="checkbox"/> Works undertaken outside approved areas, without required approval or environmental assessment.</td> <td style="padding: 5px;"><input type="checkbox"/> Unauthorised harm or damage to threatened aquatic species and protected marine vegetation or unauthorised dredging or reclamation works within a watercourse.</td> </tr> <tr> <td style="padding: 5px;"><input type="checkbox"/> Unauthorised harm to Aboriginal objects and Aboriginal places or damage to any State or locally significant relic or Heritage item.</td> <td style="padding: 5px;"><input type="checkbox"/> Unauthorised damage or destruction to any State or locally significant relic or Heritage item.</td> </tr> <tr> <td style="padding: 5px;"><input type="checkbox"/> A spill or other incident that causes pollution to land or residual environmental impact.</td> <td style="padding: 5px;"><input type="checkbox"/> Emission of excessive levels of dust, or an offensive odour or noise that travel beyond the site boundary and might impact on nearby land users.</td> </tr> <tr> <td style="padding: 5px;"><input type="checkbox"/> Breach of legislation, failure to comply with a Minor Works memo or safeguard / Part 5 determination / approval or permit/ environment protection licence condition.</td> <td style="padding: 5px;"><input type="checkbox"/> Unauthorised disposal or transport of waste.</td> </tr> <tr> <td style="padding: 5px;"></td> <td style="padding: 5px;"><input type="checkbox"/> A fire that travels beyond the boundary causing or potentially causing adverse impact on the environment or community.</td> </tr> </table>			<input type="checkbox"/> Pollution, or potential pollution, of waters with sediment or chemicals/fuels/oils that travel beyond the site boundary causing or potentially causing adverse impact to the environment, including discharges or spills to waters from the Rozelle Maritime marina or Maritime operated vessels.	<input type="checkbox"/> Unauthorised harm or damage to native vegetation, threatened species, endangered populations, endangered ecological communities or critical habitat.	<input type="checkbox"/> Discharge of waters from site not in accordance with any applicable Minor Works memo or safeguard / Part 5 determination / approval / licence condition.	<input type="checkbox"/> Material harm to the environment or persons as per Part 5.7 of POEO Act.	<input type="checkbox"/> Works undertaken outside approved areas, without required approval or environmental assessment.	<input type="checkbox"/> Unauthorised harm or damage to threatened aquatic species and protected marine vegetation or unauthorised dredging or reclamation works within a watercourse.	<input type="checkbox"/> Unauthorised harm to Aboriginal objects and Aboriginal places or damage to any State or locally significant relic or Heritage item.	<input type="checkbox"/> Unauthorised damage or destruction to any State or locally significant relic or Heritage item.	<input type="checkbox"/> A spill or other incident that causes pollution to land or residual environmental impact.	<input type="checkbox"/> Emission of excessive levels of dust, or an offensive odour or noise that travel beyond the site boundary and might impact on nearby land users.	<input type="checkbox"/> Breach of legislation, failure to comply with a Minor Works memo or safeguard / Part 5 determination / approval or permit/ environment protection licence condition.	<input type="checkbox"/> Unauthorised disposal or transport of waste.		<input type="checkbox"/> A fire that travels beyond the boundary causing or potentially causing adverse impact on the environment or community.
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<input type="checkbox"/> Breach of legislation, failure to comply with a Minor Works memo or safeguard / Part 5 determination / approval or permit/ environment protection licence condition.	<input type="checkbox"/> Unauthorised disposal or transport of waste.															
	<input type="checkbox"/> A fire that travels beyond the boundary causing or potentially causing adverse impact on the environment or community.															
<b>Potential Category 2 Incident:</b> (may involve one or more of the following – tick category, fill in table over page)																
<table style="width: 100%; border: none;"> <tr> <td style="width: 100%; padding: 5px;"><input type="checkbox"/> A procedural, administrative or technical breach that relates to the preparation or submission of documents, reports or other correspondence.</td> </tr> <tr> <td style="padding: 5px;"><input type="checkbox"/> Failure to implement component of Environment Management Plan or work method statement that does not result in a Category 1 incident.</td> </tr> <tr> <td style="padding: 5px;"><input type="checkbox"/> Spills that do not leave the site boundary and are cleaned up without material environmental harm or residual environmental impact.</td> </tr> <tr> <td style="padding: 5px;"><input type="checkbox"/> A fire that is contained on site and does not cause or potentially cause adverse impact to the environment or community.</td> </tr> </table>			<input type="checkbox"/> A procedural, administrative or technical breach that relates to the preparation or submission of documents, reports or other correspondence.	<input type="checkbox"/> Failure to implement component of Environment Management Plan or work method statement that does not result in a Category 1 incident.	<input type="checkbox"/> Spills that do not leave the site boundary and are cleaned up without material environmental harm or residual environmental impact.	<input type="checkbox"/> A fire that is contained on site and does not cause or potentially cause adverse impact to the environment or community.										
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<input type="checkbox"/> Spills that do not leave the site boundary and are cleaned up without material environmental harm or residual environmental impact.																
<input type="checkbox"/> A fire that is contained on site and does not cause or potentially cause adverse impact to the environment or community.																

**Any other details of the incident** (including any information which did not fit in spaces above, as well as any special circumstances of the day or the location):

.....
.....
.....

**What immediate actions/control measures were taken to rectify or contain the incident?**

.....
.....
.....

**What corrective action has been taken to prevent similar incidents recurring?**

SAMPLE
.....
.....

**Sign off** (officer making report)

Print name: .....	Sign: .....
Position: .....	Date: .....

**Approval** (Roads and Maritime Project Manager)

Sign: .....	Print name: .....	Date: .....
-------------	-------------------	-------------

**Notification to EPA and other relevant authorities**

To be completed by the relevant Roads and Maritime Regional Environment Manager	
Was EPA notified?	<input type="checkbox"/> Yes <input type="checkbox"/> No - If No, provide reasons for not notifying EPA
Who notified them? Name:	Position: .....
Notification method:	<input type="checkbox"/> Telephone <input type="checkbox"/> On site Date: ..... Time: ..... am <input type="checkbox"/>   pm <input type="checkbox"/>
Has there been a EPA Environment Line Complaint?	<input type="checkbox"/> Yes <input type="checkbox"/> No EPA Complaint No. ....
Were any of the following authorities notified?	<input type="checkbox"/> NSW Fire & Rescue <input type="checkbox"/> Local Government <input type="checkbox"/> WorkCover <input type="checkbox"/> Ministry of Health
Were any other authorities notified and why (eg Department of Planning and Infrastructure, Department of Primary Industries (Fisheries), Sydney Catchment Authority, SES).	
Is there an Environment Protection Licence for the project?	<input type="checkbox"/> Yes <input type="checkbox"/> No
▶ If Yes – was the Pollution Incident Response Management Plan implemented	<input type="checkbox"/> Yes <input type="checkbox"/> No

**Concurrence** (Roads and Maritime Regional Environment Manager)

Print name: .....	Sign: .....	Date: .....
-------------------	-------------	-------------

**Comments**

.....
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**Please submit all completed forms to Environment Branch by email to [envops@rms.nsw.gov.au](mailto:envops@rms.nsw.gov.au)**

## APPENDIX 2 ROADS AND MARITIME CONTACTS

Position	Location	Phone	Mobile
General Manager Environment	North Sydney	8588 5730	
Principal Manager Environment Operations	North Sydney	8588 5765	0428 608 758
Principal Manager Environment Policy, Planning and Assessment	North Sydney	8588 5740	0439 595 361
Maritime Division Emergency Planner Officer	Rozelle office	9563 8476	0428 740 520
Senior Environment Specialist – Biodiversity	North Sydney	8588 5756	0439 595 361
Senior Environment Specialist - Heritage	North Sydney	8588 5754	0400 474 405
Environment Manager Motorways	North Sydney	8588 4372	0408 989 693
Environment Manager Sydney	Parramatta	8849 2516	0411 148 513
Environment Manager Western	Parkes	6861 1628	0418 851 454
Environment Manager Southern	Wollongong	6492 9515	0447 443 957
Environment Manager Northern	Grafton	6640 1072	0411 406 519
Environment Manager South-West	Wagga Wagga	6937 1634	0418 496 325
Environment Manager Hunter	Newcastle	4924 0440	0413 483 539
Environment Manager Pacific Highway North	Grafton	6640 1375	0419 248 583
Environment Manager Pacific Highway South	Newcastle	4924 0281	0411 126 989
Environmental Manager Regional Maintenance Delivery	Rockdale	9598 7721	0418 113 942



## APPENDIX 3 CONTACT DETAILS FOR PUBLIC HEALTH UNITS

Public Health Unit	Contact Details	After Hours Contact
Goulburn Office	Locked Bag 11, Goulburn, 2580 Ph: 02 4824 1840 Fax: 02 4824 1831 / 4822 5038 (s)	Ph: 02 6080 8900 (diverts to Albury Base Hospital) - ask for Public Health Officer on call,
Albury Office	PO Box 3095, Albury, 2640 Ph: 02 6080 8900 Fax: 02 6080 8999	Ph: 02 6080 8900 (diverts to Albury Base Hospital) - ask for Public Health Officer on call,
Broken Hill Office	PO Box 457, Broken Hill, 2880 Ph: 08 8080 1499 Fax: 08 8080 1683 / 1196 (s)	Ph: 08 8080 1333 (Broken Hill Base Hospital) - ask for Public Health Officer on call, if no answer: Mob: 0417 685 259
Dubbo Office	PO Box 739, Dubbo, 2830 Ph: 02 6841 5569 Fax: 02 6841 5571 (s)	Ph: 02 6885 8666 (Dubbo Base Hospital) - ask for Public Health Officer on call, if no answer: Mob: 0418 866 397 - ask for Public Health Officer on call
Bathurst Office	PO Box 143, Bathurst, 2795 Ph: 02 6339 5601 Fax: 02 6339 5173 (s)	Mob: 0428 400 526 - ask for Public Health Officer on call
Newcastle Office	Locked Bag 10, Wallsend, 2287 Ph: 02 4924 6477 Fax: 02 4924 6490 / 4922 3164 (s)	Ph: 02 4924 6477 (diverts to John Hunter Hospital) - ask for Public Health Officer on call
Tamworth Office	Locked Mail Bag 9783, NEMSC 2348 Ph: 02 6764 8000 Fax: 02 6766 3890 (s)	Ph: 02 6764 8000 (diverts to Public Health Officer on call)
Matraville Office	PO Box 150, Matraville 2036 Ph: 02 9311 270 Fax: 02 9700 3747 (s)	Ph: 02 9311 2707
Port Macquarie Office	PO Box 126, Port Macquarie 2444 Ph: 02 6588 2750 Fax: 02 6588 2837	<b>Pager Service:</b> 1300 555 555 <b>Communicable Disease:</b> 48073 <b>Environmental Health:</b> 149 3771f no answer phone: Mob 0417 244 966 or Mob 0407 904 280



Public Health Unit	Contact Details	After Hours Contact
Lismore Office	PO Box 498, Lismore 2480 Ph: 02 6620 7585 Fax: 02 6622 2151 / 6620 2552 (s)	<b>Pager Service:</b> 1300 555 555 <b>Communicable Disease:</b> 48073 <b>Environmental Health:</b> 149 3771f no answer phone: Mob 0417 244 966 or Mob 0407 904 280
Hornsby Office	Hornsby Hospital, Palmerston Rd, Hornsby 2077 Ph: 02 9477 9400 Fax: 02 9482 1650 / 1358 (s)	Ph: 02 9477 9123 (Hornsby Hospital) - ask for Public Health Officer on call
Gosford Office	PO Box 361, Gosford, 2250 Ph: 02 4349 4845 Fax: 02 4349 4850 (s)	Ph: 02 4320 2111 (Gosford Hospital) - ask for Public Health Nurse on call
Randwick Office	Locked Bag 88, Randwick 2031 Ph: 9382 8333 Fax: 02 9382 8334 / 8314 (s)	Ph: 02 9382 2222 (Prince of Wales Hospital) - ask for Public Health Nurse on call
Wollongong Office	Locked Bag 9, Wollongong 2500 Ph: 02 4221 6700 Fax: 02 4221 6759 (s)	Ph: 02 4222 5000 (Wollongong Hospital) - ask for Public Health Officer on call
Eastern Zone(Camperdown Office)  For Liverpool Area, please dial the Camperdown office.	PO Box 374, Camperdown 2050 Ph: 02 9515 9420 Fax: 02 9515 9440 Fax: 02 9515 9467 (s)	Ph: 02 9515 6111 (Royal Prince Alfred Hospital) - ask Public Health Officer on call
Penrith Office	PO Box 63, Penrith 2751 Ph: 02 4734 2022 Fax: 02 4734 3300 / 3444 (s)	Ph: 02 9845 5555 (Westmead Hospital) - ask for Public Health Officer on call
Parramatta Office	Locked Bag 7118, Parramatta BC 2150 Ph: 02 9840 3603 Fax: 02 9840 3608 / 3591 (s)	Ph: 02 9845 5555 (Westmead Hospital) - ask for Public Health Officer on call



## **Appendix A6** Other relevant management measures



## **APPENDIX A6**

Other relevant management measures

## Document control

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File name	Draft Appendix_A6_Other_manag_measures.doc
Report name	Other relevant management measures
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## Revision history

Revision	Date	Description	Approval
0		Initial draft	Andrea Zambolt
1		Final for approval	Andrea Zambolt

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## Glossary/Abbreviations

CEMP	Construction Environmental Management Plan
EA	Environmental Assessment
EEC	Endangered Ecological Community
ENM	Excavated Natural Material
EPA	Environment Protection Authority
EP&A Act	Environmental Planning and Assessment Act 1979
EPL	Environment Protection Licence
ESCP	Erosion and Sediment Control Plan
EWMS	Environmental Work Method Statements
FM Act	Fisheries Management Act 1994
MCoA	Condition of Approval
NOW	NSW Office of Water
OEH	Office of Environment and Heritage
Project, the	The Woolgoolga to Ballina Pacific Highway Upgrade (sections 3–11)
Roads and Maritime	Roads and Maritime Services
VENM	Virgin Excavated Natural Material
WARR Act	Waste Avoidance and Resource Recovery Act 2001
CWEMP	Construction Waste and Energy Management Plan
WRAPP	Waste Reduction and Purchasing Policy

# 1 Other environmental mitigation and management measures

A range of environmental requirements are identified in the various environmental documents, including the EIS, Submissions/Preferred Infrastructure Report, supplementary assessments, Conditions of Approval and Roads and Maritime documents, and from recent experience on similar road projects.

Relevant management measures and requirements for the project are included within the plans attached to this CEMP (Appendix B):

- Appendix B1 – Construction traffic and access management plan
- Appendix B2 – Construction flora and fauna management plan
- Appendix B3 – Construction noise and vibration management plan
- Appendix B4 – Construction soil and water quality management plan
- Appendix B5 – Construction heritage management plan
- Appendix B6 – Construction air quality management plan
- Appendix B7 – Construction waste, resource and energy management plan
- Appendix B8 – Construction contaminated land management plan.

Other relevant management measures to be addressed in construction (Visual, urban design and landscape, Land use and property and Social and economic) which have not been captured by specific plans are described in this document, see Tables A6.1 to A6.3.



**Table A6-1 Visual, urban design and landscape management and mitigation measures**

ID	Measure/Requirement	When to implement	Responsibility	Reference
<b>VISUAL, URBAN DESIGN AND LANDSCAPE</b>				
UD1	If further noise modelling identifies that noise walls are required, further visual assessment address the visual implications of the change. Their location and design will be in accordance with the Noise Wall Design Guideline (RTA, 2007) and the principles identified in Working Paper – Urban design, Landscape Character and Visual Impact (Section 4.6.3).	Pre-construction	Pacific Complete's Environment Manager Pacific Complete's Planning and Approvals Manager Pacific Complete's Engineering and Design Lead	Submissions/PIR (UD1)
UD2	Changes to the design of the Clarence and Richmond rivers bridges from this EIS, will require further visual assessment. Any changes will consider the principles identified in Working Paper – Urban design, Landscape Character and Visual Impact (Section 4.6.2), the performance criteria outlined in Chapter 5 of the EIS and funding arrangements.	Pre-construction	Pacific Complete's Environment Manager Pacific Complete's Planning and Approvals Manager Pacific Complete's Engineering and Design Lead	Submissions/PIR (UD2)
UD3	The project will be carried out in accordance with the urban design and landscaping strategy, as identified in Section 11.4.1 of this EIS. Detailed landscape design for all project batters, and median planting areas will be developed in accordance with the Landscape Guidelines (RTA, 2008), the requirements of the Working Paper – Biodiversity (Section 5.2.2) and the landscape strategy to provide a robust, successful and effective planting design.	Pre-construction	Pacific Complete's Environment and Sustainability Manager Pacific Complete's Engineering and Design Lead Project Contractor's Environment Representative Project Contractor	Submissions/PIR (UD3)

ID	Measure/Requirement	When to implement	Responsibility	Reference
UD4	<p>The built form of the project, including consideration of the height, bulk, scale, materials and finishes for:</p> <ul style="list-style-type: none"> <li>• Bridges.</li> <li>• Retaining walls.</li> <li>• Cuttings and embankments.</li> <li>• Road barriers.</li> <li>• Signage.</li> <li>• Fences.</li> <li>• Clear zones.</li> <li>• Topsoil management.</li> <li>• Water quality control ponds.</li> <li>• Fauna crossing.</li> <li>• Place marking and cultural plantings.</li> </ul> <p>The project will be designed in accordance with the design principles identified in Working Paper – Urban Design, Landscape Character and Visual Impact, and relevant Roads and Maritime guidelines.</p>	Pre-construction	<p>Pacific Complete's Environment Manager</p> <p>Pacific Complete's Engineering and Design Lead</p>	Submissions/PIR (UD4)
UD5	<p>The extent of excavation and the landscaping strategy at borrow sites will be reviewed considering material requirements on the project and the visual impact on the resultant cuttings.</p>	Pre-construction	<p>Pacific Complete's Environment Manager Project Contractor's Environment Representative Project Contractor</p>	Submissions/PIR (UD10)

ID	Measure/Requirement	When to implement	Responsibility	Reference
UD6	Further assessment will be undertaken of the impact of overshadowing on areas surrounding the project, particularly around Harwood Bridge, interchanges and overpasses near residential properties.	Pre-construction	Pacific Complete's Environment Manager Pacific Complete's Planning and Approvals Manager Pacific Complete's Engineering and Design Lead	Submissions/PIR (UD5)
UD7	Measures to mitigate visual impacts to viewpoints will be implemented, as identified in Table 11-42 and Working Paper – Urban Design, Landscape Character and Visual Impact. If any further viewpoints were identified during detailed design that have a moderate–high or high impact, screen planting also be considered.	Construction	Pacific Complete's Environment and Sustainability Manager Project Contractor Project Contractor's Environment Representative	Submissions/PIR (UD6)
UD8	Disturbed areas will be progressively revegetated throughout the construction period.	Construction	Pacific Complete's Site Environmental Officer Project Contractor Project Contractor's Environment Representative	Submissions/PIR (UD7)
UD9	Where required, typical landscape treatments for ancillary facilities in forest areas will include: <ul style="list-style-type: none"> <li>• Providing screen planting.</li> <li>• Considering reinstatement of disturbed forest in heavily forested.</li> <li>• Considering the importance of the visual landscape at each location and allowing restoration of important forest vegetation to prominent ridge lines or other landscape elements where feasible and reasonable.</li> </ul>	Construction	Pacific Complete's Environment and Sustainability Manager Project Contractor Project Contractor's Environment Representative	Submissions/PIR (UD8)

ID	Measure/Requirement	When to implement	Responsibility	Reference
	<ul style="list-style-type: none"> <li>Negotiating with private landowners, as applicable, to determine future treatments for other non-forested ancillary facility locations.</li> <li>Re-grading disturbed areas to achieve a sustainable and functional landform.</li> <li>Stabilising all surfaces in accordance with good engineering and environmental practice.</li> </ul>			
UD10	<p>Typical landscape treatments for ancillary facilities in agricultural areas will include:</p> <ul style="list-style-type: none"> <li>Considering returning remnant agricultural land to agricultural uses.</li> <li>Providing screen planting.</li> <li>Reinstating riparian vegetation through ancillary facilities, where practicable, in the open landscape.</li> <li>Considering the visual landscape at each ancillary facility and considering restoration of important forest vegetation to prominent ridge lines or other landscape elements where feasible and reasonable.</li> <li>Re-grading disturbed areas to achieve a sustainable and functional landform.</li> <li>Stabilising all surfaces in accordance with good engineering and environmental practice.</li> </ul>	Construction	Pacific Complete's Environment and Sustainability Manager Project Contractor Project Contractor's Environment Representative	Submissions/PIR (UD9)
UD11	Any backfilling of the Lang Hill and West of Wardell borrow sites will be undertaken with available surplus material from the project. Rehabilitation of the sites will be undertaken in accordance of the landscape strategy (UD3), design principles (UD5) and the intended future land use of the sites.	Construction	Pacific Complete's Site Environment Officer Project Contractor's Environment Representative Project Contractor	Submissions/PIR (UD11)

ID	Measure/Requirement	When to implement	Responsibility	Reference
UD12	Any backfilling of the Eatons and Gibson borrow sites will be undertaken with available surplus material from the project. Landscaping on the site use indigenous species, including those species suitable for Koala. The landscaping will connect to the existing vegetation to the east of the project by a fauna land bridge to be constructed at station 147.6. Rehabilitation of the sites will be undertaken in accordance of the landscape strategy (UD3) and design principles (UD5).	Construction	Pacific Complete's Site Environment Officer Project Contractor Project Contractor's Environment Representative	Submissions/PIR (UD12)
UD13	The mounding profile of any earth mound will blend suitably into the existing landscape setting. Any mounding to be landscaped will be compacted in 1.5 metre layers with 1:3 maximum batter slopes where reasonable in consideration of constraints within the project corridor. Where feasible and reasonable, permanent mounds will be treated with ameliorants and overlaid with topsoil to minimum 150 millimetres to ensure suitable planting conditions are achieved.	Construction	Pacific Complete's Site Environment Officer Project Contractor Project Contractor's Environment Representative	Submissions/PIR (UD14)
UD14	Landscape and rehabilitation works will be monitored and remedial measures implemented where required until vegetation has stabilised.	Operation	Pacific Complete's Site Environment Officer Project Contractor's Environment Representative	Submissions/PIR (UD13)

**Table A6-2 Land use and property management and mitigation measures**

ID	Measure/Requirement	When to implement	Responsibility	Reference
<b>LAND USE AND PROPERTY</b>				
LU1	Ongoing communication and consultation will be undertaken with directly affected property owners about the property acquisition process. This includes the provision of information on the timing of acquisitions, and the process for property acquisitions under the <i>Land Acquisition (Just Terms Compensation) Act 1991</i> and Roads and Maritime' Land Acquisition Policy (RTA, 1999).	Pre-construction	RMS Environment Branch	Submissions/PIR (LU1)
LU2	Ongoing consultation will be undertaken with directly affected property owners during the detailed design phase to identify measures to mitigate potential impacts on the use and viability of land. This will relate to matters such as adjustments to fencing, access, farm infrastructure and relocation of impacted ancillary structures, as required.	Pre-construction	Pacific Complete's Engineering and Design Lead Pacific Complete's Environment Manager	Submissions/PIR (LU2)
LU3	Property adjustments will be completed for fencing, access tracks, cattle underpasses and other farm infrastructure in consultation with the impacted land owner.	Pre-construction	Project Contractor	Submissions/PIR (LU3)
LU4	The Fencing Strategy will be further developed during detailed design, in consultation with relevant stakeholders. This will build upon the principles of the strategy described in Chapter 3 of the Submissions and Preferred Infrastructure Report (Roads and Maritime, 2013).	Pre-construction	Pacific Complete Engineering and Design Lead	Submissions/PIR (LU4)
LU5	Sterilisation and severance of land uses and lots will be minimised by amalgamating severed parcels of land together, where possible, with provision of road access, in accordance with the project's remnant land use strategy.	Pre-construction	RMS Environment Branch	Submissions/PIR (LU5)

ID	Measure/Requirement	When to implement	Responsibility	Reference
LU6	Where required, acquisition of State forests will be minimised in accordance with the provisions of the <i>Forestry Act 2012</i> . Revocation of land dedicated or reserved as national parks or nature reserves will be in accordance with the <i>National Parks and Wildlife Act 1974</i> . Acquisition of land owned by Local Aboriginal Land Councils will be in accordance with the provisions of the <i>Aboriginal Land Rights Act 1983</i> .	Pre-construction	Pacific Complete's Environment Manager	Submissions/PIR (LU6)
LU7	A remnant land strategy to minimise land use severance and sterilisation, and a mitigation strategy for final land uses will be developed in consultation with cane industry stakeholders, Coffs Harbour City, Clarence Valley, Richmond Valley and Ballina Councils.	Pre-construction	Pacific Complete's Environment Manager RMS Environment Branch	Submissions/PIR (LU7)
LU8	The requirement for a retaining wall structure at station 83.2, between the road reserve and adjoining property, will be confirmed during detailed design.	Pre-construction	Pacific Complete's Engineering and Design Lead Detailed Designer	Submissions/PIR (LU8)
LU9	Access to properties near construction works will be maintained, including where required for the movement of farm equipment and livestock between properties, unless otherwise agreed with landowners.	Construction	Project Contractor Project Contractor's Environment Representative	Submissions/PIR (LU9)
LU10	Where temporary changes to property access are required during construction, alternative access will be determined in consultation with affected property owners and tenants.	Construction	Pacific Complete's Site Environment Officer Project Contractor Project Contractor's Environment Representative	Submissions/PIR (LU10)

ID	Measure/Requirement	When to implement	Responsibility	Reference
LU11	There will be ongoing communication with local communities about changes to the local road network, including likely delays and disruptions and alternative accesses if required.	Construction	Project Contractor Project Contractor's Environment Representative	Submissions/PIR (LU11)
<b>Construction impacts to primary industry, including forestry, an agriculture uses</b>				
LU12	The management of surplus material will be further developed during detailed design, in consultation with relevant stakeholders. This will build upon the principles of the strategy described in Chapter 3 of the Submissions and Preferred Infrastructure Report (Roads and Maritime, 2013).	Pre-construction	Pacific Complete's Environment and Sustainability Manager Pacific Complete Engineering and Design Lead	Submissions/PIR (LU13)
LU13	Where possible, onsite reuse of any spoil is the preferred solution for managing the impacts, although alternative options for the reuse or disposal of spoil will be identified in the surplus material management plan.	Construction	Pacific Complete's Environment and Sustainability Manager Project Contractor Project Contractor's Environment Representative	Submissions/PIR (LU12)
LU14	Forestry Corporation of NSW will be able to harvest millable timber in affected State forests prior to works commencing. However, consideration will also be given to opportunities for the productive use of trees removed from non-State forest areas of the project, including ancillary facilities where necessary.	Construction	Pacific Complete's Environment Manager Pacific Complete's Environment and Sustainability Manager	Submissions/PIR (LU14)



ID	Measure/Requirement	When to implement	Responsibility	Reference
LU15	Environmental management measures will be implemented to minimise potential for impacts on adjoining agricultural uses, including from changes in water quality and spread of weeds and pests.	Construction	Pacific Complete Site Environment Officer Project Contractor Project Contractor's Environment Representative	Submissions/PIR (LU15)
LU16	Where pesticides are required during construction, implement appropriate environmental management measures to avoid potential impacts on adjoining agricultural properties.	Construction	Pacific Complete Site Environment Officer Project Contractor Project Contractor's Environment Representative	Submissions/PIR (LU16)
LU17	There will be ongoing consultation and communication with managers of agricultural properties to identify any potential impacts on nearby construction workers from farm operations (ie use of pesticides on agricultural properties).	Construction	Pacific Complete Site Environment Officer Project Contractor Project Contractor's Environment Representative	Submissions/PIR (LU17)
LU18	Ongoing consultation and communication will be undertaken with commercial fishing and relevant aquaculture operators about construction activities within and near the Clarence and Richmond rivers. Stakeholders include the estuary prawn trawl fishery, and estuary general fishery within the Clarence River, the NSW Department of Primary Industries (Fisheries) and licensed fishing interests within the Richmond River regarding the timing and duration of construction, potential impacts (including changes to river access) and proposed mitigation measures.	Construction	Pacific Complete's Environment Manager Project Contractor Project Contractor's Environment Representative	Submissions/PIR (LU18)

ID	Measure/Requirement	When to implement	Responsibility	Reference
<b>Utilities and infrastructure</b>				
LU19	Relocation or adjustment of infrastructure will be planned to minimise disruptions and impacts on surrounding properties.	Construction	Project Contractor Project Contractor's Environment Representative	Submissions/PIR (LU19)
LU20	Communication will be undertaken with nearby communities about the timing and duration of potential disruptions to infrastructure.	Construction	Pacific Complete's Environment Manager	Submissions/PIR (LU20)
<b>Property management</b>				
LU22	Excavation works near Lot7008 DP92609 will be carefully managed in consultation with Richmond Valley Council to minimise potential impacts on any unknown heritage items including potential burials.	Construction	Pacific Complete Environment and Sustainability Manager Project Contractor Project Contractor's Environment Representative	Submissions/PIR (LU22)
LU21	Roads and Maritime' land that is required for the project will be appropriately maintained. This will be undertaken by regional Roads and Maritime officers or a designated local authority. Roads and Maritime manage the leasing and maintenance of property identified as suitable for tenants.	Operation	Construction Manager/ Environment Manager	Submissions/PIR (LU21)
<b>Operational impacts to primary industries</b>				
LU26	The Cane Farm Strategy will be further developed during detailed design, in consultation with relevant stakeholders. This will build upon the principles of the strategy described in Chapter 3 of this Submissions and Preferred Infrastructure Report.	Pre-construction	Pacific Complete's Environment Manager Pacific Complete Environment and Sustainability Manager	Submissions/PIR (LU26)

ID	Measure/Requirement	When to implement	Responsibility	Reference
LU23	Ongoing consultation will be undertaken with owners of agricultural properties affected by the project – through acquisition, changes to local access or fragmentation of properties – about potential impacts on farming operations and potential measures to manage or mitigate identified impacts.	Operation	Pacific Complete Environment and Sustainability Manager Project Contractor Project Contractor's Environment Representative	Submissions/PIR (LU23)
LU24	Consultation with Forestry Corporation will be undertaken regarding access to and within State forests where required, in accordance with the Forestry Act 2012.	Operation	Pacific Complete Environment and Sustainability Manager Project Contractor Project Contractor's Environment Representative	Submissions/PIR (LU24)
LU25	Consultation with Forestry Corporation will be undertaken regarding the relocation of fire trails directly impacted by the project's construction or operation.	Operation	Pacific Complete's Environment Manager Pacific Complete Environment and Sustainability Manager	Submissions/PIR (LU25)
<b>Property access</b>				
LU27	As far as possible, property accesses will be reinstated or new access provided, in consultation with impacted landowners.	Operation	Project Contractor Project Contractor's Environment Representative	Submissions/PIR (LU27)

ID	Measure/Requirement	When to implement	Responsibility	Reference
LU28	Access to national parks and nature reserves will be reinstated in consultation with the relevant department in Office of Environment and Heritage.	Operation	Pacific Complete Environment and Sustainability Manager Project Contractor Project Contractor's Environment Representative	Submissions/PIR (LU28)
<b>Mining and petroleum production</b>				
LU29	Consultation will be undertaken with land owners operating quarries adjacent to the project, including those near Tucabia, Broadwater and Bagotville, and relevant NSW State government agency. Consultation aim to identify appropriate management measures for each affected quarry, particularly regarding operational approvals in terms of site access, extraction limits, blasting limits, and timing of works, noise and vibration.	Pre-construction	Project Contractor Project Contractor's Environment Representative	Submissions/PIR (LU29)
LU30	Consultation will be undertaken with the relevant State Government agency to consider any future coal seam gas production in the vicinity of the project.	Pre-construction	Pacific Complete's Environment Manager	Submissions/PIR (LU30)
<b>Utilities and infrastructure</b>				
LU32	Consultation will be undertaken with Rous Water and local Aboriginal stakeholders before the removal of part or any of the abandoned pipelines through Lang Hill will be undertaken in consultation	Pre-construction	Project Contractor Project Contractor's Environment Representative	Submissions/PIR (LU32)

ID	Measure/Requirement	When to implement	Responsibility	Reference
LU33	Consultation will be undertaken with Richmond Valley Council during the detailed design phase, regarding the location and timing of the Broadwater Sewerage Scheme rising pump station, located off Broadwater-Evans Head Road.	Pre-construction	Pacific Complete's Environment Manager  Pacific Complete Engineering and Design Lead	Submissions/PIR (LU33)
LU31	Consultation will be undertaken with service and utility providers to verify locations, impacts and any relocation or construction protection work required.	Operation	Pacific Complete Engineering and Design Lead  Project Contractor  Project Contractor's Environment Representative	Submissions/PIR (LU31)

**Table A6-3 Social and economic management and mitigation measures**

ID	Measure/Requirement	When to implement	Responsibility	Reference
<b>SOCIAL AND ECONOMIC</b>				
SE1	Consultation will be undertaken with local business owners, industry and tourism operators directly affected by construction and located closest to construction works. The focus will be on the timing, duration and likely impact of construction activities, to identify appropriate measures to manage potential impacts.	Pre-construction and construction	Project Contractor Project Contractor's Environment Representative	Submissions/PIR (SE1)
SE2	Consultation will be undertaken with managers of community services and facilities near the proposed construction works, to ensure that potential impacts are appropriately managed.	Pre-construction and construction	Project Contractor Project Contractor's Environment Representative	Submissions/PIR (SE2)
SE3	Consultation will be undertaken with residents and local communities closest to construction works about construction activities, including timing, duration and likely impacts.	Pre-construction and construction	Project Contractor Project Contractor's Environment Representative	Submissions/PIR (SE3)
SE4	Signage will be implemented for bypassed towns in accordance with Roads and Maritime signage guidelines and in consultation with relevant councils. Signage on the project will identify bypassed townships (Grafton, Ulmarra, Tyndale, Maclean, New Italy, Woodburn, Broadwater and Wardell) as places for 'stopovers' for fuel, supplies and short term accommodation, to support demand for goods and services within these townships.	Construction and operation	Pacific Complete Engineering and Design Lead	Submissions/PIR (SE4)
SE5	Roads and Maritime will work with Councils affected by the upgrade, where relevant, to support strategies by local councils and/or chamber of commerce and industry to promote townships and villages as stopovers for tourist.	Construction and operation	RMS Environment Branch	Submissions/PIR (SE5)
SE6	Roads and Maritime will work with Councils affected by the upgrade, during detailed design, to discuss the classification of the existing Pacific Highway and, where appropriate, the required transfer process of state road assets to Council.	Pre-construction	RMS Environment Branch	Submissions/PIR (SE6)

ID	Measure/Requirement	When to implement	Responsibility	Reference
SE7	Maintain access to properties near to the project during construction, including, where required, for the movement of farm equipment and livestock between properties, and for access to the Berry Exchange and other affected agribusinesses.	Construction	Project Contractor Project Contractor's Environment Representative	Submissions/PIR (SE7)
SE8	Where temporary changes to property access are required during construction, alternative access will be determined in consultation with affected property owners and tenants.	Construction	Project Contractor Project Contractor's Environment Representative	Submissions/PIR (SE8)
SE9	Undertake consultation with the Harwood Island Public School and other community facilities located adjacent to the project about proposed changes to local access.	Operation	Pacific Complete Site Environment Officer Project Contractor Project Contractor's Environment Representative	Submissions/PIR (SE9)
SE10	Undertake early and ongoing communication and consultation with emergency services to allow planning for potential changes to response patterns and input into the design development.	Operation	Pacific Complete Environment Manager RMS Environment Branch	Submissions/PIR (SE10)
SE11	Access to Broadwater mill land between MacDonalds Street and River Road will be reviewed at the detailed design stage.	Pre-construction	Pacific Complete Environment Manager Pacific Complete Engineering and Design Lead	Submissions/PIR (SE11)
SE12	The access arrangements for local traffic at Whytes Lane and the tie into the Ballina bypass upgrade will be reviewed together with any potential boundary refinements at the detailed design stage.	Pre-construction	Pacific Complete Environment Manager Pacific Complete Engineering and Design Lead	Submissions/PIR (SE12)

