Transport Roads & Maritime Services

CONSTRUCTION ENVIRONMENTAL MANAGEMENT PLAN

Oxley Highway to Kundabung

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Contents

Tables

Figures

Appendices

Glossary/Abbreviations

ASS	Acid sulfate soils
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	Condition(s) of approval
Director-General	Former Director-General of the NSW Department of Planning and Infrastructure (or delegate) now Secretary of Department of Planning and Environment
DoTE	Commonwealth Department of Environment (formerly Commonwealth Department of Sustainability, Environment, Water, Population and Community).
DPI	Department of Primary Industries
EA	Environmental Assessment
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).
EPA	NSW Environment Protection Authority
EPL	Environment Protection Licence
ERG	Environmental Review Group comprising representatives of Roads and Maritime, Environmental Representative, Project delivery team, regulatory authorities (EPA, DoTE, DPI Fishing and Aquaculture, NOW) and councils (Port Macquarie Hastings Council,). The ERG will be maintained for the duration of the Project and will meet regularly and undertake environmental inspections. The role the ERG is to provide proactive advice on environmental management issues and review the environmental performance of the Project.
EMS	Environmental management system
Environmental aspect	Defined by AS/NZS ISO 14001:2004 as an element of an organisation's activities, products or services that can interact with the environment.
Environmental impact	Defined by AS/NZS ISO 14001:2004 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 14001:2004 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.
Environmental target	Defined by AS/NZS ISO 14001:2004 as a detailed performance requirement, applicable to the organisation or parts thereof, that arises from the environmental objectives and that needs to be set and met in order to achieve those objectives.
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.
EP&A Act	Environmental Planning and Assessment Act 1979
EPBC Act	Environment Protection and Biodiversity Conservation Act 1999
EPL	Environment Protection Licence
Ministers Approval	Means the Minister for Environment with responsibility of administering the EPBC Act 1999
Minister, the	Minister for Planning and Infrastructure
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	Office of Environment and Heritage
OH2Ku	Oxley Highway to Kundabung
DP&E	NSW Planning and Environment (formerly the NSW Department of Planning and Infrastructure).
POEO Act	Protection of the Environment Operations Act 1997
Project, the	The Oxley Highway to Kempsey project
Roads and Maritime	Roads and Maritime Services
SoC	Statement of commitments

1 Introduction

1.1 Background

On behalf of the Australian and NSW governments, Roads and Maritime Services (RMS) is progressively upgrading the Pacific Highway to dual carriageway between the Hunter and New South Wales/Queensland border.

In December 2006, the Oxley Highway to Kempsey Pacific Highway Upgrade project (the Project) was declared by the then Minister for Planning to be a project to which Part 3A of the *Environmental Planning and Assessment Act 1979* (EP&A Act) applies. The order was amended by the then Minister for Planning on 3 December 2012 and gazetted on 10 December 2012. An Environmental Assessment was prepared and placed on public exhibition for 30 days between September and October 2010. Following consideration of submissions made during the exhibition period, the submissions report, including changes to the proposal following consideration of submissions, was submitted to the then Minister for Planning seeking approval. Approval of the Project was granted on 8 February 2012, subject to a number of Conditions of Approval (CoA). Modifications to the Project, under Section 75W of the EP&A Act were issued on 20 November 2012 (for minor ancillary facilities) and 15 November 2013 (Aboriginal Heritage).

Furthermore, the Project was referred to the former Commonwealth Department of Sustainability, Environment, Water, Population and Community (now Commonwealth Department of Environment - DoTE). On 21 September 2012, DoTE determined that the Project was a controlled action under section 75 and 87 of the *Environmental Protection and Biodiversity Conservation Act 1999* (EPBC Act).

The proposal was subsequently made available for comment to the wider community in 2013 with approval, subject to conditions granted by the Department of the Environment (formerly SEWPaC) under section 130(1) and 133 of the EPBC Act on 24 January 2014.

The Project is 37 kilometres in length, commencing approximately 700 metres north of the Oxley Highway interchange, tying in with the existing dual carriageways to the south and continuing northwards to tie in at Stumpy Creek with the dual carriageways of the Kempsey bypass, a constructed component of the approved Kempsey to Eungai Pacific Highway upgrade. The Project involves the duplication of the existing highway, except for sections near the Hastings River and Wilson River, which deviates from the existing highway, and a bypass of Telegraph Point. The existing highway would be retained wherever possible for use as a service road or local road connection.

1.2 Staging

The Project is proposed to be delivered in four stages. The stages are listed in their corresponding chronological order of likely construction commencement. The stages and proposed construction contractors are:

- Sancrox Road traffic arrangement. (Ferrovial)
- Oxley Highway to Kundabung (Lendlease)
- Kundabung to Kempsey (McConnell Dowell OHL JV)
- Class A to Class M. (TBA)

In accordance with the requirements of CoA A7, details of the staging, including construction activities and submission of corresponding environmental plans, strategies and protocols, are documented in the Oxley Highway to Kempsey Staging Report (November 2013). This

document was submitted to the Director General in accordance with the condition requirements and accepted on 24/01/2014.

1.3 Purpose of this CEMP

This Construction Environmental Management Plan (CEMP) and sub plans have been prepared to comply with the Minister for Planning and Infrastructure's Conditions of Approval for the wider Oxley Highway to Kempsey Pacific Highway Upgrade project. A detailed description of the Project is provided in Chapter 2.

The CEMP has been prepared in accordance with Roads and Maritime QA Specification G36, The Environmental Assessment (including Statement of Commitments) and the Guideline for the Preparation of Environmental Management Plans (DIPNR, 2004). It is also consistent with AS/NZS ISO 14001 and the Lendlease Environmental Management System, which conforms to the aforementioned ISO standard.

The purpose of this CEMP is to provide a structured approach to the management of environmental issues during construction of the OH2Ku section of the Project. Implementing this CEMP effectively will ensure that the Project team meets regulatory and policy requirements in a systematic manner and continually improves its performance. The CEMP ensures the requirements of Roads and Maritime and the Minister's conditions of approval (see Appendix A1 and Compliance Tracking Program) are met.

In particular, this CEMP:

- Describes the Project in detail including activities to be undertaken and relative timing.
- Provides specific mitigation measures and controls that can be applied on-site to avoid or minimise negative environmental impacts.
- Provides specific mechanisms for compliance with applicable policies, approvals, licences, permits, consultation agreements and legislation.
- Describes the environmental management related roles and responsibilities of personnel.
- States objectives and targets for issues important to the environmental performance of the Project.
- Outlines a monitoring regime to check the adequacy of controls as they are implemented during construction.

This CEMP meets the requirements of CoA B30. The requirements of this condition and where they are met in this CEMP are shown in Table 1-1.

Table 1-1 CoA requirements for CEMP

CoA no.	Requirement	Reference
B30	The Proponent shall prepare and (following approval) implement a Construction Environmental Management Plan for the project. The Plan shall outline the environmental management practices and procedures that are to be followed during construction, and shall be prepared in consultation with the relevant agencies and in accordance with the Guideline for the Preparation of Environmental Management Plans (Department of Infrastructure, Planning and Natural Resources, 2004). The Plan shall include, but not necessarily be limited to:	This plan
B30 (a)	A description of activities to be undertaken during construction of the project or stages of construction, as relevant.	Chapter 2
B30 (b)	Statutory and other obligations that the Proponent is required to fulfil during construction including approvals, consultations and	Compliance Tracking Program, Appendix A1,

CoA no.	Requirement	Reference
	agreements required from agencies and key legislation and policies. Evidence of consultation with relevant agencies shall be included identifying how issues raised by these agencies have been addressed in the Plan.	Section 1.4, Section 1.5
B30 (c)	A description of the roles and responsibilities for relevant employees involved in the construction of the project including relevant training and induction provisions for ensuring that employees, including contractors and sub-contractors are aware of their environmental and compliance obligations under these conditions of approval.	Section 4.2, Section 4.3, Section 4.4, Chapter 5
B30 (d)	Identification of ancillary facility site locations, including an assessment against the location criteria outlined in condition C28.	Section 2.4, Section 3.7 Appendix A4
B30 (e)	An environmental risk analysis to identify the key environmental performance issues associated with the construction phase and details of how environmental performance would be monitored and managed 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 project and/ or concurrent construction works with adjacent Pacific Highway Upgrade projects, as relevant). In particular, the following environmental performance issues shall be addressed in the Plan:	Section 3.4, 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 to monitor and manage impacts associated with the construction and operation of ancillary facilities.	Section 2.4, Section 3.7, Appendix A4 and Appendix B1 to Appendix B7.
	(iv) Measures for the handling, treatment and management of contaminated materials.	Appendix B4
	(v) 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 for dealing with green waste including timber and mulch from clearing activities; and measures for reducing demand on water resources (including the potential for reuse of treated water from sediment control basins).	Appendix B7
	(vi) 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 and a stockpile management protocol detailing locational criteria that would guide the placement of stockpiles and management measures that would be implemented to avoid/ minimise amenity impacts to surrounding residents and environmental risks (including to surrounding water courses). Stockpile sites that affect heritage, threatened species, populations or endangered ecological communities require the approval of the Director General, in consultation with the OEH.	Appendix B4
	(vii) Measures to monitor and manage hazard and risks including emergency management.	Appendix A7
	(viii) The issues identified in condition B31.	Appendix B1, Appendix B2, Appendix B3, Appendix B4, Appendix

CoA no.	Requirement	Reference
		B5
B30 (f)	Details of community involvement and complaints handling procedures during construction, consistent with the requirements of conditions B25 to B28.	Section 6 and Community Communication Strategy
B30 (g)	Details of compliance and incident management consistent with the requirements of condition B24.	Chapter 7
B30 (h)	Procedures for the periodic review and update of the Construction Environmental Management Plan and sub-plans required under condition B31, as necessary (including where minor changes can be approved by the Environmental Representative).	Chapter 9
B30	The Plan shall be submitted for the approval of the Director-General no later than one month prior to the commencement of construction, or within such period otherwise agreed by the Director-General. Construction works shall not commence until written approval has been received from the Director-General.	Section 1.5

This CEMP is the overarching document in the environmental management system for the Project that includes a number of management documents. These are described in Section 4.1. It is applicable to all staff and sub-contractors associated with the construction of the Project.

1.4 Consultation

Extensive consultation for the Project commenced during the route selection phase and continued during the environmental assessment of the concept design. The primary objective of consultation was to keep stakeholders well informed and involved during each stage of Project development.

Further consultation with relevant stakeholders and government authorities has continued through the development of this CEMP and sub plans. Those consulted include:

- Environment Protection Authority (EPA).
- Department of Primary Industries (Fishing and Aquaculture).
- NSW Office of Water (NOW).
- Office of Environment and Heritage (OEH).
- Port Macquarie-Hastings Council.

Consultation will continue throughout the Project with relevant stakeholders and government authorities. The outcomes of this consultation will be documented, where relevant, in subsequent revisions of the CEMP and the management review.

It should be noted that the OH2Ku package does not encroach into the Kempsey Shire Council Local Government Area due to the boundary commencing at Mingaletta Road and runs along Cooperbung Drive alongside the southern carriageway.

1.5 Certification and approval

The Project and Environmental Manager must approve this CEMP prior to submission to DP&E. Submission to DP&E is required no later than one month prior to commencement of construction or as otherwise agreed.

The CEMP must be approved by the Director-General of DP&E prior to the commencement of construction.

The sub-plans prepared under CoA B31 also require approval by the Director-General prior to commencement of construction. Further explanation and details of these documents are provided in Section 4.1.

1.6 Distribution

This CEMP is available to all personnel and sub-contractors via the Project document control management system. An electronic copy can be found on the Project website. The document is uncontrolled when printed. One controlled hard copy of the CEMP and supporting documentation shall be maintained by the Quality Manager at the Project office.

Registered copies will be distributed to:

- Project Director
- Environmental Representative.
- Project Managers.
- Environmental Manager.
- Community Relations Manager.
- Roads and Maritime Representative.
- Roads and Maritime Pacific Highway Environment Manager.

1.7 Revision

A document review process ensures that environmental documentation including this CEMP is updated as appropriate for the specific works that are occurring on-site. This includes the management review process described in Chapters 9 and 10. 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 Environmental Manager or Environmental Coordinator/ Advisor(s) to prepare the revised documents.

The revised document will then be issued to the Project Manager and the Environmental Representative for certification of the changes. The Environmental Representative can approve minor changes to the CEMP. Minor changes would typically include those that:

- Are editorial in nature e.g. staff and agency/authority name changes.
- Do not increase the magnitude of impacts on the environment when considered individually or cumulatively.
- 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 Director-General for DP&E for approval.

Revised versions of the CEMP will be made available through the processes described in Section 1.6.

2 Project description

2.1 General features

The general features of the Project are:

- Approximately 37 kilometres of four-lane dual carriageway (two lanes in each direction) with a wide median to allow a future upgrade to six lanes.
- A new alignment across the Hastings River and Wilson River floodplains and minor realignment within Maria River State Forest.
- 100 year average recurrence interval flood immunity.
- A bypass of Telegraph Point. Access to and from Telegraph Point would be provided by a new grade separated interchange in the area of Blackmans Point Road south of Telegraph Point and a half interchange in the area of Haydons Wharf Road north of Telegraph Point.
- Overbridges located to the south of Sancrox Road, at Bill Hill Road, Mingaletta Road, Wharf Road, Kundabung Road and Middle Gate Road.
- The existing Pacific Highway near Blackmans Point Road and Yarrabee Road passing under the Project.
- Major cuttings through Cooperabung Hill.
- New major bridge structures for the Hastings River and Wilson River crossings, and the crossing of the North Coast Railway to the north of the Wilson River.
- Smaller bridges for a number of creek crossings.
- Provision of two new rest areas south of Mingaletta Road.

- Provision of a service road network using sections of the existing highway, existing local roads and new roads.
- Provision of a heavy vehicle inspection bay.

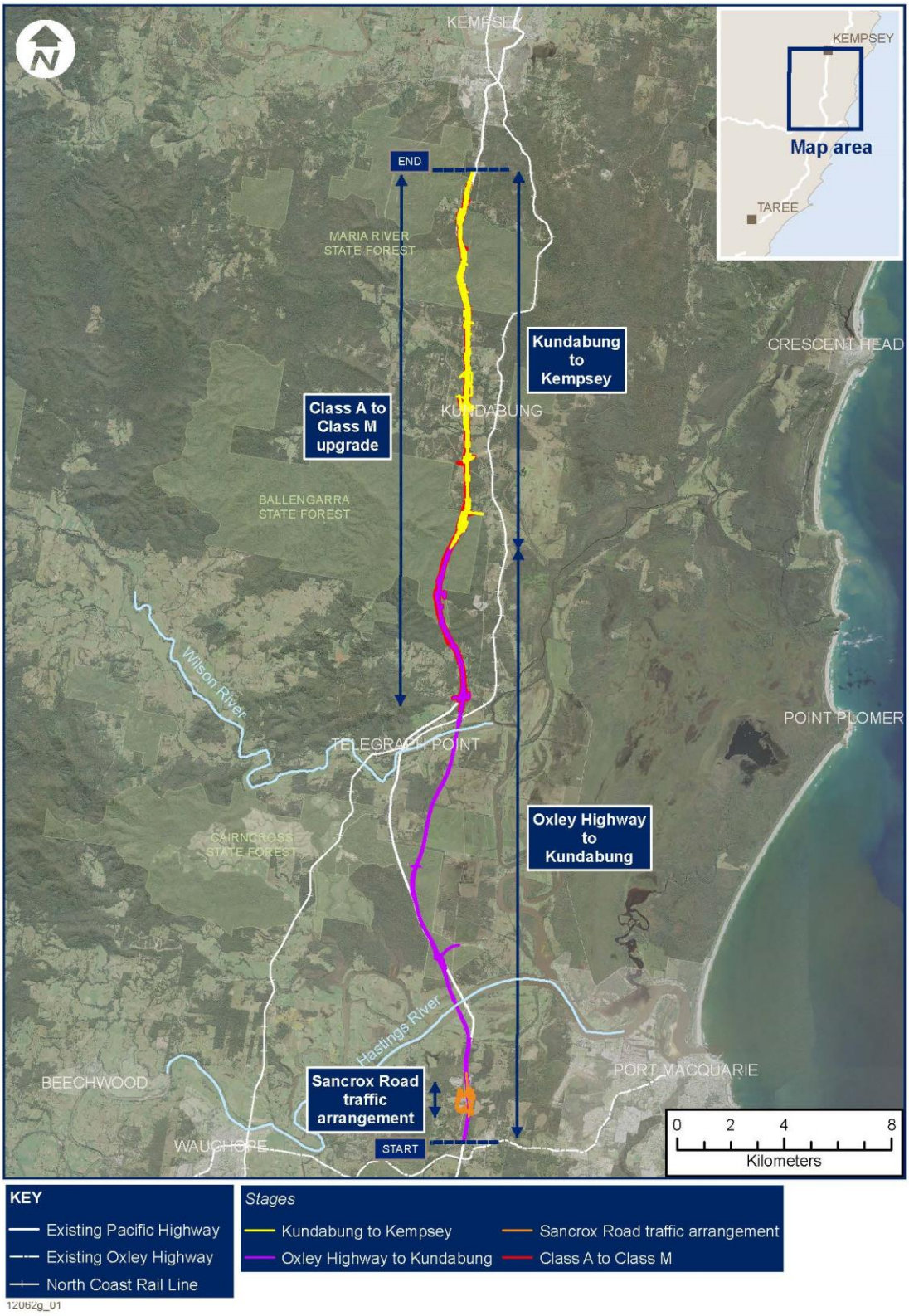
Figure 2.1 provides a diagrammatic overview of the Oxley Highway to Kempsey project.

2.2 Oxley Highway to Kundabung Project

Lendlease have been awarded the design and construct contract for the Oxley Highway to Kundabung project, a component of the wider Oxley Highway to Kempsey Upgrade. Construction of the project is expected to commence in mid-2014. The project involves the design and construction of:

- 24 kilometres of dual carriageway, commencing just north of the intersection of the Pacific Highway with the Oxley Highway in Port Macquarie and finishing north of Barrys Creek near Kundabung.
- a bypass of Telegraph Point and a new alignment across the Hastings River and Wilson River floodplains.
- Construction of major bridge and flood relief structures over Hastings River (and Glen Ewan Road) and Wilson River (including Hacks Ferry Road).
- Construction of bridges over Fernbank Creek, Cooperabung Creek, Barrys Creek, the North Coast Railway line at Telegraph Point as well as a number of other minor waterway crossings.
- Construction of a grade separated interchange at Blackmans Point Road, Yarrabee Road and a half interchange at Haydons Wharf Road.
- Construction of Bill Hill Road overbridge south of the Wilsons River floodplain and an overbridge to cross the North Coast Railway line.
- Excavation of major cuts including through Cooperabung Hill.
- Provision of a widened median within Cairncross State Forest to facilitate the movement of gliders and the construction of a number of fauna crossing mitigation structures including underpasses and glider crossings.

Figure 2-1 Overview of Oxley Highway to Kempsey project



2.3 Construction activities and sequence

Typically, the following sequences of activities are anticipated for all project work areas:

- **Site establishment** – installing access tracks, boundary and fauna exclusion fencing, geotechnical investigations, construction facilities, drainage and environmental controls then carrying out pre-clearing vegetation fauna surveys.
- **Relocation or protection of services** – relocating and protecting electricity, gas, water and telecommunications infrastructure affected by the Project.
- **Site preparation** – Installation of site drainage including sediment basins, clean and dirty water drains, removal of harvestable timber, clearing and grubbing, topsoil stripping and storage.
- **Earthworks** – undertaking cut and fill activities along the alignment to achieve desired levels, removal of unsuitable material, blasting activities, haulage and compaction and batter and embankment shaping
- **Structures** – construction of bridges, interchanges, culverts, drainage and fauna underpass facilities.
- **Pavements** – forming sub and base layers and construction final pavement finishes.
- **Road furniture** – installing signage, line marking, safety barriers and fauna structures.
- **Landscaping and restoration** – reuse of topsoil, 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 Project are complete where ongoing disturbance is not anticipated).
- **Open to traffic** – decommission construction facilities, commissioning new road, and related infrastructure.

2.4 Compound and ancillary facilities

A number of temporary compound and ancillary facilities will be required to support construction of the Project. A primary site compound will be established for the Project. This site will accommodate the majority of management, engineering, specialist and administrative personnel. Typically, these facilities include:

- Offices including:
  - Offices and meeting rooms;
  - Reception and general administration area;
  - Amenity and first aid facilities;
  - Lunch rooms;
  - Parking areas.
- Workshop;
- Soil lab;
- Laydown area;
- Car parks;
- Services and utilities such as desalination, sewer, power, telecommunication and water
- Fencing and security;
- Materials laydown including:
  - Storage of plant, equipment and tools;
  - Storage of bridge elements; and
  - Material storage areas including stockpiling.

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:

- Gravel placed across entire area;
- Shipping containers for tools and equipment;
- Small offices;
- Limited parking;
- Crib shed;
- Sewer system/portable toilets;
- Generators;
- Lighting;
- Bunded storage of chemicals (e.g. fuel);
- Storage of materials / scaffold; and
- Fencing and security.

Appendix A4 details the location, composition and purpose of compound and ancillary facilities currently required for the Project. An assessment of the ancillary facility against criteria required by CoA C28 is also provided in Appendix A4 for Director General's approval and the criteria further detailed in Section 3.7.2. CoA 29 also provides an approval pathway for minor ancillary facilities (e.g. lunch sheds, office sheds, and portable toilet facilities) that do not meet the requirements of CoA C28. Further information about minor ancillary facilities is provided in Section 3.7.2.

3 Planning

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 Project 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.

3.2 Legal and other requirements

A register of legal and other requirements for the Project is contained in Appendix A1. This register is maintained as a checklist for both State and Federal legislation applicable to the project. This register will be reviewed at regular intervals e.g. during management reviews, and updated with any applicable changes likely to influence the project. 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 5.

3.3 Approvals, permits and licensing

A number of approvals, permits and licenses have and/or will be obtained for the Project. Appendix A1 contains a register of all relevant environmental approvals, permits and licenses. The register will be maintained by the Environmental 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 Environmental Assessment recognised that the following approvals and licences identified in the planning approval process would be obtained or required for the Project:

- Project Approval under the EP&A Act and associated modifications.
- Federal Approval for the Action under the EPBC Act including variations.
- Environmental protection licences (EPL) under the *Protection of the Environment Operations Act 1997* (POEO Act) for the scheduled activities of road construction, extractive activities and crushing grinding and separating.
- Approvals under the *Water Act 1912* for access to ground or surface water during construction..

In accordance with CoA A6, all necessary licences, permits and approvals required for the development of the Project will be obtained and maintained as required throughout the life of the Project. No condition of the Project Approval removes the obligation for Roads and

Maritime or Lendlease to obtain, renew or comply with such necessary licences, permits or approvals except as provided under Section 75U of the EP&A Act.

The Project Approval (including modifications) and revised Statement of Commitments (SoC) are contained in the Compliance Tracking Program and provide a reference to where each requirement is addressed by this CEMP or other Project documentation. A checklist of compliance with Roads and Maritime specification G36 is included as Appendix A1.

3.4 Environmental aspects and impacts

Ministers Condition B30(vii) specifies that the CEMP shall include measures to monitor and manage hazards and risk including emergency management for the duration of the project.

For OH2Ku, 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/aspects, 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 Project are based on AS/NZS 4360:1999, the Australian standard for risk assessments.

An environmental risk assessment has been undertaken for the OH2Ku Project and is found within Appendix A2. Outcomes from this assessment are used to designate initial risk for a range of activities, which are required to deliver the upgrade. This is further refined through the allocation of appropriate management strategies within the supporting sub plans, which form part of the CEMP.

Each sub plan also details risks and proposed mitigation measures for topic specific issues. Ongoing risk assessments will also be performed using the risk assessment process described above during the preparation of environmental work method statements.

3.5 Environmental policy

The environmental policy describes Lendlease's commitment to continual improvement in environmental performance and compliance with applicable legal requirements.

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

A copy of the environmental policy is provided in Appendix A3.

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 sub-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 below.

Table 3-1 Environmental objectives and targets

Objective	Target	Measurement tool
Construction of the Project in accordance with environmental approvals.	• Full compliance with statutory approvals.	Audits, construction compliance reporting and management review.
Compliance with all legal requirements.	• No regulatory infringements (PINs or prosecutions). • No formal regulatory warning.	Audits, construction compliance reporting and management review.
Implement a rigorous and comprehensive EMS that meets the requirements of AS/NZS ISO 14001.	• Address non-conformances and corrective actions within specific timeframes.	Audits and management reviews.
Engage with the effected and broader community, minimise complaints and respond to any complaints within a suitable timeframe.	• Disseminate regular Project updates and other information through the Project website and other tools identified in the Community Engagement Strategy. • Record and respond to complaints within the time frame specified in the Community Engagement Strategy.	Review complaints register, construction compliance report and audits.
Continuously improve environmental performance.	• Develop and maintain a program of ongoing environmental training. • Capture lessons learnt from environmental incidents to minimise repeat issues. • Encourage and reward innovation and effort throughout the works force.	Construction compliance report and management review.

3.7 Project refinements

3.7.1 General changes

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 and for documenting refinements that are consistent with the approved Project.

The Roads and Maritime Pacific Highway, Environmental Manager is responsible for the assessment of Project refinements and management of the consistency assessment process. The Environmental 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 should be communicated to the Environmental Manager. The Environmental Manager or Environmental Coordinator/Advisor(s) will then undertake an additional environmental assessment and consistency review in consultation with the Roads and Maritime Pacific Highway, Environmental Manager to determine if a Project modification may be required.

Should the consistency review determine that a Project modification maybe 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 immediately and modification application under Section 75W of the EP&A Act prepared submitted to the Director-General DP&E for determination.

The General Manager, Pacific Highway (or delegate) will approve all refinements that are deemed consistent with the Project Approval.

3.7.2 Ancillary facilities assessment criteria

Ancillary facilities are defined under the Minister's Approval 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.* Stockpiles are not included under this definition and are discussed in Section 3.7.5.

The location of the main site compound and ancillary facilities are nominated, assessed and detailed in Appendix A4. Circumstance may arise during construction where additional, or changes to the location of, ancillary facilities are required.

Where this situation arises, an assessment against the criteria detailed in CoA C28 will be undertaken. The criteria require that ancillary facilities:

a) Be located more than 50 metres from a waterway.

b) Have ready access to the road network or direct access to the construction corridor.

c) Be located in areas of low ecological significance and require minimal clearing of native vegetation (not beyond that already required by the Project).

d) Be located on relatively level land.

e) Be separated from the nearest residences by at least 200 metres (or at least 300 metres for a temporary batching plant).

f) Not unreasonably affect the land use of adjacent properties.

g) Be above the 20 ARI flood level unless a contingency plan to manage flooding is prepared and implemented.

h) Provide sufficient area for the storage of raw materials to minimise, to the greatest extent practical, the number of deliveries required outside standard construction hours.

i) Be located 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.

Note: For the purposes of criterion a), a "waterway" is defined as:

- Any Class 1 or Class 2 fish habitat waterways (as described in the NSW Fisheries guidelines).
- Any permanent or ephemeral drainage line with direct drainage to State Environmental Planning Policy No 14 Coastal Wetlands.
- Waters that are used for the purposes of human consumption.

- Waters that have a known Maundia triglochinoides population.

Where this criterion is unable to be met for any proposed ancillary facility, an assessment demonstrating how adverse impacts from construction or operation of the facility can be mitigated and managed to an acceptable standard will be undertaken and provided to the Director-General for approval.

3.7.3 Approved facilities identified in the EA

Section 7.6 of the EIS provided a description of the different types of construction compounds likely to be required for the Oxley Highway to Kempsey project generally. Compound types included:

- Main site compounds
- Satellite compounds
- Concrete and asphalt batch plants
- Rock crushing plants
- Stockpile sites
- Spoil disposal sites

Table 7.5 of the EA identified 15 potential locations along the alignment of which, 13 fall within the OH2Ku project. An assessment of these sites against the site selection criteria was presented in Table 7.6. Further, the EA identified that assessment of additional sites would need to be undertaken where appropriate due to the linear nature of the project, contractors involved and multiple worksites.

Detailed design has now determined that the sites identified in the EIS, and additional ancillary facilities (some already approved by the Director General) are required to support the project, together with additional minor and short-term ancillary facilities such as lay down areas, stockpiles and crib sheds

Further detail and further assessment of these locations is found within Appendix A4.

3.7.4 Other Facilities identified during detailed design

Two ancillary facilities have been further identified because of detailed construction planning for the project:

- Main Compound, Chainage 7000; and
- Sancrox Interchange ancillary facility.

The main compound has was approved by the Director General on 15/10/13 through a separate assessment under MCoA C28. Should significant changes be required to the approved compound in terms of arrangement, activities or increased impacts, additional assessment (and approval) may be required from the Director General.

The Sancrox Interchange ancillary facility complies with all requirements of MCoA C28 and therefore, did not require Director General approval. Roads and Maritime deemed this site consistent with the Minister's approval in consultation with the Environmental Representative.

3.7.5 Stockpile locality assessment

Stockpiles are not defined as an ancillary facility according to the definitions provided in the Project Approval. During construction, a number of temporary stockpiles will be required. Stockpile sites may be required to store material including, but not limited to:

- Excavated materials to be used in fill embankments and other design features.
- ASS subject to treatment prior to reuse.
- Excavated material unsuitable for reuse in the formation.
- Excess concrete, pavement, rock and other material stockpiled for either future use in the Project or prior to removal from site.
- Topsoil, mulch, excess timber for landscaping and revegetation works.

Where these stockpiles are proposed, the locating criteria contained in the Stockpile Management Protocol (See Appendix H of the SWMP) will be considered and stockpile sites located accordingly.

The protocol also includes standard mitigation measures that will be implemented to minimise or avoid impacts on the environment.

Where a stockpile site has the potential to affect a heritage site, threatened species, populations or endangered ecological communities, an assessment demonstrating how adverse impacts from construction or operation of the stockpile site can be mitigated and managed to an acceptable standard will be undertaken in consultation with EPA and provided to the Director-General for approval.

3.7.6 Minor Ancillary Facilities

Notwithstanding the above, CoA C29 facilitates the establishment of minor ancillary facilities (e.g. lunch sheds, laydown, materials storage and office sheds and portable toilet facilities) that do not comply with the criteria detailed in CoA C28. However, for CoA C29 to be applicable, the minor ancillary facilities are subject to the following criteria:

a) are located within an active construction zone within the approved project footprint; and

b) have been assessed by the Environmental Representative to have:

   i. minimal amenity impacts to surrounding residences, with consideration to matters such as noise and vibration impacts, traffic and access impacts, dust and odour impacts, and visual (including light spill) impacts, and

   ii. minimal environmental impact in respect to waste management, and no impacts on flora and fauna, soil and water, and heritage beyond those approved for the Project; and

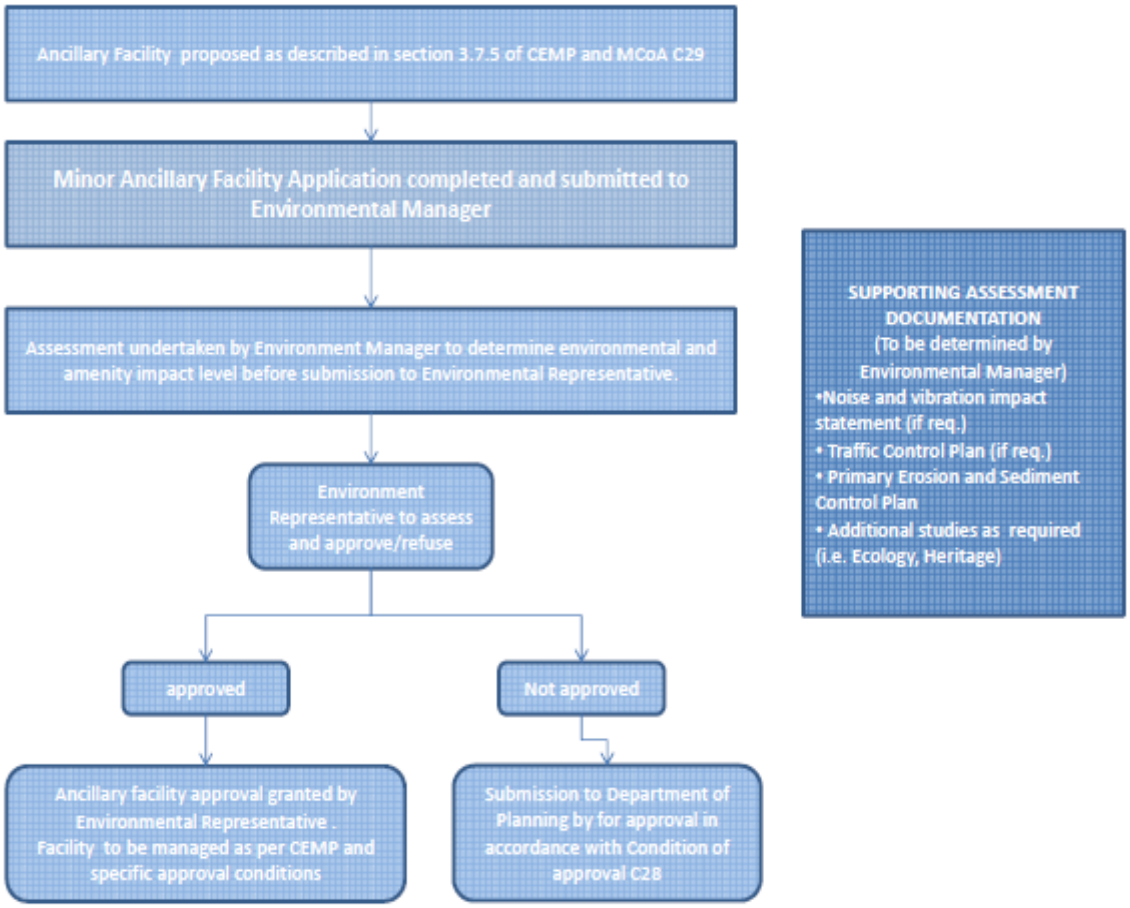
c) have environmental and amenity impacts that can be managed through the implementation of environmental measures detailed in a Construction Environmental Management Plan for the Project.

It is not practical prior to the commencement of construction to determine the exact location and number of minor short-term facilities that may be required for the project. Further, the establishment, use and decommissioning of these sites such as laydown locations is highly dynamic. Therefore a decision making framework has been developed consistent with MCoA C29 (see Figure 3.1).

For any additional ancillary facilities required for the project that are not listed in the CEMP, project staff must complete the Ancillary Facility Permit (Attachment A9). If the assessment determines that the additional facility is permitted, it must be approved by the Environmental Representative (ER).

Control measures identified in the CEMP and Sub Plans where relevant would apply as a minimum. Additional control measures may be implemented in response to assessment of impacts by the project and/or by the Environmental Representative.

Figure 3-1 Ancillary Facility Flow Chart



4 Implementation and operation

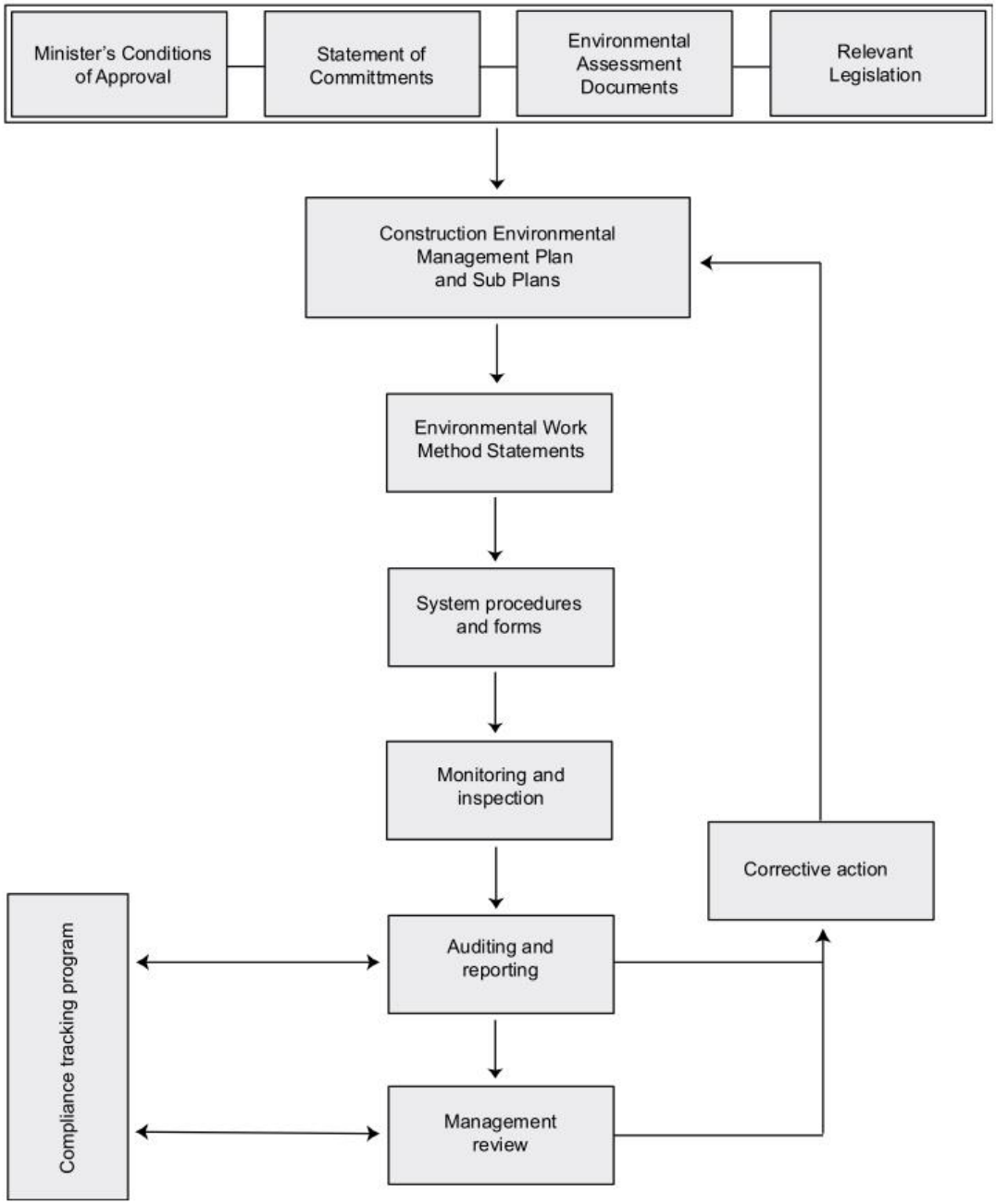
This CEMP is the overarching management plan for a suite of environmental management documents. It provides a structured and systematic approach to environmental management.

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 below.

Figure 4-1 Environmental Management System structure



4.1 Environmental management system documentation

4.1.1 Construction environmental management plan

This 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, 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 requirement, 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 Project on the environment.

This CEMP is consistent with:

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

The CEMP and sub-plans required under CoA B30 and B31 respectively will be provided to the Director-General for approval.

4.1.2 Environmental management sub plans and strategies

A number of environmental management sub-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 CoA, SoC and other measures identified in the environment assessment documentation.

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

A list of construction sub-plans and strategies for the Project, 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 Project and the timing required for submission where required.

Table 4-1 Environmental management sub-plans and strategies

Document name	Approval pathway
Measures for Hazard and Risk	DP&E approval (via CEMP)
Measures for Ancillary Facilities	DP&E approval (via CEMP and relevant sub plans below)
Construction traffic management sub plan	DP&E approval
Construction flora and fauna management sub plan	DP&E approval
Flora and Fauna Management Plan	DoTE & DP&E approval
Construction noise and vibration management sub plan	DP&E approval
Construction soil and water management sub plan (SWMP)	DP&E approval

Measures for contaminated materials	DP&E approval (via SWMP)
Measures for hydrology	DP&E approval (via SWMP)
Measures for stockpiles	DP&E approval (via SWMP)
Construction heritage management sub plan	DP&E approval
Air quality management sub plan	Roads and Maritime approval
Waste and energy management sub plan	Roads and Maritime approval

4.1.3 Environmental work method statements

Environmental work method statements (EWMS) are prepared to manage and control relevant activities that have the potential to negatively impact on the environment. EWMS will be prepared prior to the commencement of relevant construction activities on site and will incorporate relevant mitigation measures and controls from management sub plans. They also 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 including the Environmental Representative.

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 during regular ERG meetings. The ERG will determine which EWMS are high risk and require consultation and those that do not.

EWMS for activities likely to be considered high risk include:

- Working platforms in or adjacent to waterways
- Temporary waterway crossings
- Site compound establishment.
- Batch plant establishment and operation.
- Clearing and grubbing.
- Piling.
- Blasting.
- Others as required.

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 environmental personnel to ensure that all controls are being followed and that any non-conformances are recorded and corrective actions implemented.

A register of EWMSs will be maintained for the OH2Ku Project.

4.1.4 Progressive erosion and sediment control plans

Progressive Erosion and Sediment Control Plans (PESCPs) 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. PESCPs will be developed and implemented across the Project where there is a risk of erosion and sediment loss.

PESCPs may be produced in conjunction with Environmental Work Method Statement (EWMS) to provide more detailed site-specific environmental mitigation measures.

PESCPs will be developed initially by Environmental Coordinators and will be reviewed by the Project Soil Conservationist. They will be further updated by environment staff, supported by the Soil Conservationist in consultation with the superintendent, site engineers, supervisors, foremen and other relevant site personnel, as required. They will be modified to reflect site condition at the time of construction.

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

4.1.5 Sensitive area plans

The Project traverses a range of environmental and socially sensitive areas/sites. To assist pre-construction planning and on-site construction management, these site constraints are consolidated on series of map-based sheets that extend the length of the Project. Sensitive area maps include information pertaining, but not limited, to:

- Flora features, including endangered ecological communities.
- Aboriginal and/or Non-Aboriginal heritage sites.
- Local waterways.
- National Parks/Nature Reserves.

The sensitive area plans are presented in Appendix A6. They are a working element of the CEMP and will be revised throughout construction to reflect true ground conditions and the most up-to-date information available on sensitive sites. Sensitive area plans will be used in conjunction with EWMS to help identify key risk areas and to promote ongoing communication to construction personnel during the Project. Note, some Aboriginal heritage items have not been shown on these maps due to the confidential nature of their locations, however the working plans for construction will need to manage the secure identification of these locations.

4.1.6 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.

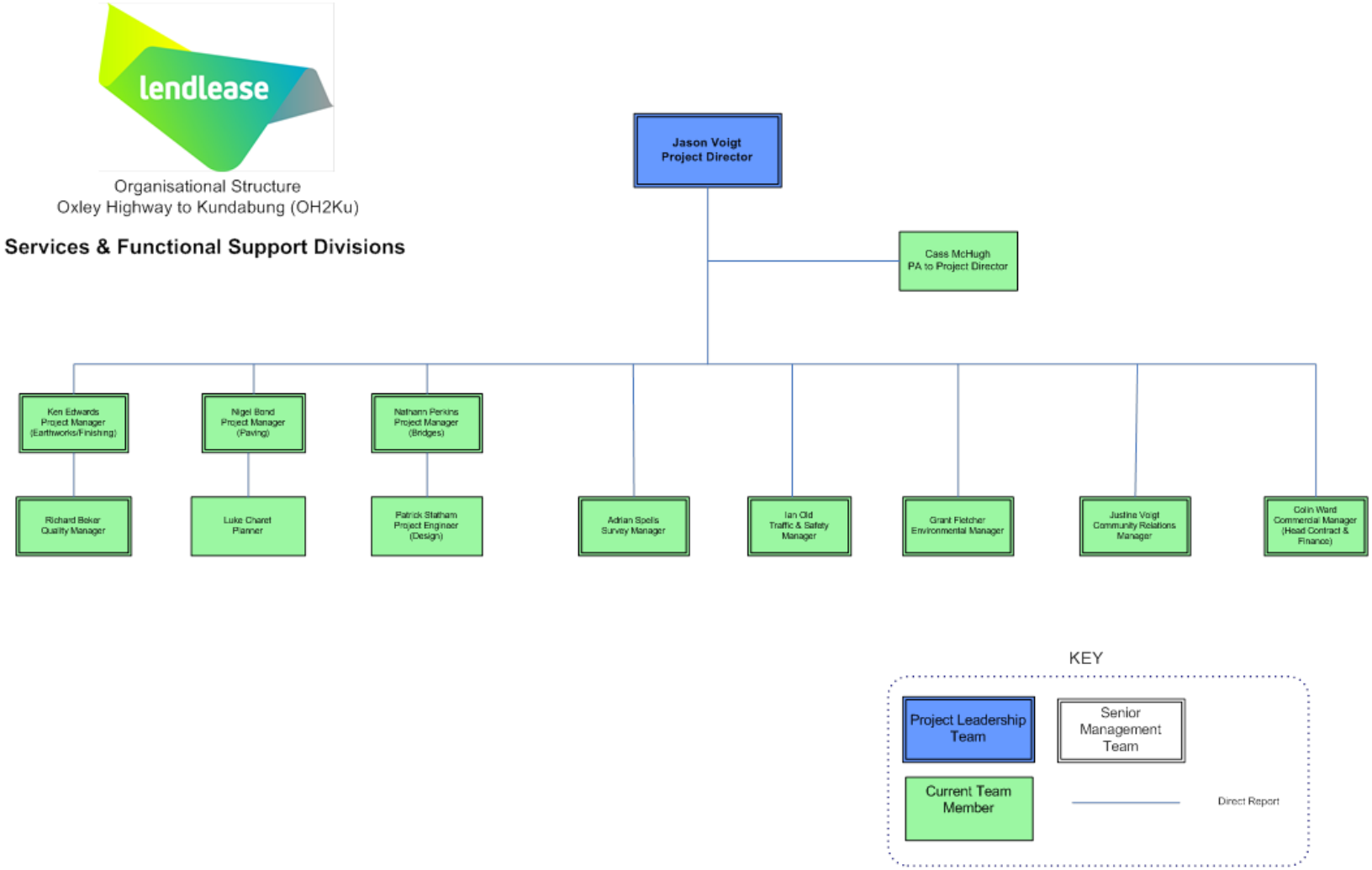
Project specific procedures will be developed in accordance with the requirements for the Project. Where applicable, existing Lendlease procedures and work instructions will be applied or amended for use on the Project.

A register of relevant environmental procedures and forms will be maintained by the Environmental Manager.

4.2 Resources, roles, responsibilities and authority

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

Figure 4-2 Management structure



4.2.1 Environmental Representative

The responsibilities of the Environmental Representative are defined in CoA B29, CoA C29 including:

- Be the principal point of advice in relation to the environmental performance of the Project.
- Be consulted in responding to the community concerning the environmental performance of the Project where the resolution of points of conflict between the Proponent and community is required.
- Monitor the implementation of all environmental management plans and monitoring programs required under this approval.
- Monitor the outcome of all environmental management plans and advise the Proponent upon the achievement of all Project environmental outcomes.
- Have responsibility for considering and advising the Proponent on matters specified in the conditions of this approval, and all other licences and approvals related to the environmental performance and impacts of the Project.
- Ensure that environmental auditing is undertaken in accordance with the requirements of condition B24 and the Project Environmental Management System(s).
- Be given the authority to approve/reject amendments to the Construction Environment Management Plan. What constitutes an amendment falling under the Environmental Representative's scope is clearly explained in this Construction Environment Management Plan (see Section 1.7).
- Be given the authority and independence to 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.
- Assessment of other activities proposed prior to the commencement of construction to determine whether these have minimal environmental impacts (eg minor access roads and adjustments for services / utilities, etc).
- Assessment of minor ancillary facilities under MCoA C29.

4.2.2 Pacific Highway, Environmental Manager

The environmental responsibilities of the Pacific Highway, Environmental Manager include, but are not limited to, the following:

- Review any environmental management plans and related documents prepared for the Project.
- Review proposed project refinements against the Project environmental assessment and approval documentation in accordance with the provisions of the *EP&A Act 1979*.
- Monitor the environmental performance of the Project in relation to Roads and Maritime requirements.

4.2.3 Roads and Maritime Representative

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

- Evaluate and advise on compliance with Roads and Maritime environmental requirements.
- Review and approve any environmental management plans for the Project or related activities that are not required to be approved by the Director-General of DP&E.

4.2.4 Project Director

The environmental responsibilities of the Project Director include (but are not limited to) the following:

- Ensure all works comply with relevant regulatory and Project requirements.
- Ensure the requirements of this CEMP are fully implemented, and in particular, that environmental requirements are not secondary to other construction requirements.
- Endorse and support the Project environmental policy attached at Appendix A3.
- Liaise with Roads and Maritime, Environmental Representative and other government authorities as required.
- Participate and provide guidance in the regular review of this CEMP and supporting documentation.
- Provide adequate resources (personnel, financial and technological) to ensure effective development, implementation and maintenance of this CEMP.
- Ensure that all personnel receive appropriate induction training, including details of the environmental and community requirements.
- Ensure that complaints are investigated to ensure effective resolution.
- Stop work immediately if an unacceptable impact on the environment is likely to occur.

4.2.5 Project Manager

The environmental responsibilities of the Project Manager include (but are not limited to) the following:

- Plan construction works in a manner that avoids or minimises impact to environment.
- Ensure the requirements of this CEMP are fully implemented.
- Ensure construction personnel manage construction works in accordance with statutory and approval requirements.
- Ensure environmental management procedures and protection measures are implemented.
- Ensure all Project personnel attend an induction prior to commencing works.
- Liaise with Roads and Maritime, Environmental Representative and other government authorities as required.
- Liaise with government agencies and relevant stakeholders.
- Liaise with Port Macquarie-Hastings Council as relevant.
- Assist where required, with the co-ordination of ERG meetings and community meetings.
- High level co-ordination and liaison between the environmental personnel and other parts of the team.
- Review regulatory requirement and environmental design issues.

- Stop work immediately if an unacceptable impact on the environment is likely to occur.

4.2.6 Superintendent

The environmental responsibilities of the superintendent include (but are not limited to) the following:

- Communicate with all personnel and sub-contractors regarding compliance with the CEMP and site-specific environmental issues.
- Ensure all site workers attend an environmental induction prior to the commencement of works.
- Co-ordinate the implementation of the CEMP.
- Co-ordinate the implementation and maintenance of pollution control measures.
- Identify resources required for implementation of the CEMP.
- Report any activity that has resulted, or has the potential to result, in an environmental incident immediately to the Environmental Manager/Environmental Coordinator/Advisor(s).
- Co-ordinate action in emergency situations and allocate required resources.
- Stop activities where there is an actual or immediate risk of harm to the environment and advise the relevant Project Manager and Environmental Manager.

4.2.7 Environmental Manager

The environmental responsibilities of the Environmental Manager include, but are not limited to, the following:

- Overall responsibility for the implementation of environmental matters on the Project.
- Development, implementation, monitoring and updating of the CEMP and sub plans in accordance with ISO14001.
- Report to Project Manager and other senior managers on the performance and implementation of the CEMP.
- Ensure management reviews of the CEMP are undertaken annually, documented and actions implemented.
- Ensure environmental risks of the Project are identified and appropriate mitigation measures implemented.
- Identify where environmental measures are not meeting the targets set and where improvement can be achieved.
- Ensure environmental protocols are in place and managed.
- Ensure environmental compliance.
- Obtain and update all environmental licences, approvals and permits as required.
- Lead liaison with Environmental Representative and approval authorities.
- Manage environmental document control, reporting, inductions and training.
- Manage environmental reporting within the Project team and to Roads and Maritime and regulatory authorities.

- Preparing reports on a monthly basis outlining the Project Works undertaken and the achievements that have been met, as well as identifying those areas where improvements were made.
- Oversee site monitoring, inspections and audits.
- Manage all subcontractors and consultants with regards to environmental matters, including assessing their environmental capabilities and overseeing the submission of their environmental documents.
- Prepare and/or distribute environment awareness notes.
- Review and approve PESCP.
- Develop and facilitate induction, toolbox talks and other training programs regarding environmental requirements for all site personnel.
- Notify Roads and Maritime and relevant authorities in the event of an environmental incident and manage close-out of these.
- Stop activities where there is an actual or immediate risk of harm to the environment, or to prevent environmental non-conformities, and advise the relevant Project Manager and Superintendent.
- Assist the Communications Manager to resolve environment-related complaints.

4.2.8 Environmental Coordinator/Advisor

The environmental responsibilities of the Environmental Coordinator/Advisor include, but are not limited to, the following:

- Assist in preparing the CEMP (including any future revisions) in accordance with all relevant requirements.
- Develop PESCP in consultation with the superintendent, site engineers, foreman and other relevant site personnel, as required.
- Undertake site inspections, carry out monitoring activities and complete site checklists.
- Ensure monitoring records are appropriately maintained, reviewed and any non-compliance issues addressed.
- Manage the day-to-day environmental elements of construction.
- Record and provide written reports to the Environmental Manager of non-conformances or corrective actions with the CEMP. This may include the need to implement additional, or revise existing, mitigation measures.
- Assist in identifying environmental risks.
- Advise the Environmental Manager and relevant Project Manager of the need to stop work immediately if an unacceptable impact on the environment is likely to occur or to require other reasonable steps to be taken by the relevant Project Manager or site construction staff to avoid or minimise impacts.
- Provide reports to the Environmental Manager on any major issues resulting from the Project.
- Assist all site staff with issues concerning Project environmental matters.
- Assist in developing training programs regarding environmental requirements and deliver where required, including delivery of the environmental component of toolbox talks

- Stop activities where there is an actual or immediate risk of harm to the environment and advise the Project Director, relevant Project Manager, Superintendent and Environmental Manager.

4.2.9 Community Relations Manager

The environmental responsibilities of the Community Relations Manager include, but are not limited to, the following:

- Ensure that all community consultation activities are carried out.
- Report any environmental issues to the Environmental Manager raised by stakeholders or members of the community.
- Communicate general Project progress, performance and issues to stakeholders including the community.
- Maintain the 24 hour complaints hotline.

4.2.10 Project/Site Engineers

The environmental responsibilities of the site/Project engineers include (but are not limited to) the following:

- Provide input into the preparation of environmental planning documents as required.
- Ensure that instructions are issued and adequate information provided to employees that relate to environmental risks on-site.
- Ensure that the works are carried out in accordance with the requirements of the CEMP and supporting documentation, including the implementation of all environmental controls.
- Identify any environmental risks.
- Identify resource needs for implementation of CEMP requirements and related documents.
- Ensure that complaints are investigated to ensure effective resolution.
- Take action in the event of an emergency and allocate the required resources to minimise the environmental impact.
- Report any activity that has resulted, or has the potential to result, in an environmental incident immediately to the Superintendent and Environmental Manager.

4.2.11 Foreman

The environmental responsibilities of the foreman include (but are not limited to) the following:

- Undertake any environmental duties as defined by the superintendent or Project/site engineer.
- Control field works and implement/maintain effective environmental controls.
- Where required, undertake environmental risk assessment of works prior to commencement.
- Ensure site activities comply with EWMS and relevant records are kept.
- Ensure all site workers are site inducted prior to commencement of works.

- Attend to any spills or environmental incidents that may occur on-site.
- Report any activity that has resulted, or has the potential to result, in an environmental incident immediately to the Superintendent.
- Stop activities where there is an actual or immediate risk of harm to the environment and advise the Project Director, relevant Project Manager, Superintendent or Environmental Manager.

4.2.12 Wider project team (including sub-contractors)

Comply with the relevant requirements of the CEMP, or other environmental management guidance as instructed by a member of the Project's management.

- Participate in the mandatory Project/site induction program.
- Report any environmental incidents to the foreman immediately or as soon as practicable if reasonable steps can be adopted to control the incident.
- Undertake remedial action as required to ensure environmental controls are maintained in good working order.
- Stop activities where there is an actual or immediate risk of harm to the environment and advise the Project Director, relevant Project Manager, Superintendent or Environmental Manager.

4.3 Project Team Integration

The integration of the environment, construction and other Project teams is fundamental to the effective identification of environmental risks and implementation of the environmental controls in the field. Project management personnel support is critical to initiating and maintaining this integration. Techniques used to drive integration of the teams to achieve environmental outcomes may include:

- Integrated planning sessions, where environmental risks and mitigations are a critical discussion aspect.
- Foremen/Engineers involved in ESCP and eWMS preparation.
- Environmental toolboxes by the environmental staff, the foremen and superintendent.
- Foremen / Superintendent to attend ERG inspections to understand Agency concerns.
- Foreman to be responsible and undertake rain inspections with environmental staff.
- Compound layout and open office environment where the environmental team is integrated into the engineering and community teams.
- Publication and display of sensitive area plans so that construction teams are aware of areas.
- Weather forecasts and warnings communicated to the wider team in order to prepare the site for adverse events and/or aid in the planning of high-risk activities.
- Weekly meetings with engineers and all foremen to discuss the upcoming activities and risks, including environmental aspects/concerns.

4.4 Sub-contractor management

Environmental requirements and responsibilities are to be specified to sub-contractors in the contract documentation. As part of the selection process, consideration will also to be given

to their past environmental performance. The Environmental Manager, or delegate, will participate in the tender assessment and selection process where it is deemed necessary by the Project Director due to associated environmental risks. All sub-contractors will be required to complete a subcontractor questionnaire or similar.

All sub-contractors are required to work in accordance with the approved CEMP.

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

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

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 Environmental 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.

The Environmental Manager (or delegate) will conduct 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 record of all inductions will be maintained and kept on-site. The Environmental Manager may authorise amendments to the induction at any time. Possible reasons for changes to the induction may be Project modifications, legislative changes or amendments to this CEMP or related documentation.

The Environmental Representative will review and approve the induction program and monitor implementation.

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 EWMSs 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.
- Dewatering activities.
- Emergency and spill response.
- Aboriginal and non-Aboriginal heritage.

- Threatened species, endangered ecological communities, clearing controls and vegetation protection. This includes fauna sighted within or adjacent of project boundary.
- Weed management.
- Dust control.

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. An example of the training schedule is included below in Table 5-1 and will be further developed throughout construction.

Table 5-2 Example Environmental Training Schedule

Training	Senior Managers	Superintendent	Engineers	Environmental Staff	Community Staff	Foreman	Leading Hands	Labourers	Sub-Contractors	Design Staff	Administrative Staff
Project Induction	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
CEMP on boarding and responsibilities	✓	✓	✓	✓	✓	✓	✓	✓			
Heritage Awareness	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
Fauna Awareness and Identification	✓	✓	✓	✓	✓	✓	✓	✓	✓		
Waste Management Training	✓	✓	✓	✓		✓					
Erosion and Sediment Control	✓	✓	✓	✓		✓	✓				
Spill response	✓	✓	✓	✓		✓	✓				

The Environmental Representative will review the training schedule and monitor implementation.

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, foremen 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 Environmental Representative will review and approve the training program and monitor implementation.

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 including an overview of fauna sightings, 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 foreman will conduct 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 approximately 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 and dates delivered will be recorded.

6 Communication

6.1 Internal communication

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

The environmental team will meet regularly 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, 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.

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

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

Relevant government agencies (for example EPA, DPI, OEH, DP&E) will be consulted throughout construction through their involvement in regular Environment Review Group (ERG) meetings. These meetings will discuss environmental performance, upcoming works, and high risk activities and will include inspections or the work sites as required.

6.3 Stakeholder and community communication

6.3.1 Community communications strategy

A Community Communications Strategy has been developed to provide an approach to stakeholder and community communications in accordance with the requirements of CoA B28. The strategy identifies opportunities for providing information and consulting with the community and stakeholders during the construction phase of the Project. The plan defines:

- The engagement groups.
- The key messages of the Project.
- The range of tools that will be used to interact with community and stakeholders.

Communication tools defined in the strategy include:

- Targeted community open days.
- Advertisements.

- Displays.
- Door-knock.
- Letterbox drops.
- Signage.
- Website.
- Focus meetings.
- 1800 number and email address.

The Community Communications Strategy will be submitted to DP&E for approval prior to the commencement of construction.

6.3.2 Complaints and enquires procedure

A Complaints and Enquiries Procedure, consistent with AS 4269: Complaints Handling, will be developed for the Project, in accordance with the requirements of CoA B27.

All community inquiries and complaints related to the construction activities will be referred to the 24-hour community information line (1800 154 724). A postal address PO Box 245, Beresfield NSW 2322 and email address contactOH2Ku@lendlease.com has been provided for receipt of complaints and enquiries. The telephone number, the postal address and the email address was published in newspapers circulating in the local area prior to the commencement of construction and is provided on the Project website.

Information on all complaints received, including the means by which they were addressed and whether resolution was reached and whether mediation was required or used will be included in a complaints register. The information contained within the register will be made available to the Director-General on request.

Attempts will be made to resolve all complaints in accordance with the community engagement strategy. An initial response to complaints will be provided within 24 hours of a complaint being received. A further detailed response, including steps taken to resolve the issue(s) that lead to the complaint, will be provided within 10 days. All complaints should be closed off in the stakeholder database. At all times the stakeholder will be kept informed of when they will receive a response.

The Environmental 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

7.1 Incident and Emergency Management

In the event of an environmental incident, Company Procedure *AR702 Environmental Incidents and Emergencies* (Appendix A8) will be adhered to. This protocol guides initial actions required to avoid and minimise environmental harm and notification of relevant project personnel.

Following the issue of an Environment Protection Licence for the project a Pollution Incident Response Management Plan shall be prepared and implemented on the project in accordance with section 153C of the *POEO Act Amendment (2011).*

Once initial incident management has occurred, Roads and Maritime's Environmental Incident Classification and Reporting Procedure will be implemented. The full procedure is provided in Appendix A7. The Roads and Maritime 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 Roads and Maritime 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 Project 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; MCoA approval or any agencies permit conditions.
- 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.

Typically, environmental incidents will be notified verbally immediately and in writing within 1 hour of any incident occurring to the Roads and Maritime Representative and to the Environmental Representative (for Category 1 incidents). Incident reports will be provided to Roads and Maritime Representative and the Environmental Representative (for Category 1 incidents) following relevant investigation conclusion, 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 close out as quickly as possible, taking all required action to resolve each environmental incident.

Changes to notification requirements contained within the POEO Act commenced on the 6 February 2012. These changes require immediate notification of any incident, which causes actual or potential harm to the health, or safety of human beings or ecosystems is not minor; or if actual or potential loss or property damage (including clean-up costs) associated with a pollution incident exceeds $10,000, to the following organisations:

- EPA (via the EPA pollution line 131 555).
- Ministry of Health (via the Public Health Unit).
- WorkCover Authority.
- Local Authority (i.e. council) if the EPA is not the appropriate authority.
- Fire and Rescue NSW.

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 the Project team will maintain all records relating to environmental incidents.

In accordance with the requirements of CoA B24, 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.

7.2 Incident Investigation

All incidents will be documented, investigations conducted and action plans established in order that the event does not occur again. Where lessons are learnt from the investigation or current procedures are identified as being ineffective, the CEMP will be revised by the Environmental Manager to include the improved procedures or requirement.

An environmental investigation includes the following basic elements:

- Identifying the cause, extent and responsibility of the incident;
- Identifying and implementing the necessary corrective action;
- Identifying the personnel responsible for carrying out the corrective action;
- Implementing or modifying controls necessary to avoid a repeat occurrence of the incident;

- Recording any, changes in written procedures if required.

All personnel are required to report all incidents, as it is regarded as a valuable method of addressing shortcomings in procedures, training or equipment, and is an opportunity for improvement. It is an offence not to report to EPA environmental incidents that may exceed $10,000 in harm or those that are not trivial in nature, in accordance with part 5.7 of the *POEO Act 1997*.

Roads and Maritime form 624 and company form *AR702B Incident Investigation* shall be used when completing incident investigation.

8 Inspections, monitoring and auditing

8.1 Environmental inspections

8.1.1 Weekly and post rainfall site inspections

The Environmental Manager and/or Environmental Coordinator/Advisor(s) will undertake weekly and post rainfall inspections of the work sites to evaluate the effectiveness of environmental controls. The Environmental Coordinator/Advisor(s) will record inspection findings on an inspection checklist form. 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.

8.1.2 Environmental Representative, Roads and Maritime and Environmental Review Group inspections

The Environmental Representative, Roads and Maritime staff and members of the Environmental Review Group (ERG) will undertake regular inspections of works sites, and in particular critical activities throughout construction of the Project. Inspections by the Environmental Representative and Roads and Maritime Project staff would typically occur on a weekly or fortnightly basis depending on the complexity and anticipated risks associated with the stage of construction.

ERG inspections will typically be less frequent, likely on a monthly basis (or alternate timeframe depending on the construction staging of Project). The ERG will be maintained for the duration of the Project and will meet regularly and undertake environmental inspections. The role the ERG is to provide proactive advice on environmental management issues and review the environmental performance of the Project. Section 8.6 describes the process if the ERG raise non-conformances or issues requiring corrective/preventative action during site inspections.

A member of the Project 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.

8.1.3 Pre-work inspections

Prior to the commencement of works on each shift, an inspection will be carried out 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 Foreman will undertake the inspections.

8.2 Environmental monitoring

Monitoring will be undertaken to validate the impacts predicted for the Project, to measure the effectiveness of environmental controls and implementation of this CEMP, and to address approval requirements. The monitoring requirements for required aspects are included in the relevant environmental management sub-plans and summarised in Table 8-1 and Table 8-2:

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

CoA	Description	Relevant Sub-Plan	Reporting Requirements
B10 and B31(b)	Ecological monitoring for construction related impacts	Construction Flora and Fauna Management Sub-Plan (Appendix B2)	Annual reporting of results to the Director-General, EPA and DPI (Fishing and Aquaculture).
B17, and B31 (d)	Water Quality Monitoring Program	Construction Soil and Water Management Sub-Plan (Appendix B4)	Reporting of results to DP&E, EPA, DPI (Fishing and Aquaculture) and NOW.
B20 (i)	Monitoring procedures for the built elements and landscaping (including weed control)	Urban Design and Landscaping Plan	Refer to UDLP
B29 (c) and B29 (d)	Monitoring of implementation and outcomes of EMPs and monitoring programs by Environmental Representative	NA	Report to Roads and Maritime
B30 (e) (i)	Monitoring of dust emissions	Construction Air Quality Management Sub- Plan (Appendix B6)	Refer to Sub-Plan
B30 (e) (iii)	Construction and operation of ancillary facilities	Construction Soil and Water Management Sub-Plan (Appendix B4) Construction Air Quality Management Sub- Plan (Appendix B6)	Refer to Sub-Plans
B30(e) (v)	Monitoring of construction waste	Construction Waste and Energy Management Sub-Plan (Appendix B7)	Refer to Sub-Plan
B30 (e) (vi)	Monitoring the impacts of spoil and fill	Construction Soil and Water Management Sub-Plan (Appendix B4)	Refer to Sub-Plan
B30(e) (vii)	Monitoring of construction hazard and risks	Roads and Maritime Environmental Incident Classification and Reporting (Appendix A7, A8)	Refer to Appendix A7
B31 (a)(vi)	Monitoring of the Construction Traffic Management Plan	Construction Traffic Management Sub-Plan (Appendix B1)	Refer to Sub-Plan
B31 (b) (ix)	Monitoring of Construction Flora and Fauna Management Plan	Construction Flora and Fauna Management Plan (Appendix B2)	Refer to Sub-Plan
B31(c) (vii)	Construction noise and vibration monitoring	Construction Noise and Vibration Management Sub-Plan (Appendix B3)	Refer to Sub-Plan
C16	Monitoring/reporting measures to protect Aboriginal cultural heritage sites	Construction Heritage Management Sub-Plan (Appendix B5)	Refer Sub-Plan

Table 8-2 Summary of environmental monitoring required by EPBC Act Approval

Condition	Description	Relevant Sub-Plan	Reporting Requirements
4 and 8	Ecological monitoring for construction related impacts	Construction Flora and Fauna Management Sub-Plan (Appendix B2)	Annual reporting of results to the Minister (Department of the Environment).

Environmental monitoring will involve collecting and interpreting data to provide quantification of the effectiveness of the CEMP. The monitoring programs will assist in the auditing of safeguard measures to ensure they achieve their objectives and to facilitate modification where necessary.

Company Procedure *AR703 Environmental Monitoring and Inspection* shall be followed when planning monitoring programs. The timing, frequency, methodology, locations and responsibilities for the proposed environmental monitoring programs are specified in the respective Sub-Plans, and summarised in **Table 8.1**. The monitoring programs range from those involving formal sample collection, analysis and measurement, to those involving a more qualitative assessment.

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

- Non-conformances identified as part of the weekly inspections will be actioned and closed out in a timeframe agreed to between the Environmental Coordinator/Advisor and relevant member of the construction team on site.
- If required, an analysis of the results by the Environmental Manager in more detail with a view of determining possible causes for the non-conformance.
- If required, 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

Table 8-3 presents auditing requirements that are applicable to the Project.

8.3.1 Lendlease audits

Internal auditing will be undertaken generally on a six monthly basis throughout the Project. The purpose of auditing is to verify compliance with:

- This CEMP and Sub-Plans.
- Approval requirements (CoA, SoC).
- Any relevant legal and other requirements (e.g. licenses, 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.

8.3.2 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.

Table 8-3 Audit requirements

No.	Audit	Requirement	Timing	Responsibility	Recipient
1	Internal audit	Verify compliance with approval and legal requirements, Roads and Maritime specifications and construction documentation.	The first audit within three months of the commencement of construction and then at six Monthly intervals thereafter. The final submitted within five working days of contract completion date.	Environmental Manager	Project Manager, Roads and Maritime
2	External independent audit	Verify compliance with approval and legal requirements, Roads and Maritime specifications, construction documentation and any other commitments.	Six monthly	Environmental Manager	Project Manager, Roads and Maritime
3	External independent audit	Verify compliance with the Department of the Environmental EPBC Act conditions of approval.	Upon request	Environmental Manager	Minister for the Environment

8.4 Compliance tracking program

A Compliance Tracking Program has been developed for the Project. The requirements of the Compliance Tracking Program, as prescribed in CoA B24, include:

a) Provisions for the notification of the Director General of the commencement of works prior to the commencement of construction and prior to the commencement of operation of the Project (including prior to each stage, where works are being staged).

b) Provisions for periodic review of Project compliance with the requirements of this approval, Statement of Commitments and documents listed under condition A1.

c) Provisions for periodic reporting of compliance status against the requirements of this approval, Statement of Commitments and documents listed under condition A1 to the Director General including at least one month prior to the commencement of construction and operation of the Project and at other intervals during the construction and operation, as identified in the Program.

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 reporting and recording incidents and actions taken in response to those incidents.

f) Provisions for reporting environmental incidents to the Director General during construction and operation.

g) Procedures for rectifying any non-compliance identified during environmental auditing, review of compliance or incident management.

The Compliance Tracking Program describes how the requirements of CoA B24 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 CoA and SoC have been addressed

Lendlease will complete the required construction compliance reports relevant to the Oxley Highway to Kundabung section and provide to Roads and Maritime for submission to DP&E. A summary of the required compliance reporting, as required by CoA B24, is provided in Table 8-4.

Table 8-4 Compliance reporting

No.	Report	Requirement	Timing	Responsibility	Recipient
1	Compliance Tracking Program CoA B24 (a)	Describes how the requirements of CoA B24 will be met and sets out a program and frequency for compliance reporting and independent auditing.	Prior to construction	Roads and Maritime	DP&E
2	Compliance Reporting CoA B24 (c)	Report on compliance and performance against approval requirements. The compliance reporting required under the Compliance Tracking Program will record how the CoA and SoC have been addressed.	Prior to construction, six months following commencement of construction and then at six monthly intervals thereafter. The compliance report must include the results of environmental monitoring carried of	Roads and Maritime	DP&E and ER

			the matters listed in Table 8.1. Prior to commencement of operation.		

8.5 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 Project, 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 8-5 will be amended to reflect these changes.

Table 8-5 Reporting requirements

No.	Report	Requirement	Timing	Responsibility	Recipient
1	Compliance Reporting – Department of the Environment EPBC Act condition of approval 8	Report on compliance with each condition of approval, including implementation of the Biodiversity Offset Management Plan, Flora and Fauna Management Plans and Ecological Monitoring Plan.	Within three months of every 12 month anniversary of the commencement of the action	Environmental Manager	Department of the Environment
2	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	Environmental Manager	Roads and Maritime
3	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.	Within 10 working days of the end of each calendar month.	Environmental Manager	EPA/ Roads and Maritime
4	EPL annual returns	Report on compliance with EPL.	Within 60 days of the anniversary of the EPL.	Environmental Manager	EPA/ Roads and Maritime

No.	Report	Requirement	Timing	Responsibility	Recipient
5	ER inspection report	Report of site environmental performance following routine inspections.	Monthly	Environmental Representative	Roads and Maritime / Lendlease
6	Environmental risk assessment	Conducted for each construction stage, project changes and significant issues.	Prior to construction during development of CEMP and as required thereafter.	Environmental Manager, relevant Project Manager	Roads and Maritime
7	Monitoring results	Report on monitoring data recorded and potential exceedances against criteria.	As required	Environmental Manager, Environmental Coordinator/ Advisor(s)	Roads and Maritime
8	Roads and Maritime and/or EPA environmental inspection reports	Response to matters raised in Roads and Maritime and/or EPA site inspections.	As required. Typically every two weeks for Roads and Maritime inspection reports and monthly for EPA inspection reports.	Environmental Manager, Environmental Coordinator/ Advisor(s)	Roads and Maritime /EPA

8.6 Non-conformity, corrective and preventative actions

Any member of the Project team may raise a non-conformance or improvement opportunity.

The Lendlease Project Quality Plan describes the process for managing non-conforming work practises and initiating corrective/preventative actions or system improvements.

The Environmental Representative and 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/preventative action (or actions) must be implemented. In addition, any environmental management improvement opportunities can be initiated because of incidents or emergencies, monitoring and measurement, audit findings or other reviews. Improvement opportunities may also result in the implementation of corrective/preventative actions.

An Environmental Inspection Report will be issued for deficiencies that are minor in nature but require rectification.

Corrective/preventative actions and improvement opportunities will be identified during weekly environmental inspections and include detail of the issue, action required and timing and responsibilities. The inspection report will be updated with date of close out and any necessary notes.

Non-conforming activities may be stopped, if necessary, by the Environmental Manager, Environmental Coordinator/Advisor(s) or Project/Site Engineer following consultation with the relevant Project Manager or delegate. The works will not commence until a corrective/preventative action has been closed out. The Environmental Representative may also stop works in these circumstances.

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

Management reviews are undertaken as part of the continual improvement process. The management review can consist of group reviews, or executive reviews. Lendlease's Environmental Manager will review the CEMP at least every twelve months from construction commencement. Between the scheduled reviews, a register of issues will be maintained to ensure that any issue raised by internal and external personnel associated with the Project is recorded.

The purpose of the review is to ensure that the system is meeting the requirements of the standards, policies and objectives and, if not, to amend the CEMP to ensure compliance. The Project Director will review and approve changes to the system.

This review will be held every 12 months and will consider:

- Client comments.
- Agency comments.
- Complaints.
- New environmental assessments or updated risk assessments
- 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 review 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. The CEMP would also be reviewed where relevant following a category 1 incident as defined in Appendix A2.

Any changes to the CEMP, sub plans or other documentation prescribed by the CoA will be advised to Roads and Maritime, the Environmental Representative and Agencies/ DP&E (where relevant) for approval. This is described further in Section 1.6.

10 Documentation

10.1 Environmental records

The Environmental 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 Environmental Manager, or delegate, has the authority to change any of the environmental management documentation.

10.2 Document control

Lendlease or Roads and Maritime where relevant, will coordinate the preparation, review and distribution, as appropriate, of the environmental documents listed above. During the Project, the environmental documents will be stored at the main site compound.

The Contractor will implement a document control procedure to control the flow of documents within and between 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.

Appendix A1
Legal and other requirements

Appendix A1

Register of legal and other requirements

Table 1 Legal register

Act	Activity / aspect	Requirement	Reference	Part 3A* applicability
General				
Environmental Planning and Assessment Act, 1979	All	Comply with the terms Minister for Planning's approval for the project. Obtain the Minister's approval for any project modifications that are not consistent with the planning approval.	S75W	Yes
Environmental Protection Biodiversity Conservation Act 1999	All	Comply with the conditions of approval of EPBC 2012/6518. Obtain a variation for any changes to the approval.	S130 and 133	No
Water				
Water Management Act 2000 With the exception of controlled activity approvals, the *Water Management Act 2000* (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.	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. Do not use of water on land (unless supplied by a water utility, irrigation corporation etc or in accordance with basic landholder rights) without a water use approval.	S56 S60A S89 S91A	No

* Note that pursuant to Schedule 6A of the *Environmental Planning and Assessment Act 1979*, the project is a transitional Part 3A project. The provisions of Part 3A therefore continue to apply.

Act	Activity / aspect	Requirement	Reference	Part 3A^ applicability
Water Management Act 2000	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
Water Management Act 2000	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 2011 (cl.38)
Water Act 1912 Note that this Act is being progressively repealed by the *Water Management Act 2000* (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.
Protection of the Environment Operations Act 1997	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 3A^ applicability
Noise				
Protection of the Environment Operations Act 1997	Plant maintenance and operation	Do not operate plant if it emits noise caused by poor maintenance or operation.	S139	Yes
Protection of the Environment Operations Act 1997	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	Yes
Contaminated material				
Protection of the Environment Operations Act 1997	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 material which complies with a current resource recovery order and exemption 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
Contaminated Land Management Act 1997	Reporting contamination	Notify the EPA if contaminants exceed thresholds contained in guidelines or the regulations where contamination has entered or will foreseeably enter neighbouring land, the atmosphere, groundwater or surface water. Contaminants in soil are equal to or exceed guideline levels with respect to the current or approved use of the land. Contamination meets other criteria that may be	S60	Yes

Act	Activity / aspect	Requirement	Reference	Part 3A^ applicability
		prescribed by the regulations.		
Biodiversity				
Noxious Weeds Act 1993	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 3 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
National Parks and Wildlife Act 1974	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
Native Vegetation Act 2003	Flora and native vegetation conservation	Only clear native vegetation in accordance with a planning approval or property vegetation plan.	S12	No
National Parks and Wildlife Act 1974	Flora and native vegetation conservation	Do not pick protected native plants without a licence.	S117 S131	Yes
Fisheries Management Act 1994	Dredging or reclamation	Provide the Minister for Primary Industries 28 days notice of planned dredging or reclamation work.	S201	No

Act	Activity / aspect	Requirement	Reference	Part 3A^ applicability
Fisheries Management Act 1994	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
Fisheries Management Act 1994	Fish passage	Do not block fish passage without a permit.	S219	No
Environment Protection Biodiversity Conservation Act, 1999 (Commonwealth)	Flora and fauna conservation	Do not kill, injure or take a member of a listed threatened species without a permit.	Part 13	Yes
		Comply with the terms of any EPBC Act approval for the project.		Yes
Waste				
Protection of the Environment Operations Act 1997	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
Protection of the Environment Operations Act 1997	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: Is VENM. Does not exceed 200 tonnes in the Sydney, Newcastle and Wollongong areas, or 20,000 tonnes	Part 3.2 Schedule 1	Yes

Act	Activity / aspect	Requirement	Reference	Part 3A^ applicability
		outside these areas. Is covered by a "resource recovery order or exemption". These orders and exemptions are conditional and may require some chemical testing of materials before they are placed onto land. A licence must be obtained if more than 2,500 tonnes (or cubic metres) is 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 2005	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
Heritage				
Heritage Act 1977	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	S139	No

Act	Activity / aspect	Requirement	Reference	Part 3A^ applicability
		discovered, exposed, moved, damaged or destroyed; or Do not disturb or excavate land on where a relic has been discovered or exposed unless an excavation permit in place.		
		Notify the heritage Council on discovery of a relic	S146	Yes
National Parks and Wildlife Act 1974	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
Aboriginal and Torres Strait Islander Heritage Protection Act 1984 (Commonwealth)	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
General				
Protection of the Environment Operations Act 1997	Harming the environment	Do not risk harming the environment by wilfully or negligently: disposing of waste unlawfully. causing any substance to leak, spill or otherwise escape (whether or not from a container); or emitting an ozone depleting substance	S115 S116 S117	Yes
Protection of the Environment Operations Act 1997	Control equipment	Properly and efficiently maintain and operate any installed pollution control equipment (including monitoring devices).	S167	Yes
Protection of the Environment Operations	Notification of pollution incidents	Notify the EPA immediately of pollution incidents where material harm to the environment is caused	S148	Yes

Act	Activity / aspect	Requirement	Reference	Part 3A^ applicability
Act 1997		or threatened.		
Protection of the Environment Operations Act 1997	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: road construction: meaning the construction, widening or re-routing of roads if it results in the existence of 4 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.	S47 S48	Yes
Environmentally Hazardous Chemicals Act, 1985	Hazards and risks	Obtain a licence to undertake prescribed activities involving environmentally hazardous chemicals or declared chemical wastes.	S28	Yes
Dangerous Goods (Road and Rail Transport) Act 2008	Hazards and risks	Ensure that dangerous goods are transported in a safe manner.	S9	Yes
Pesticides Act 1999	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	S12 S13 S14 S15 S17	Yes

Act	Activity / aspect	Requirement	Reference	Part 3A^ applicability
		required.		
National Greenhouse and Energy Reporting Act, 2007 and Regulations 2008	Greenhouse gas emissions	Accounting and reporting of greenhouse gases produced and energy consumed during construction. Applicability dependent on thresholds.	-	Yes

Table 2 RMS G36 requirements

G36 reference	Requirement	Relevant section of CEMP or supporting documentation
Section 3	Implement a Contractors Environmental Management System (EMS)	This document
3.1	An environmental policy must be included.	Appendix A3
3.2 c)	Prepare and implement a CEMP in accordance with Clause 4 and ISO 14001 Clause 4.3.3.	This document
3.3 a)	Nominate the Environmental Manager directly responsible for ensuring that the requirements of the CEMS are implemented and maintained.	Section 4.2
3.3 b)	Indicate how suitable resources will be assigned to ensure that the CEMP is fully implemented.	Section 4.2
3.5	Include a matric or index in the CEMP showing where the environmental protection requirements of G36 have been addressed. Advise RMS Representative of any change to the CEMS or CEMP.	This table Chapter 9
3.7	Monitor and evaluate environmental performance.	Chapter 8
3.10	Schedule and undertake CEMS audits and CEMP compliance audits.	Section 8.3
4.1.1	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
4.1.1	The CEMP must be either incorporated as part of the project quality plan.	Noted
4.2	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 4.2

G36 reference	Requirement	Relevant section of CEMP or supporting documentation
4.2	The CEMP must identify the Environmental Manager as the authorised contact person for communications with the RMS Representative and the Environment Protection Authority (EPA) on environmental matters.	Section 4.2
4.2	A project soil conservationist must be appointed for the duration of the project. The soil conservationist will review all erosion, sediment and water pollution plans, controls and measures prior to installation.	Appendix B4
4.4.1	The CEMP must include details of: • Key emergency response personnel showing responsibilities and contact details including all-hours telephone numbers. • Emergency services (e.g. ambulance, fire brigade, spill clean-up services). • Communications strategy (internal and external). Containment measures to be taken in the event of emergency situations that may arise during the Contractor's Work and procedures for restoration.	Contacts, Section 4.2 Contacts Chapter 6 Appendix A7
4.4.2	All Environmental Incidents must be managed and reported in accordance with the RTA Environmental Incident Classification and Management Procedure.	Appendix A7
4.4.2	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: • If the actual or potential harm to the health or safety of human beings or ecosystems is not trivial. If actual or potential loss or property damage (including clean-up costs) associated with an environmental incident exceeds $10,000.	Appendix A7
4.4.2	Prepare an Incident Emergency Spill Plan as part of the CEMP.	Appendix A7
4.5	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	Chapter 5

G36 reference	Requirement	Relevant section of CEMP or supporting documentation
	their assigned activities before they commence their assigned activities.	
	Identify at least two persons (and their contact telephone numbers) who will be available to be contacted by 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 measure, as directed by an authorised officer of EPA.	Contacts
4.8.1	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.	Section 6.3
4.8.3	Inform residents of the proposed work outside normal working hours.	Section 6.3
4.10	Report on complaint about any environmental issue, including pollution, arising from the Works.	Section 6.3
4.11	Maintain environmental records to demonstrate compliance with the CEMP.	Section 8.3, Section 8.4, Section 8.5
4.13	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 for aspects where compliance limits have been specified.	Section 8.2, Section 8.3, Section 8.4
4.14.1	Develop and implement a risk-based auditing program.	Section 8.3
4.15	Implement a waste and recycling material data collection program.	Appendix B7
5	Identify the location of environmentally sensitive areas and adjacent sensitive receivers.	Appendix A6
6.2	Identify obligations under environmental legislation relevant to the Work.	Appendix A1
6.3	Obtain all necessary approvals, licences and permits required for the work and carry out work in accordance with the requirements.	Section 3.3
6.4	Identify construction activities and access requirements to the construction site and the other areas affected by the Work.	Appendix B1
6.5	Prepare and implement a soil and water management plan addressing:	Appendix B4

G36 reference	Requirement	Relevant section of CEMP or supporting documentation
	• Erosion and sedimentation control. • Water extraction. • Dewatering. • Works in waterways. • Impacts on groundwater from construction.	
6.6	Prepare and implement an air quality management plan.	Appendix B6
6.7	Prepare and implement a Noise and Vibration Management Plan.	Appendix B3
6.9	Manage clearing, mulch, flora and fauna.	Appendix B2
6.12	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
6.13, 6.14	Prepare and implement a Heritage Management Plan to manage Aboriginal and non-Aboriginal heritage.	Appendix B5
6.15	Manage contaminated land.	Appendix B4
6.16	Prepare and implement a Waste Management Plan.	Appendix B7
6.18	Reinstate all disturbed areas both on and off the Site.	Appendix B4, Urban Design and Landscape Plan

Appendix A2
Environmental aspects and impacts

Appendix A2

Environmental aspects and impacts register

This Environmental Aspect and Impact Register has been prepared by the Oxley Highway to Kempsey development team to supplement the Environmental Risk Analysis conducted as part of the Environmental Assessment (EA).

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, SoC, and review of the environmental risks identified by the EA and subsequent Submissions Report.

Table 1 Risk register

Issue	Construction activity / aspect	Potential impact	Risk level prior to mitigation	Indicative Mitigation Measures (to be considered and where applicable further developed in associated management documents)	Risk level following mitigation	Management Documents / Training Required
Air quality	General earthworks. Vegetation clearing. Open excavation works. Spoil handling. Stockpiling Vehicular movements on unsealed roads. Material haulage Quarrying. Vehicle emissions. Handling of chemicals, waste and hazardous goods.	Complaints from neighbours, including loss of amenity, dust in living areas, swimming pools.	B (moderate)	Induct personnel on air quality issues and safeguards. Use water carts on unsealed surfaces and stockpiles. Utilise safe dust suppressants to reduce dust generation. Use street sweepers to reduce dust in areas of dust build up. Modify or cease operations during high winds. All trucks on public roads to cover loads. Vehicles, equipment, machinery used and all facilities – designed, operated and maintained to control the emission of smoke, dust, odours and fumes. All disturbed areas stabilised, revegetated and/or landscaped as soon as practicable. Minimise tracked mud/dust on public roads. No burning or incineration of any material at any time. Dust monitoring. Avoid “hot-work” during total fire bans and obtain any necessary permits/exemptions from the Rural Fire Service. WorkCover licensing requirements will be complied with for the storage of hazardous substances and dangerous goods. Appropriately stocked spill kits will be readily available at all chemical storage locations and during chemical use. Material Safety Data Sheets (MSDSs) will be obtained, complied with and retained on site for all required chemicals. Pesticide use will be in accordance with the Pesticides Act, 1999.	C (Low)	AQMP EWMS SWMP Complaints procedure Induction
		Potential adverse health effects.	C (Low)		C (Low)	
		Degradation of water quality and other aspects of the natural environment.	C (Low)		C (Low)	
		Health risks to neighbours and members of the public from release of gases and/or smoke.	C (Low)		C (Low)	
Biodiversity	Clearing of native vegetation. Stockpile / haul road construction near vegetation. Works near and in creeks / temporary	Loss of habitat for threatened species.	A (High)	Induct personnel on biodiversity issues and mitigation measures. Prior to construction – identify and fence all flora and fauna habitat areas required to be protected as identified in the Environmental Assessment and/or detailed design documentation.	B (moderate)	FFMP EWMS Vegetation Clearing procedure
		Potential longer term impacts associated with increased habitat fragmentation.	A (High)		B (moderate)	

Issue	Construction activity / aspect	Potential impact	Risk level prior to mitigation	Indicative Mitigation Measures (to be considered and where applicable further developed in associated management documents)	Risk level following mitigation	Management Documents / Training Required
	crossings. General earthworks near vegetation. Vehicular movements. Open excavation works.	Direct impact to flora or fauna during construction.	B (moderate)	Minimise clearing of all vegetation and undertake progressive revegetation. Locate and construct fauna crossings as identified in the Environmental Assessment and/or detailed design documentation. Implement ongoing weed monitoring and management programs. Disturbed areas will be monitored for effective soil stabilisation and restoration / rehabilitation. Implement a staged clearing process and undertake fauna rescue during clearing as required. Engage arborist to provide advice on habitat tree health and provide ongoing advice. Design and construct all temporary waterway crossings to maintain fish passage. Undertake threatened species management as required under the Environmental Assessment and/or detailed design documentation / Approval. Implement washing procedures to prevent the spread of pests and disease. Undertake monitoring as required in the Approval. Implement Frog hygiene protocols as per Hygiene Protocol for the Control of Disease in Frogs (DECC NSW, 2008) when moving between wet-area work sites representing giant barred frog habitat (including Maria River and associated tributaries, Cooperabung, Barrys, Smiths and Pipers creeks).	C (Low)	Fauna handling procedure Induction
Aboriginal heritage	Early works including non-substantial construction activities eg services relocations. Initial clearing and/or grubbing of vegetation. Initial removal of topsoil. Construction of site compounds and spoil / mulch and / or equipment stockpile areas. Temporary access roads during construction.	Impact to identified heritage items prior to completion of any required salvage program.	A (High)	Prior to construction – identify and assess Aboriginal heritage items on proposed sites and predict potential impacts. Induct personnel on heritage issues and mitigation measures. Protect identified heritage items with protective fencing or flagging and signage from being disturbed during construction. Undertake salvage works in accordance with the HMP prior to impacting site. If design changes or construction activities impact on areas outside of those identified in the EA, OEH and relevant Aboriginal groups will be consulted and approval obtained pre any required salvage. Implement unexpected find procedures as required.	B (moderate)	HMP EWMS Impact to identified heritage procedure Induction Skeletal remains procedure
		Impact (machinery, procedure vibration, stockpiles) during the construction period to identified sites	A (High)		B (moderate)	
		Impact to undiscovered or undocumented heritage sites	B (moderate)		C (Low)	
		Change in visual integrity of cultural area	A (High)		B (moderate)	
		Finding / disturbing burials or human remains	C (Low)		C (Low)	
Non-Aboriginal heritage	Early works including non-substantial construction activities eg services relocations. Initial clearing and/or grubbing of vegetation. Initial removal of topsoil. Construction of site compounds and	Impact to identified heritage items.	B (moderate)	Prior to construction – identify and assess non- Aboriginal heritage items on proposed sites and predict potential impacts. Induct personnel on heritage issues and safeguards. Protect identified heritage items with protective fencing or flagging from being disturbed during construction. Undertake archival recording as specified in the HMP.	C (Low)	HMP EWMS CNVMP Chance find procedures Induction
		Vibration damage during the construction period to identified sites.	B (moderate)		C (Low)	
		Impact to undiscovered or undocumented heritage sites.	B (moderate)		C (Low)	

Issue	Construction activity / aspect	Potential impact	Risk level prior to mitigation	Indicative Mitigation Measures (to be considered and where applicable further developed in associated management documents)	Risk level following mitigation	Management Documents / Training Required
	spoil / mulch and / or equipment stockpile areas. Temporary access roads during construction.	Change in visual integrity of heritage sites.	B (moderate)	Regular inspection of heritage protection fencing. Implement unexpected find procedures as required. Landholder consultation.	C (Low)	
Noise and vibration	Site establishment. Earthworks. Batch plant. Bridge works. Piling. Paving. Saw cutting. Blasting. Crushing and screening. Rock hammering and drilling.	Noise impacts on sensitive receivers during construction.	A (High)	Liaise (agreements where applicable) with local communities and affected residents. Adherence to working hours in CNVMP unless otherwise approved. Implement operational noise mitigation measures as early as possible. Respite periods for particularly noisy/ short duration activities (in accordance with regulatory guidelines and/or CNVMP). Construction equipment selected, operated and maintained to minimise noise impacts and where necessary fitted with silencers and “smart” reversing alarms. Reduced use of horns to signal trucks loaded where residences close by. Minimise impacts from saw cutting/ use effective shielding. Monthly noise monitoring to monitor predicted verses actual noise levels. Implementing management measures where regenerated noise is found to be excessive and agreements are not in place. Managing construction vehicle routes and speed of vehicles. Modelling vibration impacts and monitoring where impacts are predicted. Establish and maintain complaints management system. Building condition reports on potentially impacted buildings as required by Project approval. Undertake trial blasting to establish site law for follow up blasting. Implement additional blasting mitigation measures as detailed within the report: 754A 30 OH2Ku Refined Blasting Criteria Rev4.	B(moderate)	CNVMP EWMS Blasting procedure Negotiated agreements Complaints procedure Induction OH2Ku Refined Blasting Criteria Rev4
		Vibration impacts on nearby receptors, including heritage.	A (High)		B(moderate)	
Soil and water quality	Clearing and grubbing. Earthworks. Storage of fuels, chemicals and other dangerous goods. Maintenance of plant and equipment, including servicing and refuelling. Sediment basin management. Drainage works. Concrete works. Batch plant. Temp access road construction /	Erosion and movement of soils.	A (High)	Appropriately designed erosion control structures (eg sedimentation basins, ERSED-straw bales, silt fences and sand bags) will be installed, maintained and cleaned regularly. Locate spoil stockpiles, plant and equipment away from drainage lines, watercourses or stormwater drains in accordance with established criteria. Install clean water diversions to ensure clean and dirty water are not mixed on site. Storage, compound access and parking areas sealed, as early during works as practicable. Chemical storage meets WorkCover and EPA bunding/storage requirements.	B (moderate)	SWMP EWMS Stockpile Management Protocol Induction Targeted ERSED training Design for temporary waterway crossings Unexpected Discovery of Contaminated Land Procedure Wilson River Bridge Construction_Rev 5_23012015
		Captured dirty water discharge from basins.	A (High)		B (moderate)	
		Dirty water not captured and leaves site.	A (High)		B (moderate)	
		Contamination of sediment basins and /or waterways from spills.	B (moderate)		C (Low)	
		Disturbance to creeks from access road construction.	A (High)		B (moderate)	

Issue	Construction activity / aspect	Potential impact	Risk level prior to mitigation	Indicative Mitigation Measures (to be considered and where applicable further developed in associated management documents)	Risk level following mitigation	Management Documents / Training Required
	removal from waterway areas. Bridge construction.	Haul road washout from flood event.	A (High)	Wheel mud reduction/ cleaning measures at exit of all sites where required. Temporary waterway crossings are established to minimise risk of fines in waterways and designed to address appropriate flow volumes. Buffer zones of vegetation will be maintained adjacent to waterways for as long as practical. Rehabilitation and landscaping works of disturbed areas undertaken as soon as the works are completed and/or progressively where possible. Appropriately designed, implemented and maintained silt control systems to mitigate risk of water pollution during upgrade of the creek bridges. Implement concrete washout process within bunded areas. Provide and maintain spill kits. Where required, ensure hydrocarbon booms are installed around works areas. Undertake regular testing of the Project PRIMP as required by the PRIMP. Utilise bins to contain excavated spoil from bridge construction activities where practicable. Ensure silt curtains installed in waterways are of appropriate design and durability. In relation to coffer dam works, implement additional mitigation measures as detailed within the report: Wilson River Bridge Construction_Rev 5_23012015. Consult / confirm with EPA and Primary Industries for temporary creek crossings construction / removal methods. Establish clean water catch drains/ diversion early in Project before topsoil stripping. Design drainage to maximise dirty water to sediment basins. Engage soil conservationist to advise on ERSED issues. Dedicated work crews undertaking ERSED works will be employed and trained in ERSED requirements. Install signage at discharge points to assist workers to understand implications of dirty water release in sensitive areas. Meet new RMS Dewatering guidelines. Implement appropriate procedures to identify, contain, handle and manage contaminated material.	B (moderate)	
		Disturbance on unidentified contaminated land eg historical agricultural practice such as tick dips. Scour of riverbed due to	B (moderate)		C (Low)	
Water management	Extraction of groundwater. Water use for dust suppression, washing of plant and equipment, landscaping, compaction etc.	Groundwater interception and ingress into excavations.	B (moderate)	Construct “Turkeys Nest” type basins for storing captured stormwater. Prioritise the use of captured stormwater over other sources. Re-use / recycle water where possible. Minimise excavations proposed to intercept groundwater.	B (moderate)	SWMP EWMS Basin management procedure Induction
		Reduction of aquifer storage.	C (Low)		C (Low)	

Issue	Construction activity / aspect	Potential impact	Risk level prior to mitigation	Indicative Mitigation Measures (to be considered and where applicable further developed in associated management documents)	Risk level following mitigation	Management Documents / Training Required
	Water use for drinking water, hand washing, toilets etc. Excavation water table. Use of water for concrete batching Quarrying. General earthworks and construction.	Changes to the natural groundwater flow in the area surrounding the Project due to compaction of the road surface.	B (moderate)	Drainage / bridging layers in floodplain.	C (Low)	
		Changes in the recharge and runoff patterns as a result of construction.	B (moderate)		C (Low)	
		Contamination of groundwater due to construction activities.	B (moderate)		C (Low)	
Mulch and tannin	Vegetation clearing and storage of mulch	Tannin impacts on waterways.	A (High)	Implement the RMS mulch and tannin protocol.	B (moderate)	
Flooding	Waterway crossings. Transverse drainage. Bridge pier locations. Bridge openings. Haul and bridge roads.	Restriction to flow paths causing localised flooding.	B (moderate)	Design drainage structures to cope with design flood events and Environmental Assessment commitments. Locate compounds / plant / storage above flood level events stated in the EA. Design and build temporary crossings to be stabilised and minimise scour / erosion during flood events. Install scour protection as early as possible. Look at predicting flood events from gauges or rainfall predictions. Design and construct Project in accordance with CoA and SoC.	C (Low)	SWMP EWMS Establish design for temporary waterway crossings.
		Changes to flood levels – increased impact to receivers.	B (moderate)		C (Low)	
		Stormwater inflow to site – clean stormwater getting mixed with dirty site water.	A (High)		B (moderate)	
		Flood damage to plant / equipment / satellite compounds.	B (moderate)		C (Low)	
		Erosion of haul/ access road during large flood events.	A (High)		B(moderate)	
Spoil and Fill	Cuts. Fill areas. Borrow pits. Quarries. Haulage of spoil and fill. Stockpiling. Spoil areas.	Demand on local resources – local quarries / suppliers.	B (moderate)	Design for balanced earthworks. Refer to mitigation measures stated in the Air Quality (Dust) row above and Traffic and Transport Management row below. Off site spoil movements to be monitored and tracked on the site waste disposal register as per the EPA guidelines, including characterisation of the spoil to determine correct disposal locations and volumes. Spoil to be beneficially reused, on or off site, where applicable and meeting environmental requirements. Includes reuse of excavated material, either as fill, or as earth mounds for noise control, or beautification, shielding or revegetation mounds on site. All loads accessing public roads to be covered to prevent any loss of material, which may cause driver safety issues. Only locate stockpiles in accordance with criteria in CEMP. Implement appropriate procedures to identify, contain, handle and management contaminated material. Classify and dispose of any contaminated land in accordance with EPA guidelines.	C (Low)	SWMP EWMS AQMP CEMP Unexpected Discovery of Contaminated Land Procedure
		ERSED issues from cuts / batters / stockpiles.	A (High)		B (moderate)	
		Sensitive area damage from stockpiling.	A (High)		B (moderate)	
		Disturbance on unidentified contaminated land eg historical agricultural practice such as tick dips.	B (moderate)		C (Low)	

Issue	Construction activity / aspect	Potential impact	Risk level prior to mitigation	Indicative Mitigation Measures (to be considered and where applicable further developed in associated management documents)	Risk level following mitigation	Management Documents / Training Required
		Exposing acid sulphate soils or potential acid sulfate soils.	A (High)	Minimise time of exposure of ASS and PASS. Clearing and grubbing to be minimised in areas of expected ASS and PASS. RMS Acid Sulfate Soil Chance Find Procedure and Treatment of Acid Sulfate Soil Procedure.	B (moderate)	EWMS SWMP ASS Chance Find Procedure Treatment of ASS Procedure
Waste Management	Generation of waste during construction activities including building materials, excess unsuitable spoil material, vegetation material.	Excessive waste being directed to landfill.	B (moderate)	Apply waste hierarchy principles – avoid-reduce-reuse-recycle. Waste materials contained in waste bins or other suitable containers, and collected for recycling, reuse or disposal by the licensed waste contractor. Separate, contain, manage and dispose contaminated waste to prevent migration and further contamination whilst maintaining compliance with EPA requirements. Label and store all liquid waste containers in a bunded area prior to removal off-site. Undertake inspections of the worksite and waste storage areas to ensure litter / debris is regularly cleaned up and contained on site. Establish recycling system early on in Project. Establish good segregation areas for concrete and waste concrete is not to be transported off site for land disposal. Section 143 Notices Under the PoEO Act and provision of a letter to landholder highlighting the need for a “s.143 Notice”, the Contractor’s role and the respective roles of the RMS and the landholder in ensuring that the waste is appropriately managed. Consider types of waste, how each waste type will be used as a beneficial use and address in the approvals that no other type of waste will be used.	C (Low)	WEMP EWMS Waste reporting register
		Incorrect disposal of contaminated waste. Not meeting POEO VENM, ENM and mulch requirements.	A (High)		B (moderate)	
Energy	Extraction / processing / transportation of materials. Fuel and energy use. Vegetation removal.	Excess energy consumption and greenhouse gas generation during construction	A (High)	Use local material and personnel where possible to reduce transport emissions. Restrict vegetation clearance to the minimum required. Conduct energy audits during the project to identify and address energy waste.	B (moderate)	EWMS FFMP / Vegetation Clearing Procedure Equipment maintenance procedures. Induction
Traffic and transport	Haulage of material. Import of material / plant / equipment. Travel to / from site.	Accidents - Safety of commuters, pedestrians, cyclists, contractors and subcontractors. Delays	A (High)	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)	TMP EWMS Induction
Visual Impact, Landscaping	Cuttings and cut finishes. Bridge design Revegetation /	General public aesthetic impacts	B (moderate)	Landscape and rehabilitation plan including extensive seeding planting in required areas will be developed and implemented.	C (Low)	UDLMP

Issue	Construction activity / aspect	Potential impact	Risk level prior to mitigation	Indicative Mitigation Measures (to be considered and where applicable further developed in associated management documents)	Risk level following mitigation	Management Documents / Training Required
and Rehabilitation	landscaping. Removal of visually prominent native vegetation. Evening / night works. Rehabilitation of disturbed land.	Heritage related visual.	A (High)	Landscape treatments will incorporate the surrounding landscape types and vegetation patterns and address view scapes. 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 Management Plan. Monitoring and weed control.	B (moderate)	EWMS
General Environmental Management	Environmental management / supervision. Incident response.	Non-compliance with CEMP, SoC, MCoA, legislative requirement.	A (High)	Ensure all environmental personnel are trained in the CEMP and all associated documents. EO / EM diligence in including requirements from CEMP and procedures into EWMS and training. Regular review of environmental management documents. Regular review of compliance with environmental management documents, SoC, CoA etc. Regular environment team meetings. Environmental Manager to be involved in design and construction meetings. Training in environmental emergency response. Ensure NCR process is followed.	B (moderate)	CEMP Procedures RMS Incident Management Guidelines/ procedures EWMS Compliance Tracking Program Internal / external audits
		Failure to follow requirements of strategies / procedures.	A (High)		B (moderate)	
		Failure to report environmental issues.	A (High)		B (moderate)	
		Inconsistent advice to construction personnel.	B (moderate)		C (Low)	
		Inadequate response to environmental incident/ emergency.	A (High)		B (moderate)	
Socioeconomic	All stages of construction	Temporary restricted access to properties due to construction works.	B (moderate)	• Maintain access or provide alternative access to individual landholdings at all times. • Ensure that there is constant access to business through the utilisation of service roads. • Signage is to be installed at public boat ramps and around Dalhunty Island prior to the commencement of works associated with the subject proposal to inform river users of the upcoming works.	C (Low)	TMP MNP
		Interference with maritime movements within the Wilson River due to the construction of the coffer dam.	B (moderate)		C (Low)	

Appendix A3
Environmental policy

Policy Statement

Environment

Group

Lend Lease aspires to be a sustainable organisation which goes beyond sustaining the natural environment on which we depend for our commercial activity, to a long-term goal of restoring the environment in which our projects and operations are placed.

To achieve this aspiration, we will employ strategies to prevent pollution and explore every opportunity to demonstrate a positive impact on the environment in all our activities and developments, as well as those of our supply chain.

We will exhibit leadership through the continual improvement of our environmental performance.

We will comply with environmental legislation, regulation and other requirements as a minimum, but sustainability is beyond compliance.

We will measure and report our performance against internationally recognised environmental management systems and standards.

We make the following commitments:

Atmosphere and Climate Change
We aim to eliminate the release of harmful or toxic emissions into the atmosphere and significantly reduce greenhouse gases from our activities and operations.

We recognise we must reduce our contribution to human induced Climate Change, and it is our long-term aspiration that all our business operations and all buildings we produce and/or operate are zero net carbon as a minimum.

We will continue to improve indoor air quality in the buildings we produce and/or operate.

Land use and Biodiversity
We will protect biodiversity and land quality through the ongoing assessment and management of our impacts and, going further, we will create opportunities to restore degraded environments and ecosystems.

Water
It is our long-term aspiration that all our business operations and all buildings we produce and/or operate are zero net water as a minimum.

We will therefore continue to reduce water consumption, by improving the efficiency of water use in our activities and developments, including through recycling.

Lend Lease

Waste
It is our long-term aspiration that all our business operations and all buildings we produce and/or operate are zero net waste as a minimum.

We will continue to minimise the generation of wastes from all our activities and operations, and to recover resources within all waste streams for recycling and reuse.

Built Environment
It is our long-term aspiration that all buildings and communities we produce and/or operate are independently rated as achieving green building status, and that all our permanent office tenancies are independently assessed as achieving best practice green building status.

We recognise that this aspiration commits us to meeting a comprehensive range of environmental criteria including waste, water, energy, indoor environment quality, materials, land use & ecology, management and transport.

We will continue to promote and pursue a holistic approach to the design, delivery and operation of green buildings and green precincts that exceeds best practice through innovation.

Steve McCann
Chief Executive Office and Managing Director
Lend Lease
December 2009

Appendix A4
Ancillary facilities assessment

Appendix A4
Ancillary Facilities assessment criteria

Revision history

Revision	Date	Description	Approval
A	April 14	Draft for review	GF
B	May 14	For PV,RMS, ER review	MT
C	July 14	Following RMS, ER, PV review	MT
D	July 14	Update to locations and Consultation	MT
E	Aug 14	For submission to DP&E	MT
F	Sep 14	Update in response to DP&E	MT
0	Oct 14	Approved for construction	MT
1	Jan 15	Update of Figure 5.7	GF
2			
3			

1 Introduction

1.1 Context

Appendix A4 forms part of the Construction Environmental Management Plan (CEMP) for the upgrade of the Pacific Highway between the Oxley Highway and Kundabung (OH2Ku). The OH2Ku project is Stage 3 of the Oxley Highway to Kempsey Pacific Highway Upgrade Project, approved by the Minister for Planning and Infrastructure in 2012.

As foreshadowed in section 2.4 and specifically detailed in 3.7.1 to 3.7.4 of the CEMP, it is necessary to establish ancillary facilities to facilitate construction. The construction of these ancillary facilities is recognised as an integral part of project works. Whilst sites were identified in Section 7.5 of the Oxley Highway to Kempsey Environmental Assessment (EA), additional sites have been, and will continue to be identified throughout the construction program.

1.2 Purpose and Scope

The purpose of this appendix is to identify the locations of key ancillary facilities along the project to meet the requirements of MCoA B30 (d), a requirement of the CEMP.

For ancillary facilities proposed, an assessment against the requirements of MCoA C28 has been undertaken for sites identified to demonstrate compliance. Where criterion (a) to (f) cannot be met for a site, an assessment has been provided to demonstrate impacts can be mitigated and managed to an acceptable standard.

Consequently, the project seeks Director General's approval for each facility as part of the CEMP as per the provisions of MCoA C28.

1.3 Legislative and other requirements

The legislation and guidelines relevant to Ancillary Facilities are highlighted through the Minister's Conditions of Approval (MCoA) from the Department of Planning and Environment. Ancillary facilities are defined in the Minister's Approval 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*.

For an ancillary facility to be compliant with MCoA C28, it must:

a) Be located more than 50 metres from a waterway.

b) Have ready access to the road network or direct access to the construction corridor.

c) Be located in areas of low ecological significance and require minimal clearing of native vegetation (not beyond that already required by the Project).

d) Be located on relatively level land.

e) Be separated from the nearest residences by at least 200 metres (or at least 300 metres for a temporary batching plant).

f) Not unreasonably affect the land use of adjacent properties.

g) Be above the 20 ARI flood level unless a contingency plan to manage flooding is prepared and implemented.

h) Provide sufficient area for the storage of raw materials to minimise, to the greatest extent practical, the number of deliveries required outside standard construction hours.

i) Be located 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.

Sites which do not meet all criterion require further approvals from the Director General.

1.4 Identified facilities in the EA

The Oxley Highway to Kundabung EA described different types of construction compounds likely to be required for the Oxley Highway to Kempsey project generally. This included:

- Main site compounds.
- Satellite compounds.
- Concrete and asphalt batch plants.
- Rock crushing plants.

Table 7.5 of the EA identified potential locations along the alignment. An assessment of these sites against the site selection criteria was presented in Table 7.6 including compliance with anticipated conditions of approval (based on previous site experience). Further, the EA identified that assessment of additional sites would need to be undertaken where appropriate due to the linear nature of the project, contractors involved and multiple worksites.

Detailed design has now determined that a number of the sites identified in the EA, and additional ancillary facilities (some already approved by the Director General) are required to support the project, together with additional minor and short-term ancillary facilities such as lay down areas, material storage and crib sheds.

The process for minor facilities is detailed in Section 3.7.6 of the CEMP and Appendix A9. Approved ancillary facilities are also identified at the rear of this document in Section 6. When an ancillary facility (minor or otherwise) is approved for use, it will be added to this table to provide a consolidated list for the project.

1.5 Approved facilities

Two pre-existing approved ancillary facilities have been identified for use by the construction team:

- Main Compound, Chainage 7000 (Stage 1); and
- Sancrox Interchange site compound (CH 2500).

The Main compound was approved by the Director General on 15/10/13 through a separate assessment under MCoA C28. Should significant changes be required to the approved compound in terms of arrangement, activities or increased impacts, additional assessment (and approval) may be required from the Director General.

The Sancrox Interchange ancillary facility complies with all requirements of MCoA C28 and therefore, did not require Director General approval. Roads and Maritime deemed this site consistent with the Minister's approval in consultation with the Environmental Representative.

2 Management Approach

2.1 Construction Environmental Management Plan

In accordance with MCoA B30 a Construction Environmental Management Plan (CEMP) must be developed and approved by the Director General prior to the commencement of construction. As detailed in section 4.1, the CEMP identifies a range of mitigation and management measures which must be employed for the project throughout construction and assigns roles and responsibilities to each.

Ancillary Facilities are proposed to be managed in accordance with the CEMP and sub plans. Ancillary facilities required prior to the CEMP being approved will be managed in accordance with the approval documentation and relevant Environmental Work Method Statement (EwMS) which will be developed for the ancillary facilities.

2.2 Sensitive Area Plans (SAP)

As foreshadowed in section 4.1.5 of the CEMP, Sensitive Area Plans (SAP) are developed to assist pre-construction planning and on-site construction management by identifying site constraints on series of map-based sheets that extend the length of the Project.

The sensitive area plans are presented in Appendix A6 and have been used to guide compound site selection and orientation. They are a working element of the CEMP and will be revised throughout construction to reflect true ground conditions and the most up-to-date information available on sensitive sites. Sensitive area plans will be used in conjunction with EWMS to help identify key risk areas and to promote ongoing communication to construction personnel during the Project.

2.3 Progressive Erosion and Sediment Control Plan

Progressive ESCP's will be prepared for all ancillary facilities prior to the commencement of pre-construction activities and installation of control measures. The ESCP's contain site specific details including identifying material storage locations and additional actions for management of spoil. As their name implies, these are developed as the project progresses and as site conditions evolve and flow paths are altered, e.g. the reshaping of drainage lines to direct sediment laden water. The progressive ESCP's will generally be prepared on detailed drainage design sheets and would incorporate:

- a layout of the site, including location of access roads, ancillary infrastructure, cleared and protected areas and stockpiling areas;
- the location of temporary and permanent erosion, sedimentation and water quality control measures proposed to treat stormwater before disposal (including vegetated treatment systems);
- construction period and staging.

Information relevant to the preparation of the PESCP is obtained from *Managing Urban Stormwater: Soils and Construction Volume 1* (Landcom 2006) (the Blue Book") and *Volume 2D Main Roads Construction* (DECCW 2008) and site specific soil data. The Environmental Co-ordinator, in consultation with the Soil Conservationist, Superintendents/Foremen and Environmental Manager, would prepare and update the Progressive ESCP's.

2.4 Construction Noise and Vibration Impact Statements

Further noise assessment may be carried out through Construction Noise and Vibration Impact Statements (CNVIS) for large scale construction compound sites and key ancillary facilities for the project not already assessed under the EA or within the submissions report.

These CNVISs will identify potentially affected noise receivers and determine the potential noise impacts during construction and operation of the compounds and measures to minimise noise and vibration impacts on the surrounding community. In developing appropriate mitigations measures, the following would be considered:

- potential for sleep disturbance; and

- impacts to the general amenity of adjacent residents and other sensitive receivers such as aged care facilities, schools and the like.

In order to develop accurate and comprehensive CNVISs for work components associated with the Project, specific details of the construction methodology, including the size and type of equipment is required.
For ancillary facilities proposed (excluding the Sancrox Interchange at CH2500 and Main Compound Stage 1) an assessment of noise and vibration impacts was undertaken as part of the Construction Noise and Vibration Management Plan development and wider CNVIS development for the project. Mitigation and management measures have been detailed in the Construction Noise and Vibration Management Plan where required. Mitigation and management measures arising from a CNVIS for the Sancrox Interchange and Main Compound Stage 1 form part of the pre-existing approvals.

2.5 Traffic Control Plan

Traffic control Plans provide a safe work area for both its workers and general public while maintaining the road network operational capacity by minimising lane closures and traffic stoppage during peak traffic periods and operate within the Road Occupancy Licence (ROL) conditions. The TCP generally details the following:

- Traffic control signage and traffic flow arrangement;
- Work area;
- Speed limits;
- Direction of construction traffic and if necessary reversing arrangements;
- Parking locations (both construction and public); and
- ROL conditions (if applicable).

For sites with access to/from the road network, plans shall be developed and shall be made available to Council if requested.

2.6 General Ecological Mitigation Measures

During the Ecological Assessment of Ancillary Facilities a number of general mitigation measures were identified to be implemented during the construction and operation of the facilities along with site specific measure where required. The general measures applicable to ancillary facilities are as follows:

- Standard Preclearing surveys must be undertaken before clearing occurs at any site;
- A two-stage clearing protocol must be implemented where non habitat trees are removed first and habitat trees removed 48hrs after clearing;
- Standard and best practice erosion and sediment control must be installed around all drainage lines, wetlands and aquatic habitats;
- A two meter buffer should be provided between the drip line of retained trees and the base of stockpiles
- The boundary of retained EEC vegetation plus a 5m buffer must be clearly delineated before any work commences. No work should occur within this buffer.

2.7 Adequacy of Measures

The CEMP, as a whole details the proposed management measures for the construction phase of the entire project. Further, the CEMP is supplemented by a range of sub plans including noise and vibration, traffic, soil and water, air quality, heritage and flora and fauna.

Construction and operation of ancillary facilities form a discrete component of the wider project and mirror key construction phases (i.e. vegetation clearing for site establishment, earthworks to create a suitable site surface). Ongoing management employs similar principles to that identified in the wider CEMP (e.g. use of water carts to suppress dust, approved hours of operation, soil, water and weed management).

These measures are considered adequate for ongoing compound management and will be supplemented by specific controls arising from documents prepared in this section where appropriate.

2.8 Rehabilitation Requirements

Prior to decommissioning of each facility, the landowner will be consulted regarding requirements for rehabilitation and measures identified to return the site to an appropriate condition as agreed with the landowner.

2.9 Other assessments

Other desktop assessments (such as Ecology and Heritage) may be required for certain sites to determine the level of impact and resultant management and mitigation measures for a proposed facility. These measures will be incorporated into the site specific EWMS for minor facilities proposed under MCoA C29 or in the case of major compounds, into the CEMP.

Site specific measures arising from on-site Ecology and Heritage assessment of compound have been incorporated into the mitigation table found in each of the relevant Sub Plans which form an appendix to the OH2Ku CEMP.

3 Ancillary Facilities and Activities

Ten ancillary facilities are proposed as part of the OH2Ku project and comprise sites identified in Section 7.5 of the Oxley Highway to Kempsey Environmental Assessment and additional locations outside the EA. Table 1 and 2 provide an overview of proposed activities at each site while section 6 provides a consolidated list of all ancillary facilities for the project and approvals received. Further discussion for each site can be found in Section 4 (for pre-approved locations) and Section 5 (those seeking DG approval).

Sites are expected to be in use for the duration of construction and generally be established and used during the daytime period, however evening and night time use would occur where the compound is used to support night works or other approved activities (such as deliveries). The use of these compounds out of standard construction hours is assessed as part of the CNVMP.

Table 1– Activities proposed at each compound

Site Components	Sancrox Interchange CH2500	Main Compound Stage 1 (CH7000)	Hastings River South (CH 5400)	Main Compound Stage 2 (CH7000)
Office	✓	✓	✓	✓
Amenities (i.e. Toilets/First Aid and meals)	✓	✓	✓	✓
Container(s)	✓	✓	✓	✓
Lay down	✓	✓	✓	✓
Hazardous and Dangerous Goods Storage	✓	✓	✓	✓
Light vehicle parking	✓	✓	✓	✓
Stockpile(s)	✓	✓	×	✓
Workshop	×	✓	×	✓
Materials Storage	✓	✓	✓	✓
Laboratory	×	×	×	✓
Batch Plant	×	×	×	✓
Crushing	×	×	×	×
Site Components	**Wilsons River South (CH 16400)**	**Haydons Wharf Road (CH 17900-18200)**	**Cooperabung Drive (CH19800-20300)**	**Yarrabee Road (CH 22000-22100)**
Office	✓	✓	✓	✓
Amenities (i.e. Toilets/First Aid and meals)	✓	✓	✓	✓
Container(s)	✓	✓	✓	✓
Lay down	✓	✓	✓	✓
Hazardous and Dangerous Goods Storage	✓	✓	✓	×
Light vehicle parking	✓	✓	✓	✓
Stockpile(s)	✓	✓	✓	✓
Workshop	×	×	×	×
Materials Storage	✓	✓	✓	✓
Laboratory	×	×	×	×
Batch Plant	×	✓	✓	×
Crushing	×	×	✓	×

4 Approved Ancillary Facilities

4.1 Sancrox Interchange (CH 2500)

The site is located to the north of the Sancrox Interchange on Lot/DP 2//222740.The site (Figure 4.1) is bordered by Sancrox Road to the south, the Pacific Highway to the east and an unnamed drainage line to the north and west.

The compound was selected because it is adjacent to the Pacific Highway and has ready access to services (power, water, phone etc.). The site is owned by Expressway Spares Pty Ltd and is currently leased by Ferrovial (Sancrox Contractor) for the purpose s of a site compound.

The site was subject to further assessment by RMS and involved additional ecological and heritage surveys to confirm that the site is suitable for use as a site compound. The findings of these additional assessments are detailed below:

The site consists of two grassed open pasture areas dissected by an unsealed road and was identified in the draft *Ecological Survey of Ancillary Sites* (SMEC 2012) as consisting of Totally Cleared Open Pasture. The site is highly modified and degraded. It is in very poor condition due to the lack of native species, presence of weeds and introduced pasture grasses. The native vegetation to the east, north and west of the site has been avoided as part of the site selection process to remove the need for any clearing of native vegetation. This was reconfirmed by the Lend Lease ecologist in July 2014.

The heritage studies undertaken by Kelleher Nightingale in September and October 2012 found no evidence of Aboriginal heritage items on the site and concluded that the proposed works are clear to proceed from an Aboriginal heritage perspective. This was reconfirmed in July 2014.

The site compound has been located a minimum of 50 metres away from the unnamed drainage line to the north and west of the site. This provides a physical offset that will help minimise potential impacts on water quality and riparian vegetation. Generally the site compound will also allow for the containment and treatment of run-off and will typically include upslope diversion of clean water to reduce erosion and sedimentation. The site is relatively flat (average slope of 1% towards the north) which also means a lower likelihood of erosion due to the lower flow velocities of any water moving across the site.

The site has been assessed against the requirements of MCoA C28 by RMS in 2012. Following assessment, the site was found to comply with all the requirements under the condition and does not require further approvals from the Director General for its use. Consequently, the site was approved for use on 03/01/2013 by RMS.

Figure 4.1: Footprint of Sancrox Compound

4.2 Main Compound (CH 7000 - Stage 1)

This ancillary facility is located at Chainage 7000 to the west of the existing highway at Stn. 7000 on Lot/DP 5/211319. The site (Figure 4.2) is adjacent to the existing Pacific Highway to the east and areas of bushland to the north, south and west.

The site is a former rural property and consists of cleared, previously grazed land with scattered remnant vegetation, a derelict house and shed and a small dam. An unnamed drainage line runs from north to south through the dam in the western section of the property.

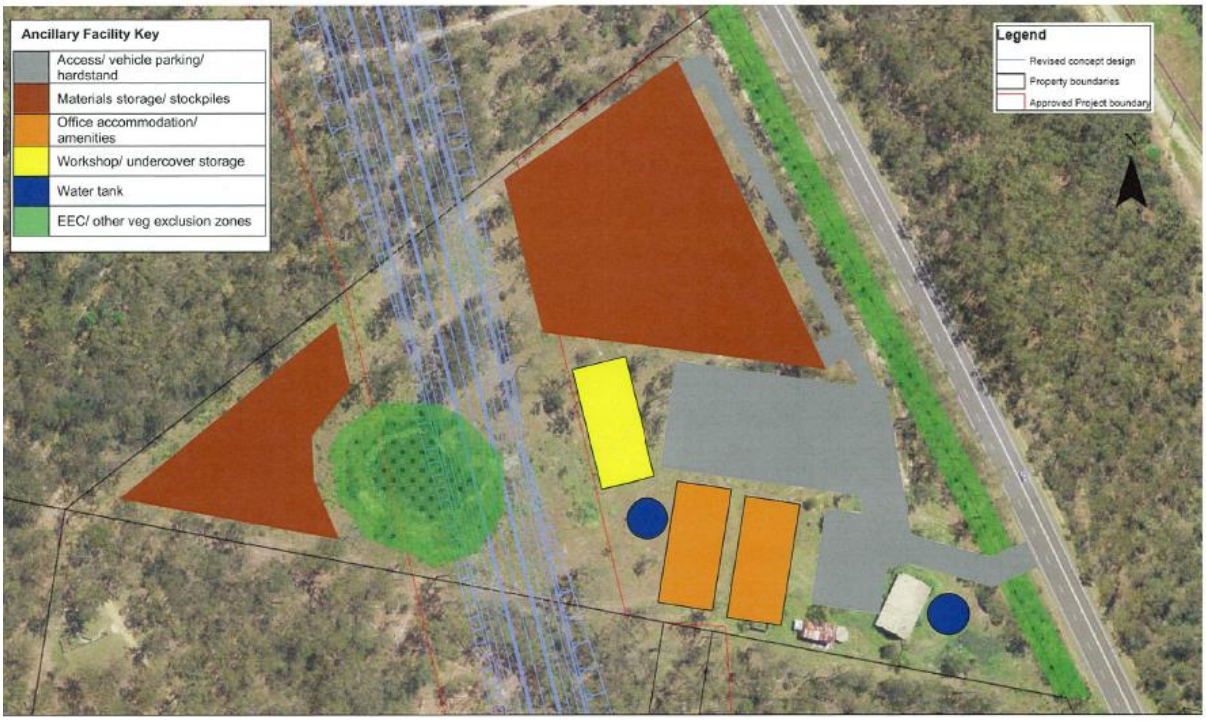
Access to the site would be from the existing Pacific Highway. A temporary road connection from the existing Pacific Highway would be established to provide this access and would include a deceleration lane on the existing Pacific Highway. The site was selected because of its proximity to the Hastings River bridge construction site and has been acquired by RMS. The property has ready access to power and phone services.

Further assessment by RMS was undertaken in 2013 and involved additional ecological and heritage surveys to confirm that the site is suitable for use as a site compound. These additional assessments determined that the site did not meet all the criteria outlined in CoA 28, specifically (c) as it would require clearing an additional 2.8ha beyond that already required by the project. As such, RMS sought approval from the Director-General for the site to be used as an ancillary facility site prior to the commencement of, and during construction.

The Director General subsequently approved the use of CH 7000 as a compound on 15 October 2013, subject to conditions. Construction and operation of the compound is proposed to be undertaken in accordance with this approval as it applies to that Stage and consequently, has not been assessed further in this document.

Notwithstanding, following detailed construction planning, Lend Lease has identified a need to refine the site and add additional activities due to a lack of appropriate sites in the corridor when balanced against environmental constraints and sensitive receivers. These activities are subject to further assessment under Stage 2.

Figure 4.2: Indicative layout of CH 7000 (Stage 1)



5 Ancillary Facilities for DG approval

5.1 Hastings River South (CH 5400)

5.1.1 Overview

The site is located at Chainage 5400 to the west of the existing highway on Glen Ewan Road at Lot 13, DP 566819, Lot 1, DP 243130 and Lot 1, DP 566819. The site (depicted in Figure 5.1) is located on the Hastings River floodplain.

The site consists of cleared, previously grazed land with an existing farm shed to the west of the proposed highway alignment. An RMS owned property is located to the east and fronts the Hastings River. This satellite compound location was selected because it is adjacent to the Hastings River bridge contains an existing dwelling above the 1:20 flood level suitable for occupation and has ready access to services (power, water, phone etc.). Further, Glen Ewan Road has a seagull intersection arrangement as it joins the Pacific Highway which is suitable for light and heavy vehicles.

This location was identified as a potential compound in table 7.5 of the Environmental Assessment with impacts assessed as part of the project due to the site falling within the approved project corridor acquired by RMS.

The Environmental assessment mapped the area as highly modified and degraded grazing area. It is in very poor condition due to the lack of native species, presence of weeds and introduced pasture grasses. An area of Swamp Mahogany Red Gum Swamp Forest has been mapped within the existing project corridor approximately 200m away from the compound adjacent to the Hasting River. Mangroves and Seagrasses have also been identified in the same location. No additional native vegetation is to be cleared as a result of the compound establishment or occupation.

Heritage studies undertaken as part of the Environmental Assessment found no evidence of Aboriginal or non-Aboriginal heritage items on the site and concluded that the proposed works are clear to proceed.

The ancillary facility has been located a minimum of 50 metres away from the nearest watercourse (Hastings River) and farm drainage line to the east. The laydown and storage area of the site however, is located within the ARI 1:20 for the project and therefore, requires a contingency plan to be developed. The dwelling sits above the ARI level.

This contingency plan forms part of the wider Safety Management documentation for the project which details process to deal with incidents such as bushfire, flood or other climatic events. As the project generally crosses floodplain and tributary areas, it details evacuation procedures and evacuation of plant and equipment to safe ground.

5.1.2 Proposed Works

Establishment of the site compound will involve fencing the site, creation of hardstand areas for parking and sheds, installation of sheds and services for the site (e.g. water, phone, electricity) and installation of the environmental protection measures required under section 2 and wider CEMP. Occupation of the adjacent dwelling is also proposed should it be identified as suitable for use as an office.

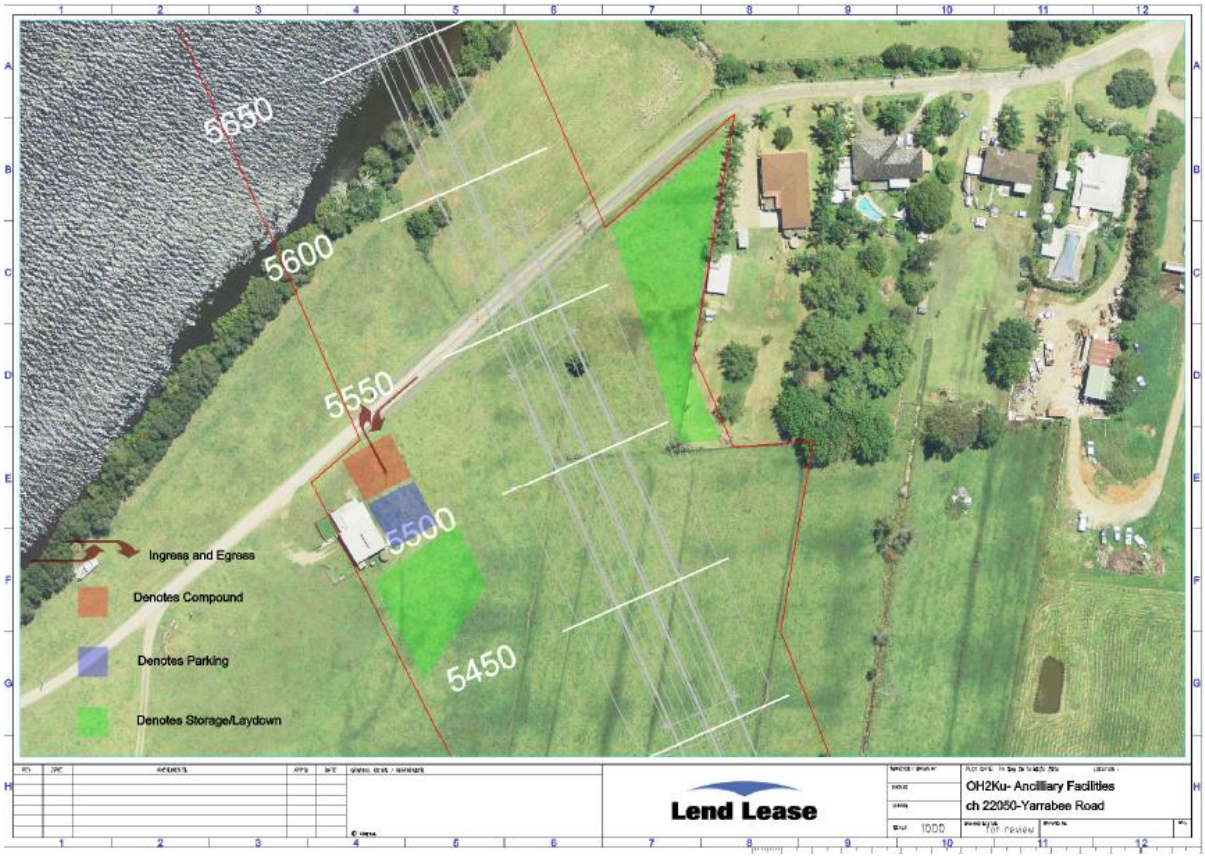
5.1.3 Need and Planning Context

The core function of the ancillary facility at this location is to support bridge construction. This will require crib facilities (office, toilets, and lunchroom), light vehicle parking and storage and laydown areas for plant and construction materials. Occupation of the existing dwelling for purposes of an office is also proposed. For clarity, laydown and parking areas are proposed to be fluid and approval is sought to utilise both nominated areas for both purposes.

It is anticipated that the site compound would be established upon CEMP approval in order to commence pre-construction activities along the floodplain (such as pre-loading). It is envisaged the site compound will be in operation up until the completion of the project, which is anticipated to be mid-2017.

An assessment against the requirements of MCoA C28 for the site compound is included in Section 5.1.4, including consistency with project impacts. Additional mitigation and management measures have been foreshadowed where required

Figure 5.1: Indicative Site layout –Hastings River South (CH 5400)



5.1.4 Ancillary Construction Facilities Criteria

a) Be located more than 50 metres from a waterway.

Complies. The compound is located more than 50 metres from the Hastings River and existing unnamed drainage lines located on nearby farmland.

b) Have ready access to the road network or direct access to the construction corridor.

Complies. The site fronts Glen Ewan Road, which directly connects with the existing Pacific Highway via a Seagull intersection south of Denis Bridge. The distance from the compound to the Pacific Highway is 300m. This existing road carries both light and heavy vehicle traffic and is suitable for access. A traffic control plan as foreshadowed in section 3 will be developed for this site prior to use.

c) Be located in areas of low ecological significance and require minimal clearing of native vegetation (not beyond that already required by the project).

Complies. The compound is located within an area that has previously been cleared and utilised as farmland and thus identified as Totally Cleared Open Pasture in the EA. This has been subsequently reconfirmed by the project ecologist in July 2014 and was considered to have no impact on biodiversity. The site has been noted as very poor condition due to the lack of native species, presence of weeds and introduced pasture grasses.

d) Be located on relatively level land.

Complies. The site is on relatively level land, due to the nature of the floodplain topography with an approximate 1% slope.

e) Be separated from the nearest residences by at least 200 metres (or at least 300 metres for a temporary batching plant).

Does not comply. The site is located beyond a strip of four receivers (one RMS acquired and currently vacant) which front Glen Ewan Road. The nearest property to the west of the compound is located approximately 230m from the closest point of the western laydown and storage area of the ancillary facility. The project proposes to occupy a dwelling adjacent to the nearest occupied residence and has consulted the landowner, with no significant concerns raised. This property is shielded by vegetation and the neighbouring structure, which is to be retained as part of the project.

Notwithstanding, an assessment of activities and resultant noise levels was undertaken for the site. This assessment is presented in Table 5.1.

Table 5.1– Predicted compound noise levels.

Facility Type	NML			Ancillary Activity		
	Day	Evening	Night	Compound noise level (const.)	Compound noise level (operation)	Cumulative impact (Compound and earthworks)
Ancillary facility	57	47	41	50	40	52

Broadly, levels comply with NML's day, evening and night as a result of operation of the compound in isolation. Cumulative impacts as a result of construction activities and operation of the compound was found to comply during the day.

f) Not unreasonably affect the land use of adjacent properties.

Complies. The area is a mix of industrial and rural uses with a strip of four residential dwellings located on Glen Ewan Road of which one has been acquired by RMS. These properties are directly opposite Birdon Marine and are heavily influenced by ambient noise from the Pacific Highway. Operations from the compound are unlikely to impact on adjacent properties as activities to the east of the highway will be undertaken within existing footprint of the project. Areas west of the highway suitable for laydown and other activities are sufficiently separated from dwellings with the noise impacts likely to be negligible. The ancillary facility is anticipated to form a discrete component of the wider bridge construction area with potential minor impacts limited to an increase in light and heavy vehicle movements on the local road network due to staff accessing the site compound and deliveries of materials. Visual and light spill impacts are similarly not expected to affect amenity as the proposed facility will be small scale compared to activities to be undertaken within the area and structures and retained vegetation screening properties.

g) Be above the 20 ARI flood level unless a contingency plan to manage flooding is prepared and implemented.

Complies. The site is located within the ARI 1:20 for the project and therefore, requires a contingency plan to be developed. This contingency plan forms part of the wider Safety Management documentation for the project which details process to deal with incidents such as bushfire, flood or other climatic events. As the project generally crosses floodplain and tributary areas, it details evacuation procedures and evacuation of plant and equipment to safe ground.

h) Provide sufficient area for the storage of raw materials to minimise, to the greatest extent practical, the number of deliveries required outside standard construction hours.

Complies. The site is considered sufficient for storage of materials and equipment (including pre-cast pipes, girders etc.) for construction of the bridges and will assist in minimising the number of deliveries required outside standard construction hours.

i) Be located 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.

Complies. Heritage assessments were undertaken for the project and associated corridor as part of the Environmental Assessment. The heritage assessments identified that no aboriginal or non-aboriginal items were located within the footprint or vicinity of the project. This was re-confirmed by the project archaeologist in July 2014.

5.1.5 Consultation

Consultation has been undertaken with residents in the area and Birdon Marine regarding upcoming construction activities in the area including establishment and operation of the compound, including the existing dwelling. The neighbouring resident raised concerns regarding occupation of the dwelling for the purposes of a compound and in particular noise from toolbox talks in the meeting. This has resulted in the morning pre-start areas being relocated to the far west of the project corridor to avoid direct impacts. Ongoing consultation with residents will continue with respect to the site.

5.1.6 Environmental Management

The site has been reviewed against the proposed requirements which form part of the project CEMP. This review has identified that no additional mitigation and management measures are required for the site. Notwithstanding, works would be undertaken in accordance with an Environmental Work Method Statement (EWMS) which would incorporate the management measures listed in the wider CEMP.

5.1.7 Conclusion

The Hastings River site compound complies with all of the ancillary facilities requirements other than (e) as specified in Condition of Approval C28 as it is located less than 200m to one residential property east of the new highway alignment. Impacts at this location are expected to be minor due to the proximity of residents to the Birdon Marine industrial facility, the existing highway and the approved alignment of which, use of a compound in the area would be a discrete component.

The environmental management measures outlined in the CEMP have been designed to protect the surrounding environment from potential impacts. As a result, with proper implementation of the management measures, the proposed activity is likely to have minimal environmental and community impacts and remain consistent with the project approval.

5.2 Main Compound (CH 7000 - Stage 2)

5.2.1 Overview

As foreshadowed in Section 4.2, Lend Lease proposes to add additional uses to the existing ancillary facility located at Chainage 7000 on Lot/DP 5/211319. The site (Figure 5.2) is adjacent to the existing Pacific Highway to the east and areas of bushland to the north, south and west.

The Director General approved the use of CH 7000 as a compound on 15 October 2013, subject to conditions. Construction and operation of Stage 1 of the compound is to be undertaken in accordance with this approval however, supplemented by additional mitigation and management measures arising from the assessment of proposed additional activities for the property.

To cater for additional activities on the site, Lend Lease have undertaken a revised noise and vibration assessment in May 2014. Further, the project ecologist reviewed the site and provided advice on whether additional flora and fauna measures were required following clearance of additional vegetation. As the site is in an identified area of cultural sensitivity, the knowledge holder previously consulted has re-inspected the site and raised no objections to the activities proposed.

5.2.2 Proposed Works

The approved ancillary facility assessment identified that the site would involve clearing the existing site and installation of environmental controls across its entirety with exception of an area around the existing farm dam and a strip of screening vegetation along the Pacific Highway. Offices, a workshop, services, parking and storage/laydown were subsequently proposed (and approved).

Stage 2 of the compound will still involve those activities approved under the Director-General's approval however; the layout has been optimised due to the scarcity of suitable land on the southern section of the project.

This optimisation has seen the site transformed into the main compound for the wider OH2Ku project with office and amenities accommodation along with parking to suit the expected workforce. The

location of the site and setbacks to receivers mean that it will be suitable for storage of dangerous or hazardous goods along with a workshop capable of servicing both heavy and light vehicles. A laboratory will also be constructed as well as a batch plant and infrastructure to support paving activities. Predicted noise levels for the site have identified it as suitable for out of hour's activities and deliveries as identified in the construction noise and vibration management plan. The full extents of the site will be required including the area ultimately forming the highway alignment.

Figure 5.2: Site location, Chainage 7000.

5.2.3 Need and Planning Context

Optimisation of the approved compound consolidates the workforce into one location and co-locates infrastructure for the southern section of the project. By co-locating infrastructure such as the batch plant and workshop, it avoids placement of these on sites with have a high risk of flood, or additional clearing of habitat for threatened species.

Ancillary facilities to the south of the compound would function as satellite to reduce risk and delay during flood events. The maintenance workshop and hazardous goods storage in particular would significantly reduce the risk of material entering nearby watercourses.

In addition, this site was selected because of its ease of access, setback to neighbouring properties and ready access to power and phone services. The site also capitalises on clearing already approved under Stage 1 by the Director General and allows for the site to be completely utilised for the construction period. It is anticipated that Stage 2 of the site compound would be established on CEMP approval and operate for the defect and landscaping maintenance period upon commencement of operations.

5.2.4 Ancillary Construction Facilities Criteria

An assessment against the ancillary facility condition for Stage 2 of the compound at Chainage 7000 found that use of the proposed site does not meet all the criteria outlined in CoA 28, specifically (c) and (e) as it is likely to require additional clearing beyond that already required (and approved) by the project. Further, whilst the compound and activities meet the 200m threshold dictated by (e), it does not meet the 300m criterion for a batch plant. As such, approval through Appendix A4, as part of the CEMP from the Director-General is required.

a) ***Be located more than 50 metres from a waterway.***

Complies. The compound is located more than 50 metres from nearby unnamed drainage lines and the Hastings River. An existing farm dam an unnamed ephemeral drainage line was identified within the highway construction footprint which will be subject to cut and fill operations and be modified by the project. Impacts were approved as part of the Stage 1 assessment and remain consistent with this and the overarching project approval.

b) Have ready access to the road network or direct access to the construction corridor.

Complies. Access to the site would be direct from the Pacific Highway to the east of the site. A temporary road connection has been established by the Sancrox contractor to provide access via a deceleration/acceleration lane on the existing highway with the intersection designed to be suitable for both light and heavy vehicle movements. In addition, the compound is dissected by the new highway alignment which is a key driver for co-location of the light and heavy vehicle workshop for the project.

c) Be located in areas of low ecological significance and require minimal clearing of native vegetation (not beyond that already required by the project).

Does not comply. An assessment of the Stage 1 compound was undertaken by the RMS appointed Ecologist in July and August 2012. The Ecologist identified that the proposed ancillary facility consists of cleared, previously grazed land with scattered remnant vegetation associated with moist floodplain forest/ moist slope forest. The dam area contains species associated with the Paperbark Swamp Forest EEC. The site was noted to be degraded.

No threatened species or endangered populations were identified with the site of the proposed ancillary facility having limited habitat available suitable to support fauna due to an absence of coarse woody debris, logs and hollow bearing trees.

The Ecologist recommended a number of measures including protection of the area of EEC not required to be cleared remaining protected during construction of the OH2Ku stage of works.

As part of the Stage 2 activities, the project team reviewed the assessment and vegetation communities on the property and noted, to provide site access to the remainder of the property and finalise the construction footprint, it would need to be removed. Removal of the vegetation would equate to approximately 400m^2. In response, the Lend Lease project ecologist re-inspected the site in July 2014.

The assessment broadly identified that the vegetation regrowth has occurred as a direct result of the dam's construction and approved works within the project footprint will see ground conditions significantly change, in particular water logging (a characteristic required for this community) s due to cut and fill activities involving the dam and drainage line.

This is likely to generate edge effects to this isolated vegetation. Increasing clearing by 400m^2 allows for the site to be utilised to its full potential and facilitate light and heavy vehicle movement to this area of the property across the cut/fill line. This opportunity provides the best balance as alternate options are to clear continuous vegetation communities outside the compound boundaries and/or require additional ancillary facilities in the wider area. Notwithstanding, the project intends to mitigate this impact in accordance with the conditions imposed by the Director General's approval for Stage 1:

Rehabilitation of that part of the site outside the approved project alignment to a condition equal to its pre-construction state, as a minimum, upon decommissioning. The rehabilitation of that part of the site within the Hastings River area of cultural sensitivity is to include revegetation with native vegetation local to the Hastings River area;

Overall clearing limits and habitat removal imposed under both State and Federal approvals will still be observed.

d) Be located on relatively level land.

Complies. The site is on relatively level land initially assessed as having an 8% slope. Preparatory earthworks approved through Stage 1 will see the site levelled to less than this level in advance of Lend Lease occupying the site. Stage 2 activities are not expected to see approved site conditions significantly change further due to the aforementioned activities.

e) Be separated from the nearest residences by at least 200 metres (or at least 300 metres for a temporary batching plant).

Does not comply. As foreshadowed in the Stage 1 assessment, the nearest receiver to the property is 215m to the east beyond the existing Pacific Highway and a cleared transmission line easement. This receiver is shielded by vegetation and does not have line of sight to the proposed compound. A second property is located approximately 265m south of the compound and is located on a tree covered slope, facing towards the Hastings River.

With exception of the proposed batching plant, the remainder of uses proposed for the compound comply with the nominated 200m threshold under the conditions. Notwithstanding, as properties fall within the 300m radius threshold for a temporary batching plant, Lend Lease undertook a noise assessment for the compound and all proposed activities to determine the level of impact at properties and assess whether impacts could be adequately mitigated, to ensure consistency with the Minister's Approval.

The noise assessment undertaken by Jacobs-SKM considered the cumulative impacts arising from the compound, compound and batch along with cumulative impacts arising during the earthworks phase. These levels are presented in Table 5.2 and have been developed by the project noise consultant and represent the impact at the nearest effected receiver.

Table 5.2– Predicted Activities at CH 7000

Facility Type	NML			Ancillary Activity		
	Day	Evening	Night	Compound noise level (const.)	Compound noise level (operation)	Cumulative impact (Compound and earthworks)
Main compound	57	47	40	50	40 (general) 52 (full scale)	65

Based on modelled levels, an exceedence is anticipated at the nearest affected residence, east of the compound and beyond the existing highway of an evening and at night. A similar impact is potentially expected south of the compound at the second property.

Notwithstanding, modelled levels assume all plant and equipment are operating simultaneously 24 hours a day, 7 days a week and therefore are considered conservative. It is unlikely during sensitive periods of the day (i.e. night-time) that all equipment would be running concurrently for the life of the project.

Further, while the batch plant is within 300m of the nearest receiver (approx. 290-300m from the silo's and 250m to the associated infrastructure such as stockpiles) an increased impact is not expected to be significant at the residence due to the influence of traffic on the existing Pacific Highway which heavily influences the noise catchment. Notwithstanding, to mitigate any impact, infrastructure installed for the on-site batch plant will be orientated to avoid direct noise sources such as vent outlets, generators away from residences. This is reflected in site specific mitigation measures (SS2 and SS3) within the noise and vibration management plan and supplements the existing assessment approved by the Director General.

In addition, out of hours deliveries were also assessed to determine the level of impact at neighbouring properties. No significant exceedences were identified.

f) Not unreasonably affect the land use of adjacent properties.

Complies. The use of the site is unlikely to affect the rural or agricultural land use of adjacent properties. The closest residential property is located approximately 215 m to the east of the existing Pacific Highway. Operation of the ancillary facility would primarily increase the number of heavy and light vehicles travelling to and from the site. However, due to traffic volumes and mix on the existing

highway are unlikely to be noticeable as direct access from the highway will be provided. Further, properties are shielded by existing vegetation and orientated away from the compound due to existing topography and therefore, light spill or visual impacts are unlikely to be experienced. Existing private property and State Forest access arrangements remain unchanged.

g) Be above the 20 ARI flood level unless a contingency plan to manage flooding is prepared and implemented.

Complies. The site is located above the ARI 1:20 for the project and therefore does not require any site specific contingency plan.

h) Provide sufficient area for the storage of raw materials to minimise, to the greatest extent practical, the number of deliveries required outside standard construction hours.

Complies. The size of the site is considered sufficient for ongoing storage of materials and equipment for construction of the project. Location of the batch plant at chainage 7000 will facilitate out of hours deliveries direct from the road network which have been assessed by the noise consultant as compliant with noise goals and therefore, unlikely to disturb surrounding receivers.

i) Be located 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.

Complies. An Aboriginal heritage assessment of the ancillary facility was undertaken by Kelleher Nightingale on 22 November 2012. The outcomes of this assessment found that *no Aboriginal objects or areas of potential were identified during survey or considered likely to occur within the area... The proposed works are clear to proceed from an Aboriginal heritage perspective*. No items of non-Aboriginal sensitivity had similarly been identified on the property during the EA or subsequent assessment.

Notwithstanding, part of the site has been designated as an area of Aboriginal Cultural Sensitivity, and consultation with the nominated aboriginal cultural representative as per the EA was required. This was conducted under Stage 1 of this site with no objections recorded.

Whilst the footprint of the site had not changed for Stage 1, there had been additional uses proposed on-site that the stakeholder had not been informed of during the previous investigations. Therefore, it was considered appropriate to approach Ms Maruca on the proposed layout and overview of impacts for Stage 2.

This inspection was conducted in June 2014 with no objections raised to the proposed use of the site and anticipated uses cleared from a cultural perspective.

5.2.5 Consultation

No properties are located within 200m of the compound and were not consulted as part of Stage 1 activities as community impact was likely to be low. As the proposed uses have altered on-site and construction approaches, the Lend Lease Community and Stakeholder manager has contacted surrounding residents. No objections have been raised.

5.2.6 Adequacy of measures

Lend Lease consider that measures proposed within the CEMP and Sub Plans, supplemented by the measures identified in the Director Generals approval for Stage 1 are sufficient to manage and mitigate environmental risk and community impact. These measures have been supplemented by a number of site specific requirements in relation to heritage and noise and vibration arising from subsequent investigations. These measures have been integrated into the wider CEMP as appropriate and ensure its construction and operation remains consistent with the project approval.

5.3 Wilsons River South (CH 16400)

5.3.1 Overview

The ancillary facility is located at Chainage 16,400 located east of the existing highway on the Wilsons River Floodplain and accessed from Hacks Ferry Road. The site consists of cleared,

previously grazed land with a farming property and infrastructure located east of the future highway alignment.

Construction and operation of the ancillary facility at this location is similar to that identified in section 5.1 (ancillary facility 3) namely, to support bridge construction. This will require crib facilities (office, toilets, and lunchroom), light vehicle parking and storage and laydown areas for plant and construction materials. Further, the site was identified as site 6 in Table 7.5 of the Environmental Assessment.

Broadly, the Environmental assessment mapped the area as a highly modified and degraded grazing area. It is in very poor condition due to the lack of native species, presence of weeds and introduced pasture grasses. No native vegetation is to be cleared as a result of the compound establishment or occupation. Heritage studies undertaken as part of the Environmental Assessment found no evidence of Aboriginal or non-Aboriginal heritage items within the footprint although noted the presence of a non-aboriginal heritage item outside the project boundary which will be protected during construction. The site is located a minimum of 50 metres away from the nearest watercourse (Wilsons River) but is located within the ARI 1:20 and therefore, requires a contingency plan to be developed.

5.3.2 Proposed Works

Establishment of the site will involve fencing and creation of hardstand areas and installation of environmental controls. Parking and storage areas will also be constructed along with suitable foundations to support site sheds and services where required.

5.3.3 Need and Planning Context

The ancillary facility will be required to support construction of the Wilson River Bridge and floodplain structures. This will require crib facilities (office, toilets, and lunchroom), light vehicle parking and storage and laydown areas for plant and construction materials. For clarity, laydown and parking areas are proposed to be fluid and approval is sought to utilise areas for both purposes. It is anticipated that the ancillary facility would be established in late 2014 to support pre-construction activities along the floodplain (such as pre-loading). It is envisaged it will be in operation up until the completion of the project, which is anticipated to be mid-2017.

Figure 5.4: Site location – Indicative Wilsons River South Compound

5.3.4 Ancillary Construction Facilities Criteria

The site is defined as an ancillary facility under Schedule 2 of the project approval. Accordingly, it has been assessed in accordance with the criteria provided in CoA C28:

a) Be located more than 50 metres from a waterway.

Complies. The compound is located more than 50 metres from the Wilsons River.

b) Have ready access to the road network or direct access to the construction corridor.

Complies. Site access would be via Hacks Ferry Road, a public road which directly connects with the existing Pacific Highway at Telegraph Point. The distance from the compound to the Pacific Highway is 3.2km and passes a number of private property access points. Hacks Ferry Road has been identified as an access road in the EA with compound vehicular movements forming a discrete component of the overall vehicle numbers assessed in the EA. To manage the change in the area, a traffic control plan as foreshadowed in section 2 will be developed for this site prior to use.

c) Be located in areas of low ecological significance and require minimal clearing of native vegetation (not beyond that already required by the project).

Complies. The ancillary facility will be located in an area that has previously been cleared and been identified in the EA as Totally Cleared Open Pasture. Swamp Oak forest has been identified on the foreshore of the Wilsons River approximately 100m away although this area will not be required for the compound and consequently, no additional clearing of vegetation will be required.

The project ecologist inspected the site in July 2014 and confirmed the findings of the EA and specifically, the compound would have no impact on biodiversity.

d) Be located on relatively level land.

Complies. The site is located on relatively level land, due to the nature of the Wilsons floodplain topography with a negligible slope present.

e) Be separated from the nearest residences by at least 200 metres (or at least 300 metres for a temporary batching plant).

Does not comply. One property is located within 200m of the proposed compound. This property is currently used for rural (farming purposes) although the occupied structure is on the 200m buffer. This property is shielded from the corridor by machinery sheds and other farm infrastructure and therefore provides a line of sight barrier.

Table 5.4– Predicted noise levels at Wilsons River south compound

Facility Type	NML			Ancillary Activity		
	Day	Evening	Night	Compound noise level (const.)	Compound noise level (operation)	Cumulative impact (Compound and earthworks)
Ancillary facility	58	46	43	44	38	61

Based on modelled levels, no exceedence is anticipated at the nearest affected residence, day and evening. An exceedance of 1dB(A) is expected at night. Whilst exceedences have been identified, these levels are considered conservative as based on activities proposed at the compound, the dominant noise source in the area would be earthworks activities. A 1dB(A) noise exceedance is similarly not expected to be perceptible.

In reality the likelihood of both activities will be remote, specifically at night due to poor lighting and other constraints which would limit the ability to undertake earthworks.

f) Not unreasonably affect the land use of adjacent properties.

Complies. The ancillary facility is unlikely to impact on adjacent properties as activities would be undertaken within the existing project footprint as foreshadowed in the approved Environmental Assessment. The compound is expected to be low impact evidenced by the modelled noise levels as

it would directly service the workforce working on the bridge structures. Potential impacts would be limited to an increase in light and heavy vehicle movements on the local road network. Light spill, visual impact and air quality impacts are expected to remain consistent with that identified in the CEMP and sub plans. Further, the neighbouring landowner has not raised any concerns following consultation.

g) Be above the 20 ARI flood level unless a contingency plan to manage flooding is prepared and implemented.

Complies. The site is located within the ARI 1:20 for the project and therefore, requires a contingency plan to be developed. Like the Hastings River, this plan forms part of the wider safety management documentation for the project which details process to deal with incidents such as bushfire, flood or other climatic events. As the project generally crosses floodplain and tributary areas, it details evacuation procedures including plant and equipment to safe ground in such emergencies.

h) Provide sufficient area for the storage of raw materials to minimise, to the greatest extent practical, the number of deliveries required outside standard construction hours.

Complies. The size of the site is considered sufficient for storage of materials and equipment required for day to day construction of the bridge. The ancillary facility location, distance between the existing and proposed highway and available area for storage on the floodplain discourages regular deliveries for laydown purposes outside standard construction hours.

i) Be located 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.

Complies. Heritage assessments were undertaken for the wider project corridor as part of the approved Environmental Assessment. The heritage assessments identified that no aboriginal or non-aboriginal items were located within the future road corridor.

This was re-confirmed by the project archaeologist in July 2014.

Notwithstanding, OHK9 (Hacks Ferry Road Dairy Complex) has been identified during the EA as adjoining the north-east corner of the proposed ancillary facility. This site will not be impacted by construction and consequently will be fenced as a no-go area prior to commencement of pre-construction activities to remind staff of its presence.

5.3.5 Consultation

Targeted consultation has commenced with the neighbouring resident as a result of impending construction activities. The consultation also discussed the impending use of the area as a laydown to support bridge activities. The resident has not objected to proposed uses and will continue to be consulted in accordance with the community consultation strategy including addressing any concerns which may arise.

5.3.6 Environmental Management

The site has been reviewed against the proposed requirements which will form the approved CEMP for the OH2ku project. This review has identified that other than ensuring the Hacks Ferry Road Dairy Complex is identified as a no go zone and fenced prior to construction, no additional mitigation and management measures are required for the site.

5.3.7 Conclusion

The Wilson's River site compound (south) complies with all of the ancillary facilities requirements other than (e) as specified in Condition of Approval C28. This is because one property is located on the 200m threshold from the closest point of the ancillary facility. An assessment of impacts at this location found they would be negligible due to the property being shielded by the project through existing farm structures.

5.4 Haydons Wharf Road (CH 17900-18200)

5.4.1 Overview

This ancillary facility was identified in the project Environmental Assessment. The site, comprising of three properties either side of the future interchange (11, 19 and 14 Haydons Wharf Road) was selected and assessed by RMS due to the cleared nature of the properties and relative ease of access to the existing and proposed Pacific Highway.

With exception of 8 Haydons Wharf Road, all properties in the area have been acquired by RMS to construct a half diamond interchange for Telegraph point. All structures on these properties are to be demolished and the ground substantially modified through approved cut and fill activities.

The remaining property is located less approximately 100m at the nearest point of the proposed ancillary facility. Whilst the property is currently zoned rural, it is used for the purposes of light industrial (metal fabrication) although a residential dwelling is present. For the purposes of this assessment it has been assumed this dwelling is occupied. Two additional properties have also been identified within 200m of the closest point of the compound (west). These properties are screened by vegetation and separated by the existing highway. One property (on Haydons Wharf Road) falls within 300m of the proposed batch plant location.

Whilst assessed by RMS in the Environmental Assessment, Haydons Wharf Road was not initially considered by Lend Lease as a site for a batch and compound due to an alternative (4 Wilmaria Road) being available and initially meeting all of the condition requirements. However, due diligence investigations revealed the presence of indigenous heritage sites outside the alignment at the property which is likely to have increased the level of heritage impacts beyond that approved for the project. Consequently, Haydons Wharf was reinvestigated and found to provide the best balance in terms of environmental, community and construction requirements.

5.2ha will be initially available for the compound however, this will be reduced as the new highway and interchange commences construction. Areas immediately adjacent to the corridor will be utilised for the batch plant and compound and result of a final usable area of approximately 3ha.

Site facilities proposed include:

- general amenities for project personnel;
- car parking;
- interchangeable stockpile/laydown/storage areas;
- bulk fuel storage and hazardous and chemical storage area.
- batch plant and associated infrastructure.

For clarity, laydown and stockpile areas are proposed to be fluid and approval is sought to utilise both nominated areas for both purposes. The site would be in use from CEMP approval through to six months after completion of construction (likely to be mid-2017) to assist with site demobilisation and rehabilitation.

5.4.2 Justification and Planning Context

Haydons Wharf Road is considered suitable for use as ancillary facility as it provides a suitable staging point for staff, materials and the batch south to the Wilsons River. Whilst the site is located close to an existing receiver, the nature of the land use (industrial) makes it a suitable location for the co-location of similar land-use and infrastructure required to deliver the upgrade along with direct access to the existing highway for light and heavy vehicular movements.

Further, a lack of suitable options for an ancillary facility and batch plant between CH 7000 and Haydons Wharf Road are available due to heritage, flooding or ecological/ land use constraints being present.

As activities are located within 200m of a receiver (for general activities) and 300m for a batch plant, the facility does not comply with criterion (e) of the MCoA. Consequently, approval from the Director General will be required.

Figure 5.7 – Indicative layout - Haydons Wharf Road

5.4.3 Ancillary Facilities CoA Assessment

An assessment against condition C28 for the Haydons Wharf site is found below:

a) be located more than 50m from a waterway.

Complies. The site is located in excess of 50m from a designated waterway with the nearest unnamed ephemeral drainage line located approximately 100m from the nearest point of the compound (currently known as 11 Haydons Wharf Road).

Notwithstanding, to protect the catchment from impacts, proposed mitigation and management measures will allow for containment and treatment of run-off of water from the site and likely to include the construction of on-site detention basin. This will be guided by the soil and water management plan for the project and involve the development of an Erosion and Sediment Control Plan (ESCP).

b) Have ready access to the road network or direct access to the construction corridor.

Complies. Haydons Wharf Road currently carries both light and heavy vehicles and provides a direct connection to the Pacific Highway. Access to the construction corridor will also be provided by this local road as the future alignment dissects the proposed ancillary facility. Vehicles are expected to travel between 70m and 300m depending on final site access point(s). Proposed access points are located away from the nearby receiver to cater for out of hours deliveries which is likely to be required to support the batch plant and other compound activities.

c) Be located in areas of low ecological significance and require minimal clearing of native vegetation (not beyond that already required by the project).

Complies. Each site was formerly utilised for farming and has been predominately cleared and grubbed with exception of scattered trees on each property and vegetated buffer around the perimeter. This buffer on 11 Haydons Wharf road is classified as moist floodplain forest and will be removed as part of the project as it falls within the approved project boundary. A section of Swamp Oak Forest was identified in the north east corner of 19 Haydons Wharf Road and is not anticipated to be removed for construction and operation of the batch plant. A strip of Moist Slopes Forest at 22 Haydons Wharf Road will also be retained for the life of the project.

The project ecologist inspected the properties in May-June 2014 and confirmed the mapping and noted disturbance from past land use had resulted in degradation of the site. Following assessment the ecologist

noted that impacts would be unlikely to have a significant impact on threatened species or EEC however, clearing should be considered in cumulative context and consider retaining vegetation communities found on the lower slopes of 11 and 19 Haydons Wharf Road. Existing vegetation on 14 Haydons Wharf Road should also be similarly be retained where possible.

In response, the project has refined the extents of the proposed facilities and consequently clearing to avoid areas of importance identified by the Ecologist and utilise areas which hold little habitat potential for native fauna as properties have been mapped as cleared scattered trees as part of the EA. Removal of scattered trees and trimming of unsafe or overhanging branches is now proposed to provide a suitable, safe location for proposed compound activities. Provisions of the approved Flora and Fauna Management Plan will apply to site activities as a whole, including prior to, and during removal of vegetation.

d) Be located on relatively level land.

Complies. All properties on Haydons Wharf Road are located on a gentle slope rising to relatively level land where each former property now stands. These areas have historically been modified with minor cut and fill activities to form grazing land.

Notwithstanding, all properties are located within the approved project footprint and are dissected by the future highway and interchange configuration. This will see significant modification to the area as a result of cut, fill, extraction and other activities to achieve the final highway grade. Earthwork activities including minor cut and fill may be required to match approved levels and create a level surface for the batch plant and storage areas however, are not expected to significantly alter approved drainage for the area.

e) Be separated from the nearest residences by at least 200 metres (or at least 300 metres for a temporary batching plant)

Does not comply. A construction noise and vibration assessment was undertaken of the compound and proposed activities by Jacobs SKM in June 2014. This report considered the nearest residential receiver (Table 5-6) and identified Noise Management Levels in accordance with the *Interim Construction Noise Guideline.*

Two occupied residents are located approximately 180m west from the compound at the nearest point. These properties are located beyond the existing Pacific Highway. The nearest point of the laydown to the property on Haydons Wharf Road is approximately 100m. The nearest point from this receiver to the batch plant is predicted to be 230m.

Whilst the three properties are within 200m of the future ancillary facility and one 300m of the batch plant, the existing Pacific Highway runs alongside these properties and consequently, heavily influences ambient background noise.

The noise assessment determined the likely baseline predicted noise levels between 50 and 500m arising from construction and occupation of the ancillary facility and batch plant. These predicted levels were then considered against existing ambient conditions to determine likely level of impact at the nearest affected receiver (Haydons Wharf Road). These levels are presented in Table 5.6.

Table 5.6 – Predicted Noise levels at Haydons Wharf Road

Facility Type	NML			Ancillary Activity		
	Day	Evening	Night	Compound noise level (const.)	Compound noise level (operation)	Cumulative impact (Compound and earthworks)
Ancillary facility	57	47	42	45	43	81
Batch Plant	57	47	42	45	52	63

Day to day operational noise levels are predicted to fall under the NML when in isolation, whereas operation of the ancillary facility complies with the evening criterion. Levels at night were found to exceed background NML by 8dB(A) under the worst case scenario with the compound operating in isolation and exceed by 1dB(A) at the compound. Both levels fall under the sleep disturbance triggers

under the ICNG. Daytime noise levels, which are likely to cause a cumulative impact, were found to exceed NMLs however, due to the nature of earthwork activities proposed at this location, are not unexpected. These levels would be mitigated under the provisions of the noise and vibration plan for the project.

Notwithstanding, deliveries have also been assessed generally and modelled exceedances of the NMLs identified at the residential property (8 Haydons Wharf Road). However, this level is considered not to be representative as NML's used for modelling was carried out 1km from the existing Pacific Hwy in order to be representative of the majority of local receivers in this NCA.

As such, background noise levels would be somewhat higher than those modelled, and any potential noise impacts associated with OOH deliveries are likely to be substantially lower than those predicted due to ambient traffic conditions arising from the existing highway.

Verification monitoring would be conducted prior to site establishment and operation to determine ambient noise levels and further refine impacts as appropriate. Noise and vibration control measures identified in the CNVMP shall be employed as a minimum at this location, with site specific measure SS2 implemented. SS2 in particular will be used to guide further mitigation measures where appropriate such as temporary hoardings and shielding to ensure impacts remain consistent with that in the EA.

f) Not unreasonably affect the land use of adjacent properties

Complies. Use of the area as an ancillary facility is unlikely to affect surrounding land use in the area or adjacent properties. Nearby receivers are screened by existing, mature vegetation and/or separated from the compound by the arterial road network.

In the case of Haydons Wharf Road, activities undertaken at the remaining property tend to be industrial in nature due to a sizeable fabrication business. Impacts at this location to this industry are considered low as screening vegetation at the private property would be retained and structures would be set back from the road alignment. The greatest impact for 8 Haydons Wharf Road would be from the cut and fill activities alongside the boundary as the highway sits immediately to the East. The bulk of the compound infrastructure would be located further north east and east of this alignment, reaching 180m at the closest point. Infrastructure for the compound is not expected to sit less than 100m from the dwelling at this property when facing due north. The two properties west of the existing highway sit approximately 180m away from the closest point and are currently screened by vegetation. Due to proximity of the highway and its impact, amenity and land use are likely to remain unchanged.

Due to the uses proposed in the area, impacts are likely to be pronounced at Haydons Wharf Road only as a result of an increase in vehicular numbers. Vehicles would be required to conform to the site traffic control plan, including observation of speed limits. Access and egress will also be designed to avoid direct conflict with this and other residents along the road.

Site lighting would be designed to avoid light spill where laydown and storage areas are proposed. Visual impacts are also not anticipated due to properties being sufficiently screened by vegetation and the ancillary facility being temporary change in visual impact when balanced against the wider change to the Haydons Wharf Road area.

g) Be above the 20 year ARI flood level unless a contingency plan to manage flooding is prepared and implemented

Complies. The ancillary facility has been sited to sit above the 20year flood level, therefore providing protection for this key infrastructure.

h) Provide sufficient area for the storage of raw materials to minimise, to the greatest extent practical, the number of deliveries required outside standard construction hours.

Complies. The initially available land is approximately 5.2ha which will be further reduced to approximately 3ha as a result of earthwork and interchange construction activities. The largest area (to the east) away from residents is currently proposed as the batch plant location. Areas are considered adequate for the siting of the sheds, batch plant and related infrastructure along with parking and laydown and other activities consistent with an ancillary facility under the approval.

Available area and proximity to the existing highway will allow larger vehicles to deliver plant and

materials at this location (truck and dog, semis in lieu of tipper trucks). Larger vehicles allow for greater quantities to be delivered and thus lower vehicle numbers. This is likely to reduce the need for out of hours deliveries for a number of day-to-day activities. Batch deliveries will be required at night during paving operations to match demand along the project and facilitate significant deck pours as foreshadowed in the noise and vibration management plan. Following assessment of night time movements, levels are able to be sufficiently mitigated and managed to avoid impacts on nearby receivers whilst allowing for flexibility in deliveries over the life of the project.

i) Be located 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.

Complies. An Aboriginal and Non-Aboriginal assessment was undertaken as part of the Environmental Assessment for properties in the corridor. This included all properties in the vicinity of Haydons Wharf Road. Both assessments did not identify any heritage constraints. This was reconfirmed by the project heritage consultant in July 2014 who reinspected the aforementioned properties.

5.4.4 Consultation

The project Community and Stakeholder manager has approached nearby residents including the adjacent property on Haydons Wharf Road. Residents have not raised any concerns with the nearest receiver providing support for occupation of the site.

As the project further refines the location and activities, residents will be further consulted on the site, to further determine site layout and in particular activities and orientation of noisy equipment to avoid indirect impacts as far as practicable.

5.4.5 Adequacy of measures

The project undertook additional ecology and noise assessment of proposed activities at Haydons Wharf Road. These assessments determined that limited site-specific measures would be required at this location primarily due to the site's proximity to the existing highway, a key influence on ambient environmental quality. Further, there is an absence of key environmental constraints (i.e. heritage, flooding and ecology) on-site which would also trigger site specific requirements.

As such, Lend Lease considers that measures proposed within the CEMP and Sub Plans are sufficient to manage and mitigate environmental risk and community impact at Haydons Wharf Road.

5.5 Cooperabung Drive (CH 19800-20300)

5.5.1 Description and Proposed Uses

RMS have acquired two residential properties in Cooperabung for the purposes of the upgrade. One of these properties (890 Cooperabung Drive) is scheduled for demolition whilst the second (876 Cooperabung Drive) is proposed to be retained and handed back to RMS at the conclusion of the project.

Zoned rural, both properties have been historically used for farming and other activities. The boundaries of 876 Cooperabung Drive, been cleared whilst 890 Cooperabung Drive contains a combination of exotic and planted native vegetation. No understory exists on either property. 876 Cooperabung Drive was identified and assessed as a potential ancillary facility within the approved Environmental Assessment. Both sites are considered to be relatively level. 890 Cooperabung Drive in particular has been cut into the existing ground and consequently, lower than the surrounding vegetation including the future highway alignment.

Detailed construction planning has identified the need for a satellite compound with a crushing plant at this location. A batch plant and associated infrastructure is also likely to be required. Site facilities proposed include:

- general amenities for Project personnel including offices, crib facilities, toilets and parking;

- crushing and screening facilities for material;
- stockpiles for waste and construction materials;
- stockpiles associated with rock crushing and processing;
- general storage and laydown areas (where stockpiling activities have ceased); and
- Batch plant and associated infrastructure.

The location of the site and setback to receivers and receiving waters mean that it will be suitable for storage of dangerous or hazardous goods. Bulk fuel storage is proposed with a bunded area and this practice will continue.

Currently two properties are located within 300m of the site, with one property south-west of 876 Cooperabung Drive and another east of 890 Cooperabung Drive which is separated by the existing Pacific Highway.

The site would be in use from August 2014 through to six months after completion of construction (likely to be mid-2017) to assist with site demobilisation and rehabilitation.

5.5.2 Justification and Planning Context

Overall, both sites are considered suitable for use as ancillary facilities due to the absence of native vegetation on both properties, proximity to the existing and proposed highway alignment and low number of sensitive receivers.

The proposed ancillary facility is located at the base of the Cooperabung Range, the primary location within the OH2Ku project used to provide suitable rock for the future highway. By locating processing infrastructure within close proximity, material can be efficiently screened without hauling material long distance using larger (and noisier) machinery. Further, only two receivers fall within distance criteria set by the Director General under this approval. As such, approval from the Director General would be required.

Figure 5.7 – Indicative Cooperabung Drive layout

5.5.3 Ancillary Facilities CoA Assessment

a) be located more than 50m from a waterway.

Complies. There is an unnamed ephemeral drainage line located within the boundaries of 890 Cooperabung Drive and Cooperabung Creek runs along the boundary of 867 Cooperabung Drive. Under the existing project approval, the ephemeral drainage line is to be truncated as part of cut and fill activities. The compound is not fundamentally changing this design.

Due to heritage restrictions along Cooperabung Creek, a minimum 50m setback has been observed at 876 Cooperabung Drive. Notwithstanding, a site specific Erosion and Sediment Control Plan (ESCP) which mandate appropriately designed erosion control structures, approximately sized retention basins will be employed on site to minimise impacts to nearby watercourses.

b) Have ready access to the road network or direct access to the construction corridor.

Complies. The site has direct access to Cooperabung Drive which is a sealed road with direct connection to the Pacific Highway. Cooperabung Drive currently carries both light and heavy vehicles as it services residential properties and a nearby quarry. Ready access to the Pacific Highway and construction corridor is therefore achieved. This access is located away from neighbouring driveways in response to consultation with the nearest resident.

c) Be located in areas of low ecological significance and require minimal clearing of native vegetation (not beyond that already required by the project).

Complies. Both properties have been mapped as cleared scattered trees or totally cleared open pasture/weedy fallow in the EA. Works at each location will involve clearing the remaining trees or exotic/planted areas to provide a suitable surface for construction activities.

The site was inspected by the project ecologist in May-June 2014 and noted 867 Cooperabung Drive did not contain and EEC. At 890 Cooperabung Drive small patches of Flooded Gum/Forest Red Gum were identified. (less than 200m2).

The area identified will be removed as a result of cut and fill activities and installation of a permanent water quality basin at this location and consequently forms part of the approved project. No additional EEC vegetation however, would be removed for the purposes of this ancillary facility.

Adjoining vegetated areas of Cooperabung Creek Nature Reserve and Cooperabung Creek outside the project footprint will not be impacted by this proposal. Provisions of the approved Flora and Fauna Management Plan will be applied on-site prior to, and during the site construction, operation and rehabilitation.

d) Be located on relatively level land.

Complies. Both sites are located on a gentle slope rising to relatively level land where each property now stands. These areas have historically been modified with minor cut and fill activities to form grazing land. Notwithstanding, all properties are located within the approved project footprint and are impacted by the future highway configuration. This will see significant modification to the area as a result of cut, fill, extraction and other activities to achieve the final highway grade. Earthwork activities including minor cut and fill may be required to match approved levels and create a level surface for activities and are not expected to significantly alter the area beyond that approved by the Director General.

e) Be separated from the nearest residences by at least 200 metres (or at least 300 metres for a temporary batching plant)

Does not comply. Two occupied residences are located within 200m of the site. One property, south-west of 876 Cooperabung Drive (160m at the closet point) and another east of 890 Cooperabung Drive (125m from the closest point). No additional properties fall within the 300m threshold identified for the batch plant. The property south west of the compound is screened by vegetation and noted to be rural in nature whereas the property to the east is separated from the ancillary facility by the existing Pacific Highway.

As both properties fell within distance thresholds, a noise assessment was undertaken for the all components of the ancillary facility by the project noise and vibration consultant to determine the level

of impact and whether impacts could be subsequently be mitigated to an acceptable level. These levels are presented in Table 5.7:

Table 5.7 – Predicted Noise levels following assessment

Facility Type	NML			Ancillary Activity		
	Day	Evening	Night	Compound noise level (const.)	Compound noise level (operation)	Cumulative impact (Compound and earthworks)
Ancillary facility	61	52	48	44	45	81
Materials processing and batch Plant	61	52	48	44	74	63

The materials processing plant and concrete batch plant is likely to have the greatest noise impacts in the area. Exceedances of daytime NMLs are predicted to occur at 5 properties (three of which have been acquired by RMS and are vacant), with the nearest occupied receiver likely to experience noise levels in the order of 74dB (A) as a result of materials processing.

These levels are considered conservative as it is based on cumulative worst-case construction impact (i.e. earthworks, and compound activities) as well as simultaneous operation of both the batch and crushing. In reality the likelihood of both activities operating is as crushing will be generally complete once batch activities commence. This is likely to be the case during night time batch activities.

Operation of the ancillary facility during night periods was found to comply with limits at receivers when earthworks was not being undertaken.

Noise and vibration control measures identified in the CNVMP shall be employed as a minimum at this location, with site specific measure SS1 and SS2 implemented. SS2 in particular will be used to guide further mitigation measures where appropriate such as temporary hoardings and shielding to ensure impacts remain consistent with that in the EA.

f) Not unreasonably affect the land use of adjacent properties

Complies. Use of the area as an ancillary facility is unlikely to affect surrounding land use in the area or adjacent properties. Nearby receivers are screened by existing, mature vegetation and/or the local or arterial road network.

Whilst an increase in light and heavy vehicles are anticipated by the compound at this location, the traffic mix will remain similar as Cooperabung Drive is used as a local road for light vehicles and the nearby quarry as part of its operations. Access and egress arrangements are expected to remain with site access to be orientated away from the nearby property on Cooperabung Drive. This will remove any potential conflicts at this locale. Light spill is similarly not anticipated to be an issue.

g) Be above the 20 year ARI flood level unless a contingency plan to manage flooding is prepared and implemented

Complies. Both ancillary facilities have been located above the 20year level. Areas within the 20 year level at 867 Cooperabung Drive are not to be utilised as a compound due to heritage constraints and therefore, will remain as a no-go zone. 890 Cooperabung Drive does not have any flood constraint.

h) Provide sufficient area for the storage of raw materials to minimise, to the greatest extent practical, the number of deliveries required outside standard construction hours.

Complies. The total usable land area at 867 Cooperabung Drive is approximately 4.5ha with 1.5ha available at 890 Cooperabung Drive. This total area is considered adequate for the siting of the sheds, materials processing and batch plant infrastructure along with parking, stockpiling and laydown as identified in this appendix.

Design of the compound, has taken into account future access arrangements including ability of the site to receive out of hours deliveries whilst avoiding impacts to the two nearest properties. This arrangement will be required due to the nature of batching and significant increase in demand for

materials required for road construction across the Pacific Highway and NSW generally. The Cooperabung Drive location allows for flexibility in this approach however, all efforts will be made to limit them to standard construction hours where reasonable and feasible.

i) Be located 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.

Complies. An Aboriginal and Non-Aboriginal assessment was undertaken as part of the Environmental Assessment for properties in the corridor including 890 Cooperabung Drive. No items of significance were identified.

In relation to 876 Cooperabung Drive, Kelleher Nightingale conducted a supplementary archaeological assessment in 2012, and found that Aboriginal objects exist on the south portion of the property at Cooperabung Creek. No Aboriginal objects or areas of potential were identified on the north portion of the property and an ancillary facility would be clear to proceed on the north portion of the property.

Lend Lease re-inspected the area with Kelleher Nightingale in June 2014 to reconfirm the extents of the heritage layer and determine whether suitable space remained on the property. Inspection identified sufficient space remained for a compound.

Notwithstanding, Kelleher Nightingale recommended that the extents of the PAD be fenced during pre-construction activities and classified as a no-go area. These recommendations have been incorporated into the Sensitive Area Plans and Heritage Management Plan for the project. Further, the site will be appropriately signposted as an environmentally sensitive area.

5.5.4 Consultation

Nearby residents have been initially informed in the Environmental Assessment of the intention to use the area as an ancillary facility. The project Community and Stakeholder manager has subsequently approached surrounding residents in relation to the use of existing dwellings as a start-up compound with no concerns raised. Residents have been further consulted with respect to future uses, and operating hours to seek feedback as a result of detailed site planning and construction requirements. Residents did not object to the site and uses however, requested that site access be orientated away from their property access and heavy vehicles use the Pacific Highway rather than Cooperabung Drive. These changes have been accommodated.

5.5.5 Adequacy of measures

Lend Lease consider that measures proposed within the CEMP and Sub Plans are sufficient to manage and mitigate environmental risk and community impact at both 890 and 867 Cooperabung Drive. These measures have been supplemented by a number of site specific requirements in relation to heritage and noise and vibration. These measures have been integrated into the wider CEMP and ensure its construction and operation remain consistent with the project approval

5.6 Yarrabee Road (CH 22000-22100)

5.6.1 Overview

This ancillary facility is located beside the existing highway at the northern extent of the project between Chainage 22000-22100. The location has been selected as it meets all criterions under MCoA C28 and is currently located within the road reserve and owned by RMS. Currently it is utilised as a temporary stockpile. The site was identified as potential compound 11 in the Environmental Assessment and falls within the approved project footprint.

This ancillary facility is likely to comprise a small office, meal room, first aid and toilet facilities along with light vehicle parking and laydown and storage of plant and materials. Some minor storage of chemicals will occur at this site within bonded areas. For clarity, laydown and parking areas are proposed to be fluid and approval is sought to utilise both nominated areas for both purposes.

No additional native vegetation is to be cleared as a result of the compound establishment or occupation, whereas heritage studies undertaken as part of the Environmental Assessment found no

evidence of Aboriginal or non-Aboriginal heritage items on the site and concluded that the proposed works are clear to proceed.

The compound has been located a minimum of 50 metres away from the nearest drainage line and falls outside the ARI 1:20. Topography is relatively flat due to the site having been cleared and levelled to facilitate current site use.

5.6.2 Proposed Works

Establishment of the site compound will involve fencing the site, creation of hardstand areas for parking and sheds, installation of sheds, installation/extension of services into the site (e.g. water, phone, and electricity) and installation of the environmental protection measures required under section 2.

5.6.3 Need and Planning Context

The site is required to provide crib facilities and support construction of the Yarabee Road interchange and Barrys Creek Bridge. It is anticipated that the site compound would be established upon CEMP approval and will be in operation up until the completion of the project, which is anticipated to be mid-2017.

Figure 5.14: Indicative Yarrabee Road layout

5.6.4 Ancillary Construction Facilities Criteria

The site has been defined as an ancillary facility under Schedule 2 of the project approval. Accordingly, it has been assessed in accordance with the criteria provided in CoA C28:

a) Be located more than 50 metres from a waterway.

Complies. The compound is located more than 50 metres from the nearest unnamed drainage line located east of the existing Pacific Highway.

b) Have ready access to the road network or direct access to the construction corridor.

Complies. The site adjoins the existing Pacific Highway with direct left in and left out access available for light and heavy vehicles. A traffic control plan as foreshadowed in section 3 will be developed for this site prior to use.

c) Be located in areas of low ecological significance and require minimal clearing of native vegetation (not beyond that already required by the project).

Complies. This site is in an area that has previously been cleared and is identified as totally cleared/open pasture/ weedy farrow in the EA. Moist slopes forest has been identified to the

immediate south of the site. Vegetation to the east is noted to be moist floodplain closed forest. Areas north and west of the compound are to be cleared as part of construction activities generally. No additional vegetation is expected to be cleared resulting from the use of the property. The project Ecologist inspected the site in May 2014 and confirmed the site is cleared and no impacts on biodiversity are expected.

d) Be located on relatively level land.

Complies. The site is on relatively level land, due to the nature of the floodplain topography with an approximate 1% slope.

e) Be separated from the nearest residences by at least 200 metres (or at least 300 metres for a temporary batching plant).

Complies. There are no sensitive receivers within 200m of the proposed compound.

f) Not unreasonably affect the land use of adjacent properties.

Complies. The nearest property is located 380m away from the compound and forms part of an approved quarry operation. The ancillary facility is not anticipated to impact this activity as it is located away from the property access (of Yarrabee Road). Access to State Forests land is similarly not impacted by this facility.

g) Be above the 20 ARI flood level unless a contingency plan to manage flooding is prepared and implemented.

Complies. The site is located outside the ARI 20 year event.

h) Provide sufficient area for the storage of raw materials to minimise, to the greatest extent practical, the number of deliveries required outside standard construction hours.

Complies. The size of the site is considered sufficient for storage of materials and equipment for construction of the Yarrabee interchange. It is unlikely deliveries will have a material impact on receivers in the area.

i) Be located 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.

Complies. Heritage assessments were undertaken for the wider project corridor as part of the Environmental Assessment for the project. The heritage assessments identified that no aboriginal or non-aboriginal items were located within the footprint of the ancillary facility. A follow up inspection by the project archaeologist in July 2014 reconfirmed this position.

5.6.5 Consultation

Due to the likely negligible impacts arising from construction and operation of the compound, no specific consultation is required. Notwithstanding, the neighbouring quarry will be informed of activities as the project commences in accordance with the community consultation strategy for the project.

5.6.6 Environmental Management

The site has been reviewed against the proposed requirements imposed as part of the wider CEMP for the project. This review has identified that no additional mitigation and management measures are required for this ancillary facility. Notwithstanding, works would be undertaken in accordance with an Environmental Work Method Statement (EWMS) which would incorporate the management measures listed in the wider CEMP.

5.6.7 Conclusion

Lend Lease consider the use of the Yarrabee Road ancillary facility appropriate as the site complies with all of the requirements as specified in Condition of Approval C28 and consequently, does not require further approvals for its use.

Overall, the environmental management measures outlined in the CEMP have been designed to protect the surrounding environment from potential impacts arising from the construction and operation of the site. As a result, with proper implementation of the management measures, the proposed activity is likely to have minimal environmental and community impacts and remain consistent with the project approval.

6 Consolidated table of approved ancillary facilities for OH2Ku

Chainage	Purpose & Activities	Land Tenure	a) Be located more than 50 m from a waterway;	b) Have ready access to the road network or direct access to the construction corridor;	c) Be located in areas of low ecological significance and require minimal clearing of native vegetation (not beyond that already required by the project);	d) Be located on relatively level land;	**e)** Be separated from the nearest residence by at least 200 m (or at least 300 m for a temporary batching plant);	**f)** Be above the 20 ARI flood level unless a contingency plan to manage flooding is prepared and implemented;	**g)** Not unreasonably affect the land use of adjacent properties;	**h)** Provide sufficient area for the storage of raw materials to minimise, to the greatest extent practical, the number of deliveries outside standard construction hours;	**i)** Be located 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.	**Is criteria met / approval granted**	**Additional actions required beyond approved CEMP and Sub Plans**
2500	Sancrox Interchange Materials laydown, storage, parking, satellite office and facilities.	Expressway spares/ Ferrovial	Yes.	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes. Whilst site is in a noted cultural heritage area, Structures and corresponding uses are foreshadowed in Table 7-5 of the EA.	**Yes, approved by RMS on 03/01/13 as site is in full compliance with MCoA C28.**	• Mitigation and management measures for the site to be employed as per approval dated 03/01/13. • Site to be occupied following Sancrox contractor vacating premises.
7000	Main Compound Complex – Stage 1 Workshop/Laydown/ storage/ parking/ relevant compound activities (ALL Existing dwellings to be demolished)	RMS #2	Yes. Waterway buffers apply to the site.	Yes. Direct access to construction corridor.	No. Additional clearing required (and approved by Director General).	Yes	Yes	Yes.	Yes	Yes	No. Located in cultural heritage area, Hastings River	**Yes, approved by Department of Planning in October 2013.**	• Mitigation and management measures for the site to be employed as per Director General's approval dated 03/01/13.
5400	Minor Bridge Compound Hastings River South Materials laydown, storage, parking, satellite office and facilities. (Silver Shed to be demolished on adjacent private property)	RMS #1	Yes. Waterway buffers apply to the site.	Yes. Direct access to construction corridor.	Yes	Yes	Five properties within 200m.	No. Site below 20 ARI, therefore contingency plan, 20ARI required	Yes	Yes	Yes	**No. Approval sought as part of CEMP**	• Flood contingency plan or the relocation of site facilities outside the 20ARI flood levels. • Consultation with nearest residences will be undertaken. • Mitigation and management measures as per CEMP and sub plans employed.
7000	Main Compound Complex – Stage 2 Dirt Lab, Batch Plant and additional laydown, storage etc (ALL Existing dwellings to be demolished)	RMS #2	Yes, Waterway buffers apply to the site.	Yes, construction corridor and existing highway	No Additional clearing required. Note: land already approved for clearing by Director General under Stage 1.	Yes	No, Depending on finalised position it may lie 288-290m from nearest residence. Note: Residents located to the south-west and to the east on the opposite side of existing hwy.	Yes	Yes	Yes	No. In cultural heritage area. Hastings River. Knowledge Holder to be consulted on proposed additional uses.	**No. Approval sought as part of CEMP**	Additional uses to be discussed and endorsed by Knowledge Holder. Residents within 300m buffer to be consulted on proposed uses. CNVIS and corresponding mitigation measures to be implemented for additional uses on the site.
16,400	Minor Bridge Compound Wilsons River South	Inside Site Boundary	Yes,	Yes	Yes	Yes	No. Western edge of earthworks formation to boundary meets threshold, East of earthworks foundation less than 200m.	Yes, Compound pad to be constructed above 20 ARI flood level	Yes	Yes	Yes.	**No. Approval sought as part of CEMP**	• Mitigation and management measures as per CEMP and sub plans employed.

Chainage	Purpose & Activities	Land Tenure	a) Be located more than 50 m from a waterway;	b) Have ready access to the road network or direct access to the construction corridor;	c) Be located in areas of low ecological significance and require minimal clearing of native vegetation (not beyond that already required by the project);	d) Be located on relatively level land;	**e)** Be separated from the nearest residence by at least 200 m (or at least 300 m for a temporary batching plant);	**f)** Be above the 20 ARI flood level unless a contingency plan to manage flooding is prepared and implemented;	**g)** Not unreasonably affect the land use of adjacent properties;	**h)** Provide sufficient area for the storage of raw materials to minimise, to the greatest extent practical, the number of deliveries outside standard construction hours;	**i)** Be located 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.	**Is criteria met / approval granted**	**Additional actions required beyond approved CEMP and Sub Plans**
17900-18200	Haydons Wharf Road Compound and Batch Plant Workshop/Laydown/ storage/ parking/ relevant compound activities Batch plant on eastern edge of property. (ALL Existing Dwellings to be demolished = 3 Lots) Property opposite to be used as office.	Inside Site boundary	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	**No. Approval sought as part of CEMP**	• Residents within 200 -300m buffer to be consulted on proposed uses. • CNVIS and corresponding mitigation measures to be implemented for additional uses on the site. • Mitigation and management measures as per CEMP and sub plans employed.
19,800-20,300	Cooperabung Drive Compound and Batch Plant and Materials Processing area Workshop/Laydown/ storage/ parking/ relevant compound activities. Crusher Use of RMS dwelling before demolition	RMS #5	Yes	Site is on cleared land	Yes, Some identified sensitive land west side of property and not proposed to be removed.	Yes	No. Crusher can be placed outside the 300m radius from nearest property however, other activities may fall within 200m buffer (i.e. laydown).	Yes, some parts of land may be susceptible to flooding by Cooperabung Ck.	Yes	Yes	Adjacent areas have been classified as 'Archaeological constraints' and not proposed to be impacted.	**No. Approval sought as part of CEMP**	• CNVIS and corresponding mitigation measures to be implemented for uses on the site. • Mitigation and management measures as per CEMP and sub plans employed. • Should additional areas of the property be required and are subject to heritage, flooding or ecological constraints, further assessment (and mitigation) will be implemented as recommended.
22,000-22100	Minor Bridge Compound – Yarrabee Rd	Inside site boundary	Yes	Yes	Yes – Area within approved corridor and clearing footprint required for project.	Yes	Yes	Yes	Yes	Yes	Yes	**Yes. Approval sought as part of CEMP.**	• No additional mitigation and management measures required beyond CEMP and sub plans.

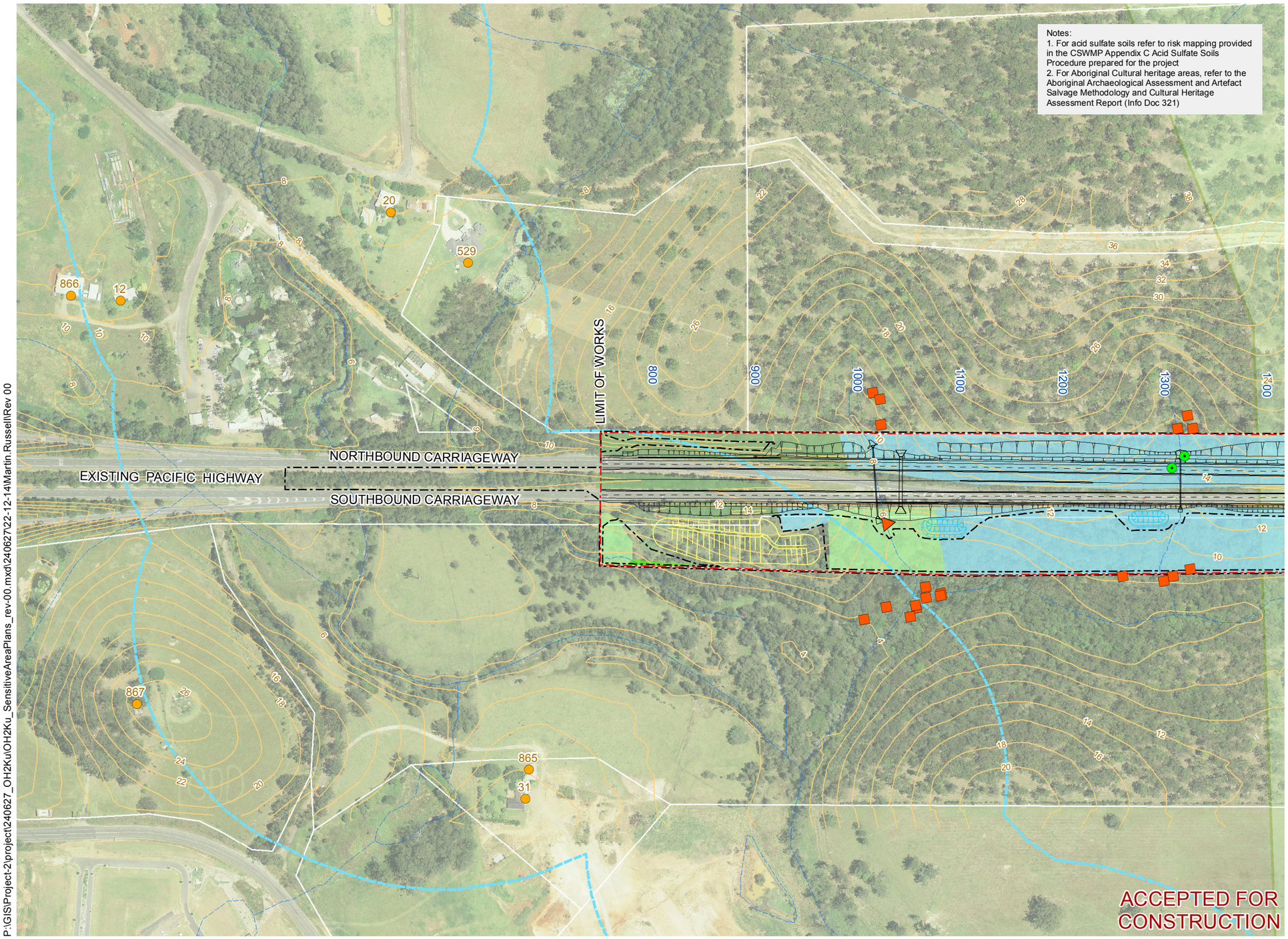
Appendix A5
Document register

Table 1 Environmental document register

Environmental management document	Purpose	Document no.	Document title	Approval requirement
Environmental Policy	Policy	*OH2K-MP-EN-0001*	Environmental Policy	RMS
Construction environmental management plan	Policy Legal and other requirements Risk assessment Objectives and targets Roles and responsibilities Communication and training Monitoring, auditing and reporting Corrective action Management review Management actions	*OH2K-MP-EN-0001*	Oxley Highway to Kempsey Construction Environmental Management Plan	Director-General, DP&I
Environmental management sub plans	Objectives and targets Roles and responsibilities Legal and other requirements Training Monitoring, auditing and reporting Management actions	*OH2K-MP-TM-0001*	Construction traffic management sub plan	Director-General, DP&I
		OH2K-MP-EN-0002	Construction flora and fauna management sub plan	Director-General, DP&I
		OH2K-MP-EN-0003	Construction noise and vibration management sub plan	Director-General, DP&I
		OH2K-MP-EN-0004	Construction soil and water quality management sub plan	Director-General, DP&I
		OH2K-MP-EN-0005	Construction heritage management sub plan	Director-General, DP&I
		OH2K-MP-EN-0006	Construction air quality management sub plan	RMS
		OH2K-MP-EN-0007	Construction waste and energy management sub plan	RMS

Environmental management document	Purpose	Document no.	Document title	Approval requirement
Urban design and landscape management	Objectives Materials Methodolgy	*OH2K-DP-UL03*	Urban design and landscape management	Director-General, DP&I
Compliance tracking program	Compliance status Auditing Recording and reporting	*758A 00*	Compliance tracking program	Director-General, DP&I
Environmental procedures	Operational controls and instructions	*700A*	*Various*	Construction Manager
Environmental forms and checklists	Monitoring and auditing Recording and reporting	*700A*	*Various*	Construction Manager
Environmental work method statements	Management measures Operational controls	*760A*	*Various*	Construction Manager

Appendix A6
Sensitive area plans



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Lend Lease

aupb JOINT VENTURE

- Project boundary
- Permanent basin
- Temporary basin
- Permanent landscape mound
- Temporary landscape mound
- Clearing boundary
- Ancillary areas
- Waterway/Creek/Dam
- Waterway sensitive area receiving environment
- 2m contours
- Contaminated land
- Groundwater monitoring bores
- Sensitive noise receiver^
- Bridge building timber tree (identified by RMS)

Vegetation Community (EEC)*

- Moist Floodplain Closed Forest with rainforest elements
- Riparian Forest
- Paperbark Swamp Forest
- Swamp Mahogony Forest Red Gum Swamp Forest
- Swamp Oak Forest
- Freshwater Wetland

Vegetation Community*

- Moist Floodplain Forest
- Moist Gully Forest
- Moist Slopes Forest
- Dry Ridgetop Forest
- Unidentified Native Vegetation

Other community boundaries

- SEPP14 Wetlands (legal boundary)
- Mangrove
- Seagrass

Heritage

- Archaeological PAD (to be protected during construction)#
- Archaeological PAD (salvaged)#
- Aboriginal heritage site (to be protected during construction)#
- Aboriginal heritage site (salvaged)#
- Non-Aboriginal heritage site #

Habitat

- Giant Barred Frog Habitat
- Green-thighed Frog Habitat
- Potential Green-thighed Frog Habitat
- Recorded Maundia populations
- Surveyed potential Maundia populations
- Microbat habitat
- Microbat roost box location

Reserves and Corridors

- Regional Corridor
- Subregional Corridor
- National Park
- State Forest

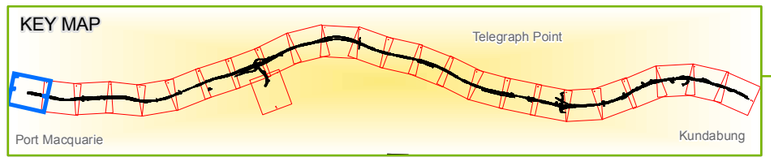
Legend Notes:
* Vegetation Community layers as identified in Table 4.4B of Appendix 4 of the SWTC
# as per the Construction Heritage Management Sub-Plan Rev E
^ Sensitive noise receivers from Table 4.1, Table 4.2 & Table 4.3 of Appendix 4 of the SWTC

Design shown in mapping is revision S015 dated: 22/10/14 and N016 dated: 28/10/14
Clearing shown in mapping is based on drawing X-OH2K-CIV-CT-CLEARING.dwg dated 30/10/2014

1:4,000

0 100 200 m

KEY MAP



Date of Issue: 22/12/2014
Revision no: 00

Projection: GDA 1994 MGA Zone 56
Source: RMS, AuPBJV, LPI, LLE

PACIFIC HIGHWAY UPGRADE OXLEY HIGHWAY TO KUNDABUNG

OH2Ku-EN01-DG-0401: Sensitive Area Plans (Map 1 of 25)

Lend Lease

aupb JOINT VENTURE

Notes:
1. For acid sulfate soils refer to risk mapping provided in the CSWMP Appendix C Acid Sulfate Soils Procedure prepared for the project
2. For Aboriginal Cultural heritage areas, refer to the Aboriginal Archaeological Assessment and Artefact Salvage Methodology and Cultural Heritage Assessment Report (Info Doc 321)

ASR-BH-1001

Ochre site

OHK4
Sandstone
Kerb Stones

OHK4
To be protected during construction
(refer Cultural Heritage Management Plan)

Ochre site
Partial impact
Area not impacted by construction to be fenced
(refer Cultural Heritage Management Plan)

ACCEPTED FOR CONSTRUCTION

- Project boundary
- Permanent basin
- Temporary basin
- Permanent landscape mound
- Temporary landscape mound
- Clearing boundary
- Ancillary areas
- Waterway/Creek/Dam
- Waterway sensitive area receiving environment
- 2m contours
- Contaminated land
- Groundwater monitoring bores
- Sensitive noise receiver^
- Bridge building timber tree (identified by RMS)

Vegetation Community (EEC)*
- Moist Floodplain Closed Forest with rainforest elements
- Riparian Forest
- Paperbark Swamp Forest
- Swamp Mahogany Forest Red Gum Swamp Forest
- Swamp Oak Forest
- Freshwater Wetland

Vegetation Community*
- Moist Floodplain Forest
- Moist Gully Forest
- Moist Slopes Forest
- Dry Ridgetop Forest
- Unidentified Native Vegetation

Other community boundaries
- SEPP14 Wetlands (legal boundary)
- Mangrove
- Seagrass

Heritage
- Archaeological PAD (to be protected during construction)#
- Archaeological PAD (salvaged)#
- Aboriginal heritage site (to be protected during construction)#
- Aboriginal heritage site (salvaged)#
- Non-Aboriginal heritage site #

Habitat
- Giant Barred Frog Habitat
- Green-thighed Frog Habitat
- Potential Green-thighed Frog Habitat
- Recorded Maundia populations
- Surveyed potential Maundia populations
- Microbat habitat
- Microbat roost box location

Reserves and Corridors
- Regional Corridor
- Subregional Corridor
- National Park
- State Forest

Legend Notes:
* Vegetation Community layers as identified in Table 4.4B of Appendix 4 of the SWTC
# as per the Construction Heritage Management Sub-Plan Rev E
^ Sensitive noise receivers from Table 4.1, Table 4.2 & Table 4.3 of Appendix 4 of the SWTC

Design shown in mapping is revision S015 dated: 22/10/14 and N016 dated: 28/10/14
Clearing shown in mapping is based on drawing X-OH2K-CIV-CT-CLEARING.dwg dated 30/10/2014

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KEY MAP
Telegraph Point
Port Macquarie
Kundabung

Date of Issue: 22/12/2014
Revision no: 00

Projection: GDA 1994 MGA Zone 56
Source: RMS, AuPBJV, LPI, LLE

PACIFIC HIGHWAY UPGRADE OXLEY HIGHWAY TO KUNDABUNG

OH2Ku-EN01-DG-0402: Sensitive Area Plans (Map 2 of 25)

Lend Lease

aupb JOINT VENTURE

Notes:
1. For acid sulfate soils refer to risk mapping provided in the CSWMP Appendix C Acid Sulfate Soils Procedure prepared for the project
2. For Aboriginal Cultural heritage areas, refer to the Aboriginal Archaeological Assessment and Artefact Salvage Methodology and Cultural Heritage Assessment Report (Info Doc 321)

SANCROX ROAD

CASSEGRAIN WINERY

A-BH-3101
A-LDC-1002
ASR-BH-1004
ASR-BH-1006
A-BH-1011

ACCEPTED FOR CONSTRUCTION

- Project boundary
- Permanent basin
- Temporary basin
- Permanent landscape mound
- Temporary landscape mound
- Clearing boundary
- Ancillary areas
- Waterway/Creek/Dam
- Waterway sensitive area receiving environment
- 2m contours
- Contaminated land
- Groundwater monitoring bores
- Sensitive noise receiver^
- Bridge building timber tree (identified by RMS)

Vegetation Community (EEC)*
- Moist Floodplain Closed Forest with rainforest elements
- Riparian Forest
- Paperbark Swamp Forest
- Swamp Mahogony Forest Red Gum Swamp Forest
- Swamp Oak Forest
- Freshwater Wetland

Vegetation Community*
- Moist Floodplain Forest
- Moist Gully Forest
- Moist Slopes Forest
- Dry Ridgetop Forest
- Unidentified Native Vegetation

Other community boundaries
- SEPP14 Wetlands (legal boundary)
- Mangrove
- Seagrass

Heritage
- Archaeological PAD (to be protected during construction)#
- Archaeological PAD (salvaged)#
- Aboriginal heritage site (to be protected during construction)#
- Aboriginal heritage site (salvaged)#
- Non-Aboriginal heritage site #

Habitat
- Giant Barred Frog Habitat
- Green-thighed Frog Habitat
- Potential Green-thighed Frog Habitat
- Recorded Maundia populations
- Surveyed potential Maundia populations
- Microbat habitat
- Microbat roost box location

Reserves and Corridors
- Regional Corridor
- Subregional Corridor
- National Park
- State Forest

Legend Notes:
* Vegetation Community layers as identified in Table 4.4B of Appendix 4 of the SWTC
# as per the Construction Heritage Management Sub-Plan Rev E
^ Sensitive noise receivers from Table 4.1, Table 4.2 & Table 4.3 of Appendix 4 of the SWTC

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KEY MAP
Telegraph Point
Port Macquarie
Kundabung

Date of Issue: 22/12/2014
Revision no: 00

Projection: GDA 1994 MGA Zone 56
Source: RMS, AuPBJV, LPI, LLE

PACIFIC HIGHWAY UPGRADE OXLEY HIGHWAY TO KUNDABUNG

OH2Ku-EN01-DG-0403: Sensitive Area Plans (Map 3 of 25)

Lend Lease

AUPBJV JOINT VENTURE

Notes:
1. For acid sulfate soils refer to risk mapping provided in the CSWMP Appendix C Acid Sulfate Soils Procedure prepared for the project
2. For Aboriginal Cultural heritage areas, refer to the Aboriginal Archaeological Assessment and Artefact Salvage Methodology and Cultural Heritage Assessment Report (Info Doc 321)

FLOOD PLAIN CULVERT (SB00)

FLOOD PLAIN CULVERT (SB01)

BH4

ABH1011

860

73

ACCEPTED FOR CONSTRUCTION

- Project boundary
- Permanent basin
- Temporary basin
- Permanent landscape mound
- Temporary landscape mound
- Clearing boundary
- Ancillary areas
- Waterway/Creek/Dam
- Waterway sensitive area receiving environment
- 2m contours
- Contaminated land
- Groundwater monitoring bores
- Sensitive noise receiver^
- Bridge building timber tree (identified by RMS)

Vegetation Community (EEC)*
- Moist Floodplain Closed Forest with rainforest elements
- Riparian Forest
- Paperbark Swamp Forest
- Swamp Mahogony Forest Red Gum Swamp Forest
- Swamp Oak Forest
- Freshwater Wetland

Vegetation Community*
- Moist Floodplain Forest
- Moist Gully Forest
- Moist Slopes Forest
- Dry Ridgetop Forest
- Unidentified Native Vegetation

Other community boundaries
- SEPP14 Wetlands (legal boundary)
- Mangrove
- Seagrass

Heritage
- Archaeological PAD (to be protected during construction)#
- Archaeological PAD (salvaged)#
- Aboriginal heritage site (to be protected during construction)#
- Aboriginal heritage site (salvaged)#
- Non-Aboriginal heritage site #

Habitat
- Giant Barred Frog Habitat
- Green-thighed Frog Habitat
- Potential Green-thighed Frog Habitat
- Recorded Maundia populations
- Surveyed potential Maundia populations
- Microbat habitat
- Microbat roost box location

Reserves and Corridors
- Regional Corridor
- Subregional Corridor
- National Park
- State Forest

Legend Notes:
* Vegetation Community layers as identified in Table 4.4B of Appendix 4 of the SWTC
# as per the Construction Heritage Management Sub-Plan Rev E
^ Sensitive noise receivers from Table 4.1, Table 4.2 & Table 4.3 of Appendix 4 of the SWTC

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Clearing shown in mapping is based on drawing X-OH2K-CIV-CT-CLEARING.dwg dated 30/10/2014

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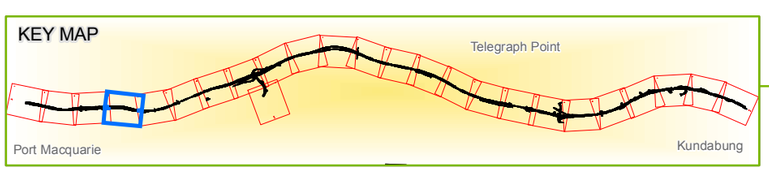
KEY MAP



Date of Issue: 22/12/2014
Revision no: 00

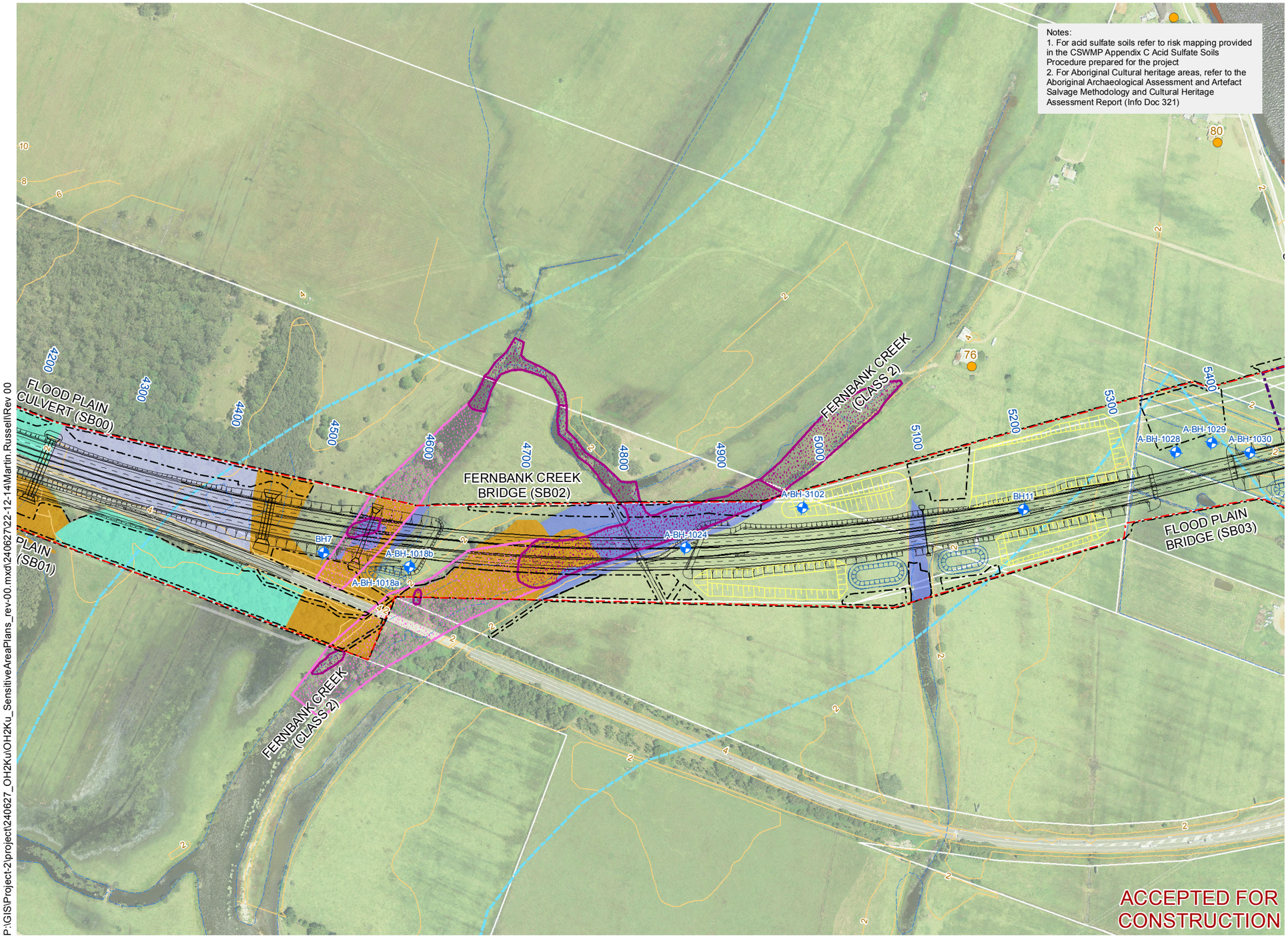
Projection: GDA 1994 MGA Zone 56
Source: RMS, AuPBJV, LPI, LLE

PACIFIC HIGHWAY UPGRADE OXLEY HIGHWAY TO KUNDABUNG

OH2Ku-EN01-DG-0404: Sensitive Area Plans (Map 4 of 25)

Lend Lease

aupb JOINT VENTURE



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- Project boundary
- Permanent basin
- Temporary basin
- Permanent landscape mound
- Temporary landscape mound
- Clearing boundary
- Ancillary areas
- Waterway/Creek/Dam
- Waterway sensitive area receiving environment
- 2m contours
- Contaminated land
- Groundwater monitoring bores
- Sensitive noise receiver^
- Bridge building timber tree (identified by RMS)

Vegetation Community (EEC)*

- Moist Floodplain Closed Forest with rainforest elements
- Riparian Forest
- Paperbark Swamp Forest
- Swamp Mahogany Forest Red Gum Swamp Forest
- Swamp Oak Forest
- Freshwater Wetland

Vegetation Community*

- Moist Floodplain Forest
- Moist Gully Forest
- Moist Slopes Forest
- Dry Ridgetop Forest
- Unidentified Native Vegetation

Other community boundaries

- SEPP14 Wetlands (legal boundary)
- Mangrove
- Seagrass

Heritage

- Archaeological PAD (to be protected during construction)#
- Archaeological PAD (salvaged)#
- Aboriginal heritage site (to be protected during construction)#
- Aboriginal heritage site (salvaged)#
- Non-Aboriginal heritage site #

Habitat

- Giant Barred Frog Habitat
- Green-thighed Frog Habitat
- Potential Green-thighed Frog Habitat
- Recorded Maundia populations
- Surveyed potential Maundia populations
- Microbat habitat
- Microbat roost box location

Reserves and Corridors

- Regional Corridor
- Subregional Corridor
- National Park
- State Forest

Legend Notes:
* Vegetation Community layers as identified in Table 4.4B of Appendix 4 of the SWTC
# as per the Construction Heritage Management Sub-Plan Rev E
^ Sensitive noise receivers from Table 4.1, Table 4.2 & Table 4.3 of Appendix 4 of the SWTC

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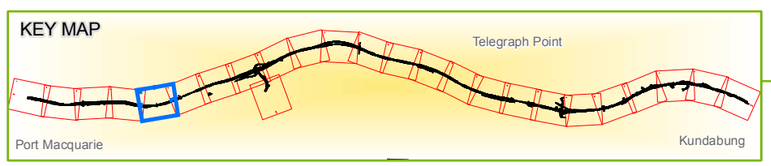


Date of Issue: 22/12/2014
Revision no: 00

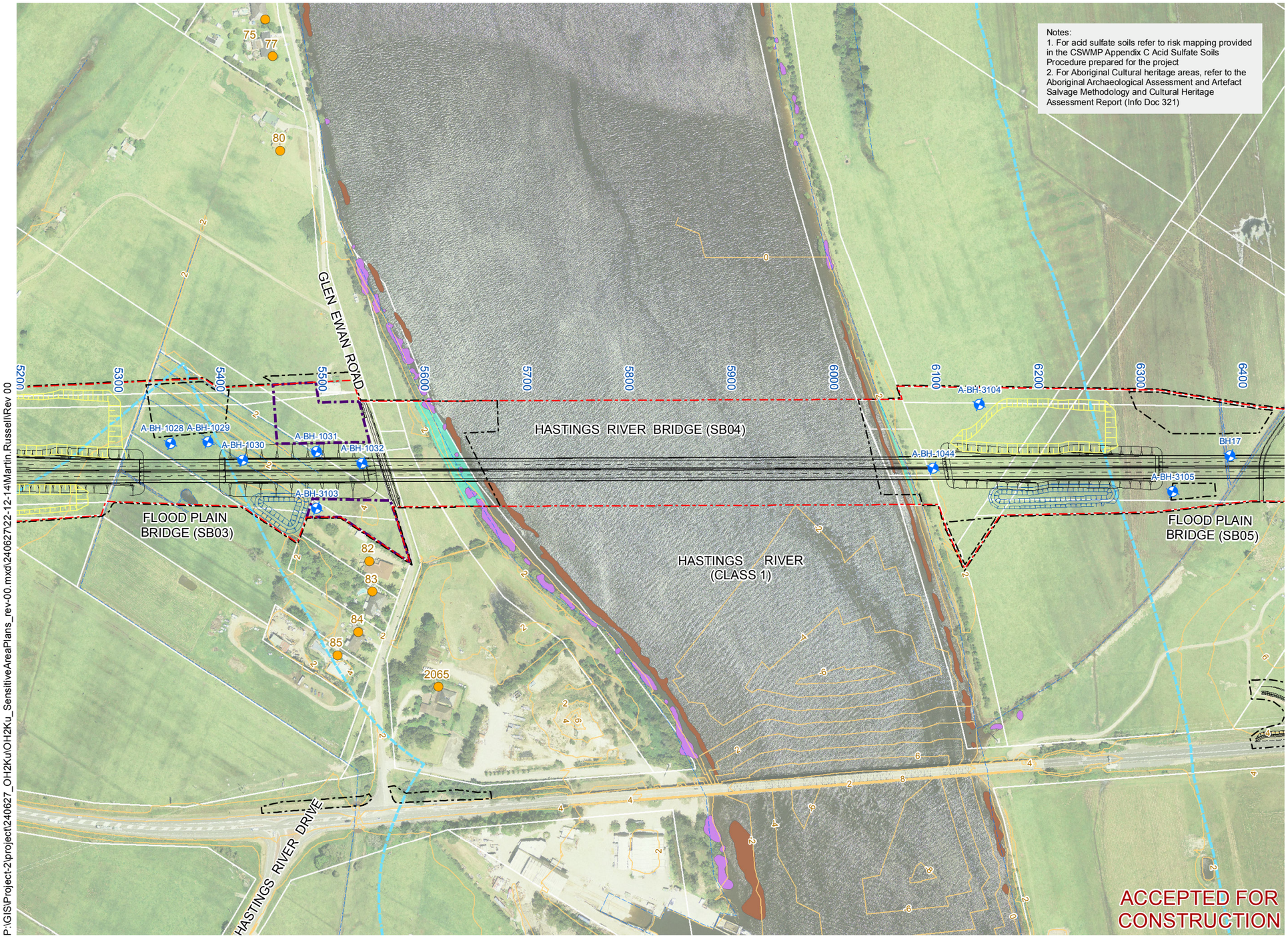
Projection: GDA 1994 MGA Zone 56
Source: RMS, AuPBJV, LPI, LLE

PACIFIC HIGHWAY UPGRADE **OXLEY HIGHWAY TO KUNDABUNG**

OH2Ku-EN01-DG-0405: Sensitive Area Plans (Map 5 of 25)

Lend Lease

aupb JOINT VENTURE



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- Project boundary
- Permanent basin
- Temporary basin
- Permanent landscape mound
- Temporary landscape mound
- Clearing boundary
- Ancillary areas
- Waterway/Creek/Dam
- Waterway sensitive area receiving environment
- 2m contours
- Contaminated land
- Groundwater monitoring bores
- Sensitive noise receiver^
- Bridge building timber tree (identified by RMS)

Vegetation Community (EEC)*

- Moist Floodplain Closed Forest with rainforest elements
- Riparian Forest
- Paperbark Swamp Forest
- Swamp Mahogony Forest Red Gum Swamp Forest
- Swamp Oak Forest
- Freshwater Wetland

Vegetation Community*

- Moist Floodplain Forest
- Moist Gully Forest
- Moist Slopes Forest
- Dry Ridgetop Forest
- Unidentified Native Vegetation

Other community boundaries

- SEPP14 Wetlands (legal boundary)
- Mangrove
- Seagrass

Heritage

- Archaeological PAD (to be protected during construction)#
- Archaeological PAD (salvaged)#
- Aboriginal heritage site (to be protected during construction)#
- Aboriginal heritage site (salvaged)#
- Non-Aboriginal heritage site #

Habitat

- Giant Barred Frog Habitat
- Green-thighed Frog Habitat
- Potential Green-thighed Frog Habitat
- Recorded Maundia populations
- Surveyed potential Maundia populations
- Microbat habitat
- Microbat roost box location

Reserves and Corridors

- Regional Corridor
- Subregional Corridor
- National Park
- State Forest

Legend Notes:
* Vegetation Community layers as identified in Table 4.4B of Appendix 4 of the SWTC
# as per the Construction Heritage Management Sub-Plan Rev E
^ Sensitive noise receivers from Table 4.1, Table 4.2 & Table 4.3 of Appendix 4 of the SWTC

Design shown in mapping is revision S015 dated: 22/10/14 and N016 dated: 28/10/14
Clearing shown in mapping is based on drawing X-OH2K-CIV-CT-CLEARING.dwg dated 30/10/2014

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Date of Issue: 22/12/2014
Revision no: 00

Projection: GDA 1994 MGA Zone 56
Source: RMS, AuPBJV, LPI, LLE

PACIFIC HIGHWAY UPGRADE **OXLEY HIGHWAY TO KUNDABUNG**

OH2Ku-EN01-DG-0406: Sensitive Area Plans (Map 6 of 25)

Notes:
1. For acid sulfate soils refer to risk mapping provided in the CSWMP Appendix C Acid Sulfate Soils Procedure prepared for the project
2. For Aboriginal Cultural heritage areas, refer to the Aboriginal Archaeological Assessment and Artefact Salvage Methodology and Cultural Heritage Assessment Report (Info Doc 321)

CAIRNCROSS STATE FOREST

EXISTING PACIFIC HIGHWAY

FLOOD PLAIN BRIDGE (SB05)

A-BH-4007

A-BH-4008

A-BH-3105

BH17

OHK46 and OHK47/A

OHK46 and OHK47/A

96

102

103

106

6200 6300 6400 6500 6600 6700 6800 6900 7000 7100 7200 7300 7400

ACCEPTED FOR CONSTRUCTION

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Lend Lease

aupb JOINT VENTURE

- Project boundary
- Permanent basin
- Temporary basin
- Permanent landscape mound
- Temporary landscape mound
- Clearing boundary
- Ancillary areas
- Waterway/Creek/Dam
- Waterway sensitive area receiving environment
- 2m contours
- Contaminated land
- Groundwater monitoring bores
- Sensitive noise receiver^
- Bridge building timber tree (identified by RMS)

Vegetation Community (EEC)*

- Moist Floodplain Closed Forest with rainforest elements
- Riparian Forest
- Paperbark Swamp Forest
- Swamp Mahogany Forest Red Gum Swamp Forest
- Swamp Oak Forest
- Freshwater Wetland

Vegetation Community*

- Moist Floodplain Forest
- Moist Gully Forest
- Moist Slopes Forest
- Dry Ridgetop Forest
- Unidentified Native Vegetation

Other community boundaries

- SEPP14 Wetlands (legal boundary)
- Mangrove
- Seagrass

Heritage

- Archaeological PAD (to be protected during construction)#
- Archaeological PAD (salvaged)#
- Aboriginal heritage site (to be protected during construction)#
- Aboriginal heritage site (salvaged)#
- Non-Aboriginal heritage site #

Habitat

- Giant Barred Frog Habitat
- Green-thighed Frog Habitat
- Potential Green-thighed Frog Habitat
- Recorded Maundia populations
- Surveyed potential Maundia populations
- Microbat habitat
- Microbat roost box location

Reserves and Corridors

- Regional Corridor
- Subregional Corridor
- National Park
- State Forest

Legend Notes:
* Vegetation Community layers as identified in Table 4.4B of Appendix 4 of the SWTC
# as per the Construction Heritage Management Sub-Plan Rev E
^ Sensitive noise receivers from Table 4.1, Table 4.2 & Table 4.3 of Appendix 4 of the SWTC

Design shown in mapping is revision S015 dated: 22/10/14 and N016 dated: 28/10/14
Clearing shown in mapping is based on drawing X-OH2K-CIV-CT-CLEARING.dwg dated 30/10/2014

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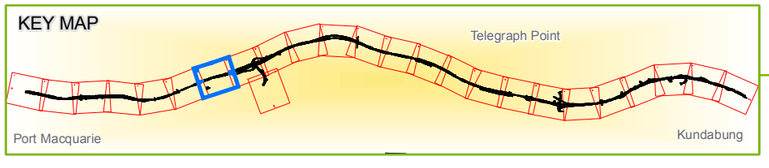
KEY MAP



Date of Issue: 22/12/2014
Revision no: 00

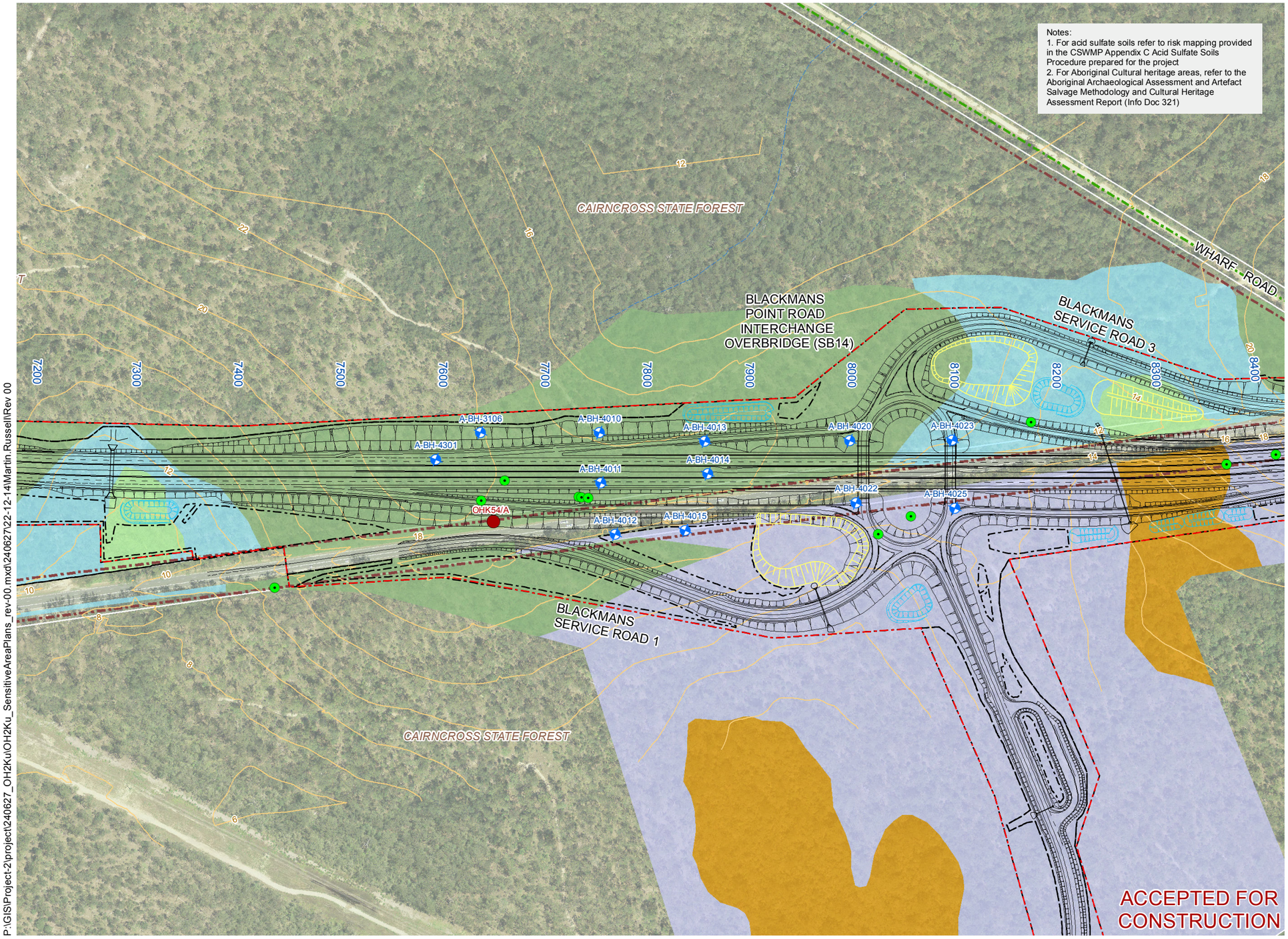
Projection: GDA 1994 MGA Zone 56
Source: RMS, AuPBJV, LPI, LLE

PACIFIC HIGHWAY UPGRADE OXLEY HIGHWAY TO KUNDABUNG

OH2Ku-EN01-DG-0407: Sensitive Area Plans (Map 7 of 25)

Lend Lease

aupb JOINT VENTURE



Notes:
1. For acid sulfate soils refer to risk mapping provided in the CSWMP Appendix C Acid Sulfate Soils Procedure prepared for the project
2. For Aboriginal Cultural heritage areas, refer to the Aboriginal Archaeological Assessment and Artefact Salvage Methodology and Cultural Heritage Assessment Report (Info Doc 321)

- Project boundary
- Permanent basin
- Temporary basin
- Permanent landscape mound
- Temporary landscape mound
- Clearing boundary
- Ancillary areas
- Waterway/Creek/Dam
- Waterway sensitive area receiving environment
- 2m contours
- Contaminated land
- Groundwater monitoring bores
- Sensitive noise receiver^
- Bridge building timber tree (identified by RMS)

Vegetation Community (EEC)*
- Moist Floodplain Closed Forest with rainforest elements
- Riparian Forest
- Paperbark Swamp Forest
- Swamp Mahogony Forest Red Gum Swamp Forest
- Swamp Oak Forest
- Freshwater Wetland

Vegetation Community*
- Moist Floodplain Forest
- Moist Gully Forest
- Moist Slopes Forest
- Dry Ridgetop Forest
- Unidentified Native Vegetation

Other community boundaries
- SEPP14 Wetlands (legal boundary)
- Mangrove
- Seagrass

Heritage
- Archaeological PAD (to be protected during construction)#
- Archaeological PAD (salvaged)#
- Aboriginal heritage site (to be protected during construction)#
- Aboriginal heritage site (salvaged)#
- Non-Aboriginal heritage site #

Habitat
- Giant Barred Frog Habitat
- Green-thighed Frog Habitat
- Potential Green-thighed Frog Habitat
- Recorded Maundia populations
- Surveyed potential Maundia populations
- Microbat habitat
- Microbat roost box location

Reserves and Corridors
- Regional Corridor
- Subregional Corridor
- National Park
- State Forest

Legend Notes:
* Vegetation Community layers as identified in Table 4.4B of Appendix 4 of the SWTC
# as per the Construction Heritage Management Sub-Plan Rev E
^ Sensitive noise receivers from Table 4.1, Table 4.2 & Table 4.3 of Appendix 4 of the SWTC

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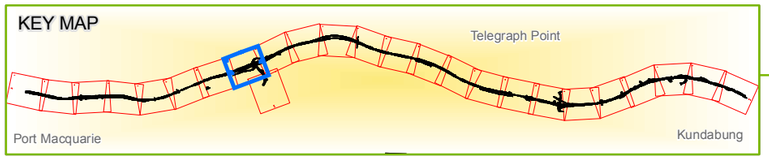

Date of Issue: 22/12/2014
Revision no: 00

Projection: GDA 1994 MGA Zone 56
Source: RMS, AuPBJV, LPI, LLE

PACIFIC HIGHWAY UPGRADE **OXLEY HIGHWAY TO KUNDABUNG**

OH2Ku-EN01-DG-0408: Sensitive Area Plans (Map 8 of 25)

Notes:
1. For acid sulfate soils refer to risk mapping provided in the CSWMP Appendix C Acid Sulfate Soils Procedure prepared for the project
2. For Aboriginal Cultural heritage areas, refer to the Aboriginal Archaeological Assessment and Artefact Salvage Methodology and Cultural Heritage Assessment Report (Info Doc 321)

WHARF ROAD
BLACKMANS SERVICE ROAD 3
Rawdon Creek Nature Reserve
A-BH-3107
ASR-BH-1015
BLACKMANS POINT ROAD
CAIRNCROSS STATE FOREST
CAIRNCROSS STATE FOREST
ACCEPTED FOR CONSTRUCTION

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Lend Lease
aupb JOINT VENTURE

- Project boundary
- Permanent basin
- Temporary basin
- Permanent landscape mound
- Temporary landscape mound
- Clearing boundary
- Ancillary areas
- Waterway/Creek/Dam
- Waterway sensitive area receiving environment
- 2m contours
- Contaminated land
- Groundwater monitoring bores
- Sensitive noise receiver^
- Bridge building timber tree (identified by RMS)

Vegetation Community (EEC)*
- Moist Floodplain Closed Forest with rainforest elements
- Riparian Forest
- Paperbark Swamp Forest
- Swamp Mahogony Forest Red Gum Swamp Forest
- Swamp Oak Forest
- Freshwater Wetland

Vegetation Community*
- Moist Floodplain Forest
- Moist Gully Forest
- Moist Slopes Forest
- Dry Ridgetop Forest
- Unidentified Native Vegetation

Other community boundaries
- SEPP14 Wetlands (legal boundary)
- Mangrove
- Seagrass

Heritage
- Archaeological PAD (to be protected during construction)#
- Archaeological PAD (salvaged)#
- Aboriginal heritage site (to be protected during construction)#
- Aboriginal heritage site (salvaged)#
- Non-Aboriginal heritage site #

Habitat
- Giant Barred Frog Habitat
- Green-thighed Frog Habitat
- Potential Green-thighed Frog Habitat
- Recorded Maundia populations
- Surveyed potential Maundia populations
- Microbat habitat
- Microbat roost box location

Reserves and Corridors
- Regional Corridor
- Subregional Corridor
- National Park
- State Forest

Legend Notes:
* Vegetation Community layers as identified in Table 4.4B of Appendix 4 of the SWTC
# as per the Construction Heritage Management Sub-Plan Rev E
^ Sensitive noise receivers from Table 4.1, Table 4.2 & Table 4.3 of Appendix 4 of the SWTC

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Clearing shown in mapping is based on drawing X-OH2K-CIV-CT-CLEARING.dwg dated 30/10/2014

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KEY MAP
Telegraph Point
Port Macquarie
Kundabung

Date of Issue: 22/12/2014
Revision no: 00

Projection: GDA 1994 MGA Zone 56
Source: RMS, AuPBJV, LPI, LLE

PACIFIC HIGHWAY UPGRADE OXLEY HIGHWAY TO KUNDABUNG

OH2Ku-EN01-DG-0409: Sensitive Area Plans (Map 9 of 25)

Lend Lease

aupb JOINT VENTURE

Notes:
1. For acid sulfate soils refer to risk mapping provided in the CSWMP Appendix C Acid Sulfate Soils Procedure prepared for the project
2. For Aboriginal Cultural heritage areas, refer to the Aboriginal Archaeological Assessment and Artefact Salvage Methodology and Cultural Heritage Assessment Report (Info Doc 321)

Rawdon Creek Nature Reserve

CAIRNCROSS STATE FOREST

EXISTING PACIFIC HIGHWAY

B-BH-3101

B-BH-4001

OHK219/A

B-BH-4301

B-BH-3102

9200 9300 9400 9500 9600 9700 9800 9900 10000 10100 10200 10300 10400

ACCEPTED FOR CONSTRUCTION

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- Project boundary
- Permanent basin
- Temporary basin
- Permanent landscape mound
- Temporary landscape mound
- Clearing boundary
- Ancillary areas
- Waterway/Creek/Dam
- Waterway sensitive area receiving environment
- 2m contours
- Contaminated land
- Groundwater monitoring bores
- Sensitive noise receiver^
- Bridge building timber tree (identified by RMS)

Vegetation Community (EEC)*

- Moist Floodplain Closed Forest with rainforest elements
- Riparian Forest
- Paperbark Swamp Forest
- Swamp Mahogony Forest Red Gum Swamp Forest
- Swamp Oak Forest
- Freshwater Wetland

Vegetation Community*

- Moist Floodplain Forest
- Moist Gully Forest
- Moist Slopes Forest
- Dry Ridgetop Forest
- Unidentified Native Vegetation

Other community boundaries

- SEPP14 Wetlands (legal boundary)
- Mangrove
- Seagrass

Heritage

- Archaeological PAD (to be protected during construction)#
- Archaeological PAD (salvaged)#
- Aboriginal heritage site (to be protected during construction)#
- Aboriginal heritage site (salvaged)#
- Non-Aboriginal heritage site #

Habitat

- Giant Barred Frog Habitat
- Green-thighed Frog Habitat
- Potential Green-thighed Frog Habitat
- Recorded Maundia populations
- Surveyed potential Maundia populations
- Microbat habitat
- Microbat roost box location

Reserves and Corridors

- Regional Corridor
- Subregional Corridor
- National Park
- State Forest

Legend Notes:
* Vegetation Community layers as identified in Table 4.4B of Appendix 4 of the SWTC
# as per the Construction Heritage Management Sub-Plan Rev E
^ Sensitive noise receivers from Table 4.1, Table 4.2 & Table 4.3 of Appendix 4 of the SWTC

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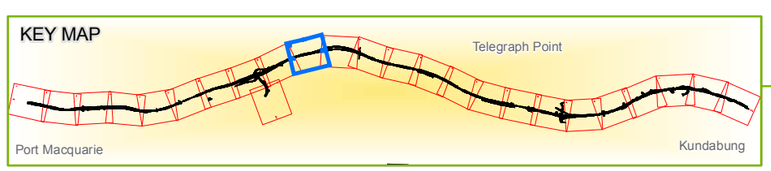
KEY MAP

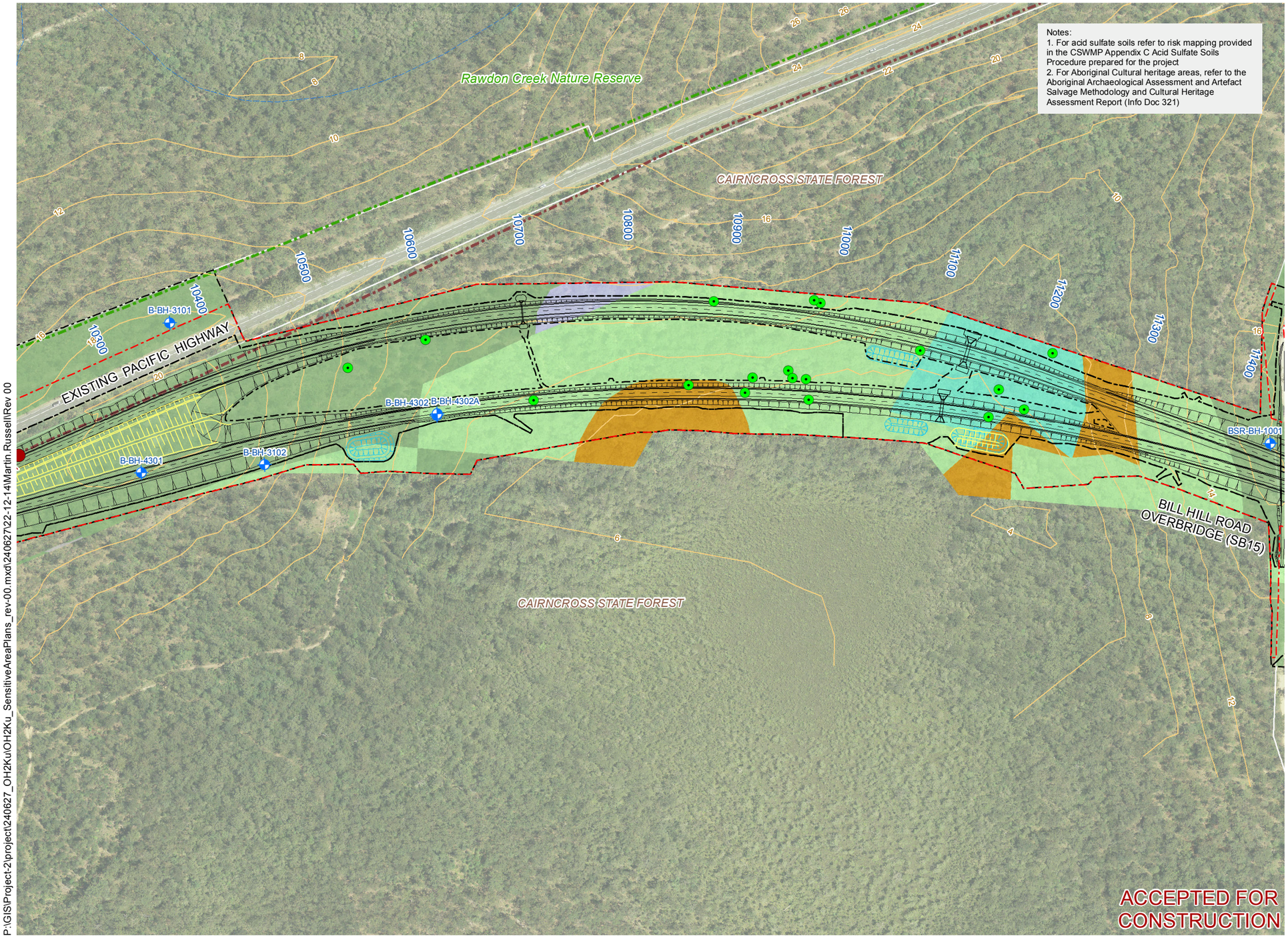


Date of Issue: 22/12/2014
Revision no: 00

Projection: GDA 1994 MGA Zone 56
Source: RMS, AuPBJV, LPI, LLE

PACIFIC HIGHWAY UPGRADE OXLEY HIGHWAY TO KUNDABUNG

OH2Ku-EN01-DG-0410: Sensitive Area Plans (Map 10 of 25)



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Lend Lease

aupb JOINT VENTURE

- Project boundary
- Permanent basin
- Temporary basin
- Permanent landscape mound
- Temporary landscape mound
- Clearing boundary
- Ancillary areas
- Waterway/Creek/Dam
- Waterway sensitive area receiving environment
- 2m contours
- Contaminated land
- Groundwater monitoring bores
- Sensitive noise receiver^
- Bridge building timber tree (identified by RMS)

Vegetation Community (EEC)*

- Moist Floodplain Closed Forest with rainforest elements
- Riparian Forest
- Paperbark Swamp Forest
- Swamp Mahogany Forest Red Gum Swamp Forest
- Swamp Oak Forest
- Freshwater Wetland

Vegetation Community*

- Moist Floodplain Forest
- Moist Gully Forest
- Moist Slopes Forest
- Dry Ridgetop Forest
- Unidentified Native Vegetation

Other community boundaries

- SEPP14 Wetlands (legal boundary)
- Mangrove
- Seagrass

Heritage

- Archaeological PAD (to be protected during construction)#
- Archaeological PAD (salvaged)#
- Aboriginal heritage site (to be protected during construction)#
- Aboriginal heritage site (salvaged)#
- Non-Aboriginal heritage site #

Habitat

- Giant Barred Frog Habitat
- Green-thighed Frog Habitat
- Potential Green-thighed Frog Habitat
- Recorded Maundia populations
- Surveyed potential Maundia populations
- Microbat habitat
- Microbat roost box location

Reserves and Corridors

- Regional Corridor
- Subregional Corridor
- National Park
- State Forest

Legend Notes:
* Vegetation Community layers as identified in Table 4.4B of Appendix 4 of the SWTC
# as per the Construction Heritage Management Sub-Plan Rev E
^ Sensitive noise receivers from Table 4.1, Table 4.2 & Table 4.3 of Appendix 4 of the SWTC

Design shown in mapping is revision S015 dated: 22/10/14 and N016 dated: 28/10/14
Clearing shown in mapping is based on drawing X-OH2K-CIV-CT-CLEARING.dwg dated 30/10/2014

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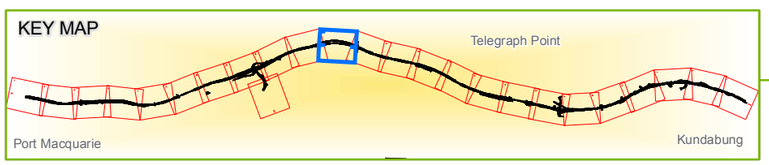


Date of Issue: 22/12/2014
Revision no: 00

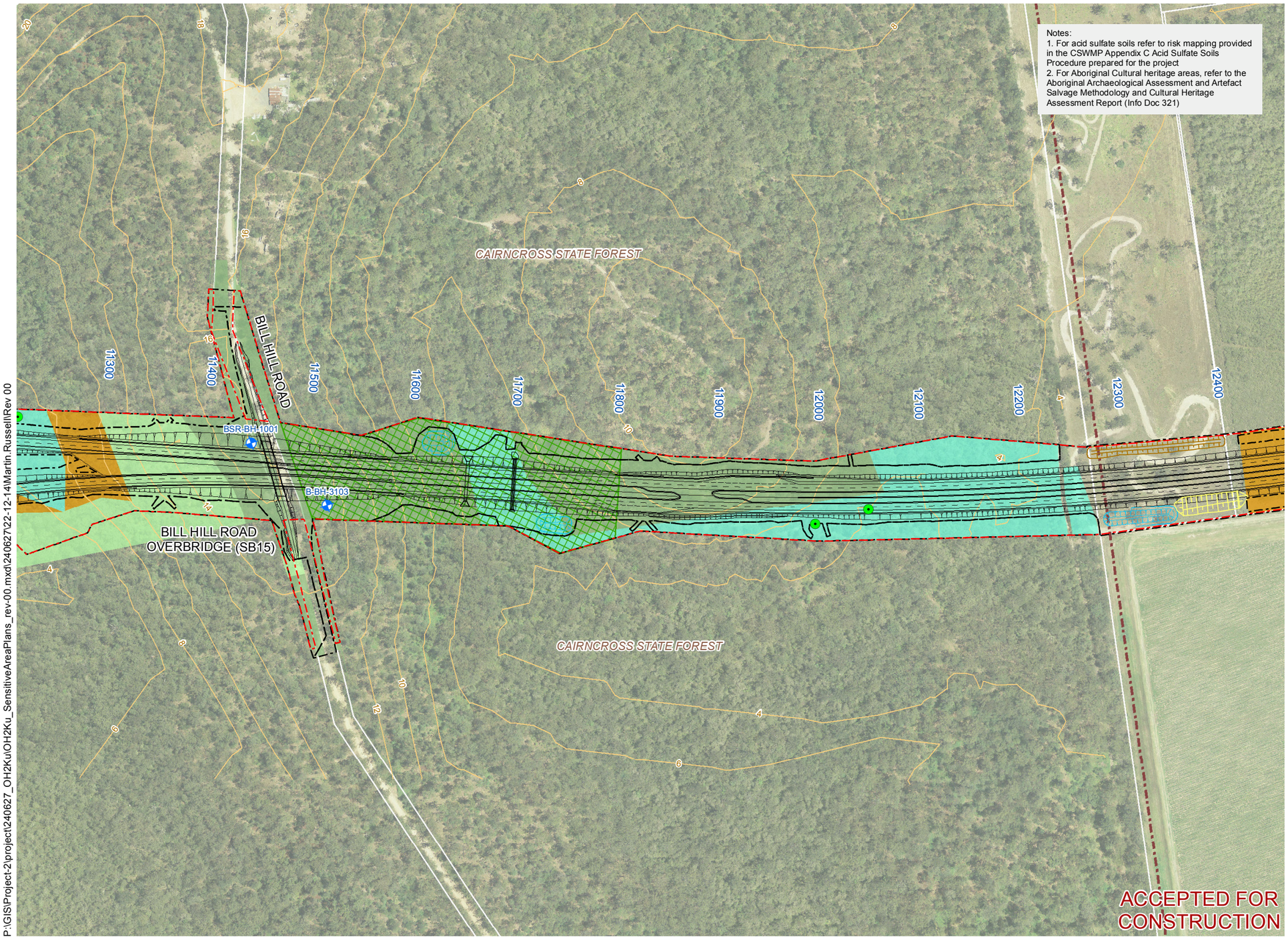
Projection: GDA 1994 MGA Zone 56
Source: RMS, AuPBJV, LPI, LLE

PACIFIC HIGHWAY UPGRADE OXLEY HIGHWAY TO KUNDABUNG

OH2Ku-EN01-DG-0411: Sensitive Area Plans (Map 11 of 25)

Lend Lease

aupb JOINT VENTURE



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- Project boundary
- Permanent basin
- Temporary basin
- Permanent landscape mound
- Temporary landscape mound
- Clearing boundary
- Ancillary areas
- Waterway/Creek/Dam
- Waterway sensitive area receiving environment
- 2m contours
- Contaminated land
- Groundwater monitoring bores
- Sensitive noise receiver^
- Bridge building timber tree (identified by RMS)

Vegetation Community (EEC)*

- Moist Floodplain Closed Forest with rainforest elements
- Riparian Forest
- Paperbark Swamp Forest
- Swamp Mahogony Forest Red Gum Swamp Forest
- Swamp Oak Forest
- Freshwater Wetland

Vegetation Community*

- Moist Floodplain Forest
- Moist Gully Forest
- Moist Slopes Forest
- Dry Ridgetop Forest
- Unidentified Native Vegetation

Other community boundaries

- SEPP14 Wetlands (legal boundary)
- Mangrove
- Seagrass

Heritage

- Archaeological PAD (to be protected during construction)#
- Archaeological PAD (salvaged)#
- Aboriginal heritage site (to be protected during construction)#
- Aboriginal heritage site (salvaged)#
- Non-Aboriginal heritage site #

Habitat

- Giant Barred Frog Habitat
- Green-thighed Frog Habitat
- Potential Green-thighed Frog Habitat
- Recorded Maundia populations
- Surveyed potential Maundia populations
- Microbat habitat
- Microbat roost box location

Reserves and Corridors

- Regional Corridor
- Subregional Corridor
- National Park
- State Forest

Legend Notes:
* Vegetation Community layers as identified in Table 4.4B of Appendix 4 of the SWTC
# as per the Construction Heritage Management Sub-Plan Rev E
^ Sensitive noise receivers from Table 4.1, Table 4.2 & Table 4.3 of Appendix 4 of the SWTC

Design shown in mapping is revision S015 dated: 22/10/14 and N016 dated: 28/10/14
Clearing shown in mapping is based on drawing X-OH2K-CIV-CT-CLEARING.dwg dated 30/10/2014

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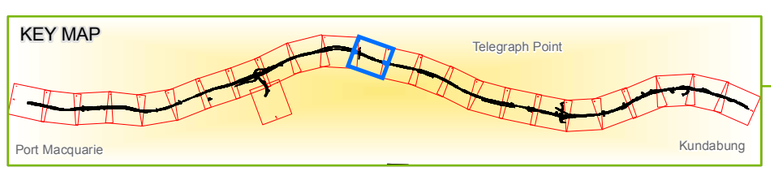

Date of Issue: 22/12/2014
Revision no: 00

Projection: GDA 1994 MGA Zone 56
Source: RMS, AuPBJV, LPI, LLE

PACIFIC HIGHWAY UPGRADE OXLEY HIGHWAY TO KUNDABUNG

OH2Ku-EN01-DG-0412: Sensitive Area Plans (Map 12 of 25)

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Lend Lease

aupb JOINT VENTURE

- Project boundary
- Permanent basin
- Temporary basin
- Permanent landscape mound
- Temporary landscape mound
- Clearing boundary
- Ancillary areas
- Waterway/Creek/Dam
- Waterway sensitive area receiving environment
- 2m contours
- Contaminated land
- Groundwater monitoring bores
- Sensitive noise receiver^
- Bridge building timber tree (identified by RMS)

Vegetation Community (EEC)*

- Moist Floodplain Closed Forest with rainforest elements
- Riparian Forest
- Paperbark Swamp Forest
- Swamp Mahogony Forest Red Gum Swamp Forest
- Swamp Oak Forest
- Freshwater Wetland

Vegetation Community*

- Moist Floodplain Forest
- Moist Gully Forest
- Moist Slopes Forest
- Dry Ridgetop Forest
- Unidentified Native Vegetation

Other community boundaries

- SEPP14 Wetlands (legal boundary)
- Mangrove
- Seagrass

Heritage

- Archaeological PAD (to be protected during construction)#
- Archaeological PAD (salvaged)#
- Aboriginal heritage site (to be protected during construction)#
- Aboriginal heritage site (salvaged)#
- Non-Aboriginal heritage site #

Habitat

- Giant Barred Frog Habitat
- Green-thighed Frog Habitat
- Potential Green-thighed Frog Habitat
- Recorded Maundia populations
- Surveyed potential Maundia populations
- Microbat habitat
- Microbat roost box location

Reserves and Corridors

- Regional Corridor
- Subregional Corridor
- National Park
- State Forest

Legend Notes:
* Vegetation Community layers as identified in Table 4.4B of Appendix 4 of the SWTC
# as per the Construction Heritage Management Sub-Plan Rev E
^ Sensitive noise receivers from Table 4.1, Table 4.2 & Table 4.3 of Appendix 4 of the SWTC

Design shown in mapping is revision S015 dated: 22/10/14 and N016 dated: 28/10/14
Clearing shown in mapping is based on drawing X-OH2K-CIV-CT-CLEARING.dwg dated 30/10/2014

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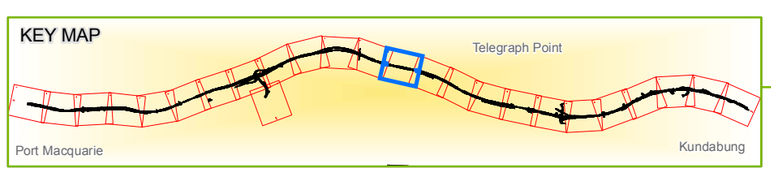

Date of Issue: 22/12/2014
Revision no: 00

Projection: GDA 1994 MGA Zone 56
Source: RMS, AuPBJV, LPI, LLE

PACIFIC HIGHWAY UPGRADE **OXLEY HIGHWAY TO KUNDABUNG**

OH2Ku-EN01-DG-0413: Sensitive Area Plans (Map 13 of 25)

Lend Lease

aupb JOINT VENTURE

Notes:
1. For acid sulfate soils refer to risk mapping provided in the CSWMP Appendix C Acid Sulfate Soils Procedure prepared for the project
2. For Aboriginal Cultural heritage areas, refer to the Aboriginal Archaeological Assessment and Artefact Salvage Methodology and Cultural Heritage Assessment Report (Info Doc 321)

13200 13300 13400 13500 13600 13700 13800 13900 14000 14100 14200 14300 14400

FLOOD PLAIN BRIDGE (SB06)

B-BH-1017 B-BH-4003 BH22 B-BH-4004

ACCEPTED FOR CONSTRUCTION

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- Project boundary
- Permanent basin
- Temporary basin
- Permanent landscape mound
- Temporary landscape mound
- Clearing boundary
- Ancillary areas
- Waterway/Creek/Dam
- Waterway sensitive area receiving environment
- 2m contours
- Contaminated land
- Groundwater monitoring bores
- Sensitive noise receiver^
- Bridge building timber tree (identified by RMS)

Vegetation Community (EEC)*
- Moist Floodplain Closed Forest with rainforest elements
- Riparian Forest
- Paperbark Swamp Forest
- Swamp Mahogony Forest Red Gum Swamp Forest
- Swamp Oak Forest
- Freshwater Wetland

Vegetation Community*
- Moist Floodplain Forest
- Moist Gully Forest
- Moist Slopes Forest
- Dry Ridgetop Forest
- Unidentified Native Vegetation

Other community boundaries
- SEPP14 Wetlands (legal boundary)
- Mangrove
- Seagrass

Heritage
- Archaeological PAD (to be protected during construction)#
- Archaeological PAD (salvaged)#
- Aboriginal heritage site (to be protected during construction)#
- Aboriginal heritage site (salvaged)#
- Non-Aboriginal heritage site #

Habitat
- Giant Barred Frog Habitat
- Green-thighed Frog Habitat
- Potential Green-thighed Frog Habitat
- Recorded Maundia populations
- Surveyed potential Maundia populations
- Microbat habitat
- Microbat roost box location

Reserves and Corridors
- Regional Corridor
- Subregional Corridor
- National Park
- State Forest

Legend Notes:
* Vegetation Community layers as identified in Table 4.4B of Appendix 4 of the SWTC
# as per the Construction Heritage Management Sub-Plan Rev E
^ Sensitive noise receivers from Table 4.1, Table 4.2 & Table 4.3 of Appendix 4 of the SWTC

Design shown in mapping is revision S015 dated: 22/10/14 and N016 dated: 28/10/14
Clearing shown in mapping is based on drawing X-OH2K-CIV-CT-CLEARING.dwg dated 30/10/2014

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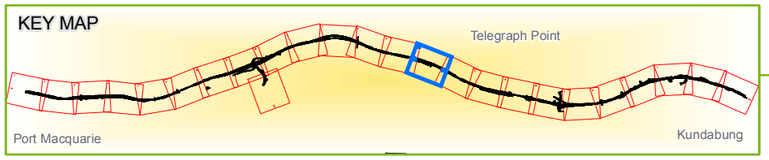
KEY MAP



Date of Issue: 22/12/2014
Revision no: 00

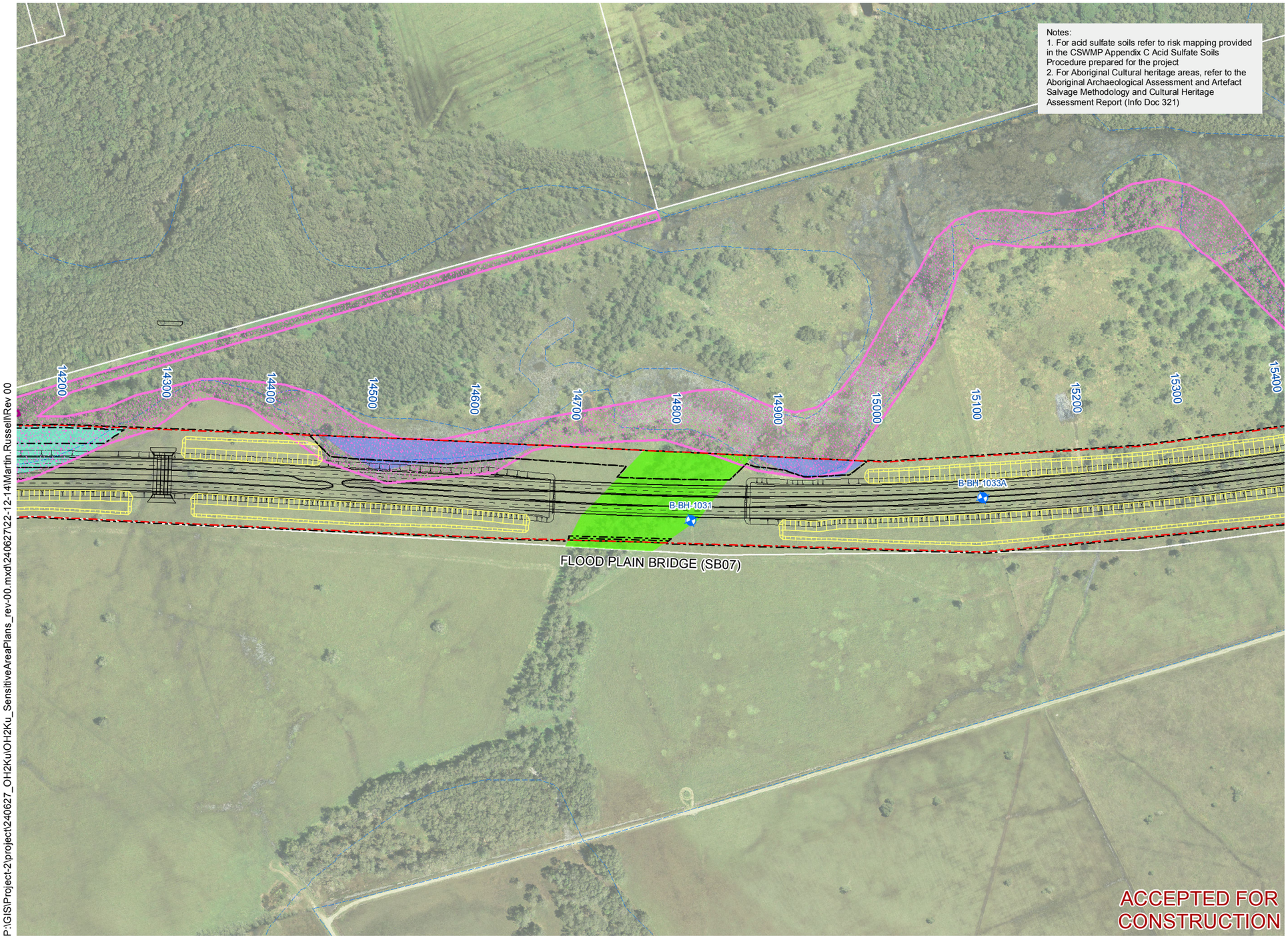
Projection: GDA 1994 MGA Zone 56
Source: RMS, AuPBJV, LPI, LLE

PACIFIC HIGHWAY UPGRADE OXLEY HIGHWAY TO KUNDABUNG

OH2Ku-EN01-DG-0414: Sensitive Area Plans (Map 14 of 25)

Lend Lease

AUPBJV JOINT VENTURE



- Project boundary
- Permanent basin
- Temporary basin
- Permanent landscape mound
- Temporary landscape mound
- Clearing boundary
- Ancillary areas
- Waterway/Creek/Dam
- Waterway sensitive area receiving environment
- 2m contours
- Contaminated land
- Groundwater monitoring bores
- Sensitive noise receiver^
- Bridge building timber tree (identified by RMS)

Vegetation Community (EEC)*

- Moist Floodplain Closed Forest with rainforest elements
- Riparian Forest
- Paperbark Swamp Forest
- Swamp Mahogony Forest Red Gum Swamp Forest
- Swamp Oak Forest
- Freshwater Wetland

Vegetation Community*

- Moist Floodplain Forest
- Moist Gully Forest
- Moist Slopes Forest
- Dry Ridgetop Forest
- Unidentified Native Vegetation

Other community boundaries

- SEPP14 Wetlands (legal boundary)
- Mangrove
- Seagrass

Heritage

- Archaeological PAD (to be protected during construction)#
- Archaeological PAD (salvaged)#
- Aboriginal heritage site (to be protected during construction)#
- Aboriginal heritage site (salvaged)#
- Non-Aboriginal heritage site #

Habitat

- Giant Barred Frog Habitat
- Green-thighed Frog Habitat
- Potential Green-thighed Frog Habitat
- Recorded Maundia populations
- Surveyed potential Maundia populations
- Microbat habitat
- Microbat roost box location

Reserves and Corridors

- Regional Corridor
- Subregional Corridor
- National Park
- State Forest

Legend Notes:
* Vegetation Community layers as identified in Table 4.4B of Appendix 4 of the SWTC
# as per the Construction Heritage Management Sub-Plan Rev E
^ Sensitive noise receivers from Table 4.1, Table 4.2 & Table 4.3 of Appendix 4 of the SWTC

Design shown in mapping is revision S015 dated: 22/10/14 and N016 dated: 28/10/14
Clearing shown in mapping is based on drawing X-OH2K-CIV-CT-CLEARING.dwg dated 30/10/2014

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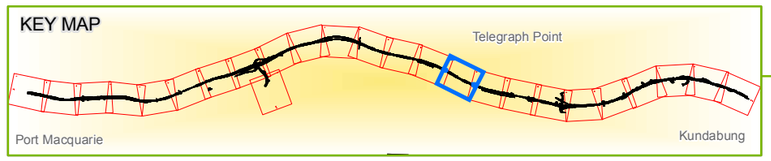


Date of Issue: 22/12/2014
Revision no: 00

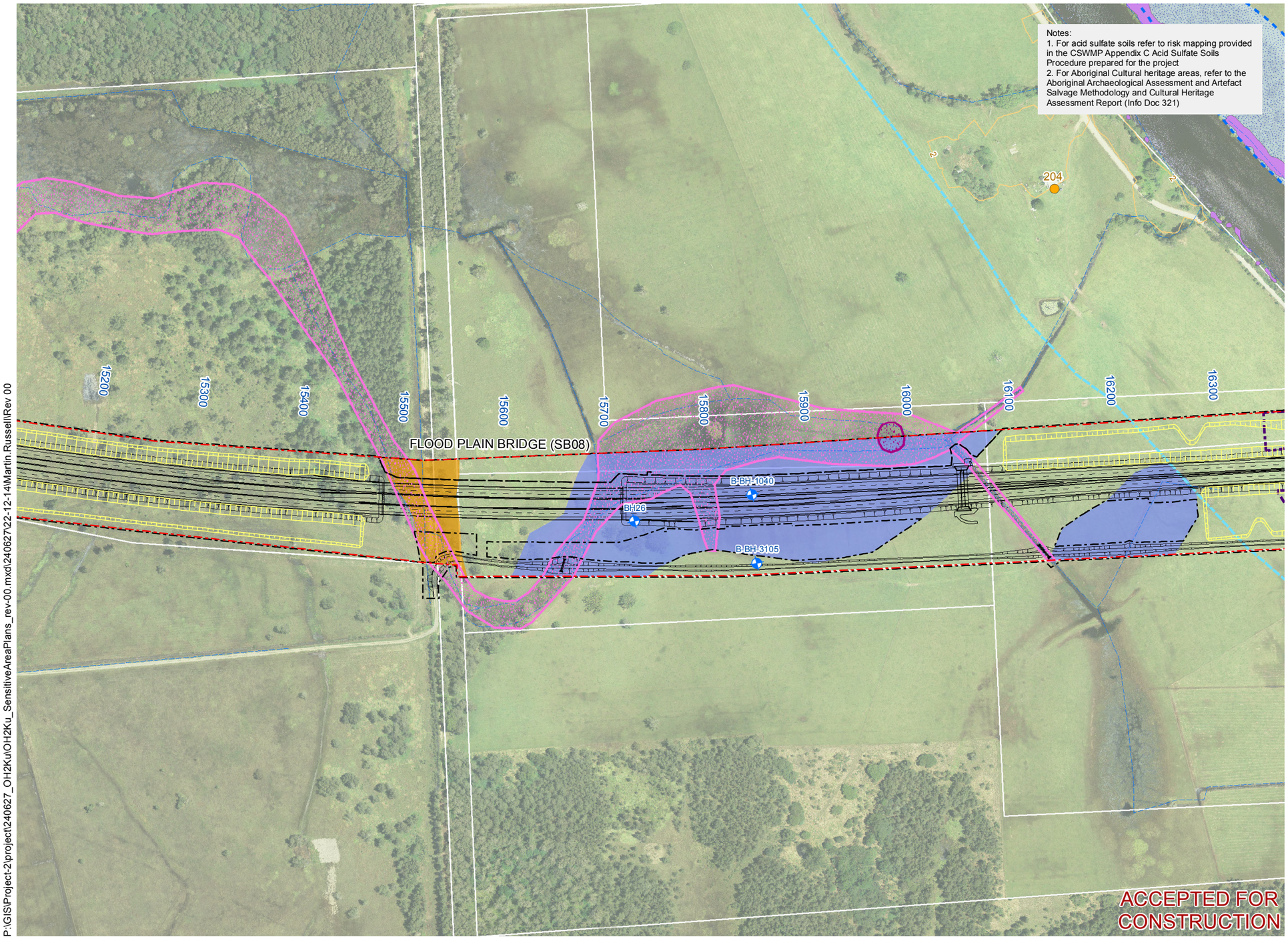
Projection: GDA 1994 MGA Zone 56
Source: RMS, AuPBJV, LPI, LLE

PACIFIC HIGHWAY UPGRADE **OXLEY HIGHWAY TO KUNDABUNG**

OH2Ku-EN01-DG-0415: Sensitive Area Plans (Map 15 of 25)

Lend Lease

AUPBJV JOINT VENTURE



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- Project boundary
- Permanent basin
- Temporary basin
- Permanent landscape mound
- Temporary landscape mound
- Clearing boundary
- Ancillary areas
- Waterway/Creek/Dam
- Waterway sensitive area receiving environment
- 2m contours
- Contaminated land
- Groundwater monitoring bores
- Sensitive noise receiver^
- Bridge building timber tree (identified by RMS)

Vegetation Community (EEC)*

- Moist Floodplain Closed Forest with rainforest elements
- Riparian Forest
- Paperbark Swamp Forest
- Swamp Mahogony Forest Red Gum Swamp Forest
- Swamp Oak Forest
- Freshwater Wetland

Vegetation Community*

- Moist Floodplain Forest
- Moist Gully Forest
- Moist Slopes Forest
- Dry Ridgetop Forest
- Unidentified Native Vegetation

Other community boundaries

- SEPP14 Wetlands (legal boundary)
- Mangrove
- Seagrass

Heritage

- Archaeological PAD (to be protected during construction)#
- Archaeological PAD (salvaged)#
- Aboriginal heritage site (to be protected during construction)#
- Aboriginal heritage site (salvaged)#
- Non-Aboriginal heritage site #

Habitat

- Giant Barred Frog Habitat
- Green-thighed Frog Habitat
- Potential Green-thighed Frog Habitat
- Recorded Maundia populations
- Surveyed potential Maundia populations
- Microbat habitat
- Microbat roost box location

Reserves and Corridors

- Regional Corridor
- Subregional Corridor
- National Park
- State Forest

Legend Notes:
* Vegetation Community layers as identified in Table 4.4B of Appendix 4 of the SWTC
# as per the Construction Heritage Management Sub-Plan Rev E
^ Sensitive noise receivers from Table 4.1, Table 4.2 & Table 4.3 of Appendix 4 of the SWTC

Design shown in mapping is revision S015 dated: 22/10/14 and N016 dated: 28/10/14
Clearing shown in mapping is based on drawing X-OH2K-CIV-CT-CLEARING.dwg dated 30/10/2014

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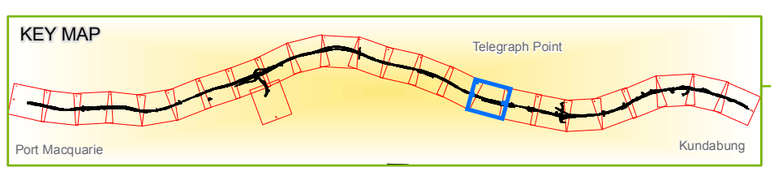
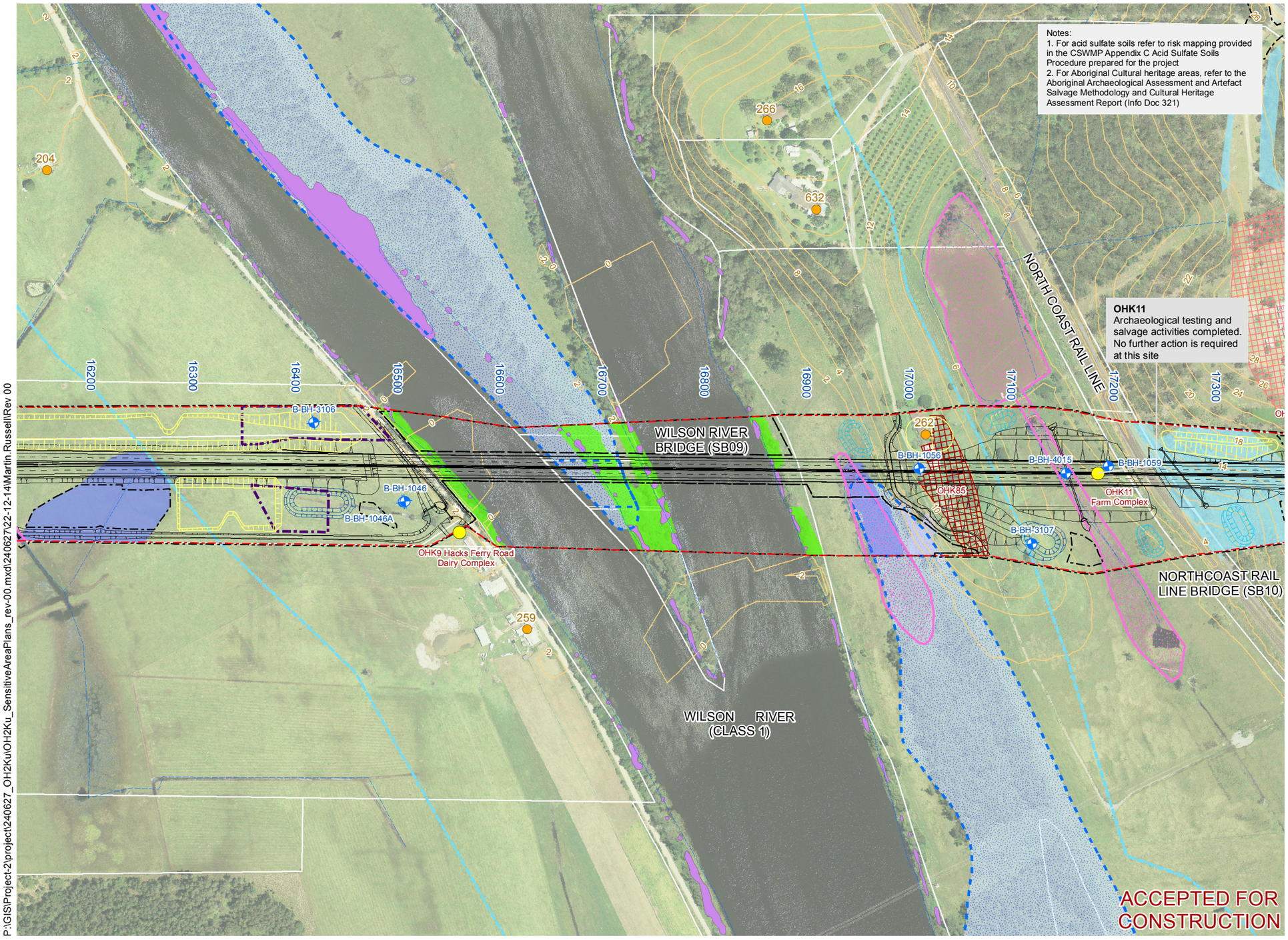


Date of Issue: 22/12/2014
Revision no: 00

Projection: GDA 1994 MGA Zone 56
Source: RMS, AuPBJV, LPI, LLE

PACIFIC HIGHWAY UPGRADE OXLEY HIGHWAY TO KUNDABUNG

OH2Ku-EN01-DG-0416: Sensitive Area Plans (Map 16 of 25)



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Lend Lease

aupb JOINT VENTURE

- Project boundary
- Permanent basin
- Temporary basin
- Permanent landscape mound
- Temporary landscape mound
- Clearing boundary
- Ancillary areas
- Waterway/Creek/Dam
- Waterway sensitive area receiving environment
- 2m contours
- Contaminated land
- Groundwater monitoring bores
- Sensitive noise receiver^
- Bridge building timber tree (identified by RMS)

Vegetation Community (EEC)*

- Moist Floodplain Closed Forest with rainforest elements
- Riparian Forest
- Paperbark Swamp Forest
- Swamp Mahogany Forest Red Gum Swamp Forest
- Swamp Oak Forest
- Freshwater Wetland

Vegetation Community*

- Moist Floodplain Forest
- Moist Gully Forest
- Moist Slopes Forest
- Dry Ridgetop Forest
- Unidentified Native Vegetation

Other community boundaries

- SEPP14 Wetlands (legal boundary)
- Mangrove
- Seagrass

Heritage

- Archaeological PAD (to be protected during construction)#
- Archaeological PAD (salvaged)#
- Aboriginal heritage site (to be protected during construction)#
- Aboriginal heritage site (salvaged)#
- Non-Aboriginal heritage site #

Habitat

- Giant Barred Frog Habitat
- Green-thighed Frog Habitat
- Potential Green-thighed Frog Habitat
- Recorded Maundia populations
- Surveyed potential Maundia populations
- Microbat habitat
- Microbat roost box location

Reserves and Corridors

- Regional Corridor
- Subregional Corridor
- National Park
- State Forest

Legend Notes:
* Vegetation Community layers as identified in Table 4.4B of Appendix 4 of the SWTC
# as per the Construction Heritage Management Sub-Plan Rev E
^ Sensitive noise receivers from Table 4.1, Table 4.2 & Table 4.3 of Appendix 4 of the SWTC

Design shown in mapping is revision S015 dated: 22/10/14 and N016 dated: 28/10/14
Clearing shown in mapping is based on drawing X-OH2K-CIV-CT-CLEARING.dwg dated 30/10/2014

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KEY MAP
Telegraph Point
Port Macquarie
Kundabung

Date of Issue: 22/12/2014
Revision no: 00

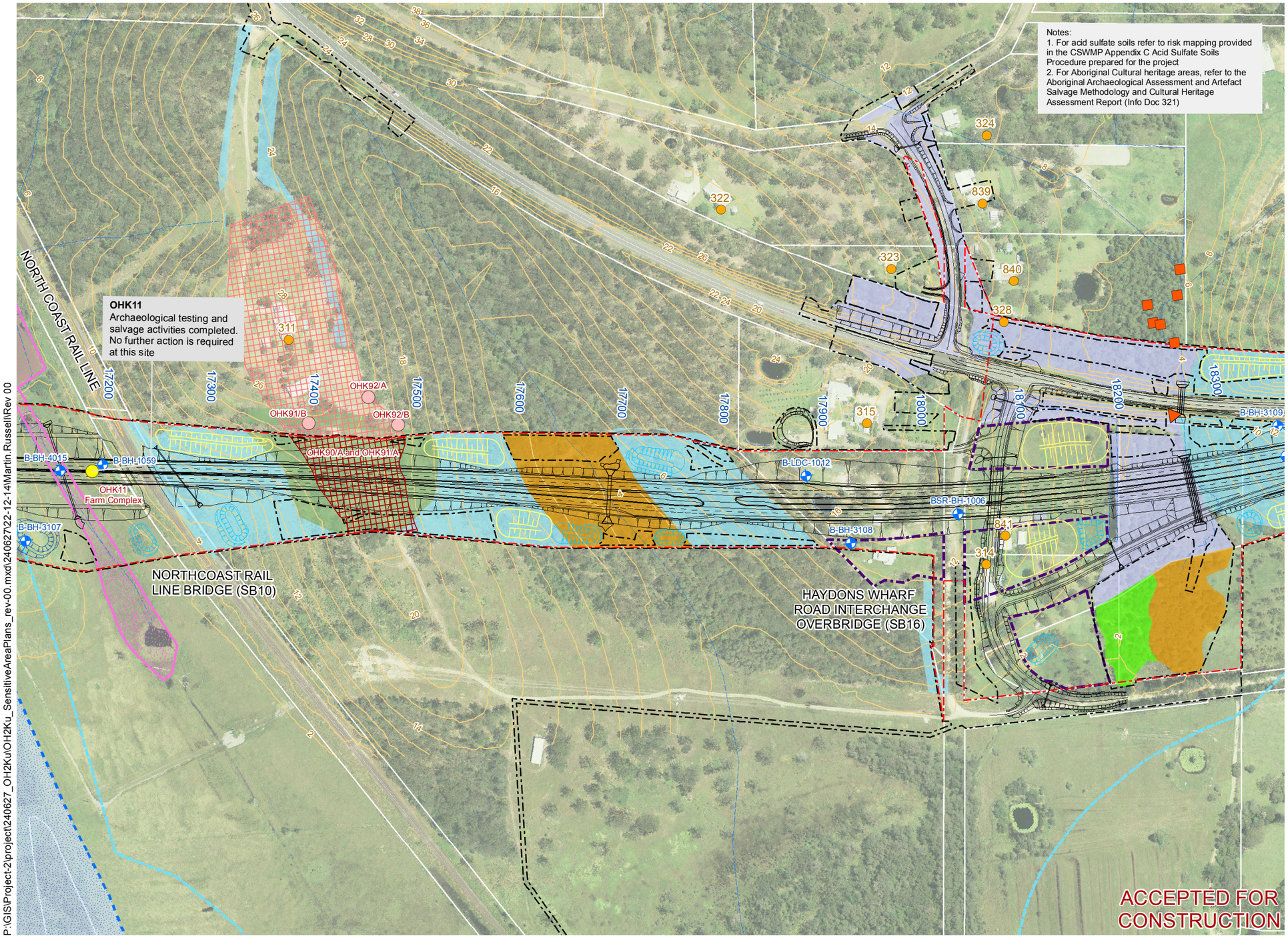
Projection: GDA 1994 MGA Zone 56
Source: RMS, AuPBJV, LPI, LLE

PACIFIC HIGHWAY UPGRADE OXLEY HIGHWAY TO KUNDABUNG

OH2Ku-EN01-DG-0417: Sensitive Area Plans (Map 17 of 25)

Lend Lease

aupb JOINT VENTURE



OHK11
Archaeological testing and salvage activities completed. No further action is required at this site

Notes:
1. For acid sulfate soils refer to risk mapping provided in the CSWMP Appendix C Acid Sulfate Soils Procedure prepared for the project
2. For Aboriginal Cultural heritage areas, refer to the Aboriginal Archaeological Assessment and Artefact Salvage Methodology and Cultural Heritage Assessment Report (Info Doc 321)

- Project boundary
- Permanent basin
- Temporary basin
- Permanent landscape mound
- Temporary landscape mound
- Clearing boundary
- Ancillary areas
- Waterway/Creek/Dam
- Waterway sensitive area receiving environment
- 2m contours
- Contaminated land
- Groundwater monitoring bores
- Sensitive noise receiver^
- Bridge building timber tree (identified by RMS)

Vegetation Community (EEC)*
- Moist Floodplain Closed Forest with rainforest elements
- Riparian Forest
- Paperbark Swamp Forest
- Swamp Mahogany Forest Red Gum Swamp Forest
- Swamp Oak Forest
- Freshwater Wetland

Vegetation Community*
- Moist Floodplain Forest
- Moist Gully Forest
- Moist Slopes Forest
- Dry Ridgetop Forest
- Unidentified Native Vegetation

Other community boundaries
- SEPP14 Wetlands (legal boundary)
- Mangrove
- Seagrass

Heritage
- Archaeological PAD (to be protected during construction)#
- Archaeological PAD (salvaged)#
- Aboriginal heritage site (to be protected during construction)#
- Aboriginal heritage site (salvaged)#
- Non-Aboriginal heritage site #

Habitat
- Giant Barred Frog Habitat
- Green-thighed Frog Habitat
- Potential Green-thighed Frog Habitat
- Recorded Maundia populations
- Surveyed potential Maundia populations
- Microbat habitat
- Microbat roost box location

Reserves and Corridors
- Regional Corridor
- Subregional Corridor
- National Park
- State Forest

Legend Notes:
* Vegetation Community layers as identified in Table 4.4B of Appendix 4 of the SWTC
# as per the Construction Heritage Management Sub-Plan Rev E
^ Sensitive noise receivers from Table 4.1, Table 4.2 & Table 4.3 of Appendix 4 of the SWTC

Design shown in mapping is revision S015 dated: 22/10/14 and N016 dated: 28/10/14
Clearing shown in mapping is based on drawing X-OH2K-CIV-CT-CLEARING.dwg dated 30/10/2014

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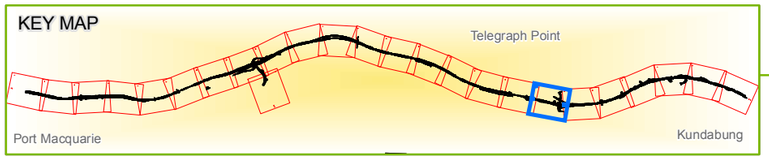

Date of Issue: 22/12/2014
Revision no: 00

Projection: GDA 1994 MGA Zone 56
Source: RMS, AuPBJV, LPI, LLE

PACIFIC HIGHWAY UPGRADE **OXLEY HIGHWAY TO KUNDABUNG**

OH2Ku-EN01-DG-0418: Sensitive Area Plans (Map 18 of 25)

Lend Lease

AUPBJV JOINT VENTURE

Notes:
1. For acid sulfate soils refer to risk mapping provided in the CSWMP Appendix C Acid Sulfate Soils Procedure prepared for the project
2. For Aboriginal Cultural heritage areas, refer to the Aboriginal Archaeological Assessment and Artefact Salvage Methodology and Cultural Heritage Assessment Report (Info Doc 321)

Cooperabung Creek 2
Partial impact
Area outside of project boundary to be fenced

Cooperabung Creek 1
Partial impact
Area outside of project boundary to be fenced

ACCEPTED FOR CONSTRUCTION

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- Project boundary
- Permanent basin
- Temporary basin
- Permanent landscape mound
- Temporary landscape mound
- Clearing boundary
- Ancillary areas
- Waterway/Creek/Dam
- Waterway sensitive area receiving environment
- 2m contours
- Contaminated land
- Groundwater monitoring bores
- Sensitive noise receiver^
- Bridge building timber tree (identified by RMS)

Vegetation Community (EEC)*
- Moist Floodplain Closed Forest with rainforest elements
- Riparian Forest
- Paperbark Swamp Forest
- Swamp Mahogany Forest Red Gum Swamp Forest
- Swamp Oak Forest
- Freshwater Wetland

Vegetation Community*
- Moist Floodplain Forest
- Moist Gully Forest
- Moist Slopes Forest
- Dry Ridgetop Forest
- Unidentified Native Vegetation

Other community boundaries
- SEPP14 Wetlands (legal boundary)
- Mangrove
- Seagrass

Heritage
- Archaeological PAD (to be protected during construction)#
- Archaeological PAD (salvaged)#
- Aboriginal heritage site (to be protected during construction)#
- Aboriginal heritage site (salvaged)#
- Non-Aboriginal heritage site #

Habitat
- Giant Barred Frog Habitat
- Green-thighed Frog Habitat
- Potential Green-thighed Frog Habitat
- Recorded Maundia populations
- Surveyed potential Maundia populations
- Microbat habitat
- Microbat roost box location

Reserves and Corridors
- Regional Corridor
- Subregional Corridor
- National Park
- State Forest

Legend Notes:
* Vegetation Community layers as identified in Table 4.4B of Appendix 4 of the SWTC
# as per the Construction Heritage Management Sub-Plan Rev E
^ Sensitive noise receivers from Table 4.1, Table 4.2 & Table 4.3 of Appendix 4 of the SWTC

Design shown in mapping is revision S015 dated: 22/10/14 and N016 dated: 28/10/14
Clearing shown in mapping is based on drawing X-OH2K-CIV-CT-CLEARING.dwg dated 30/10/2014

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KEY MAP
Telegraph Point
Port Macquarie
Kundabung

Date of Issue: 22/12/2014
Revision no: 00

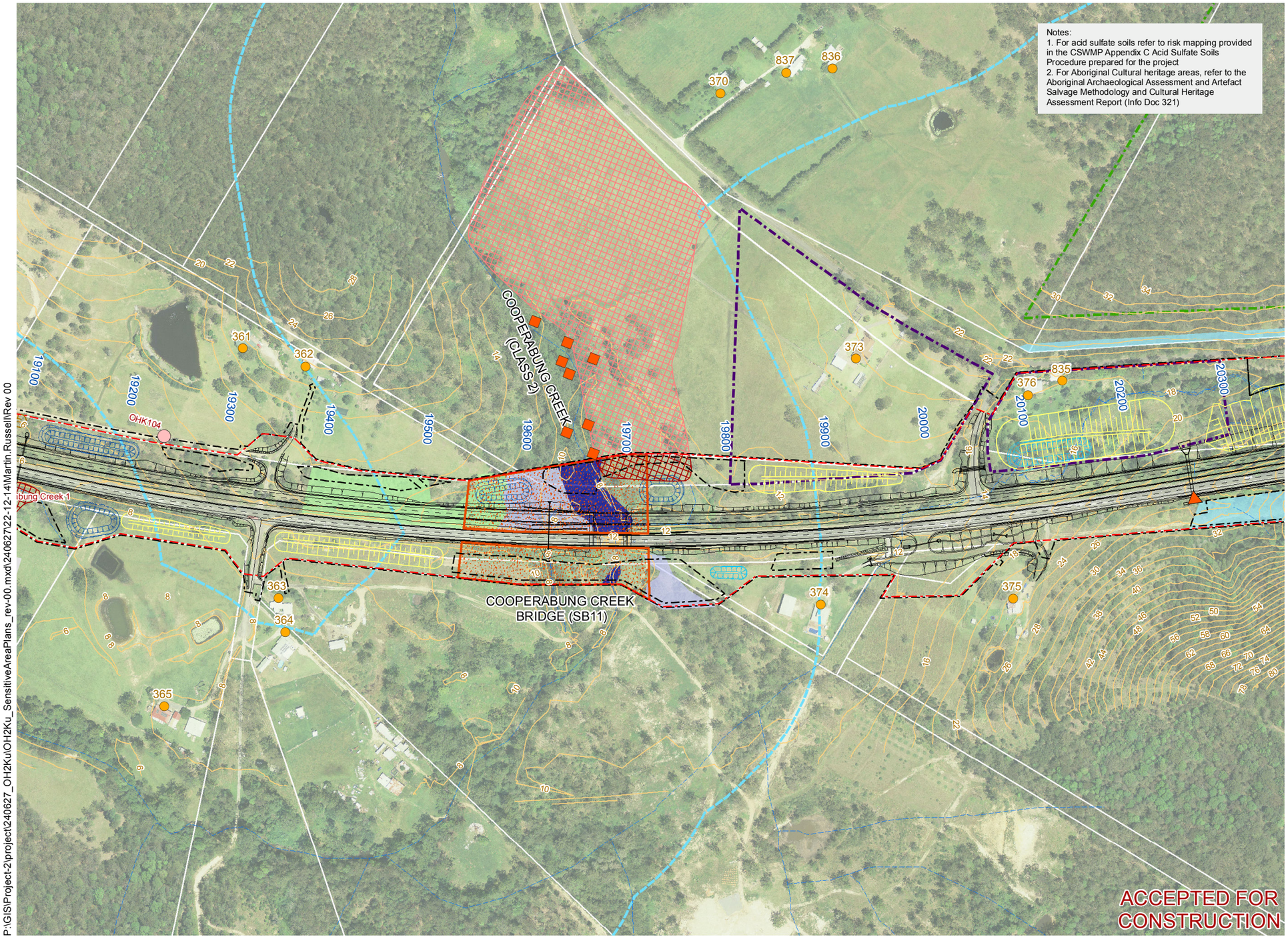
Projection: GDA 1994 MGA Zone 56
Source: RMS, AuPBJV, LPI, LLE

PACIFIC HIGHWAY UPGRADE OXLEY HIGHWAY TO KUNDABUNG

OH2Ku-EN01-DG-0419: Sensitive Area Plans (Map 19 of 25)

Lend Lease

auPBJV JOINT VENTURE



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- Project boundary
- Permanent basin
- Temporary basin
- Permanent landscape mound
- Temporary landscape mound
- Clearing boundary
- Ancillary areas
- Waterway/Creek/Dam
- Waterway sensitive area receiving environment
- 2m contours
- Contaminated land
- Groundwater monitoring bores
- Sensitive noise receiver^
- Bridge building timber tree (identified by RMS)

Vegetation Community (EEC)*

- Moist Floodplain Closed Forest with rainforest elements
- Riparian Forest
- Paperbark Swamp Forest
- Swamp Mahogony Forest Red Gum Swamp Forest
- Swamp Oak Forest
- Freshwater Wetland

Vegetation Community*

- Moist Floodplain Forest
- Moist Gully Forest
- Moist Slopes Forest
- Dry Ridgetop Forest
- Unidentified Native Vegetation

Other community boundaries

- SEPP14 Wetlands (legal boundary)
- Mangrove
- Seagrass

Heritage

- Archaeological PAD (to be protected during construction)#
- Archaeological PAD (salvaged)#
- Aboriginal heritage site (to be protected during construction)#
- Aboriginal heritage site (salvaged)#
- Non-Aboriginal heritage site #

Habitat

- Giant Barred Frog Habitat
- Green-thighed Frog Habitat
- Potential Green-thighed Frog Habitat
- Recorded Maundia populations
- Surveyed potential Maundia populations
- Microbat habitat
- Microbat roost box location

Reserves and Corridors

- Regional Corridor
- Subregional Corridor
- National Park
- State Forest

Legend Notes:
* Vegetation Community layers as identified in Table 4.4B of Appendix 4 of the SWTC
# as per the Construction Heritage Management Sub-Plan Rev E
^ Sensitive noise receivers from Table 4.1, Table 4.2 & Table 4.3 of Appendix 4 of the SWTC

Design shown in mapping is revision S015 dated: 22/10/14 and N016 dated: 28/10/14
Clearing shown in mapping is based on drawing X-OH2K-CIV-CT-CLEARING.dwg dated 30/10/2014

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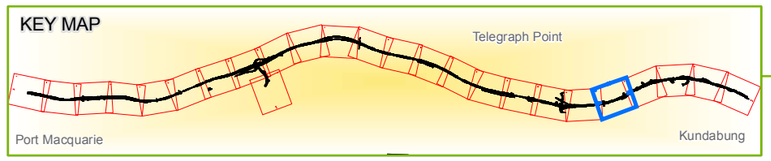
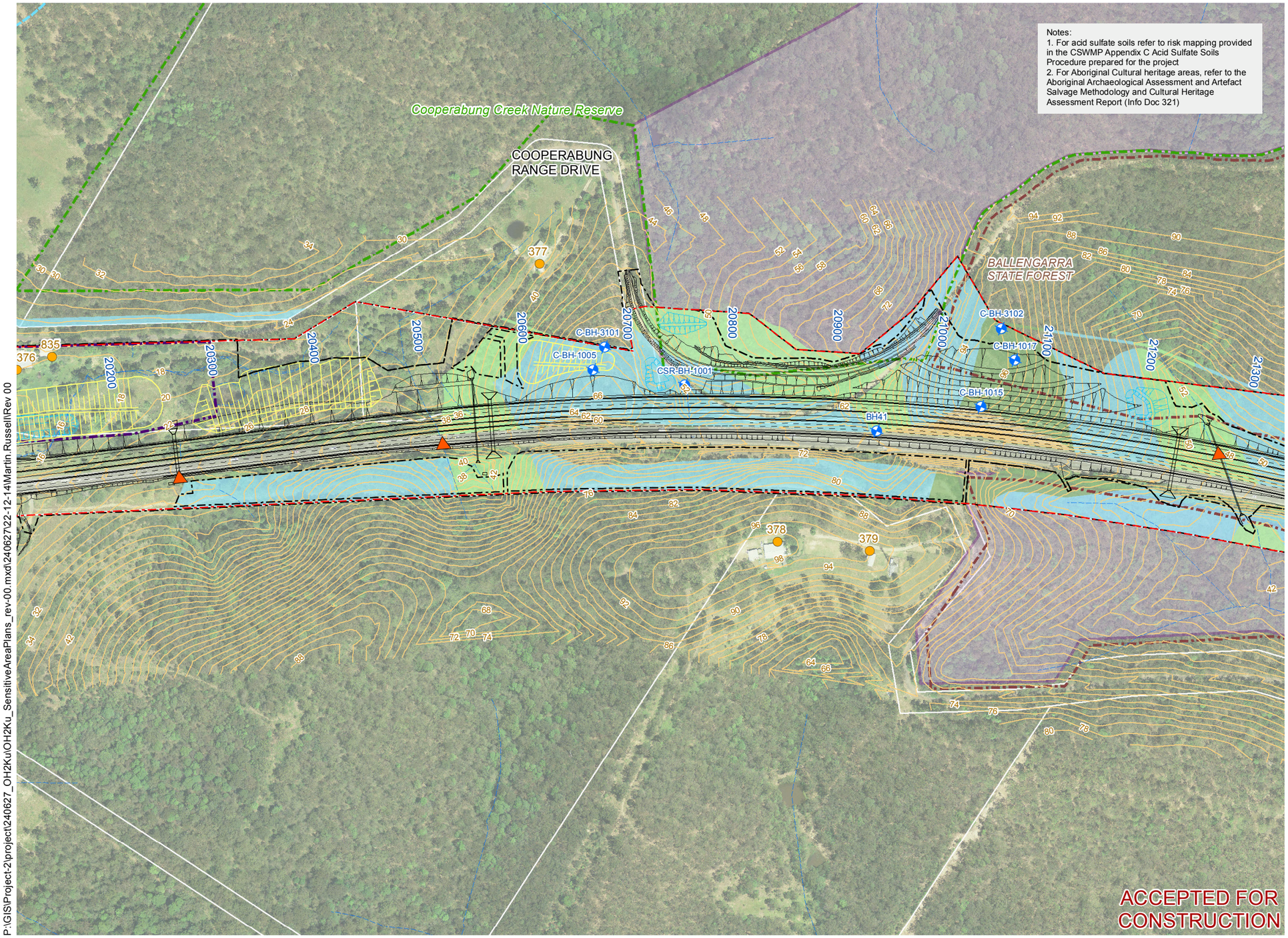


Date of Issue: 22/12/2014
Revision no: 00

Projection: GDA 1994 MGA Zone 56
Source: RMS, AuPBJV, LPI, LLE

PACIFIC HIGHWAY UPGRADE **OXLEY HIGHWAY TO KUNDABUNG**

OH2Ku-EN01-DG-0420: Sensitive Area Plans (Map 20 of 25)



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Lend Lease

aupb JOINT VENTURE

- Project boundary
- Permanent basin
- Temporary basin
- Permanent landscape mound
- Temporary landscape mound
- Clearing boundary
- Ancillary areas
- Waterway/Creek/Dam
- Waterway sensitive area receiving environment
- 2m contours
- Contaminated land
- Groundwater monitoring bores
- Sensitive noise receiver^
- Bridge building timber tree (identified by RMS)

Vegetation Community (EEC)*

- Moist Floodplain Closed Forest with rainforest elements
- Riparian Forest
- Paperbark Swamp Forest
- Swamp Mahogany Forest Red Gum Swamp Forest
- Swamp Oak Forest
- Freshwater Wetland

Vegetation Community*

- Moist Floodplain Forest
- Moist Gully Forest
- Moist Slopes Forest
- Dry Ridgetop Forest
- Unidentified Native Vegetation

Other community boundaries

- SEPP14 Wetlands (legal boundary)
- Mangrove
- Seagrass

Heritage

- Archaeological PAD (to be protected during construction)#
- Archaeological PAD (salvaged)#
- Aboriginal heritage site (to be protected during construction)#
- Aboriginal heritage site (salvaged)#
- Non-Aboriginal heritage site #

Habitat

- Giant Barred Frog Habitat
- Green-thighed Frog Habitat
- Potential Green-thighed Frog Habitat
- Recorded Maundia populations
- Surveyed potential Maundia populations
- Microbat habitat
- Microbat roost box location

Reserves and Corridors

- Regional Corridor
- Subregional Corridor
- National Park
- State Forest

Legend Notes:
* Vegetation Community layers as identified in Table 4.4B of Appendix 4 of the SWTC
# as per the Construction Heritage Management Sub-Plan Rev E
^ Sensitive noise receivers from Table 4.1, Table 4.2 & Table 4.3 of Appendix 4 of the SWTC

Design shown in mapping is revision S015 dated: 22/10/14 and N016 dated: 28/10/14
Clearing shown in mapping is based on drawing X-OH2K-CIV-CT-CLEARING.dwg dated 30/10/2014

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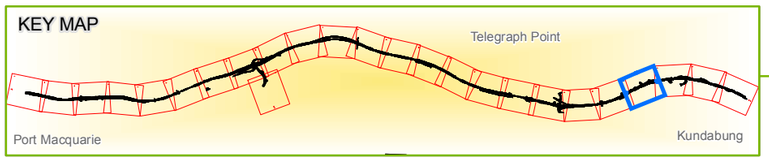
KEY MAP



Date of Issue: 22/12/2014
Revision no: 00

Projection: GDA 1994 MGA Zone 56
Source: RMS, AuPBJV, LPI, LLE

PACIFIC HIGHWAY UPGRADE **OXLEY HIGHWAY TO KUNDABUNG**

OH2Ku-EN01-DG-0421: Sensitive Area Plans (Map 21 of 25)

Lend Lease

AUPB JOINT VENTURE

Notes:
1. For acid sulfate soils refer to risk mapping provided in the CSWMP Appendix C Acid Sulfate Soils Procedure prepared for the project
2. For Aboriginal Cultural heritage areas, refer to the Aboriginal Archaeological Assessment and Artefact Salvage Methodology and Cultural Heritage Assessment Report (Info Doc 321)

BALLENGARRA STATE FOREST

YARRABEE ROAD

YARRABEE ROAD OVERBRIDGE (SB12)

BALLENGARRA STATE FOREST

CSR-BH-1004

C-BH-1030

C-BH-3103

380

ACCEPTED FOR CONSTRUCTION

- Project boundary
- Permanent basin
- Temporary basin
- Permanent landscape mound
- Temporary landscape mound
- Clearing boundary
- Ancillary areas
- Waterway/Creek/Dam
- Waterway sensitive area receiving environment
- 2m contours
- Contaminated land
- Groundwater monitoring bores
- Sensitive noise receiver^
- Bridge building timber tree (identified by RMS)

Vegetation Community (EEC)*
- Moist Floodplain Closed Forest with rainforest elements
- Riparian Forest
- Paperbark Swamp Forest
- Swamp Mahogony Forest Red Gum Swamp Forest
- Swamp Oak Forest
- Freshwater Wetland

Vegetation Community*
- Moist Floodplain Forest
- Moist Gully Forest
- Moist Slopes Forest
- Dry Ridgetop Forest
- Unidentified Native Vegetation

Other community boundaries
- SEPP14 Wetlands (legal boundary)
- Mangrove
- Seagrass

Heritage
- Archaeological PAD (to be protected during construction)#
- Archaeological PAD (salvaged)#
- Aboriginal heritage site (to be protected during construction)#
- Aboriginal heritage site (salvaged)#
- Non-Aboriginal heritage site #

Habitat
- Giant Barred Frog Habitat
- Green-thighed Frog Habitat
- Potential Green-thighed Frog Habitat
- Recorded Maundia populations
- Surveyed potential Maundia populations
- Microbat habitat
- Microbat roost box location

Reserves and Corridors
- Regional Corridor
- Subregional Corridor
- National Park
- State Forest

Legend Notes:
* Vegetation Community layers as identified in Table 4.4B of Appendix 4 of the SWTC
# as per the Construction Heritage Management Sub-Plan Rev E
^ Sensitive noise receivers from Table 4.1, Table 4.2 & Table 4.3 of Appendix 4 of the SWTC

Design shown in mapping is revision S015 dated: 22/10/14 and N016 dated: 28/10/14
Clearing shown in mapping is based on drawing X-OH2K-CIV-CT-CLEARING.dwg dated 30/10/2014

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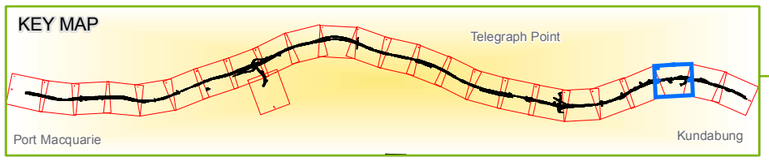
KEY MAP



Date of Issue: 22/12/2014
Revision no: 00

Projection: GDA 1994 MGA Zone 56
Source: RMS, AuPBJV, LPI, LLE

PACIFIC HIGHWAY UPGRADE **OXLEY HIGHWAY TO KUNDABUNG**

OH2Ku-EN01-DG-0422: Sensitive Area Plans (Map 22 of 25)

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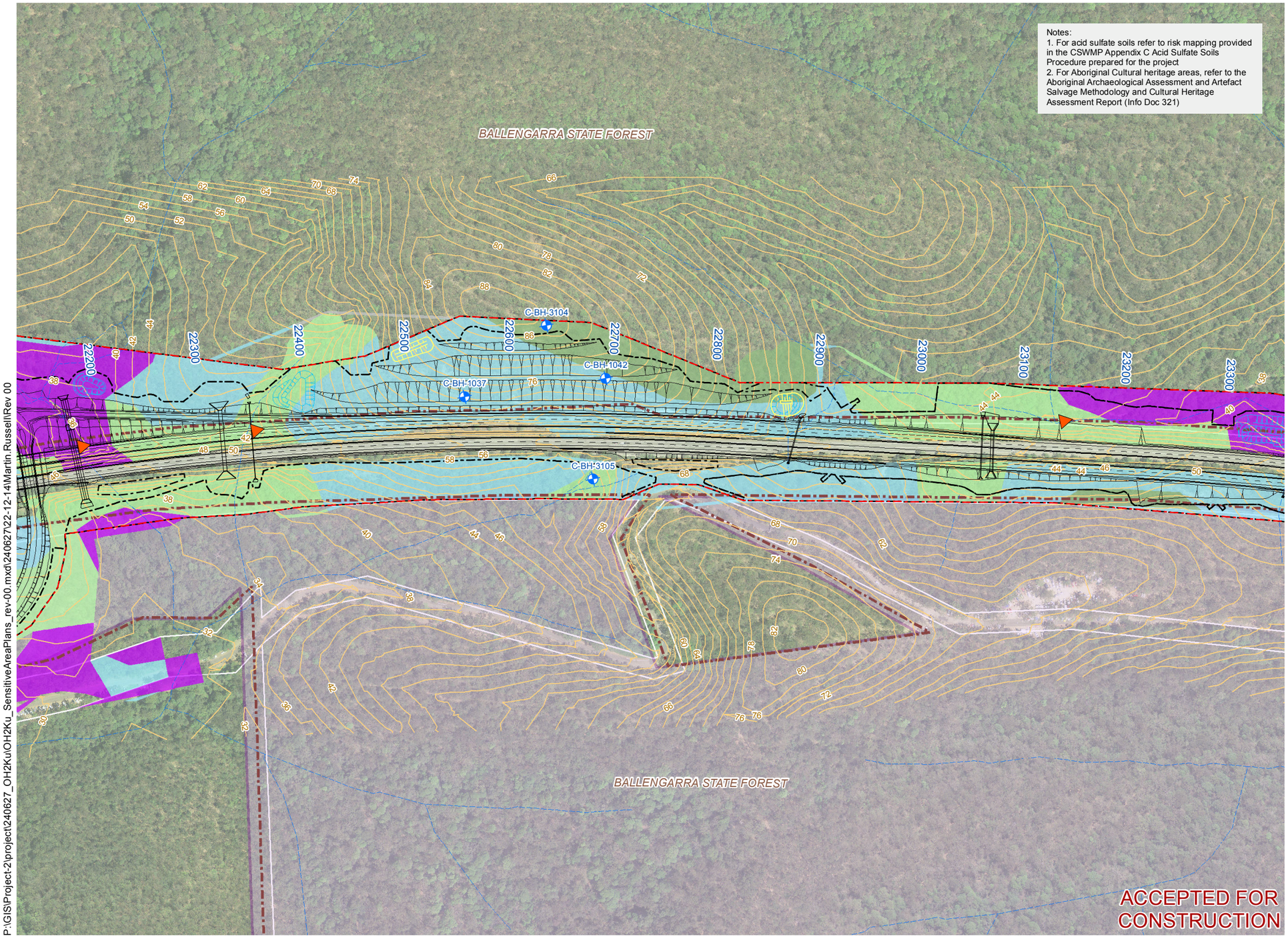
Lend Lease

aupb JOINT VENTURE



Notes:
1. For acid sulfate soils refer to risk mapping provided in the CSWMP Appendix C Acid Sulfate Soils Procedure prepared for the project
2. For Aboriginal Cultural heritage areas, refer to the Aboriginal Archaeological Assessment and Artefact Salvage Methodology and Cultural Heritage Assessment Report (Info Doc 321)

- Project boundary
- Permanent basin
- Temporary basin
- Permanent landscape mound
- Temporary landscape mound
- Clearing boundary
- Ancillary areas
- Waterway/Creek/Dam
- Waterway sensitive area receiving environment
- 2m contours
- Contaminated land
- Groundwater monitoring bores
- Sensitive noise receiver^
- Bridge building timber tree (identified by RMS)

Vegetation Community (EEC)*
- Moist Floodplain Closed Forest with rainforest elements
- Riparian Forest
- Paperbark Swamp Forest
- Swamp Mahogony Forest Red Gum Swamp Forest
- Swamp Oak Forest
- Freshwater Wetland

Vegetation Community*
- Moist Floodplain Forest
- Moist Gully Forest
- Moist Slopes Forest
- Dry Ridgetop Forest
- Unidentified Native Vegetation

Other community boundaries
- SEPP14 Wetlands (legal boundary)
- Mangrove
- Seagrass

Heritage
- Archaeological PAD (to be protected during construction)#
- Archaeological PAD (salvaged)#
- Aboriginal heritage site (to be protected during construction)#
- Aboriginal heritage site (salvaged)#
- Non-Aboriginal heritage site #

Habitat
- Giant Barred Frog Habitat
- Green-thighed Frog Habitat
- Potential Green-thighed Frog Habitat
- Recorded Maundia populations
- Surveyed potential Maundia populations
- Microbat habitat
- Microbat roost box location

Reserves and Corridors
- Regional Corridor
- Subregional Corridor
- National Park
- State Forest

Legend Notes:
* Vegetation Community layers as identified in Table 4.4B of Appendix 4 of the SWTC
# as per the Construction Heritage Management Sub-Plan Rev E
^ Sensitive noise receivers from Table 4.1, Table 4.2 & Table 4.3 of Appendix 4 of the SWTC

Design shown in mapping is revision S015 dated: 22/10/14 and N016 dated: 28/10/14
Clearing shown in mapping is based on drawing X-OH2K-CIV-CT-CLEARING.dwg dated 30/10/2014

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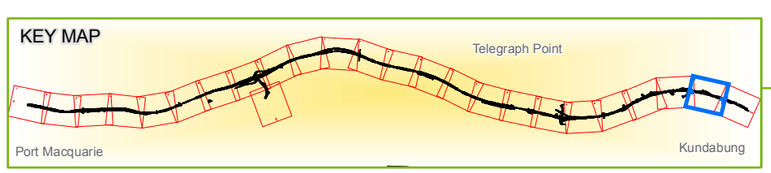

Date of Issue: 22/12/2014
Revision no: 00

Projection: GDA 1994 MGA Zone 56
Source: RMS, AuPBJV, LPI, LLE

PACIFIC HIGHWAY UPGRADE OXLEY HIGHWAY TO KUNDABUNG

OH2Ku-EN01-DG-0423: Sensitive Area Plans (Map 23 of 25)

Lend Lease

aupb JOINT VENTURE

Notes:
1. For acid sulfate soils refer to risk mapping provided in the CSWMP Appendix C Acid Sulfate Soils Procedure prepared for the project
2. For Aboriginal Cultural heritage areas, refer to the Aboriginal Archaeological Assessment and Artefact Salvage Methodology and Cultural Heritage Assessment Report (Info Doc 321)

BALLENGARRA STATE FOREST

BARRYS CREEK (CLASS 2)

LIMIT OF WORKS

EXISTING PACIFIC HIGHWAY

C:BH:1046

Barrys Creek Bridge

BARRYS CREEK BRIDGE (SB13)

Barrys Creek Bridge
Bridge remains
Archival recording prior to demolition
(refer Cultural Heritage Management Plan)

BALLENGARRA STATE FOREST

LIMIT OF WORKS

ACCEPTED FOR CONSTRUCTION

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Permanent basin
Temporary basin
Permanent landscape mound
Temporary landscape mound
Clearing boundary
Ancillary areas
Waterway/Creek/Dam
Waterway sensitive area receiving environment
2m contours
Contaminated land
Groundwater monitoring bores
Sensitive noise receiver^
Bridge building timber tree (identified by RMS)

Vegetation Community (EEC)*
- Moist Floodplain Closed Forest with rainforest elements
- Riparian Forest
- Paperbark Swamp Forest
- Swamp Mahogony Forest Red Gum Swamp Forest
- Swamp Oak Forest
- Freshwater Wetland

Vegetation Community*
- Moist Floodplain Forest
- Moist Gully Forest
- Moist Slopes Forest
- Dry Ridgetop Forest
- Unidentified Native Vegetation

Other community boundaries
- SEPP14 Wetlands (legal boundary)
- Mangrove
- Seagrass

Heritage
- Archaeological PAD (to be protected during construction)#
- Archaeological PAD (salvaged)#
- Aboriginal heritage site (to be protected during construction)#
- Aboriginal heritage site (salvaged)#
- Non-Aboriginal heritage site #

Habitat
- Giant Barred Frog Habitat
- Potential Giant Barred Frog Habitat
- Green-thighed Frog Habitat
- Potential Green-thighed Frog Habitat
- Recorded Maundia populations
- Surveyed potential Maundia populations
- Microbat habitat
- Microbat roost box location

Reserves and Corridors
- Regional Corridor
- Subregional Corridor
- National Park
- State Forest

Legend Notes:
* Vegetation Community layers as identified in Table 4.4B of Appendix 4 of the SWTC
# as per the Construction Heritage Management Sub-Plan Rev E
^ Sensitive noise receivers from Table 4.1, Table 4.2 & Table 4.3 of Appendix 4 of the SWTC

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Clearing shown in mapping is based on drawing X-OH2K-CIV-CT-CLEARING.dwg dated 30/10/2014

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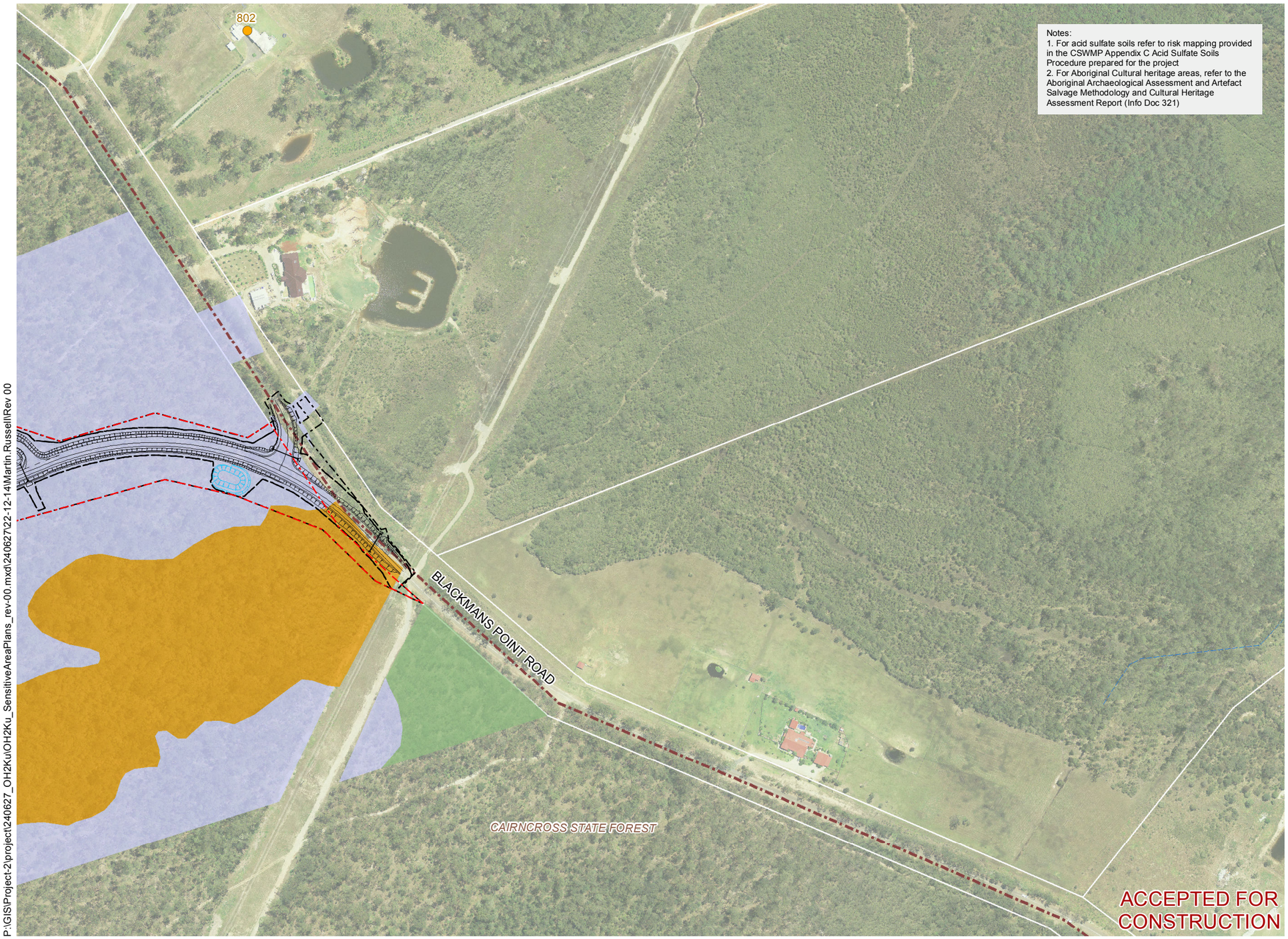
KEY MAP
Telegraph Point
Port Macquarie
Kundabung

Date of Issue: 27/11/2015
Revision no: 01
Projection: GDA 1994 MGA Zone 56
Source: RMS, AuPBJV, LPI, LLE

PACIFIC HIGHWAY UPGRADE **OXLEY HIGHWAY TO KUNDABUNG**

OH2Ku-EN01-DG-0424: Sensitive Area Plans (Map 24 of 25)



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Lend Lease

aupb JOINT VENTURE

- Project boundary
- Permanent basin
- Temporary basin
- Permanent landscape mound
- Temporary landscape mound
- Clearing boundary
- Ancillary areas
- Waterway/Creek/Dam
- Waterway sensitive area receiving environment
- 2m contours
- Contaminated land
- Groundwater monitoring bores
- Sensitive noise receiver^
- Bridge building timber tree (identified by RMS)

Vegetation Community (EEC)*

- Moist Floodplain Closed Forest with rainforest elements
- Riparian Forest
- Paperbark Swamp Forest
- Swamp Mahogany Forest Red Gum Swamp Forest
- Swamp Oak Forest
- Freshwater Wetland

Vegetation Community*

- Moist Floodplain Forest
- Moist Gully Forest
- Moist Slopes Forest
- Dry Ridgetop Forest
- Unidentified Native Vegetation

Other community boundaries

- SEPP14 Wetlands (legal boundary)
- Mangrove
- Seagrass

Heritage

- Archaeological PAD (to be protected during construction)#
- Archaeological PAD (salvaged)#
- Aboriginal heritage site (to be protected during construction)#
- Aboriginal heritage site (salvaged)#
- Non-Aboriginal heritage site #

Habitat

- Giant Barred Frog Habitat
- Green-thighed Frog Habitat
- Potential Green-thighed Frog Habitat
- Recorded Maundia populations
- Surveyed potential Maundia populations
- Microbat habitat
- Microbat roost box location

Reserves and Corridors

- Regional Corridor
- Subregional Corridor
- National Park
- State Forest

Legend Notes:
* Vegetation Community layers as identified in Table 4.4B of Appendix 4 of the SWTC
# as per the Construction Heritage Management Sub-Plan Rev E
^ Sensitive noise receivers from Table 4.1, Table 4.2 & Table 4.3 of Appendix 4 of the SWTC

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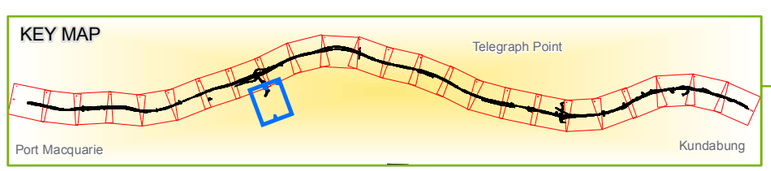

Date of Issue: 22/12/2014
Revision no: 00

Projection: GDA 1994 MGA Zone 56
Source: RMS, AuPBJV, LPI, LLE

PACIFIC HIGHWAY UPGRADE OXLEY HIGHWAY TO KUNDABUNG

OH2Ku-EN01-DG-0425: Sensitive Area Plans (Map 25 of 25)

Appendix A7
Roads and Maritime environmental incident classification and reporting

Transport Roads & Maritime Services

ENVIRONMENTAL INCIDENT CLASSIFICATION AND REPORTING PROCEDURE

June 2015

About this release

Title	Environmental Incident Classification and Reporting Procedure

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

CONTENTS

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[1].

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.

[1] 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
Category 1	**Pollution Incidents** Breaches of the *Protection of the Environment Operations Act POEO Act (1977)* particularly s.148 (notification requirements). **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.**	Discharge of waters from site not in accordance with any applicable Minor Works memo or safeguard / Part 5 determination / approval / licence condition ▪ (EP&A Act particularly s.115W, s.76A, s.115W: POEO Act particularly s.64)
		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 ▪ (s.120 POEO Act – water pollution, sediment laden water, chemical/oil spill and sewage/septic overflow)
		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 ▪ (s.126 POEO Act - dust exceeding reasonable levels without active management measures in place, s.129 - offensive odour;.s.139 - offensive noise)
		Unauthorised disposal or transport of waste ▪ s.143 POEO Act – Unlawful transporting or depositing of waste
		A spill or other incident that causes pollution to land or residual environmental impact. ▪ (s.116 POEO Act – spills and leaks generally, s.142 – pollution of land)
	Conservation Breaches Breaches of the *National Parks & Wildlife Act (*1974) NPW Act Fisheries Management Act (1999) FMA Act and the *Environment Protection and Biodiversity Conservation Act (1999).* EPBC Act	Unauthorised harm or damage to native vegetation, threatened species, endangered populations, endangered ecological communities or critical habitat. ▪ NPW Act particularly s.118A, s.118C and s.118D
		Unauthorised harm to threatened aquatic species and protected marine vegetation or unauthorised dredging or reclamation works within a watercourse. ▪ FMA Act (1994) particularly s. 199 and 204A.NPW Act particularly s.118A, s.118C and s.118D.
		A fire that travels beyond the boundary causing or potentially causing adverse impact on the environment or community.

	Heritage Breaches Breaches of the Heritage Act (1977) and NPW Act (1974), EPBC Act (1999)	Unauthorised harm to Aboriginal objects and Aboriginal places. ▪ *NPW Act* particularly s.86 and s.87. *EPBC Act 1999 s.15A, B &C*
		Unauthorised damage to any State or locally significant relic or Heritage item ▪ *Heritage Act 1977* particularly s. 57, s.119, s.139 and s.156. *EPBC Act 1999 s.15A, B &C*
	Planning Breaches Breaches of the Environmental Planning & Assessment Act (1979) EP&A Act, Protection of the Environment Operations Act (1977) POEO Act. (also refer Category 2 exception)	Works undertaken outside approved areas, without required approval, without environmental assessment. ▪ EP&A Act particularly s.115W, and s.111 ▪ POEO Act particularly s.64
		Failure to comply with a Minor Works memo or safeguard / Part 5 determination / approval or permit/ environment protection licence condition. ▪ EP&A Act particularly s.75D, s.76A, s.115 ; ▪ POEO Act s. 64
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 PMEO, a decision can be made to reclassify the category.

Table 2: Environmental Incident Response

Category 1 Incident Response	
1	Stop work in relevant area (if necessary) and take immediate actions to prevent adverse impact to the environment or community. 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.
2	For **NOTIFIABLE POLLUTION INCIDENTS** refer to section 2.4 below. For all other Category 1 incidents **immediately** advise RMS Project Site Management and relevant RMS Regional Environment Manager who **must immediately** advise Principal Manager Environment Operations (PMEO) by phone.
3	Complete the environmental incident report form 624 and submit to Regional Environment Manager and the Environment Operations mailbox **within 3 days** 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 PMEO and the Environment Operations mailbox by email on the same day of receipt.
Category 2 Incident Response	
1	Stop work in relevant area (if necessary) and take immediate actions to prevent adverse impact to the environment or community. 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.
2	Advise relevant RMS Regional Environment Manager (Roads and Maritime contractors to advise Roads and Maritime Project Site Management).
3	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 PMEO and the Environment Operations mailbox by email on the same day of receipt.
Reportable Event Response	
1	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

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 Environmental 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

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. PMEO 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 PMEO 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 **not** 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 http://www.dlg.nsw.gov.au/

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

Environmental Incident Report – 624

Transport Roads & Maritime Services

Complete this form for all environmental incidents that occur due to Roads and Maritime Services works or on Roads and Maritime worksites. 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.

Remember!	Complete all fields prior to submitting form. Be succinct, stick to the facts and **do not** make assumptions. Only record information you know to be correct.

Project name: Region:

Contractor name:

Incident details Date Time : am ☐ | pm ☐ Duration hr: min

Description (provide a brief description of what happened during the incident)	
EXACT location of the incident (include chainage, landmarks, features, nearest cross street, etc to make it easier to identify later) - provide a sketch if appropriate	
Quantity or volume of material escaped or causing incident (provide an estimate if quantity unknown)	
Estimated distance to nearest waterway (can include stormwater drains and dry watercourses)	
What activity was being undertaken when the incident occurred?	
How was the incident identified? (e.g. Roads and Maritime employee, Council, community, complaint)	

Potential Category 1 Incident: (*may involve one or more of the following – tick category, fill in table over page)*

- ☐ 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.
- ☐ Discharge of waters from site not in accordance with any applicable Minor Works memo or safeguard / Part 5 determination / approval / licence condition.
- ☐ Works undertaken outside approved areas, without required approval or environmental assessment.
- ☐ Unauthorised harm to Aboriginal objects and Aboriginal places or damage to any State or locally significant relic or Heritage item.
- ☐ A spill or other incident that causes pollution to land or residual environmental impact.
- ☐ Breach of legislation, failure to comply with a Minor Works memo or safeguard / Part 5 determination / approval or permit/ environment protection licence condition.
- ☐ Unauthorised harm or damage to native vegetation, threatened species, endangered populations, endangered ecological communities or critical habitat.
- ☐ Material harm to the environment or persons as per Part 5.7 of POEO Act.
- ☐ Unauthorised harm or damage to threatened aquatic species and protected marine vegetation or unauthorised dredging or reclamation works within a watercourse.
- ☐ Unauthorised damage or destruction to any State or locally significant relic or Heritage item.
- ☐ 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.
- ☐ Unauthorised disposal or transport of waste.
- ☐ A fire that travels beyond the boundary causing or potentially causing adverse impact on the environment or community.

Potential Category 2 Incident: (*may involve one or more of the following – tick category, fill in table over page)*

- ☐ 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 the site boundary and are cleaned up without material 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.

Catalogue No. 45062565 Form No. 624 (05/2015) ABN 76 236 371 088 Page 1 of 2

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?

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? ☐ Yes ☐ No - If No, provide reasons for not notifying EPA

Who notified them? Name: ..... Position: .....

Notification method: ☐ Telephone ☐ On site Date: ..... Time: ..... : ..... am ☐ | pm ☐

Has there been a EPA Environment Line Complaint? ☐ Yes ☐ No EPA Complaint No. .....

Were any of the following authorities notified?

☐ NSW Fire & Rescue ☐ Local Government ☐ WorkCover ☐ 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? ☐ Yes ☐ No

▶ If Yes – was the Pollution Incident Response Management Plan implemented ☐ Yes ☐ No

Concurrence (Roads and Maritime Regional Environment Manager)

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

Comments

Please submit all completed forms to Environment Branch by email to envops@rms.nsw.gov.au

Catalogue No. 45062565 Form No. 624 (05/2015) ABN 76 236 371 088 Page 2 of 2

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	**Pager Service:** 1300 555 555 **Communicable Disease:** 48073 **Environmental Health:** 149 377If 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)	**Pager Service:** 1300 555 555 **Communicable Disease:** 48073 **Environmental Health:** 149 377If 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 A8
Lendlease environmental incident classification and reporting

Procedure

LLE702

Environmental Incidents and Emergecies

1. PURPOSE

To ensure that environmental incidents are appropriately managed, reported (internal and external), investigated and controlled. To ensure that adequate planning is in place for environmental emergencies resulting from environmental incidents.

2. DEFINITIONS

Incident
An unplanned or unexpected event which causes or has the potential to cause environmental harm or damage.

Emergency
An unexpected event of a serious nature which demands immediate action.

Catastrophic Impact

Is that class of incident that causes major irreversible environmental harm such as:

- Major release impacting environment / atmosphere
- Irreversible onsite and/or offsite environmental damage
- Clean up or remedy requires significant effort and internal and external resources
- Regulatory notification compulsory with significant penalties likely.

Large Impact

That class of incident that causes major onsite and/or offsite impacts and penalties:

- Major release impacting environment / atmosphere
- Major onsite and/or offsite impacts
- Clean-up or remedy requires external resources and/or assistance to conduct and manage
- Regulatory notification compulsory and independent investigation likely.

These definitions comes from Lendlease (Construction and Infrastructure)

Notifiable Incident
Any incident defined in Commonwealth, State or Territory legislation that must be reported to the relevant environmental regulatory authority. 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 or property damage of an amount generally over $5,000 (or $10,000 in NSW). In general impacts defined as Catastrophic, Large, and in some cases Medium, will fall under this definition.

Critical Incident

For Lendlease reporting purposes a Critical Incident is defined as:

- Any incident where an ACTUAL environmental impact has been recorded as LLLEGE or CATASTROPHIC; or
- Any incident that has the POTENTIAL to result in a LLLEGE or CATASTROPHIC impact AND:
  - risks to the environment were not appropriately identified and addressed;
  - tasks and risks were not adequately communicated; or
  - failures or inadequacies in primary and secondary control measures (as per physical GMRs) have contributed to the incident.
- An environmental regulatory warning, fine or other formal regulatory notice.

Business Reportable (Medium) Incident

For Lendlease reporting purposes a Business Reportable Incident is defined as a non-Critical incident that is not trivial in scale. The incident results in ACTUAL or POTENTIAL loss or property damage of an amount over $5,000 (or $10,000 in NSW). It would generally meet the following criteria:

- Moderate release impacting environment / atmosphere
- Medium offsite impacts but no significant irreversible damage
- Clean up or remedy requires a moderate level of effort and resources
- Regulatory notification and involvement required; or
- A non-trivial breach of a Project Approval / Environmental Protection Licence condition.

Minor Incidents

Minor incidents are documented in the Lendlease reporting system. These incidents have severity levels Small or Very Small and are trivial in nature. A Very Small impact has an insignificant effect on the environment.

Reportable Incidents

A 'reportable event' is something which is not an incident, however requires internal reporting to the State Environment and Sustainability Manager. Reporting should be carried out by the end of the business day. Reportable events include:

- Non-compliance of an Approval or licence condition that does not constitute a physical incident;
- an unanticipated heritage find (indigenous and non-indigenous);
- an unexpected threatened species find;
- an unexpected find of contaminated soils or asbestos;
- a community concern, issue or complaint which has a significant level of escalation. Escalation can include a complaint which:
  - has a high potential for negative media; or
  - has been referred to a local Member.

3. REFERENCES

- Relevant state and federal legislation, and local government regulations
- LLE602 Emergency Preparedness
- LLE109B Engineering Crisis Management Plan

4. METHOD

4.1. Induction and Training in Incident and Emergency Preparedness

Prior to starting work on site all employees and subcontractors must be made aware of the business Environmental Policy, their responsibility to report all incidents and undertake their works in accordance with this procedure. This requirement will be conveyed to all personnel on site during the site-specific induction (LLE1002 Worker Induction and Training) and will be reinforced through regular toolbox talks.

4.2. Emergency Preparedness

Emergency preparedeness is covered in procedure LLE602.

A template Emergency Plan has been prepared as LLE602 Attachment 1, which includes environmental emergencies. This plan should be reviewed on each project site, and amended as necessary to align and interface with the client's emergency planning and any locally specific emergency procedures.

4.3. Emergency Management

The following steps must be taken when an environmental incident occurs that creates an emergency situation:

4.3.1. Isolate the Area

- Stop work in the area, barricade it and make it safe;
- Do not let workers, disturb or aggravate the hazard; and
- Where necessary, implement emergency evacuation procedures (ref to LLE602 Emergency Preparedness).

4.3.2. Attend to/Minimise Environmental Damage

- Take immediate actions needed to control, localise and minimise the damage;
- Organise remedial and/or repair works to be undertaken promptly.

4.3.3. Notify Company Management, Client and Emergency Authorities

- For each type of incident, a hierarchy or chain of notification exists, see section 4.5.
- The project's Emergency Controller will ascertain whether the emergency can be brought under control by project personnel or whether the Fire Brigade or Emergency Services are required and notify if necessary.

4.3.4. Remedial Action/Responding to Notices

- Ensure prompt remedial action is taken after an incident which can help to reduce any potential penalty;Ensure a document "paper trail" is kept of all remedial actions which are taken.
- Obtain Corporate Counsel's advice if a statutory notice is issued or likely to be issued (if you disobey them, the result could be prosecution). Ensure that legal advice is obtained before any remedial action is taken (if the environmental authority becomes aware of remedial steps, it can be used as particulars of a breach, i.e. "why didn't you do this before the accident?").

4.3.5. Public Relations/Dealing with the Media

- If required, the Corporate Communications Manager will speak to the media on behalf of the Company.

4.4. Crisis Management

Certain incidents may be considered a crisis. The project environment representative shall notify the Project Manager in the likelihood that an incident could be a crisis.

A matrix within the Corporate Crisis Management Plan LLE109B advises the trigger for activating a Crisis Management Team (CMT) and if so which Crisis Management Team should be invoked. Depending upon the severity of the incident, either a local, regional or corporate crisis management response will be made.

4.5. Incident Reporting

The first step to be taken in reporting an environmental incident is notification to the project environment representative(or delegate).

The project environment representative(or delegate) shall:

- Notify State Environment and Sustainability Manager by phone within 1 hour, if the incident has the potential to be Critical or Business Reportable
- Notify Project Manager, and Client (where required by project documets)
- If non-trivial, advise the regulatory authorities
- Commence investigation of the incident to determine how the event occurred. Determine the names and employment details of people directly involved. Include names and contact numbers of any witnesses.
- By the end of the day, generate and save a new Event in Enablon by entering basic facts only. This initial electronic report is used to record the occurrence of the incident only.
- Enablon will be used to document all environmental incidents. Forms LLE702A and LLE702B will not be used for internal reporting, except if there is any difficulty in accessing Enablon, in which case the facts will be enetered into Enablon at a later time. The Forms may also be used on a project-specific case, if required under the contract.

The State Environment and Sustainability Manager will review all environment incidents. If an incident is potentially a Critical or Business Reportable Incident then:

- Notify National Environment Manager and/or the General Manager Environment and Sustainability by phone within 1 hour, and discuss whether impacts are signiciant enough to warrant involvement of legal counsel
- Notify Senior State (Executive) General Managers, as appropriate
- Assist the project environment representative(or delegate) to obtain all the relevant facts associated with the incident
- Within 5 business days have all updated information entered in Enablon. Confirm whether the incident is in fact potentially Critical or Business Reportable, if not downgrade the incident.

The National Environment Manager and/or the General Manager Environment and Sustainability will review all potential Critical or Business Reportable Incidents, and will:

- Upon assessment of the incident, arrange for legal counsel to become involved if warranted. If legal counsel become involved, follow their instructions.
- Within 5 days either publish the Event as Critical or Business Reportable, ensuring basic facts only are documented, or arrange for the event to be downgraded.
- If a Critical Incident, an ICAM investigation will be undertaken by Project and/or State environment team. Use form LLE604E to document the investigation. See section below for more detail.

4.6. Managing the Investigation

4.6.1. Investigation Process

The investigation process involves the following steps:

- Observe, photograph and/or take sketches of the scene of the incident;
- Interview the person(s) involved in the incident Individually;
- Obtain information from specialist or experts, if necessary.

When interviewing person(s) involved or witnesses to the incident, typical questions to ask are:

- What time did the incident occur?
- What were people doing immediately before the incident?
- Were people working where or near where the incident occurred?
- What plant and/or equipment was being used?
- What were the weather conditions?
- What instructions had been issued prior to the incident and by whom?
- Who was the first person at the scene?

4.6.2. Collecting Evidence

- Compile a "snapshot" of the environmental system at the time of the incident;
- In internal reports, avoid speculation, conjecture, rumours and "guesswork" about what happened, or hasty conclusions. Be careful when stating what action to take to prevent recurrence;
- Consider consistency between different reports (including other statutory reports and internal reports to senior management or the Board);
- Keep documents and information confidential (be sensitive about media/public knowledge);
- Minimise the distribution of information (avoid widely distributing emails);
- Collate all relevant documentation/evidence as early as possible. Obtain statements or proofs of evidence from all potential witnesses (including non-workers); and
- If the incident is a Notifiable Incident all reports etc., should be coordinated by Legal Counsel (otherwise they may not be privileged).

4.6.3. ICAM Investigations

- The person asigned to undertake the ICAM investigations will use LLE604E, and review findings with the State Environment and Sustainability Manager and National Environment Manager
- The purpose of the investigation, is to determine if there is any breakdown in the application of the system, any deficiencies in the system and in such cases the investigation of these issues should remain privileged. Effective action should be taken, to correct any immediate and existing danger and to prevent repetition of the incident.
- By coordinating the investigation through Corporate Counsel, it may be possible to maintain documents/reports under privilege and protect information from disclosure.
- Ensure Corporate Counsel is consulted before any expert reports/audits etc., are obtained. These should be "privileged and confidential". All documents provided to third parties (e.g. environmental authorities) should first be reviewed by Corporate Counsel.
- Submit the ICAM Report to the:
  - Project Manager,
  - the relevant state Operations Manager
  - the State Environment and Sustainability Manager, and the
  - National Environment Manager

  as soon as practical after the event. The State Environment and Sustainability Manager will co-ordinate a management review and a debrief of the ICAM investigation. This management review will be documented within the LLE604E.

4.7. External Investigations undertaken by Regulatory Authorities

4.7.1. Dealing with Regulatory Authorities

- Understand the scope of the environmental authority's powers. Unions also have some limited investigatory powers;
- Workers must cooperate with and provide reasonable assistance to an environmental authority inspector. It is also important to balance the need to retain control over information with the goal of fostering and preserving good long term relationships with environmental authorities;
- Consider "shadowing" the evidence collected by the environmental authority (samples, photos etc.);
- If the environmental authority requests a formal interview, always ask for the questions in writing. Consider having a lawyer present during any interview. Do not sign statements until they have been checked by Legal Counsel. There is no obligation to sign a record of interview;
- Ensure witnesses are briefed by Legal Counsel as early as possible; and
- When issued with an environmental authority's notice, get Corporate Counsel's advice immediately.

5. RECORDS AND ATTACHMENTS

- LLE702 Figure 1 (Flow chart)

Because all environmental incidents will be reported within Enablon, the following two attachments are not necessary. However they are retained in case Enablon is not accessible at any time, or there is a specific project client requirement:

- LLE702A Environmental Incident Report
- LLE702B Environment Incident Investigation.

Appendix A9
Minor Ancillary Facility Application

Minor Ancillary Facilities Application

To be completed for ancillary facility not listed in the CEMP

(Submit to Environmental Manager when completed)

Site Location:	**Date:**	
Area:	**Date work to commence:**	**Date work to cease:**

Circle specific activities to be undertaken at the ancillary facility – list others here:

Crib Sheds	Parking	Temporary facilities	laydown/storage

Complete the following checklist: **Is the ancillary facility: -**	**Yes/No**	**If No, – identify additional environmental controls required** (e.g.: near waterway – erosion and sediment controls, near residence – restrict hrs of operation or consult with resident, vegetation protection, heritage walkover, etc – refer to CEMP, sub plans and compound management plan for additional controls)
a) In an active construction zone within the approved project footprint?		
b) Are minimal noise and vibration impacts anticipated at the nearest residence? **The nearest resident is _____m away from the closest point.**		
c) Are traffic and access impacts anticipated on the nearest residence? **Site access will be via Gate _____.**		
d) Are minimal dust and odour impacts anticipated at the nearest residence?		
e) Are minimal visual and light spill impacts anticipated at the nearest residence?		
f) Are there minimal waste management impacts anticipated arising from the operation of the facility?		
g) Will the site require clearing of listed flora and fauna communities including habitat of EPBC protected species? If yes, **Department of Planning and Environment Approval may be required**		If yes, see Environmental Manager to determine what further action is required.
h) Could the clearing impact t listed flora and fauna species beyond that approved for the project and outside the rail corridor construction zone. If yes, **Department of Planning and Environment Approval may be required.**		If yes, see Environmental Manager to determine what further action is required.
i) Will the facility impact heritage beyond that approved for the project and outside the rail corridor construction zone If yes**, Department of Planning and Environment Approval may be required.**		If yes, see Environmental Manager to determine what further action is required.
j) Are minimal soil and water impacts anticipated?		
k) Will a Progressive Erosion and Sediment Control Plan be required?		

Note, Environmental Controls in the CEMP and sub plans should be implemented where appropriate for all a ancillary facilities.

General notes/comments:

Has a map been attached to this application (application not accepted without a map) YES

Prepared by (Name, Signature and Date)	
Reviewed by Construction Manager: (Name, Signature and Date)	

Ancillary facility construction and use is not allowed until ancillary facility approval permit issued

This section only to be filled out by EM

Is additional assessment required (i.e. Noise, Ecology, Heritage)? **If Yes, What?**_____.	YES	NO
Does the ancillary facility have minimal amenity impacts?	YES	NO
Does the ancillary facility have minimal environmental impacts?	YES	NO
Can impacts be managed through environmental measures detailed in the CEMP?	YES	NO

Name	Position	Signature	Date
	Construction Manager		
	Community Manager		
	Environment Manager		

Environmental Representative Approval	Signature	Date
Notes/comments:		

Appendix B1
Construction traffic management sub plan

Appendix B2
Construction flora and fauna management sub plan

Appendix B3

Construction noise and vibration management sub plan

Appendix B4
Construction soil and water quality management sub plan

Appendix B5
Construction heritage management sub plan

Appendix B6
Construction air quality management sub plan

Appendix B7
Construction waste and energy management sub plan