



Transport
Roads & Maritime
Services

CONSTRUCTION ENVIRONMENTAL MANAGEMENT PLAN

Warrell Creek to Nambucca Heads




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Glossary / Abbreviations

AFJV	Acciona Ferrovia Joint Venture
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	Conditions of approval
DP&E	Department of Planning and Environment
DPI	Department of Primary Industries (Fisheries Conservation and Aquaculture)
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
ERG	Environmental Review Group – comprising representatives of Roads and Maritime, Environmental Representative, Project delivery team, regulatory authorities (EPA, DPI – Fisheries Conservation and Aquaculture, NOW) and Nambucca Shire Council.).
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	A suitably qualified and experienced person independent of

Representative	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	<i>Environmental Planning and Assessment Act 1979</i>
EPBC Act	Environment Protection and Biodiversity Conservation Act 1999
EPL	Environment Protection Licence
ESCP	Erosion and Sediment Control Plan
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
Project, the	The Warrell Creek to Nambucca Heads Project (WC2NH)
PESCP	Progressive Erosion and Sediment Control Plan
PIRMP	Pollution Incident Response Management Plan
PoEO Act	Protection of the Environment Operations Act, 1997
Roads and Maritime	NSW Roads and Maritime Services
Secretary	Secretary of the NSW Department of Planning and Environment
SoC	Statement of commitments

1 Introduction

1.1 Background

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

In December 2006 the Warrell Creek to Urunga 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* applies. An Environmental Assessment was prepared and placed on public exhibition for 60 days between January and March 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 19 July 2011.

The Warrell Creek to Urunga Pacific Highway upgrade Project comprises over 40 kilometres of dual carriageway road that would bypass the towns of Warrell Creek, Macksville, Newee Creek and Bellwood. As described in the Warrell Creek to Urunga Pacific Highway Upgrade Environmental Assessment, the Project is being delivered in stages with Stage 1 consisting of the 21 kilometre Nambucca Heads to Urunga section and Stage 2 consisting of the remaining 19.6 kilometres of dual carriageway between Warrell Creek and Nambucca Heads. This document relates to Stage 2, Warrell Creek to Nambucca Heads (WC2NH) (the Project).

The Project consists of the detailed design and construction of 19.6 km of new dual carriageway road on the Pacific Highway between the northern end of the existing Allgomera Deviation south of Warrell Creek and the southern end of the Nambucca Heads to Urunga Pacific Highway upgrade project west of Nambucca Heads. The project includes:

- two grade separated interchanges at Warrell Creek and Bald Hill Road south of Macksville. Roads and Maritime is also investigating the provision of north facing ramps at North Macksville;
- longitudinal bridges across Upper Warrell Creek (including North Coast Railway Line), Williamson Creek, Warrell Creek, Nambucca River floodplain (2 of) and Nambucca River;
- overbridges on Rosewood Road, Albert Drive, Scotts Heads Quarry access road, Bald Hill Road, Old Coast Road South, Mattick Road and Old Coast Road North;
- an underpass at Cockburns Lane;
- local roads and drainage and fauna crossing structures; and
- associated infrastructure.

(It should be noted that since EA development, the reference to project chainages (i.e. the measurement of a point of the project from a defined starting point) has been revised. Chainages for the Warrell Creek to Urunga Pacific Highway upgrade Project in the EA started at 0m to approximately 42000m, i.e. the length of the Project. For any chainages referenced in EA, a figure of 41870m must be added to any chainages referred to in future environmental, design or construction documentation).

Further detail of the proposed staging of the Warrell Creek to Urunga Project is provided in the Staging Report (prepared by Roads and Maritime) which has been prepared in accordance with the requirements of Condition of Approval (CoA A5).

1.2 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 (now Minister for Planning and Environment) Conditions of Approval for the Warrell Creek to Urunga Project, that are relevant to the WC2NH section (the 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 and the Guideline for the Preparation of Environmental Management Plans (DIPNR, 2004). It is also consistent with AS/NZS ISO 14001).

The purpose of this CEMP is to provide a structured approach to the management of environmental issues during construction of the Project. Implementing this CEMP effectively will ensure that the ACCIONA and Ferrovial Joint Venture (AFJV) 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 that are 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 and relevant SoCs. The requirements of CoA B30 and where they are met in this CEMP are shown in Table 1-1. Table 1–2 includes the requirements of the relevant SoCs.

Table 1-1 CoA requirements for CEMP

CoA no.	Requirement	Reference
B30	Prior to the commencement of construction, 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 EPA, DPI and relevant Council and include, but not necessarily be limited to:	This plan
B30 (a)	A description of all relevant 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 all approvals, consultations and agreements required	Compliance Tracking Program, Appendix A1, Section 1.2, Section 1.3

CoA no.	Requirement	Reference
	from authorities and other stakeholders, and key legislation and policies. Evidence of consultation with relevant public authorities, shall be included identifying how issues raised by these public authorities have been addressed in the plan.	
B30 (c)	A description of the roles and responsibilities for all relevant employees involved in the construction of the Project including relevant training and induction provisions for ensuring that all 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, Chapter 5
B30 (d)	Identification of ancillary facility site locations, including an assessment against the location criteria outlined in condition C27.	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 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 generated by haulage trucks, traffic on unsealed public roads and stockpile management.	Appendix B6
	ii. Measures to monitor and manage waste generated during construction including but not necessarily limited to: general procedures for waste classification, handling, reuse, and disposal; how contaminated materials would be handled and disposed; use of secondary waste material in construction wherever feasible and reasonable; procedures for dealing with green waste including timber and much 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
	iii. Measures to monitor and manage spoil and fill including details of how excavated material would be handled, stockpiled, reused and disposed and a stockpile management protocol	Appendix B4

CoA no.	Requirement	Reference
	detailing location criteria that would guide the placement of stockpiles and minimum management measures (including rehabilitation) that would be implemented to avoid/ minimise amenity impacts to surrounding residents and environmental risks (including to surrounding watercourses).	
	iv. Measures to monitor and manage hazard and risks including emergency management.	Appendix A7 Section 7
	v. The issues identified in condition B31.	Appendices B1 to B7
B30 (f)	Details of community involvement and complaints handling procedures during construction, consistent with the requirements of conditions B26 to B28.	Section 6.3
B30 (g)	Details of compliance and incident management consistent with the requirements of condition B25.	Chapter 7
B30 (h)	Procedures for the periodic review and update of the Construction Environmental Management Plan 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 Secretary no later than one month prior to the commencement of construction, or within such period otherwise agreed by the Secretary. Construction works shall not commence until written approval has been received from the Secretary.	Section 1.4

Table 1-2 SoC requirements for environmental management

CoA no.	Requirement	Reference
M1	The head contractor for the project will have an environmental management system.	<i>[BSI Certificate of Registration Environmental Management System ISO 140001:2004 Cert no.: EMS 592490.</i>
M2	Suitably qualified and experienced personnel will develop and implement project specific environmental management plans and procedures, incorporating as a minimum the mitigation and management measures in the environmental assessment.	<i>Environmental Management Plans and procedures have been prepared by experienced and qualified professionals. Plans and procedures have incorporated the minimum</i>

CoA no.	Requirement	Reference
		<i>requirements.</i>
M3	RTA and the contractor will implement a performance and compliance program.	Section 8.4

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.

1.3 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.
- Department of Primary Industries – Fisheries Conservation and Aquaculture.
- Nambucca Shire Council.
- NSW Office of Water.

Consultation will continue throughout the Project with relevant stakeholders and government authorities through the monthly Environment Review Group (ERG). The outcomes of this consultation will be documented where relevant in subsequent revisions of the CEMP and the management review and is described further in Section 9.

1.4 Certification and approval

This CEMP must be approved by the Project and Environmental Manager's prior to submission to DPE. 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 Secretary of DP&E prior to the commencement of construction.

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

1.5 Distribution

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 will be maintained by the Quality Manager at the Project office.

Registered copies will be distributed to:

- Project Manager.
- Environmental Representative.

- Construction Manager.
- Environmental Manager.
- Communications Manager.
- Roads and Maritime Representative.
- Roads and Maritime Environmental Services Manager, Pacific Highway.

1.6 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 Chapter 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 Officers to prepare the revised documents.

The revised document will then be issued to the Roads and Maritime Representative 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 also be provided to relevant stakeholders for review and comment and be forwarded to the Secretary for DP&E for approval.

Revised versions of the CEMP will be made available through the processes described in Section 1.5.

2 Project description

2.1 General features

The Warrell Creek to Nambucca Heads Upgrade Project includes the design and construction of a four lane divided carriageway, with provision for up to six lanes. The Project traverses a series of coastal foothills and floodplains for a total length of approximately 19.6km. The Project starts from the existing highway at Allgomera Deviation in the south to provide a bypass of Warrell Creek and Macksville before it ties in to the southern end of the Nambucca Heads to Urunga project, south of the proposed Nambucca Heads interchange.

The works being delivered by the AFJV that are the subject of this CEMP, involve:

- Two grade separated interchanges at Warrell Creek and Bald Hill Road south of Macksville
- Longitudinal bridges across Upper Warrell Creek (including North Coast Railway Line), Williamson Creek, Warrell Creek, Nambucca River floodplain (2 of) and Nambucca River
- Overbridges on Rosewood Road, Albert Drive, Scotts Heads Quarry access road, Bald Hill Road, Old Coast Road South, Mattick Road and Old Coast Road North
- An underpass at Cockburns Lane
- Local roads and drainage works
- Dedicated fauna crossings
- Landscaping and revegetation works.
- Ancillary construction facilities, including compound sites, batching plant sites and stockpile sites.
- Public utility and service relocations including power lines, telecommunications, network water and sewer mains.

Figure 2-1 provides an overview of the Warrell Creek to Urunga Project

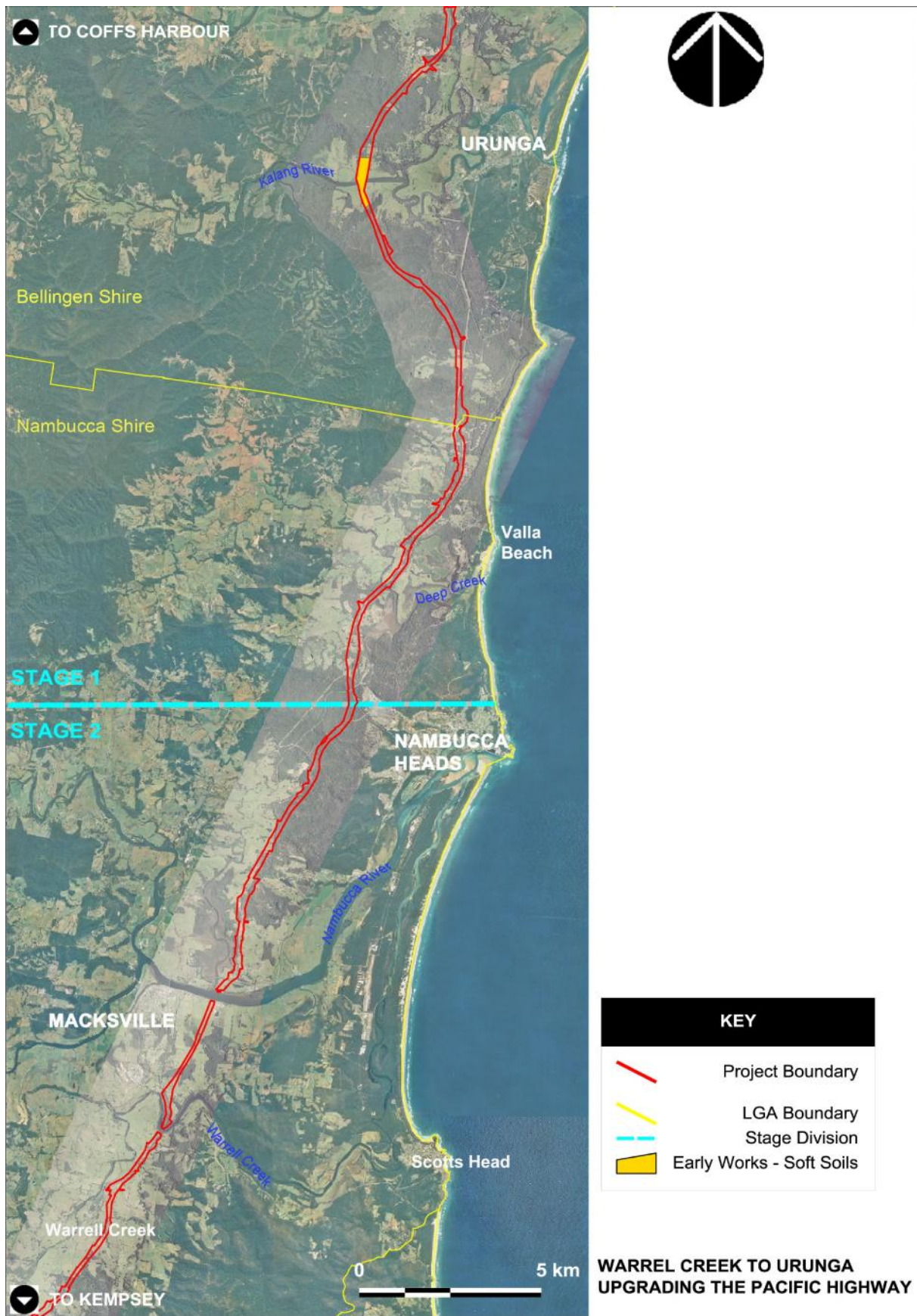
2.2 Staging

As indicated in Section 1.1, the Project is proposed to be delivered in two main stages, being:

- Stage 1: Nambucca Heads to Urunga (Chainage 61,265 to Chainage 83,400), with a ramp and associated connections extending a further 0.5 kilometres north.
- Stage 2: Warrell Creek to Nambucca Heads (Chainage 41,870 to Chainage 61,265).

The split between Stage 1 and 2 is located to the north of the Nambucca interchange as shown on Figure 2-1. The extent of each of the stages is also shown on Figure 2-1.

Figure 2-1 Location of Warrell Creek to Urunga Project



The staged commencement of works will mean that development and submission of Project plans (environmental management plans, sub-plans and reports) for approval, where applicable, will also be staged and reflect the complexity and degree of environmental risk associated with each stage of the Project.

In accordance with the requirements of CoA B5, details of the Project staging, including construction activities and submission of corresponding environmental plans, strategies and protocols, are documented in the Project Staging Report, which has been prepared by Roads and Maritime. The Staging Report will be updated, or advice provided that no changes to staging are proposed, and submitted to the Secretary prior to the commencement of each stage, identifying any changes to the proposed staging or applicable CoAs.

2.3 Construction activities and sequence

Typically the following sequences of activities are anticipated:

- **Site establishment** – installing boundary fencing, construction facilities, environmental controls and 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** – removal of harvestable timber, clearing and grubbing, topsoil stripping and storage.
- **Earthworks** – undertaking cut and fills works along the alignment to achieve desired levels, removal of unsuitable material, batter and embankment shaping.
- **Structures** – building bridges, 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 overpass 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 and commissioning new road and related infrastructure.

Construction hours and circumstances where construction activities may be undertaken outside of these times are detailed and assessed further in the Noise and Vibration Management Sub Plan – Appendix B3 to this CEMP.

Further details of the construction activities anticipated under each stage is provided in the Staging Report which has previously been prepared by Roads and Maritime.

2.4 Compound and ancillary facilities

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

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

- Material and chemical storage.

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

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

Appendix A4 details the location, composition and purpose of compound and ancillary facilities required for the Project. An assessment of the ancillary facility assessment criteria required by CoA C27 is also provided in Appendix A4 and the criteria further detailed in Section 3.7.2. It is noted that Ancillary Site Facilities that have already been assessed by Roads and Maritime and the Environmental Representative as compliant with CoA C27 have not been included in Appendix A4 as the assessment has been covered under a Major Consistency Review. The details of any Ancillary Site Facilities approved under a Major Consistency Review is provided in the Compliance Tracking Report which is submitted to DPE separately from this Plan.

CoA 28 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 C27. 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.
- Comply with the requirements of the POEO Act 1997 and Environment Protection Licence issued for the Project.

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. This register will be reviewed at regular intervals eg during management reviews, and updated with any applicable changes. Any changes made to the legal requirements register will be communicated to the wider team where necessary through toolbox talks, specific training and other methods detailed in Chapter 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 are required for the Project:

- Project Approval under the Environment Planning and Assessment act 1979 (EP&A Act).
- Environmental protection licences (EPL) under the *Protection of the Environment Operations Act 1997* for any scheduled activities triggered by the Project which is likely to include the following activities: Item 35 Road Construction; 19 Extractive Industries and Item 16 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 the [AFJV 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 and Statement of Commitments 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 also included in Appendix A1.

3.4 Environmental aspects and impacts

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

The objectives of risk assessment are to:

- Identify activities/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.

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

3.5 Environmental policy

The environmental policy describes AFJV'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
Construct the Project in accordance with environmental approvals.	<ul style="list-style-type: none"> • Full compliance with statutory approvals. 	Audits, construction compliance reporting, management view.
Compliance with all legal requirements.	<ul style="list-style-type: none"> • No regulatory infringements (PINs or prosecutions). • No formal regulatory warning 	Audits, construction compliance reporting, management view.
Implement a rigorous and comprehensive EMS that meets the requirements of AS/NZS ISO 14001.	<ul style="list-style-type: none"> • Address non-conformances and corrective actions within specific timeframes. 	Audits, management reviews.
Engage with the effected and broader community, minimise complaints and respond to any complaints within a suitable timeframe.	<ul style="list-style-type: none"> • 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 timeframe specified in the Community Engagement Strategy. 	Review complaints register, construction compliance report, audits.
Continuously improve environmental performance.	<ul style="list-style-type: none"> • 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 workforce. 	Construction compliance report, 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 Environmental Services Manager, Pacific Highway 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 Officer will then undertake an additional environmental assessment and consistency review in consultation

with the Roads and Maritime Environmental Services Manager, Pacific Highway to determine if a Project modification may be required.

Should the consistency review determine that a Project modification maybe required ie 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 1979* prepared and submitted to the Secretary DP&E for determination.

Roads and Maritime will approve all refinements that are deemed consistent with the Project approval.

3.7.2 Ancillary facilities assessment criteria

Ancillary facilities are defined as a “temporary facility for construction, including for example an office and amenities compound, construction compound, batch plant (concrete or bitumen), materials storage compound, maintenance workshop or testing laboratory”. Stockpiles are not included under this definition and are discussed in Section 3.7.3.

The location of the main site compound and ancillary facilities are nominated, assessed and detailed in Appendix A4. Circumstances 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 C27 will be undertaken. This criteria requires 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) 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 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 criteria 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 triglochinos* 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 Secretary for approval.

Modifications 1 and 2 to the Project approval were approved by DP&E on November 20 and December 4, 2012 respectively. These modifications firstly added a condition (CoA C28), and then made a minor wording change to CoA C28, that provides an approval pathway for minor ancillary facilities (eg lunch sheds, office sheds, and portable toilet facilities) that do

not meet the requirements of CoA C27. Where such minor facilities are proposed, they may be approved by the Environmental Representative provided that they comply with 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 Environment Management Plan for the project.

Modification 5, approved by the DP&E on 18 December 2013, added CoA 27A that would allow for archaeological investigations as follows:

- a) The Proponent may undertake archaeological investigations at ancillary sites that do not meet the criterion set out in condition C27(i) of this approval, where this is required to assess the potential non-Aboriginal and Aboriginal archaeological impacts of the ancillary facility on previously unidentified heritage sites.
- b) Any archaeological investigations undertaken under this condition must be undertaken consistent with the Construction Heritage Management Plan required under Condition B31(e) or a methodology prepared in consultation with OEH and approved by the Director General.
- c) The results of any relevant archaeological investigations undertaken under this condition must be described in the assessment of the ancillary facility required under Condition C27.

3.7.3 Stockpile locality assessment

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

- Excavated material 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, steel and other material stored for either future use in the Project or prior to removal from site.
- Topsoil, mulch, excess timber for landscaping and revegetation works.

Where these facilities are proposed, the stockpile locating criteria contained in the Stockpile Management Protocol (See Appendix I 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.

4 Implementation and operation

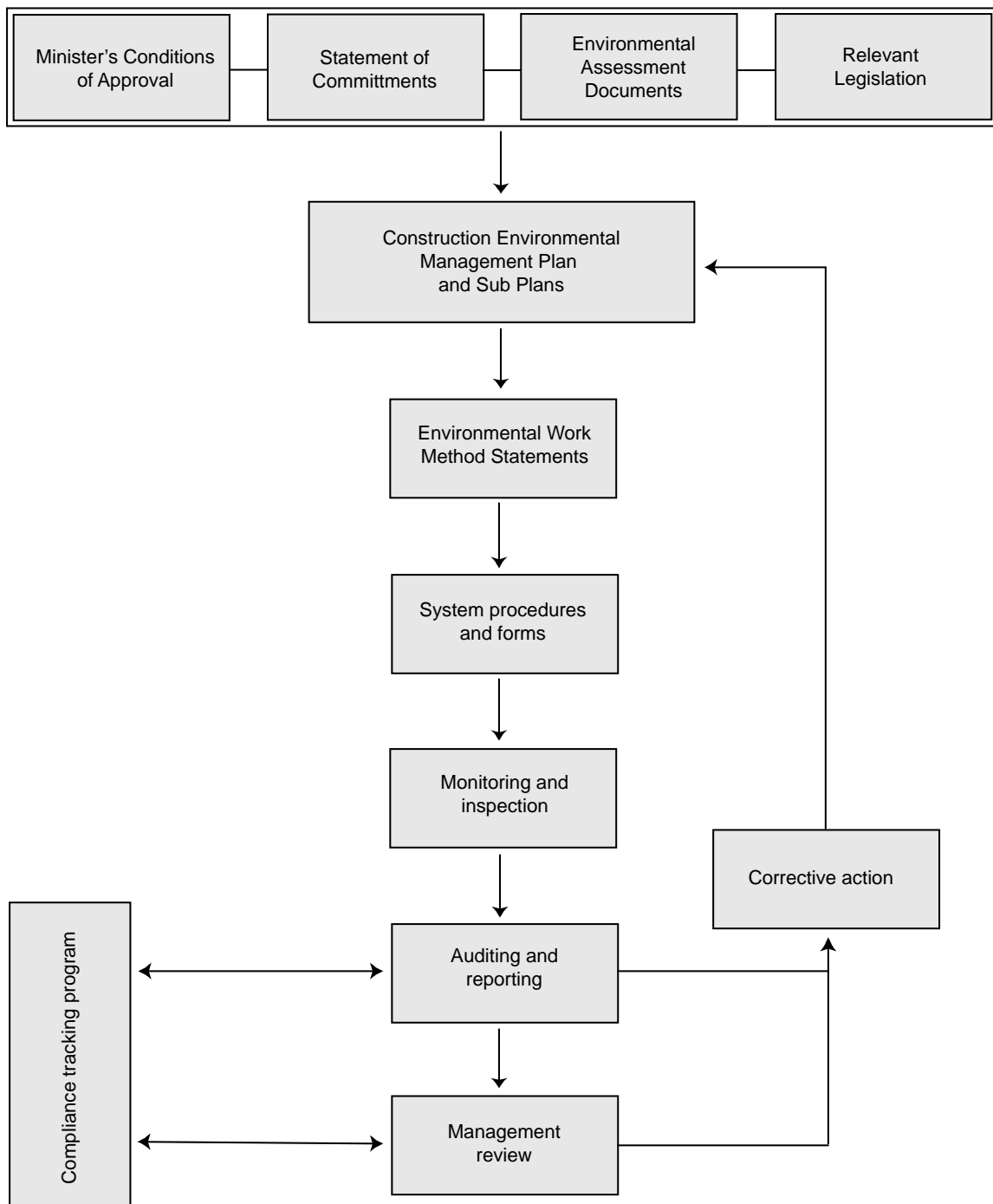
This CEMP is the overarching management plan for a suite of environmental management documents. It provides a structured and systematic approach environmental management.

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 and procedures to ensure environmental impacts are minimised and legislative and other requirements are fulfilled. The strategies defined in this CEMP have been developed with consideration of the Project approval 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:

- 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.
- Pacifico (AFJV) Environmental Management System (derived from the certified Acciona Environmental Management System)

The CEMP and sub-plans required under CoA B31 will be provided to the Secretary for approval at least one month prior to the commencement of construction, or as otherwise agreed by the Secretary.

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, SoCs and other measures identified in the environment assessment documentation.

Environmental strategies or procedures 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	Document number	Approval pathway
Construction traffic management sub plan	WC2NH-TF-MPL	DP&E approval
Construction flora and fauna management sub plan	WC2NH-EN-FF-MPL	DP&E approval
Construction noise and vibration management sub plan	WC2NH-EN-NV-MPL	DP&E approval
Construction soil and water quality management sub plan	WC2NH-EN-SW-MPL	DP&E approval
Construction heritage management sub	WC2NH-EN-HE-	DP&E approval

Document name	Document number	Approval pathway
plan	MPL	
Air quality management sub plan	WC2NH-EN-AQ-MPL	Roads and Maritime approval
Waste and energy management sub plan	WC2NH-EN-WEMPL	Roads and Maritime approval

4.1.3 Environmental work method statements

Environmental work method statements (EWMS) are prepared to manage and control all activities that have the potential to negatively impact on the environment. EWMS will be prepared prior to the commencement of 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, and approved by the Environment Manager.

EWMS for activities identified as having high environmental risk will undergo a period of consultation with stakeholders and authorities prior to approval. A list of upcoming/future EWMS will be provided to ERG participants during regular 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.
- Public road accesses and managing mud tracking.
- Batch plant establishment and operation.
- Managing runoff from curing processes.
- Clearing and grubbing.
- Sediment basin design, construction and management.
- Dewatering.
- Piling.
- Blasting.

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

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

A register of EWMS will be maintained in Appendix A5.

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 controls onsite. They cover all construction stages from initial vegetation clearing through to rehabilitation when erosion and sediment controls are no longer required and are removed. PESCP will be developed and implemented across the Project where there is a risk of erosion and sediment loss.

PESCPs are designed for use as a practical guide and may be produced in conjunction with Environmental Work Method Statement (EWMS) to provide more detailed site-specific environmental mitigation measures. PESCP will be developed by the environment team in consultation with construction personnel and where required the Project Soil Conservationist and modified as required when:

- Site conditions evolve.
- Flow paths change.
- Construction activities that affected the characteristics of ground conditions change.

PESCPs will be developed for all work areas prior to commencing activities in accordance with SWMP.

4.1.5 Sensitive area plans

The Project traverses a diversity 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:

- Noise sensitive receivers eg residential dwellings, educational institutions.
- Flora features, including threatened species and endangered ecological communities.
- Aboriginal and non-Aboriginal heritage sites, including items, places, objects and sites.
- Local waterways.
- Recorded threatened fauna sightings.
- 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.

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.

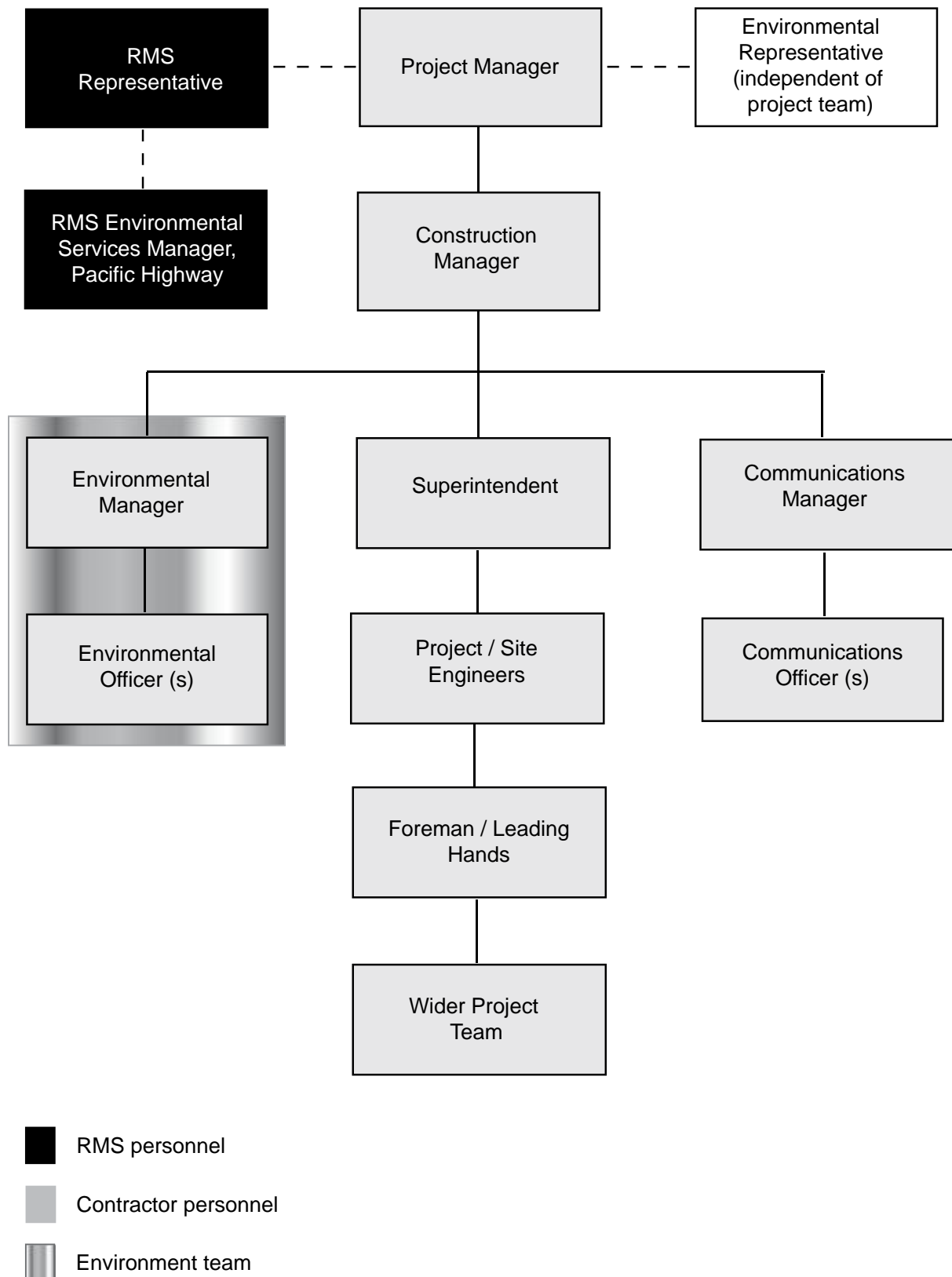
Project specific procedures will be developed in accordance with the requirements for the Project. Where applicable, the existing procedures and work instructions of Acciona or Ferrovial will be applied or amended for use on the Project.

A register of relevant environmental procedures and forms are maintained in Appendix A5.

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 environmental responsibilities for the Environmental Representative are defined in CoA B29 and include:

- a) Be the principal point of advice in relation to the environmental performance of the Project.
- b) Be consulted in responding to the community concerning the environmental performance of the Project.
- c) Monitor the implementation of all environmental management plans and monitoring programs required under this approval.
- d) Monitor the outcome of all environmental management plans and advise the Proponent upon the achievement of all Project environmental outcomes.
- e) 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.
- f) Ensure that environmental auditing is undertaken in accordance with the requirements of condition B25 and the Project Environmental Management System(s).
- g) Be given the authority to approve/reject minor amendments to the Construction Environment Management Plan. What constitutes a "minor" amendment shall be clearly explained in the Construction Environment Management Plan required under condition B30 (see Section 1.6).
- h) 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.

4.2.2 Roads and Maritime Environmental Services Manager, Pacific Highway

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

- Review any environmental management plans and related documents prepared for the Project.
- Review minor Project refinements that are consistent with the Project environmental assessment and approval documentation and recommend they be approved to the General Manager, Pacific Highway.
- 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 Secretary 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 Construction Manager

The environmental responsibilities of the Construction 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.
- 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 Officers.
- 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 Construction 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 plans and procedures on the Project.
- Provide advice to the project team on environmental matters
- Development, implementation, monitoring and updating of the CEMP and sub plans in accordance with ISO14001.
- Report to Project Director 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 the 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 PESCPs.
- 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 where there is an actual or immediate risk of harm to the environment, or to prevent environmental non-conformities, and advise the Project Manager, Construction Manager and Superintendent. Manage environmental incidents including notification and reporting requirements in accordance with the Pollution Incident Response Management Plan (PIRMP)
- Assist the Communications Manager to resolve environment-related complaints.

4.2.8 Environmental Officer

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

- Assist in preparing the CEMP (including any future revisions) in accordance with all relevant requirements.
- Provide advice to the project team on environmental matters
- 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 Construction 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 Construction 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 Manager, Construction Manager, Superintendent and Environmental Manager

4.2.9 Communications Manager

The environmental responsibilities of the Communications 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.
- Implement communications protocol in accordance with the PIRMP in the event of a pollution incident

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 and appropriate controls.
- 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 Manager, Construction 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 Manager, Construction Manager, Superintendent or Environmental Manager.

Note: specific responsibilities in relation to incident response are provided in the Pollution Incident Response Management Plan (PIRMP), that has been prepared in accordance with the requirement of the Environmental Protection Licence (EPL)

4.3 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 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 due to associated environmental risks.

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.

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

- The sub-contractor's general work practices.
- The effectiveness of the sub-contractor's environmental protection measures.
- The sub-contractor's compliance with the requirements of this CEMP.
- The maintenance of environmental measures.

4.4 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 (eg 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 environment 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 Environmental Training Program

Project personnel and subcontractors will be provided training where appropriate to manage the level of risk their works are likely to entail.

A training register will be maintained to record attendees at the training sessions. Training will be provided by competent AFJV environmental staff or specialists as appropriate.

The training matrix will be reviewed during the regular CEMP review to ensure that appropriate environmental training is provided.

The proposed environmental training for the project is provided in Table 5.1. The table is not exhaustive, additional training will be added to the matrix where a substantial environmental risk is foreseen and additional training is deemed necessary by the Environmental Manager. This will include aspects such as vegetation clearing, works around waterways, installation of rock platforms, etc. Standardised training video's provided by Roads and Maritime will also be used as training tools for the Project team on an as needs basis.

Table 5.1: Environmental Training Program

	Induction	Toolbox talks	PIRMP	ERSED	Sediment Basin Management	Environmental Monitoring	Spill Response
Duration	1hr	10 mins/week	2 hr	2-4hrs	2 hr	½ day	2 hr
Project Director	X	X	X	X			
Construction Manager	X	X	X	X			
Superintendent, Foremen and Leading Hands	X	X	X	X	X		X
Senior Project Engineers, Engineers	X	X	X	X	X		
Workforce	X	X		X	X		X
Environmental Team	X	X	X	X	X	X	X
Safety Manager	X		X				
Community Relations Manager	X		X				

The following section outlines the environmental training program that will be implemented for the project.

Pollution Incident Response Management Plan (PIRMP)

As the holder of the EPL, AFJV is responsible for the delivery of the PIRMP training to ensure that the PIRMP is implemented effectively in the event of an incident.

The training will include:

- The notification protocol;
- Incident response equipment and its location; and
- Procedures for emergency response.

This training will be undertaken prior to the commencement of substantial of construction and when there is a change of staff that would necessitate the need for further training or following an incident. In addition to this. An emergency drill to test the general intent of the PIRMP will be undertaken on an annual basis, however this would be undertaken as a separate exercise.

Erosion and Sediment Control Training (ERSED)

ERSED training will consist of a 2-4 hour workshop that addresses the practical application of Erosion and Sediment Control Principles. This training will be delivered by a Certified Practicing Erosion and Sediment Control specialist. The 2-4hr ERSED training is intended as an introductory training module. Full 1 day training modules may be offered to engineers, foreman and leading hands who will be involved in the installation of erosion and sediment controls.

Sediment Basin Management

Training on sediment basin management will be held with general foremen, foremen, leading hands and relevant workers on the correct procedures for treating (flocculating) and

discharging treated water. The training will cover Water Release"/dewatering processes as well as hold points and water quality testing to be undertaken by the Environment Manager (or delegate).

Environmental Monitoring

Environmental monitoring training will address the following areas:

- Procedures for sampling water (including transportation and quality control for laboratory analysis)
- Use of monitoring equipment including water quality probe and noise meter
- Calibration of equipment
- Interpretation of results

Spill Training

This will address procedures to be followed in the event of a minor spill, primarily focussing on the effective deployment of oil spill response materials (spill kits, oil booms etc) and the correct disposal of oil contaminated wastes.

In addition to the above, training with a specific focus, for example on clearing limits and project boundary and the ramifications of breaching these limits will be undertaken on an as needs basis relevant to the work being undertaken.

5.3 Toolbox talks

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.
- Emergency and spill response.
- Aboriginal and non-Aboriginal heritage.
- Threatened species, endangered ecological communities, clearing controls and vegetation protection.
- Weed management.
- Mulch and Tannin Management
- Spoil and Unsuitable materials management
- Dust control.

Toolbox attendance is mandatory and attendees of toolbox talks are required to sign an attendance form. The records of toolbox talks will be maintained on site

The awareness of construction personnel will also be enhanced through a range of other mechanisms that may include awareness notes, posters, booklets or other visual aids. Posters will be placed in prominent locations around site offices and amenities areas. AFJV may also implement an employee reward and recognition scheme to promote a positive environmental culture.

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

5.4 Daily Pre-Start Meetings

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

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

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

6 Communication

6.1 Internal communication

Clear lines of communication throughout all levels and functions (eg management, staff and sub-contracted service providers), is key to minimising environmental impacts and achieving continual improvement 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 will 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 will be consulted throughout construction through their involvement in regular Environment Review Group (ERG) meetings. These meetings will discuss environmental performance, upcoming works, high risk activities and will include inspections of the work sites as required. It is noted that all communications to the DP&E or the Commonwealth Department of Environment are to be via Roads and Maritime, unless specifically with the EPA.

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, which required the Strategy to include, but not necessarily be limited to:

- (a) identification of stakeholders to be consulted as part of the Strategy, including affected and adjoining landowners;
- (b) procedures and mechanisms for the regular distribution of information to stakeholders on the progress of the project and matters associated with environmental management;
- (c) procedures and mechanisms through which stakeholders can discuss or provide feedback to the Proponent and/or Environmental Representative in relation to the environmental management and delivery of the project;

- (d) procedures and mechanisms through which the Proponent can respond to any enquires or feedback from stakeholders in relation to the environmental management and delivery of the project; and
- (e) procedures and mechanisms that would be implemented to resolve any issues/disputes that may arise between parties on the matters relating to environmental management and the delivery of the project. This may include the use of an appropriately qualified and experienced independent mediator.

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-knocks.
- 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 074 588). A postal address PO Box 254, Macksville NSW 2447 and email address community@afjv.com.au 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 Secretary 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 or emergency, the environmental incident and emergency response procedures will be implemented. These procedures include the initial actions required to be undertaken to avoid or minimise environmental harm and notify relevant Project personnel.

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 (eg Acts, Regulations, EPL), for reporting and notification of an environmental incident.

The Roads and Maritime procedure covers the management of events including, 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; CoA approval; or any agency permit condition.
- Works undertaken without appropriate approval or assessment under the *Environmental Planning & Assessment Act 1979*.
- Works undertaken that are not in accordance with a Project assessment.
- Unauthorised dumping of waste.

In addition to the requirements of the Roads and Maritime procedure, a Pollution Incident Response Management Plan (PIRMP), as required by Part 5.7 of the Protection of the Environment Operations Act 1997 (NSW) (POEO Act) has been developed for the Project.

Emergency planning and awareness training will also be undertaken for the Project and will include but not be limited to development of a communication protocol, both internal and external during emergencies, identified potential environmental emergencies that may occur

on the Project, and the response procedures for these emergencies and tests of the emergency response procedures.

In accordance with the requirements of CoA B25, 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 Secretary of the DP&E during construction and operation.
- Procedures for rectifying any non-compliance identified during review of incident management.

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

The EPA will be notified of any environmental incidents or pollution incidents on or around the site via the EPA Environment Line (telephone 131 555) in accordance with Part 5.7 of the Protection of the Environment Operations Act 1997 (NSW) (POEO Act). Immediate notification (and without delay) will be undertaken of any incident which causes actual or potential harm to the health or safety of human beings or ecosystems is not trivial; 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 (ie council).
- Fire and Rescue NSW.

Further details of the pollution incident response procedures are provided in the PIRMP and the Emergency Response Plan.

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.

7.2 Incident reporting and investigation

All environmental incidents will be managed and reported in accordance with the Roads and Maritime's Environmental Incident Classification and Reporting Procedure.

Where required, due to the severity or ongoing nature of the incident, investigations will be 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 required.
- Advising the relevant government agencies if any substantial pollution has occurred.

8 Inspections, monitoring and auditing

8.1 Environmental inspections

8.1.1 Weekly and post rainfall site inspections

The Environmental Manager and/or Environmental Officers will undertake weekly and post rainfall inspections of the work sites to evaluate the effectiveness of environmental controls. The Environmental Officers 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 ERG inspections

The Environmental Representative, Roads and Maritime staff and members of the ERG will undertake regular inspections of works sites, and in particular critical activities throughout construction of the 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 each 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 raises non-conformances or issues requiring corrective/preventative action during site inspections.

A member of the Project environment team will participate in all Environmental Representative, Roads and Maritime 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. This is detailed further in Section

8.6.

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 below.

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

CoA	Description	Relevant Sub-Plan	Reporting Requirements
B10 (c) and B31 (b)	Ecological Monitoring for construction related impacts	Flora and Fauna Management Sub Plan (Appendix B2)	Annual reporting of results to the Secretary and EPA
B17 and B31 (d)	Water Quality Monitoring Program	Soil and Water Management Sub Plan (Appendix B4)	Reporting of results to DP&E, EPA and DPI
B21	Monitoring procedures for the built elements and landscaping (including weed control)	Urban Design and Landscape Plan	Refer UDLP
B29 (c) and (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 Sub Plan
B30 (e) (ii)	Monitoring of construction waste	Construction Waste and Energy Management Sub Plan (Appendix B7)	Refer Sub Plan
B30 (e) (iii)	Monitoring of spoil and fill	Soil and Water Management Sub Plan (Appendix B4)	Refer Sub Plan
B30 (e) (i)	Monitoring of construction hazard and risks	Roads and Maritime Environmental Incident Classification and Reporting (Appendix A7)	Refer Appendix A7
B31 (a) (vii)	Monitoring of construction traffic	Construction Traffic Management Plan (Appendix B1)	Refer Sub Plan
B31 (c) (vii)	Construction noise and vibration monitoring	Construction Noise and Vibration Management Sub Plan (Appendix B3)	Refer Sub Plan
C14	Protection/monitoring of Aboriginal cultural heritage sites	Heritage Management Sub Plan (Appendix B5)	Refer Sub Plan

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

The monitoring procedure will include:

- Purpose and scope.
- Minimum acceptable frequency and standards listed in applicable approvals, licences and regulations.
- Relevant EPA approved methods, Australian Standards or, in the absence of an Australian Standard, industry acceptable procedures.
- Targets and parameters.

- Processes for response to any exceedances of targets/standards.
- Processes for recording and reporting results.

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

Where a non-conformance is detected or monitoring results are outside of the expected range and are directly attributable to the Project (ie are influenced by factors under the direct control of the Project (eg 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 Manager and/or Environmental Officer 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 issue
- 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 (eg 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 8-2 presents auditing requirements that are applicable to the Project.

8.3.1 Contractor 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 (CoAs, SoCs).
- Any relevant legal and other requirements (eg 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 8-2 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 Director, 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/ As requested by the Federal Minister of DoE	Environmental Manager	Project Director, Roads and Maritime

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 B25, include:

- a) Provisions for the notification of the Secretary 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 Secretary 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 Secretary 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 B25 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 SoCs have been addressed. A summary of the required compliance reporting, as required by CoA B25, is provided in Table 8-3.

Table 8-3 Compliance reporting

No.	Report	Requirement	Timing	Responsibility	Recipient
1	Compliance tracking program CoA B25 (a)	Describes how the requirements of CoA B25 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 B25 (c)	Report on compliance and performance against approval requirements. The compliance reporting required under the Compliance Tracking Program will record how the CoA and SoCs have been addressed.	Prior to construction, six months following the commencement of construction and then at yearly intervals thereafter. Prior to commencement of operation.	Environmental Manager submit to Roads and Maritime Roads and Maritime to review and submit to DP&E	DP&E and ER

8.5 Other reporting

Prior to, during and following construction, various reports will be prepared to fulfil internal Roads and Maritime and AFJV 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 8-4 will be amended to reflect these changes.

Table 8-4 Reporting requirements

No.	Report	Requirement	Timing	Responsibility	Recipient
1	Monthly environmental report	For incorporation in Project Monthly Reports including environmental statistics (ie incidents, regulatory action, complaints on environmental issues), regulatory and authority considerations, monitoring program performance and key environmental issues	Monthly	Environmental Manager	Roads and Maritime
2	EPL monthly report	Details of all non-compliances with conditions of EPL, measures taken to prevent recurrence, and details of discharges from sediment basins where water quality results exceed EPL conditions.	Within 10 working days of the end of each calendar month.	Environmental manager	EPA
3	EPL annual returns	Report on compliance with EPL.	Within 60 days of the anniversary of the EPL.	Environmental Manager	EPA
4	ER inspection report	Report of site environmental performance following routine inspections.	Monthly, incorporated into Roads and Maritime Inspection Form	Environmental Representative	Roads and Maritime
5	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, Construction Manager	Roads and Maritime
6	Monitoring results	Report on monitoring data recorded and potential exceedances	As required	Environmental Manager, Environmental Officer (s)	Roads and Maritime

No.	Report	Requirement	Timing	Responsibility	Recipient
		against criteria.			
7	Roads and Maritime and/or EPA environmental inspection reports	Response to matter 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 Officer (s)	Roads and Maritime /EPA
8	EPBC Conditions Compliance Report	Report on the compliance with the EPBC conditions and mitigation measures.	Within 3 months of the 12 month anniversary of the EPBC Commencement date.	Environmental Manager	Roads and Maritime

8.6 Non-conformity, corrective and preventative actions

Any member of the Project team may raise a non-conformance or improvement opportunity. The Quality Plan (WC2NH-QT-MPL) describes the process for managing non-conforming work practises and initiating corrective/preventative actions or system improvements.

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

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

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

Corrective/preventative actions and improvement opportunities will be entered into the AFJV quality system database and include detail of the issue, action required and timing and responsibilities. The record will be updated with date of close out and any necessary notes. The database will be reviewed regularly to ensure actions are closed out as required.

Non-conforming activities may be stopped, if necessary, on the advice of the the Environmental Manager, Environmental Officers or Project / Site Engineer following consultation with the Construction Manager or delegate. The works will not commence until a corrective / preventative action has been closed out. The Environmental Representative may also direct works to be stopped in these circumstances. In such circumstances a non-conformance report must be prepared in accordance with the Quality Plan.

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

9 Review and improvement

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

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

The environment group meetings include:

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

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

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

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

Updates to this CEMP may also be required in response to:

- Changes to the Environment or generally accepted environmental management practices, new risks to the Environment, any pollution, Contamination or Changes in Law.
- Requests or requirements of the Department of Planning and Environment, EPA or any other Authority.

Any changes to the federally listed species management plans or changes to the Project that result in a alteration to the federally listed species impacts will require approval from the DoE and must result in a status quo or improved environmental outcome.

The Federal Minister may request changes to the CEMP and Sub-plans as a result of independent audits or to improve the management of federally listed threatened species.

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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

AFJV, 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.

AFJV 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.

Appendices

Appendix A1

Register of legal and other requirements

Table 1 Legal register

Act	Activity / aspect	Requirement	Reference	Part 3A* applicability
General				
<i>Environmental Planning and Assessment Act, 1979</i>	All	Comply with the terms Minister for Planning and Infrastructure's approval for the project. Obtain the Minister's approval for any project modifications that are not consistent with the planning approval.	S75W	Yes
Water				
<i>Water Management Act 2000</i>	Water access and use.	Do not take water from a water source (a lake, river or estuary or place where water occurs naturally on or below the surface of the ground, and includes coastal waters) without an access licence.	S56 S60A S89	No
With the exception of controlled activity approvals, the <i>Water Management Act 2000</i> (WM Act) only applies in relation to those water sources covered by operational water sharing plans – these areas cover most of the State's major regulated river systems.		Do not use 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.	S91A	
<i>Water Management Act 2000</i>	Water management works	Do not construct/use a water supply work, drainage work or flood work without the appropriate approval.	S90 S91B S91C S91D	No
<i>Water Management Act</i>	Waterfront land.	Do not deposit material, excavate, or remove	S91	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
2000		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.		Public authorities are exempt from the need to obtain a controlled activity approval. Water Management (General) Regulation 2004 (cl.39A)
<i>Water Act 1912</i> Note that this Act is being progressively repealed by the <i>Water Management Act 2000</i> (WM Act). With the exception of controlled activity approvals, the WM Act only applies in relation to those water sources covered by operational water sharing plans – these areas cover most of the State’s major regulated river systems.	Surface water	Obtain a licence or permit for construction or use of ‘work’ for purposes including the taking and using of water	S21B	Yes
	Groundwater	Obtain a licence where interference with groundwater is likely to occur.	S112 S121A	S112 does not apply to the Crown. Roads and Maritime and AFJV is therefore not required to obtain a licence under this provision.
	Floodplains	Obtain an approval for controlled works. These include works which occur on a designated floodplain, which can prevent land from being flooded or which can affect water flow to or from a river or lake.	S180	An exemption in relation to roads potentially applies – see clause 4 of the Water (Part 8-General) Regulation 1995.
<i>Protection of the Environment Operations Act 1997</i>	Water pollution	Do not cause water pollution except in accordance with the conditions of any EPA licence.	S120 S122	Yes
Noise				
<i>Protection of the Environment Operations Act 1997</i>	Plant maintenance and operation	Do not operate plant if it emits noise caused by poor maintenance or operation.	S139	Yes
<i>Protection of the Environment Operations</i>	Materials	Do not cause noise by failing to properly and	S140	Yes

Act	Activity / aspect	Requirement	Reference	Part 3A* applicability
<i>Act 1997</i>	management	efficiently deal with materials.		
Protection of the Environment Operations (Noise Control) Regulation 2008	Marine vessels – offensive noise and noise control equipment	As owner or captain, do not allow a vessel to be used on navigable waters so as to emit offensive noise. Do not use a vessel on navigable waters if its noise control equipment is defective.	cl. 30-31 cl. 32	NA
Contaminated material				
<i>Protection of the Environment Operations Act 1997</i>	Land pollution	Do not cause or permit land pollution other than under authority of a licence or regulation. (However it is not a land pollution offence to place virgin excavated natural material or lawful pesticides and fertilisers on land, or by placing matter on land that has been notified to the EPA as an unlicensed landfill and which is operated in accordance with the regulations.)	S142A – S142E	Yes
<i>Contaminated Land Management Act 1997</i>	Reporting contamination	Notify the EPA if: 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 prescribed by the regulations.	S60	Yes
Biodiversity				
<i>Noxious Weeds Act 1993</i>	Weed control	As a public authority occupier of land, control noxious weeds on the land as required under the control category or categories specified in relation	S13 S16	Yes

Act	Activity / aspect	Requirement	Reference	Part 3A* applicability
		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.	S30	
<i>National Parks and Wildlife Act 1974</i>	Native fauna	Do not harm any animal that is of a threatened species population or ecological community, or its habitat except in accordance with a planning approval.	Part 8A	Yes
		Do not harm critical habitat except as in accordance with a planning approval.	S98	Yes
		Do not harm native fauna (other than listed unprotected fauna) except in accordance with a planning approval or licence.	S120, S127, 132C	Yes
<i>Native Vegetation Act 2003</i>	Flora and native vegetation conservation	Only clear native vegetation in accordance with a planning approval or property vegetation plan.	S12	Yes
<i>National Parks and Wildlife Act 1974</i>	Flora and native vegetation conservation	Do not pick protected native plants without a licence.	S117 S131	Yes
<i>Fisheries Management Act 1994</i>	Dredging or reclamation	Provide the Minister for Primary Industries 28 days notice of planned dredging or reclamation work.	S199	Yes
<i>Fisheries Management Act 1994</i>	Mangroves, seagrasses and marine vegetation	Do not harm any mangroves, seagrasses or other marine vegetation on public water land protected by the regulations without a permit.	S205	No
<i>Fisheries Management Act 1994</i>	Fish passage	Do not block fish passage without a permit	S219	No

Act	Activity / aspect	Requirement	Reference	Part 3A* applicability
<i>Environment Protection Biodiversity Conservation Act, 1999 (Commonwealth)</i>	Flora and fauna conservation	Do not kill, injure or take a member of a listed threatened species without a permit.	Part 13	Yes
		Comply with the terms of any EPBC Act approval for the project.		NA
Waste				
<i>Protection of the Environment Operations Act 1997</i>	Littering	Do not litter in a public place or an open private place. Do not litter from a vehicle.	Part 5.6A	Yes
		<p>Only deposit advertising material in receptacles provided for mail or newspapers or under the door of the premises.</p> <p>Do not deposit advertising material on or in vehicles.</p>		
<i>Protection of the Environment Operations Act 1997</i>	Waste and transportation	Do not undertake a scheduled waste activity unless in accordance with an environmental protection licence.	Part 3.2 Schedule 1	Yes
		<p>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:</p> <p>Is VENM.</p> <p>Does not exceed 20,000 tonnes</p> <p>Is covered by a "general exemption". Current exempted materials are ENM, recycled aggregates and raw mulch. These exemptions are conditional and require some chemical testing of materials before they are placed onto land.</p> <p>A licence must be obtained if more than 2,500 tonnes (or cubic metres) is stored on a stockpile</p>		

Act	Activity / aspect	Requirement	Reference	Part 3A* applicability
		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				
<i>Heritage Act 1977</i>	Heritage	Do not undertake an activity that will affect a place, building, work, relic, moveable object or precinct which is subject to an Interim Heritage Order or is listed on the State Heritage Register without approval from the Heritage Council.	S56-57	No
		Do not disturb or excavate land with knowledge or reasonable cause to suspect that the disturbance or excavation will or is likely to result in a relic being discovered, exposed, moved, damaged or destroyed; or Do not disturb or excavate land on where a relic has been discovered or exposed.	S139	No
		Notify the heritage Council on discovery of a relic	S146	Yes
<i>National Parks and</i>	Aboriginal places	Do not harm or desecrate an Aboriginal object or	S86	No

Act	Activity / aspect	Requirement	Reference	Part 3A* applicability
<i>Wildlife Act 1974</i>	and objects	Aboriginal place without consent.	S90	
		Notify the NPWS within reasonable time of becoming aware of the location or discovery of certain Aboriginal objects.	S89A	Yes
<i>Aboriginal and Torres Strait Islander Heritage Protection Act 1984 (Commonwealth)</i>	Protection of areas and objects	Report any discovery of Aboriginal remains to the Federal Minister for the Environment and Heritage.	S20	Yes
		Comply with the provisions of any declaration in relation to a significant Aboriginal area or object.	S22	Yes
General				
<i>Protection of the Environment Operations Act 1997,</i>	Pollution Incident Response Management Plan (PIRMP)	Prepare and implement a PIRMP as project will hold an EPL. Plan to include information detailed in the Act and in the Form required by the POEO Regulation	S153A S153C	
		Plan must be tested in accordance with the General Regulation	98E	
<i>Protection of the Environment Operations Act 1997</i>	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
<i>Protection of the Environment Operations Act 1997</i>	Control equipment	Properly and efficiently maintain and operate any installed pollution control equipment (including monitoring devices).	S167	Yes
<i>Protection of the Environment Operations Act 1997</i>	Notification of pollution incidents	Notify the EPA and other agencies including Emergency Services, Department of Health, Nambucca Shire Council and Workcover	S148	Yes

Act	Activity / aspect	Requirement	Reference	Part 3A* applicability
<i>Act 1997</i>		immediately and without delay of pollution incidents where material harm to the environment is caused or threatened.		
<i>Protection of the Environment Operations Act 1997</i>	Site licensing	Do not carry out or allow an activity listed in Schedule 1, or carry out work to enable such an activity, unless the premises are licensed by the EPA. This applies to 'road construction', 'crushing, grinding and separating' and 'extractive activities'. (and any other scheduled activity undertaken for the Project).	S47 S48	Yes
<i>Environmentally Hazardous Chemicals Act, 1985</i>	Hazards and risks	Obtain a licence to undertake prescribed activities involving environmentally hazardous chemicals or declared chemical wastes.	S28	Yes
<i>Dangerous Goods (Road and Rail Transport) Act 2008</i>	Hazards and risks	Ensure that dangerous goods are transported in a safe manner.	S9	Yes
<i>Pesticides Act 1999</i>	Hazards and risks	Use pesticides in an environmentally sensitive manner. Do not use an unregistered pesticide without a permit. Read the label or permit for the pesticide. Use registered pesticides in accordance with instructions on the label. Do not use any restricted pesticide unless authorised by a certificate of competency or a pesticide control order under the Act. Compliance with pesticide codes of practice is required.	S12 S13 S14 S15 S17	Yes
<i>National Greenhouse and Energy Reporting Act,</i>	Greenhouse gas	Accounting and reporting of greenhouse gases produced and energy consumed during	-	Yes

Act	Activity / aspect	Requirement	Reference	Part 3A* applicability
2007 and Regulations 2008	emissions	construction. Applicability dependent on thresholds.		

Table 2 Roads and Maritime G36 requirements

G36 reference	Requirement	Relevant section of CEMP or supporting documentation
3.1	CEMP for Work Under the deed, including Environmental Policy and Sub-Plans	This document
3.2.2	Compliance tracking program	Section 8.4
3.2.3	Environmental objectives and targets	Section 3.6
3.3	Names, responsibilities and authority of site management personnel, including ESR, with responsibility for implementing CEMP. Where applicable, the relationship between Environmental Management Representative and ESR	Contacts Section 4.2
3.4	Procedures to ensure subcontractor compliance	Section 4.3
3.5	Environmental induction and training plan	Section 5.2
3.6	Procedure for notifying the Roads and Maritime Representative and all relevant Authorities in advance of any proposed extension to working hours	Appendix B3
3.7	Details of processes for external and internal communication in relation to environmental aspects of work	Section 6
3.8	Emergency planning and response procedures	Section 7
3.9	Procedure(s) to monitor and measure environmental management performance and to evaluate compliance	Section 8
3.9	Environmental monitoring and auditing program	Section 8.2 Section 8.3
4.1	Soil and Water Management Plan and/or Erosion and Sediment Control Plan	Appendix B4
4.2	Proposed sources of water to be used for construction activities	Appendix B4
4.3	Dewatering Work Method Statement	Section 4.1.3
4.4	Work Method Statement for working in waterways	Section 4.1.3

G36 reference	Requirement	Relevant section of CEMP or supporting documentation
4.5	Contaminated Land Management Plan and Remediation Action Plan	Appendix B4
4.6	Work Method Statement for spill prevention and response	Section 4.1.3
4.6	Procedures for controlling and removing chemical, fuel and lubricant spillage on the Site and adjoining areas	Appendix B4 Appendix B7
4.7	Procedures for effective dust control, including dust monitoring and reporting procedures	Appendix B6
4.9	Noise and Vibration Management Plan	Appendix B3
4.10	Noise and Vibration Management Plan	Appendix B3
4.11	Flora and Fauna Management Plan	Appendix B2
4.11.1	Work Method Statement for clearing and grubbing	Section 4.1.3 Appendix B2
4.11.1	Timber Reuse and Disposal Strategy	Appendix B7
4.12	Aboriginal Heritage Management Plan	Appendix B5
4.13	Non-aboriginal Heritage Management Plan	Appendix B5
4.14	Waste and Energy Management Plan	Appendix B7
4.16	Sensitive Areas Diagrams and Work Method Statement for working in or near environmentally sensitive areas.	Appendix A6 Section 4.1.3
4.17	Environmental incident reporting and investigation procedure	Section 7 Appendix A7

Appendix A2

Environmental aspects and impacts register

This Environmental Aspect and Impact Register has been prepared by the Warrell Creek to Urunga development team to supplement the Environmental Risk Analysis conducted as part of the Environmental Assessment (EA). This register has been reviewed by the AFJV team and has been modified where appropriate.

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. Initial mitigation measures have also been identified for further consideration in the specialist environmental subplans and EWMS's as appropriate.

Table 1 Aspects and impacts 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	<ul style="list-style-type: none"> 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. 	<ul style="list-style-type: none"> Complaints from neighbours, including loss of amenity, dust in living areas, swimming pools. 	B (moderate)	<ul style="list-style-type: none"> Induct personnel on air quality issues and safeguards. Use water carts on unsealed surfaces and stockpiles. Utilise non toxic dust suppressants to reduce dust generation. Use street sweepers to reduce dust in areas of dust accumulation 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. Monthly dust monitoring throughout construction. 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)	<ul style="list-style-type: none"> AQMP EWMS SWMP Complaints procedure Induction
		<ul style="list-style-type: none"> Potential adverse health effects. 	C (Low)			
		<ul style="list-style-type: none"> Degradation of water quality and other aspects of the natural environment. 	C (Low)			
		<ul style="list-style-type: none"> Health risks to neighbours and members of the public from release of gases and/or smoke (in the event of a fire) 	C (Low)			
Biodiversity	<ul style="list-style-type: none"> Clearing of native vegetation. Stockpile / haul road construction near vegetation. Works near and in creeks / 	<ul style="list-style-type: none"> Loss of habitat for threatened species. 	A (High)	<ul style="list-style-type: none"> 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 	B (moderate)	<ul style="list-style-type: none"> FFMP EWMS Vegetation Clearing procedure
		<ul style="list-style-type: none"> 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
	<ul style="list-style-type: none"> temporary crossings. General earthworks near vegetation. Vehicular movements. Open excavation works. 	<ul style="list-style-type: none"> Direct impact to flora or fauna during construction. 	B (moderate)	<ul style="list-style-type: none"> documentation. 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 2 stage clearing process and undertake fauna rescue during clearing as required. Engage arborist to provide advice on habitat tree health and provide ongoing advice if required. 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 decontamination procedures to prevent the spread of pests and disease. Undertake monitoring as required in the Approval. 	C (Low)	<ul style="list-style-type: none"> Fauna handling procedure Induction
Aboriginal heritage	<ul style="list-style-type: none"> Early works including non-substantial construction activities e.g 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. 	<ul style="list-style-type: none"> Impact to identified heritage items prior to completion of any required salvage program. 	A (High)	<ul style="list-style-type: none"> Prior to construction – identify and assess Aboriginal heritage items on proposed sites and predict potential impacts. Induct personnel on heritage issues ,mitigation measures and chance find procedures 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 (by RM). Salvage is defined as excavation (mechanical or manual) within the project corridor, or collection of known artefacts within the project corridor. 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)	<ul style="list-style-type: none"> HMP EWMS Impact to identified heritage procedure Induction Skeletal remains procedure
		<ul style="list-style-type: none"> Impact (machinery, procedure vibration, stockpiles) during the construction period to identified sites 	A (High)		B (moderate)	
		<ul style="list-style-type: none"> Impact to undiscovered or undocumented heritage sites 	B (moderate)		C (Low)	
		<ul style="list-style-type: none"> Change in visual integrity of cultural area 	A (High)		B (moderate)	
		<ul style="list-style-type: none"> Finding / disturbing burials or human remains 	C (Low)		C (Low)	
Non-Aboriginal heritage	<ul style="list-style-type: none"> 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 	<ul style="list-style-type: none"> Impact to identified heritage items. 	B (moderate)	<ul style="list-style-type: none"> 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)	<ul style="list-style-type: none"> HMP EWMS CNVMP Chance find procedures Induction
		<ul style="list-style-type: none"> Vibration damage during the construction period to identified sites. 	B (moderate)		C (Low)	
		<ul style="list-style-type: none"> 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
	<ul style="list-style-type: none"> and spoil / mulch and / or equipment stockpile areas. Temporary access roads during construction. 	<ul style="list-style-type: none"> Change in visual integrity of heritage sites. 	B (moderate)	<ul style="list-style-type: none"> Regular inspection of heritage protection fencing. Implement unexpected find procedures as required. Landholder consultation. 	C (Low)	
Noise and vibration	<ul style="list-style-type: none"> Site establishment. Earthworks. Batch plant. Bridge works. Piling. Paving. Saw cutting. Blasting. Crushing and screening. Rock hammering and drilling. 	<ul style="list-style-type: none"> Noise impacts on sensitive receivers during construction. 	A (High)	<ul style="list-style-type: none"> Consult with (and obtain agreements where applicable) with local communities and affected residents. Adherence to working hours in CNVMP unless otherwise undertaken in accordance with the EPL. Implement operational noise mitigation measures as soon as practicable 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, or 'quackers' will be used during night works. Reduced use of horns to signal trucks loaded where residences close by. Minimise impacts from saw cutting/ use effective shielding where reasonable and feasible. Regular 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. Discuss noise and vibration monitoring results at each ERG. 	A (High)	<ul style="list-style-type: none"> CNVMP EWMS Blasting procedure Negotiated agreements Complaints procedure Induction
		<ul style="list-style-type: none"> Vibration impacts on nearby receptors, including heritage. 	B (moderate)		C (Low)	
Soil and water quality	<ul style="list-style-type: none"> 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. 	<ul style="list-style-type: none"> Erosion and movement of soils. 	A (High)	<ul style="list-style-type: none"> 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 Blue Book requirements 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)	<ul style="list-style-type: none"> SWMP EWMS SWMP Basin management procedure Induction Targeted ERSED training Design for temporary waterway crossings Unexpected Discovery of Contaminated Land Procedure
		<ul style="list-style-type: none"> Captured dirty water discharge from basins. 	A (High)		B (moderate)	
		<ul style="list-style-type: none"> Dirty water not captured and leaves site. 	A (High)		B (moderate)	
		<ul style="list-style-type: none"> Contamination of sediment basins and /or waterways from spills. 	B (moderate)		C (Low)	
		<ul style="list-style-type: none"> 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
	<ul style="list-style-type: none"> Temp access road construction / removal from waterway areas. Bridge construction. 	<ul style="list-style-type: none"> Haul road washout from flood event. Disturbance on unidentified contaminated land eg historical agricultural practice such as tick dips. 	<p>A (High)</p> <p>B (moderate)</p>	<ul style="list-style-type: none"> Wheel mud reduction/ cleaning measures at exit points where required. Well designed temporary waterway crossings minimising risk of fines in waterways and designed to address larger flow volumes. Vegetative Buffer zones will be maintained adjacent to waterways for as long as practicable. Rehabilitation and landscaping works of disturbed areas undertaken as soon as the works are completed and/or progressively where practicable 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. 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 ERSSED issues. Identify resources to manage ERSSED implementation and crews for the Project. 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. 	<p>A (High)</p> <p>C (Low)</p>	
Water management	<ul style="list-style-type: none"> Extraction of groundwater. Water use for dust suppression, washing of plant and equipment, landscaping, compaction etc. Water use for drinking water, hand washing, toilets etc. Excavation water table. Use of water for concrete batching Quarrying. General earthworks and construction. 	<ul style="list-style-type: none"> Groundwater interception and ingress into excavations. Reduction of aquifer storage. Changes to the natural groundwater flow in the area surrounding the Project due to compaction of the road surface. Changes in the recharge and runoff patterns as a result of construction. Contamination of groundwater due to construction activities. 	<p>B (moderate)</p> <p>C (High)</p> <p>B (moderate)</p> <p>B (moderate)</p> <p>B (moderate)</p>	<ul style="list-style-type: none"> Construct "Turkeys Nest" type basins for storing captured stormwater. Prioritise the use of captured stormwater over other sources. Re-use / recycle water where practicable. Minimise excavations proposed to intercept groundwater. Drainage / bridging layers in floodplain. 	<p>B (moderate)</p> <p>C (Low)</p> <p>C (Low)</p> <p>C (Low)</p> <p>C (Low)</p>	<p>SWMP</p> <p>EWMS</p> <p>Basin management procedure</p> <p>Induction</p>
Mulch and tannin	<ul style="list-style-type: none"> Vegetation clearing and storage of mulch 	<ul style="list-style-type: none"> Tannin impacts on waterways. 	<p>A (High)</p>	<ul style="list-style-type: none"> Implement the RMS mulch and tannin protocol. 	<p>C (Low)</p>	

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
Flooding	<ul style="list-style-type: none"> Waterway crossings. Transverse drainage. Bridge pier locations. Bridge openings. Haul and bridge roads. 	<ul style="list-style-type: none"> Restriction to flow paths causing localised flooding. 	B (moderate)	<ul style="list-style-type: none"> 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. Provide early warning for flood events by monitoring rain gauges or rainfall predictions and consultation with the State Emergency Service (SES). Design and construct Project in accordance with CoA and SoC, with specific reference to CoA B12 and B13. 	C (Low)	SWMP EWMS Establish design for temporary waterway crossings.
		<ul style="list-style-type: none"> Changes to flood levels – increased impact to receivers. 	B (moderate)		C (Low)	
		<ul style="list-style-type: none"> Stormwater inflow to site – clean stormwater getting mixed with dirty site water. 	A (High)		B (moderate)	
		<ul style="list-style-type: none"> Flood damage to plant / equipment / satellite compounds. 	B (moderate)		C (Low)	
		<ul style="list-style-type: none"> Erosion of haul/ access road during large flood events. 	A (High)		A (High)	
Spoil and Fill	<ul style="list-style-type: none"> Cuts. Fill areas. Borrow pits. Quarries. Haulage of spoil and fill. Stockpiling. Spoil areas. 	<ul style="list-style-type: none"> Demand on local resources – local quarries / suppliers. 	B (moderate)	<ul style="list-style-type: none"> 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 landscaping, 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 manage contaminated material. Classify and dispose of any contaminated material in accordance with EPA guidelines. 	C (Low)	SWMP EWMS AQMP CEMP Unexpected Discovery of Contaminated Land Procedure
		<ul style="list-style-type: none"> ERSED issues from cuts / batters / stockpiles. 	A (High)		B (moderate)	
		<ul style="list-style-type: none"> Sensitive area damage from stockpiling. 	A (High)		B (moderate)	
		<ul style="list-style-type: none"> Disturbance on unidentified contaminated land eg historical agricultural practice such as tick dips. 	B (moderate)		C (Low)	
		<ul style="list-style-type: none"> Exposing acid sulphate soils or potential acid sulfate soils. 	A (High)		B (moderate)	
Waste Management	<ul style="list-style-type: none"> Generation of waste during construction activities including 	<ul style="list-style-type: none"> Excessive waste being directed to landfill. 	B (moderate)	<ul style="list-style-type: none"> Apply waste hierarchy principles – avoid-reduce-reuse-recycle. Waste materials contained in waste bins or other suitable 	C (Low)	WEMP

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
	building materials, excess unsuitable spoil material, vegetation material.	<ul style="list-style-type: none"> Incorrect disposal of contaminated waste. Meeting POEO VENM, ENM and mulch requirements. 	<ul style="list-style-type: none"> A (High) 	<ul style="list-style-type: none"> 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. 	B (moderate)	EWMS Waste reporting register
Traffic and transport	<ul style="list-style-type: none"> Haulage of material. Import of material / plant / equipment. Travel to / from site. 	<ul style="list-style-type: none"> Accidents - Safety of commuters, pedestrians, cyclists, contractors and subcontractors. Delays 	<ul style="list-style-type: none"> A (High) 	<ul style="list-style-type: none"> 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 and Rehabilitation	<ul style="list-style-type: none"> Cuttings and cut finishes. Bridge design Revegetation / landscaping. Removal of visually prominent native vegetation. Evening / night works. Rehabilitation of disturbed land. 	<ul style="list-style-type: none"> General public aesthetic impacts 	B (moderate)	<ul style="list-style-type: none"> Landscape and rehabilitation plan including extensive seeding planting in required areas will be developed and implemented. Landscape treatments will incorporate the surrounding landscape types and vegetation patterns and address view scapes. 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 of landscaping and revegetation works and weed control to ensure successful rehabilitation outcomes in accordance with UDLP. 	C (Low)	UDLMP EWMS
		<ul style="list-style-type: none"> Heritage related visual. 	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
General Environmental Management	<ul style="list-style-type: none"> Environmental management / supervision. Incident response. 	Non-compliance with CEMP, SoC, MCoA, legislative requirements.	A (High)	<ul style="list-style-type: none"> 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 and PIRMP requirements. 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)	



ENVIRONMENTAL POLICY STATEMENT

The PACIFICO – Acciona Ferroviaria JV (AFJV) team is committed to the incorporation of environmental values in decision-making and the operations of its business, so as to reduce the Project’s environmental footprint, eliminate environmental infringements, complaints and non-compliances and make an enduring positive impact on the surrounding community.

AFJV’s goals include prevention of pollution and other adverse environmental impacts, efficient use of resources and recycling of materials and compliance with legislation and approval documentation for the activities involved with the Pacific Highway upgrade (Warrell Creek to Nambucca Heads) Project.

AFJV undertakes to provide the necessary resources and management support to achieve these goals. In particular, we have established and will maintain, review and continually improve our plan for management of environmental aspects, that we can control or influence, during delivery of our services. This plan includes:

- Demonstrated leadership and encouraging teamwork and participation at all levels of the Company in planning and developing activities to achieve environmental best practice outcomes.
- Complying with all legal and approval requirements including the *Protection of the Environment Operations Act* and all other applicable legislation, regulations, industry codes of practice and project specific requirements.
- Establishing measurable objectives and targets to quantify our environmental performance and demonstrate continual improvement.
- Consultation and communication with employees, contractors, clients, key stakeholders and the community, influence them positively and increase their involvement in environmental aspects and outcomes.
- Identifying and assessing environmental aspects related to our activity in all its phases.
- Developing and implementing methods to eliminate significant environmental impacts.
- Regular monitoring and auditing of processes and activities on the basis of key performance indicators, to obtain information to enhance our environmental performance and the identification of corrective actions to improve this performance.
- Encouraging environmental awareness amongst our people by providing adequate resources for the provision of relevant information, training, support, supervision and adequately defining responsibilities and accountabilities to all employees and contractors.
- Provision of a positive environmental culture among employee’s and contractors.

AFJV will hold all employees and subcontractors accountable for their implementation of this Environmental Policy.

This Policy shall be made available to all interested parties and will be periodically reviewed to ensure that it remains relevant and appropriate to the Project.

Project Director

Date 17/11/14

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Appendix A4

Ancillary facilities assessment criteria

Revision history

Revision	Date	Description	Approval
Rev A	26/09/2014	Draft of Ancillary Facilities Assessment	
Rev B	04/10/14	Updated with Roads and Maritime/ER comments	
Rev C	10/11/2014	Updated to address Roads and Maritime/ER comments	
Rev D	26/11/14	Updated to address further comments from Roads and Maritime and the ER	

1 Introduction

In accordance with the requirements of CoA B30 (d) for all nominated ancillary facilities for the Warrell Creek to Nambucca Heads (WC2NH) Pacific Highway upgrade Project (the Project), the identified ancillary facilities and an assessment against the location criteria outlined in CoA 27 has been undertaken and is presented within this Ancillary Facilities Criteria Assessment report.

Where circumstances arise during construction where additional, or changes to the location of, ancillary facilities are required, an assessment of changes will be undertaken based on the criteria and updated within this report.

It is noted that an Ancillary Site Facility assessment has already been completed under a Major Consistency Review process and approved by Roads and Maritime for the Main Site Compound at 124 Albert Drive, Warrell Creek. The compound site was fully compliant with condition C27 of the MCoA. The details of this compound have not been included in this report.

A second compound site is currently being assessed for compliance with C27 under a Major Consistency Review. The site is located on Old Coast Road, North Macksville. The details of this compound have not been included in this report.

2 Ancillary facilities and criteria

Ancillary facilities are defined as a “temporary facility for construction, including for example an office and amenities compound, construction compound, batch plant (concrete or bitumen), materials storage compound, maintenance workshop or testing laboratory”.

Ancillary facilities are subject to the criteria detailed in CoA C27 stipulated as follows:

- a) Be located more than 50 metres from a waterway^(Note 1).
- 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) 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 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 1: for the purposes of criteria 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 triglochinos* 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 has been determined. In these cases, the

nominated ancillary facilities at these locations are subject to approval by the Director General^(Note 2).

Note 2: Subject to CoA C28, proposed minor ancillary facilities (eg lunch sheds, office sheds, and portable toilet facilities) that do not meet the requirements of CoA C27, may be approved by the Environmental Representative provided that they comply with 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 Environment Management Plan for the project.

3 Ancillary Facilities Description and Location

The following Ancillary Facilities listed within Table 3-1 are nominated for the project.

The locations of these ancillary facilities are provided in Figures 1 to 3 in conjunction with identified sensitive areas and features, including:

- Heritage (Aboriginal and Non-Aboriginal)
- Biodiversity
- Waterways and floodplains
- Sensitive residential receivers

Table 3-1 Ancillary facilities description and location

Ancillary Facility Ref No.	Location (Chainage) (NB – north bound) (SB – south bound)	Purpose
ASF 1-A	45150-45330 (SB)	Construction laydown area
ASF 1-B	45350-46200 (SB)	Batch plant / precast / asphalt and associated stockpiles
ASF 1-C	45350-46000 (NB)	Construction laydown area
ASF 1-D*	45800-46150 (NB)	Main Site Office and Compound, Workshop, carpark (light vehicles)
ASF 1-E	46000-46450 (NB)	Potential laydown area (future use)
ASF 1-F	46000-46400 (NB)	Potential laydown area (future use)
ASF 2	48550-48650 (SB)	Bridge beam storage and associated construction storage/ laydown area
ASF 3	49340-49450 (NB)	Bridge beam storage and associated construction storage/ laydown area
ASF 4-A	52400-52740 (NB)	Bridge beam storage and associated construction storage/ laydown area
ASF 4-B	52500-52900 (SB)	Bridge beam storage and associated construction storage/ laydown area
ASF 4-C	52750-53000 (NB)	Potential ancillary facility (laydown area)
ASF 5-A	53100-53250 (SB)	Laydown and stockpiling
ASF 5-B	53300-53400 (SB)	Laydown and stockpiling
ASF 5-C*	53400-54000 (SB)	Northern Compound, Paving Batch Plant, and laydown area
ASF 5-D*	54000-54280 (SB)	Northern satellite office

Ancillary Facility Ref No.	Location (Chainage) (NB – north bound) (SB – south bound)	Purpose
ASF 5-E	54300-54500 (SB)	Ancillary facility (laydown)
ASF 5-F	54520-54600 (SB)	Ancillary facility (laydown)
ASF 5-G	54150-54280 (NB)	Ancillary facility (laydown)
ASF 5-H	54300-54500 (NB)	Ancillary facility (laydown)

* Assessed separately to this report.

4 Criteria Assessment

The nominated ancillary facilities for the project have been assessed against the criteria of C27. Where additional assessments have been undertaken (for ecology and heritage), the results of the assessment are reported in Tables 4.1 and 4.2 with the full outcomes of the assessment reported in Table 4-3.

Note, the ancillary facilities ASF 1-E, ASF 1-F, and ASF 4-C are provided for location identification purposes. Should these sites be required for additional construction ancillary facilities, they will be assessed in accordance with the criteria prior for approval prior to use.

- (a) Be located more than 50 metres from a waterway

This criteria has not been met for the following ancillary facilities

- ASF 1-C and ASF 1-B – as Stony Creek runs through each site;
- ASF 2 –as it is located within a 50 metre zone of Warrell Creek;
- ASF 4-A – as it is located within a 50 metre zone of Newee Creek; and
- ASF 5-C and ASF 5-D – as a drainage line runs through the middle of each site.

To mitigate against potential impacts to waterways, ancillary facilities will be subject to an EWMS, which will contain the required management measures of the Soil and Water Management Plan and incorporate specific requirements and measures for the prevention of erosion and the control of sediment.

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

All ancillary facilities have direct access to the construction corridor or direct road network.

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

An ecological assessment of all ancillary facilities has been undertaken with findings provided in Table 4-1 below. Most sites have been subject to previous land clearing. Areas within the boundaries of the each ancillary site have been determined as areas of low ecological significance.

Table 4-1 Ecological Assessment

Area	Vegetation Description	Fauna Habitats Present
ASF 1	<p>Areas of predominantly cleared pasture land occur to the north and south of Albert Drive. Areas associated with the riparian zone of the south-eastern portion of Stony Creek comprise Moist Open Forest – Flooded Gum including hollows within many of the mature trees at this location.</p> <p>The western portion of the Stony Creek riparian zone occurring adjacent to Albert Drive is lightly vegetated with a mixture of Camphor Laurel, Privet and occasional Water Gum. The area is bounded in the north-east by the rail corridor and existing highway road reserve which is vegetated by</p>	<ul style="list-style-type: none"> ▪ Stony Creek is a relatively healthy creek system and would provide habitat for aquatic fauna including Platypuses. Additionally, locally occurring/ migratory wetland birds would utilise this area.

Area	Vegetation Description	Fauna Habitats Present
	regrowth Swamp Oak, Camphor Laurel and Privet. Scattered occurrences of Lantana, Blackberry and Bracken Fern occur in the northern parts of this site.	
ASF 2	Area occurs on land rising up from the Warrell Creek riparian zone and floodplain and comprises dense Lantana, regrowth Acacia and occasional eucalypt saplings. No areas of native vegetation or mature trees occur on the site. No threatened flora species or areas of EEC were identified during field surveys.	<ul style="list-style-type: none"> ▪ Adjacent areas of Moist Open Forest representing potential Koala habitat occur to the west. ▪ Riparian/ floodplain areas to the south and east of the site provide habitat for wetland/ migratory birds. ▪ No threatened fauna species were identified during field surveys.
ASF3	Predominantly cleared pasture land (including Whiskey Grass) with occasional paddock trees (Swamp Turpentine and Tallowwood). Areas within the road reserve along Bald Hill Road contain Lantana, Camphor Laurel and Acacia. A number of drainage lines and small farm dams occur in the northern parts of the site. No threatened flora species were identified during field surveys. Areas of Swamp Forest EEC occur along the northern boundary of the site.	<ul style="list-style-type: none"> ▪ Adjacent area of Swamp Forest to the north provides seasonal roosting habitat for Grey-headed Flying Fox as well as habitat for wetland/ migratory birds. ▪ No threatened fauna species were identified during field surveys.
ASF4	Area comprises predominantly cleared pasture land dominated by Kikuyu Grass with occasional mature Paperbark paddock trees and a mature Fig in the western portion of the site. No threatened flora species were identified during field surveys. An area of ephemeral wetland is present within the eastern portion of the site which is indicative of Freshwater Wetland EEC. A row of planted Callistemons occur along Nursery Road.	<ul style="list-style-type: none"> ▪ Wetland areas surrounding the site provide potential habitat for locally occurring migratory/ wetland birds. ▪ No threatened fauna species were identified during field surveys.
ASF5	<p>The area occurs as mostly cleared pasture land with a number of small stands of Paperbark Forest (EEC). A number of small farm dams and drainage lines occur in low lying parts of the site.</p> <p>An area comprising a residential housing block which includes a number of plantings including garden ornamentals and fruit trees occurs in the north. A row of regrowth Tallowwood and White Mahogany trees occur along the northern boundary fence of the property.</p> <p>Two relatively small areas occur on the western side of the project site which comprise mostly cleared pasture land with areas of Open Forest – Blackbutt.</p>	<ul style="list-style-type: none"> ▪ Row of Moist Open Forest along the northern boundary fence of the residential property represents potential Koala habitat. ▪ Drainage lines and farm dams on the property provide marginal habitat for aquatic fauna. ▪ Small areas of Paperbark forest provide potential roosting/ nesting habitat for locally occurring/ migratory bird species. ▪ Areas of Open Forest – Blackbutt to the west of the alignment provide forested habitats for a range of locally occurring fauna.

(d) Be located on relatively level land.

A number of locations are naturally sloping and may give rise to increased water runoff, erosion impacts, and impact on water quality within receiving catchment areas. To mitigate these potential impacts, ancillary facilities will be subject to an EWMS, which will contain the required

management measures of the Soil and Water Management Plan and incorporate specific requirements for the prevention of erosion and sedimentation control measures.

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

In most cases, the criteria for separation from nearest residences by at least 200m (or at least 300m for a temporary batching plant) have not been achieved. These sites have been assessed and will be managed in accordance with the construction Noise and Vibration Management Plan.

Following the commencement of construction, noise monitoring will be conducted at the nearest affected properties to determine actual noise levels. Where these are found to exceed project NMLs, further mitigation measures will be investigated and employed (where reasonable and feasible).

At Ancillary facilities that may contain the construction batching plants, ASF 1-D and ASF 5-C the following noise mitigating controls will apply where reasonable and feasible:

- Direct noise sources such as vent outlets, generators, etc. will be located and orientated away from the residences
- Stockpiles or noise mounds will be placed along the boundary of the site so as to interrupt a direct line of sight between the primary noise sources and the nearest affected receivers
- Noisy items such as the hoppers and drives will be screened

Dust deposition gauges are also planned in proximity to these two ancillary facilities for monitoring offsite dust impacts within identified dust catchment areas. Further details on the location and monitoring of dust is provided in the construction Air Quality Management Plan.

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

A number of locations are within the 20 ARI flood level. These are, ASF 1-B, ASF 1-C, ASF 2, ASF 4-A and ASF 4-B. To mitigate potential impacts associated with flooding, specific contingency measures to address risks identified in the planning of each facility will be undertaken and incorporated within the EWMS for each facility.

- (g) Not unreasonably affect the land use of adjacent properties.

All ancillary facilities will be subject to the requirements and performance measures of the CEMP and associated sub plans and procedures, which will be integrated within the EWMS to address the potential environmental risks for each site with preventive control measures. Compliance and performance monitoring at each site will ensure potential impacts are managed and corrective improvement actions are taken to address any issues arising.

- (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.

All ancillary facilities have been selected for their attributes to minimise delays to construction and promote efficiencies in site access to key construction activities. This includes designated locations to the north and southern sections of the project area for batching plants and laydown areas with direct access to the construction corridor.

- (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.

A heritage assessment of all ancillary facilities has been undertaken, involving a desktop review of each location and site surveys to identify any archaeological objects, or areas with the potential to contain archaeological objects (PADs). On-site consultation with nominated site officers from the relevant RAPs enabled the development of recommendations for any further assessment (such as sub-surface testing). For historical heritage the aim of the field survey was to survey those areas not previously surveyed as part of previous assessments in order to identify any potential historical heritage items. Further to this, sub-surface testing was undertaken at each of the seven PADs identified during survey to determine the sub-surface nature.

Findings of the heritage assessment of ancillary facilities are provided in Table 4-2 below. Specific requirements for establishing a buffer distance (exclusion zones) to identified PADs has been stipulated for ASF 1-B, ASF 1-C, ASF 5-D and ASF 5-G. For ASF 1-D subsurface testing will be undertaken of Warrell Creek 3 (PAD) prior to undertaking site construction activity.

Table 4-2 Heritage Assessment Findings

Ancillary Area	Desktop / Survey Assessment / Sub-surface testing results	Mitigation Strategy
ASF 1-A	No Aboriginal heritage identified. No historical heritage identified.	No further assessment required.
ASF 1-B	3 PADs identified. 1 previously identified PAD 1 previously identified site Set an exclusion zone at least 20 m to the east and north of Stony Creek 1 (21-6- 0340), WC-U-PAD 22 (PAD) (21-6-0340), Stony Creek 3 (PAD) (Pending), Stony Creek 4 (PAD) (Pending) and Stony Creek 5 (PAD) (Pending) No historical heritage identified.	Exclusion zones must be put in place to ensure damage does not occur to archaeological deposits. The exclusion zones must be placed at a distance of at least 20 m beyond the recorded site extent. This must consist of fencing such as would exclude entry by people or plant not authorised by the WC2NH Environmental Manager, in order to avoid incidental impact to the site (eg high visibility construction webbing).
ASF 1-C	1 PAD identified. Set an exclusion zone at least 20 m to the east of Stony Creek 2 (PAD) (Pending) No historical heritage identified.	Exclusion zones must be put in place to ensure damage does not occur to archaeological deposits. The exclusion zones must be placed at a distance of at least 20 m beyond the recorded site extent. This must consist of fencing such as would exclude entry by people or plant not authorised by the WC2NH Environmental Manager, in order to avoid incidental impact to the site (eg high visibility construction webbing).
ASF 2	Previously identified PAD to be delisted as a constraint. No historical heritage identified.	No further assessment required.
ASF 3	No Aboriginal heritage identified. No historical heritage identified.	No further assessment required.
ASF 4-A	No Aboriginal heritage identified. No historical heritage identified.	No further assessment required.
ASF 4-B	No Aboriginal heritage identified. No historical heritage identified.	No further assessment required.
ASF 5-A	No Aboriginal heritage identified. No historical heritage identified.	No further assessment required.
ASF 5-B	No Aboriginal heritage identified. No historical heritage identified.	No further assessment required.
ASF 5-E	No Aboriginal heritage identified. No historical heritage identified.	No further assessment required.

ASF 5-F	No Aboriginal heritage identified. No historical heritage identified.	No further assessment required.
ASF 5-G	No Aboriginal heritage identified. Old Coast Road Stone Artefact (Reburial) site located near a proposed ancillary area and may be subject to indirect impact resulting from works associated with the proposed area. No historical heritage identified.	Exclusion zones must be put in place to ensure damage does not occur to archaeological deposits. The exclusion zones must be placed at a distance of at least 5 m beyond the recorded site extent. This must consist of fencing such as would exclude entry by people or plant not authorised by the WC2NH Environmental Manager, in order to avoid incidental impact to the site (eg high visibility construction webbing).
ASF 5-H	No Aboriginal heritage identified. No historical heritage identified.	No further assessment required.

Table 4-3 Ancillary facilities assessment criteria

Ancillary facilities requirements (MCoA C27)

Ancillary Facility Ref No.	Location (Chainage) (NB – north bound) (SB – south bound)	Purpose	a) Located more than 50 metres from a waterway	b) Ready access to road network or direct access to construction corridor	c) Located in areas of low ecological significance and require minimal native vegetation clearing	d) Located on relatively level land	e) Separated from nearest residences by at least 200m (or at least 300m for a temporary batching plant)	f) Above the 20 ARI flood level	g) Not unreasonably affect the land use of adjacent properties	h) Sufficient area for raw materials to minimise number of deliveries required outside standard construction hours	i) Located in areas of low heritage conservation significance and not impact on heritage sites beyond those already impacted by the project	Is criteria met (Y/N)?	Additional actions required
ASF 1-A	45150-45330 (SB)	Construction laydown area/Stockpile area	Yes	Yes	Yes	Yes Upper mid slope	No Receiver 57 located within 200m to the southwest	Yes	Yes Within RMS owned land adjacent to upgrade	Yes	Yes	N	<p>Community consultation will be undertaken with the impacted resident to ensure any concerns are raised and factored into the EWMS.</p> <p>The site may be used as a laydown yard or stockpile area with minimal traffic entering and exiting the yard.</p> <p>Predictive noise modelling will be undertaken to determine the impacts and mitigation measures installed where appropriate.</p> <p>Following the commencement of construction, noise monitoring will be conducted at the nearest affected properties to determine actual noise levels. Where these are found to exceed project NMLs, further mitigation measures will be investigated and employed (where reasonable and feasible) in consultation with the affected resident(s)</p>
ASF 1-B	45350-46200 (SB)	Construction laydown area/Stockpile area	No Stony Creek runs through the south and east of the site (a 50m buffer zone will be maintained around Stony Creek and the riparian vegetation to protect this area).	Yes	No Riparian areas of Stony Creek mapped as moist flooded gum open forest. (a 50m buffer zone will be maintained around Stony Creek and the riparian vegetation to protect this area).	Yes Slope of 5% Sloping from north to south towards stream	No There are a number of receivers within 200m (a 200m buffer zone will be maintained from residents).	No Southern portion of the site within level around Stony Creek (a 50m buffer zone will be maintained around Stony Creek and the riparian vegetation to protect	Yes Within RMS owned land adjacent to upgrade	Yes	No PADs on site: Stony Creek 1 (21-6-0340), WC-U-PAD 22 (PAD) (21-6-0340), Stony Creek 3 (PAD) (Pending), Stony Creek 4 (PAD) (Pending), and Stony Creek 5 (PAD) (Pending) (a 50m buffer zone will be maintained around Stony Creek and the riparian vegetation to protect this area, this will protect the heritage areas also).	N	<p>A 50m exclusion zone will be provided around Stony Creek and the Riparian vegetation. A 20m buffer will be provided around all PAD and archaeological deposit sites. Optimise location of laydown area to minimise noise to adjacent sensitive receivers. A 200m buffer zone will be provided to the nearest resident.</p> <p>Community consultation will be undertaken with the impacted resident to ensure any concerns are raised and factored into the EWMS.</p> <p>Stockpiling within site will act as noise barrier. Following the commencement of construction, noise monitoring will be conducted at the nearest affected properties to determine actual noise levels. Where these are found to exceed project NMLs, further mitigation measures will be investigated and employed (where reasonable and feasible) in consultation with the affected resident(s)</p> <p>Dust control measures will be implemented and monitoring will be undertaken.</p>

Ancillary Facility Ref No.	Location (Chainage) (NB – north bound) (SB – south bound)	Purpose	a) Located more than 50 metres from a waterway	b) Ready access to road network or direct access to construction corridor	c) Located in areas of low ecological significance and require minimal native vegetation clearing	d) Located on relatively level land	e) Separated from nearest residences by at least 200m (or at least 300m for a temporary batching plant)	f) Above the 20 ARI flood level	g) Not unreasonably affect the land use of adjacent properties	h) Sufficient area for raw materials to minimise number of deliveries required outside standard construction hours	i) Located in areas of low heritage conservation significance and not impact on heritage sites beyond those already impacted by the project	Is criteria met (Y/N)?	Additional actions required
								this area, this will ensure there is no work within the 1 in 20yr flood zone)					Site subject to erosion and sedimentation control plan in accordance with SWMP.
ASF 1-C	45350-46000 (NB)	Construction laydown area	No Stony Creek runs through centre of site (a 50m buffer zone will be maintained around Stony Creek and the riparian vegetation to protect this area).	Yes	Yes Majority of area has been cleared	Yes 4% Sloping towards stream	No Receiver 77 on site. 83 and 89 to west of boundary within 200m. (a 200m buffer zone will be maintained from residents).	No Site within level around Stony Creek (a buffer zone will be provided around the 1 in 20yr flood zone)	Yes Within RMS owned land adjacent to upgrade	Yes	No Stony Creek 2 (PAD) on site. (A 20m buffer zone will be provided around the PAD site)	N	A 20m exclusion zone will be provided around the PAD site to prevent access. A 200m buffer zone will be provided from the nearest resident. A 50m exclusion zone will be provided from Stony Creek which will ensure the works are outside of the 1 in 20yr ARI flood zone.
ASF 1-E	46000-46450 (NB)	Potential laydown area (future use)											Site to be reviewed and assessed against MCoA C27 if required.
ASF 1-F	46000-46400 (NB)	Potential laydown area (future use)											Site to be reviewed and assessed against MCoA C27 if required.
ASF 2	48550-48650 (SB)	Bridge beam storage and associated construction storage/ laydown area	No Warrell Creek	Yes	Yes Land rising up from Warrell Creek riparian zone and floodplain and comprises dense Lantana, regrowth Acacia and occasional eucalypt saplings. No areas of native vegetation or mature trees occur on the site.	No 22% Sloping to stream bank	No Receiver 141 located 130m to the north	No	Yes Within RMS owned land adjacent to upgrade	Yes	Yes WC-U-PAD 33 to be registered as "no longer a PAD"	N	It is unlikely that this site will be used due to the slope. If the site is used, an Erosion and Sediment Control plan will be prepared by the Project Soil Conservationist prior to commencement. Community consultation will be undertaken with the impacted resident to ensure any concerns are raised and factored into the EWMS.
ASF 3	49340-49450 (NB)	Bridge beam storage and associated construction storage/ laydown area	Yes	Yes	Yes Predominantly cleared pasture land with occasional paddock trees.	No (undulating land that ranges from 13% to <10%)	Yes	Yes	Yes	Yes	Yes	N	Sections of the site that are above 10% grade will not be used for an Ancillary Site Facility. No further actions required as site complies with MCoA C27

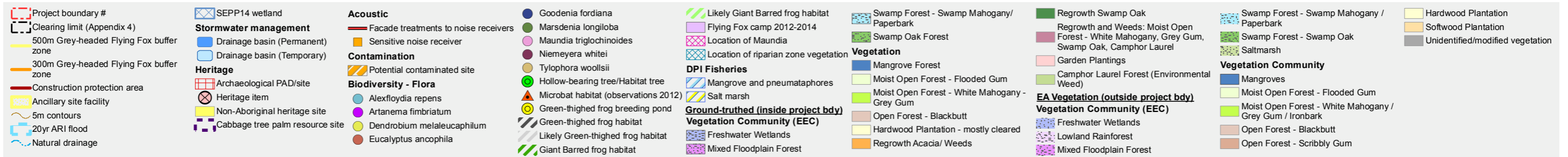
Ancillary Facility Ref No.	Location (Chainage) (NB – north bound) (SB – south bound)	Purpose	a) Located more than 50 metres from a waterway	b) Ready access to road network or direct access to construction corridor	c) Located in areas of low ecological significance and require minimal native vegetation clearing	d) Located on relatively level land	e) Separated from nearest residences by at least 200m (or at least 300m for a temporary batching plant)	f) Above the 20 ARI flood level	g) Not unreasonably affect the land use of adjacent properties	h) Sufficient area for raw materials to minimise number of deliveries required outside standard construction hours	i) Located in areas of low heritage conservation significance and not impact on heritage sites beyond those already impacted by the project	Is criteria met (Y/N)?	Additional actions required
ASF 4-A	52400-52740 (NB)	Bridge beam storage and associated construction storage/ laydown area	No Newee Creek (a 50m buffer zone will be maintained from Newee Creek)	Yes	No Comprises predominantly cleared pasture land dominated by Kikuyu Grass with occasional mature Paperbark paddock trees and a mature Fig on site. An area of the site also contains Freshwater Wetland EEC. (An exclusion zone will be provided around the EEC to prevent access).	Yes (<1%)	Yes	No (a 50m buffer zone will be maintained from Newee Creek which will ensure the works stay outside of the 1 in 20yr ARI)	Yes	Yes	Yes	N	A 50m exclusion zone will be provided from Newee Creek. An exclusion zone will also be provided around the Freshwater Wetland EEC. An Erosion and Sediment Control plan will be prepared by the Project Soil Conservationist prior to commencement.
ASF 4-B	52500-52900 (SB)	Bridge beam storage and associated construction storage/ laydown area	Yes	Yes	Yes Comprises predominantly cleared pasture land dominated by Kikuyu Grass with occasional mature Paperbark paddock trees. An area of the site also contains Freshwater Wetland EEC. (An exclusion zone will be provided around the EEC to prevent access).	Yes (<1%)	Yes	No (an exclusion zone will be provided around the Freshwater Wetland EEC which will prevent access into the 1 in 20yr flood zone)	Yes	Yes	Yes	N	An exclusion zone will also be provided around the Freshwater Wetland EEC. An Erosion and Sediment Control plan will be prepared by the Project Soil Conservationist prior to commencement.
ASF 4-C	52750-53000 (NB)	Potential ancillary facility (laydown area)											Site to be considered for future requirements for construction
ASF 5-A	53100-53250 (SB)	Laydown and stockpiling	Yes	Yes	Yes	Yes (8%)	No Receivers within 200m of site (666,701, 711, and 775)	Yes	Yes	Yes	Yes	N	This site may be used to stockpile material and place a noise/visual mound for adjacent residents. This will provide a long term outcome to minimise operational noise from the new highway alignment. Site subject to erosion and sedimentation control plan in accordance with SWMP.
ASF 5-B	53300-53400 (SB)	Laydown and stockpiling	Yes	Yes	Yes	Yes (8-<5%)	No Receivers within 200m of site (666,701, 711, 729, 775 and 780)	Yes	Yes	Yes	Yes	N	This site may be used to stockpile material and place a noise/visual mound for adjacent residents. This will provide a long term outcome to minimise operational noise from the new highway alignment.

Ancillary Facility Ref No.	Location (Chainage) (NB – north bound) (SB – south bound)	Purpose	a) Located more than 50 metres from a waterway	b) Ready access to road network or direct access to construction corridor	c) Located in areas of low ecological significance and require minimal native vegetation clearing	d) Located on relatively level land	e) Separated from nearest residences by at least 200m (or at least 300m for a temporary batching plant)	f) Above the 20 ARI flood level	g) Not unreasonably affect the land use of adjacent properties	h) Sufficient area for raw materials to minimise number of deliveries required outside standard construction hours	i) Located in areas of low heritage conservation significance and not impact on heritage sites beyond those already impacted by the project	Is criteria met (Y/N)?	Additional actions required
													Site subject to erosion and sedimentation control plan in accordance with SWMP.
ASF 5-E	54300-54500 (SB)	Ancillary facility (laydown)	Yes	Yes	Yes	Yes (8-<5%)	No Receivers within 200m to the north east, east and west (808, 809, 810, 812, 813, 815)	Yes	Yes Within RMS owned land adjacent to upgrade	No Drainage line runs through the middle of site	Yes	N	This site may be used to stockpile material and place a noise/visual mound for adjacent residents. This will provide a long term outcome to minimise operational noise from the new highway alignment. Site subject to erosion and sedimentation control plan in accordance with SWMP.
ASF 5-F	54520-54600 (SB)	Ancillary facility (laydown)	Yes	Yes	Yes	Yes (8-<5%)	No Receivers within 200m to the north east, east and west (808, 809, 810, 812, 813, 815)	Yes	Yes	Yes	Yes	N	This site may be used to stockpile material and place a noise/visual mound for adjacent residents. This will provide a long term outcome to minimise operational noise from the new highway alignment. Site subject to erosion and sedimentation control plan in accordance with SWMP.
ASF 5-G	54150-54280 (NB)	Ancillary facility (laydown)	Yes	Yes	Yes	Yes (8-<5%)	No Receiver 801 and 806 located within 200m west of site	Yes	Yes	Yes	Yes Old Coast Road Stone Artefact (Reburial) adjacent to site.	N	This site may be used to stockpile material and place a noise/visual mound for adjacent residents. This will provide a long term outcome to minimise operational noise from the new highway alignment. Site subject to erosion and sedimentation control plan in accordance with SWMP.
ASF 5-H	54300-54500 (NB)	Ancillary facility (laydown)	Yes	Yes	Yes	Yes (8-<5%)	No Receiver 806 located within 200m west of site. (Receiver 812 on site)	Yes	Yes	Yes	Yes	N	This site may be used to stockpile material and place a noise/visual mound for adjacent residents. This will provide a long term outcome to minimise operational noise from the new highway alignment. Site subject to erosion and sedimentation control plan in accordance with SWMP.

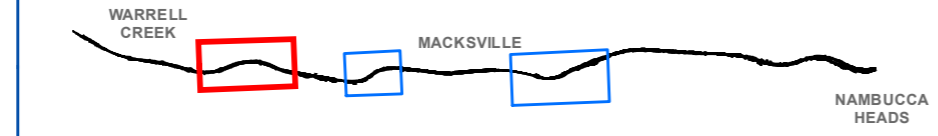
Figures 1-3



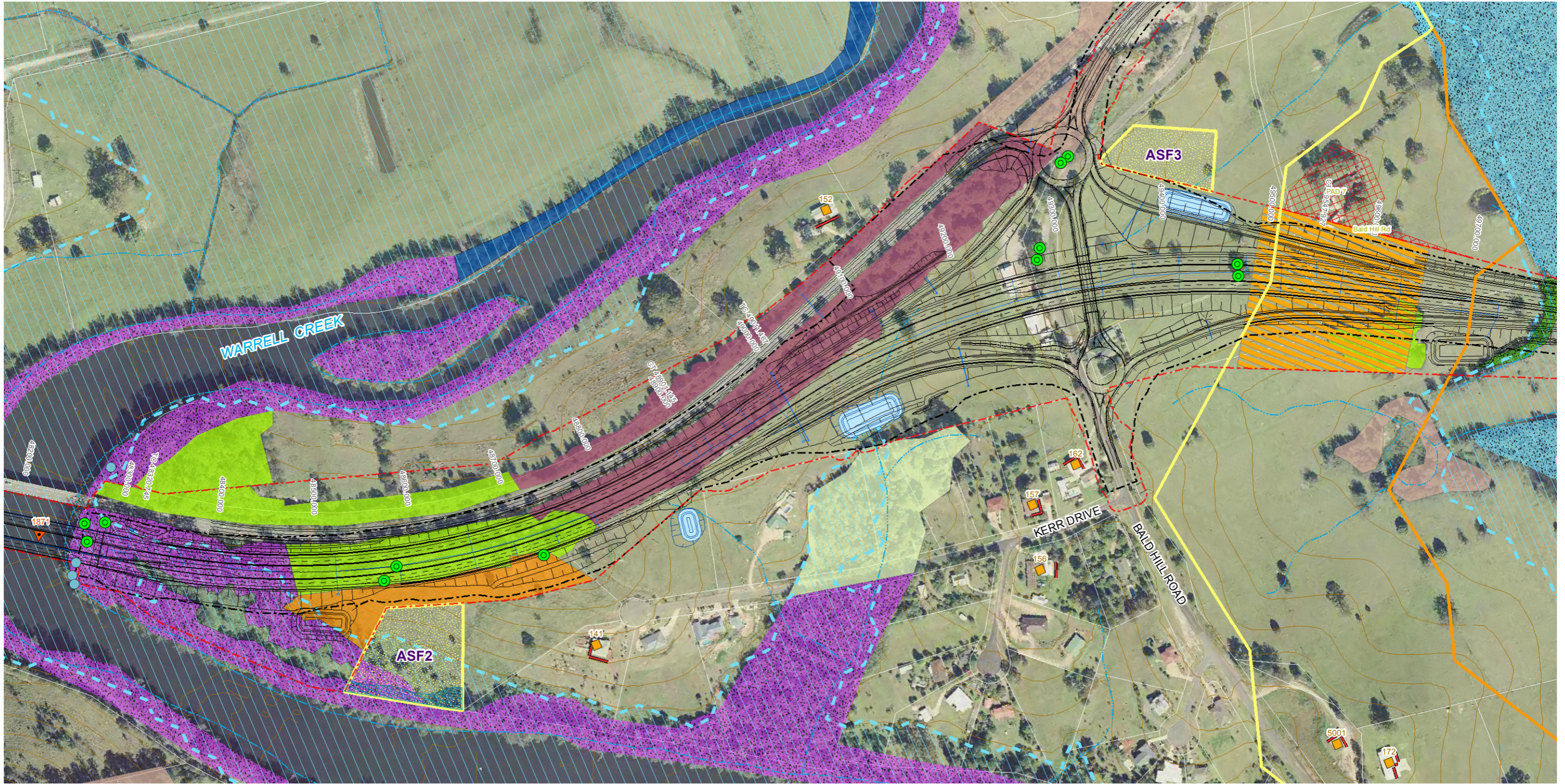
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denotes: Project boundary based on WC2NH_ApprovedProjectBoundaryandEPL_PremiseBoundary.shp received 21/11/2014, includes ASF1-D



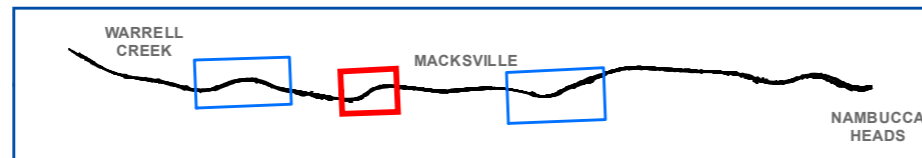
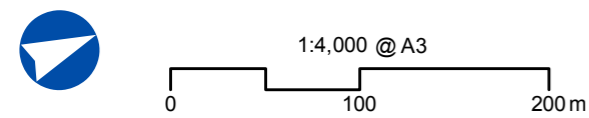
Note: Ground-truthed vegetation has been shown within the project boundary and in proposed areas of ancillary site facilities
Projection: GDA 1994 MGA Zone 56
Source: RMS, AFJV, AADJV



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<ul style="list-style-type: none"> Project boundary # Clearing limit (Appendix 4) 500m Grey-headed Flying Fox buffer zone 300m Grey-headed Flying Fox buffer zone Construction protection area Ancillary site facility 5m contours 20yr ARI flood Natural drainage 	<ul style="list-style-type: none"> SEPP14 wetland Stormwater management Drainage basin (Permanent) Drainage basin (Temporary) Heritage Archaeological PAD/site Heritage item Non-Aboriginal heritage site Cabbage tree palm resource site 	<ul style="list-style-type: none"> Acoustic Facade treatments to noise receivers Sensitive noise receiver Contamination Potential contaminated site Biodiversity - Flora Alexfloydia repens Artanema fimbriatum Dendrobium melaleucaphilum Eucalyptus ancophila Goodenia fordiana Marsdenia longiloba Maundia triglochinosides Niemeyera whitei Tylophora woollsii Hollow-bearing tree/Habitat tree Microbat habitat (observations 2012) Green-thighed frog breeding pond Green-thighed frog habitat Likely Green-thighed frog habitat Giant Barred frog habitat 	<ul style="list-style-type: none"> Likely Giant Barred frog habitat Flying Fox camp 2012-2014 Location of Maundia Location of riparian zone vegetation DPI Fisheries Mangrove and pneumatophores Salt marsh Ground-truthed (inside project bdy) Vegetation Community (EEC) Freshwater Wetlands Mixed Floodplain Forest Swamp Forest - Swamp Mahogany/Paperbark Swamp Oak Forest Vegetation Mangrove Forest Moist Open Forest - Flooded Gum Moist Open Forest - White Mahogany - Grey Gum Open Forest - Blackbutt Hardwood Plantation - mostly cleared Regrowth Acacia/ Weeds Regrowth Swamp Oak Regrowth and Weeds: Moist Open Forest - White Mahogany, Grey Gum, Swamp Oak, Camphor Laurel Garden Plantings Camphor Laurel Forest (Environmental Weed) EA Vegetation (outside project bdy) Vegetation Community (EEC) Freshwater Wetlands Lowland Rainforest Mixed Floodplain Forest 	<ul style="list-style-type: none"> Swamp Forest - Swamp Mahogany / Paperbark Swamp Forest - Swamp Oak Saltmarsh Vegetation Community Mangroves Moist Open Forest - Flooded Gum Moist Open Forest - White Mahogany / Grey Gum / Ironbark Open Forest - Blackbutt Open Forest - Scribbly Gum Hardwood Plantation Softwood Plantation Unidentified/modified vegetation
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denotes: Project boundary based on WC2NH_ApprovedProjectBoundaryandEPL_PremiseBoundary.shp received 21/11/2014, includes ASF1-D

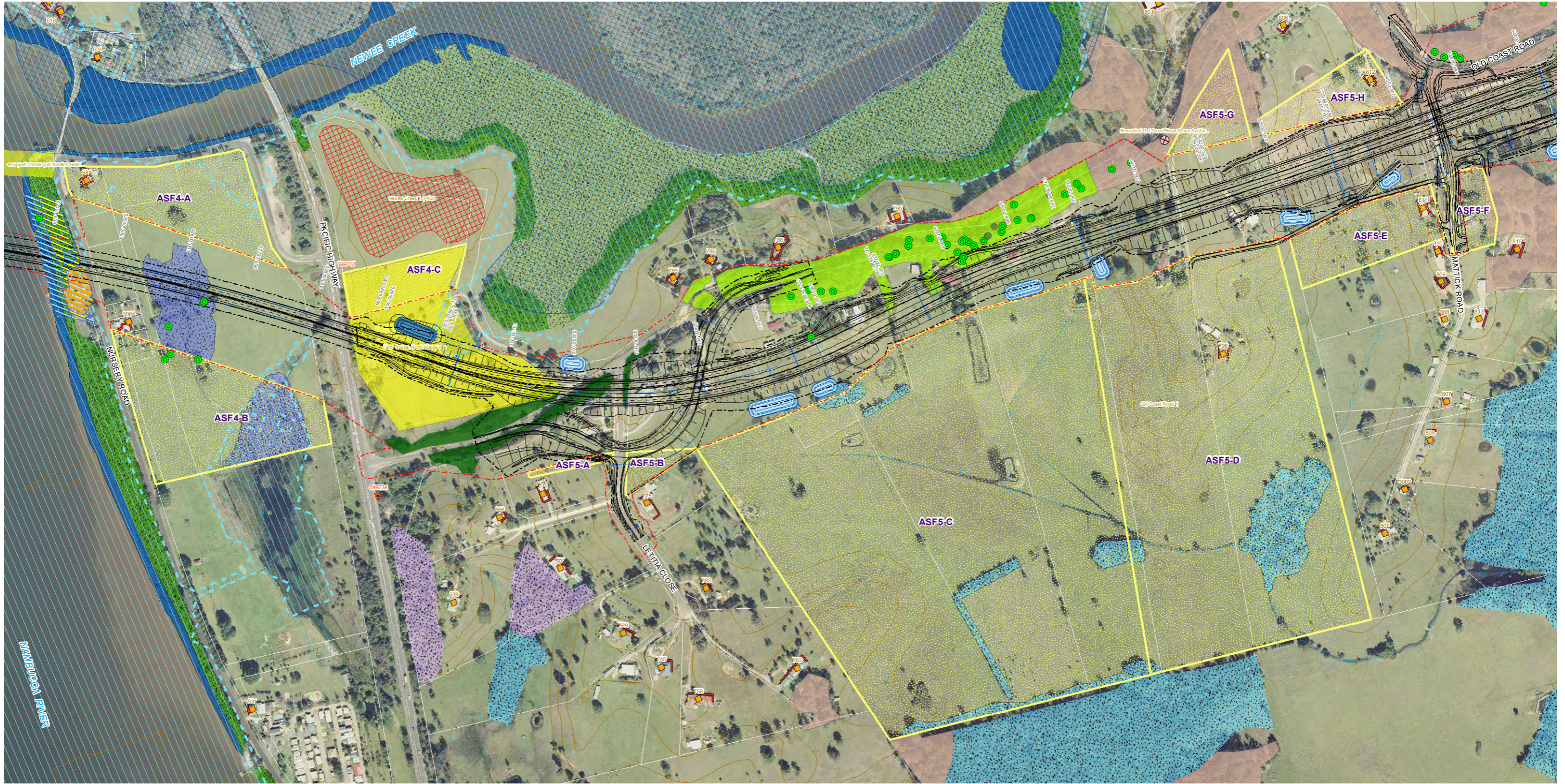


Note: Ground-truthed vegetation has been shown within the project boundary and in proposed areas of ancillary site facilities

Projection: GDA 1994 MGA Zone 56
Source: RMS, AFJV, AADJV

PACIFIC HIGHWAY UPGRADE WC2NH CEMP

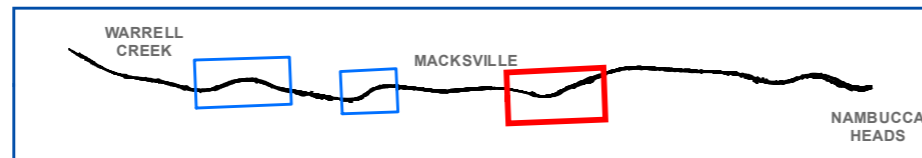
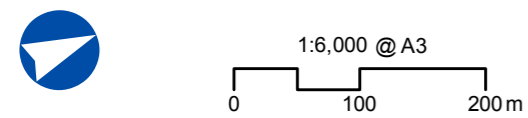
FIGURE: Ancillary Site Facility Plans (Map 2 of 3)



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<ul style="list-style-type: none"> Project boundary # Clearing limit (Appendix 4) 500m Grey-headed Flying Fox buffer zone 300m Grey-headed Flying Fox buffer zone Construction protection area Ancillary site facility 5m contours 20yr ARI flood Natural drainage 	<ul style="list-style-type: none"> SEPP14 wetland Stormwater management Drainage basin (Permanent) Drainage basin (Temporary) Heritage Archaeological PAD/site Heritage item Non-Aboriginal heritage site Cabbage tree palm resource site 	<ul style="list-style-type: none"> Acoustic Facade treatments to noise receivers Sensitive noise receiver Contamination Potential contaminated site Biodiversity - Flora Alexfloydia repens Artanema fimbriatum Dendrobium melaleucaphilium Eucalyptus ancophila Goodenia fordiana Marsdenia longiloba Maundia triglochinosides Niemeyera whitei Tylophora woollsii Hollow-bearing tree/Habitat tree Microbat habitat (observations 2012) Green-thighed frog breeding pond Green-thighed frog habitat Likely Green-thighed frog habitat Giant Barred frog habitat 	<ul style="list-style-type: none"> Likely Giant Barred frog habitat Flying Fox camp 2012-2014 Location of Maundia Location of riparian zone vegetation DPI Fisheries Mangrove and pneumatophores Salt marsh Ground-truthed (inside project bdy) Vegetation Community (EEC) Freshwater Wetlands Mixed Floodplain Forest 	<ul style="list-style-type: none"> Swamp Forest - Swamp Mahogany / Paperbark Swamp Oak Forest Vegetation Mangrove Forest Moist Open Forest - Flooded Gum Moist Open Forest - White Mahogany - Grey Gum Open Forest - Blackbutt Hardwood Plantation - mostly cleared Regrowth Acacia/ Weeds 	<ul style="list-style-type: none"> Regrowth Swamp Oak Regrowth and Weeds: Moist Open Forest - White Mahogany, Grey Gum, Swamp Oak, Camphor Laurel Garden Plantings Camphor Laurel Forest (Environmental Weed) EA Vegetation (outside project bdy) Vegetation Community (EEC) Freshwater Wetlands Lowland Rainforest Mixed Floodplain Forest 	<ul style="list-style-type: none"> Swamp Forest - Swamp Mahogany / Paperbark Swamp Forest - Swamp Oak Saltmarsh Vegetation Community Mangroves Moist Open Forest - Flooded Gum Moist Open Forest - White Mahogany / Grey Gum / Ironbark Open Forest - Blackbutt Open Forest - Scribbly Gum Hardwood Plantation Softwood Plantation Unidentified/modified vegetation
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denotes: Project boundary based on WC2NH_ApprovedProjectBoundaryandEPL_PremiseBoundary.shp received 21/11/2014, includes ASF1-D



Note: Ground-truthed vegetation has been shown within the project boundary and in proposed areas of ancillary site facilities

Projection: GDA 1994 MGA Zone 56
Source: RMS, AFJV, AADJV

PACIFIC HIGHWAY UPGRADE WC2NH CEMP

FIGURE: Ancillary Site Facility Plans (Map 3 of 3)

Appendix A5

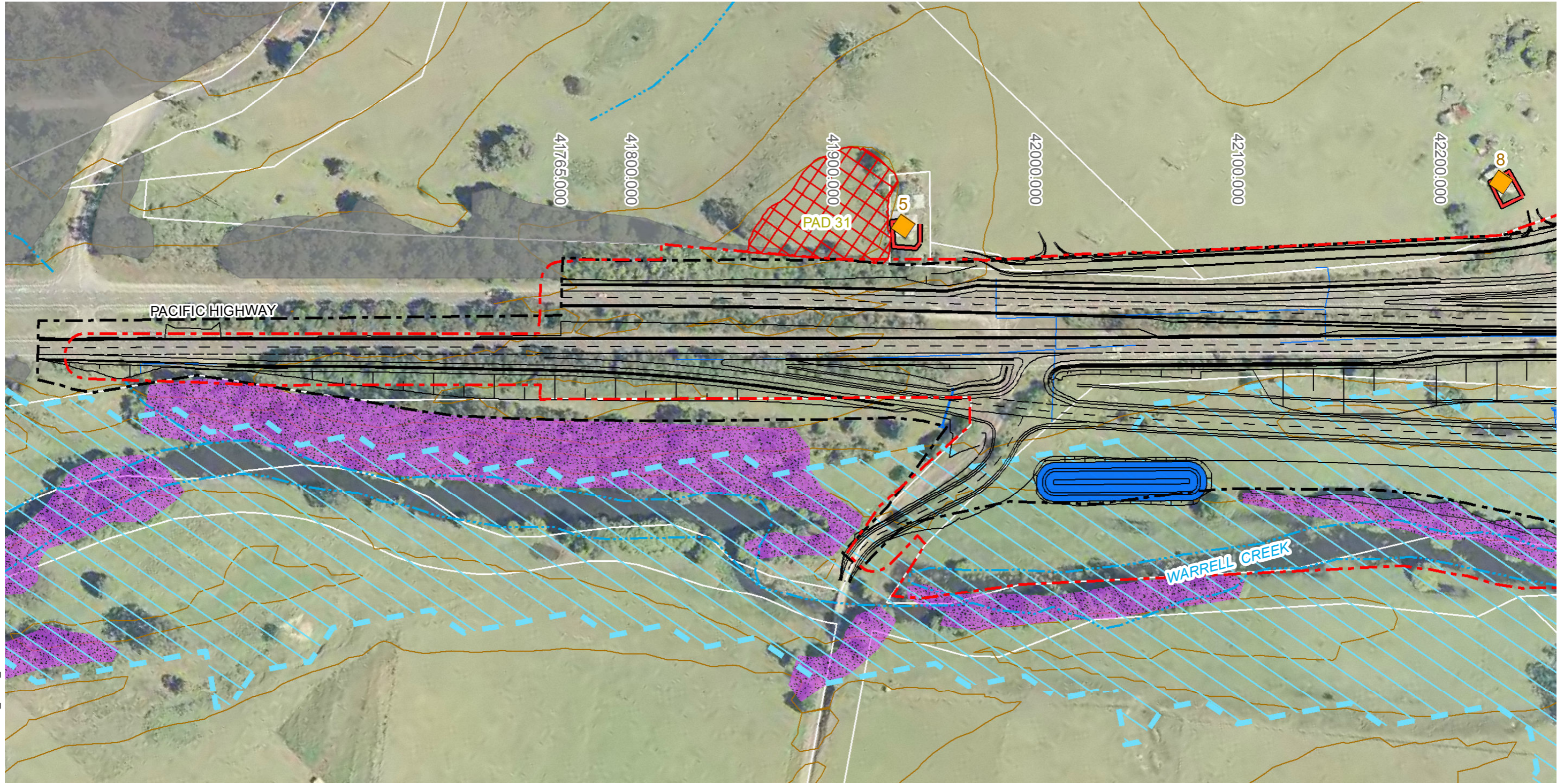
Document register

Table 1 Environmental document register

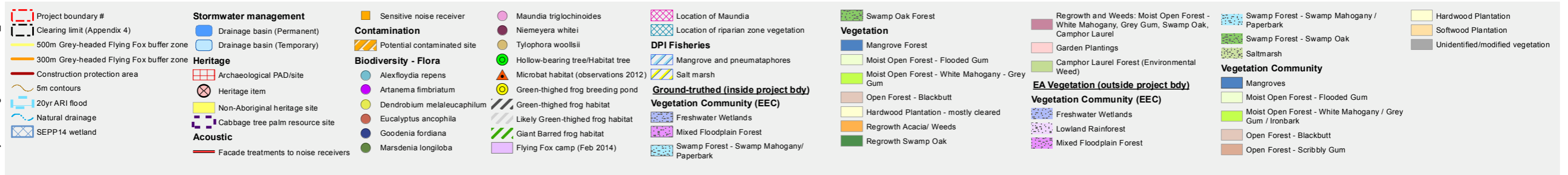
Environmental management document	Purpose	Document no.	Document title	Approval requirement
Environmental Policy	Policy	<i>WC2NH-EN-MPL_A3-0001</i>	Environmental Policy	AFJV Project Director
Construction environmental management plan	Policy Legal and other requirements Risk assessment Objectives and targets Roles and responsibilities Communication and training Monitoring, auditing and reporting Corrective action Management review Management actions	<i>WC2NH-EN-MPL</i>	Warrell Creek to Nambucca Heads Construction Environmental Management Plan	Secretary, DP&E
Environmental management sub plans	Objectives and targets	<i>WC2NH-TF-MPL</i>	Construction traffic management sub plan	Secretary, DP&E
	Roles and responsibilities	<i>WC2NH-EN-FF-MPL</i>	Construction flora and fauna management sub plan	Secretary, DP&E
	Legal and other requirements	<i>WC2NH-EN-NV-MPL</i>	Construction noise and vibration management sub plan	Secretary, DP&E
	Training	<i>WC2NH-EN-SW-MPL</i>	Construction Soil and Water y management sub plan	Secretary, DP&E
	Monitoring, auditing and reporting	<i>WC2NH-EN-HE-MPL</i>	Construction heritage management sub plan	Secretary, DP&E
Management actions				

Environmental management document	Purpose	Document no.	Document title	Approval requirement
		<i>WC2NH-EN-AQ-MPL</i>	Construction air quality management sub plan	RMS
		<i>WC2NH-EN-WE-MPL</i>	Construction waste and energy management sub plan	RMS
Urban design and landscape management	Objectives Materials Methodology	<i>WC2NH-DD00-UD01-RPT-0001</i>	Urban design and landscape management	Secretary, DP&E
Compliance tracking program	Compliance status Auditing Recording and reporting	<i>WC2NH-EN-CP-MPL</i>	Compliance tracking program	Secretary, DP&E
Environmental procedures	Operational controls and instructions	<i>WC2NH-EN-PRO-0001</i>	Soil and Water Management Plan Appendix B: Spoil and Fill Management Procedure	Construction Manager
		<i>WC2NH-EN-PRO-0002</i>	Soil and Water Management Plan Appendix C: Acid Sulfate Materials Management Procedure	Construction Manager
		<i>WC2NH-EN-PRO-0006</i>	Soil and Water Management Plan Appendix I: Stockpile Management Protocol	Construction Manager
		<i>WC2NH-EN-PRO-0007</i>	Early Works Approval Procedure	Construction Manager
		<i>WC2NH-EN-PRO-0004</i>	Noise and Vibration Management Plan Appendix C: Out of Hours Works Procedure	Construction Manager
		<i>WC2NH-EN-PRO-0003</i>	Noise and Vibration Management Plan Appendix B: Blast Management Program	Construction Manager
		<i>WC2NH-EN-SW-PRO-0005</i>	Sediment basin management and dewatering procedure	Construction Manager
Environmental forms and	Monitoring and auditing	<i>WC2NH-EN-FOR-0009</i>	Early Works Permit	Construction Manager

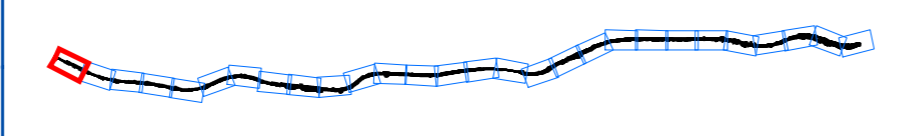
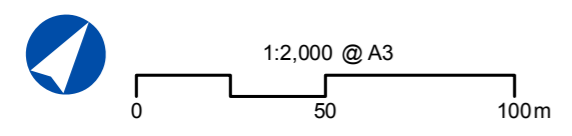
Environmental management document	Purpose	Document no.	Document title	Approval requirement
checklists	Recording and reporting	<i>WC2NH-EN-SW-FOR-0001</i>	Water Release Approval Form - to Waters	Construction Manager
		<i>WC2NH-EN-SW-FOR-0002</i>	Water Release Approval Form - Land Irrigation	Construction Manager
		<i>WC2NH-EN-SW-FOR-0003</i>	Sediment Basin Management and Discharge Sheet Rev A	Construction Manager
		<i>WC2NH-EN-FOR-0004</i>	Weekly Environmental Inspection Checklist	Construction Manager
Environmental work method statements	Management measures	<i>WC2NH-EN-EWS-0003-0</i>	Environmental Work Method Statement - Site Survey Activities	Construction Manager
	Operational controls	<i>WC2NH-EN-EWS-0001-0</i>	Environmental Work Method Statement - Early Works Geotechnical Investigations (Land Based)	Construction Manager
		<i>WC2NH-EN-EWS-0002-0</i>	Environmental Work Method Statement - Early Works Geotechnical Investigations (Water Based)	Construction Manager
		<i>WC2NH-EN-EWS-0004-A</i>	Environmental Work Method Statement - Slashing and Pest Management	Construction Manager
		<i>WC2NH-EN-EWS-0005-A</i>	Environmental Work Method Statement - Utilities location and potholing	Construction Manager
		<i>WC2NH-EN-EWS-0006-A</i>	Environmental Work Method Statement - Demolition	Construction Manager
		<i>WC2NH-EN-EWS-0007-A</i>	Environmental Work Method Statement – Sediment Basin Design, Construction and Management	Construction Manager
		<i>WC2NH-EN-EWS-0008-A</i>	Environmental Work Method Statement – Site Compound Establishment	Construction Manager



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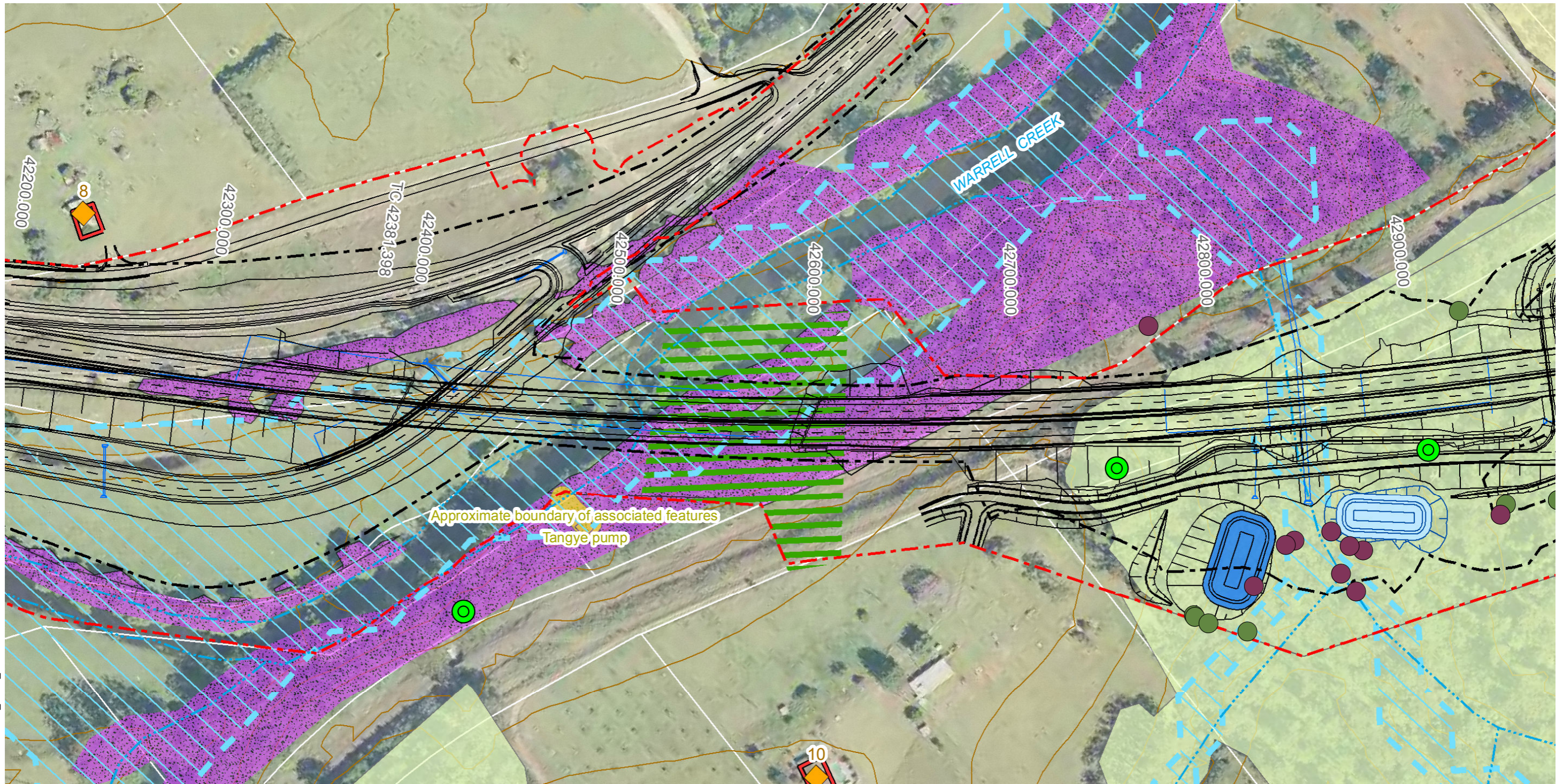
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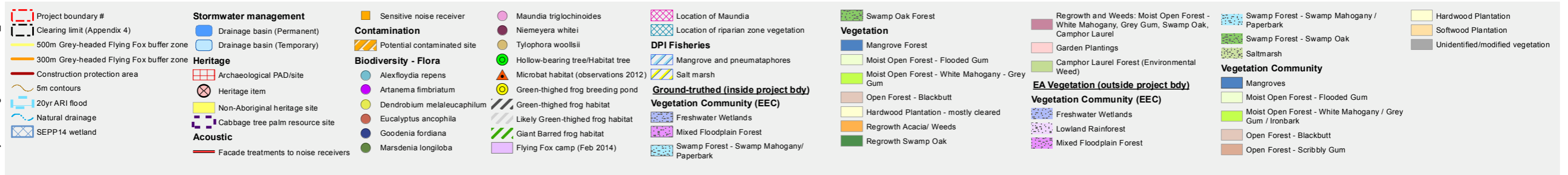
Note: Ground-truthed vegetation has been shown within the project boundary and in proposed areas of ancillary site facilities

Projection: GDA 1994 MGA Zone 56
Source: RMS, AFJV, AADJV

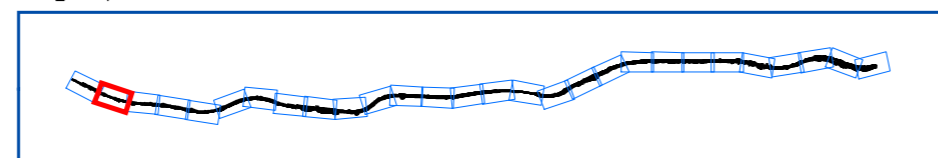
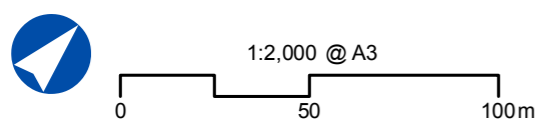
PACIFIC HIGHWAY UPGRADE WC2NH CEMP
FIGURE: Sensitive Area Plans (Map 1 of 28)



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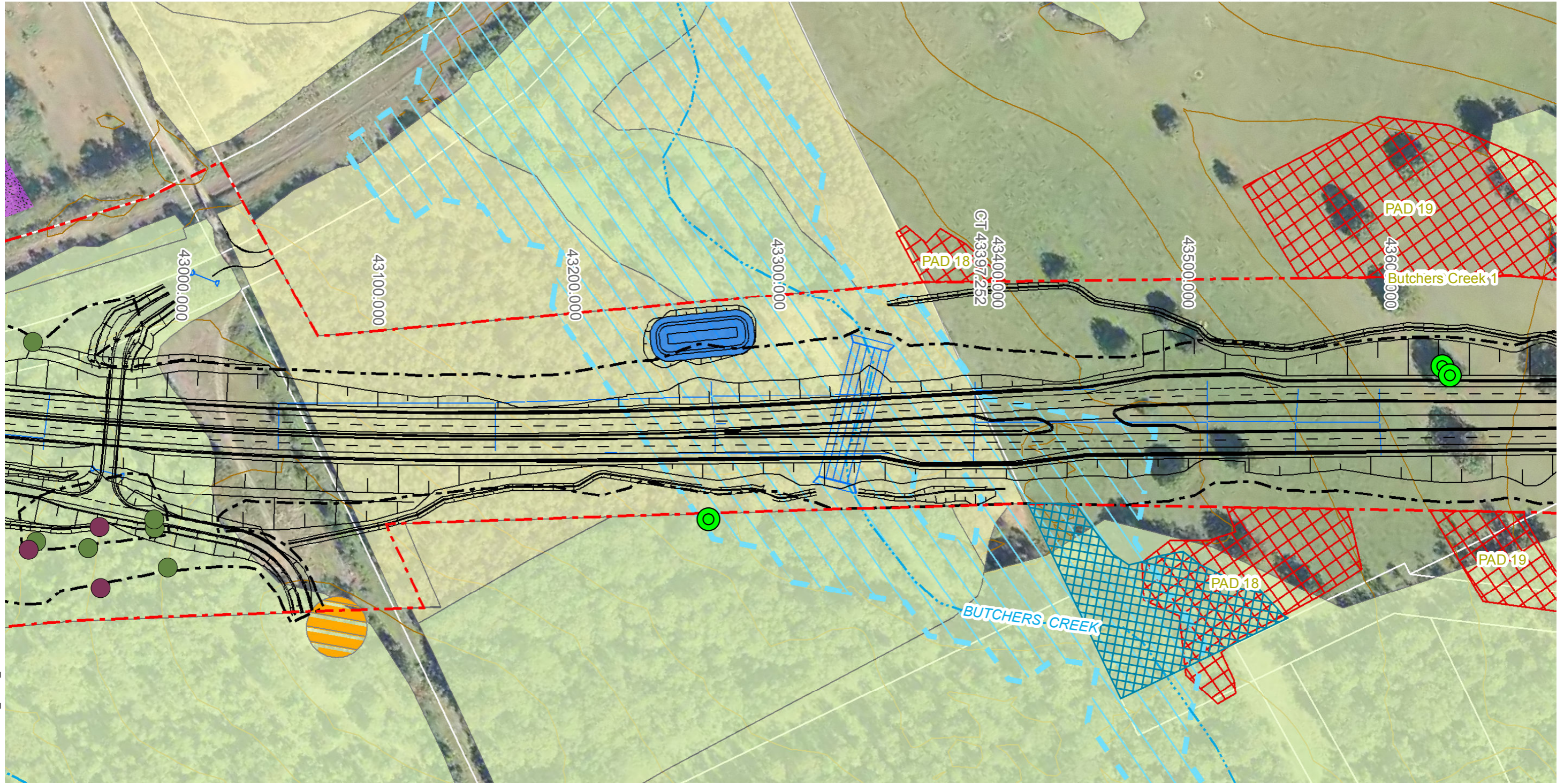
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Note: Ground-truthed vegetation has been shown within the project boundary and in proposed areas of ancillary site facilities

Projection: GDA 1994 MGA Zone 56
Source: RMS, AFJV, AADJV

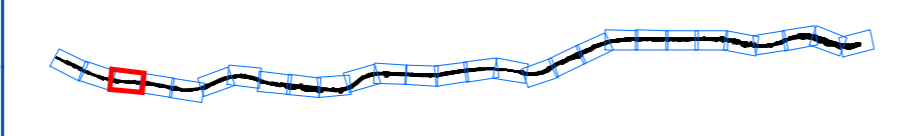
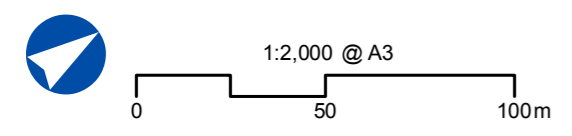
PACIFIC HIGHWAY UPGRADE WC2NH CEMP
FIGURE: Sensitive Area Plans (Map 2 of 28)



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<ul style="list-style-type: none"> Project boundary # Clearing limit (Appendix 4) 500m Grey-headed Flying Fox buffer zone 300m Grey-headed Flying Fox buffer zone Construction protection area 5m contours 20yr ARI flood Natural drainage SEPP14 wetland 	<p>Stormwater management</p> <ul style="list-style-type: none"> Drainage basin (Permanent) Drainage basin (Temporary) <p>Heritage</p> <ul style="list-style-type: none"> Archaeological PAD/site Heritage item Non-Aboriginal heritage site Cabbage tree palm resource site <p>Acoustic</p> <ul style="list-style-type: none"> Facade treatments to noise receivers 	<ul style="list-style-type: none"> Sensitive noise receiver <p>Contamination</p> <ul style="list-style-type: none"> Potential contaminated site <p>Biodiversity - Flora</p> <ul style="list-style-type: none"> Alexfloydia repens Artanema fimbriatum Dendrobium melaleucaphilium Eucalyptus ancophila Goodenia fordiana Marsdenia longiloba 	<ul style="list-style-type: none"> Maundia triglochinosides Niemeyera whitei Tylophora woollsii Hollow-bearing tree/Habitat tree Microbat habitat (observations 2012) Green-thighed frog breeding pond Green-thighed frog habitat Likely Green-thighed frog habitat Giant Barred frog habitat Flying Fox camp (Feb 2014) 	<ul style="list-style-type: none"> Location of Maundia Location of riparian zone vegetation <p>DPI Fisheries</p> <ul style="list-style-type: none"> Mangrove and pneumatophores Salt marsh <p>Ground-truthed (inside project bdy) Vegetation Community (EEC)</p> <ul style="list-style-type: none"> Freshwater Wetlands Mixed Floodplain Forest Swamp Forest - Swamp Mahogany/ Paperbark 	<ul style="list-style-type: none"> Swamp Oak Forest <p>Vegetation</p> <ul style="list-style-type: none"> Mangrove Forest Moist Open Forest - Flooded Gum Moist Open Forest - White Mahogany - Grey Gum Open Forest - Blackbutt Hardwood Plantation - mostly cleared Regrowth Acacia/ Weeds Regrowth Swamp Oak 	<ul style="list-style-type: none"> Regrowth and Weeds: Moist Open Forest - White Mahogany, Grey Gum, Swamp Oak, Camphor Laurel Garden Plantings Camphor Laurel Forest (Environmental Weed) <p>EA Vegetation (outside project bdy) Vegetation Community (EEC)</p> <ul style="list-style-type: none"> Freshwater Wetlands Lowland Rainforest Mixed Floodplain Forest 	<ul style="list-style-type: none"> Swamp Forest - Swamp Mahogany / Paperbark Swamp Forest - Swamp Oak Saltmarsh <p>Vegetation Community</p> <ul style="list-style-type: none"> Mangroves Moist Open Forest - Flooded Gum Moist Open Forest - White Mahogany / Grey Gum / Ironbark Open Forest - Blackbutt Open Forest - Scribbly Gum 	<ul style="list-style-type: none"> Hardwood Plantation Softwood Plantation Unidentified/modified vegetation
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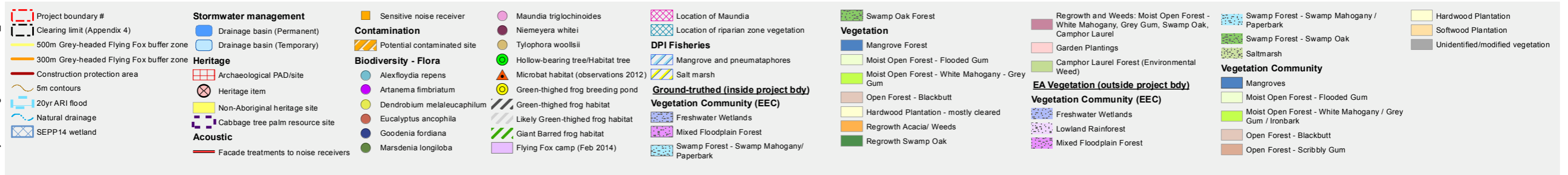


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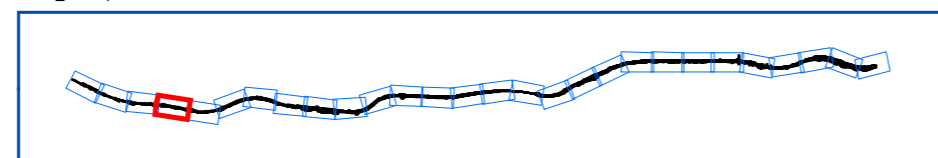
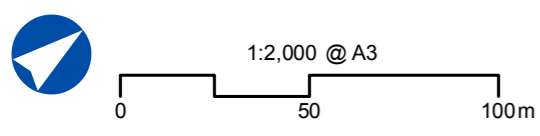
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Source: RMS, AFJV, AADJV



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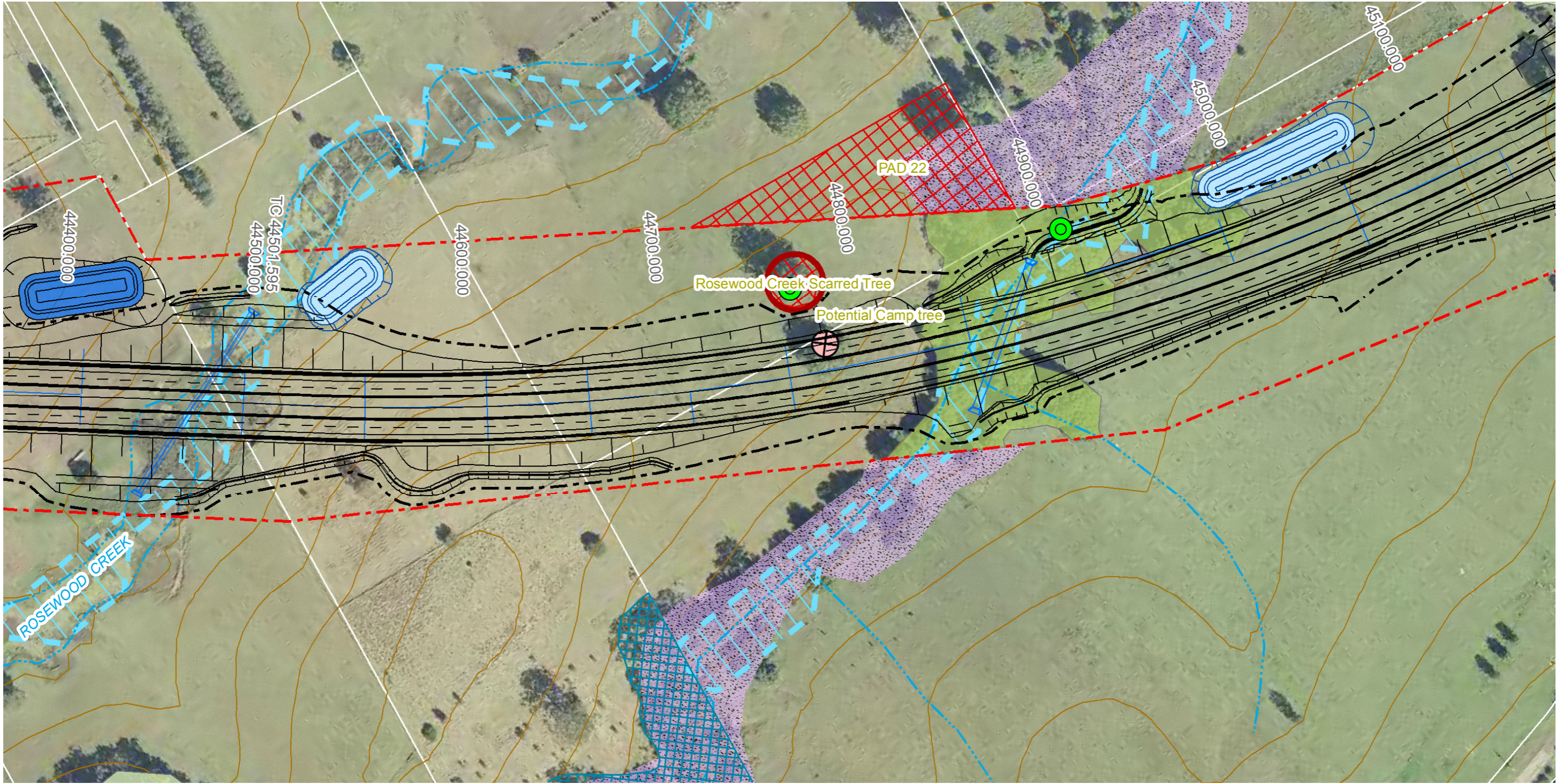


denotes: Project boundary based on WC2NH_Approved_Project_Boundary_20141202_V2.shp received 02/12/2014

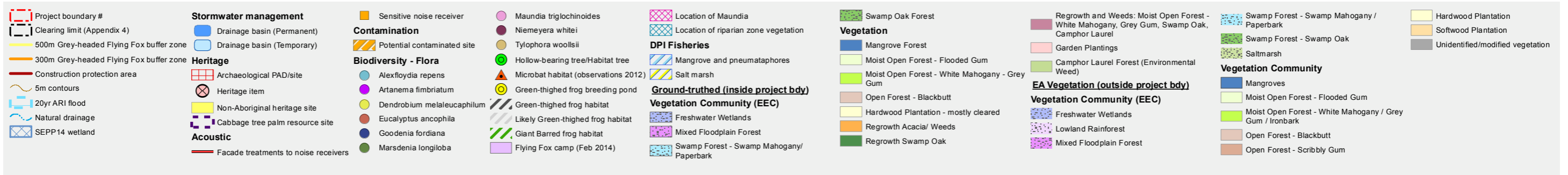


Note: Ground-truthed vegetation has been shown within the project boundary and in proposed areas of ancillary site facilities

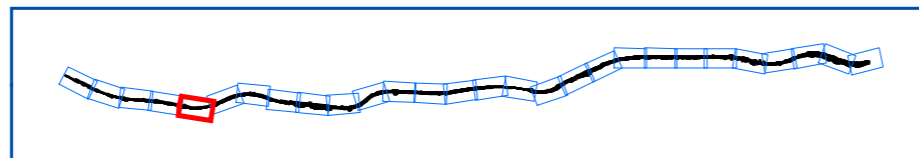
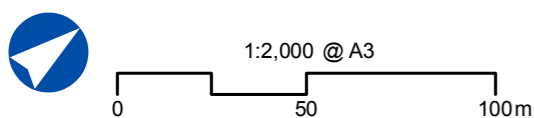
Projection: GDA 1994 MGA Zone 56
Source: RMS, AFJV, AADJV



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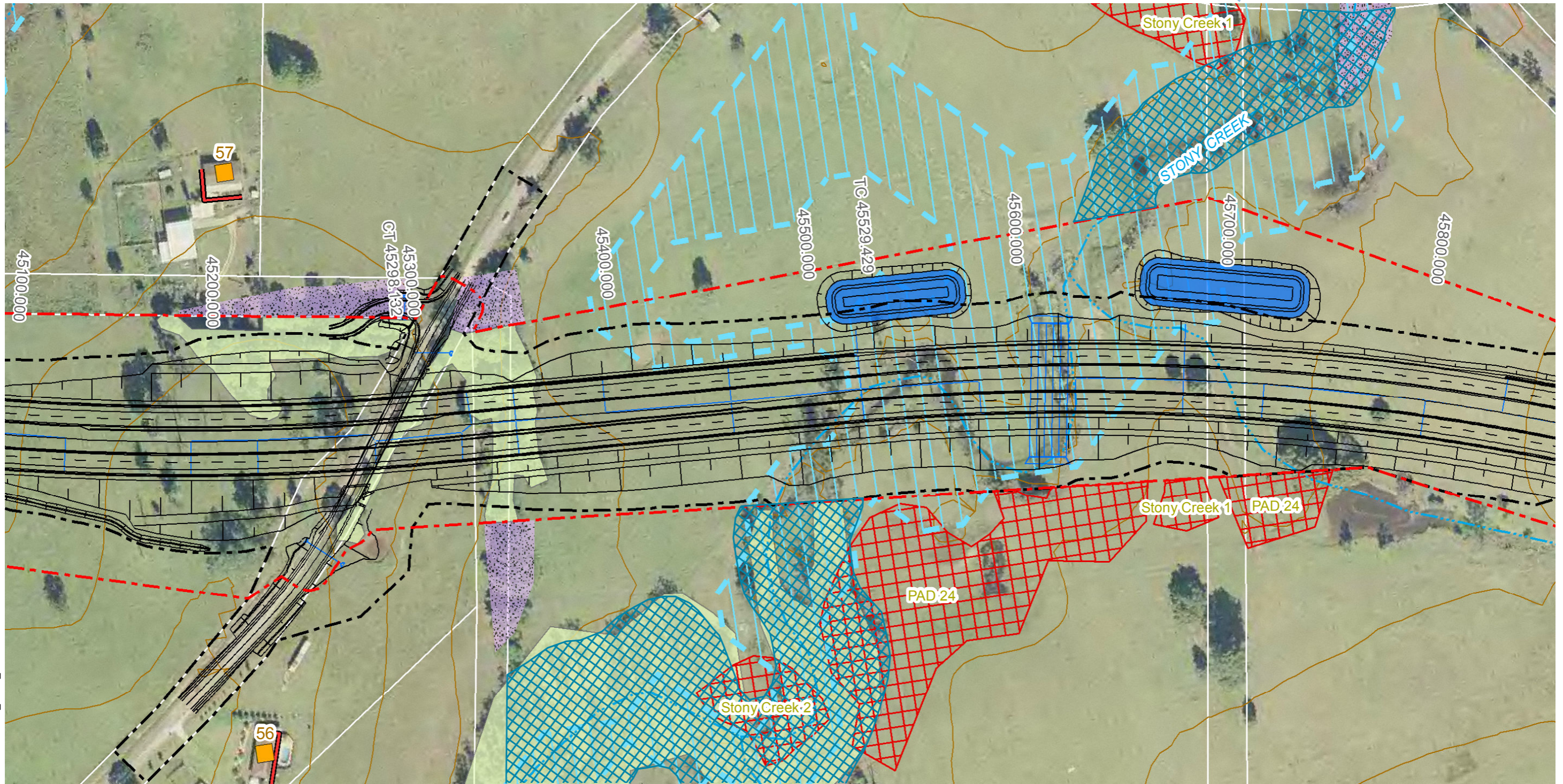


Note: Ground-truthed vegetation has been shown within the project boundary and in proposed areas of ancillary site facilities

Projection: GDA 1994 MGA Zone 56
Source: RMS, AFJV, AADJV

PACIFIC HIGHWAY UPGRADE WC2NH CEMP

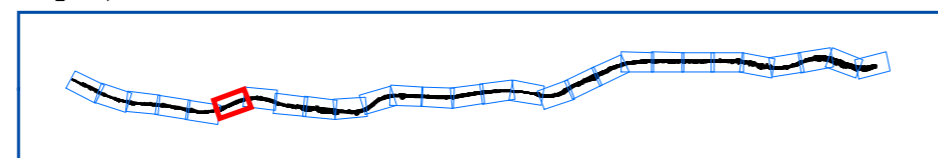
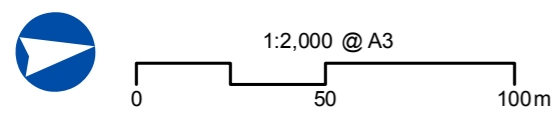
FIGURE: Sensitive Area Plans (Map 5 of 28)



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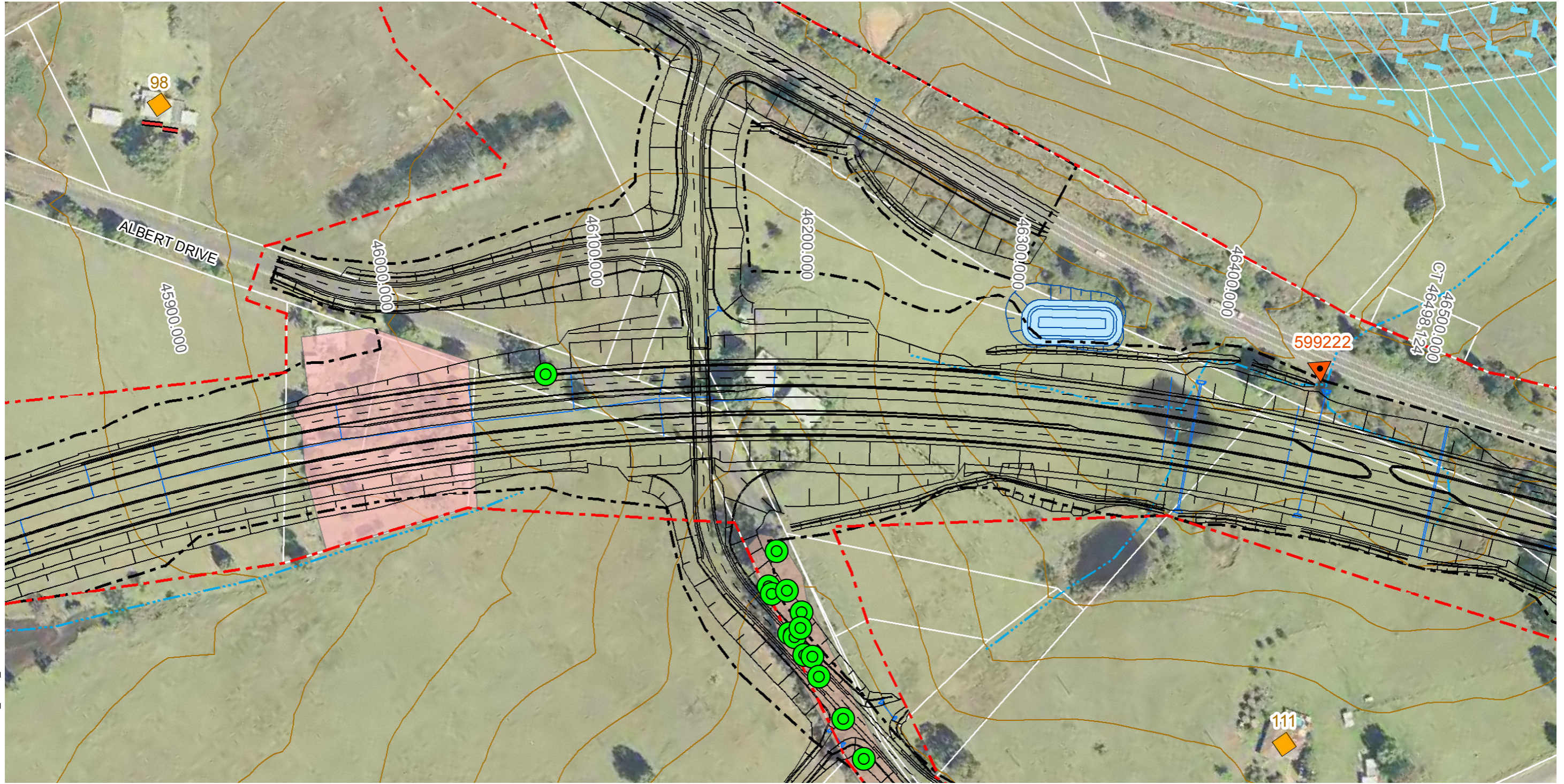
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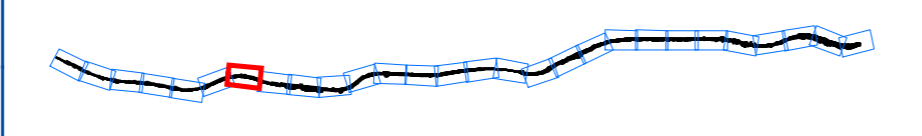
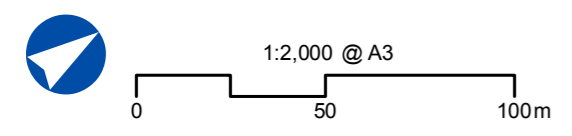
Projection: GDA 1994 MGA Zone 56
Source: RMS, AFJV, AADJV



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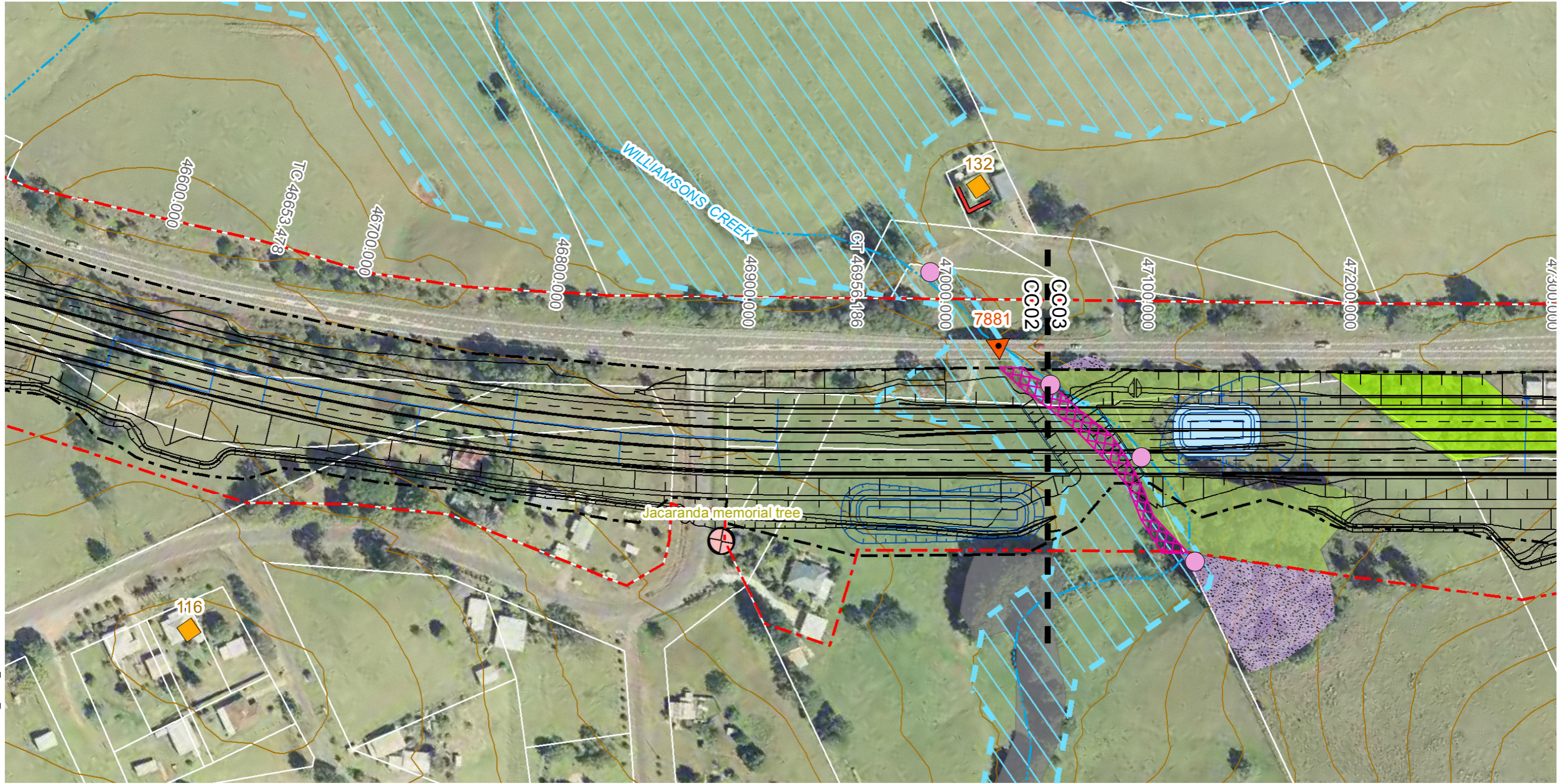


Note: Ground-truthed vegetation has been shown within the project boundary and in proposed areas of ancillary site facilities

Projection: GDA 1994 MGA Zone 56
Source: RMS, AFJV, AADJV

PACIFIC HIGHWAY UPGRADE WC2NH CEMP

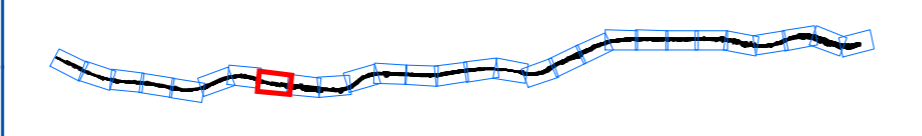
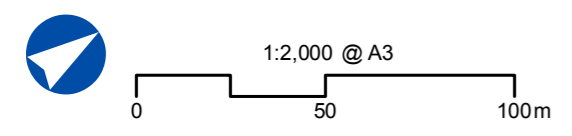
FIGURE: Sensitive Area Plans (Map 7 of 28)



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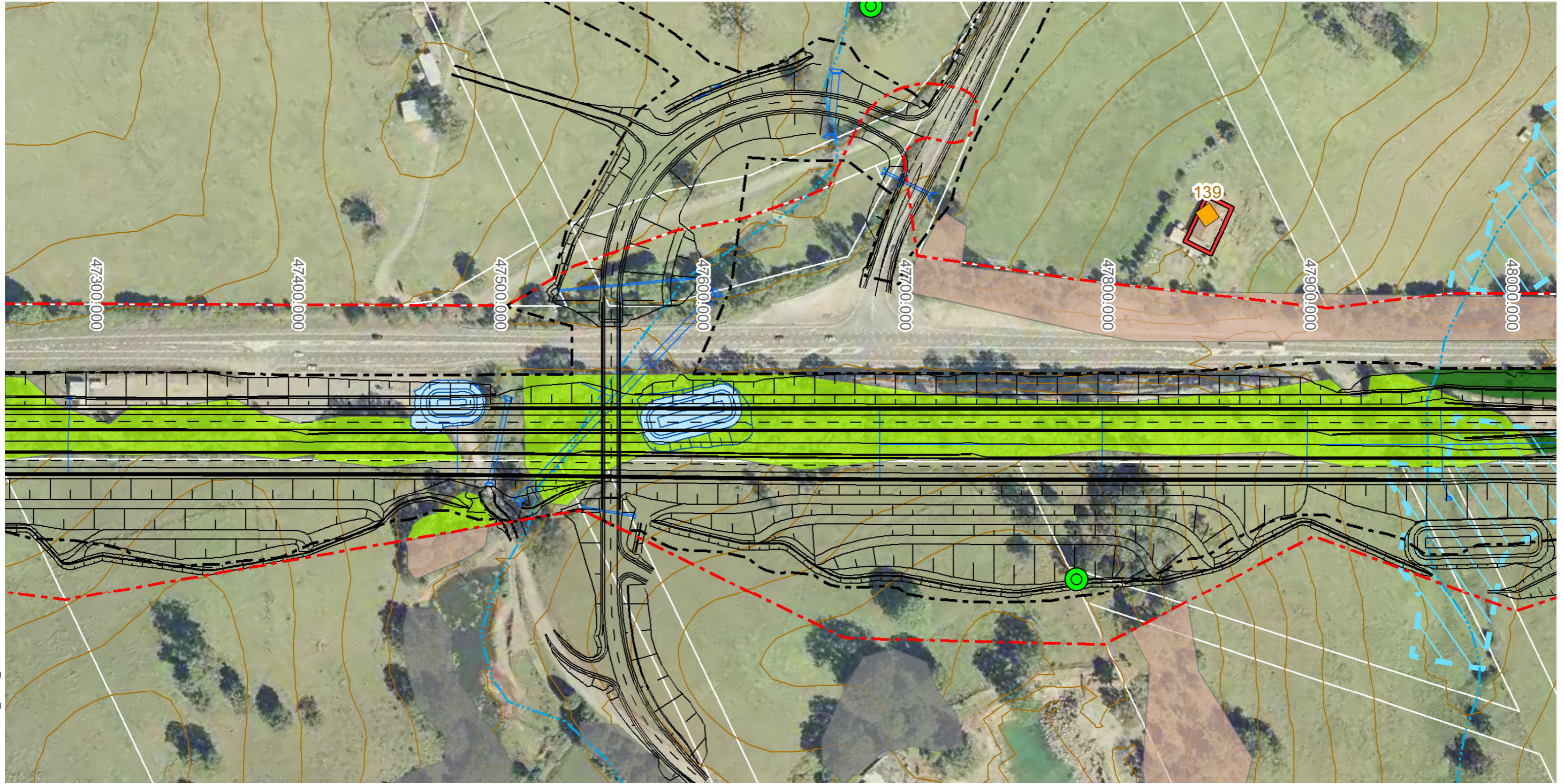
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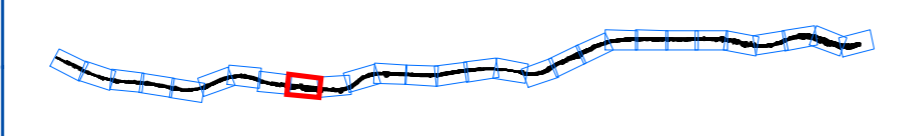
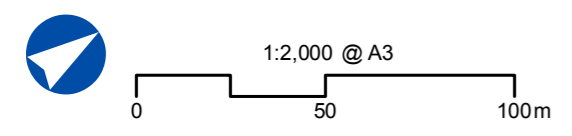
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Source: RMS, AFJV, AADJV



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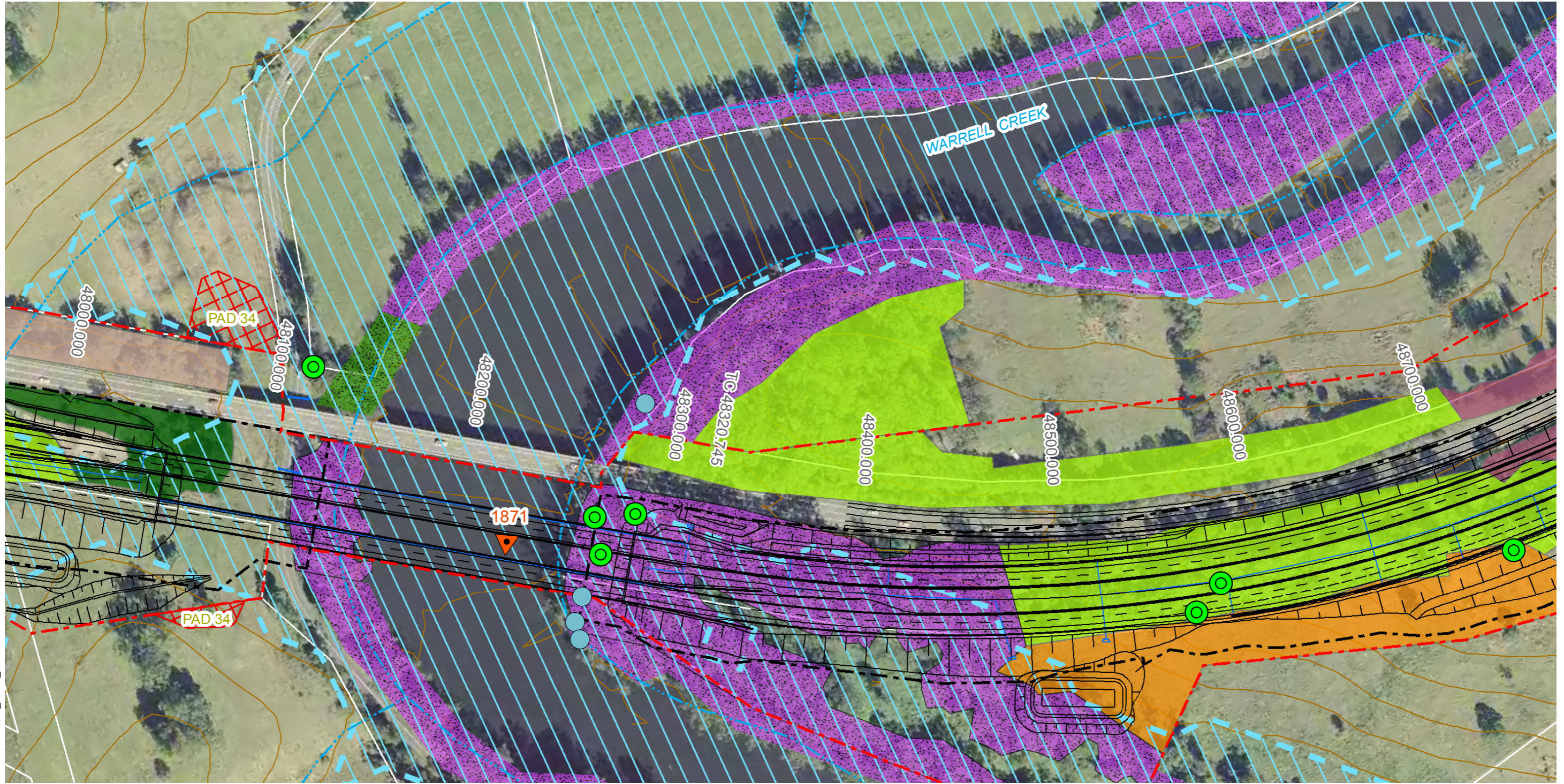
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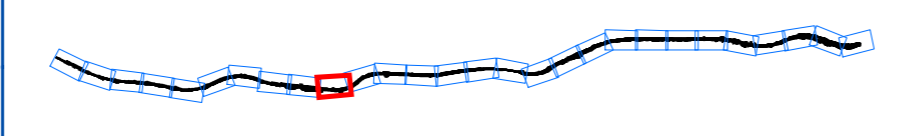
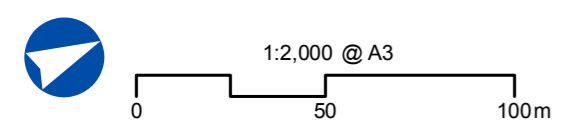
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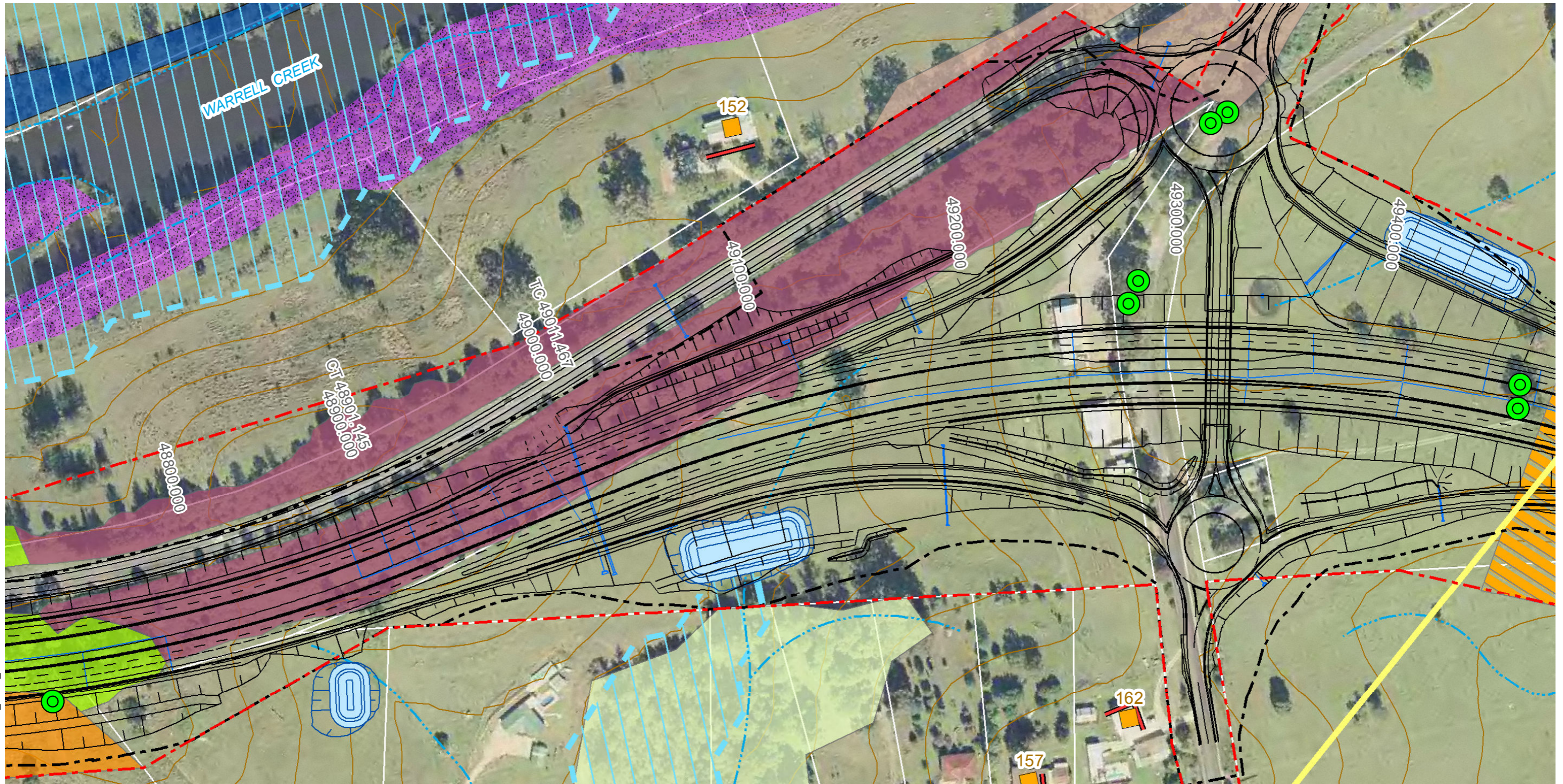
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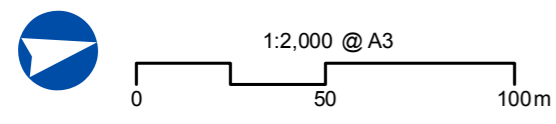
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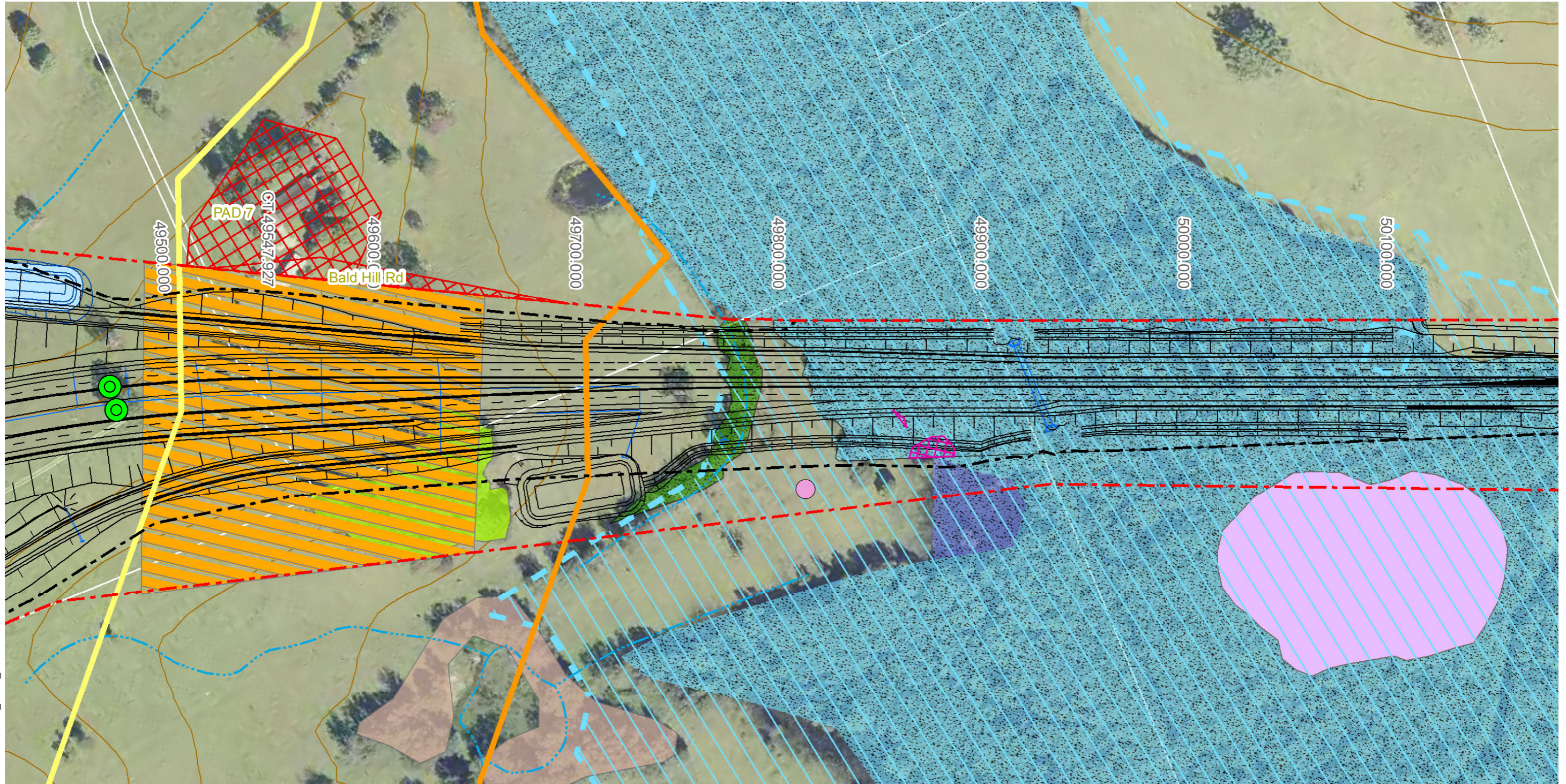


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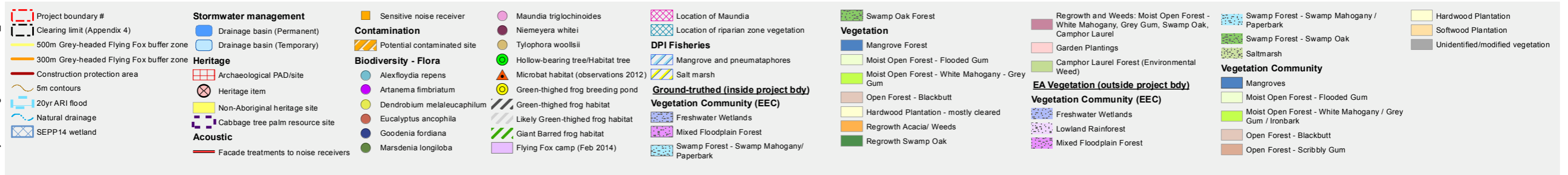
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PACIFIC HIGHWAY UPGRADE WC2NH CEMP

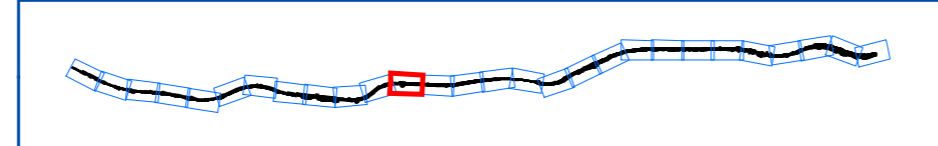
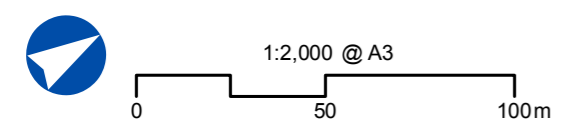
FIGURE: Sensitive Area Plans (Map 11 of 28)



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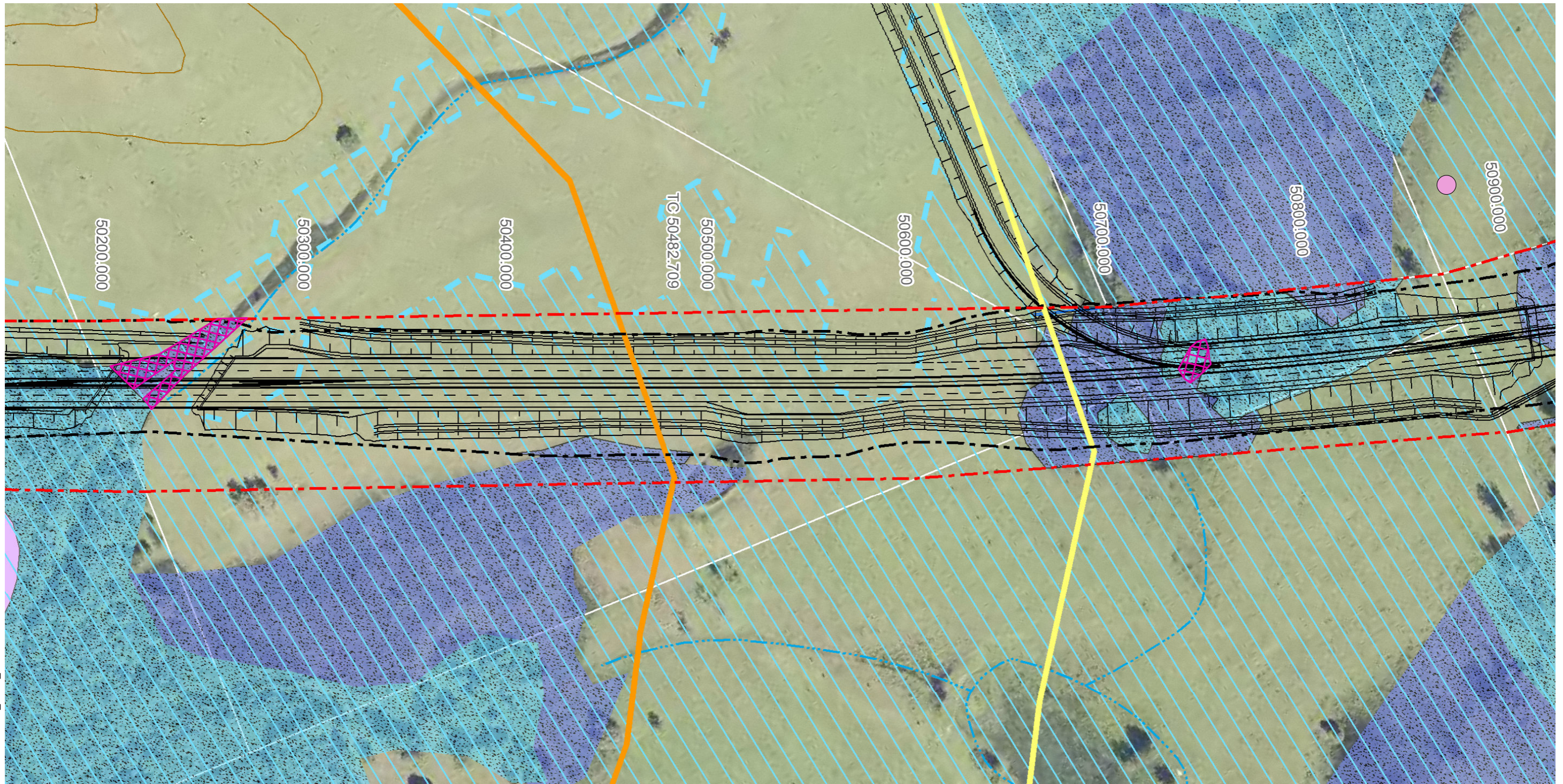


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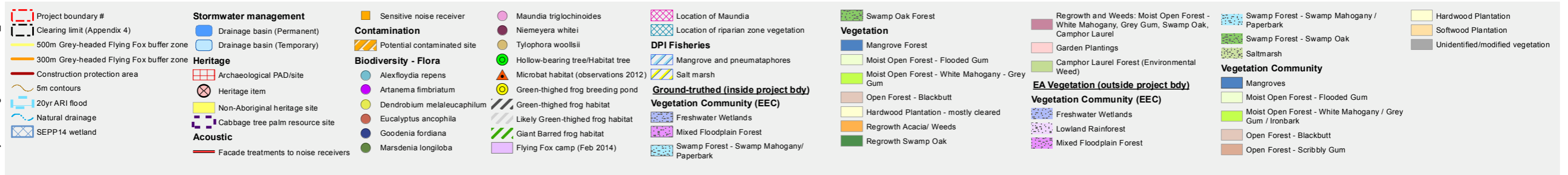


Note: Ground-truthed vegetation has been shown within the project boundary and in proposed areas of ancillary site facilities

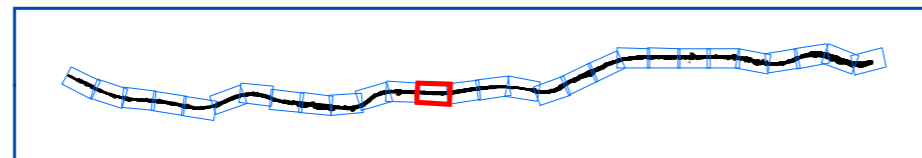
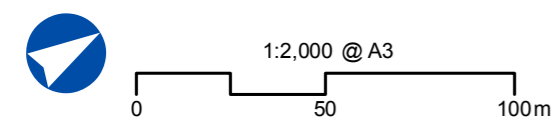
Projection: GDA 1994 MGA Zone 56
Source: RMS, AFJV, AADJV



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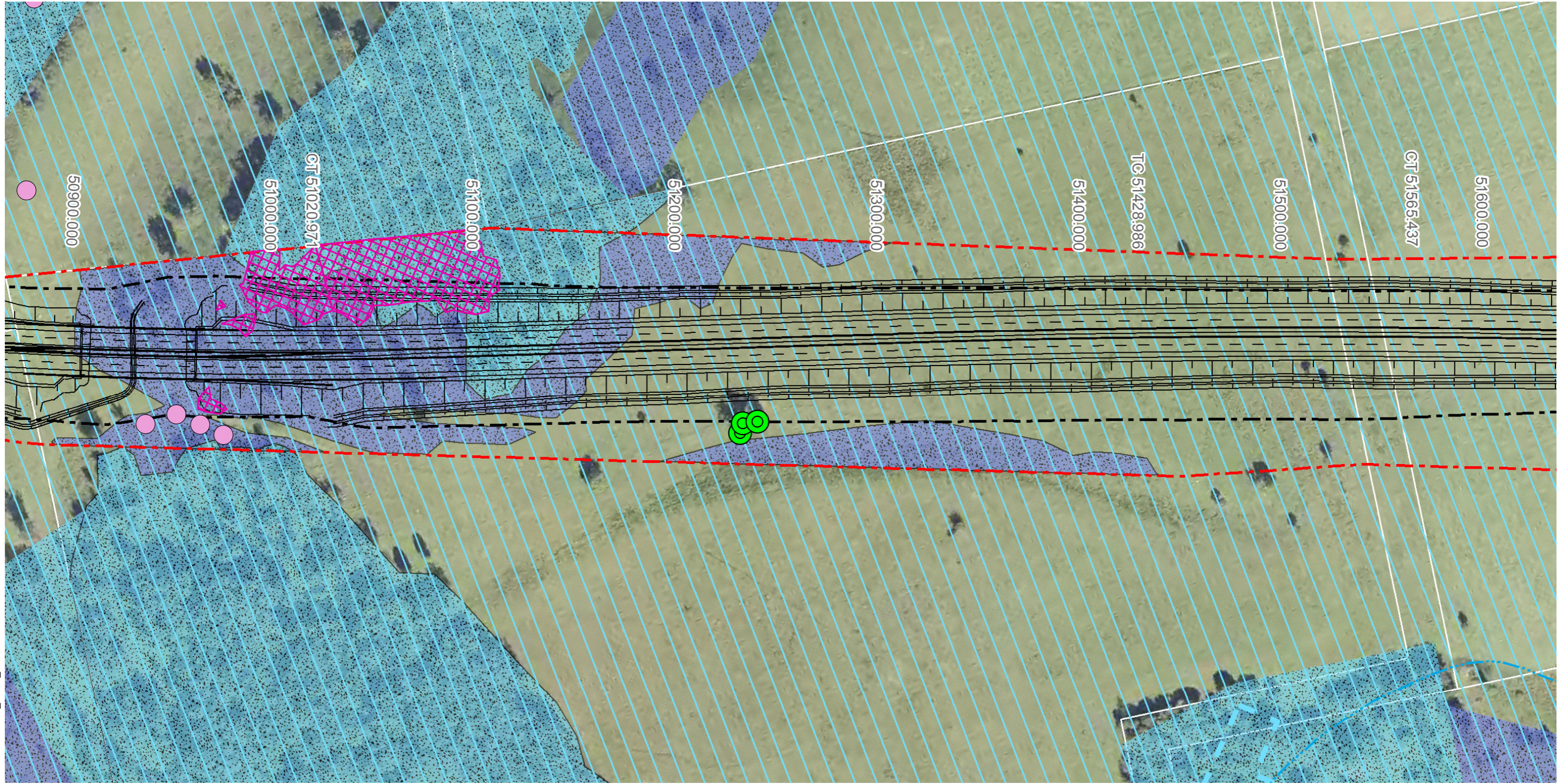


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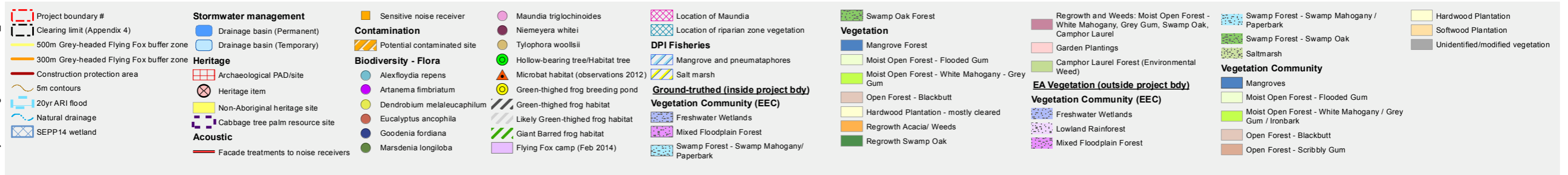
Projection: GDA 1994 MGA Zone 56
Source: RMS, AFJV, AADJV

PACIFIC HIGHWAY UPGRADE WC2NH CEMP

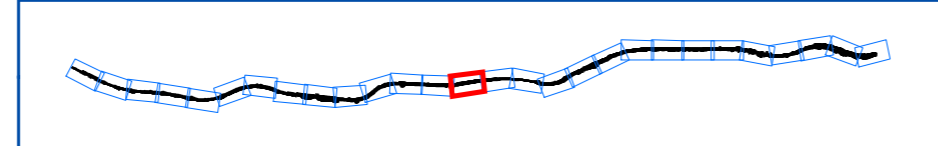
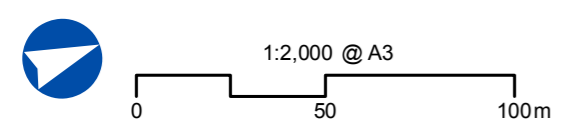
FIGURE: Sensitive Area Plans (Map 13 of 28)



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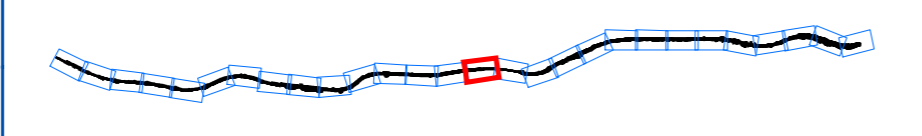
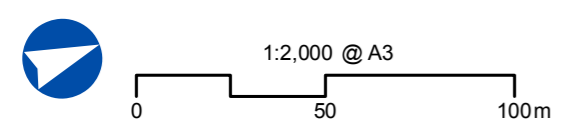
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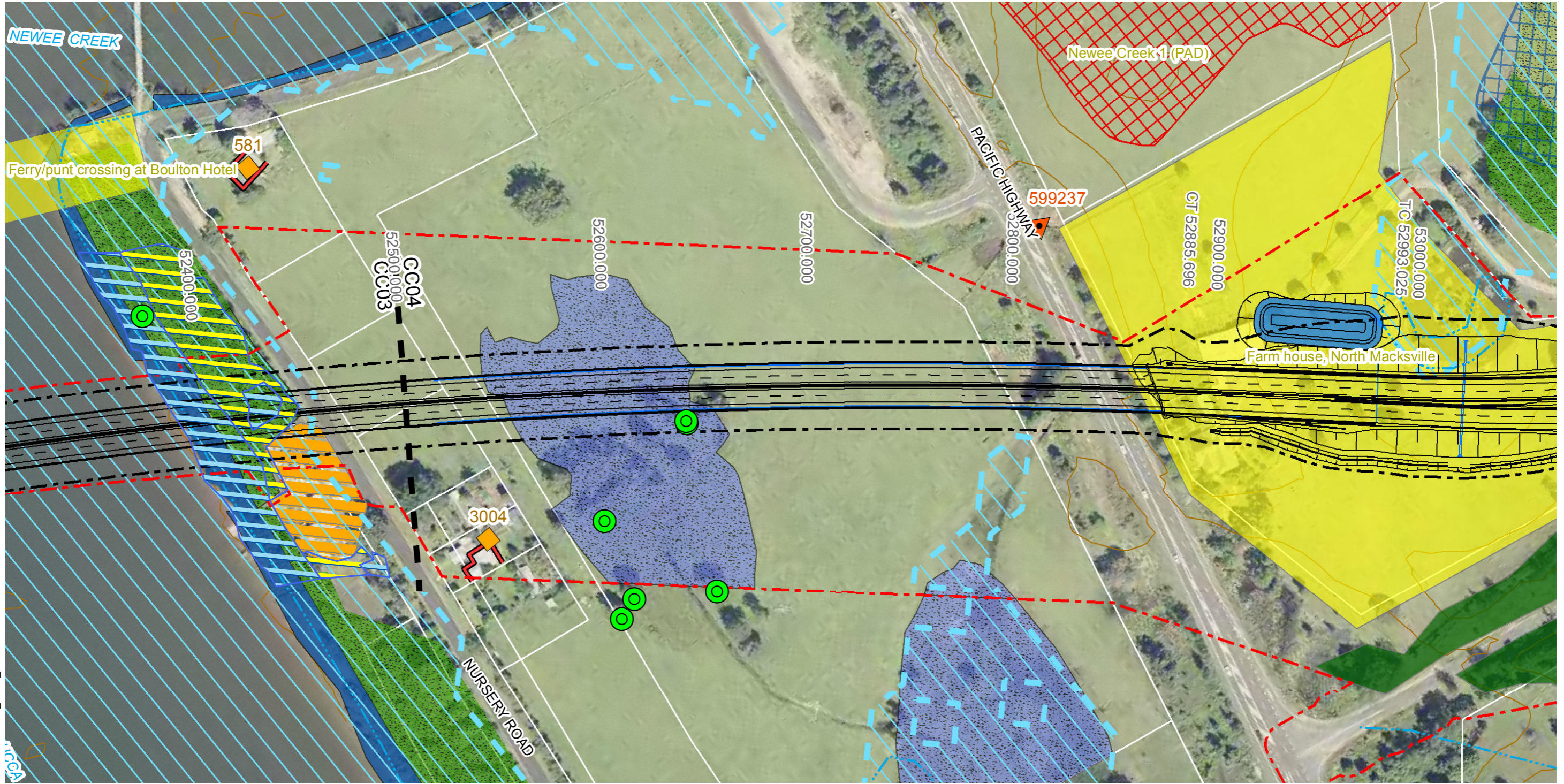
<ul style="list-style-type: none"> Project boundary # Clearing limit (Appendix 4) 500m Grey-headed Flying Fox buffer zone 300m Grey-headed Flying Fox buffer zone Construction protection area 5m contours 20yr ARI flood Natural drainage SEPP14 wetland 	<p>Stormwater management</p> <ul style="list-style-type: none"> Drainage basin (Permanent) Drainage basin (Temporary) <p>Heritage</p> <ul style="list-style-type: none"> Archaeological PAD/site Heritage item Non-Aboriginal heritage site Cabbage tree palm resource site <p>Acoustic</p> <ul style="list-style-type: none"> Facade treatments to noise receivers 	<ul style="list-style-type: none"> Sensitive noise receiver <p>Contamination</p> <ul style="list-style-type: none"> Potential contaminated site <p>Biodiversity - Flora</p> <ul style="list-style-type: none"> Alexfloydia repens Artanema fimbriatum Dendrobium melaleucaphilium Eucalyptus ancophila Goodenia fordiana Marsdenia longiloba 	<ul style="list-style-type: none"> Maundia triglochinosides Niemeyera whitei Tylophora woollsii Hollow-bearing tree/Habitat tree Microbat habitat (observations 2012) Green-thighed frog breeding pond Green-thighed frog habitat Likely Green-thighed frog habitat Giant Barred frog habitat Flying Fox camp (Feb 2014) 	<ul style="list-style-type: none"> Location of Maundia Location of riparian zone vegetation <p>DPI Fisheries</p> <ul style="list-style-type: none"> Mangrove and pneumatophores Salt marsh <p>Ground-truthed (inside project bdy)</p> <p>Vegetation Community (EEC)</p> <ul style="list-style-type: none"> Freshwater Wetlands Mixed Floodplain Forest Swamp Forest - Swamp Mahogany/ Paperbark 	<ul style="list-style-type: none"> Swamp Oak Forest <p>Vegetation</p> <ul style="list-style-type: none"> Mangrove Forest Moist Open Forest - Flooded Gum Moist Open Forest - White Mahogany - Grey Gum Open Forest - Blackbutt Hardwood Plantation - mostly cleared Regrowth Acacia/ Weeds Regrowth Swamp Oak 	<ul style="list-style-type: none"> Regrowth and Weeds: Moist Open Forest - White Mahogany, Grey Gum, Swamp Oak, Camphor Laurel Garden Plantings Camphor Laurel Forest (Environmental Weed) <p>EA Vegetation (outside project bdy)</p> <p>Vegetation Community (EEC)</p> <ul style="list-style-type: none"> Freshwater Wetlands Lowland Rainforest Mixed Floodplain Forest 	<ul style="list-style-type: none"> Swamp Forest - Swamp Mahogany / Paperbark Swamp Forest - Swamp Oak Saltmarsh <p>Vegetation Community</p> <ul style="list-style-type: none"> Mangroves Moist Open Forest - Flooded Gum Moist Open Forest - White Mahogany / Grey Gum / Ironbark Open Forest - Blackbutt Open Forest - Scribbly Gum 	<ul style="list-style-type: none"> Hardwood Plantation Softwood Plantation Unidentified/modified vegetation
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Note: Ground-truthed vegetation has been shown within the project boundary and in proposed areas of ancillary site facilities

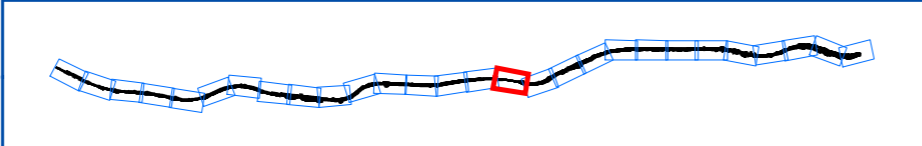
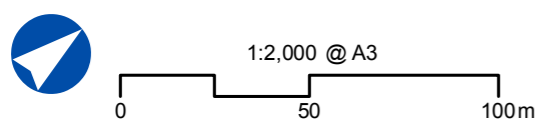
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<ul style="list-style-type: none"> Project boundary # Clearing limit (Appendix 4) 500m Grey-headed Flying Fox buffer zone 300m Grey-headed Flying Fox buffer zone Construction protection area 5m contours 20yr ARI flood Natural drainage SEPP14 wetland 	<p>Stormwater management</p> <ul style="list-style-type: none"> Drainage basin (Permanent) Drainage basin (Temporary) <p>Heritage</p> <ul style="list-style-type: none"> Archaeological PAD/site Heritage item Non-Aboriginal heritage site Cabbage tree palm resource site <p>Acoustic</p> <ul style="list-style-type: none"> Facade treatments to noise receivers 	<ul style="list-style-type: none"> Sensitive noise receiver <p>Contamination</p> <ul style="list-style-type: none"> Potential contaminated site <p>Biodiversity - Flora</p> <ul style="list-style-type: none"> Alexfloydia repens Artanema fimbriatum Dendrobium melaleucaphium Eucalyptus ancophila Goodenia fordiana Marsdenia longiloba 	<ul style="list-style-type: none"> Maundia triglochinos Niemeyera whitei Tylophora woollsii Hollow-bearing tree/Habitat tree Microbat habitat (observations 2012) Green-thighed frog breeding pond Green-thighed frog habitat Likely Green-thighed frog habitat Giant Barred frog habitat Flying Fox camp (Feb 2014) 	<ul style="list-style-type: none"> Location of Maundia Location of riparian zone vegetation <p>DPI Fisheries</p> <ul style="list-style-type: none"> Mangrove and pneumatophores Salt marsh <p>Ground-truthed (inside project bdy)</p> <p>Vegetation Community (EEC)</p> <ul style="list-style-type: none"> Freshwater Wetlands Mixed Floodplain Forest Swamp Forest - Swamp Mahogany/ Paperbark 	<ul style="list-style-type: none"> Swamp Oak Forest <p>Vegetation</p> <ul style="list-style-type: none"> Mangrove Forest Moist Open Forest - Flooded Gum Moist Open Forest - White Mahogany - Grey Gum Open Forest - Blackbutt Hardwood Plantation - mostly cleared Regrowth Acacia/ Weeds Regrowth Swamp Oak 	<ul style="list-style-type: none"> Regrowth and Weeds: Moist Open Forest - White Mahogany, Grey Gum, Swamp Oak, Camphor Laurel Garden Plantings Camphor Laurel Forest (Environmental Weed) <p>EA Vegetation (outside project bdy)</p> <p>Vegetation Community (EEC)</p> <ul style="list-style-type: none"> Freshwater Wetlands Lowland Rainforest Mixed Floodplain Forest 	<ul style="list-style-type: none"> Swamp Forest - Swamp Mahogany / Paperbark Swamp Forest - Swamp Oak Saltmarsh <p>Vegetation Community</p> <ul style="list-style-type: none"> Mangroves Moist Open Forest - Flooded Gum Moist Open Forest - White Mahogany / Grey Gum / Ironbark Open Forest - Blackbutt Open Forest - Scribbly Gum Hardwood Plantation Softwood Plantation Unidentified/modified vegetation
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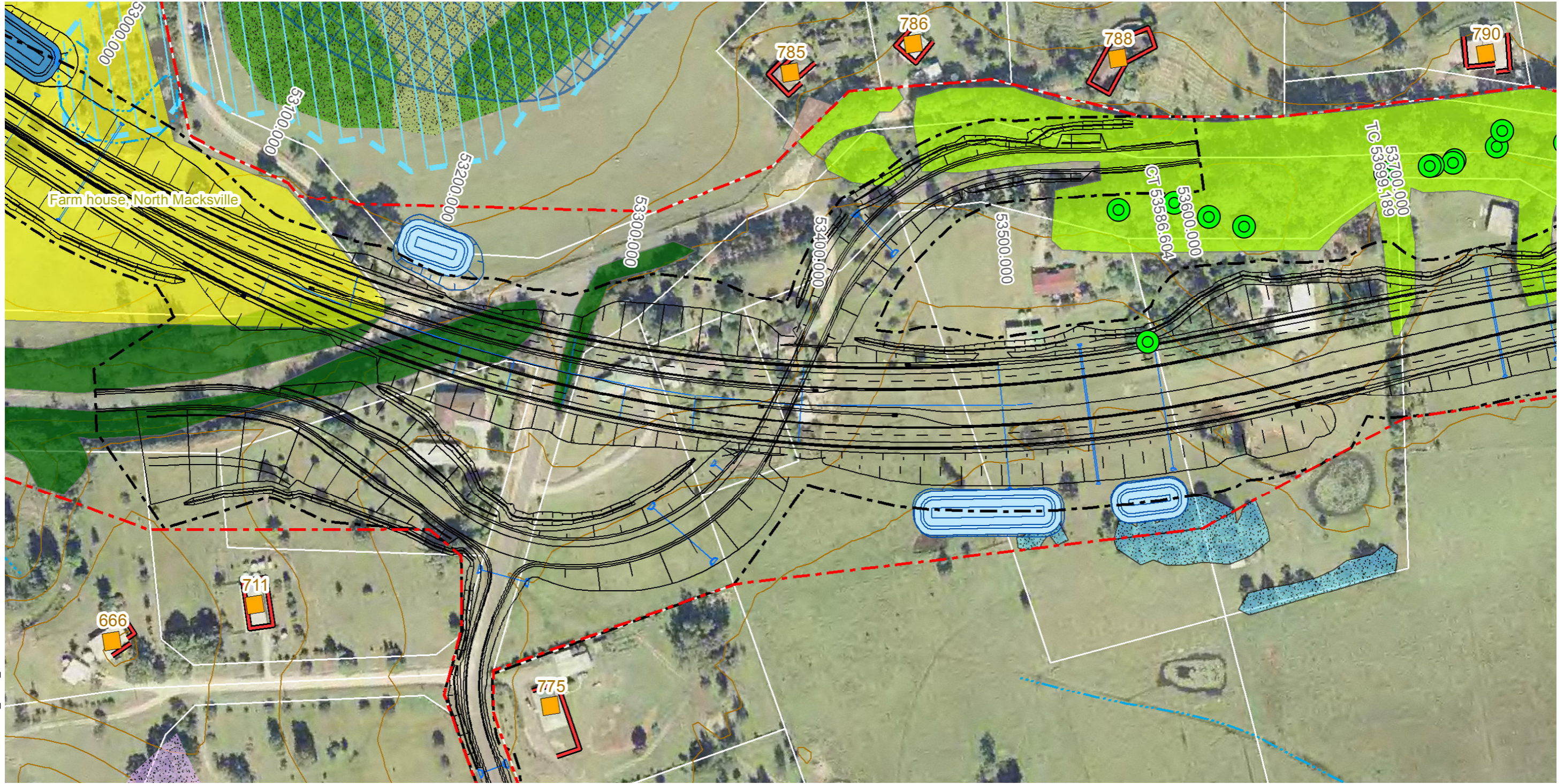


Note: Ground-truthed vegetation has been shown within the project boundary and in proposed areas of ancillary site facilities

Projection: GDA 1994 MGA Zone 56
Source: RMS, AFJV, AADJV

PACIFIC HIGHWAY UPGRADE WC2NH CEMP

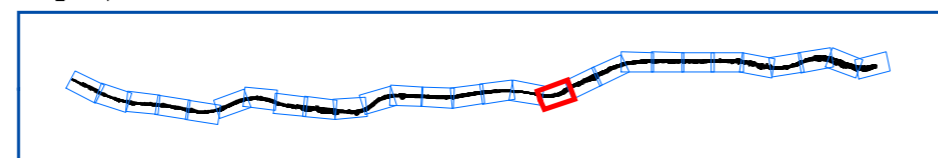
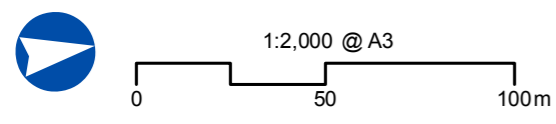
FIGURE: Sensitive Area Plans (Map 16 of 28)



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<ul style="list-style-type: none"> Project boundary # Clearing limit (Appendix 4) 500m Grey-headed Flying Fox buffer zone 300m Grey-headed Flying Fox buffer zone Construction protection area 5m contours 20yr ARI flood Natural drainage SEPP14 wetland 	<p>Stormwater management</p> <ul style="list-style-type: none"> Drainage basin (Permanent) Drainage basin (Temporary) <p>Heritage</p> <ul style="list-style-type: none"> Archaeological PAD/site Heritage item Non-Aboriginal heritage site Cabbage tree palm resource site <p>Acoustic</p> <ul style="list-style-type: none"> Facade treatments to noise receivers 	<ul style="list-style-type: none"> Sensitive noise receiver <p>Contamination</p> <ul style="list-style-type: none"> Potential contaminated site <p>Biodiversity - Flora</p> <ul style="list-style-type: none"> Alexfloydia repens Artanema fimbriatum Dendrobium melaleucaphilium Eucalyptus ancophila Goodenia fordiana Marsdenia longiloba 	<ul style="list-style-type: none"> Maundia triglochinosides Niemeyera whitei Tylophora woollsi Hollow-bearing tree/Habitat tree Microbat habitat (observations 2012) Green-thighed frog breeding pond Green-thighed frog habitat Likely Green-thighed frog habitat Giant Barred frog habitat Flying Fox camp (Feb 2014) 	<ul style="list-style-type: none"> Location of Maundia Location of riparian zone vegetation <p>DPI Fisheries</p> <ul style="list-style-type: none"> Mangrove and pneumatophores Salt marsh <p>Ground-truthed (inside project bdy)</p> <p>Vegetation Community (EEC)</p> <ul style="list-style-type: none"> Freshwater Wetlands Mixed Floodplain Forest Swamp Forest - Swamp Mahogany/ Paperbark 	<ul style="list-style-type: none"> Swamp Oak Forest <p>Vegetation</p> <ul style="list-style-type: none"> Mangrove Forest Moist Open Forest - Flooded Gum Moist Open Forest - White Mahogany - Grey Gum Open Forest - Blackbutt Hardwood Plantation - mostly cleared Regrowth Acacia/ Weeds Regrowth Swamp Oak 	<ul style="list-style-type: none"> Regrowth and Weeds: Moist Open Forest - White Mahogany, Grey Gum, Swamp Oak, Camphor Laurel Garden Plantings Camphor Laurel Forest (Environmental Weed) <p>EA Vegetation (outside project bdy)</p> <p>Vegetation Community (EEC)</p> <ul style="list-style-type: none"> Freshwater Wetlands Lowland Rainforest Mixed Floodplain Forest 	<ul style="list-style-type: none"> Swamp Forest - Swamp Mahogany / Paperbark Swamp Forest - Swamp Oak Saltmarsh <p>Vegetation Community</p> <ul style="list-style-type: none"> Mangroves Moist Open Forest - Flooded Gum Moist Open Forest - White Mahogany / Grey Gum / Ironbark Open Forest - Blackbutt Open Forest - Scribbly Gum 	<ul style="list-style-type: none"> Hardwood Plantation Softwood Plantation Unidentified/modified vegetation
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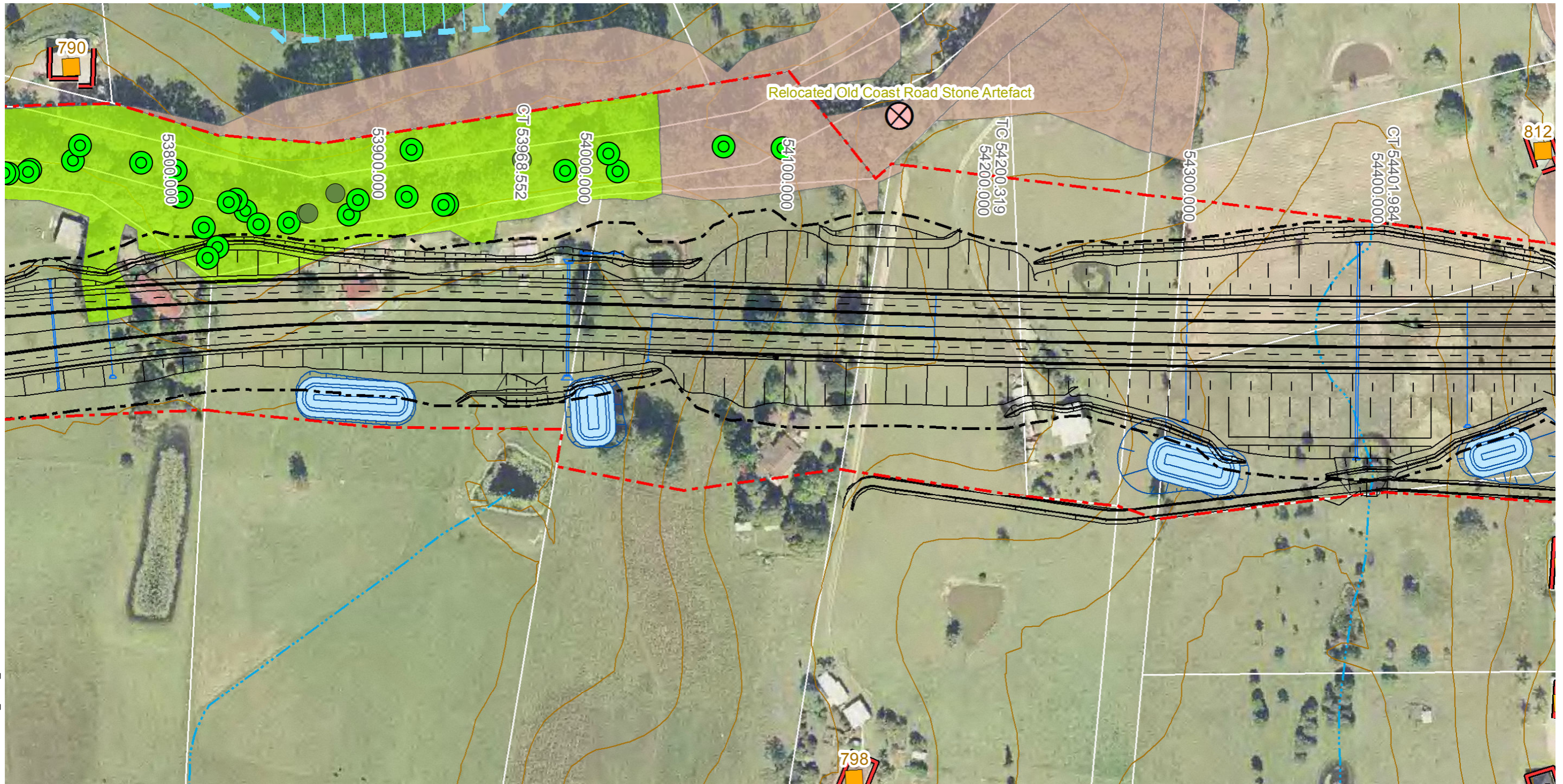


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Source: RMS, AFJV, AADJV

PACIFIC HIGHWAY UPGRADE WC2NH CEMP

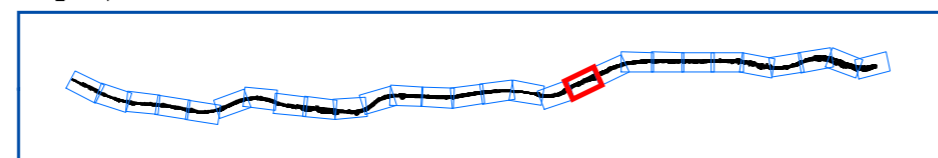
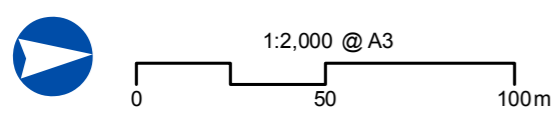
FIGURE: Sensitive Area Plans (Map 17 of 28)



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<ul style="list-style-type: none"> Project boundary # Clearing limit (Appendix 4) 500m Grey-headed Flying Fox buffer zone 300m Grey-headed Flying Fox buffer zone Construction protection area 5m contours 20yr ARI flood Natural drainage SEPP14 wetland 	<p>Stormwater management</p> <ul style="list-style-type: none"> Drainage basin (Permanent) Drainage basin (Temporary) <p>Heritage</p> <ul style="list-style-type: none"> Archaeological PAD/site Heritage item Non-Aboriginal heritage site Cabbage tree palm resource site <p>Acoustic</p> <ul style="list-style-type: none"> Facade treatments to noise receivers 	<ul style="list-style-type: none"> Sensitive noise receiver <p>Contamination</p> <ul style="list-style-type: none"> Potential contaminated site <p>Biodiversity - Flora</p> <ul style="list-style-type: none"> Alexfloydia repens Artanema fimbriatum Dendrobium melaleucaphilium Eucalyptus ancophila Goodenia fordiana Marsdenia longiloba 	<ul style="list-style-type: none"> Maundia triglochinosides Niemeyera whitei Tylophora woollsi Hollow-bearing tree/Habitat tree Microbat habitat (observations 2012) Green-thighed frog breeding pond Green-thighed frog habitat Likely Green-thighed frog habitat Giant Barred frog habitat Flying Fox camp (Feb 2014) 	<ul style="list-style-type: none"> Location of Maundia Location of riparian zone vegetation <p>DPI Fisheries</p> <ul style="list-style-type: none"> Mangrove and pneumatophores Salt marsh <p>Ground-truthed (inside project bdy)</p> <p>Vegetation Community (EEC)</p> <ul style="list-style-type: none"> Freshwater Wetlands Mixed Floodplain Forest Swamp Forest - Swamp Mahogany/ Paperbark 	<ul style="list-style-type: none"> Swamp Oak Forest <p>Vegetation</p> <ul style="list-style-type: none"> Mangrove Forest Moist Open Forest - Flooded Gum Moist Open Forest - White Mahogany - Grey Gum Open Forest - Blackbutt Hardwood Plantation - mostly cleared Regrowth Acacia/ Weeds Regrowth Swamp Oak 	<ul style="list-style-type: none"> Regrowth and Weeds: Moist Open Forest - White Mahogany, Grey Gum, Swamp Oak, Camphor Laurel Garden Plantings Camphor Laurel Forest (Environmental Weed) <p>EA Vegetation (outside project bdy)</p> <p>Vegetation Community (EEC)</p> <ul style="list-style-type: none"> Freshwater Wetlands Lowland Rainforest Mixed Floodplain Forest 	<ul style="list-style-type: none"> Swamp Forest - Swamp Mahogany / Paperbark Swamp Forest - Swamp Oak Saltmarsh <p>Vegetation Community</p> <ul style="list-style-type: none"> Mangroves Moist Open Forest - Flooded Gum Moist Open Forest - White Mahogany / Grey Gum / Ironbark Open Forest - Blackbutt Open Forest - Scribbly Gum Hardwood Plantation Softwood Plantation Unidentified/modified vegetation
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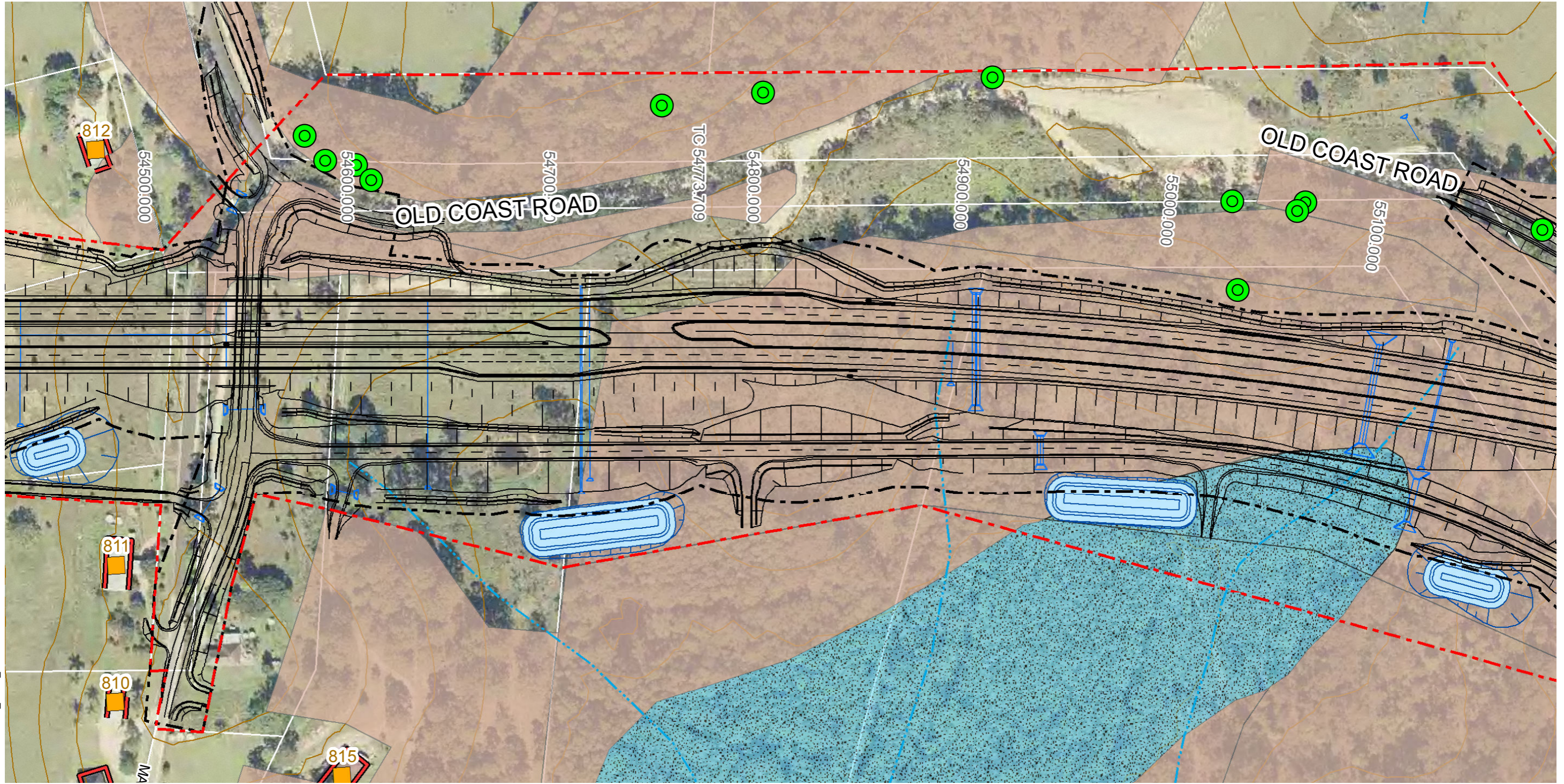


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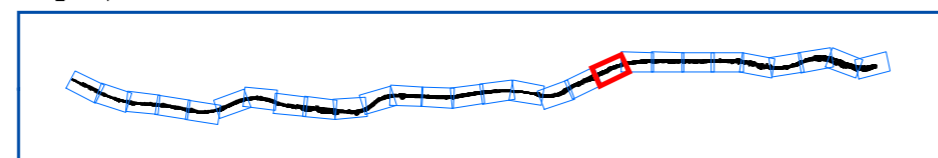
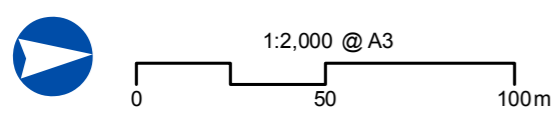
FIGURE: Sensitive Area Plans (Map 18 of 28)



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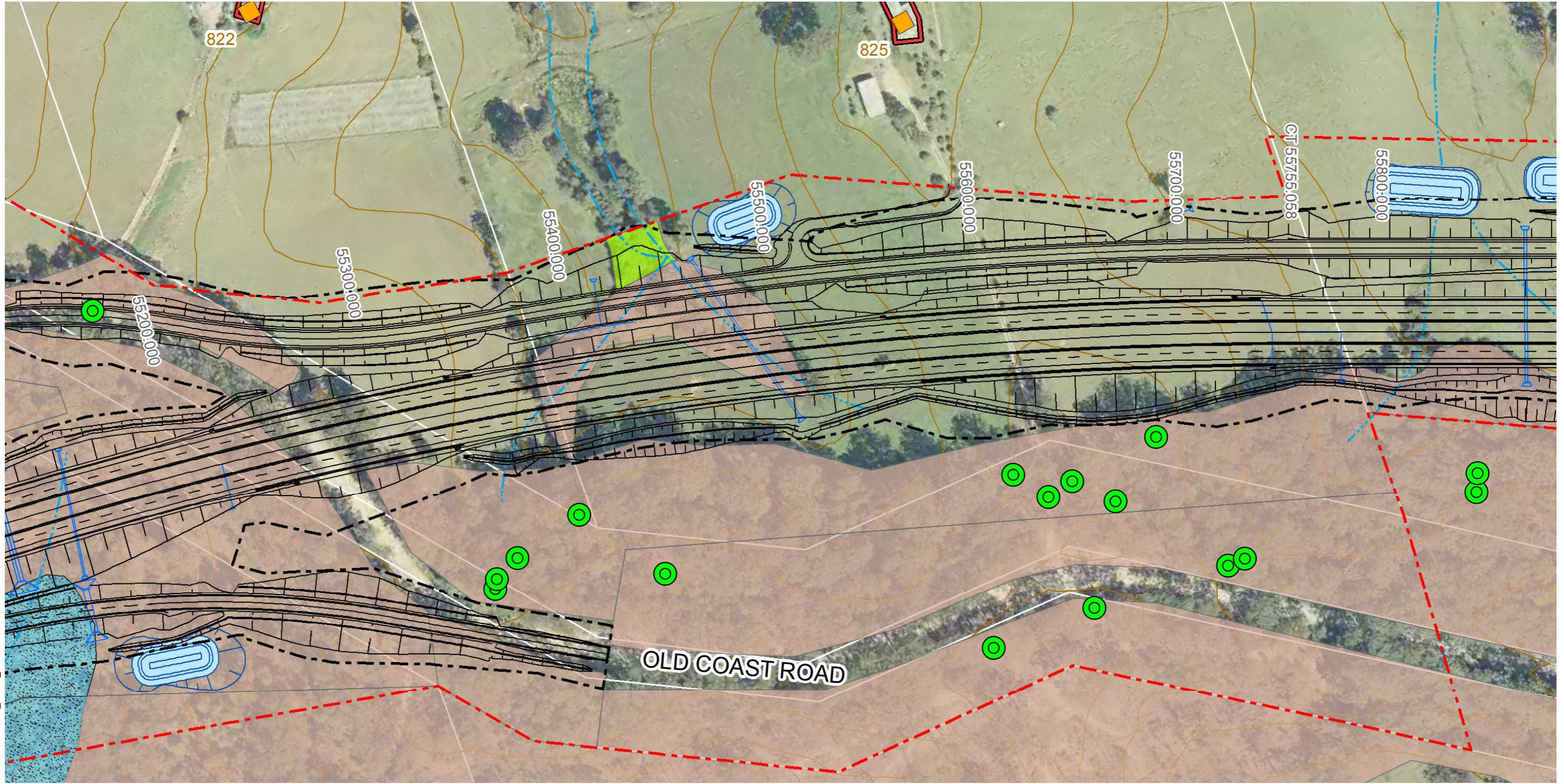
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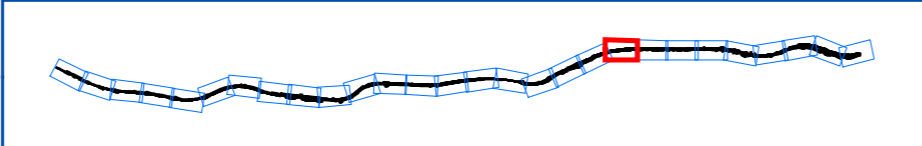
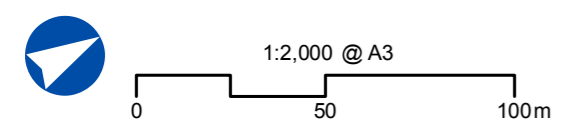
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Source: RMS, AFJV, AADJV



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<ul style="list-style-type: none"> Project boundary # Clearing limit (Appendix 4) 500m Grey-headed Flying Fox buffer zone 300m Grey-headed Flying Fox buffer zone Construction protection area 5m contours 20yr ARI flood Natural drainage SEPP14 wetland 	<p>Stormwater management</p> <ul style="list-style-type: none"> Drainage basin (Permanent) Drainage basin (Temporary) <p>Heritage</p> <ul style="list-style-type: none"> Archaeological PAD/site Heritage item Non-Aboriginal heritage site Cabbage tree palm resource site <p>Acoustic</p> <ul style="list-style-type: none"> Facade treatments to noise receivers 	<ul style="list-style-type: none"> Sensitive noise receiver <p>Contamination</p> <ul style="list-style-type: none"> Potential contaminated site <p>Biodiversity - Flora</p> <ul style="list-style-type: none"> Alexfloydia repens Artanema fimbriatum Dendrobium melaleucaphilium Eucalyptus ancophila Goodenia fordiana Marsdenia longiloba 	<ul style="list-style-type: none"> Maundia triglochinosides Niemeyera whitei Tylophora woollsi Hollow-bearing tree/Habitat tree Microbat habitat (observations 2012) Green-thighed frog breeding pond Green-thighed frog habitat Likely Green-thighed frog habitat Giant Barred frog habitat Flying Fox camp (Feb 2014) 	<ul style="list-style-type: none"> Location of Maundia Location of riparian zone vegetation <p>DPI Fisheries</p> <ul style="list-style-type: none"> Mangrove and pneumatophores Salt marsh <p>Ground-truthed (inside project bdy)</p> <p>Vegetation Community (EEC)</p> <ul style="list-style-type: none"> Freshwater Wetlands Mixed Floodplain Forest Swamp Forest - Swamp Mahogany/ Paperbark 	<ul style="list-style-type: none"> Swamp Oak Forest <p>Vegetation</p> <ul style="list-style-type: none"> Mangrove Forest Moist Open Forest - Flooded Gum Moist Open Forest - White Mahogany - Grey Gum Open Forest - Blackbutt Hardwood Plantation - mostly cleared Regrowth Acacia/ Weeds Regrowth Swamp Oak 	<ul style="list-style-type: none"> Regrowth and Weeds: Moist Open Forest - White Mahogany, Grey Gum, Swamp Oak, Camphor Laurel Garden Plantings Camphor Laurel Forest (Environmental Weed) <p>EA Vegetation (outside project bdy)</p> <p>Vegetation Community (EEC)</p> <ul style="list-style-type: none"> Freshwater Wetlands Lowland Rainforest Mixed Floodplain Forest 	<ul style="list-style-type: none"> Swamp Forest - Swamp Mahogany / Paperbark Swamp Forest - Swamp Oak Saltmarsh <p>Vegetation Community</p> <ul style="list-style-type: none"> Mangroves Moist Open Forest - Flooded Gum Moist Open Forest - White Mahogany / Grey Gum / Ironbark Open Forest - Blackbutt Open Forest - Scribbly Gum Hardwood Plantation Softwood Plantation Unidentified/modified vegetation
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denotes: Project boundary based on WC2NH_Approved_Project_Boundary_20141202_V2.shp received 02/12/2014

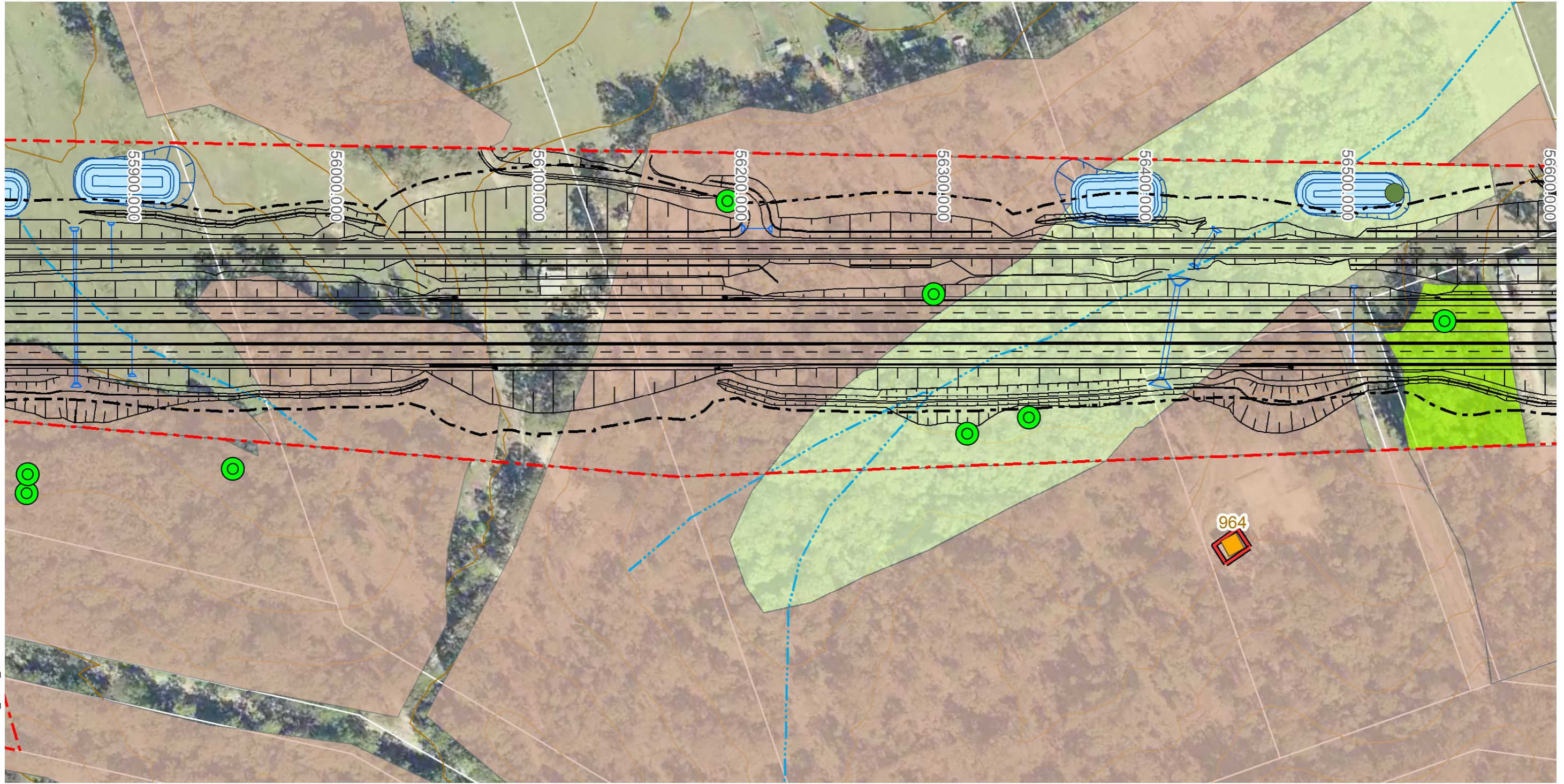


Note: Ground-truthed vegetation has been shown within the project boundary and in proposed areas of ancillary site facilities

Projection: GDA 1994 MGA Zone 56
Source: RMS, AFJV, AADJV

PACIFIC HIGHWAY UPGRADE WC2NH CEMP

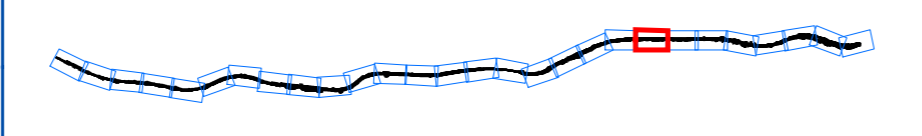
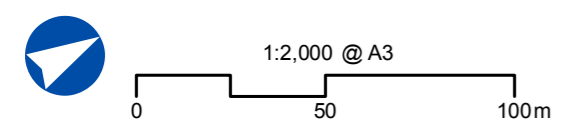
FIGURE: Sensitive Area Plans (Map 20 of 28)



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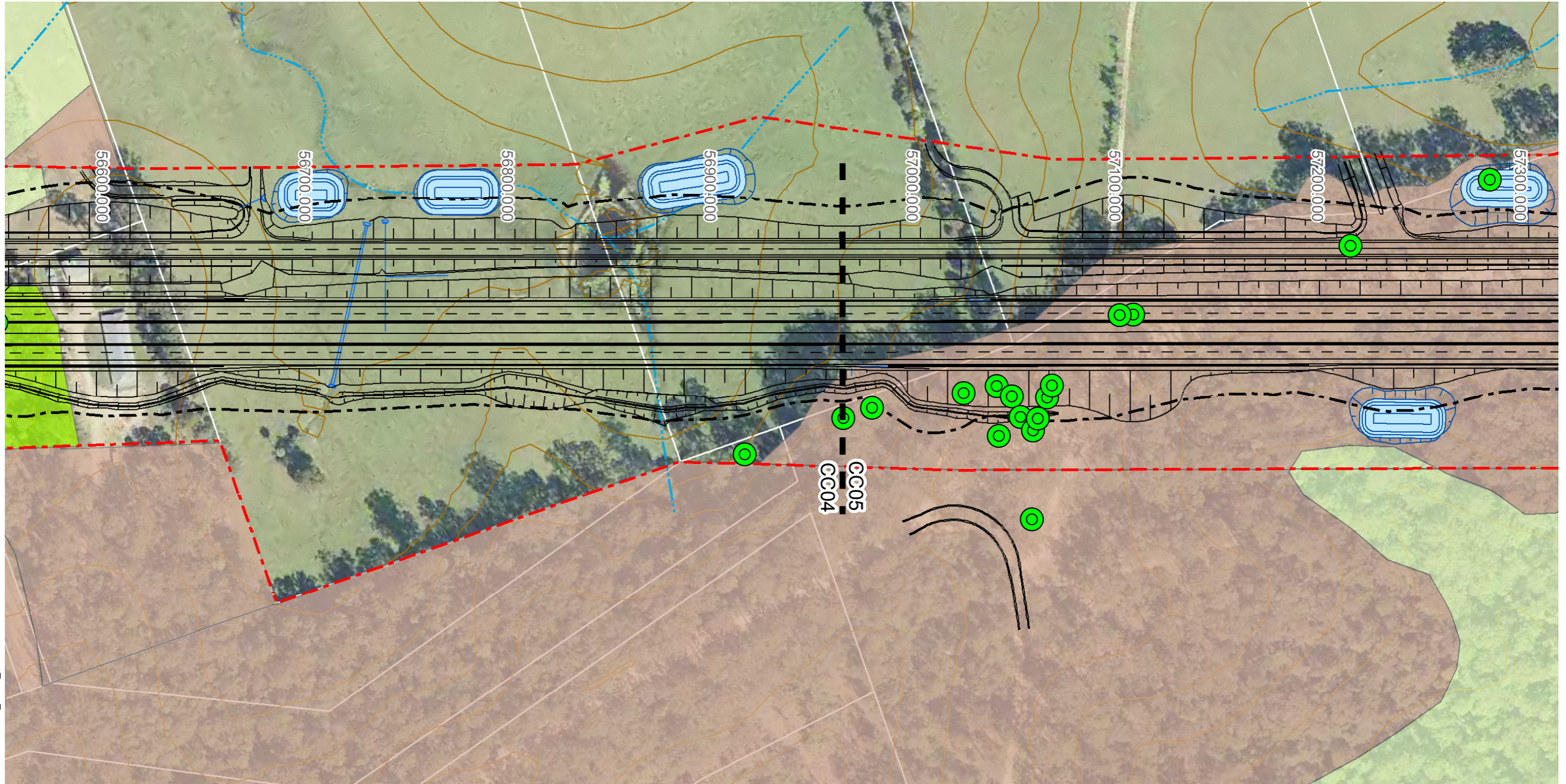
<ul style="list-style-type: none"> Project boundary # Clearing limit (Appendix 4) 500m Grey-headed Flying Fox buffer zone 300m Grey-headed Flying Fox buffer zone Construction protection area 5m contours 20yr ARI flood Natural drainage SEPP14 wetland 	<p>Stormwater management</p> <ul style="list-style-type: none"> Drainage basin (Permanent) Drainage basin (Temporary) <p>Heritage</p> <ul style="list-style-type: none"> Archaeological PAD/site Heritage item Non-Aboriginal heritage site Cabbage tree palm resource site <p>Acoustic</p> <ul style="list-style-type: none"> Facade treatments to noise receivers 	<ul style="list-style-type: none"> Sensitive noise receiver <p>Contamination</p> <ul style="list-style-type: none"> Potential contaminated site <p>Biodiversity - Flora</p> <ul style="list-style-type: none"> Alexfloydia repens Artanema fimbriatum Dendrobium melaleucaphilium Eucalyptus ancophila Goodenia fordiana Marsdenia longiloba 	<ul style="list-style-type: none"> Maundia triglochinos Niemeyera whitei Tylophora woollsii Hollow-bearing tree/Habitat tree Microbat habitat (observations 2012) Green-thighed frog breeding pond Green-thighed frog habitat Likely Green-thighed frog habitat Giant Barred frog habitat Flying Fox camp (Feb 2014) 	<ul style="list-style-type: none"> Location of Maundia Location of riparian zone vegetation <p>DPI Fisheries</p> <ul style="list-style-type: none"> Mangrove and pneumatophores Salt marsh <p>Ground-truthed (inside project bdy)</p> <p>Vegetation Community (EEC)</p> <ul style="list-style-type: none"> Freshwater Wetlands Mixed Floodplain Forest Swamp Forest - Swamp Mahogany/ Paperbark 	<ul style="list-style-type: none"> Swamp Oak Forest <p>Vegetation</p> <ul style="list-style-type: none"> Mangrove Forest Moist Open Forest - Flooded Gum Moist Open Forest - White Mahogany - Grey Gum Open Forest - Blackbutt Hardwood Plantation - mostly cleared Regrowth Acacia/ Weeds Regrowth Swamp Oak 	<ul style="list-style-type: none"> Regrowth and Weeds: Moist Open Forest - White Mahogany, Grey Gum, Swamp Oak, Camphor Laurel Garden Plantings Camphor Laurel Forest (Environmental Weed) <p>EA Vegetation (outside project bdy)</p> <p>Vegetation Community (EEC)</p> <ul style="list-style-type: none"> Freshwater Wetlands Lowland Rainforest Mixed Floodplain Forest 	<ul style="list-style-type: none"> Swamp Forest - Swamp Mahogany / Paperbark Swamp Forest - Swamp Oak Saltmarsh <p>Vegetation Community</p> <ul style="list-style-type: none"> Mangroves Moist Open Forest - Flooded Gum Moist Open Forest - White Mahogany / Grey Gum / Ironbark Open Forest - Blackbutt Open Forest - Scribbly Gum Hardwood Plantation Softwood Plantation Unidentified/modified vegetation
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denotes: Project boundary based on WC2NH_Approved_Project_Boundary_20141202_V2.shp received 02/12/2014

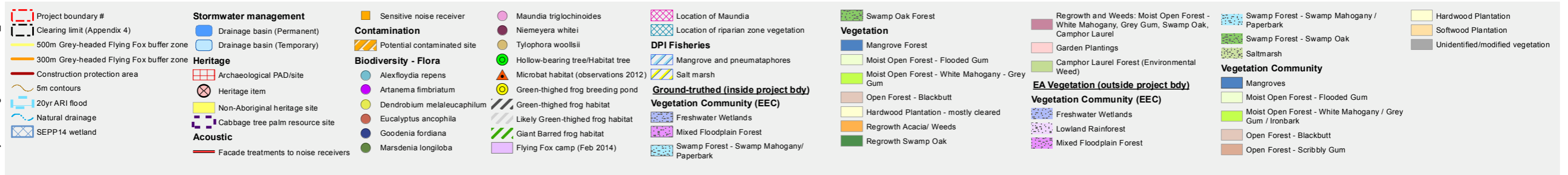


Note: Ground-truthed vegetation has been shown within the project boundary and in proposed areas of ancillary site facilities

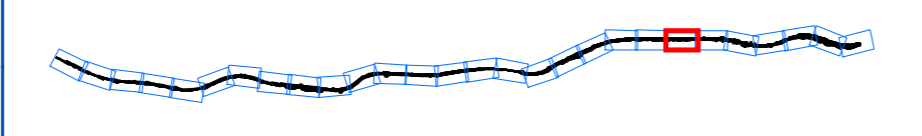
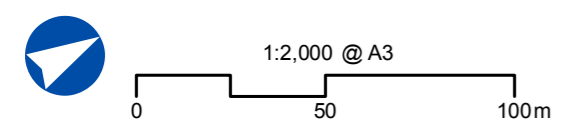
Projection: GDA 1994 MGA Zone 56
Source: RMS, AFJV, AADJV



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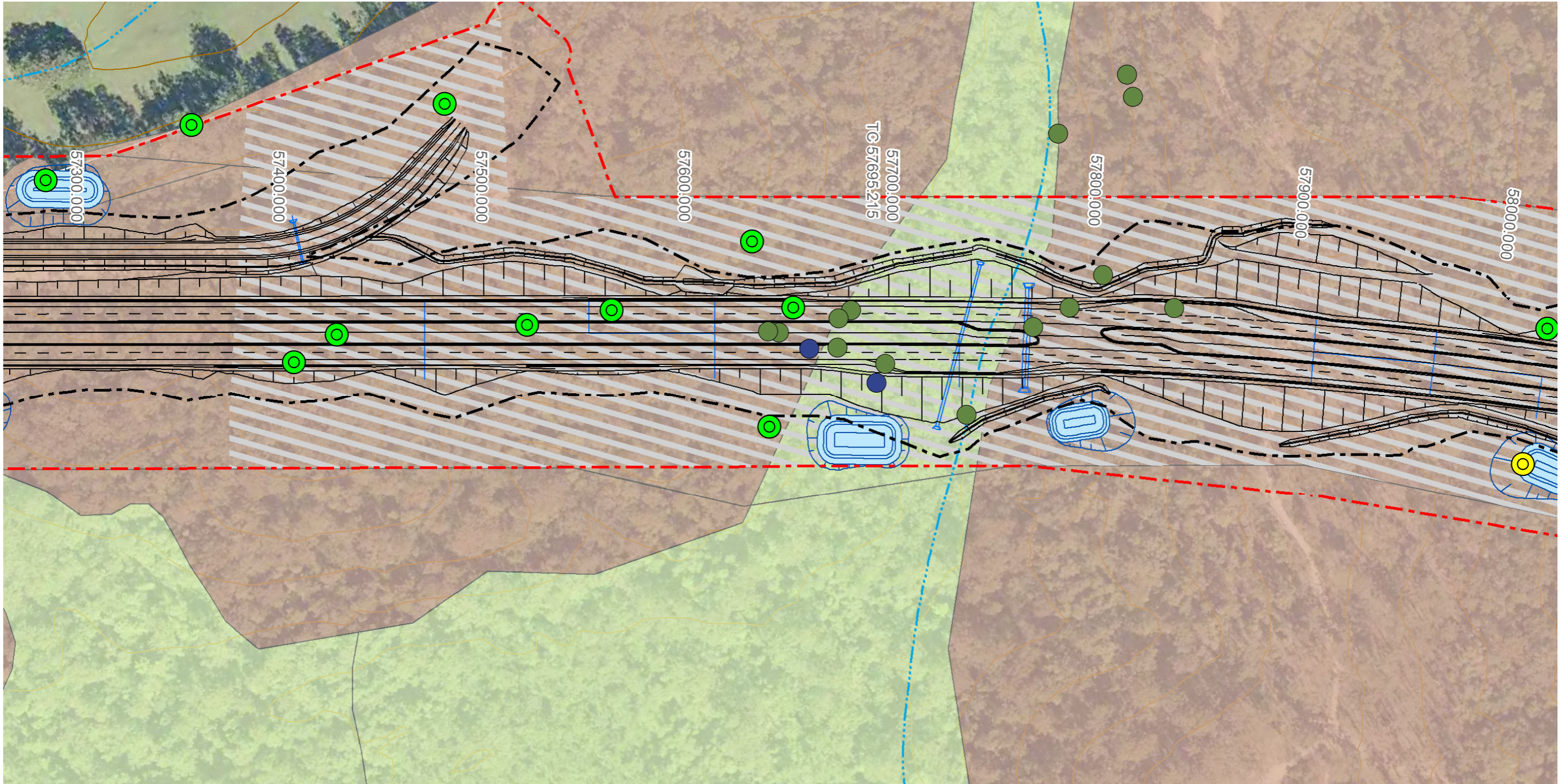


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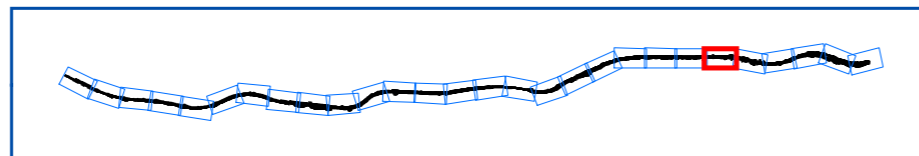
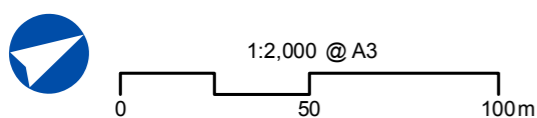
Note: Ground-truthed vegetation has been shown within the project boundary and in proposed areas of ancillary site facilities

Projection: GDA 1994 MGA Zone 56
Source: RMS, AFJV, AADJV



<ul style="list-style-type: none"> Project boundary # Clearing limit (Appendix 4) 500m Grey-headed Flying Fox buffer zone 300m Grey-headed Flying Fox buffer zone Construction protection area 5m contours 20yr ARI flood Natural drainage SEPP14 wetland 	<p>Stormwater management</p> <ul style="list-style-type: none"> Drainage basin (Permanent) Drainage basin (Temporary) <p>Heritage</p> <ul style="list-style-type: none"> Archaeological PAD/site Heritage item Non-Aboriginal heritage site Cabbage tree palm resource site <p>Acoustic</p> <ul style="list-style-type: none"> Facade treatments to noise receivers 	<ul style="list-style-type: none"> Sensitive noise receiver <p>Contamination</p> <ul style="list-style-type: none"> Potential contaminated site <p>Biodiversity - Flora</p> <ul style="list-style-type: none"> Alexfloydia repens Artanema fimbriatum Dendrobium melaleucaphilium Eucalyptus ancophila Goodenia fordiana Marsdenia longiloba 	<ul style="list-style-type: none"> Maundia triglochinosides Niemeyera whitei Tylophora woollsii Hollow-bearing tree/Habitat tree Microbat habitat (observations 2012) Green-thighed frog breeding pond Green-thighed frog habitat Likely Green-thighed frog habitat Giant Barred frog habitat Flying Fox camp (Feb 2014) 	<ul style="list-style-type: none"> Location of Maundia Location of riparian zone vegetation <p>DPI Fisheries</p> <ul style="list-style-type: none"> Mangrove and pneumatophores Salt marsh <p>Ground-truthed (inside project bdy) Vegetation Community (EEC)</p> <ul style="list-style-type: none"> Freshwater Wetlands Mixed Floodplain Forest Swamp Forest - Swamp Mahogany/ Paperbark 	<ul style="list-style-type: none"> Swamp Oak Forest <p>Vegetation</p> <ul style="list-style-type: none"> Mangrove Forest Moist Open Forest - Flooded Gum Moist Open Forest - White Mahogany - Grey Gum Open Forest - Blackbutt Hardwood Plantation - mostly cleared Regrowth Acacia/ Weeds Regrowth Swamp Oak 	<ul style="list-style-type: none"> Regrowth and Weeds: Moist Open Forest - White Mahogany, Grey Gum, Swamp Oak, Camphor Laurel Garden Plantings Camphor Laurel Forest (Environmental Weed) <p>EA Vegetation (outside project bdy) Vegetation Community (EEC)</p> <ul style="list-style-type: none"> Freshwater Wetlands Lowland Rainforest Mixed Floodplain Forest 	<ul style="list-style-type: none"> Swamp Forest - Swamp Mahogany / Paperbark Swamp Forest - Swamp Oak Saltmarsh <p>Vegetation Community</p> <ul style="list-style-type: none"> Mangroves Moist Open Forest - Flooded Gum Moist Open Forest - White Mahogany / Grey Gum / Ironbark Open Forest - Blackbutt Open Forest - Scribbly Gum Hardwood Plantation Softwood Plantation Unidentified/modified vegetation
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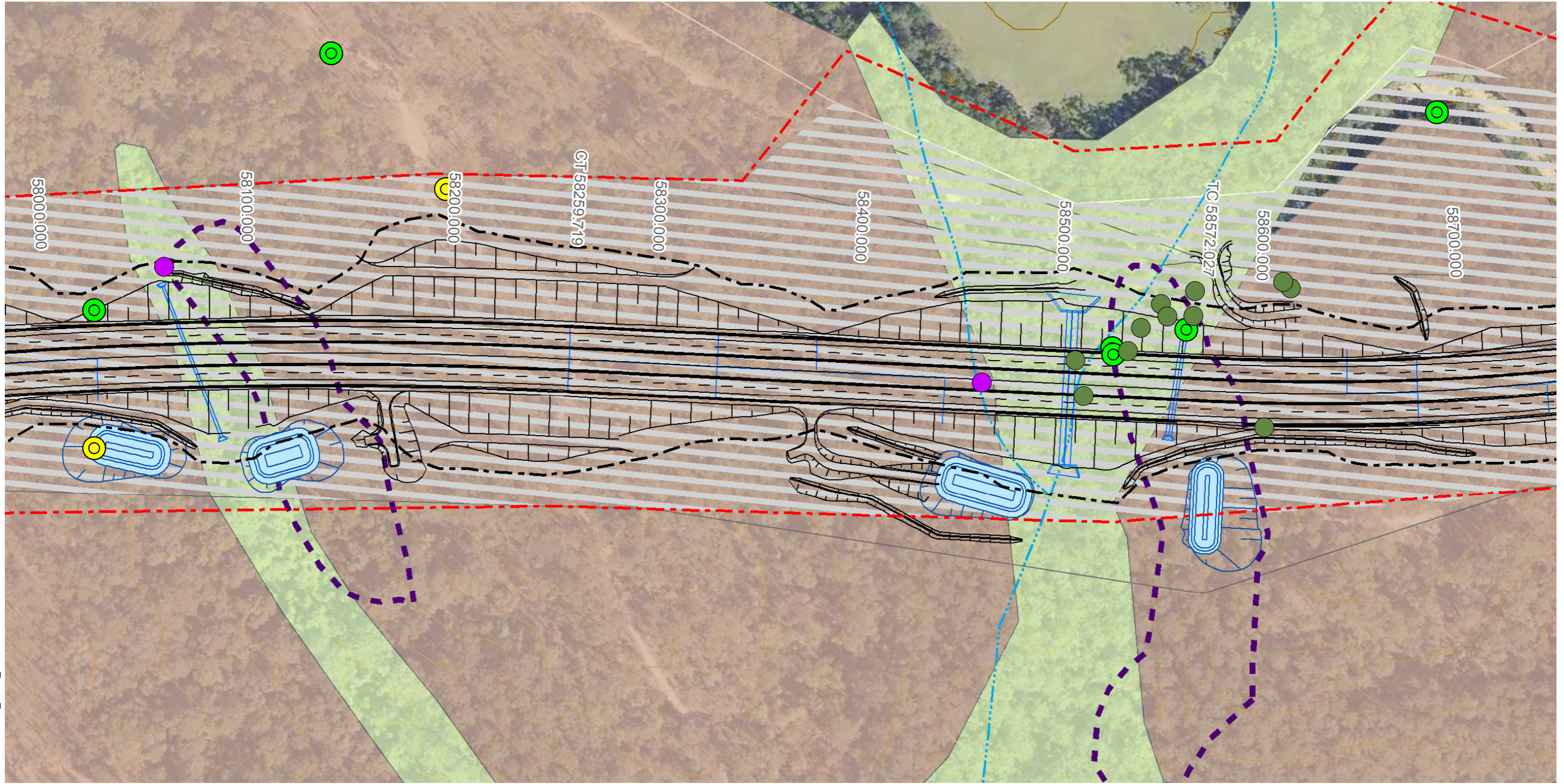


Note: Ground-truthed vegetation has been shown within the project boundary and in proposed areas of ancillary site facilities

Projection: GDA 1994 MGA Zone 56
Source: RMS, AFJV, AADJV

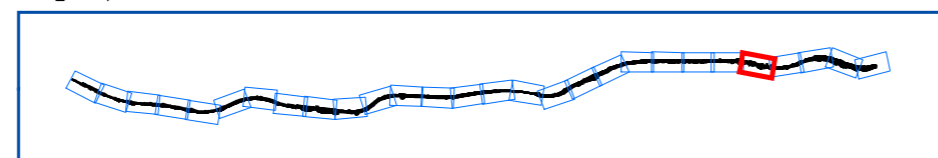
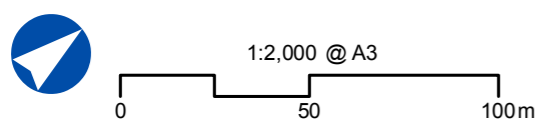
PACIFIC HIGHWAY UPGRADE WC2NH CEMP

FIGURE: Sensitive Area Plans (Map 23 of 28)



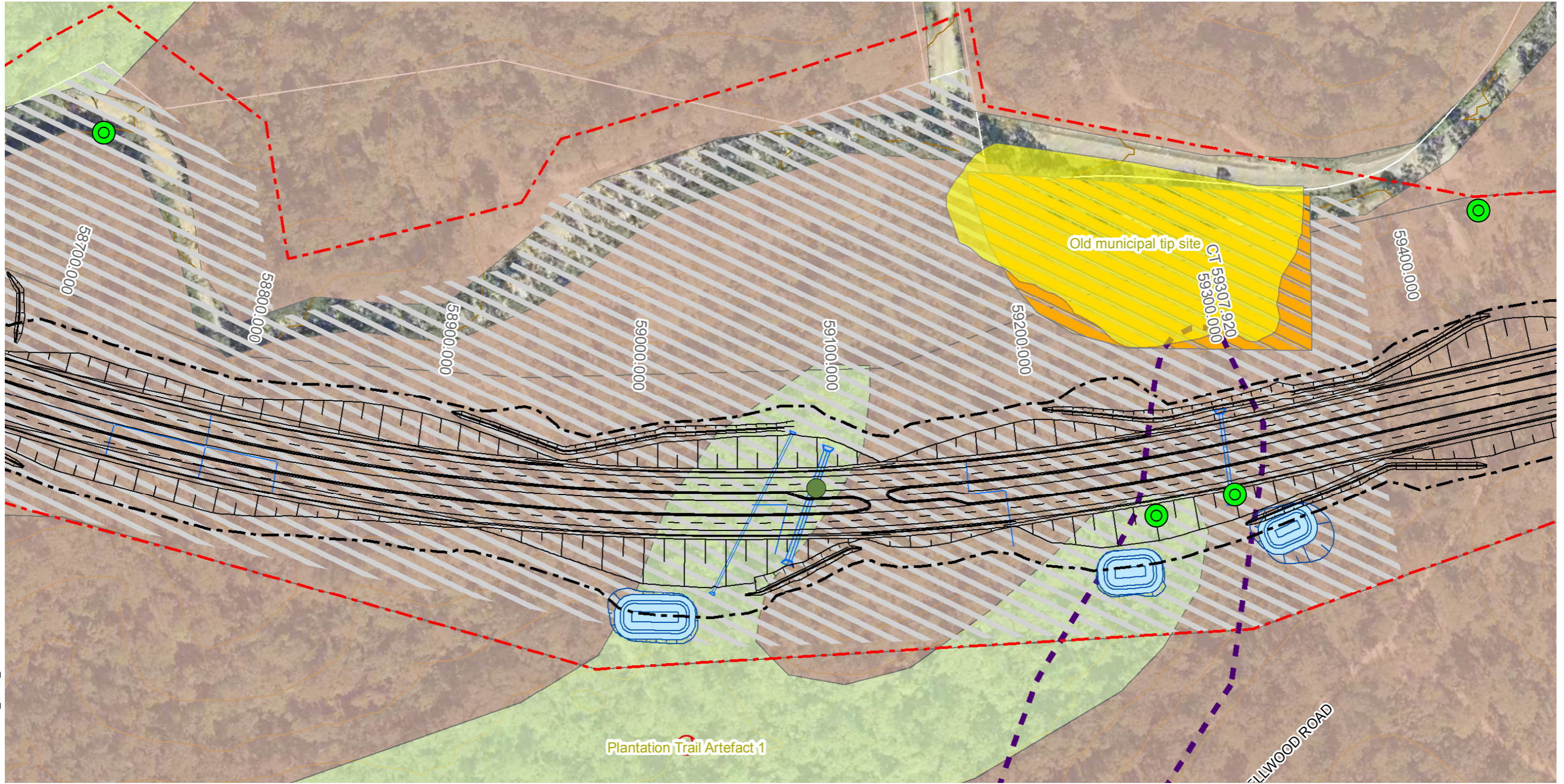
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Note: Ground-truthed vegetation has been shown within the project boundary and in proposed areas of ancillary site facilities

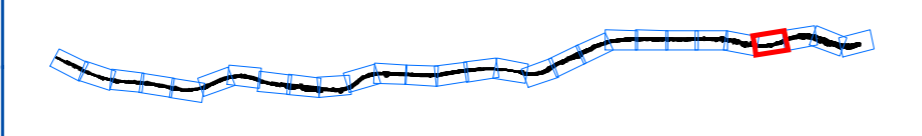
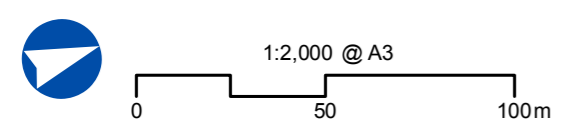
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Source: RMS, AFJV, AADJV



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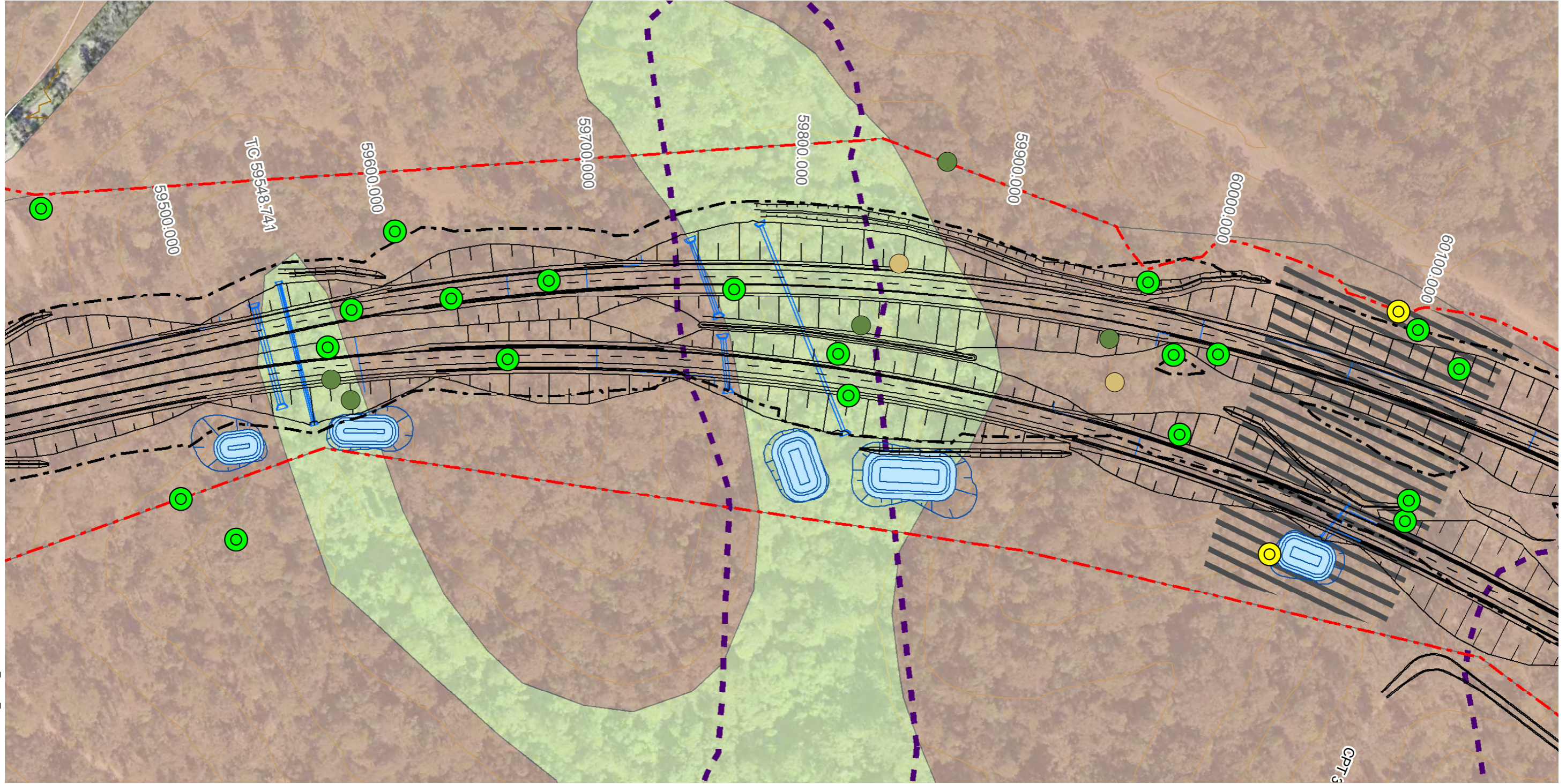
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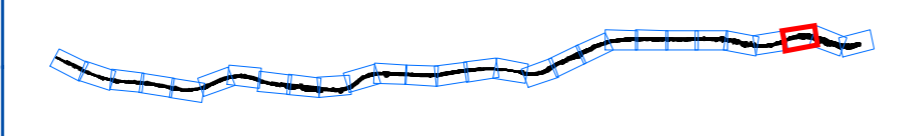
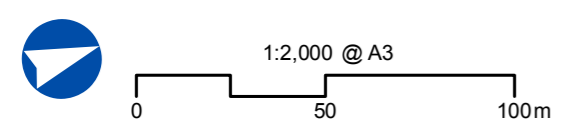
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<p>Project boundary #</p> <p>Clearing limit (Appendix 4)</p> <p>500m Grey-headed Flying Fox buffer zone</p> <p>300m Grey-headed Flying Fox buffer zone</p> <p>Construction protection area</p> <p>5m contours</p> <p>20yr ARI flood</p> <p>Natural drainage</p> <p>SEPP14 wetland</p>	<p>Stormwater management</p> <p>Drainage basin (Permanent)</p> <p>Drainage basin (Temporary)</p> <p>Heritage</p> <p>Archaeological PAD/site</p> <p>Heritage item</p> <p>Non-Aboriginal heritage site</p> <p>Cabbage tree palm resource site</p> <p>Acoustic</p> <p>Facade treatments to noise receivers</p>	<p>Sensitive noise receiver</p> <p>Contamination</p> <p>Potential contaminated site</p> <p>Biodiversity - Flora</p> <p>Alexfloydia repens</p> <p>Dendrobium melaleucaphilum</p> <p>Eucalyptus ancophila</p> <p>Goodenia fordiana</p> <p>Marsdenia longiloba</p> <p>Maundia triglochinosides</p> <p>Niemeyera whitei</p> <p>Tylophora woollsi</p> <p>Hollow-bearing tree/Habitat tree</p> <p>Microbat habitat (observations 2012)</p> <p>Green-thighed frog breeding pond</p> <p>Green-thighed frog habitat</p> <p>Likely Green-thighed frog habitat</p> <p>Giant Barred frog habitat</p> <p>Flying Fox camp (Feb 2014)</p>	<p>Location of Maundia</p> <p>Location of riparian zone vegetation</p> <p>DPI Fisheries</p> <p>Mangrove and pneumatophores</p> <p>Salt marsh</p> <p>Ground-truthed (inside project bdy)</p> <p>Vegetation Community (EEC)</p> <p>Freshwater Wetlands</p> <p>Mixed Floodplain Forest</p> <p>Swamp Forest - Swamp Mahogany/ Paperbark</p>	<p>Vegetation</p> <p>Swamp Oak Forest</p> <p>Mangrove Forest</p> <p>Moist Open Forest - Flooded Gum</p> <p>Moist Open Forest - White Mahogany - Grey Gum</p> <p>Open Forest - Blackbutt</p> <p>Hardwood Plantation - mostly cleared</p> <p>Regrowth Acacia/ Weeds</p> <p>Regrowth Swamp Oak</p>	<p>Regrowth and Weeds: Moist Open Forest - White Mahogany, Grey Gum, Swamp Oak, Camphor Laurel</p> <p>Garden Plantings</p> <p>Camphor Laurel Forest (Environmental Weed)</p> <p>EA Vegetation (outside project bdy)</p> <p>Vegetation Community (EEC)</p> <p>Freshwater Wetlands</p> <p>Lowland Rainforest</p> <p>Mixed Floodplain Forest</p>	<p>Swamp Forest - Swamp Mahogany / Paperbark</p> <p>Swamp Forest - Swamp Oak</p> <p>Saltmarsh</p> <p>Vegetation Community</p> <p>Mangroves</p> <p>Moist Open Forest - Flooded Gum</p> <p>Moist Open Forest - White Mahogany / Grey Gum / Ironbark</p> <p>Open Forest - Blackbutt</p> <p>Open Forest - Scribbly Gum</p> <p>Hardwood Plantation</p> <p>Softwood Plantation</p> <p>Unidentified/modified vegetation</p>
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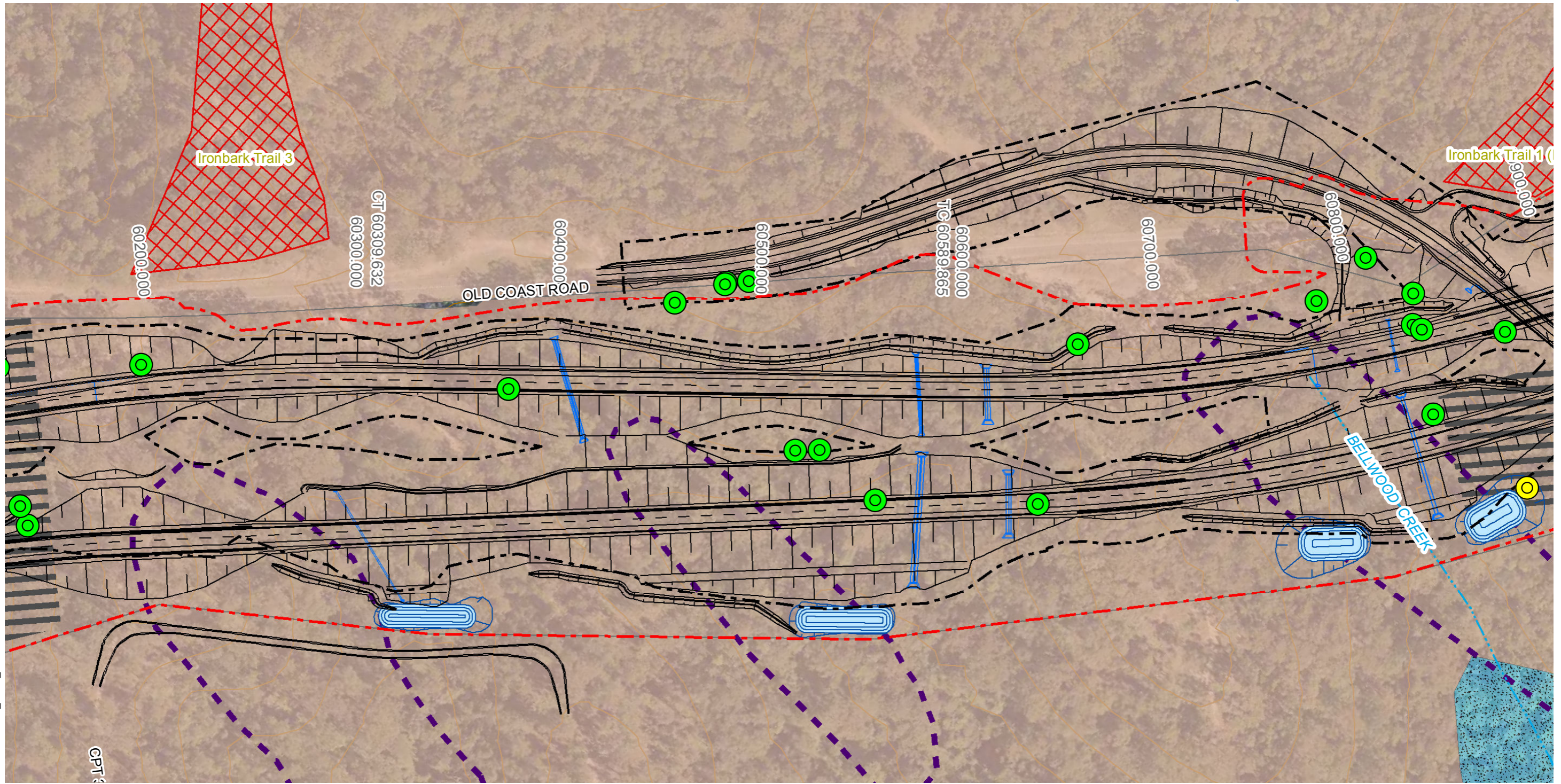
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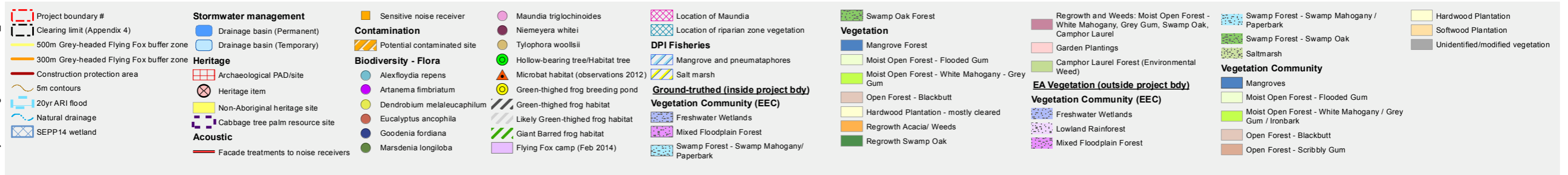
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Projection: GDA 1994 MGA Zone 56

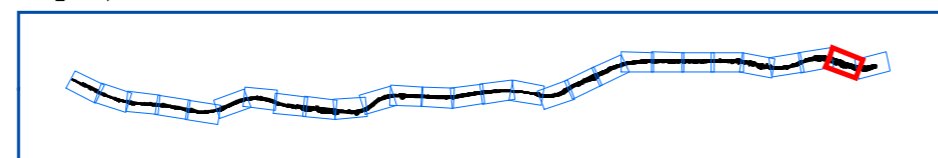
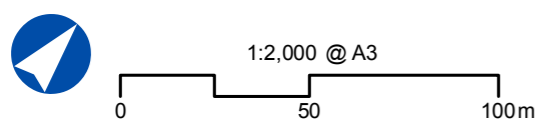
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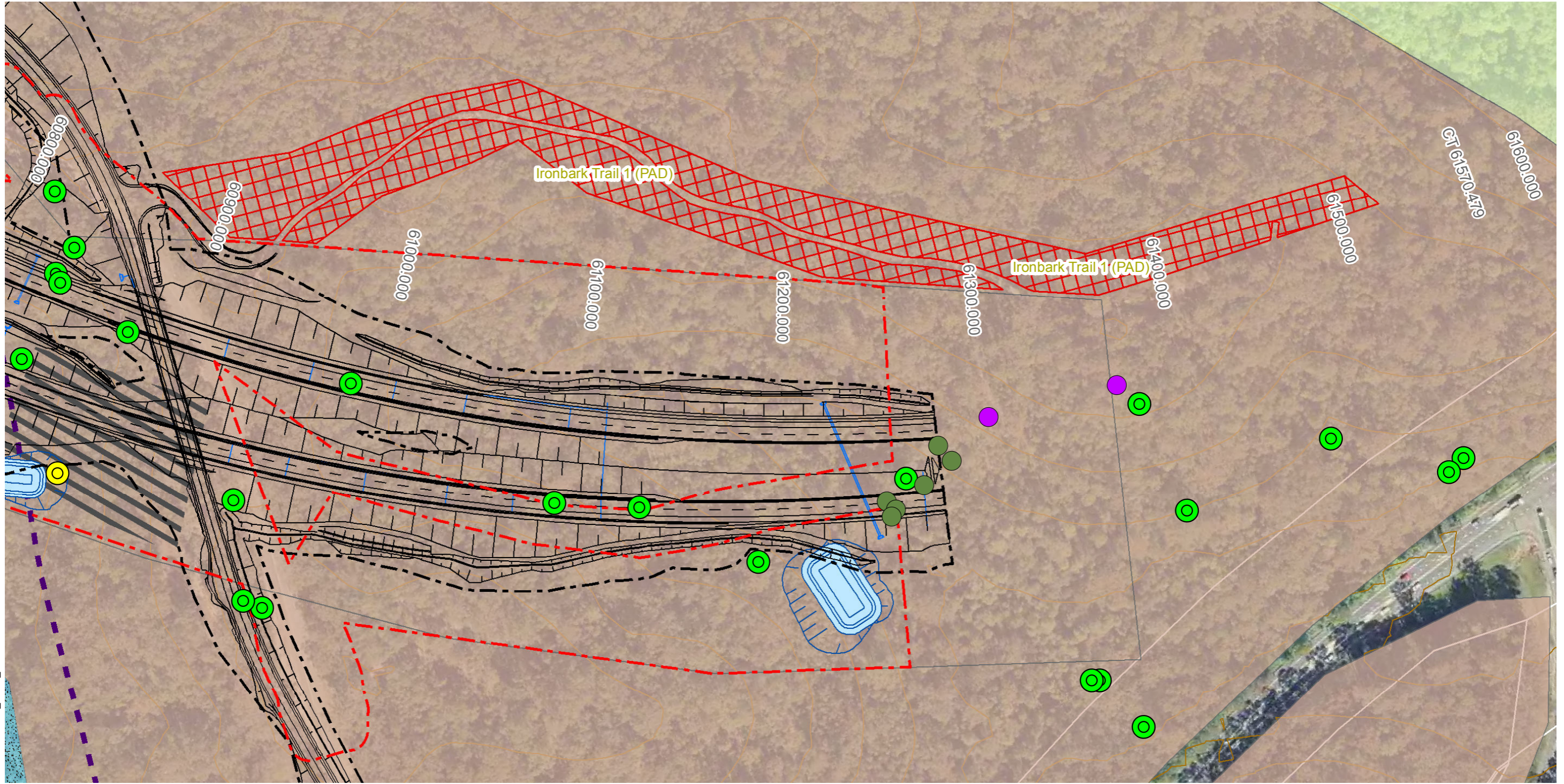


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Note: Ground-truthed vegetation has been shown within the project boundary and in proposed areas of ancillary site facilities

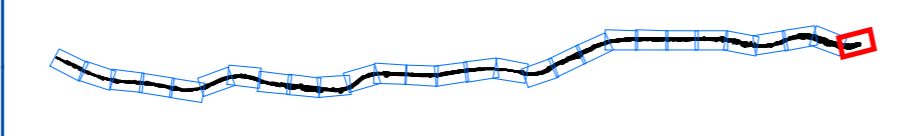
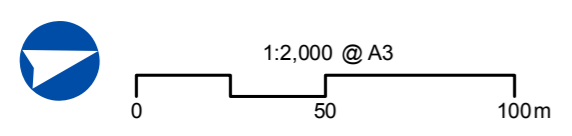
Projection: GDA 1994 MGA Zone 56
Source: RMS, AFJV, AADJV



W:\Projects\Design\GIS\WC2NH_CEMP_SensitiveAreaPlans_rev10_2000.mxd\241993111-12-14\Martin.Russell\Rev 10

<ul style="list-style-type: none"> Project boundary # Clearing limit (Appendix 4) 500m Grey-headed Flying Fox buffer zone 300m Grey-headed Flying Fox buffer zone Construction protection area 5m contours 20yr ARI flood Natural drainage SEPP14 wetland 	<p>Stormwater management</p> <ul style="list-style-type: none"> Drainage basin (Permanent) Drainage basin (Temporary) <p>Heritage</p> <ul style="list-style-type: none"> Archaeological PAD/site Heritage item Non-Aboriginal heritage site Cabbage tree palm resource site <p>Acoustic</p> <ul style="list-style-type: none"> Facade treatments to noise receivers 	<ul style="list-style-type: none"> Sensitive noise receiver <p>Contamination</p> <ul style="list-style-type: none"> Potential contaminated site <p>Biodiversity - Flora</p> <ul style="list-style-type: none"> Alexfloydia repens Artanema fimbriatum Dendrobium melaleucaphilium Eucalyptus ancophila Goodenia fordiana Marsdenia longiloba 	<ul style="list-style-type: none"> Maundia triglochinosides Niemeyera whitei Tylophora woollsii Hollow-bearing tree/Habitat tree Microbat habitat (observations 2012) Green-thighed frog breeding pond Green-thighed frog habitat Likely Green-thighed frog habitat Giant Barred frog habitat Flying Fox camp (Feb 2014) 	<ul style="list-style-type: none"> Location of Maundia Location of riparian zone vegetation <p>DPI Fisheries</p> <ul style="list-style-type: none"> Mangrove and pneumatophores Salt marsh <p>Ground-truthed (inside project bdy)</p> <p>Vegetation Community (EEC)</p> <ul style="list-style-type: none"> Freshwater Wetlands Mixed Floodplain Forest Swamp Forest - Swamp Mahogany/ Paperbark 	<ul style="list-style-type: none"> Swamp Oak Forest <p>Vegetation</p> <ul style="list-style-type: none"> Mangrove Forest Moist Open Forest - Flooded Gum Moist Open Forest - White Mahogany - Grey Gum Open Forest - Blackbutt Hardwood Plantation - mostly cleared Regrowth Acacia/ Weeds Regrowth Swamp Oak 	<ul style="list-style-type: none"> Regrowth and Weeds: Moist Open Forest - White Mahogany, Grey Gum, Swamp Oak, Camphor Laurel Garden Plantings Camphor Laurel Forest (Environmental Weed) <p>EA Vegetation (outside project bdy)</p> <p>Vegetation Community (EEC)</p> <ul style="list-style-type: none"> Freshwater Wetlands Lowland Rainforest Mixed Floodplain Forest 	<ul style="list-style-type: none"> Swamp Forest - Swamp Mahogany / Paperbark Swamp Forest - Swamp Oak Saltmarsh <p>Vegetation Community</p> <ul style="list-style-type: none"> Mangroves Moist Open Forest - Flooded Gum Moist Open Forest - White Mahogany / Ironbark Gum Open Forest - Blackbutt Open Forest - Scribbly Gum 	<ul style="list-style-type: none"> Hardwood Plantation Softwood Plantation Unidentified/modified vegetation
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denotes: Project boundary based on WC2NH_Approved_Project_Boundary_20141202_V2.shp received 02/12/2014



Note: Ground-truthed vegetation has been shown within the project boundary and in proposed areas of ancillary site facilities

Projection: GDA 1994 MGA Zone 56
Source: RMS, AFJV, AADJV



ENVIRONMENTAL INCIDENT CLASSIFICATION AND REPORTING PROCEDURE

September 2104

About this release

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

Document Status	Date
Version 4.7	6 August 2014

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	1.10.2013	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

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1 BACKGROUND

1.1 Purpose

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

1.2 Scope and Coverage

This Procedure is for the use of all Roads and Maritime staff in all regions and divisions where environmental incidents may occur, including where incidents occur during the course of Roads and Maritime's contractors or alliance members undertaking works. The procedure is to clearly define the requirements of Roads and Maritime staff and contractors to report environmental incidents. The procedure does NOT cover environmental incidents caused by traffic accidents or boating accidents nor marine oil and chemical spills covered by the National Plan¹.

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.

An environmental incident is not only necessarily when an event caused by Roads and Maritime or its contractors, but one that occurs on a site under their control or management.

Environmental incidents can involve (but not be limited to) the following:

- 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;
- any adverse health or well-being impacts on persons due to activities by Roads and Maritime or its contractors causing adverse environmental conditions;
- an unexpected find of contaminated soils or other potentially hazardous substances;
- unauthorised damage or interference to native vegetation, threatened species, endangered ecological communities or critical habitat;
- unauthorised harm to Aboriginal objects and Aboriginal places; or
- unauthorised damage to any State or locally significant relic or Heritage item;
- unauthorised damage to protected marine vegetation and mangroves;
- dredging or reclamation works within a watercourse without appropriate authorisation;
- potential contamination of waterways or land;
- accidental starting of a fire or a fire breaking out of containment;

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

- any breach of legislation including a condition of an environment protection licence, a Department of Planning and Infrastructure (DP&I) approval; a Local Government development consent; or any government agency permit condition;
- works impacting outside an approved area or undertaken without appropriate approval or assessment under the *Environmental Planning & Assessment Act 1979*.
- works undertaken that are not in accordance with a determined Review of Environmental Factors (REF). and
- unauthorised dumping of waste by Roads and Maritime, its contractors or others.

An environmental incident, for the purposes of these guidelines, need not necessarily be an incident that comprises a breach of legislation. Nonetheless it is important to capture this information for reasons including the environmental improvement of Roads and Maritime practices and contractor performance.

1.3 Responsibilities

All Roads and Maritime staff and contractors are responsible for reporting an environmental incident when they become aware of an incident. Appendix 2 summarises the general roles and responsibilities of Roads and Maritime staff. Regional Maintenance Delivery shall manage environmental incidents in accordance with the Roads and Maritime responses as detailed in Table 2 of this document.

Supervisors and managers are responsible for ensuring environmental incidents are reported to the appropriate level as set out in this document.

Environment Branch is responsible for:

- assisting with advice and the reporting process;
- monitoring environmental incidents;
- monitoring and reviewing this procedure; and
- giving advice on whether environmental incidents need to be reported to external agencies.

Legal Branch is responsible for providing legal advice, assisting with investigations of incidents and preparation of reports for the Environment Protection Authority and other regulators for major incidents.

1.4 Evaluation

The environmental incident register is used to record and monitor all environmental incidents within Roads and Maritime. The register will assist with record keeping, reporting and determining improvements to incident response. The register is kept by Environment Branch. Environment Branch is responsible for entering incidents on the register and monitoring and measuring the effectiveness of incident management and of this procedure.

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. They include:

1. Category 1;
2. Category 2; and
3. a Reportable Event.

2.1.1 *Category 1 Incidents*

Category 1 incidents are potentially the most serious incidents. They generally reflect breaches of environmental legislation.

Category 1 incidents can be divided into several sub-groups;

- Environmental Breaches against the Protection of the Environment Operations Act 1997 (POEO Act). These include:
 - water pollution incidents that actually or potentially pollute waters. Such incidents include sediment laden water moving off a site due to inadequate controls being put in place; the intentional discharge of waters that are polluted or outside the limits set by environment protection licences or approvals; chemical/oil spills, discharges or spills to waters from the Rozelle Maritime marina or Maritime operated vessels, and sewage/septic overflows.
 - odour pollution incidents that involve the emission of an offensive odour.
 - dust pollution involving the generation of excessive dust and/or levels that might unreasonably impact on nearby residences/users of land.
 - noise pollution involving the generation of offensive noise.
 - fire that travels beyond site boundary causing or potentially causing adverse impact to the environment or community.
 - breaches of environment protection licence conditions.
 - unauthorised or illegal waste disposal by Roads and Maritime, its contractors or others.
- Conservation Breaches
 - of the National Parks and Wildlife Act 1974 and the Environment Protection and Biodiversity Conservation Act (Cth) 1999 such as unauthorised harm to threatened species, endangered populations, endangered ecological communities or critical habitat or to land reserved under the National Parks and Wildlife Act 1974, and
 - of the Fisheries Management Act 1994 such as unauthorised harm to threatened aquatic species and protected marine vegetation or unauthorised dredging or reclamation works within a watercourse.
- Heritage Breaches of the National Parks and Wildlife Act 1974 and the Heritage Act 1977 such as the unauthorised damage to any State or locally significant relic or Heritage item or to Aboriginal objects or places.

- Planning Breaches of the Environmental Planning and Assessment Act 1979 such as undertaking works without required approval or assessment or the failure to comply with an approval condition.

2.1.2 Category 2 Incidents

Category 2 incidents are generally less environmentally serious and 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. Category 2 incidents include:

- those incidents that have been classified and reported as a Category 1 incident and have been reclassified as a Category 2 incident by Principal Manager Environment Operations (PMEO). PMEo will assess all Category 1 incidents in consultation with relevant senior environmental staff (and Legal Branch if necessary) and undertake an objective assessment of the environmental / conservation / heritage significance or the legislative breach and may reclassified the incident category for reporting and KPI purposes. Reporting officers will be advised of any reclassifications.
- spills that do not leave the site boundary or Maritime vessel and are cleaned up without material environmental harm or residual environmental impact such as small plant hydraulic spills.
- a fire that is contained on site and does not cause or potentially cause adverse impact to the environment or community.
- failure to implement a component of Environment Management Plan or work method statement that does not result in a Category 1 incident.

2.1.3 Reportable Events

This category captures those environmental incidents that occur outside the scope of reasonable controls and mitigation. Reportable events fall into four groups:

- those relating to erosion and sediment control, that occur as a result of weather events that are beyond the design capacity of controls, and where those environmental controls have been properly (appropriate and in compliance with all requirements and guidelines) designed, installed and maintained. It recognises that some incidents, such as those due to extremely intense rainfall events, cannot be controlled even with properly designed, installed and maintained controls. For the incident to be classified as a reportable event it will need to be demonstrated that appropriate and properly installed and maintained environmental controls and management systems were in place prior to and during the event.
- an unexpected archaeological find that has been discovered and not previously identified during previous environmental assessments and is being managed in accordance with the 'Roads and Maritime Standard Management Procedure - Unexpected Archaeological Finds'.
- an unexpected 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'.
- any formal complaint or warning from a regulatory agency.
- an unexpected find of contaminated soils, asbestos or other potentially hazardous substances.
- any adverse impact to human health caused by an activity resulting in adverse environmental conditions.

Table I Environmental Incident Classification Categories

Category	Incident type	Primary Legislative Requirements and offence provisions
Category 1	Material, odour, fire or noise that travels beyond site boundary causing or potentially causing adverse impact to the environment or community.	s.120 POEO Act – water pollution, sediment laden water, chemical/oil spill and sewage/septic overflow; s.116 POEO Act – leaks and spills generally s.129 POEO Act - offensive odour; s.126 POEO Act - dust exceeding reasonable levels without active management measures in place. s.139 POEO Act - offensive noise
	Discharge of waters from site not in accordance with any applicable REF determination / approval / environment protection licence condition.	s.120, s.116 and s.64 POEO Act; s.75D <i>EP&A Act</i>
	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; s. 116 POEO Act – leaks and spills generally
	Unauthorised harm to threatened species, endangered populations, endangered ecological communities or critical habitat.	<i>NPW Act</i> 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.	<i>Fisheries Management Act (1994)</i> particularly s. 199 and 204A.
	Unauthorised damage to any State or locally significant relic or Heritage item.	<i>Heritage Act 1977</i> particularly s. 57, s.119, s.139 and s.156. <i>EPBC Act 1999</i> s.15A, B & C
	Unauthorised harm to Aboriginal objects and Aboriginal places.	<i>NPW Act</i> particularly s.86 and s.87. <i>EPBC Act 1999</i> s.15A, B & C
	Failure to comply with a REF determination / approval / environment protection licence condition.	<i>EP&A Act</i> particularly s.75D, s.76A, s.115W; <i>POEO Act</i> particularly s.64; <i>FM (G) Reg</i> particularly s.337A, <i>NPW Act</i> particularly s.90 and s.141.
	Works undertaken without required approval or environmental assessment.	<i>EP&A Act</i> particularly s.75D and s.111.
	Material harm to the environment or persons as per Part 5.7 of POEO Act	<i>POEO Act</i> particularly s.148 (notification requirements).
Unauthorised disposal/transport of waste	S115, 142A, 143, 144, POEO Act.	

Category 2	Spills that do not leave a site boundary and are cleaned up without material environmental harm or residual environmental impact.	<i>POEO Act</i> including s.120 and s.142A.
	A fire that is contained on site and does not cause or potentially cause adverse impact to the environment or community	Potentially <i>EP&A Act</i> particularly s.111
	Failure to implement component of Environment Management Plan or work method statement that does not result in a Category 1 incident.	<i>EP&A Act</i> particularly s.111
Reportable Events	Material travelling beyond a site boundary, and where it can be demonstrated that the erosion and sediment control plan has been prepared and the controls have been installed appropriately, are being maintained well, and the weather (rain, wind etc) event exceeds the design capacity of the controls.	
	An unexpected find of contaminated soils, asbestos or other potentially hazardous substances.	
	An unexpected archaeological find and is being managed in accordance with the " Roads and Maritime Standard Management Procedure - Unexpected Archaeological Finds'	
	A formal complaint or warning from a regulatory agency	

2.2 Environmental Incident Reporting

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. It is important to note that, Roads and Maritime's Regional Maintenance Delivery are to follow the procedure in accordance with the Roads and Maritime required responses rather than as a Roads and Maritime contractor.

In general, Category 1 incidents are the most serious and incorporate quick notification to Environment Branch and Table 2 details the investigation and reporting procedure. Category 2 incidents are generally less serious with more flexible notification and reporting timeframes.

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

2.2.1 Category 1 Incidents

- i. Where it is possible and necessary, all work in the relevant area should cease and actions should be implemented to prevent adverse impact to the environment or community. Common sense dictates the extent of the 'stop work', however experience indicates that in the majority of incidents allow work to continue, with only those activities in the close vicinity to cease. If the incident is a pollution incident and if it threatens public health, property or the environment, follow the procedures detailed in section 2.3.1.
- ii. Advise the relevant Environment Manager (and Regional Maintenance Delivery Environment Manager for Regional Maintenance Delivery projects) as soon as Roads and Maritime staff become aware of the incident occurring. The Environment Manager in turn advises Environment Branch (GM Environment, Principal Manager Environment Operations or Principal Manager Environment Policy Planning and Assessment). Roads and Maritime contractors are to advise Roads and Maritime Project Site Management.

- iii. Environment Branch will also notify the Chief Executive and relevant Directors of significant Category 1 incidents as soon as possible and ideally within 24 hours of the incident occurring.
- iv. Pollution incidents that cause or threaten material harm to the environment or humans must be notified immediately after becoming aware of the incident - refer to section 2.4
NOTE: The General Manager Environment or PME0 may also discuss incidents with EPA or DP&I whether there is a requirement to notify those agencies or not.
- v. The Project Manager needs to ensure that the environmental incident report form is completed and submitted to Environment Branch (and Quality Systems Coordinator (QSC) for Regional Maintenance Delivery projects).
- vi. Following consultation with PME0, undertake an investigation into the cause, nature and management response to the incident and check that any measures recommended to prevent further incidents are implemented.

2.2.2 Category 2 Incidents

- i. If necessary, stop work in relevant area and/or take immediate actions to prevent adverse impact to the environment, community or heritage.
- ii. Advise relevant Environment Manager (and QSC for Regional Maintenance Delivery projects) of the incident.
- iii. The Project Manager needs to ensure that the environmental incident report form is completed and submitted to relevant Environment Manager, Environment Branch (and QSC for Regional Maintenance Delivery projects).
- iv. Following consultation with PME0, undertake an investigation into the cause, nature and management response to the incident and check that any measures recommended to prevent further incidents are implemented.

2.2.3 Reportable Events

Environment Manager is to advise Principal Manager Environment Operations of the event by email.

Table 2: Environmental Incident Reporting Response

Category 1 Reporting Response		Roads and Maritime Response	Contractor Response
1	Stop work in relevant area (if necessary) and take immediate actions to prevent adverse impact to the environment or community.	✓	✓
2	For Category 1 POLLUTION INCIDENTS refer to section 2.4 below. For all other Category 1 incidents follow the points below. <ul style="list-style-type: none"> For Roads and Maritime contractors and projects, immediately advise relevant Environment Manager (Roads and Maritime contractors to advise Roads and Maritime Project Site Management) who must immediately advise Environment Branch by phone. For Regional Maintenance Delivery projects immediately advise Team Leader/Works Supervisor/Project Delivery Manager/District Works/Section Manager who must immediately advise the Regional Maintenance Delivery Environment Manager, and regional environment staff by phone Environment Branch who must immediately advise Environment Branch by phone. 	✓	✓ (Advise Roads and Maritime Project Site Management)
3	Notify relevant authorities of pollution incidents that cause or threaten material harm to the environment or humans immediately after becoming aware of the incident - refer to section 2.4.	✓	✓
4	Complete the environmental incident report form 624 (Regional Maintenance Delivery form 400) and submit to PME0 by email within 3 days of the date of the incident.	✓	✓
6	Following consultation with PME0 , review the cause, nature and management response to the incident	✓	✓
Category 2 Reporting Response		Roads and Maritime Response	Contractor Response
1	Stop work in relevant area (if necessary) and take immediate actions to prevent adverse impact to the environment or community.	✓	✓
2	<ul style="list-style-type: none"> For Roads and Maritime contractors and projects advise relevant regional Environment Manager (Roads and Maritime contractors to advise Roads and Maritime Project Site Management). For Regional Maintenance Delivery projects advise Team Leader /Works Supervisor/Project Delivery Manager/District Works/Section 		
3	Complete the environmental incident report form 624 (Regional Maintenance Delivery form 400) and submit to PME0 by email within 3 days of the date of the incident.	✓	✓
4	Following consultation with PME0, review the cause, nature and management response to the incident	✓	✓
Reportable Event		Roads and Maritime Response	Contractor Response
1	Environment Manager to advise Principal Manager Environment Operations by email with copy to environmentalperformanceimprovement@rms.nsw.gov.au . [Roads and Maritime contractors to advise Roads and Maritime Project Site Management]	✓	✓ (Advise Roads and Maritime Project Site Management)

2.3 When Must A Regulatory Agency Be Notified Of An Environmental Incident?

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	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 Sustainability, Environment, Water, Population and Communities	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.

2.4 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 0428 608 758.
- Contractors who hold an environment protection licence for their activities are responsible for notifying EPA and the 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. If the incident occurs on a premises that is regulated by an environment protection licence, refer to the Pollution Incident Response Management Plan.

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 0428 608 758 of all **Category 1 pollution incidents**. PME0 will assist in making an assessment of the incident and determine whether or not to formally notify the incident to the EPA and other relevant authorities.

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

In any case, 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!

The relevant authorities and contact details for a pollution incident where material harm to human health or the environment is caused or threatened are given below in Table 4.

Table 4: Appropriate Authorities for Part 5.7 Incident Notification

Relevant Authority	Contact Number
Fire and Rescue NSW	1300 729 579 (for Environmental harm) 000 (for human health or safety incidents)
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 the environment:**
 - 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 pollution incident to satisfy notification obligations

2.5 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) below 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.

2.6 Other Agencies

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

2.7 Incident Reporting

It is important that there is consistency in the way that an environmental incident is reported. Therefore, 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). 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 incident reporting form requires that certain information be provided as below:

- the name of the project, contractor and Roads and Maritime Region;
- the date, time and duration of the incident;
- an outline of the incident including;
 - a brief description of the incident. If the incident relates to a “failure to comply with a REF determination / approval / licence condition” provide details of the approval or licence number and condition;
 - the exact location and extent of the incident;
 - the circumstances in which the incident occurred (including the cause of the incident, if known): and
 - how it was identified.
- identification of the potential incident category;
- a description of what actions/control measures were taken to rectify the incident and prevent a recurrence of the incident;
- details regarding any notification of the advice to EPA or other authorities such as DP&I; and
- sign off by:
 - the person making the report; and
 - the Environment Manager or project manager.

The information from the form will be entered into the Environment Branch Environmental Incident Register for the purposes of record keeping, reporting (e.g. annual environment report and regular KPI assessments) and to monitor and improve responses to environmental incidents. Directorates are encouraged to keep their own environmental incident registers to manage environmental issues at a local level.

Information contained in the form or report should be verified by the relevant Project Manager by checking:

- the initial reports of the incident – who made the first report, at what time, and what information was provided, what instructions for actions were given; and
- the incident diary or field notes kept by those involved in the incident – identify and investigate any inconsistencies.

Should initial forms or reports be subsequently found to have ambiguities or other errors, then these should be annotated with full explanation and clarification within the initial forms/reports. A copy of the original form/report must be retained on file.

Incidents which may have caused material harm to the environment, damaged heritage, impacted on biodiversity matters or which are potential breaches of the POEO Act or conditions of environment protection licences may be investigated and prosecuted by EPA. DP&I authorised officers have the same investigative powers as authorised EPA officers.

The Principal Manager Environment Operations must be contacted in relation to these incidents and document control must be observed. This includes any communications, documents, records, written statements or reports (for example, emails and file notes) internally between Roads and Maritime personnel.

Under the POEO Act and the EP&A Act, EPA and DP&I can require Roads and Maritime to provide information and records regarding an incident to assist in their investigations, for example letters, emails, memoranda, drawings, files and other project information. Roads and Maritime must submit any information requested by the agencies.

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
<p>Complete this form for all environmental incidents that occur due to Roads and Maritime Services works or on Roads and Maritime worksites.</p> <p>The purpose of this form 624 is to alert Environment Branch to potential environmental incidents. It does not represent the Roads and Maritime final position for any incident reported on this form.</p>		
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 <input type="checkbox"/> pm <input type="checkbox"/> 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)		
Name & contact details of complainant (where relevant)		
SAMPLE		
Potential Category 1 Incident: <i>(may involve one or more of the following [tick incident type] - fill in table over page)</i>	<input type="checkbox"/> Unauthorised harm or damage to native vegetation, threatened species, endangered populations, endangered ecological communities or critical habitat.	
<input type="checkbox"/> Material, odour or noise that travels beyond site boundary causing or potentially causing adverse impact to the environment or community.	<input type="checkbox"/> Unauthorised harm or damage to threatened aquatic species and protected marine vegetation or unauthorised dredging or reclamation works within a watercourse.	
<input type="checkbox"/> Discharge of waters from site not in accordance with any applicable REF determination /approval / environment protection licence condition.	<input type="checkbox"/> Unauthorised damage or destruction to any State or locally significant relic or Heritage item.	
<input type="checkbox"/> A fire that travels beyond site boundary	<input type="checkbox"/> Material harm to the environment or persons as per Part 5.7 of POEO Act. (including harm on site)	
<input type="checkbox"/> Unauthorised harm or desecration to Aboriginal objects and Aboriginal places.	<input type="checkbox"/> Works undertaken outside approved areas, without required approval or environmental assessment.	
<input type="checkbox"/> Failure to comply with a REF determination / approval / environment protection licence condition.		
Potential Category 2 Incident: <i>(may involve one or more of the following [tick incident type] - fill in table over page)</i>	<input type="checkbox"/> Failure to implement component of Environment Management Plan that does not result in a Category 1 incident.	
<input type="checkbox"/> Spills that do not leave the site boundary and are cleaned up without material environmental harm or residual environmental impact.	<input type="checkbox"/> A fire contained on site without causing impact to the environment.	
Please refer to page 2 for submitting details		
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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:

Notification of EPA and other relevant authorities - To be completed by the relevant Project Manager or Regional Environment Manager

Was EPA notified? <input type="checkbox"/> Yes <input type="checkbox"/> No - If No, provide reasons for not notifying EPA
Who notified the EPA? Name: Position:
Notification method: <input type="checkbox"/> telephone <input type="checkbox"/> on site Date: Time: : am <input type="checkbox"/> pm <input type="checkbox"/>
Has there been a EPA Environment Line Complaint? <input type="checkbox"/> Yes <input type="checkbox"/> No EPA Complaint No.
Was any of the following authorities notified? <input type="checkbox"/> Fire & Rescue <input type="checkbox"/> Local Government <input type="checkbox"/> WorkCover <input type="checkbox"/> Ministry of Health
Other authorities notified and why (eg NSW Fire & Rescue, Dept. of Planning & Infrastructure, Department of Primary Industries)
Is there an EPL for the project site? <input type="checkbox"/> Yes - Was the Pollution Incident Response Management Plan implemented? <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> No

Sign off (Regional Environment Manager/Project Manager)

Print name:	Sign:
Position:	Date:

Please submit all completed forms to Environment Branch via Fax: 8588 4173 or email at environmentalperformanceimprovement@rms.nsw.gov.au Regional Maintenance Delivery staff to forward completed form to QSC; QSC to forward form to LEO and R.M.D. Environment Manager (Fax: 9598 7881).

APPENDIX 2 ROADS AND MARITIME CONTACTS

General Manager Environment	Miller Street	8588 5730	
Principal Manager Environment Operations	Miller Street	8588 5765	0428 608 758
Principal Manager Environment Policy, Planning and Assessment	Miller Street	8588 5740	0439 595 361
Maritime Division Emergency Planner Officer	Rozelle office	9563 8476	0428 740 520
Senior Environment Specialist – Biodiversity ²	Miller Street	8588 5740	0439 595 361
Senior Environment Specialist - Heritage	Miller Street	8588 5754	0400 474 405
Environment Manager Motorways	Miller Street	8588 4372	0408 989 693
Environment Manager Sydney	Parramatta	8849 2516	0411 148 513
Environment Manager Western	Parkes	6861 1644	0439 240 297
Environment Manager Southern	Wollongong	6492 9515	0447 443 957
Environment Manager Northern	Grafton	6640 1072	0411 406 519
Environment Manager South-West	Wagga Wagga	8588 5766	0417 652 929
Environment Manager Hunter	Newcastle	49240440	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

² Currently vacant. Contact Principal Manager Environment Policy, Planning and Assessment

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)
Matrville Office	PO Box 150, Matrville 2036 Ph: 02 9311 2707 Fax: 02 9700 3747 (s)	Ph: 02 9311 2707

Public Health Unit	Contact Details	After Hours Contact
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: 149 377 If no answer phone: Mob 0417 244 966 or Mob 0407 904 280
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: 149 377 If 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

Public Health Unit	Contact Details	After Hours Contact
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 4 ROLES AND RESPONSIBILITIES

	Project Manager	Environment Manager or Delegate	Principal Manager Environment Operations	Executive Environment Committee	Roads and Maritime
RESPONSIBILITY (CATEGORY 1 & 2 INCIDENTS)					
Strategic Overview & Performance Review					
Oversee environmental incident implementation, review its suitability and adequacy against Roads and Maritime policy, legislative requirements and relevant external party (i.e. EPA) incident management protocols			✓		
Review incident management performance and provide feedback on incident management performance			✓	✓	
Incident Management & Investigation					
Provide adequate resources for managing environmental incidents	✓	✓	✓		
Ensure environmental incidents are responded to in a timely manner by adequately trained personnel	✓	✓	✓		
Ensure employees are adequately trained in managing environmental incidents	✓	✓	✓		
Provide adequate resources for incident investigation	✓	✓	✓		
Provide adequate and timely advice to those Roads and Maritime employees affected by or involved in environmental incidents	✓	✓			
Liaise and respond to media enquiries / coverage of environmental incidents or nominating appropriate media contact	✓		✓		
Ensure that when not available to fulfil incident management roles and responsibilities, these responsibilities are delegated to an available and appropriate Roads and Maritime employee	✓	✓	✓		
Incident Administration					
Develop, maintain and control Roads and Maritime environmental incident management procedures and supporting guidance material			✓		
Track the corrective action / follow up implementation identified within environmental incident reports		✓	✓		
Coordinate the Environment Executive Committee's review of environmental incidents			✓		
Coordinate and implement environmental incident training			✓		
Coordinate environmental incident performance reporting			✓		
General					
Adhere to the requirements of this Roads and Maritime procedure and supporting document					✓
Identify opportunities for improvement with environmental incident management and prevention					✓