



Transport  
Roads & Maritime  
Services

# **CONSTRUCTION ENVIRONMENTAL MANAGEMENT PLAN**

## Toolijooa Road Fill Works Stage of Foxground and Berry Bypass

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Plan approved by:



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# Contents

1	INTRODUCTION.....	1
1.1	Background.....	1
1.2	Purpose of this CEMP.....	1
1.3	Consultation.....	4
1.4	CEMP approval.....	4
1.5	Distribution.....	5
1.6	Revision.....	5
2	FOXGROUND AND BERRY BYPASS PROJECT.....	6
2.1	General features.....	6
2.2	Staging.....	8
2.3	Toolijooa Road Fill Works.....	9
2.4	Compound and ancillary facilities.....	9
3	PLANNING.....	11
3.1	Project environmental obligations.....	11
3.2	Legal and other requirements.....	11
3.3	Approvals, permits and licensing.....	11
3.4	Environmental aspects and impacts.....	11
3.5	Environmental policy.....	12
3.6	Objectives and targets.....	12
4	IMPLEMENTATION AND OPERATION.....	14
4.1	Environmental management documentation.....	14
4.2	Resources, roles, responsibilities and authority.....	17
4.3	Sub-contractor management.....	22
5	COMPETENCE, TRAINING AND AWARENESS.....	23
5.1	Environmental induction.....	23
5.2	Toolbox talks, training and awareness.....	23
5.3	Daily pre-start meetings.....	24
6	COMMUNICATION.....	25

6.1	Internal communication .....	25
6.2	External and government authority consultation .....	25
6.3	Stakeholder and community communication .....	26
7	INCIDENTS AND EMERGENCIES .....	27
8	INSPECTIONS, MONITORING AND AUDITING.....	29
8.1	Environmental inspections .....	29
8.2	Environmental monitoring .....	29
8.3	Auditing and reporting.....	30
8.4	Compliance tracking program .....	30
8.5	Non-conformity, corrective and preventative actions .....	30
9	REVIEW AND IMPROVEMENT .....	32
10	DOCUMENTATION .....	33
10.1	Environmental records .....	33
10.2	Document control .....	33
	APPENDICES.....	34

## Tables

TABLE 1-1: CEMP REQUIREMENTS (COA B35) .....	2
TABLE 2-1: TOOLIJOOA RD FILL WORKS CONSTRUCTION ACTIVITIES & SEQUENCING .....	9
TABLE 2-2: ANCILLARY FACILITY ASSESSMENT .....	
TABLE 3-1: ENVIRONMENTAL OBJECTIVES AND TARGETS .....	12
TABLE 4-1: ENVIRONMENTAL MANAGEMENT SUB PLANS AND STRATEGIES.....	15

## Figures

FIGURE 2-1:FOXGROUND AND BERRY BYPASS PROJECT .....	8
FIGURE 2-2:FOXGROUND AND BERRY BYPASS PROJECT - INDICATIVE PROGRAM.....	9
FIGURE 2-3:TRFW – SITE LOCATION AND BOUNDARIES .....	8
FIGURE 4-1:ENVIRONMENTAL MANAGEMENT SYSTEM DOCUMENT STRUCTURE.....	14
FIGURE 4-2:PROJECT ENVIRONMENTAL MANAGEMENT STRUCTURE .....	17

## **Appendices**

Appendix A1	Legal and other requirements
Appendix A2	Stakeholder and agency CEMP consultation
Appendix A3	Environmental aspects and impacts
Appendix A3-1	Risk matrix
Appendix A4	Environmental policy
Appendix A5	Environmental incident classification and reporting
Appendix A6	Sensitive area plan
Appendix A7	Complaints and enquiries protocol
Appendix A8	Environmental inspection checklist

## **Sub-Plans**

Appendix B1	Construction traffic management sub plan
Appendix B2	Construction flora and fauna management sub plan
Appendix B3	Construction noise and vibration management sub plan
Appendix B4	Construction soil and water quality management sub plan
Appendix B5	Construction heritage management sub plan

## Glossary / Abbreviations

AFG	Aboriginal Focus Group
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
Director General (DG)	Director General of the NSW Department of Planning and Infrastructure (or delegate)
DPI	The NSW Department of Primary Industries now part of NSW Department of Trade and Investment, Regional Infrastructure and Services (DTIRIS)
DP&I	Department of Planning and Infrastructure
DTIRIS	Department of Trade and Investment, Regional Infrastructure and Services
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
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
Environmental impact	Defined by AS/NZS ISO 14001:2004 as any change to the environment, whether adverse or beneficial, wholly or partially resulting from an organisation's environmental aspects.
Environmental incident	An unexpected event that has, or has the potential to, cause harm to the environment and requires some action to minimise the impact or restore the environment.
Environmental objective	Defined by AS/NZS ISO 14001:2004 as an overall environmental goal, consistent with the environmental policy, that an organisation sets itself to achieve.
Environmental policy	Statement by an organisation of its intention and principles for environmental performance.
Environmental target	Defined by AS/NZS ISO 14001:2004 as a detailed performance requirement, applicable to the organisation or parts thereof, that arises from the environmental objectives and that needs to be set and met in order to achieve those objectives.
Environmental Representative (ER)	A suitably qualified and experienced person independent of project design and construction personnel employed for the duration of construction. The principal point of advice in relation to all questions and complaints concerning environmental
EP&A Act	<i>Environmental Planning and Assessment Act 1979</i>
EPL	Environment Protection Licence

EWMS	Environmental Work Method Statements
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
NOW	NSW Office of Water
OEH	Office of Environment and Heritage
PESCP	Progressive Erosion and Sediment Control Plans
PIN	Penalty Infringement Notice
Project, the	The Princes Highway Upgrade - Foxground and Berry Bypass Project, defined as <i>“The construction and operation of approximately 11.6 kilometres of two lane divided carriageways (with the exception of the cutting through Toolijooa Ridge which comprises two lanes plus a climbing lane in each direction), with provisions for the possible future widening to three lanes within the road corridor (if required in the future).”</i>
RMS	Roads and Maritime Services
SoC	Statement of Commitments

# 1 Introduction

## 1.1 Background

The Roads and Maritime Services (RMS) is upgrading the Princes Highway to provide a four lane divided highway between Waterfall and Jervis Bay Road, Falls Creek.

In September 2010 the Foxground and Berry Bypass Project (the Project) was declared by the 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 in November – December 2012. The Submissions Report, which included changes to the proposal made following consideration of submissions made during the exhibition period, was submitted to the Minister for Planning and Infrastructure in May 2013. Approval of the Project was granted by the Minister on 22 July 2013.

The Project comprises an upgrade of 11.6 kilometres of the Princes Highway between Toolijooa Road north of Foxground and Schofields Lane south of Berry to achieve a four lane divided road (two lanes in each direction) with median separation. It includes bypasses of the towns of Foxground and Berry. The Project will be delivered under a design and construct (D&C) contract. A description of the Project is provided in Chapter 2.

Fulton Hogan is currently constructing the Gerringong Upgrade project on behalf of the RMS, which involves the upgrade the Princes Highway between Mount Pleasant and Toolijooa Road (the start of the Foxground and Berry Bypass Project).

Fulton Hogan have identified that surplus spoil (Virgin Excavated Natural Material - VENM) will be generated from Cut 7 in particular, with smaller volumes originating from various locations along the Gerringong Upgrade project.

The planning for the Foxground and Berry Bypass has progressed and further design work has been undertaken to take advantage of the approximately 151,000m<sup>3</sup> of surplus spoil generated by the Gerringong upgrade project. It is intended for the surplus spoil to be used to widen and enhance the appearance of the proposed road embankment that will be constructed on the property (known as the "Bologna Property") on the western side of Toolijooa Road, at its intersection with the Princes Highway, to support the realignment of the Princes Highway to the south.

The Foxground and Berry Bypass concept design originally showed this proposed road embankment as a terraced embankment. This has been amended to use the available additional spoil to reshape this south facing embankment slope to a continuous grade.

Extending the width of the embankment will make future provision for widening the Princes Highway to three lanes in the southbound direction, at this location. In addition, the fill will be placed on some of the property outside the road footprint to blend the embankment into the natural landform and reduce its apparent height by following the existing gradient.

The Toolijooa Road Fill Works, the first stage of the Foxground and Berry Bypass, is proposed to commence in late November 2013 and be completed in March 2014 weather permitting. The Toolijooa Road Fill Works (TRFW) will be constructed as a separate package of works from the rest of the Foxground and Berry Bypass Project.

## 1.2 Purpose of this CEMP

This Construction Environmental Management Plan (CEMP) and sub plans have been prepared to comply with the Project Approval. A description of the Project is provided in Chapter 2.

It has been prepared in accordance with:

- the Guideline for the Preparation of Environmental Management Plans (DIPNR, 2004)
- the Project Approval

- RMS QA Specification G36, and
- 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 TRFW. Implementing this CEMP will ensure that the TRFW meet regulatory and policy requirements, including RMS requirements and the Minister’s Project Approval, in a systematic manner. The CEMP will ensure that the construction related requirements of the RMS, the Project Approval and the Statement of Commitments have been met. Further details of the proposed Compliance Tracking Program are provided in Section 8.4 of this CEMP.

In particular, this CEMP:

- describes the TRFW 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 TRFW, and
- outlines a monitoring regime to check the adequacy of controls as they are implemented during construction.

The CEMP addresses the requirements of Condition of Approval (CoA) B35. The requirements of this condition and where they are met in this CEMP are shown in Table 1-1.

**Table 1-1: CEMP Requirements (CoA B35)**

CoA no.	Requirement	Reference
B35	The Proponent shall prepare and (following approval) implement a Construction Environmental Management Plan for the project. The Plan shall outline the environmental management practices and procedures that are to be followed during construction, and shall be prepared in consultation with the relevant agencies and in accordance with the Guideline for the Preparation of Environmental Management Plans (Department of Infrastructure, Planning and Natural Resources, 2004). The Plan shall include, but not necessarily be limited to:	This plan
(a)	A description of activities to be undertaken during construction of the project or stages of construction, as relevant.	Chapter 2
(b)	Statutory and other obligations that the Proponent is required to fulfil during construction including approvals, consultations and agreements required from agencies and key legislation and policies. Evidence of consultation with relevant agencies shall be included identifying how issues raised by these agencies have been addressed in the Plan.	Appendix A1, Appendix A2 Compliance Tracking Program - , Sections 1.2, 1.3 & 1.4
(c)	A description of the roles and responsibilities for relevant employees involved in the construction of the project including relevant training and induction provisions for ensuring that employees, including contractors and sub-contractors are aware of their environmental and compliance obligations under these conditions of approval.	Sections 4.2, 4.3 & Chapter 5

CoA no.	Requirement	Reference
(d)	Identification of ancillary facility site locations, including an assessment against the location criteria outlined in condition C32.	Section 2.4, Appendix A5
(e)	An environmental risk analysis to identify the key environmental performance issues associated with the construction phase and details of how environmental performance would be monitored and managed to meet acceptable outcomes including what actions will be taken to address identified potential adverse environmental impacts (including any impacts arising from the staging of the construction of the project and/ or concurrent construction works with adjacent Princes Highway Upgrade projects, as relevant). In particular, the following environmental performance issues shall be addressed in the Plan:	Section 3.4, Appendix A3
(i)	measures to monitor and manage dust emissions including dust from stockpiles, blasting, traffic on unsealed public roads and materials tracking from construction sites onto public roads;	Appendix A3
(ii)	measures to minimise hydrology impacts, including measures to stabilise bed and bank structures as required,	Appendix B4
(iii)	measures to monitor and manage impacts associated with the construction and operation of ancillary facilities	N/A as no ancillary facilities will be required for the TRFW
(iv)	measures for the handling, treatment and management of contaminated materials	Appendix A3
(v)	measures to monitor and manage waste generated during construction including but not necessarily limited to: <ul style="list-style-type: none"> <li>- general procedures for waste classification, handling, reuse, and disposal;</li> <li>- use of secondary waste material in construction wherever feasible and reasonable;</li> <li>- procedures for dealing with green waste including timber and mulch from clearing activities; and</li> <li>- measures for reducing demand on water resources (including the potential for reuse of treated water from sediment control basins);</li> </ul>	Appendix A3
(vi)	measures to monitor and manage spoil, fill and materials stockpile sites including details of how spoil, fill or material would be handled, stockpiled, reused and disposed and a stockpile management protocol detailing locational criteria that would guide the placement of stockpiles and management measures that would be implemented to avoid/ minimise amenity impacts to surrounding residents and environmental risks (including to surrounding water courses). Stockpile sites that affect heritage, threatened species, populations or endangered ecological communities require the approval of the Director General, in consultation with the OEH;	Appendix B4
(vii)	measures to monitor and manage hazard and risks including emergency management; and	Chapter 7, Appendix A3

CoA no.	Requirement	Reference
	(viii) the issues identified in condition B36	Appendices B1 to B5
(f)	Details of community involvement and complaints handling procedures during construction, consistent with the requirements of conditions B30 to B33.	Section 6.3
(g)	Details of compliance and incident management consistent with the requirements of condition B29	Chapters 7 & 8
(h)	Procedures for the periodic review and update of the Construction Environmental Management Plan and sub plans required under condition B35 and B36 respectively, as necessary (including where minor changes can be approved by the Environmental Representative).	Chapter 9
(i)	The Plan shall be submitted for the approval of the Director General no later than one month prior to the commencement of construction, or within such period otherwise agreed by the Director General. Construction works shall not commence until written approval has been received from the Director General.	Section 1.4

This CEMP is the overarching document in the environmental documentation system for the TRFW 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

In accordance with the requirements of the Project Approval, consultation with the designated stakeholders and agencies was undertaken in relation to TRFW stage of the Project during the development of this CEMP and sub plans. The agencies and stakeholders consulted include:

- Department of Primary Industries (DPI) (Fishing and Aquaculture)
- Environmental Protection Authority of the Office of Environment and Heritage (EPA)
- Heritage Council of NSW
- Kiama Municipal Council
- Shoalhaven City Council
- Office of Environment and Heritage (OEH)
- Office of Environment and Heritage – Aboriginal heritage, and
- NSW Office of Water (NOW).

The main comments and issues raised during the CEMP consultation are provided in Appendix A2.

Fulton Hogan has also consulted with the sensitive receivers in the areas adjacent to the TRFW. There were no issues or concerns raised by the sensitive receivers in relation to the proposed works. Consultation will continue throughout the construction of the TRFW with relevant stakeholders and agencies. Where relevant, the outcomes of this consultation will be documented in subsequent revisions of the CEMP.

### 1.4 CEMP approval

This CEMP must be endorsed by the RMS Project Manager and the RMS Environment Representative prior to submission to the Director General (DG) of the Department of

Planning & Infrastructure (DP&I).

Submission of the CEMP for the approval of the DG is required no later than one month prior to the commencement of construction or as otherwise agreed by the DG. Construction will not commence until written approval of the CEMP has been received from the DG.

The sub plans prepared under CoA B36 also require approval by the DG 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 Fulton Hogan's document control management system for GU project.

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 GU project office.

Registered copies will be distributed to:

- Project Manager
- Environmental Representative
- Construction Manager
- Environmental Manager
- Communications Manager
- RMS Representative, and
- RMS Environment Representative.

## **1.6 Revision**

A document review process is implemented to ensure that environmental documentation, including this CEMP and sub plans, are updated as appropriate for the specific works that are occurring on-site. This includes the management review process described in Chapter 9.

Should the document review process identify any issues or items within the documents that need 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 Project Manager and the Environmental Representative for certification of the changes. The Environmental Representative can approve minor changes to the CEMP including 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, or
- do not compromise the ability of the Project to meet approval or legislative requirements.

Where the Environmental Representative deems it necessary, the amended CEMP will be forwarded to the DG of the DP&I for approval. The amended CEMP will be provided to the RMS Representative.

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

## 2 Foxground and Berry Bypass Project

### 2.1 General features

Figure 2-1 provides an overview of the Foxground and Berry bypass Project. The Project, as described in the environmental assessment, comprises the following key features:

- Construction of a four lane divided highway (two lanes in each direction) with median separation.
- Bypasses of the Foxground bends and the Berry township.
- Construction of around 6.6 kilometres of new highway where the Project deviates from the existing highway alignment at Toolijooa Ridge, the Foxground bends and the Berry township.
- Provision for the possible widening of the highway (if required in the future) to six lanes within the road corridor and, in some areas, construction of the road formation to accommodate future additional lanes where safety considerations, traffic disruption and sub-optimal construction practices are to be avoided.
- Grade-separated interchanges at:
  - Toolijooa Road
  - Austral Park Road
  - Tindalls Lane
  - east of Berry at the existing Princes Highway, referred to as the northern interchange for Berry
  - west of Berry at Kangaroo Valley Road, referred to as the southern interchange for Berry.
- A major cutting at Toolijooa Ridge (around 900 metres long and up to 26 metres deep).
- Six lanes (two lanes plus a climbing lane in each direction) through the cutting at Toolijooa Ridge for a distance of 1.5 kilometres.
- Four new highway bridges at:
  - Broughton Creek bridge 1
  - Broughton Creek bridge 2
  - Broughton Creek bridge 3
  - Berry
- Three highway overbridges:
  - Austral Park Road interchange, providing southbound access to the highway
  - Tindalls Lane interchange, providing southbound access to and from the highway
  - Southern interchange for Berry, providing connectivity over the highway for Kangaroo Valley Road along its existing alignment.
- Eight underpasses including roads, drainage structures and fauna underpasses.
- Modifications to local roads, including Toolijooa Road, Austral Park Road, Gembrook Lane, Tindalls Lane, North Street, Queen Street, Kangaroo Valley Road, Hitchcocks Lane and Schofields Lane.
- Diversion of Town Creek into Bundewallah Creek upstream of its confluence with Connollys Creek and to the north of the Project at Berry.
- Modification to about 47 existing property accesses.
- Provision of a bus stop at Toolijooa Road and retention of the existing bus stop at Tindalls Lane.
- Dedicated u-turn facilities at Mullers Lane, the existing highway at the Austral Park Road interchange, the extension to Austral Park Road, and Rawlings Lane.
- Roundabouts at the southern interchange for Berry and the Woodhill Mountain Road junction with the exiting Princes Highway.

- Two culs-de-sac on North Street and the western end of Victoria Street in Berry.
- Tie-in with the existing highway about 75 metres north of Toolijooa Road and about 440 metres south of Schofields Lane.
- Left in/left out only provisions for direct property accesses to the upgraded highway.
- Dedicated public space with shared pedestrian/cycle facilities along the southern side of the upgraded highway from the playing fields on North Street to Kangaroo Valley Road.
- Ancillary operational facilities, including permanent detention basins, stormwater treatment facilities and a permanent ancillary facility site for general road maintenance.

As a result of the community consultation during the display of the environmental assessment changes were made to the Project including a number of property access and boundary adjustments, road alignment optimisation, as well as:

- Removal of turnaround facility on the Austral Park Road extension.
- Changed local road access arrangement for Gembrook Lane, opposite the Tindalls Lane interchange.
- Removal of retaining wall and reshaping of a constructed dam at the northern interchange for Berry.
- Realignment of the Town Creek diversion.
- Victoria Street to remain open with a two-way connection between Queen and Victoria streets and a southbound on-ramp south of Victoria Street.
- Modified Schofields Lane intersection with the provision of an underpass with connecting property accesses.



- Stage 1 - Toolijooa Road Fill Works
- Stage 2 - remainder of the Foxground and Berry Bypass Project.

Details of the proposed Toolijooa Road Fill Works (Stage 1) are provided in section 2.3 below.

Construction is proposed to commence on the remainder of the Foxground and Berry Bypass Project (Stage 2) in 2014/15. An indicative program is provided in Figure 2-2 below.

**Figure 2-2: Foxground and Berry Bypass Project - Indicative Program**

Activity	2014	2015	2016	2017
Site establishment / site preparation				
Earthworks and drainage				
Relocation / protection of services				
Bridge construction				
Pavements				
Improvements to existing highway				
Finishing works / other works				

Source: RMS 2013

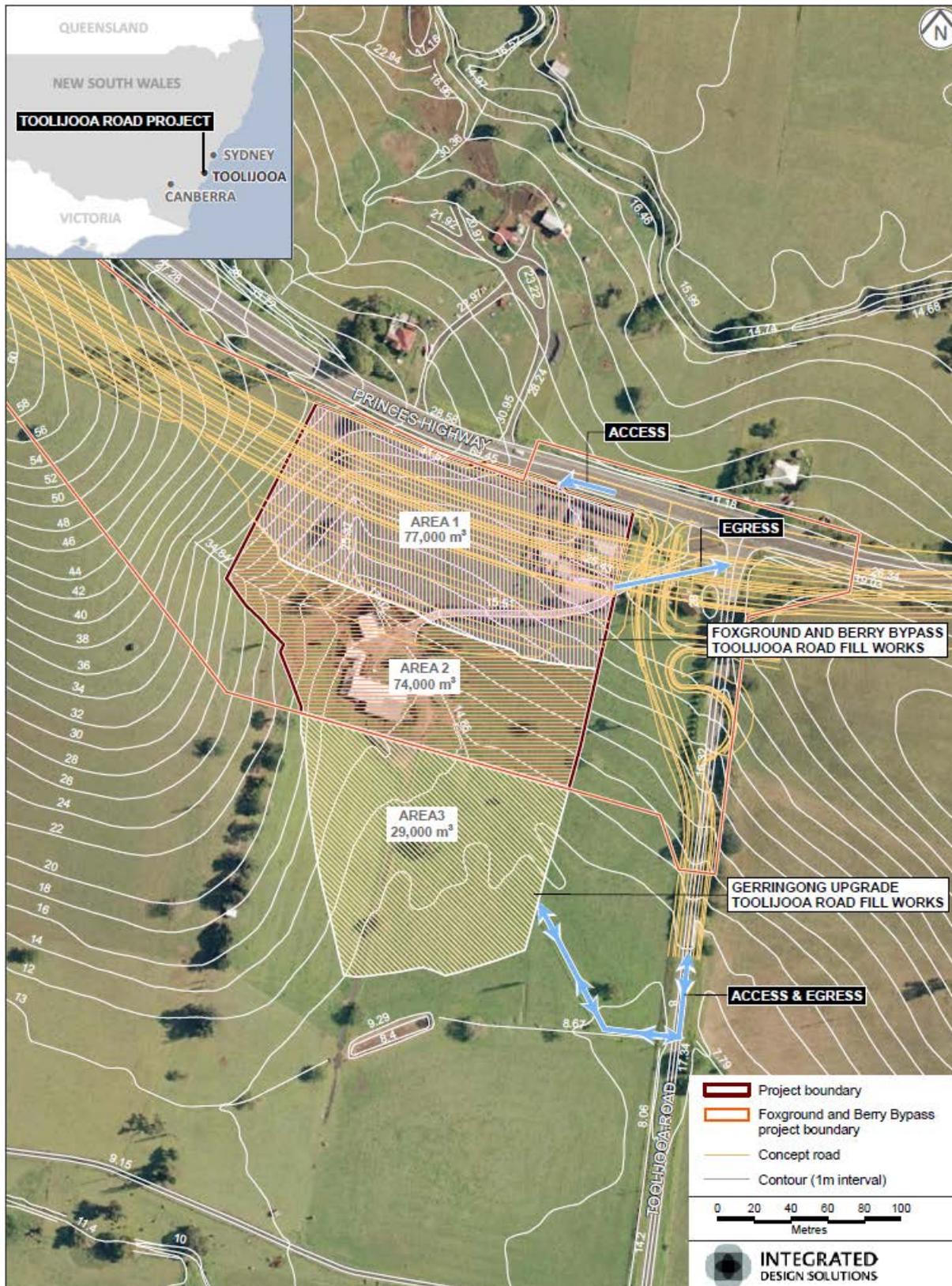
### 2.3 Toolijooa Road Fill Works

The TRFW stage involves placement of a 151,000m<sup>3</sup> of engineered fill to support the realignment of the Princes Highway at the extreme eastern end of the Foxground and Berry Bypass Project (refer to Area 1 in Figure 2-3).

Approximately 29,000m<sup>3</sup> of additional surplus spoil (VENM) will be used as non-engineered fill, immediately south of the Foxground and Berry Bypass project boundary (outside the road footprint) and adjoining the engineered fill (refer to Area 2 in Figure 2-3). A Review of Environmental Factors (REF) for the fill works in Area 2 will be prepared by Fulton Hogan and approved by the RMS. A more detailed description of the relationship between the TRFW stage of the Foxground and Berry Bypass Project and the fill works immediately south of the project boundary is provided in the TRFW Staging Report.

The TRFW Works stage (Area 1) will be constructed first as an engineered fill designed to relevant RMS standards. The non-engineered spoil (Area 2) will then be placed to the south, compacted, landscaped and revegetated. Although the fill works comprise an engineered and non-engineered component, inside and outside the Foxground and Berry Bypass project boundary respectively, the entire fill will appear as one.

In revising the concept design, the original terraced road embankment has been reshaped using the available additional spoil, to a continuous grade, blending the embankment into the natural landform and reducing its apparent height by following the existing gradient (refer Figure 2-3).



**Figure 2-3:TRFW – site location and boundaries**

The TRFW stage is proposed to commence in late November 2013 and be completed in March 2014 weather permitting. The TRFW stage will be constructed as a separate package of works from the rest of the Foxground and Berry Bypass Project.

**Table 2-1: Toolijooa Road Fill Works construction activities and sequencing**

<b>Component</b>	<b>Typical activities</b>
Site establishment	<ul style="list-style-type: none"> <li>- Fencing of the road corridor</li> <li>- Construction of site access and wheel wash bays</li> <li>- Installation of temporary traffic controls</li> <li>- Pre-clearing flora and fauna survey</li> </ul>
Relocation of services	<ul style="list-style-type: none"> <li>- Consultation with relevant service providers on service relocation</li> <li>- Relocation of services including electricity, water and telecommunications infrastructure</li> </ul>
Demolition works	<ul style="list-style-type: none"> <li>- Demolition of one dwelling and the sheds</li> </ul>
Site preparation	<ul style="list-style-type: none"> <li>- Vegetation clearing and grubbing</li> <li>- Installation of the environmental controls, i.e. erosion and sediment controls and exclusion fencing</li> <li>- Stripping and stockpiling of topsoil for reuse</li> </ul>
Earthworks	<ul style="list-style-type: none"> <li>- Inspection of foundation and carrying out of foundation treatment</li> <li>- Placement and compaction of fill and embankment materials as per D&amp;C R44</li> </ul>
Finishing works	<ul style="list-style-type: none"> <li>- Removal of temporary works</li> <li>- Restoration and landscaping of disturbed areas</li> <li>- Site clean-up</li> </ul>

The contractor selected to construct Stage 2 of the Project, will build on the engineered fill established during the TRFW stage, to bring the new road platform to its ultimate design height.

## **2.4 Compound and ancillary facilities**

The existing Gerringong Upgrade site compound located at 446 Princes Highway, Gerringong will be used for TRFW. No additional ancillary facilities will be required to support TRFW.

The site compound has been assessed against the criteria set out under condition C32 of the CoA and the results are presented in the table below.

**Table 2-2: Ancillary Facility Assessment**

<b>Assessment Criteria</b>	<b>Condition Met</b>
<p><i>(a) Be located more than 50 metres from a waterway</i></p> <p>The nearest waterway (ephemeral stream) is located at least 150 m south west of the site compound.</p>	Yes
<p><i>(b) Have ready access to the road network or direct access to the construction corridor</i></p> <p>There is an existing access road between the site compound and Princes Highway.</p>	Yes

<i>(c) Not require native vegetation clearing beyond that already required by the project</i>	Yes
No native vegetation clearing will be required as the site compound has already been established.	
<i>(d) Be site on relatively level land</i>	Yes
The site compound is purpose build to service Gerringong Upgrade project and is located on level land.	
<i>(e) Be separated from the nearest residents by at least 200 metres (or at least 300 metres for a temporary batching plant)</i>	Yes
The nearest residence is located approximately 700 metres from the site compound at the corner of Sims Road and Princes Highway.	
<i>(f) Not unreasonably affect the land use of adjacent properties</i>	Yes
The adjacent properties are largely agricultural land used for livestock grazing; the site compound does not affect the land use of the adjacent properties.	
<i>(g) Be above the 20 ARI flood level unless a contingency plan to manage flooding is prepared and implemented</i>	Yes
The site compound is located above the 20 ARI flood level.	
<i>(h) Provide sufficient storage of raw materials to minimise, to the greatest extent practical, the number of deliveries required outside standard construction hours</i>	Yes
The site compound provides sufficient storage for raw materials, i.e. gypsum, for the TRFW; there will be no deliveries outside standard construction hours associated with the TRFW.	
<i>(i) Not impact on heritage items beyond those already impacted by project (including identified Aboriginal cultural value and archaeological sensitivity)</i>	Yes
The site compound has been established away from any known Aboriginal and non-Aboriginal cultural areas and therefore will not impact on any heritage items.	

## **3 Planning**

### **3.1 Project environmental obligations**

All construction personnel working on the Toolijooa Road Fill Works have the following environmental 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 RMS 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, and
- Take all feasible and reasonable steps to ensure compliance with the requirements of this CEMP.

### **3.2 Legal and other requirements**

A register of legal and other requirements for the TRFW is contained in Appendix A1. This register is maintained as a checklist. This register will be reviewed at regular intervals, such as 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 and permits will be obtained for the TRFW. Appendix A1 contains a register of all relevant environmental approvals and permits. The register will be maintained by the Environmental Manager and will be reviewed prior to the commencement of construction, at regular intervals during construction and at least annually as part of the management review.

In accordance with CoA A8, all necessary licences, permits and approvals required for the development of the TRFW will be obtained and maintained as required throughout the life of the Project. No condition of the Project Approval removes the obligation for RMS or Fulton Hogan to obtain, renew or comply with such necessary licences, permits or approvals except as provided under Section 75U of the *EP&A Act*.

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

A risk management approach was 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 the community and other key stakeholders.

The objectives of the risk assessment are to:

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

Appendix A3 contains a list of issues, related aspects and corresponding risks associated with the TRFW. Measures to mitigate the identified environmental risks are also provided.

### 3.5 Environmental policy

The Environmental Policy attached in Appendix A4 describes Fulton Hogan’s commitment to continual improvement in environmental performance and compliance with applicable legal requirements.

Fulton Hogan’s Environmental Policy is displayed at the site office, and communicated to staff, sub-contractors and other interested parties via inductions and ongoing awareness programs.

### 3.6 Objectives and targets

Environmental objectives and targets have been established as a means of assessing environmental performance during construction of the TRFW. These objectives and targets have been developed with consideration of the key issues identified through the environmental assessment and risk assessment process. The objectives and targets are consistent with Fulton Hogan’s Environmental Policy and will assist in monitoring whether the policy commitments are being met.

The targets are incorporated into relevant environmental management sub plans.

The performance of the TRFW against the objectives and targets will be documented in the construction compliance reports and as part of the management review.

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

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

<b>Objective</b>	<b>Target</b>	<b>Measurement tool</b>
Construct the Project in accordance with environmental approvals	Full compliance with statutory approvals	Audits, construction compliance reporting, management review
Compliance with all legal requirements	No regulatory infringements (PINs or prosecutions). No formal regulatory warning.	Audits, construction compliance reporting, management review.
Implement an EMS that meets the requirements of AS/NZS ISO 14001	Address non-conformances and corrective actions within specific timeframes.(CoA B29g)	Audits, management reviews.
Engage with the affected community, minimise complaints and respond to any complaints within a suitable timeframe	Disseminate regular Project updates and other information through the Project website (B30) and other tools identified in the Community Communication Strategy (B33).  Record and respond to complaints within the timeframe specified in the Community Communications Strategy (CoAs B31, B32 & B33).	Review complaints register, construction compliance report, audits
Continuously improve	Develop and maintain a program of ongoing	Construction compliance report, management review,

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environmental performance

environmental training.

audits.

Capture lessons learnt from environmental incidents to minimise repeat issues.

Encourage and reward innovation and effort throughout the workforce

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# 4 Implementation and operation

## 4.1 Environmental management documentation

This CEMP is the overarching management plan for a suite of environmental management documents for the TRFW as shown in Figure 4.1 below. The CEMP and sub plans required under CoAs B35 and B36 will be provided to the DG for approval.

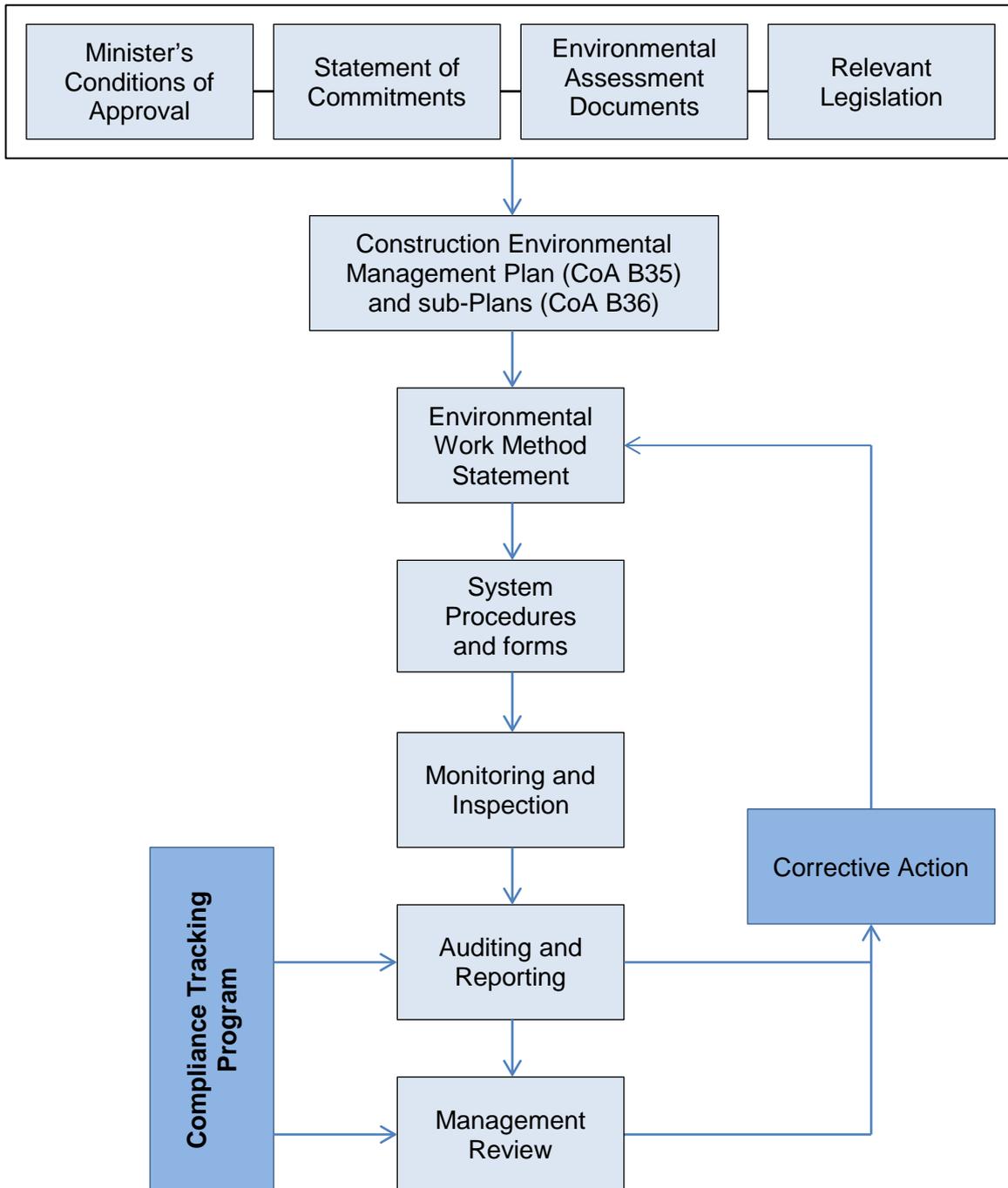


Figure 4-1: Environmental management system document structure

### 4.1.1 Construction Environmental Management Plan

This CEMP documents the method to manage and control the environmental aspects of the TRFW. It identifies the requirements applicable to the 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 MCoA requirements and the 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 Toolijooa Road Fill Works on the environment.

### 4.1.2 Environmental management sub-plans

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

A list of construction sub-plans and strategies for the TRFW, and their approval requirements, are provided in Table 4-1 The TRFW Staging Report documents the required environmental documentation to be prepared for the TRFW and the timing required for submission where required.

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

CoA	Document name
A9	Staging Report
B29	Compliance Tracking Program
B30-B33	Community Engagement Strategy
B36(a)	Construction Traffic Management Sub-plan
B36(b)	Construction Flora and Fauna Management Sub-plan
B36(c)	Construction Noise and Vibration Management Sub-plan
B36(d)	Construction Soil and Water Quality Management Sub-plan
B36(e)	Construction Heritage Management Sub-plan

### 4.1.3 Environmental work method statements

A number of Environmental Work Method Statements (EWMS) will apply to manage and control the activities associated with the Toolijooa Road Fills Works that have the potential to adversely impact on the environment. These will include:

- Clearing and grubbing, and
- Dewatering.

All construction personnel and sub-contractors undertaking a task governed by an EWMS will be trained in the EWMS, and will acknowledge that they have read and understood their obligations prior to commencing work. The demolition works will be undertaken by a suitably qualified sub-contractor who will submit a Work Method Statement to Fulton Hogan for review and approval prior to commencement of the demolition works.

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

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

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

#### **4.1.5 Sensitive area plan**

A number of environmentally sensitive areas and sites are located in close proximity to the TRFW. These site constraints are shown on the Sensitive Area Plan and include:

- Aboriginal heritage sites, including items, places, objects and sites, and
- Non-Aboriginal heritage sites.

The sensitive area plans are presented in Appendix A6.

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

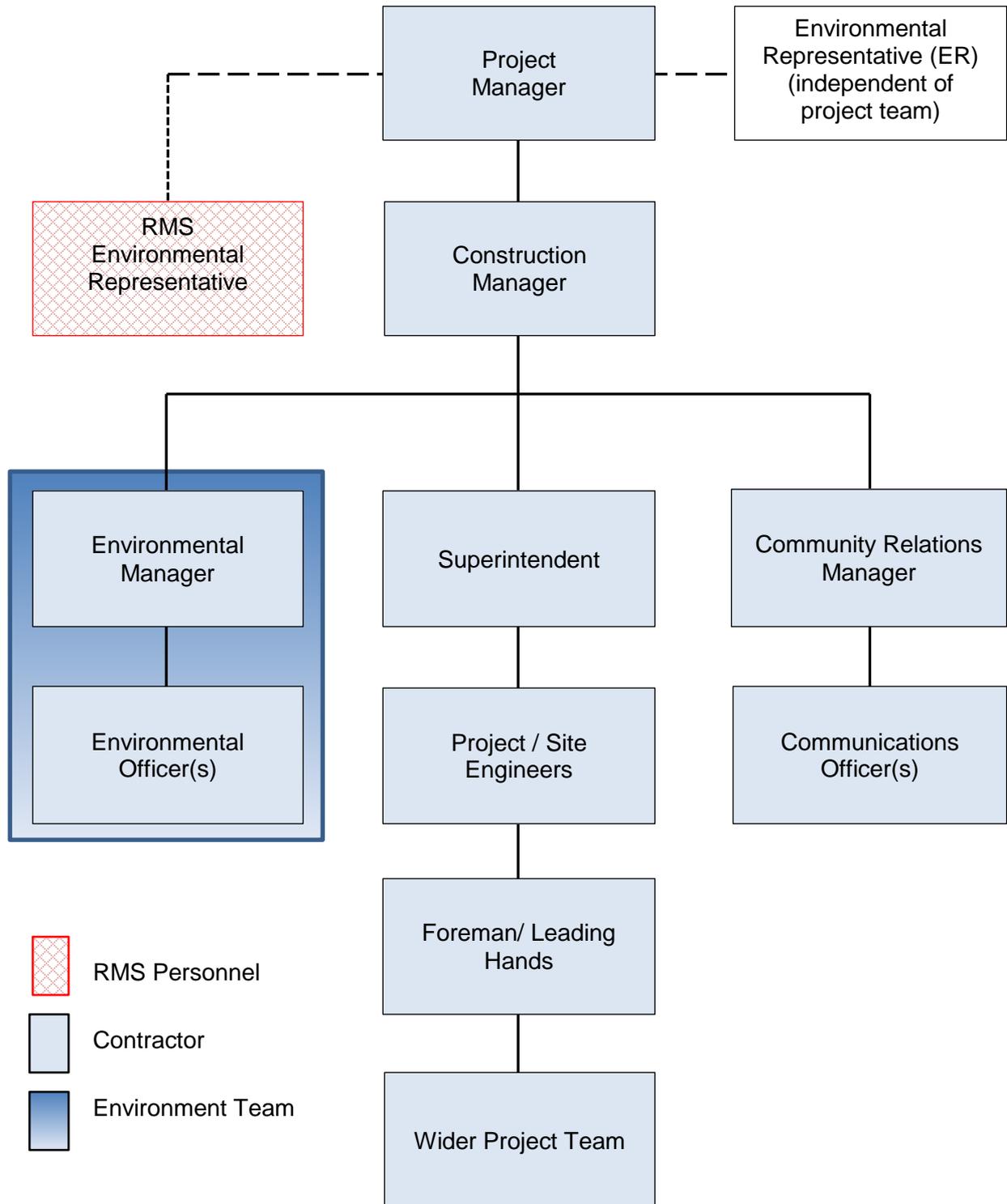
Project specific procedures will be developed in response to the requirements of the Project. Where applicable existing Fulton Hogan's procedures and work instructions will be applied or amended for use on the Project.

#### **4.1.7 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.

## 4.2 Resources, roles, responsibilities and authority

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



**Figure 4-2: Project Environmental Management Structure**

#### **4.2.1 Environmental Representative**

The responsibilities of the Environmental Representative (ER) are defined in CoA B34, including:

- be the principal point of advice in relation to the environmental performance of the project
- be consulted in responding to the community concerning the environmental performance of the project where the resolution of points of conflict between the RMS and the community is required
- monitor the implementation of environmental management plans and monitoring programs required under the Project Approval
- monitor the outcome of environmental management plans and advise the RMS upon the achievement of project environmental outcomes
- have responsibility for considering and advising the RMS on matters specified in the conditions of this approval, and other licences and approvals related to the environmental performance and impacts of the project
- ensure that environmental auditing is undertaken in accordance with the requirements of CoA and the project's Environmental Management System
- be given the authority to approve / reject minor amendments to the CEMP, and
- having 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.

The ER will be suitably qualified and experienced and independent of the design and construction personnel. The ER will be approved by the DG prior to the commencement of construction.

#### **RMS Roles**

##### **4.2.2 RMS Environment Representative**

The environmental responsibilities of the RMS Environment Representative include (but not limited to) the following:

- review 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 by the RMS Representative
- monitor the environmental performance of the Project in relation to RMS requirements
- evaluate and advise on compliance with RMS environmental requirements, and
- review and approve any environmental management plans for the Project or related activities that are not required to be approved by the DG of DP&I.

#### **Contractor Roles**

##### **4.2.3 Project Manager**

The environmental responsibilities of the Project Manager include:

- 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 A4
- liaise with RMS, the 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 and issues raised resolved in accordance with Complaints and Enquiries Procedure included in Appendix A7 of this CEMP
- stop work immediately where there is an actual or potential risk of harm to the environment.

#### **4.2.4 Construction Manager**

The environmental responsibilities of the Construction Manager include:

- 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 RMS, Environmental Representative and other government authorities as required, and
- stop work immediately where there is an actual or potential risk of harm to the environment.

#### **4.2.5 Superintendent**

The environmental responsibilities of the superintendent include:

- 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, and
- stop activities where there is an actual or potential risk of harm to the environment and advise the Construction Manager and Environmental Manager.

#### **4.2.6 Environmental Manager**

The environmental responsibilities of the Environmental Manager include:

- overall responsibility for the management of environmental aspects of the Project
- development, implementation, monitoring and updating of the CEMP and sub plans
- report to Project Manager 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 set targets 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 RMS and regulatory authorities
- prepare reports on a monthly basis outlining the Project Works undertaken, achievements and areas where improvements were made
- oversee site environmental monitoring, inspections and internal audits
- manage all subcontractors and consultants with regards to environmental matters, including assessing their environmental capabilities and environmental documents
- prepare and/or distribute environment awareness notes
- review and approve PESCP
- develop and facilitate induction, toolbox talks and other training programs regarding environmental requirements for all site personnel
- notify RMS and relevant authorities in the event of an environmental incident and manage close-out of these
- stop activities where there is actual or potential risk of harm to the environment or to prevent an environmental non-conformance and advise the Project Manager, Construction Manager and Superintendent, and
- assist the Communications Manager to resolve environment-related complaints.

#### **4.2.7 Environmental Officer**

The environmental responsibilities of the Environmental Officer include:

- assist in preparing the CEMP (including any future revisions)
- 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 of non-conformances with the CEMP or corrective actions required to the Environmental Manager. This may include the need to implement additional measures or revise existing measures
- assist in identifying environmental risks
- advise the Environmental Manager and Construction Manager of the need to stop work if there is the potential for an unacceptable impact on the environment to occur
- advise the Construction Manager or site construction staff to take reasonable steps to avoid or minimise impacts
- provide reports to the Environmental Manager on any major issues resulting from the Project
- advise site staff on 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, and
- 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.

#### **4.2.8 Community Relations Manager**

The environmental responsibilities of the Communications Manager:

- ensure that all community consultation activities are carried out
- report any environmental issues raised by stakeholders or members of the community to the Environmental Manager
- communicate environment related Project progress, performance, mitigation measures and issues to stakeholders and the community, and
- maintain the 24 hour complaints hotline.

#### **4.2.9 Project/Site Engineers**

The environmental responsibilities of the Project/Site engineers include:

- provide input into the preparation of environmental planning documents as required
- ensure instructions and information relating to project environmental risks are provided to staff
- 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 environmental risks
- identify resource needs for implementation of CEMP requirements and related documents
- ensure that environment related complaints are investigated to ensure effective resolution
- take action in the event of an environmental incident or potential environmental incident and allocate the required resources to minimise environmental impact, and
- report any activity that has resulted, or has the potential to result, in an environmental incident immediately to the Superintendent and Environmental Manager.

#### **4.2.10 Foreman**

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

- undertake environmental duties as defined by the superintendent or Project/Site engineers
- 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, and
- stop activities where there is an actual or potential risk of harm to the environment and advise the Project Manager, Construction Manager, Superintendent or Environmental Manager.

#### **4.2.11 Project Team (including sub-contractors)**

- comply with the relevant requirements of the CEMP and other environmental documentation
- participate in the 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, and
- stop activities where there is an actual or potential risk of harm to the environment and advise the Project Manager, Construction Manager, Superintendent or Environmental Manager.

### **4.3 Sub-contractor management**

Environmental requirements and responsibilities are specified to sub-contractors in the contract documentation. As part of the selection process, consideration is also 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 will be required to complete a subcontractor questionnaire or similar.

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

All sub-contractors are required to attend 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, and
- The maintenance of environmental measures.

## **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 environmental training in conjunction with other training and development activities.

### **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. The Environmental Manager (or delegate) will conduct the environmental component of the site induction. The environmental component will include an overview of:

- relevant details of the CEMP including purpose and objectives
- key environmental issues, i.e. protection of the sensitive areas, dust and noise management
- 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, and
- 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 where required to address Project modifications, legislative changes or amendments to this CEMP or related documentation.

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

### **5.2 Toolbox talks, training and awareness**

Toolbox talks will be used to raise awareness and educate personnel on construction related environmental issues. The toolbox talks will be used to ensure environmental awareness continues during construction. Toolbox talks will include details of EWMSs for relevant personnel.

Toolbox talks will be tailored to specific environmental issues including:

- 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
- noise
- housekeeping and waste
- concrete washout
- dewatering
- project and clearing limits
- works in waterways, and
- dust control.

Toolbox attendance is mandatory and attendees of toolbox talks are required to sign an attendance form and the records maintained.

Targeted environmental awareness training will be provided to individuals or groups of workers with a specific authority or responsibility for environmental management or those undertaking an activity with a high risk of environmental impact.

Awareness notes, in the form of posters, booklets or similar may be developed and distributed to engineers, leading hands, foreman and others with a responsibility for managing specific work locations or activities. Awareness notes may also be distributed to the broader workforce at daily pre-start meetings (see section 5.3) or made available in worker crib sheds / break facilities.

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

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

The pre-start meeting is a tool for informing the workforce of the day's activities, safe work practices, environmental protection practices, 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, or other appropriate site staff member, will conduct a daily pre-start meeting for the site workforce before the commencement of work each day (or shift) or where changes occur during a shift. Pre-start meetings may be project-wide and/or held for specific work areas.

The environmental component of pre-starts 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 and the records maintained.

# 6 Communication

## 6.1 Internal communication

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

The environmental team will meet regularly to discuss on-site environmental management, amendments to plans, changes to construction activities etc.

Regular meetings may also be scheduled with the Environmental Representative and RMS Environment staff to communicate ongoing environmental performance and to discuss issues to be addressed.

The environment team members will participate regularly in toolbox talks to communicate to the wider project personnel on environmental performance, to advise on sensitive environmental matters for future work areas and to receive feedback from on-site personnel.

Information relating to toolbox talks and daily pre-start meetings is provided in Sections 5.2 and 5.3 above.

## 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 to RMS and the Environmental Representative. The Environmental Manager will report regularly to RMS on progress and any key environmental matters.

The following two project team members are nominated as 24 hour contacts for environmental regulatory authorities, with the authority to take immediate action to shut down any activity, or to affect any pollution control measure:

- Shannon Chisholm (Environmental Manager) 0400 459 769, and
- Steven Glover (Project Director), 0417 936 779.

Upon consultation with the NSW Environmental Manager and the Operations Manager, each relevant authority will be notified immediately via the appropriate telephone number should a pollution incident occur that causes or threatens material harm to the environment.

The relevant authorities to be notified are:

- the EPA
- the Ministry of Health via the local Public Health Unit
- Work Cover
- Kiama City Council,
- Shoalhaven City Council, and
- Fire and Rescue NSW

For further details, refer to the Contacts List on page iii of this CEMP.

Should the EPA be notified of any pollution incident, RMS will be notified verbally within two hours and in writing as soon as the cause, extent and details are known.

A report will be submitted to RMS on each occasion when the site is visited by the EPA or any other Authority, other than for arranged inspections. The report will detail the purpose, outcome and actions pertaining to the visit and is submitted to RMS's Representative within one working day of the EPA or any other Authority visit.

## **6.3 Stakeholder and community communication**

### **6.3.1 Community Engagement Strategy**

A Community Engagement Strategy has been prepared for the Toolijooa Road Fill Works that describes the processes to follow for all community and stakeholder consultation in relation to the works.

### **6.3.2 Complaints and enquires protocol**

All community inquiries and complaints will be handled in accordance with the *Complaints and Enquiries Protocol*, consistent with *AS 4269: Complaints Handling* and included in Appendix A7.

All community inquiries and complaints related to the construction activities will be referred to the 24-hour community information line (1800 506 976). A site office postal address has been provided for receipt of complaints and enquiries. The telephone number, the postal address and the email address have been published in newspapers circulating in the local area.

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 DG on request.

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

## 7 Incidents and emergencies

All incidents and emergencies resulting from Toolijooa Road Fill Works will be managed in accordance with the Emergency Preparedness and Response Plan for Gerringong Upgrade project.

RMS's *Environmental Incident Classification and Reporting Procedure* will be implemented in the event of an environmental incident. The Procedure is provided in Appendix A5.

The Procedure provides information on:

- types of incidents
- criteria for classification of environmental incidents
- processes for systematically responding to and managing emergency situations, and
- processes and legal requirements (e.g. Acts, Regulations, EPL) for the reporting and notification of an environmental incident.

The procedure covers the management of events including:

- 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 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 EPL, 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, and
- unauthorised dumping of waste.

In accordance with the requirements of CoA B32, 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 DG during construction, and
- procedures for rectifying any non-compliance identified during review of incident management.

The RMS Representative and the Environmental Representative will generally be notified verbally immediately and in writing within 1 hour of the occurrence of an environmental incident. Incident reports will be provided to the RMS 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 close out as quickly as possible, taking all required action to resolve each environmental incident.

In accordance with CoA A5, the RMS will notify the DG and other relevant government agencies of any incident with actual or potential significant off-site environmental impacts on people or the biophysical environment as soon as practicable and within 24 hours after the occurrence of the incident. Fulton Hogan will provide RMS with full written details of the incident for RMS to forward to the DG within seven days of the date on which the incident occurred. Where an incident also requires reporting to the OEH and/or EPA the incident report prepared for the purposes of notifying the OEH and/or EPA would meet this requirement.

In accordance with CoA A6, Fulton Hogan will meet the requirements of the DG or relevant government agency (as determined by the Director General) to address the cause or impact of any incident, as it relates to this approval, reported in accordance with CoA A5, within such period as the Director General may require.

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

## **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 undertake inspections of the work sites weekly and after rainfall events to evaluate the effectiveness of environmental controls. The Environmental Officers 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 included in Appendix A8. Records will also include details of any maintenance required, the nature of the deficiency, any actions required and an implementation priority. The completion of the actions will be monitored to ensure they are implemented within the agreed timeframes.

#### **8.1.2 Environmental Representative and RMS inspections**

The Environmental Representative and RMS staff will undertake regular inspections of work sites during construction. Inspections by the Environmental Representative and RMS Project staff would typically occur on a weekly or fortnightly basis depending on the complexity of the work and anticipated environmental risks associated with the stage of construction.

A member of the Project environment team will participate in all Environmental Representative and client inspections and records maintained. Deficiencies and required actions will be analysed and prioritised at the completion of the inspection and timeframes for implementation of corrective actions agreed.

### **8.2 Environmental monitoring**

The monitoring required under the Project Approval during construction is described in detail in the relevant environmental management sub plans.

The Environmental Representative and RMS Representative will be advised of any non-conformances identified through monitoring activities. Details will be reported by the Fulton Hogan 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 TRFW, the process described in Section 8.6 will be implemented. Steps in the process will typically include:

- an analysis of the results by the Environmental Manager to determining possible causes for the non-conformance
- a site inspection by the Environmental Manager or delegate
- advising relevant personnel of the problem
- identifying and agreeing on actions to resolve or mitigate the non-conformance, and
- 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 if it is found to be construction related.

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

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

## **8.3 Auditing and reporting**

### **8.3.1 Internal audits**

The internal audits will be carried out by suitably qualified and experienced Fulton Hogan personnel not directly associated with the project every six (6) months, with the first audit occurring no longer than three (3) months after commencement of construction.

These audits will be undertaken to verify compliance with:

- this CEMP and sub plans
- approval requirements (CoAs, SoCs), and
- any relevant legal and other requirements (e.g. licenses, permits, regulations, RMS contract documentation).

### **8.3.2 Independent external audits**

External auditing will be undertaken by an independent environmental auditor in accordance with *ISO 19011:2003 - Guidelines for Quality and / or Environmental Management Systems Auditing*, as required by CoA B29(d).

## **8.4 Compliance tracking program**

A Compliance Tracking Program (CTP) has been developed for the Toolijooa Road Fill Works in accordance with the requirements of CoA B32. The CTP contains:

- provisions for the notification of the Director General of the commencement of works prior to the commencement of construction and prior to the commencement of operation of the project (including prior to each stage, where works are being staged)
- provisions for periodic review of project compliance with the requirements of this approval and the documents listed under condition A1, including the Statement of Commitments
- provisions for periodic reporting of compliance status against the requirements of the Project Approval and the Major Project Application, Environmental Assessment and the Submissions Report, including the Statement of Commitments, to the DG including 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
- a program for independent environmental auditing in accordance with *ISO 19011:2003 - Guidelines for Quality and/ or Environmental Management Systems Auditing*
- mechanisms for reporting and recording incidents and actions taken in response to those incidents
- provisions for reporting environmental incidents to the DG during construction and operation, and
- 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 B29 will be met and identifies the frequency for the Toolijooa Road Fill Works compliance reporting and independent auditing.

## **8.5 Non-conformity, corrective and preventative actions**

The Gerringong Upgrade project's Quality Plan describes the process for managing non-conforming work practices and initiating corrective/preventative actions or system improvements.

The Environmental Representative, RMS 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 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 contractor's quality system database and include detail of the issue, action required and timing and responsibilities. The record will be updated with date of close out and any necessary notes. The database will be reviewed regularly to ensure actions are closed out as required.

## 9 Review and improvement

Management reviews are undertaken as part of the continual improvement process as required by CoA B38(h). The management review can consist of group or executive reviews.

A group review is initiated by the Environmental Manager and includes relevant Project team members and stakeholders. The environment team meet 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 changes in operational needs such as resourcing, and
- feedback from management reviews.

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

# 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:

- 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, and
- 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

Fulton Hogan or RMS, where relevant, will coordinate the preparation, review and distribution, as appropriate, of the environmental documents listed above. During construction, the environmental documents will be stored at the main site compound.

Fulton Hogan will implement a document control procedure to control the flow of documents within and between RMS, 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, and
- archived.

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

# Appendices