

# Construction Environmental Management Plan

## Epping to Thornleigh Third Track Alliance



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### Document Control

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### Details of Revisions

Rev	Date	Description
1.0	12/03/2013	First issue
2.0	05/04/2013	Plan updated addressing TfNSW comments
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5.0	19/6/2013	Rev 4 not lodged with TPD. Further refinements completed
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7.0	22/07/2013	Updated to reflect Project Determination.
8.0	22/08/2013	Updated following consultation with Council and Agencies
9.0	04/09/2013	Compiled for DP&I Review and Approval
10	24/09/2013	Updated following DP&I Review
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13	17/07/2014	Amendments to Non Conformance Reporting Process
14	5/03/2015	Reference change to DP&E. Updated Environment Policy and minor updates to reflect current org chart, guidelines, and minor processes. Formatted document design in-line with Web Content Accessibility Guidelines (WCAG).
15	02/06/2015	General review and minor update - removed Appendix E (sub plans)
16	07/07/2015	Addressed ER comments
17	30/11/2015	General review and minor update to reflect current project organisation chart.

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# 1 Project Description

## 1.1 Background for Northern Sydney Freight Corridor

The Northern Sydney Freight Corridor (NSFC) is a major infrastructure construction program to upgrade the 155 kilometre Main North Line between Sydney and Newcastle, which is a shared passenger and freight line. The key objectives of the NSFC Program are:

- Improve freight train access through northern Sydney to the metropolitan freight network, to Port Botany and to intermodal (container) terminals
- Reduce the most significant bottleneck on the east coast interstate rail network
- Reduce freight transport operation costs
- Improve the reliability of freight services on the Main North Line and ease peak hour restrictions on freight services.

## 1.2 Description of Epping to Thornleigh Third Track Project

The Epping to Thornleigh Third Track (ETTT) project is a key component of the NSFC program of works.

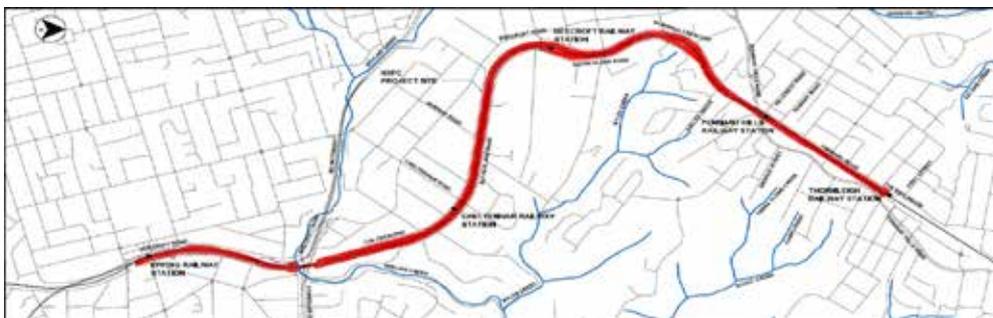
The primary operational objectives of the ETTT project are to provide additional northbound paths for freight trains (particularly between 4am and 10pm), reduce waiting times for freight trains and increase the reliability of both freight and passenger services.

Construction by an Alliance will commence in mid-2013 and is due for completion by mid-2016.

The ETTT Project includes the detailed design, construction, commissioning and handover of:

- Rail works of approximately 6km of new track and three turnouts
- Bridge works over Devlins Creek, the M2 Motorway and viaducts between Epping and Cheltenham
- Station works at Cheltenham Station, Pennant Hills Station and Beecroft Station
- Civil works such as sandstone cuttings, embankment formation widening, retaining walls and utility relocation and protection
- Rail systems works including high and low voltage power supplies, signalling, communications and control systems, overhead wiring and traction power modifications.

The map below shows the corridor boundary for the ETTT Project.



## 2 Definitions

Table 1: Abbreviations

Acronym	Definition
ALT	Alliance Leadership Team
CEMP	Construction Environmental Management Plan
CNS	Construction Noise Strategy
CoA	Conditions of Approval
DP+E	Department of Planning and Environment (former DP&I)
DP&I	Department of Planning and Infrastructure
EC	Environmental Coordinator
ECM	Environmental Controls Map
EDCM	Environmental Design Constraints Map
EIS	Environmental Impact Statement
EMS	Environmental Management System
EPA	Environment Protection Authority
EPL	Environmental Protection Licence
ER	Environmental Representative
ERSED	Erosion and Sediment Control
ETTT	Epping to Thornleigh Third Track
IMS	Incident Management System (TfNSW)
ITP	Inspection and Test Plan
KRA	Key Result Area
LIMS	Leighton Integrated Management System
NCA	Noise Catchment Areas
NOP	Non Owner Participants
NSFC	Northern Sydney Freight Corridor
PECOMS	Planning and Environment Compliance Management System
POEO	Protection of the Environment Operations Act 1997
PIRMP	Pollution Incident Response Management Plan
REMM	Revised Environmental Mitigation Measures
SEPP	State Environmental Planning Policy
TSW	Task Work Sheet
TfNSW	Transport for NSW
TSR	Standard Requirements
WMP	Work Method Plans
WRAPP	Waste Reduction and Purchasing Policy

# 3 Introduction

## 3.1 CEMP Purpose and Scope

The purpose of this Construction Environmental Management Plan (CEMP) is to describe the ETTT Alliance Environmental Management System (EMS), which is consistent with the requirements of ISO14001:2004; and the Transport for NSW (TfNSW) Standard Requirements (TSR) E1 – Environmental Management. The CEMP has been developed to be compliant with the Conditions of Approval (CoA), Revised Environmental Mitigation Measures (REMM) contained in the Submissions Report, the Environmental Impact Statement (EIS) and applicable legislation.

The CEMP forms an integral part of the overall Project Management System. The CEMP is the overarching document of the ETTT Alliance Project Team's Environmental Management System, which comprises a suite of environmental planning and management instruments that will guide the design and construction aspects of Project delivery.

This CEMP describes how the ETTT Alliance Project Team proposes to manage and control the environmental aspects of the ETTT Project during the design and construction phases. It directly interfaces with associated Environment Management Plans that form the subsequent tier of the ETTT Alliance Environmental Management System.

The Plans identify specific impacts and required management measures and relevant controls to be applied along the ETTT Project alignment. The Plans reference a suite of tools that have been developed to further guide environmental management. These tools include Environmental Control Maps (ECMs); Environmental Design Constraints Maps (EDCMs); procedures, forms and registers.

This CEMP and associated Plans will be applicable to all relevant Alliance staff and subcontractors during the ETTT Project.

This CEMP provides the framework to manage the environmental issues that may arise throughout the ETTT Project. The key functions of this CEMP include:

- Defining the Environmental Policy for the ETTT Alliance
- Identifying the aspects of construction activities that may have significant environmental impacts
- Summarising the legislative and regulatory obligations applicable to the ETTT Alliance
- Identifying safeguards required by the EIS, CoA, REMMs and the ETTT Alliance Contract
- Outlining environmental management practices to be followed during construction
- Providing a framework for monitoring, auditing, reporting, reviewing and improving
- Procedures for investigating and resolving any non-conformances and initiating corrective and preventative measures.

### 3.2 Conformance with TSR and ISO 14001 Requirements

Table 2 provides a demonstration of how each of the relevant TSR requirements is addressed in this CEMP.

**Table 2: Conformance with TSR Requirements**

CEMP Reference		Relevant ISO14001:2004 Clause		TfNSWTSR E1 Requirement	
Section 1	Alliance description	4.1	General requirements	1.1	General requirements
Section 2	Introduction				
Section 3	Environmental Management System				
Section 4.4	Environmental Policy	4.2	Environmental policy	5	Policy
Section 4.3	Construction Environmental Management Plan	4.3	Planning	4	Construction Environmental Management Plan
Section 5.1	Identify and Assess	4.3.1	Environmental Aspects	7.1	Environmental Risk Assessment
Section 4.6	Legislative and other Requirements	4.3.2	Legal and other requirements	6	Planning Approvals
Section 4.5	Objectives and Targets	4.3.3	Objectives, targets and programs	4	Construction Environmental Management Plan
Section 4.7	Organisation and Accountabilities	4.4.1	Resources, roles, responsibility and authority	8.1	Resources and Responsibilities
Section 6	Induction, Training, Awareness and Competence	4.4.2	Competence, training and awareness	8.3	Competence, Training & Awareness
Section 6.9.1	Communication and Interface	4.4.3	Communication	8.15	Complaints
Section 4	Environmental Management System	4.4.4	EMS Documentation	3	Contractor's Environmental Management System
Section 4.9	Environmental Documents and Records	4.4.5	Control of documents	11	Control of Environmental Records
Section 4	Environmental Management Systems	4.4.6	Operational control		
Section 5	Processes				
Section 9	Manage Incident	4.4.7	Emergency preparedness and response	8.5	Emergency Planning & Response
				8.15	Complaints
Section 8	Review and Monitor	4.5.1	Monitoring and measurement	9	Environmental Inspections, Monitoring and Reporting
Section 8.6	Compliance Evaluation and Reporting	4.5.2	Evaluation of compliance	12	PECOMS
Section 8.5	Auditing	4.5.3	Nonconformity, corrective and preventive action	10	Principal Raised Nonconformity, Corrective Action & Preventative Action
Section 3.9	Environmental Documents and Records	4.5.4	Control of records	11	Control of Environmental Records
Section 7.6 & 7.7	Environmental Inspections, Monitoring and Reporting	4.5.5	Internal audit	9	Environmental Inspections, Monitoring and Reporting
Section 7.1	Management Review	4.6	Management review	3	Contractor's Environmental Management System

### 3.3 Construction Activities and Program

An outline of the construction phases and associated activities for the ETTT Alliance is provided in Table 3 below. The standard construction phases include:

1. **Site establishment** – This phase involves clearing of all vegetation types from within the approved clearing limits.
2. **Services relocation** – This phase involves the relocation of Sydney trains and third party utilities to facilitate the earthworks and other activities needed to construct the project.
3. **Earthworks** – This phase involves the excavation and placement of earth and rock to form the foundation onto which the track is laid.
4. **Structures** – This phase involves the modification of existing or the construction of new structures such as bridges to enable the third track to be built.
5. **Station adjustments** – This phase involves the modification of existing stations to enable the third track to be built.
6. **Track work** – This phase involves the modification of existing and the installation of new track to incorporate the new works into the Sydney Trains Network
7. **Signalling and communications** – This phase involves the modification of existing or installation of new signalling or communications equipment to incorporate the new works into the Sydney Trains Network.
8. **Overhead wire installation/adjustment** – This phase involves the modification of existing or installation of overhead wire to incorporate the new works into the Sydney Trains Network.
9. **Commissioning** – This phase involves the detailed testing of the new track and equipment to ensure that it performs as intended and that it incorporates well into the Sydney trains Network,

Further details on the construction approach is provided in Section 5.7 of the EIS.

The indicative timing of works at each work site is presented in the programme presented in Appendix A.

Table 3: Construction Elements

Construction Phase	Activities	Indicative Timing
<i>Pre-Construction activities</i>	Activities that satisfy the non- construction definition of Schedule A	Pre-CEMP Approval
<i>Site Establishment</i>	Clearing of vegetation	CEMP Approval – February 2014
<i>Relocation of Services</i>	Services location, identification and consultation with service provider; Relocation works.	CEMP Approval – June 2014
<i>Earthworks</i>	Cut to fill operations Sandstone batter excavation Spoil transport and processing Fill embankments Batter treatments Drainage Stabilisation and rehabilitation	CEMP Approval – June 2015
<i>Structures</i>	Piling Bridge over M2 Structures and bridge adjustments	CEMP Approval – June 2015

Construction Phase	Activities	Indicative Timing
<i>Station Adjustments</i>	Works at Stations Car park adjustments	CEMP Approval – December 2015
<i>Track Work</i>	Installation of track	January 2015 – June 2016
<i>Signalling and Communications</i>	Installation of signalling and communications	CEMP Approval – June 2016
<i>Overhead Wire</i>	Installation of wire Adjustment of wire	November 2013 – June 2016
<i>Commissioning</i>	Testing and Commissioning	feb 2016 – June 2016

### 3.4 Ancillary Infrastructure Facilities

A number of compound sites will be required during the construction period. The locations of the proposed compound sites are in Table 4 below. The exact location and size of the actual compound sites will vary according to the staging and planning of the construction activities.

A Construction Compound and Ancillary Facilities Management Plan will be prepared as proposed in Condition E29, and lodged with DP&I for review and approval.

**Table 4: Indicative Locations of Construction Compounds**

No.	Location	Use of Site	Access	Expected Period of Use
S1	Existing bus flyover roadway to the south of the M2	Used for works south of the M2 including bridge construction and materials storage	Bus underpass and Cambridge St to Epping Rd	July 2013 to June 2016
S2	Within the rail corridor to the north of the M2	Compound for M2 Motorway bridge construction and other major works. Materials handling and storage	Existing corridor access road and Old Beecroft Road	July 2013 to June 2016
S3	Cheltenham Station in the vicinity of the existing car park	Material handling and storage. Cheltenham Station construction	The Crescent, Cheltenham	July 2013 to December 2016
S4	Within the rail corridor to the south of the Beecroft scout hall	One way track access/ egress compound. Materials handling and storage. Storage and removal of spoil. Major excavation works	The Crescent Beecroft	July 2013 to December 2016
S5	Beecroft Station in the vicinity of the existing car park	Materials handling and storage. Beecroft Station works	Wongala Crescent, Beecroft	July 2013 to December 2016
S6	Within the rail corridor to the west of Pennant Hills Station	Materials handling and storage. Pennant Hills Station construction. Excavation and retaining wall construction	Yarrara Road	July 2013 to December 2016
S7	Old Epping Bowling Club, corner of Epping Rd and Blaxland Rd	Materials handling and storage	Blaxland Road	July 2013 to December 2016
S8	Deleted			
S9	Pennant Hills Park	Worker parking	Britannia Road	July 2013 to December 2016

# 4 Environmental Management System

This section identifies how this CEMP has been developed to ensure the Environmental Management System (EMS) for the ETTT Alliance is in accordance with the requirements of ISO 14001:2004.

## 4.1 Alliance Management System

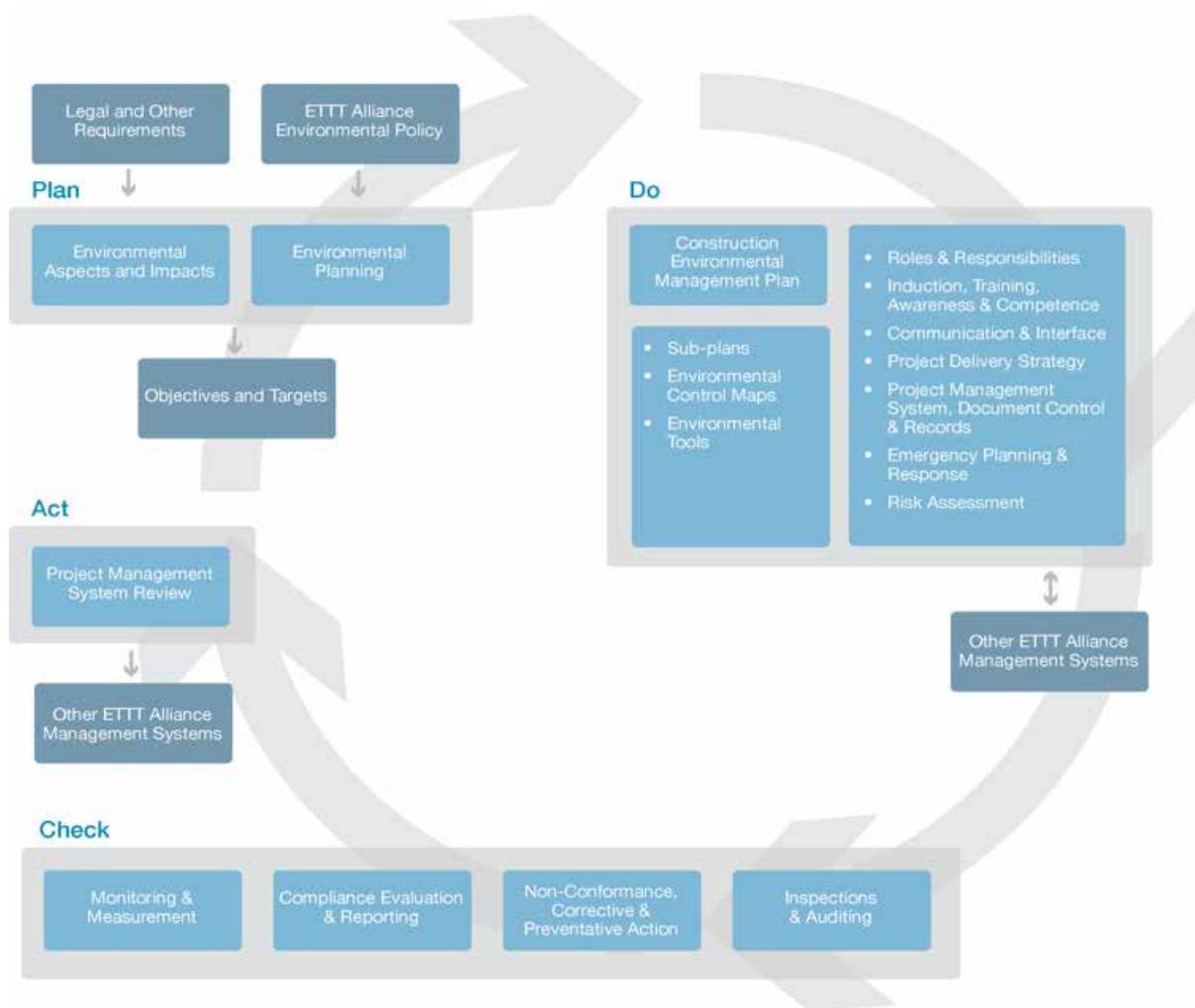
ETTT Alliance has nominated ETTT Alliance Participant Leighton Contractors as the Principal Contractor. Leighton Contractors will also be the holder of the Environmental Protection Licence (EPL). The ETTT Alliance EMS described in this CEMP has been developed to integrate into the Leighton Integrated Management System (LIMS). The Leighton IMS is ISO14001:2004 certified. Further, this CEMP has been developed, where required by the Project Alliance Agreement (PAA) to be consistent with Environmental Management Systems (EMS) of ETTT Alliance Partners Lend Lease and TfNSW whose EMSs are also ISO14001:2004 certified.

An Alliance Management Plan has been developed for the ETTT Project which defines the ETTT Alliance management system and comprises a series of discipline management plans:

- Construction Environmental Management Plan (this document)
- Stakeholder and Community Involvement Plan
- Project Safety Management Plan
- Quality Management Plan
- Design Management Plan
- Construction & Site Management Plan
- Interface Management Plan
- Emergency & Crisis Management Plan

## 4.2 EMS 'Plan-Do-Check-Act' Methodology (ISO14001:2004)

The EMS applied through this CEMP is based on the implementation of the 'Plan-Do-Check-Act' methodology. The 'Plan-Do-Check-Act' methodology and its relationship to this CEMP are illustrated in the flowchart below.



### 4.3 Construction Environmental Management Plan

This CEMP is the primary document managing environmental processes and procedures governing the construction of the ETTT Alliance. Unless otherwise identified in this CEMP, it takes precedence over any other document for works within the boundaries of the ETTT Project.

This CEMP comprises the following key sections.

- 4 – Introduction – describing the general elements of the ETTT Project and the EMS.
- 5 – Processes
- 6 – Consult and communicate
- 7 – Implementation
- 8 – Review and Monitor
- 9 – Manage Incident.

Each process in sections 5 to 9 generally comprises three parts:

- Description – summarises the process, including the purpose and scope;
- Roles – defines the personnel responsible for implementation of the process; and
- Process – describes each sequential task in the process.

Associated with each process may be 'tools' or 'knowledge'. A 'tool' is a document required for the completion of a task (for example an approval form, monitoring checklist or attendance register). 'Knowledge' is a document containing reference information which supports a process (for example a technical guide or manual).

Appendices comprise documents containing detailed or technical information, tools and knowledge.

### 4.3.1 Environmental Management Plans

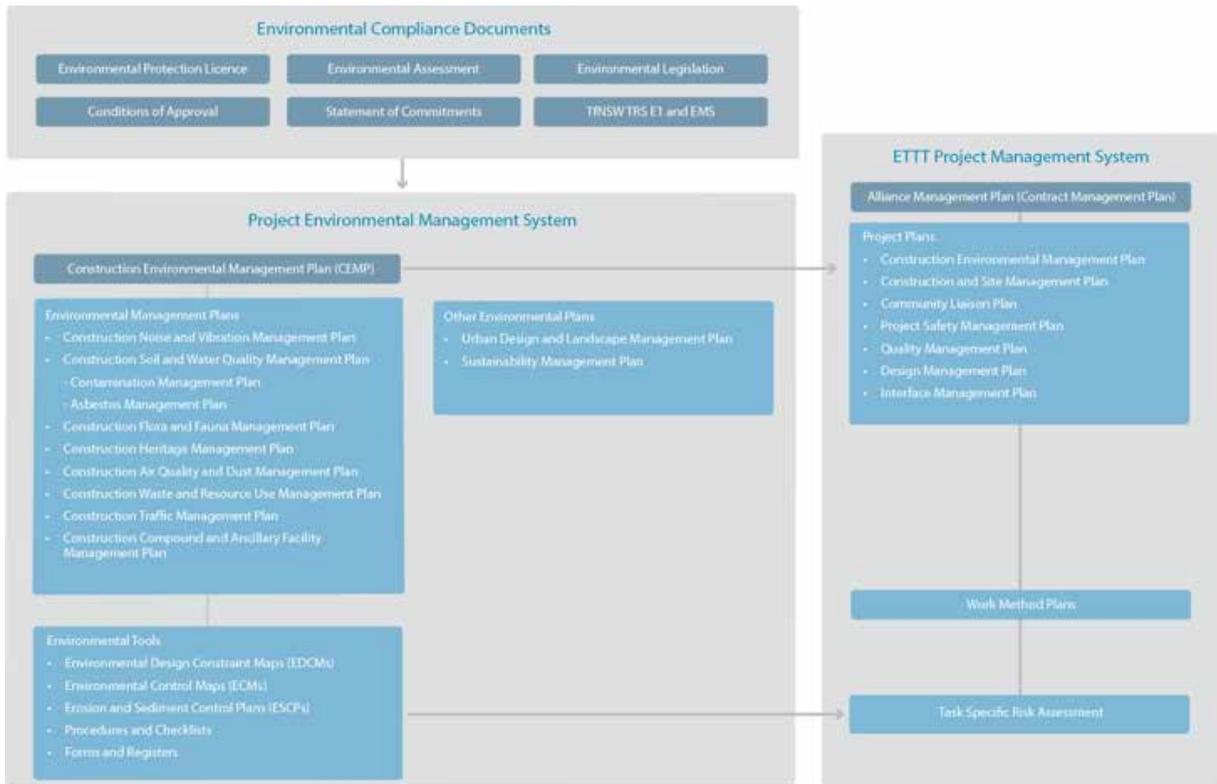
This CEMP is supported by a suite of environmental management plans which have been prepared to document the management of specific environmental risks and aspects through design and construction. These are either specifically required (by the REMMs and CoA) to be developed as part of the CEMP or represent a specific risk for the ETTT Alliance.

The Environmental Plans developed for the ETTT Alliance include:

- Construction Noise and Vibration Management Plan (presented as two separate plans)
- Construction Compound and Ancillary Facility Management Plan
- Construction Soil and Water Quality Management Plan
- Contamination Management Plan
- Asbestos Management Plan
- Water Quality Monitoring Program
- Construction Flora and Fauna Management Plan
- Nest Box Plan
- Construction Heritage Management Plan
- Construction Air Quality Management Plan
- Construction Waste and Resource Use Management Plan
- Construction Traffic Management and Access Plan.

The CoA will require consultation with ETTT Alliance stakeholders regarding certain ESPs prepared as part of the CEMP. The stakeholders that are likely to be consulted as required during preparation of the ESPs are outlined below:

- Construction Traffic Management Plan: Hornsby Shire and Parramatta City Council, RMS and Transport Operators
- Construction Flora and Fauna Management Plan: Hornsby Shire and Parramatta City Council and OEH
- Construction Heritage Management Plan: Registered Aboriginal Stakeholders (where Aboriginal Heritage impacts are identified), NSW Heritage Council and Hornsby Shire Council
- Construction Soil and Water Quality Management Plan: Hornsby Shire and Parramatta City Council and DPI
- Construction Noise and Vibration Management Plan: EPA
- Construction Air Quality Management Plan: Hornsby Shire and Parramatta City Council
- Construction Contamination Management Plan: Hornsby Shire and Parramatta City Council and DPI (As part of the Construction Soil and Water Quality Management Plan)
- Construction Asbestos Management Plan: Hornsby Shire and Parramatta City Council and DPI (As part of the Construction Soil and Water Quality Management Plan)



#### 4.4 Environmental Policy

The ETTT Alliance Project Team is committed to delivering outstanding environmental outcomes and exceeding the environmental objectives of the ETTT Alliance. The ETTT Alliance Environmental Policy is presented overpage.



## ETTT Alliance Environmental Policy

### What we stand for:

Achieving a reputation for excellence in the field of construction environment management.

### The ETTT Alliance is committed to:

- Providing a supportive environmental culture by embracing behaviours and developing a genuine respect for the environment that will contribute to a sustainable future;
- Minimising our environmental impacts and risks, and prevent pollution by applying a hierarchy of controls to assess, eliminate, substitute or mitigate such impacts;
- Setting relevant environmental targets and then monitoring and reviewing performance against these as the basis for continual improvement;
- Ensuring compliance in terms of all organisational, regulatory and legal requirements on the Project;
- Communicating this publically available policy to all employees and subcontractors; and
- Maintaining and constructing the Project under an environmental management system that is compliant with ISO 14001:2004.

### What is expected from the Alliance team:

- To embrace and be proud of our commitment to achieve excellence in the field of construction environment management;
- To complete works in accordance with the CEMP and its processes and procedures;
- Assist in improving the system by identifying areas for improvement; and
- To value the local environment in which we work, and to protect it for our childrens' future.

### Authorisation:

Scott Hunter  
Alliance Manager

17/02/15

Date

### Signed by all members of ALT

Dated: February 2015

## 4.5 Objective and Targets

Environmental objectives and targets have been set by the ETTT Alliance Project Team.

Key Result Areas (KRA) relate to the ETTT Alliance objectives as defined in the KRA Performance Measurement Plan and represent the non-cost areas that have been identified as being fundamentally important to the successful delivery of the ETTT Alliance. The Environment KRA includes five Key Performance Indicators (KPI's). These KPI's are described in Table 5 below.

**Table 5: KPI's within the Environmental KRA**

Key Performance Indicator	Minimum Requirements
Sustainable design guidelines	Achieve at least a Silver Rating for the ETTT Alliance
Site environmental inspections by Environmental Representative	100% of actions closed out within agreed timeframes
Minimise planned clearing of EEC vegetation	Amount of EEC planned to be cleared is no more than that described in the Submissions Report
Minimise actual clearing of EEC vegetation	Actual EEC clearing is no more than that described in the Submissions Report
Minimise actual clearing of native vegetation other than EEC	Actual native vegetation clearing (other than EEC) is no more than that described in the Submissions Report

Each Key Performance Indicator (KPI) is given proportional sub-weightings with the Environment KRA, as defined in the KRA performance management plan. The sub-weightings for each environmental KPI are shown in Table 6.

**Table 6: Allocation of Sub-Weightings to Each Environmental KPI**

KRA	KRA Gainshare Weighting	KRA Painshare Weighting	KPI	KPI Gainshare weighting	KPI Painshare weighting
Environment	10%	10%	Sustainable design guidelines	N/A	25%
			Site environment inspections	N/A	25%
			Minimise planned clearing of EEC vegetation	40%	20%
			Minimise actual clearing of EEC vegetation	40%	20%
			Minimise actual clearing of native vegetation other than EEC	20%	10%

The data collection and score aggregation method are described in the KRA Performance Measurement Plan.

## 4.6 Statutory and Other Requirements

The ETTT Alliance will be required to comply with a number of legislative and other requirements. This includes the various approvals, permits and licenses and outlines how compliance obligations are captured, implemented and monitored throughout the life of the ETTT Alliance.

Also identified below are other sources which the ETTT Alliance will subscribe to, such as selected construction and maintenance guidelines, standards and Codes of Practice.

#### 4.6.1 Overview of Environmental Impact Statement and Project Approval

Part 5.1 of the NSW Environmental Planning and Assessment Act 1979 (the Act) establishes an assessment and approval regime for 'State Significant Infrastructure'. Part 5.1 applies to development that is declared to be State Significant Infrastructure by a State Environmental Planning Policy (SEPP).

Under Section 115U of the Act, development that may be declared to be State Significant Infrastructure is development of a kind that a State Environmental Planning Policy permits to be carried out without development consent under Part 4, as follows:

- Infrastructure
- Other development that (but for this Part and within the meaning of Part 5) would be an activity for which the proponent is also the determining authority and would, in the opinion of the proponent, require an environmental impact statement to be obtained under Part 5.

The proposal has been determined to have a potentially significant impact on the environment and therefore by virtue of Part 5.1 of the NSW Environmental Planning and Assessment Act 1979 (the Act) is classified as 'State Significant Infrastructure'.

Approval from Minister for Planning is required and an Environmental Impact Statement (EIS) has been prepared. Under Part 5.1 of the Act, the planning and approval process involves the following key steps:

- Submission of a State Significant Infrastructure application (under Part 5.1 of the Act) to the Director-General of the Department of Planning and Infrastructure (DP&I), seeking Director General's requirements for the proposal
- Preparation and submission of an EIS, addressing the matters outlined in the Director General's requirements (Completed; 19 September 2012)
- Public exhibition of the EIS for a minimum of 30 days (Completed; 5 November 2012)
- Assessment of the application by DP&I and preparation of the Director-General's environmental assessment report
- Determination by the Minister for Planning, including setting the ETTT Project's conditions of approval – 17 July 2013.

#### 4.6.2 CEMP Approval and Consultation Requirements

This CEMP has been prepared as required by CoA E33, REMM and the EIS, in accordance with the 'Environmental Management Systems Guidelines' (NSW Government, 2009) and developed to reflect the structure as detailed in the TSR E1- Environmental Management.

Following the consultation process as detailed in Section 4.3.1, the overall CEMP will be submitted to DP&I for approval prior to commencement of construction as required by CoA E33.

Once the CEMP is approved by the DP&I, subsequent revisions containing system and process refinement will be provided to the Environmental Representative (ER) for determination of significance, which will indicate whether re-approval by the Secretary DP&E (former Director-General, DP&I) is required.

#### 4.6.3 Planning Approvals

All licenses and permits applicable to the ETTT Project including all CoA, REMM and EIS requirements will be tracked using a Compliance Tracking Program (CoA D5). This program allocates responsibilities for each approval, license or permit and tracks compliance against each condition. This demonstrates how the ETTT Alliance is performing against its statutory requirements in obtaining and maintaining all required licenses, permits and approvals in consideration of CoA B6.

The key sources of legal and other requirements that relate specifically to the ETTT Alliance are as follows:

- Environmental Impact Statement (EIS) Epping to Thornleigh Third Track (Parsons Brinckerhoff/GHD, September, 2012)
- Submissions Report, Epping to Thornleigh Third Track: Revised Environmental Mitigation Measures (REMM), March 2013
- NSW Minister for Planning - Conditions of Approval (CoA) for the Epping to Thornleigh Third Track – Director-General’s Environmental Assessment Report Section 75I of the Environmental Planning and Assessment Act 1979.

Updates to legislation and applicability to the Project will be determined by the Environmental Manager on a monthly basis via the Environment Essentials legislation service ([www.enviroessentials.com.au/envirolaw](http://www.enviroessentials.com.au/envirolaw)). Following review by the Environmental Manager, updates applicable to the Project will be communicated to the broader team and if required subsequent approvals, permits or licences will be obtained.

Other relevant environmental legislation and requirements and how they relate to the ETTT Alliance can be found in Table 7.

**Table 7: Other Relevant Legislation and Requirements**

Legislation	Legislation Requirement	Approvals/ Permits/ Licences
Commonwealth Environment Protection and Biodiversity Conservation Act 1999	<ul style="list-style-type: none"> <li>• Applicable to environmental impacts on Commonwealth land and impacts on matters of national significance</li> </ul>	<ul style="list-style-type: none"> <li>• Approval is not required under EPBC Act for this Project</li> </ul>
Environmental Planning and Assessment Act 1979 (Project Approval)	<ul style="list-style-type: none"> <li>• Approval from the NSW Minister for Planning &amp; Infrastructure is required for the ETTT Project (Part 5.1 S115W).</li> <li>• A preliminary assessment of environmental impacts determined the ETTT Project is likely to significantly affect the environment and triggers the S115U(3) (B) requirement for an EIS.</li> <li>• An EIS has been prepared in accordance with S112 (1) of the EP&amp;A Act for the Minister for Planning &amp; Infrastructure to review and approve prior to Alliance commencement. The Minister will issue conditions of approval that must be complied with during construction and operation (as applicable).</li> <li>• In accordance with Section 115ZG of the EP&amp;A Act a number of State approvals are not required.</li> </ul>	<ul style="list-style-type: none"> <li>• CoA will be required to be complied with for the ETTT Alliance</li> <li>• The approvals not required for this Project are described in Section 2.4 of the EIS.</li> </ul>

Legislation	Legislation Requirement	Approvals/ Permits/ Licences
Environmental Planning and Assessment Regulation 2000  Protection of the Environment Administration Act 1991 (Sustainability Requirements)	<ul style="list-style-type: none"> <li>• Consideration for the principles of ecological sustainable development (ESD)</li> <li>• Precautionary principle</li> <li>• Intergenerational equity</li> <li>• Conservation of biological diversity and ecological integrity</li> <li>• Improved valuation, pricing and incentive mechanisms.</li> </ul>	<ul style="list-style-type: none"> <li>• Sustainable initiatives required by the "TfNSW Sustainable Design Guidelines"</li> </ul>
Chapter 3 of the Protection of the Environment Operations Act	<ul style="list-style-type: none"> <li>• If Schedule 1 is triggered an Environmental Protection License is required</li> </ul>	<ul style="list-style-type: none"> <li>• The Project involves the alteration and construction of "Rail Systems" as such the ETTT Alliance will need to hold an EPL.</li> </ul>
Contaminated Land Management Act 1997	<ul style="list-style-type: none"> <li>• Establishes a process for investigating and (where appropriate) remediation of land where contamination presents a significant risk of harm to human health or some other aspect of the environment.</li> </ul>	<ul style="list-style-type: none"> <li>• ETTT Alliance to address the Act for construction activities likely to encounter contamination as identified in the project EIS and any subsequent site assessments.</li> </ul>
Water Management Act 2000	<ul style="list-style-type: none"> <li>• Under section 56 of the Act, an access licence is required for water extraction.</li> <li>• Section 89 of the Act relates to water use approvals, which confer a right on their holder to use water for a particular purpose at a particular location.</li> <li>• Section 91 relates to activity approvals and provides that certain types of development and activities that are carried out in or near a river, lake or estuary are "controlled activities" and require an activity approval.</li> <li>• Section 91 also provides that aquifer interference activities require an aquifer interference approval, which is an activity approval.</li> </ul>	<ul style="list-style-type: none"> <li>• Public authorities are exempt from the need to obtain a controlled activity approval.</li> <li>• Pursuant to section 115ZG of the EP&amp;A Act, a water use approval is not required for an approved Part 5.1 project.</li> <li>• Pursuant to section 115ZG of the EP&amp;A Act, activity approvals are not required for an approved Part 5.1 project.</li> <li>• An aquifer interference approval will be obtained from the NSW Office of Water for any aquifer impacted / intercepted by construction.</li> </ul>
Water Act 1912	<ul style="list-style-type: none"> <li>• Requires licences be obtained for activities including extraction of groundwater, interception of aquifers and extraction of water from creeks or rivers</li> </ul>	<ul style="list-style-type: none"> <li>• A licence will be obtained from the NSW Office of Water for any groundwater or surface water to be utilised or impacted / intercepted for or by construction</li> </ul>
Environmentally Hazardous Chemicals Act 1985	<ul style="list-style-type: none"> <li>• Prescribes requirements for the safe use of hazardous chemicals</li> </ul>	<ul style="list-style-type: none"> <li>• If environmentally hazardous chemicals are used or disposed of, relevant licences will be obtained. Applies mainly if asbestos or contaminated materials are encountered during the project.</li> </ul>
Native Vegetation Act 2003	<ul style="list-style-type: none"> <li>• To provide for, encourage and promote the management of native vegetation in accordance with ESD principles.</li> </ul>	<ul style="list-style-type: none"> <li>• As the Project has been approved under Part 5.1 of the EP&amp;A Act, NPWS authorisation is not required.</li> </ul>

Legislation	Legislation Requirement	Approvals/ Permits/ Licences
Pesticides Act 1999	<ul style="list-style-type: none"> <li>This Act promotes the protection of human health, environment, property and trade in relation to the use of pesticides. It is an offence under the Act to use pesticides in a manner that causes harm to the public and threatened species or populations</li> </ul>	<ul style="list-style-type: none"> <li>Pesticides may be used for weed eradication prior to landscaping and during the planting establishment period. If so, notification will be made as per the requirements of the construction flora and fauna management plan.</li> </ul>
Fisheries Management Act 1994	<ul style="list-style-type: none"> <li>Under the Act, approval is required from the Industry and Investment NSW (Fisheries), for activities involving dredging and reclamation (section 201), blockage of fish passage (section 219) and harming of certain marine vegetation in a protected area (section 205).</li> <li>A licence is required under section 220ZW of the Act for activities likely to harm or damage threatened species, populations or ecological communities.</li> </ul>	<ul style="list-style-type: none"> <li>Pursuant to section 115ZG of the EP&amp;A Act, permits under sections 201, 205 or 219 of the Act are not required for an 'approved project' under Part 5.1.</li> <li>An examination of threatened species, populations and ecological communities distribution ranges listed in the Act indicates that none are likely to occur within the vicinity of the Project Area. Therefore, the provisions of the Act do not apply and no further assessment is required.</li> </ul>
Heritage Act 1977	<ul style="list-style-type: none"> <li>Consent is required under Part 4 of the Heritage Act for development which alters, moves or damages any part of a listed heritage item.</li> <li>An excavation permit is required under section 139 of the Heritage Act to 'damage, despoil, move or alter' a relic.</li> </ul>	<ul style="list-style-type: none"> <li>Pursuant to section 115ZG of the EP&amp;A Act, an approval under Part 4 of the Heritage Act is not required for an approved Part 5.1 project.</li> <li>Pursuant to section 115ZG of the EP&amp;A Act, an excavation permit under section 139 of the Heritage Act is not required for an approved Part 5.1 project.</li> </ul>
National Park and Wildlife Act 1974	<ul style="list-style-type: none"> <li>Under section 90 of the NPW Act, consent is required to destroy, deface or damage an Aboriginal object or Aboriginal place.</li> <li>Under Part 4 of the NPW Act, the Minister may enter into a conservation agreement with a landowner.</li> </ul>	<ul style="list-style-type: none"> <li>Pursuant to section 115ZG of the EP&amp;A Act, consent under section 90 of the NPW Act is not required for an approved Part 5.1 project.</li> <li>None of the lands affected by the proposed Project are known to be covered by a conservation agreement or by a plan of management adopted under the NPW Act.</li> </ul>
Threatened Species Conservation Act 1995	<ul style="list-style-type: none"> <li>Relates to the protection of species, ecological communities, populations and critical habitat listed as endangered or vulnerable.</li> </ul>	<ul style="list-style-type: none"> <li>Personnel and sub contractors will be made aware of requirements to avoid areas containing listed species and populations.</li> <li>OEH will be notified if any new threatened species or populations are identified during construction</li> </ul>
Dangerous Goods (Road and Rail Transport) Act 2008	<ul style="list-style-type: none"> <li>Requirements for licenses to store and transport dangerous goods.</li> </ul>	<ul style="list-style-type: none"> <li>Approval will be sought from to store fuel and chemicals on site that exceed licensable quantities</li> </ul>

Legislation	Legislation Requirement	Approvals/ Permits/ Licences
Roads Act 1993	<ul style="list-style-type: none"> <li>Section 138 of the Roads Act requires a person to obtain the consent of the appropriate roads authority for the erection of a structure, or the carrying out of a work in, on or over a public road, or the digging up or disturbance of the surface of a public road. If the applicant is a public authority, the roads authority must consult with the applicant before deciding whether or not to grant consent or concurrence.</li> </ul>	<ul style="list-style-type: none"> <li>The erection of a structure; the carrying out of a work in, on or over a public road; or the digging up or disturbance of the surface of a public road requires approval under the Act.</li> </ul>
Noxious Weeds Act 1993	<ul style="list-style-type: none"> <li>Noxious weeds are to be managed in a way to restrict their dispersal and establishment.</li> </ul>	<ul style="list-style-type: none"> <li>Any noxious weeds would be disposed of and managed in accordance with assigned control categories under the Act.</li> </ul>
Waste Avoidance and Resource Recovery Act 2001	<ul style="list-style-type: none"> <li>This Act establishes a hierarchy of waste management (avoid, recover, dispose) encouraging efficient use of resources and minimising waste</li> </ul>	<ul style="list-style-type: none"> <li>Waste materials generated during construction and operation of the proposed Project would be managed in accordance with the principles of the waste management hierarchy referred to in the WARR Act.</li> </ul>
National Greenhouse and Energy Reporting Act 2007.	<ul style="list-style-type: none"> <li>Systems for reporting energy consumption and production data, greenhouse emissions, abatement actions</li> </ul>	<ul style="list-style-type: none"> <li>ETTT Alliance to report energy consumption data monthly</li> </ul>

#### 4.6.4 Compliance Obligations

The compliance obligations set out in the CoA that this CEMP wholly or partly addresses are indicated and cross-referenced to the relevant section of this CEMP.

**Table 8: CoA – Construction Environmental Management Plan**

CoA	Overview of Requirement	CEMP Reference
C19	Measures to identify handle and manage contamination.	Construction Soil and Water Quality Management Plan ( Contamination / Asbestos Management Plans)
E15	Nest Box Plan	Construction Flora and Fauna Management Plan (Nest Box Plan)
E29	Ancillary Facilities	Section 3.4 of CEMP Construction Compound and Ancillary Facilities Management Plan
E33	a) a description of activities to be undertaken during construction of the SSI (including staging and scheduling);	Section 3.3 of CEMP Appendix A of the CEMP
E33	b) statutory and other obligations that the Proponent is required to fulfil during construction, including approvals, consultations and agreements required from authorities and other stakeholders under key legislation and policies;	Section 4.6 of CEMP

CoA	Overview of Requirement	CEMP Reference
E33	c) a description of the roles and responsibilities for relevant employees involved in the construction of the SSI, including relevant training and induction provisions for ensuring that employees, including contractors and sub-contractors are aware of their environmental and compliance obligations under these conditions of approval;	Section 4.7 of CEMP Section 6 of CEMP
E33	d) an environmental risk analysis to identify the key environmental performance issues associated with the construction phase;	Section 5.1 of CEMP Appendix C of CEMP
E33	e) details of how environmental performance would be managed and monitored to meet acceptable outcomes, including what actions will be taken to address identified potential adverse environmental impacts (including any impacts arising from the staging of the construction of the SSI). In particular, the following environmental performance issues shall be addressed in the Plan:  i) compounds and Ancillary Facilities;	Section 7 of CEMP  Construction Compound and Ancillary Facilities Management Plan
E33	ii) ecological impacts;	Section 7.5 of CEMP  Construction Flora and Fauna Management Plan
E33	iii) noise and vibration;	Section 7.7 of CEMP  Construction Noise and Vibration Management Plans
E33	iv) traffic and access;	Construction Traffic Management Plan
E33	v) soil, water quality and spoil;	Section 7.3 of CEMP  Construction Soil and Water Quality Management Plan
E33	vi) groundwater and groundwater discharge;	Section 7.3 of CEMP  Construction Soil and Water Quality Management Plan
E33	vii) soil contamination, groundwater contamination, hazardous material and waste;	Section 7.3, 7.8 of CEMP  Construction Soil and Water Quality Management Plan and Waste and Resource Use Management Plan
E33	viii) air quality and dust;	Section 7.2 of CEMP  Construction Air Quality and Dust Management Plan
E33	ix) landscape and visual amenity;	Refer Urban Design and Landscape Plan – CoA C31
E33	x) Aboriginal and historic heritage; and	Section 7.4 of CEMP  Construction Heritage Management Plan
E33	xi) hazard and risk.	Section 5.1 of CEMP  Appendix C of CEMP – Environmental Risk Register

#### 4.6.5 Environmental Protection Licence

The majority of activities associated with the ETTT Alliance are classified as premises based activities listed under Schedule 1 of the POEO Act, (Railway Systems Activities). All activities listed under Schedule 1 of the POEO Act require an Environmental Protection Licence (EPL) issued by the Environment Protection Authority (EPA).

Further, the Clause 47 of the POEO Act determines all works that 'enable' a Scheduled Activity (i.e. Rail System Works) to be undertaken, (where an activity is designed to enable a scheduled activity to be carried on) are classified as 'Scheduled Development Work' and therefore also require an EPL.

As the ETTT Alliance EMS will be based on the Leighton Contractor's EMS, ETTT Alliance Participant Leighton Contractors will hold the EPL for the ETTT Alliance.

The EPL for the ETTT Alliance is #20287.

#### 4.6.6 TfNSW Sustainability Requirements

The ETTT Alliance will comply with the TfNSW Sustainable Design Guidelines – 7TP-ST-114. The ETTT Alliance has reviewed the TfNSW current sustainability checklist which has been completed by the TfNSW Design team and recognises that an indicative compliance goal of "silver" is obtained. Submission of subsequent completed checklists will occur at the following intervals:

- SDR, PDR and CDR stages of the detailed design
- 6 monthly intervals during construction
- At completion

An assessment of the design initiatives has also been undertaken by the ETTT Alliance to determine which initiatives are applicable during construction of the stations, car parks and civil aspects of the ETTT Alliance.

The ETTT Alliance activities will be consistent with the principles of Ecologically Sustainable Development (ESD) as outlined in the Protection of the Environment Administration Act 1991. This includes adopting the following themes during decision making:

- The precautionary principle
- Inter generational equity
- Conservation of biological diversity and ecological integrity
- Improved valuation, pricing and incentive mechanisms i.e. that environmental factors should be included in the valuation of assets and services.

To assist achievement of the principles ESD, the Alliance is committed to implementation of the CEMP, CoA, REMMs and attainment of the silver sustainability in design rating.

A Greenhouse Gas Inventory report has been prepared based on the detailed design by the Designer. The report has been prepared in accordance with "TfNSW's Greenhouse Gas Inventory Guide for Construction Projects and will calculate the total estimated carbon footprint for all construction activity associated with the works.

The Inventory report will nominate the initiatives that will be implemented to reduce the ETTT Alliance's overall carbon footprint and updated progressively as design and construction phases' progress. The report will be provided to TfNSW for input into the development of a "Climate Change Impact Assessment Report" for the ETTT Alliance. The inventory report will be updated at CDR stage of the detailed design and upon final completion.

The ETTT Alliance will implement a greenhouse gas reporting regime to track the required Scope 1, 2 and 3 emissions generated during construction in accordance with Australian Standard 14064.1-2006 and Greenhouse Gas Protocol at the commencement of construction and submitted to TfNSW on a six monthly basis.

#### 4.6.7 Guidelines and Codes of Practice

In addition to the requirements discussed above, Table 9 provides examples of typical standards and guidelines that maybe referenced on the ETTT Alliance.

**Table 9: Standards and Guidelines**

Organisation	Document Title
Australian Standards	• AS 1055 Acoustics – Description and measurement of environmental noise.
	• AS 3580 Methods of Sampling and Analysis of Ambient Air.
	• AS/NZS ISO 14001 Environmental Management Systems – Specifications with Guidance for Use.
	• AS/NZS ISO 9000:2006 Quality Management Systems – Fundamentals and Vocabulary and Quality Management Vocabulary.
German Standards	• DIN 4150: part 3 – 1999 “Structural Vibration in Buildings: Effects on Structures.”
British Standard	• BS 6472 – 1992 – Vibration Standards.
EPA	• NSW Industrial Noise Policy.
	• Interim Guideline for the Assessment of Noise from Rail Infrastructure Projects (IGANRIP).
	• Interim Construction Noise Guideline (ICNG)
	• Assessing vibration: a technical guideline (2008)
	• EPA Waste Classification Guidelines
	• Green Waste Action Plan
	• NSW Government Waste Reduction and Purchasing Policy
	• Construction and Demolition Waste Action Plan.
TfNSW	• Construction Noise Management Strategy
	• TSR E1
	• Sustainability Guidelines for Rail 2.0.
NSW Department of Housing	• Managing Urban Stormwater Soils and Construction (Blue Book)
ANZECC	• Water quality guidelines for fresh and marine waters
Department of Sustainability, Environment, Water, Population and Communities	• Contaminated Land – National Environmental Protection Measures (NEPM)
	• Air Quality NEPM.

## 4.7 Organisation and Accountabilities

This section details the environmental responsibilities and accountabilities of the ETTT Alliance personnel in ensuring the ETTT Alliance is delivered in accordance with all legal and obligatory requirements and that environmental best practice is applied throughout the design and construction of the ETTT Project.

### 4.7.1 The ETTT Alliance Project Team

The ETTT Alliance personnel are responsible for ensuring that design and construction of the ETTT Project is undertaken in accordance with all applicable legal requirements and the ETTT Alliance EMS.

The ETTT Alliance Manager has the ultimate responsibility for the activities undertaken and for ensuring that environmental management systems are in place and are followed. However, all managers, staff and contractors will have specific environmental responsibilities and accountabilities. Individual responsibilities will vary with the work performed and its potential impact on the environment. The organisation charts for the ETTT Alliance are in Appendix B.

### 4.7.2 The ETTT Alliance Environment Team

The ETTT Alliance Environment Team's main responsibility is to deliver on environmental management throughout the design and construction of the ETTT Project. The following section outlines the key responsibilities for the ETTT Alliance Environment Team

#### 4.7.2.1 Environmental Manager

The Environment Manager has the primary responsibility for managing all aspects of environmental management across the ETTT Alliance, including ensuring corrective actions are implemented and all compliance obligations for the design and construction are met. The role of the Environment Manager or as delegated to an Environment Team Member (as required), will be to:

- Work with the ETTT Alliance Management Team and all Alliance staff with regard to environmental outcomes of the ETTT Alliance
- Prepare the ETTT Alliance CEMP (including associated documentation) and implement the ETTT Alliance EMS
- Liaise and consult with TfNSW, DP+E, regulatory agencies and other relevant stakeholders
- Ensure that all ETT Alliance environmental licenses, statutory obligations and requirements are met
- Facilitate environmental training/induction
- Respond to all environmental incidents
- Manage environmental sub-consultants
- Prepare documentation to demonstrate compliance and report on compliance
- Conduct site inspections and system environmental audits
- Ensure corrective actions are implemented
- Ensure Sustainability initiatives are implemented and reported
- Ensure NGER's Act data collection and reporting requirements are met
- Secure ongoing environmental approvals
- Stop work immediately if an unacceptable impact is likely to occur or to require other reasonable steps to be taken to avoid or minimise any adverse impacts
- Notify ER of commencement of critical activities.

#### 4.7.2.2 Environmental Approvals Coordinator

The Environmental Approvals Coordinator will be responsible for identifying the ongoing approvals requirements of the ETTT Alliance and putting in place the relevant documents and assessments to secure those approvals. The role will be in place for the Mobilisation Phase only. After this time the ongoing approvals accountability is held by the Environmental Manager.

#### 4.7.2.3 Environmental Coordinators (EC)

The Environmental Coordinators (EC) will be responsible for the day-to-day management of all on-site environmental aspects including field testing, site inspections and any monitoring requirements within their designated areas. ECs play a key role as part of the construction team, and play a practical role in maintaining on-site environmental controls (eg. erosion and sedimentation controls, incident response (including spills) and waste/spoil tracking. ECs report directly to the Environment Manager.

#### 4.7.3 Environmental Management Roles of Key Alliance Team Members

The specific environmental responsibilities and accountabilities for all levels within the organisation are detailed in individual position descriptions for the ETTT Alliance. These are maintained in the Human Resources Plan and the ETTT Alliance filling system and summarised in Table 10.

The key roles for environmental management outside the Environment Team are shown in Table 10.

Table 10: Alliance Environmental Management Roles

Role	Responsibility
Alliance Manager	<ul style="list-style-type: none"><li>Responsible for compliance with all applicable environmental legislation and contract obligations.</li></ul>
Operations Manager	<ul style="list-style-type: none"><li>2IC to Alliance Manager</li><li>Reports to Alliance Manager</li></ul>
Construction Manager	<ul style="list-style-type: none"><li>Leads and manages the delivery of the construction process, in relation to environmental management across all sites</li><li>Reports to Operations Manager</li><li>Delegates to Area Managers for each site.</li></ul>
Interface Manager	<ul style="list-style-type: none"><li>Functional leadership of Environmental Management and Community Relations</li><li>Interface between the Alliance and external authorities</li></ul>
Safety Manager	<ul style="list-style-type: none"><li>Responsible for conducting site inductions for all workers and visitors which includes a component on environmental management and site rules</li><li>Reports to Alliance Manager.</li></ul>
Design and Engineering Manager	<ul style="list-style-type: none"><li>Responsible for leading and managing the design process, including incorporating environmental requirements and compliance obligations into detailed design where relevant</li><li>Reports to Alliance Manager and Delegates to Design Team.</li></ul>
Operational Control Manager	<ul style="list-style-type: none"><li>Manages quality systems and compliance</li><li>Reports to Alliance Manager.</li></ul>
Community Manager	<ul style="list-style-type: none"><li>Responsible for advising applicable members of the ETTT Alliance Team of complaints received pertaining to environmental management or misuse and facilitating the resolution of complaints and keeping the community informed of construction activities.</li><li>Reports to Alliance Manager.</li></ul>

Role	Responsibility
<b>Community Coordinators</b>	<ul style="list-style-type: none"> <li>Coordinates and administers the preparation and submission of community information documentation, addresses complaints received pertaining to environmental management or misuse and facilitating the resolution of complaints and keeping the community informed of construction activities</li> <li>Reports to Community Manager.</li> </ul>
<b>Area Managers</b>	<ul style="list-style-type: none"> <li>Manages construction in relation to environmental management for their area</li> <li>Ensures that Engineers are complying with CEMP processes and control measures</li> <li>Reports to Construction Manager</li> <li>Delegates to the Superintendent and Project Engineers.</li> </ul>
<b>Superintendent</b>	<ul style="list-style-type: none"> <li>Manages construction in relation to environmental management</li> <li>Reports to Construction Manager and Area Managers</li> <li>Delegates to Project Engineers, Site Engineers and Foreman.</li> </ul>
<b>Project Engineers</b>	<ul style="list-style-type: none"> <li>Directs and implements on site environmental management measures across all sites</li> <li>Reports to Area Manager and Superintendent</li> <li>Delegates to Site Engineers and Foreman.</li> </ul>
<b>Site Engineers</b>	<ul style="list-style-type: none"> <li>Manages on site engineering in relation to environmental processes</li> <li>Reports to Superintendent and Project Engineers</li> <li>Delegates to Foreman.</li> </ul>
<b>Foreman</b>	<ul style="list-style-type: none"> <li>Manages on site construction in relation to environmental management for their sites.</li> <li>Reports to Superintendent/Project Engineers</li> <li>Delegates to construction staff.</li> </ul>

#### 4.7.4 Environmental Representative

In accordance with TfNSW TSR-E1 and CoA E32, an Environmental Representative (ER) has been appointed for the ETTT Alliance. Mr Cameron Weller from Jacobs (formerly Sinclair Knight Mertz) will act in that position. The primary roles and duties of the ER are:

- To oversee the implementation of all environmental plans and monitoring programs and compliance with the environmental management requirements
- Responsibility for considering and advising the ETTT Alliance on matters specified in the CoA, REMM and EPL and any other regulatory approvals
- Overseeing that the implementation of the environmental auditing of the ETTT Alliance is in accordance with the requirements of this approval and all relevant Alliance Environmental Management System(s)
- Holding the authority and independence to recommend to the ETTT Alliance Team reasonable steps to be taken to avoid or minimise unintended or adverse environmental impacts, and failing the effectiveness of such steps, to recommend to the ETTT Alliance that the relevant activities are to be ceased as soon as reasonably practicable if there is a significant risk that an adverse impact to the environment will likely occur.

#### 4.8 Subcontractor Management

All subcontractors will be required to operate within the requirements of this CEMP. Larger subcontractors may be required to provide an Environmental Management Plan particularly if works involve a high risk activity or are in a sensitive area to demonstrate how they are going to work and comply with the ETTT Project approvals under the CEMP. This requirement will be determined by the Environmental Manager.

Where a subcontractor's environmental management plan is required, their plan will address the specific work package/s awarded and be submitted for endorsement by the Environment Manager prior to the sub-contractor's commencement on site. The plan must assess the appropriate level of environmental risk and implement appropriate management controls for the subcontractor's full scope of work, in accordance with this CEMP and the relevant Environmental Control Maps (ECM).

Subcontractors for smaller contracts will be provided with the ECM relevant to their work area which will become a contractual requirement. Regular site inspections and monitoring of subcontractors will be conducted by the Environment team. In addition, subcontractors will be audited on their performance against the requirements of the CEMP and relevant ECMs during works.

## 4.9 Document and Records Management

### 4.9.1 Document Control

The ETTT Alliance document management system (Our Way) will be used to control Alliance documents. The management and control of records will be in accordance with AS/NZ ISO14001:2004 Clause 4.5.4.

Content editor's rights for environmental documents will be reserved to the Environment Manager and other approved system and management personnel.

The Environmental Manager will have content approver's rights for environmental document. The integrity approver's rights for environmental documents are reserved to the Systems Assurance & Risk Manager.

### 4.9.2 Record Control

TeamBinder will be used to retain control over records used within the ETTT Alliance. TeamBinder will allow the ETTT Alliance to manage correspondence, record management and reporting. All environmental records would be uploaded and maintained within the environment folder on the project server.

Environmental records are kept as a means of assessing the effectiveness of the ETTT Alliance in managing environmental issues and risks and to demonstrate compliance with AS/NZ ISO14001:2004. Environmental records will be retained for a period of no less than five years from the date of completion and will be made available to the Principal's Representative as required by TSR E1. The following records will be implemented and maintained during the ETTT Alliance:

- Qualifications of personnel
- Design review records (where applicable)
- Monitoring and inspection reports
- Induction and training records
- Reports of environmental issues, incidents and complaints and action taken to rectify these
- Internal and external environmental audit reports
- Evidence of action taken as a result of a recommendation from audits and meetings
- Records of subcontractors monitoring their own activities while working on the ETTT Alliance
- Records of the ETTT Alliance monitoring subcontractors for compliance
- Non-conformance and corrective action records
- Environmental risk assessments and management
- Licences and permits (eg. EPL)
- Compliance Tracking Program and Reports
- Complaints management
- Other related documentation.

# 5 Processes

## 5.1 Identify and Assess

### 5.1.1 Hazard and Risk Management

This section identifies the environmental risk assessment process followed by the ETTT Alliance. This process includes hazard and risk workshops and the development of an Alliance-wide Environmental Hazards and Impacts Register and specific Environmental Risk Assessment (ERA). The current Environmental Risk Assessment is provided in Appendix C.

The identification of significant environmental hazards and impacts that could eventuate during the ETTT Alliance is central to the selection of appropriate environmental management and safeguards.

An 'Environmental Hazard' is something with the potential to cause environmental harm. For example working in close proximity to Devlin's Creek is a hazard.

The 'Environmental Impacts' (risk effects) are the environmental consequences if the hazard / aspect is not adequately managed. Using the example of working near Devlins Creek above, two risk effects could be pollution of water as a result of erosion and sediment control failure or due to a refuelling spill. Consequently, identifying and managing the environmental hazards / aspects increases the ability to remove or reduce the risk of environmental impacts.

Prior to commencement of early works and in accordance with TSR E1, a comprehensive and site-specific hazard, aspects and impacts risk assessment was undertaken. The workshop involved the Environmental Manager, Construction Manager, Area Manager's as well as relevant personnel from TfNSW and the Environmental Representative and built on the work completed as part of the EIS.

The following environmental aspects and their associated hazards were considered during the risk assessment process:

- Noise and vibration
- Air quality, including dust
- Soil and water management
- Waste management
- Contamination
- Aboriginal and non-Aboriginal heritage
- Community Management
- Flora and fauna
- Traffic and pedestrian management.

Environmental Risk Assessments was carried out in accordance with AS/NZS 4360:2004 for all Alliance activities and include:

- Assessment of the likelihood and consequences of environmental risks
- Identification of environmental measures to eliminate or minimise the environmental risks
- Nomination of key personnel responsible for implementing controls and timeframes.
- The current Environmental Risk Assessment is provided in Appendix C.

### 5.1.2 Environmental Risk Mitigation and Implementation of Controls

For each extreme or very high threat, as a result of the ERAs, compulsory mitigation measures will be developed for that risk while mitigation details and key action dates will also be recorded in the Active Risk Manager (ARM) for status monitoring (refer below).

Risks can be dealt with in the following ways:

- By avoiding the risk, eg. by not carrying out the task that would result in a risk (eg. avoiding major pollution to waterway)
- By assigning the risk to a party that is better able to manage it (eg. management of contamination by fully capable qualified persons)
- By mitigating the risk i.e. taking actions that reduce either the likelihood of the risk or the consequences if it does occur (eg. implementation of erosion and sedimentation controls)
- By accepting the risk and making provision for it eg. through Alliance contingencies such as clearing an area of woodland and replanting or offsetting the impact.

When determining methods to be used to treat the identified risks, the ETTT Alliance Project Team will give preference to the first type of control in the following list that can practically be used:

- Elimination of the risk (eg. not performing the activity, designing out the risk when work systems are being planned)
- Substitution of the design type, construction method, equipment and/or process etc. causing the risk
- Provision of engineering controls, eg. guards or remote handling techniques
- Administrative (procedural) controls, eg. job rotation to reduce exposure or boredom, or timing the job so that fewer workers are exposed
- Routine maintenance and housekeeping procedures
- Training on hazards and correct work procedures
- Personal protective equipment.

### 5.1.3 Active Risk Manager Database Tool

On completion of an environmental risk workshop the top 10 apparent risks and associated management, mitigation measures and responsibilities will be entered into the ARM database tool and tracked throughout the ETTT Alliance. ARM actively tracks the status of all risks that have been identified and maintains their traceability.

Once entered into ARM, the Environment Manager is the 'Risk Owner' for all environment related risks associated with the ETTT Alliance. Where responsibilities have been allocated to specific Alliance personnel (from risk workshops and further review from the Environmental Manager) to control and/or manage environmental risks, these persons become the risk 'Action Owners' and/or 'Response Owners'.

The Environmental Manager will delegate or allocate the management control measures to members of the ETTT Alliance Environment Team or wider ETT Alliance Project Team for implementation.

ARM will also be used to create specific reports that highlight the number of risks and opportunities along with their risk rating.

### 5.1.4 Ongoing Environmental Risk Review and Assessment

As an integral part of the ETTT Alliance management process, the Environmental Manager (as the 'Risk Owner') will ensure that the ETTT Alliance risk database is reviewed and updated on a regular basis or as issues or new risks arise. Risk 'Action Owners' and 'Response Owners' are responsible for ensuring that their respective actions are implemented on time and are effective, and respective ARM administrators are responsible to ensure the information in the ARM database are up to date.

Should a design or construction activity change so as to have additional environmental impacts which have not already been considered in the existing risk assessment, an additional Environmental Risk Assessment will be undertaken by the Environmental Manager.

Other forums for undertaking Environmental Risk Assessments during construction include:

- Informal/Formal Site Meetings
- Pre-start Meetings
- Toolbox Talks
- Work Method Plans.

Outcomes from the ongoing risk assessments will be incorporated into the appropriate Environmental Management document including the CEMP, Environment Control Maps (ECMs), Task Work Sheets (TWS) and/or Environment Tools.

The outcome of the ERA will identify various levels of risk attached to each of the aspects and impacts of the ETTT Alliance. As a result of the ERAs, hold points will be identified which will require authorisation from relevant authorised personnel (e.g. client, environment manager etc) prior to commencement of certain construction components and activities e.g. Authority to commence Work for a new work component or a Pre-Clearance Checklist prior to clearing activities.

## 5.2 Environment Design Control Maps (EDCMs)

A key objective of this CEMP is to identify sensitive receivers and locations and ensure appropriate environmental controls are implemented during construction activities, to avoid or minimise potential adverse impacts to the environment and community.

A comprehensive risk assessment will be conducted as a component for preparing this CEMP to determine how to minimise impacts to environmentally sensitive areas during the ETTT Alliance.

This will identify, assess and provide the appropriate environmental management and mitigation measures that apply specifically to the relevant construction areas. Management safeguards, mitigation measures and controls, responsibilities and monitoring requirements will be implemented to minimise potential impacts on the environment and the community. Environmentally sensitive areas will be detailed on the Environmental Control Maps (ECMs) and the Environmental Design Constraints Maps (EDCM).

EDCMs will be developed in accordance with TfNSW "Guide to Environmental Design Constraints Map – 4TP-SD-018" and will provide a visual representation of environmental constraints within which the detailed designs are to be developed. The EDCMs will be prepared by the detailed designer based on the Concept Design as described in the EIS. The maps will be prepared prior to detail design commencing and will be incorporated into the ETTT Alliance specific Design Management Plan. The EDCMs will be reviewed and approved by the ER.

The content of an EDCM will contain the minimum requirements for each issue and element outlined in the "Guide to Environmental Design Constraints Map" document. These include details for design; existing and proposed infrastructure; boundaries; and environmental constraints.

The EDCM will be used by the detailed designers and construction personnel as a tool to identify the approved extent of the Project and the locality of environmental sensitive locations which they should avoid. If they find that their cannot design stay within the approved extent of the project (Impact Area) they are to notify the ETTT Alliance immediately of that need so that alternative solutions can be examined or additional approvals or consistency checks can be carried out.

If it is determined by the Environmental Manager that the additional environmental impacts are possibly outside of the current approval a **Checklist for Environmental Consistency Assessment** will be completed and lodged with TfNSW and the ER for determination. Where it is determined that impacts are determined not to be consistent, documentation would be presented to DP+E (former DP&I) seeking a modification to the Project approval.

### 5.3 Environmental Control Maps (ECMs)

Environmental Control Maps (ECMs) will be developed in accordance with TfNSW "Guide to Environmental Control Map – 3TP-SD-015" and will provide a visual representation of environmental constraints and controls that must be implemented on site. The following information will be provided on the ECMs.

- Site Boundaries and clearing limits (as defined by the EPL premise maps)
- No Go Areas (threatened species, ecologically sensitive areas and heritage items)
- Residential dwellings (sensitive receivers)
- Contamination hotspots
- Proposed compound, lay down, stockpile and storage areas
- Rivers, creeks, water courses and drainage lines
- Land ownership
- Site access and egress routes
- Location of environmental controls such as water spill kits.

The ECMs will be submitted to the ER for review and approval prior to implementation. The ECMs will be reviewed as construction activities change and updated to reflect the stage of works and site characteristics to ensure environmental protection measures are in place.

Hold Points will be defined in ECMs and Management Tools and will be incorporated into the WMP and Inspection Test Plans (ITPs).

### 5.4 Progressive Erosion and Sediment Control Plans (PESCP)

Progressive ESCP's will be prepared for all ancillary facilities and construction compounds of prior to the commencement of pre-construction activities and installation of control measures. The ESCP's will contain site specific details including identifying stockpile locations and additional actions for management of erosion risk. As their name implies, these are developed as the project progresses through major phases and as site conditions significantly evolve and flow paths are altered, e.g. the reshaping of drainage lines to direct sediment laden water.

The progressive ESCP's will generally be prepared on detailed drainage design sheets and would incorporate:

- A layout of the site, including location of access roads, ancillary infrastructure and flow paths
- The location of temporary erosion, sedimentation and water quality control measures proposed to treat stormwater before disposal (including vegetated treatment systems)
- Construction period and staging.

In some instances where works are transient, a single ESCP plan that details the standard controls that are to be implemented on the various sites in response to certain work activities will be developed and those controls implemented.

Information relevant to the preparation of the PESCP is obtained from Managing Urban Stormwater: Soils and Construction Volume 1 (Landcom 2006) (the Blue Book") and Volume 2D Main Roads Construction (DECCW 2008) and site specific soil data.

The Environmental Co-ordinator, in consultation with the Soil Conservationist, Superintendents/Foremen and Environmental Manager, would prepare and update the Progressive ESCP's. These documents will be designed for use as a practical guide and may be produced in conjunction with a WMS. All ESCP's will be allocated a reference number and listed in a Register for site specific ESCP's.

## 5.5 Work Method Plans

Work Method Plans (WMPs) will be prepared for construction activities. These will include:

- Generic Work Method Plans, for activities that may occur at multiple locations and involve consistent methodologies and environmental controls
- Specific Work Method Plans to address complex and high risk activities. An example is construction across Devlins Creek, where heritage and water pollution risks are high.

WMPs will describe the construction methodologies and will address safety, quality and environmental Issues. The WMP will reference the relevant forms, plans and checklists as well as the Environmental Control Map (ECM) that will provide clear and visual representation of the environmental controls that are to be implemented on site. The WMP will form the basis for instructing the site teams to ensure safety, quality and environmental requirements are fulfilled.

As part of the preparation of each WMP, a hazard identification and risk assessment will be undertaken. Based on the risk assessment, environmental controls will be incorporated into the WMP which manage the specific risk.

The WMP relating to works at Devlins Creek will be sent to NSW Office of Water for review.

## 5.6 Task Work Sheets (TWS)

A Task Work Sheet (TWS) will be developed for each activity detailed within a WMP that holds a reasonable level of safety or environmental risk. The TWS is an onsite document that details each step of an activity, the respective risks associated with that step, identifies mitigation measures and assigns responsibilities against those that need to implement those measures.

The TWS are generally compiled by the ETTT Project Engineers with guidance and sign off from the Environmental, Safety and Area Managers. The Site Supervisor or Foreman will run through the TWS with the site staff during the pre-start meeting to ensure that everyone knows what activity they are about to perform and how to best complete that task with minimal risk.

# 6 Consult and Communicate

## 6.1 Environment in Design

This process focuses on the communication of environmental requirements to the design team. Its purpose is to ensure environmental constraints and sustainability initiatives are incorporated in the ETTT Project design. It is acknowledged that the design will be well advanced by the time the ETTT Alliance is formed. The ETTT Alliance will therefore pick up on the work already completed and see it through to implementation. Management of design processes is described in the Design Management Plan.

The Engineering and Design Managers will be inducted onto the environmental requirements that relate to design of the ETTT Alliance by the Environmental Manager. Such requirements will be communicated to the wider design team. Sources of environmental requirements that will be considered include:

- EDCMs
- Environmental Assessment
- CoA
- EPL
- Sustainability Design Guidance and Checklists.

The Engineering and Design Managers will check that the detail design process is consistent with the requirements. Where the detailed design cannot be progressed in accordance with the requirements, the Environmental Manager will be notified of any such occurrence as early as possible. This will enable the Environmental Manager to put in place the appropriate assessments and approvals so that the construction program is not impacted.

## 6.2 Alliance Induction

The site Environmental Induction will be delivered by the Environmental Manager (or their delegate). This will be undertaken prior to any worker commencing on site and will form part of the broader Alliance induction. The induction will cover:

- Relevant legal requirements including CoA, EPL, REMM and the requirements of any further licenses or approvals
- The use of Environmental Control Maps
- Hours of work, traffic and access
- Incident response and management
- Key environmental risks and their role in managing those risks
- Community issues and complaint management processes
- Site environmental rules and any consequences for not abiding by the rules.

## 6.3 Internal and External Competency Training

ETTT Alliance personnel, subcontractors and visitors will be inducted and/or trained appropriately to manage the level of risk their works are likely to entail, prior to commencing on-site.

A training register will be maintained by human resources (HR) to record attendees at the training sessions. Personnel trained for specific tasks (e.g. water pumping) will be issued with a ticket/certificate as proof of training and be required to have this evidence on site when undertaking this activity.

The training matrix will be reviewed with any review of the CEMP and at key milestones in the ETTT Alliance to ensure that appropriate environmental training is provided.

The proposed environmental training for the ETTT Alliance is provided in Table 11.

**Table 11: Environmental Training Matrix**

	Induction	Toolbox talks	PIRMP	ERSED	Due Diligence	Environmental Monitoring Competency	Oil Spill Response	Water , erosion & sediment management (conducted by the Principal's Rep
<i>Alliance Manager</i>	YES	YES	YES	YES	YES			YES
<i>Operations Manager</i>	YES	YES	YES	YES	YES			
<i>Construction Manager</i>	YES	YES	YES	YES	YES			
<i>Superintendent, Foremen and Leading Hands</i>	YES	YES	YES	YES	YES		YES	
<i>Senior Project Engineers, Engineers</i>	YES	YES	YES	YES	YES		YES	
<i>Workforce (where appropriate)</i>	YES	YES	YES	YES			YES	
<i>Environmental Team</i>	YES	YES	YES	YES	YES	YES	YES	YES

Section 6.6 below outlines the specialist training that will be implemented for the ETTT Alliance.

### 6.4 Pre-Starts and Toolbox Talks

The environmental aspects and impacts of the work activities will be identified in a work method plan (WMP) which will be referenced for the development of pre-start toolbox talks. The pre-starts will be undertaken prior to the start of work and when activities or conditions (eg. weather) change to address the specific environmental impacts relevant to the work to be performed.

In addition, a weekly toolbox talk will be held for the entire workforce to address environmental, as well as safety, health and quality issues. The content of each toolbox talk will depend on the nature of the works and the risks associated with that work.

Toolbox talks will also be used as a forum for sharing any lessons learned from incidents elsewhere on the ETTT Alliance or Project alerts which are distributed across ETTT Alliance Participants' operational areas.

### 6.5 Pollution Incident Response Management Plan

As the holder of the EPL, ETTT Alliance Participant Leighton Contractors will be responsible for the delivery of training to ensure that the Pollution Incident Response Management Plan (PIRMP) is implemented effectively in the event of an incident.

The training will include:

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

This training will be undertaken prior to commencement of the ETTT Alliance and when there is a change of staff that would necessitate the need for further training.

## 6.6 Specialist Training

Members of the ETTT Alliance Environment Team and other Alliance personnel will require specialist training. This may include training such as noise, dust, vibration or water monitoring (meeting all calibration, quality, operating guidelines and standards). Where specialist training is required, the appropriate training course or qualified persons will be sourced and training carried out with the relevant Alliance personnel. The following specialist training has been identified:

### 6.6.1 Erosion and Sediment Control Training (ERSED)

ERSED training will consist of a half day workshop that addresses the practical application of Erosion and Sediment Control Principles.

### 6.6.2 Oil 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.

### 6.6.3 Noise and Vibration Mitigation Training

This will address procedures and measures that be implemented by site teams to lessen the adverse impacts of their works on the surrounding community.

### 6.6.4 Pollution Incident Response Management Plan (PIRMP)

This will address procedures to be followed in the event of an environmental pollution incident.

## 6.7 Incident Alert and Lessons Learnt

This process focuses on the issue of incident alerts and lessons learnt. Incident alerts are used to communicate the initial findings from an incident. Lessons learnt are used to communicate key outcomes from a full incident investigation. Incident alerts and lessons learnt may relate to incidents that have occurred on the ETTT Alliance or on other similar projects.

Full incident investigations will be undertaken for incidents with classification levels 1 and 2 (see Appendix D). Where communication is required, the Environmental Manager (or delegate) will prepare a lessons learnt report/toolbox in accordance with the Figure 4 below.

Figure 4: Action Timeframe for Incident Alerts

Incident Classification		Safety & Health	Class 1 (C1)	Elevated PC1 (EPC1)	Potential Class 1 (PC1)	Class 2 (C2) + below
		Environment	Level 1 (L1)	Refer to Potential Level 1	Potential Level 1	Level 2 + below
			▽		▽	▽
ACTIONS	1. SHE Alert - Drafted	Subject to Legal Privilege and General Counsel review	Within 48 hours of incident		If requested – within 5 days of incident	
	2. Alert – Finalised & Approved		Within 72 hours of incident			
	3. SHE Intranet Updated		Within 24 hours of Alert approval		Within 48 hours of 'finalised' Alert	
	4. Communicated on site		Within 48 hours of Alert approval			

The lessons learnt report/toolbox will include the following:

- Incident details
- Relevant pictures
- Lessons learnt from the incident.

This information will be used by the entire workforce to assist in preventing re-occurrence and will be disseminated via the weekly project wide toolbox system.

# 7 Implementation

This section outlines how environmental management will be implemented during construction. The approval and hold point requirements associated with the management of the following activities will be included in the ETTT Alliance induction.

## 7.1 Pre-Construction Minor Works Approval

Prior to the commencement of any minor works in advance of the CEMP approval, the ETTT Alliance will submit the TfNSW approval form (9TP-FT-202.2.0) at least 10 days prior to works commencing. Supporting documentation will be included with the form including ECMs and applicable method statements.

The Environmental Representative (ER) and TPD's Principals Manager – Environment, will review the relevant documentation and provide approval if the works satisfy the CoA. Works will not commence until receipt of the approval is provided by the Principal's Representative.

## 7.2 Dust and Air Quality Management

A Construction Air Quality Management plan has been developed which outlines the actions to be taken and responsibilities for the ETTT Alliance to implement all reasonable and feasible measures to minimise dust and air pollution that may arising during construction.

In accordance with TSR E1 the following mitigation will be implemented as a minimum:

- All loads with the potential to generate dust will be covered
- Truck and equipment washdown facilities will be installed prior to works commencing
- Ensuring that works are being carried out in a way that is consistent with the Air Quality conditions of the Project's EPL
- Maintaining vegetation as long as possible prior to clearing
- Re-vegetating as soon as possible after or, where possible, during works, including use of interim sterile cover crops
- Regular watering of substrates and temporary access roads.

The successful management of dust will be a key result area in the eyes of the surrounding community, especially during the removal of the sandstone batters. The ETTT Alliance Team will endeavour to minimise dust generation in every instance.

## 7.3 Water, Erosion and Sediment Management

To manage water, erosion and sediment during construction a Construction Soil and Water Quality Management Plan has been developed which will outline the actions to be taken and responsibilities of the ETTT Alliance Project Team. The sub plan will be consistent with "The Blue Book" (Managing Urban Stormwater: Soils and Construction 2004 – 4th Edition (Landcom/Department of Housing)) and will include the proposed mitigation measures that must be implemented. The sub plan will detail the following:

- Erosion and sediment controls
- Water management practices
- Concrete management during vehicle and equipment washdown to prevent non conformance against EPL conditions
- Measure to manage Contamination and Asbestos.

Inspections of controls will be undertaken on a daily basis by the site Foreman of their specific activities which are occurring or as directed by the EPL and recorded in the Site diaries. Such inspections will be supplemented

by the routine daily inspections made by the Environmental Coordinators. These records will be maintained in accordance with the ETTT Alliance document management system.

In accordance with TSR E1 the ETTT Alliance Manager and Environmental Manager will attend a half-day training session undertaken by the Principal's Representative associated with water, erosion and sediment management.

The Construction Soil and Water Quality Management Plan includes the "Construction Water Flocculation and Discharge Procedure" which details the Alliance's process for water discharge and reuse on the Project. The process is consistent with the TfNSW Water Discharge and Reuse Guideline (7TP-ST-146). It will be a mandated requirement that no water is to be pumped without prior approval from the Environmental Manager (or delegate) and the Alliance's "Permit to Pump Form" completed.

Water storage facilities such as rainwater tanks will be made available to allow de-watering of excavations for reuse as dust suppression where appropriate.

In addition to the Construction Soil and Water Quality Management Plan a Water Quality Monitoring Program in accordance with CoA C17 will be developed and submitted to the Director general prior to the commencement of construction.

## 7.4 Aboriginal and Non-Aboriginal Heritage Management

The EIS identified that the ETTT Alliance will impact on heritage aspects of the built environment including Beecroft Station and precinct. The ETTT Alliance will develop a Construction Heritage Management Plan which outlines the actions and responsibilities of the ETTT Alliance team to manage these heritage aspects including the creation of exclusion zones to prevent disturbance of these areas. This will be particularly important around the heritage causeway at Devlin's Creek. The Plan will include the process for archival recording that is required at Beecroft Station prior to works commencing at this site and a process for working around the Heritage Causeway.

Notification to Sydney Trains is required prior to any impact on stations along the alignment. This requirement has been documented in the Construction Heritage Management Plan.

If previously unidentified Aboriginal or non-Aboriginal heritage/archaeological items are uncovered, work will cease and the Unexpected Heritage or Human Skeletal Remains Find Procedure will be followed.

## 7.5 Flora and Fauna Management

A Construction Flora and Fauna Management Plan has been developed by the ETTT Alliance Project Team which will be consistent with TSR E1 Annexure A. This will include the requirement to review opportunities to reduce the clearing of native vegetation where the design permits.

In terms of vegetation clearing, the Plan will outline the process to follow prior to any impact to flora (eg. cutting, trimming etc). This will include the requirement for an ecologist or arborist to be present to minimise impact.

For all vegetation that requires removal or trimming that was not identified in the EIS the TfNSW "Application for Removal or Trimming of Vegetation" (9TP-FT-078/6.0) will be submitted for approval 10 business days prior to the work commencing.

The Ecological communities in the corridor are familiar to the ETTT Alliance Project Team due to the works successfully completed to date on the M2 Upgrade. The delineation of communities (Environmental No Go Areas) will be in accordance with the fencing/signage requirements of TfNSW and the site teams will be made well aware of the "value" of the vegetation in and around the ETTT Alliance. The message to "Avoid and Minimise" disturbance to vegetation (both EEC and Native) will be reinforced regularly during the ETTT Alliance wide toolboxes. The expense of offsets and how the offsetting measures operate will be explained to all staff so that a greater appreciation of the issue is current.

There may be reasons or circumstances where entry into Environmental No Go Areas is required (e.g the installation of nest boxes etc). In these instances a **Permit to Enter Environmental No Go Area** must be approved by the Environmental Manager.

## 7.6 Storage and Use of Hazardous Materials

The Soil and Water Quality Management Plan details the ETTT Alliance's approach to the storage and use of hazardous materials. Our approach will be consistent with the TfNSW "Chemical Storage and Spill Response Guidelines" (9TP-SD-066/2.0). The Plan will identify actions and delegate responsibilities to ensure the following is implemented:

- Recognition and compliance with applicable Australian/ISO Standards, and relevant guidelines issued by EPA
- The storage of hazardous materials, and refuelling/maintenance of construction plant and equipment to be undertaken in clearly marked designated areas that are designed to contain spills and leaks
- Appropriate spill kits to be available and accessible to construction works. Locations will be marked on the ECM for the area
- Spill kits to be located at high risk areas, eg. hazardous materials storage areas; water ways etc
- All hazardous materials spills and leaks to be reported as per the ETTT Alliance incident management procedure
- Training in the use of spill kits and management to be given to all personnel involved in the storage and distribution or use of hazardous materials.

## 7.7 Construction Noise Strategy

### 7.7.1 Standard Hours of Work

The ETTT Alliance Project Team will work in accordance with the hours of operation specified by the Planning Approval and EPL. It is anticipated that the standard construction hours for works that will be audible at sensitive receivers will be as follows:

- Monday to Friday 7am to 6pm
- Saturday 8am to 1pm
- No work on Sunday or public holidays.

A construction noise and vibration impact assessment will be prepared in accordance with the TfNSW Construction Noise Strategy (CNS) and will be presented within a Noise and Vibration Management Plan. Where the assessment determines the noise and vibration objectives (compliance with the Noise Management Levels) of the CNS will be exceeded reasonable and feasible mitigation measures will be implemented.

Prior to construction, the ETTT Alliance Project Team will carry out some supplementary background noise logging in an effort to identify further Noise Catchment Areas (NCA). The further break up of NCAs will provide additional flexibility during the construction phase of the ETTT Alliance when it comes to out of hour's works.

### 7.7.2 Out-of-Hours Work

It is anticipated that the Planning Approvals and EPL will allow construction outside standard construction hours only in the following circumstances:

- Construction work that causes LAeq (15 minute) noise levels that are:
  - No more than 5dB above rating background level at any residence in accordance with the Interim Construction Noise Guideline (DECC, 2009);
  - No more than the noise management levels specified Table 2 of the Interim Construction Noise Guideline (DECC, 2009) at other sensitive land uses;
- Emergency construction activities or work needed to be undertaken urgently to ensure the safe operation of rail or avoid loss of life, damage to property, or environmental harm;
- Delivery of plant, equipment and materials out of hours when the Police or Roads and Maritime Services requires that plant, equipment or materials be delivered out of hours for safety reasons;

- Rail maintenance works including tamping and regulating to remediate vertical or horizontal movement >4mm in track geometry that has occurred as a direct result of works being undertaken for the project; and
- As approved through the issuing of an Environment Protection Licence including any works that have to be undertaken outside of standard hours not listed above, including rail shutdown periods (possessions).

During the construction of the ETTT Project, there will be a number of occasions where works will be required to be undertaken outside of standard construction hours. In many cases this is for short term duration works that are essential to be undertaken outside of standard construction hours to maintain a safe working environment and reduce disruption to the community, commuters or to satisfy the operational requirements of other government authorities.

Out of hours works will be required in the following circumstances:

- Works which RMS or Sydney Trains would not permit during standard construction hours due to network security, traffic and/or commuter impacts
- Works required by service providers or where impacts to services cannot be reasonably managed
- Where impacts to traffic, community and businesses during the day are considered by the Community Manager as being unacceptable compared to being undertaken outside standard hours
- Where works can be undertaken so as to be inaudible at the nearest sensitive receivers
- As otherwise agreed/approved with the EPA in the issuing of an EPL for scheduled works
- Work required during track possessions when no trains are operating.

The EPL variation process to cover out of hours works will be managed using the ETTT Alliance management processes is documented in the Construction Noise and Vibration Management Plan.

An out of hours work application register will be maintained by the Environmental Manager.

## 7.8 Waste Management Reduction and Purchasing

A Waste and Resource Use Management Plan has been prepared by the ETTT Alliance which will include approach to waste management, reduction and purchasing. The ETTT Alliance Project Team will ensure that wastes created during the works are managed in accordance with legislative requirements. This will involve the tracking of spoil generated and monitoring its disposal and reuse. The Plan will include the requirement for 100% of usable spoil material to be recovered for beneficial use either on site or at an appropriate off site location.

A minimum target of 90% will be set for the diversion of construction waste from landfill. The process for managing waste is documented in the Plan.

Measures that will be implemented include:

- Management of wastes during construction in accordance with the NSW Government's Waste Reduction and Purchasing Policy (WRAPP)
- Application of the waste minimisation hierarchy principles of avoid/reduce/reuse/recycle/dispose
- Disposal of any waste material that is unable to be reused, reprocessed or recycled at a facility approved to receive that type of waste
- Procedures for classifying waste in accordance with DECC's Waste Classification Guidelines (July 2009)
- Procedures for the recovery of resources from waste where this is beneficial and does not harm the environment or human health, in accordance with the 'resource recovery exemptions' under Clause 51 of the POEO (Waste) Regulation 2005
- Installation of segregated bins for recycled materials and provision for material to be reused or recycled wherever possible

- The disposal of chemical, fuel and lubricant containers and solid and liquid wastes in accordance with applicable EPA guidelines
- Reporting biannually, in the first two weeks of July and January for the preceding six month period to the Principal's Representative on the amount of material generated, the amount recycled and the amount purchased with recycled content as part of the ETTT Project using the format and tables contained in Part C and Part D of the NSW Government WRAPP Guidelines.

## 7.9 Sustainable Design Management

To enable the ETTT Alliance to comply with the TfNSW Sustainable Design Guidelines as applicable to the scope of works, an internal Sustainability Management Plan will be prepared and implemented. The Plan will be an internal document within the Alliance which will outline the process for reviewing the sustainability initiatives considered at the Concept Design stage of Alliance delivery to determine what initiatives are applicable to the detailed design and construction stage. This will allow the ETTT Alliance to achieve minimum compliance and attain a Silver rating for the ETTT Alliance.

The Plan will detail the roles, responsibilities and reporting requirements for each of the ETTT Alliance stages, including the requirement for TfNSW to review the completed checklist.

The Plan will outline the "innovative initiative criteria" which if achieved; the ETTT Alliance can be rewarded with an additional 10% bonus to the ETTT Alliance final rating score. To drive the ETTT Alliance to deliver innovation, a Sustainability Working Group (SWG) will be established. The aim of the working group will be to hold a series of innovation and sustainable design 'think tanks' with key ETTT Alliance team members (eg. specialists in design, construction, community consultation, financial control, environment, procurement and human resources etc) to consider and develop initiatives that meet the following where possible:

- Initiatives that are not already identified in the guidelines.
- The first practical application of that initiative on a Rail Project in NSW.
- Demonstrates a contribution to the broader market transformation towards sustainability.
- Demonstrates a potential to influence future rail Projects and is likely to lead to type-approval by construction stage.

As the ETTT Alliance progresses and sustainability initiatives are imbedded in the ETTT Alliance delivery the focus of the SWG will be on education and enhancing behaviours and awareness.

The principles of ESD will be considered during the design phase to ensure that the key themes are met during construction. This includes for example, reviewing the design to limit the impact on native vegetation during construction with the aim of reducing the clearing limits where practical.

A greenhouse gas inventory report will be prepared in accordance with TfNSW's guide. The report will calculate the total estimated carbon footprint for all construction activities associated with the Works and identify areas where the carbon footprint can be reduced through the implementation of initiatives. Throughout Alliance delivery the SWG will monitor the implementation of the initiatives and provide a completed checklist report to TfNSW with how each initiative was achieved as required by TSR E1 Annexure A3.

The Sustainability Plan will detail how greenhouse gas scoped emissions will be tracked and reported so as to comply with AS14064.1-2006 and the Greenhouse Gas Protocol. The emissions report will be provided to TfNSW on a six monthly basis.

ETTT Alliance has nominated ETTT Alliance Partner Leighton Contractors as the nominated entity responsible for reporting under the NGERs Act.

# 8 Review and Monitor

This section describes environmental inspections, monitoring and reporting for the ETTT Alliance to verify that the Works are compliant with the requirements of the Contract and all Authority Approvals (CoA, REMM, EPL etc).

## 8.1 Management Review

A management review of the CEMP will be undertaken to ensure its continuing suitability, adequacy and effectiveness. Reviews will include assessing opportunities for improvement and the need for changes to the system, including the environmental policy and environmental objectives and targets. The management reviews will occur:

- On an annual basis to ensure its continuing effectiveness
- Within 1 month following a major (Class 1) incident
- Where an audit recommends a review
- Where there are repeat non conformances and these are not closed out within the agreed timeframe
- As otherwise determined by the Environmental Manager.

The management review will be undertaken by the Environment Manager and the ETTT Alliance Manager and will include a review of:

- Environmental audits findings
- Construction compliance reports and other compliance tracking reports
- Environmental complaints received
- The extent to which environmental objectives and targets have been met and if they need to be reassessed
- The status of corrective and preventative actions
- Any changes in Alliance circumstance or scope which may affect environmental aspects
- Actions from previous management reviews
- Recommendations for improvement.

Revisions of this CEMP will be assessed by the Environmental Representative for assessment of significance. Amendments determined by the Environmental Representative to be minor in nature will be approved by the ETTT Alliance Manager. Amendments determined to be major will be forwarded to DP&I for approval by the Director-General.

For the purpose of this document “minor” and “major” are defined as follows:

- **Major:** Any change that results in a new high risk activity not previously identified or assessed by the EIS. These changes could also potentially result in a modification to the approval.
- **Minor:** Any change where the impact is consistent with the impacts assessed in the EA or that does not present a new high risk activity to the ETTT Alliance.

## 8.2 Inspections

Inspections are used to identify workplace hazards and assess safety and environmental compliance against regulatory requirements and best practice processes and initiatives. The environmental site inspections will include operations undertaken by the ETTT Alliance subcontractors to ensure they comply with the requirements of the PAA. The following types of inspections will be conducted:

## 8.2.1 Site Inspections

Supervisory staff (eg. Foremen), as part of their daily duties, will conduct inspections of the sites, including subcontractors, when works are occurring. These inspections will include safety and health issues, environmental aspects (fauna, flora, hazardous substances, erosion control air quality etc.), working practices and housekeeping. The Daily Site Report (Foreman's Diary) will be used as a record of this inspection by exception.

## 8.2.2 Environmental Inspections

The Environmental Coordinator(s) (EC) will conduct regular environmental inspections of the site accompanied periodically by the Environment Manager. The **Weekly Environmental Inspection Checklist** will be used to ensure that all environmental aspects are reviewed during inspection of the various components of the ETTT Alliance. Actions arising from the inspections will be recorded on the **Environmental Inspection Actions Form** and each action will be allocated to the foreman for the work area.

To ensure a collaborative approach to 'flagging' and addressing site environmental issues, where relevant, members of the wider Alliance team (eg. Foreman, Superintendent, Site Engineers/Project Engineers or Area Managers) may attend site inspections.

## 8.2.3 Environmental Representative

Formal site inspections will occur typically on a fortnightly basis, or when agreed with the Environmental Manager and transport For NSW. These inspection are undertaken with the Environmental Manager, ECs and Environmental Representative (ER) and will follow the **Weekly Environmental Inspection Procedure**.

It is anticipated that the ER will be required to complete ER specific documentation following an inspection.

Should the ER identify an activity that holds an unacceptable level of environmental risk the ER has the option to complete a **Stop Work Report Form**.

All inspection documentation will be uploaded and maintained on TeamBinder.

## 8.2.4 External Stakeholders

As the ETTT Alliance will hold an EPL, an EPA Officer may undertake inspections of any area of the ETTT Alliance at anytime to monitor the ETTT Alliance's environmental performance and compliance to the EPL conditions. The ETTT Alliance is obliged to grant access and assist during all site inspections.

In the event an EPA Officer arrives to site unannounced, the Environmental Manager should be immediately informed. The Environmental Manager would then escort the EPA Officer to the locations of the ETTT Alliance that they wish to inspect.

## 8.2.5 Assessment of Action Priorities

During any inspection, actions identified will be given a timeframe in which they are to be closed out. Routine Environmental Site inspection actions are generally prioritised on the basis of:

- Priority 1 – Must be completed by the end of the day
- Priority 2 – Must be completed within 24 hours
- Priority 3 - Must be completed within 3 days
- Priority 4 – Must be completed within a week.

The allocation of priorities will be developed by consultation between those on the inspection.

The following aspect will be considered when priorities are being allocated:

- The weather forecast for the following three days (Bureau of Meteorology)
- Ease in which a pollutant can escape – Distance of action to watercourse etc
- Sensitivity of surrounding environment.

## 8.3 Monitoring

An environmental monitoring program will be implemented during construction. Details of the program are shown in Table 12. This program has been based on the requirements of the CoA and EPL.

Details (including equipment calibration) of all of the environmental monitoring equipment will be maintained on the **Environmental Equipment Register**. Environmental staff will complete competency training on the use of the various pieces of monitoring equipment. Such training will be tracked by the Human Resources Manager via the ETTT Alliance training register.

**Table 12: Environmental Monitoring Program**

Environmental Issue	Parameters	Frequency	Performance Criteria	Method	Location(s)
Surface Water Quality	pH (units)	Prior to discharge	6.5 <pH<8.5	Probe	Discharge Points (TBA)
	Total Suspended Solids (TSS), (mg/L)	Prior to discharge	TSS<50mg/L Grab samples will cease once correlation to NTU is established.	Laboratory Test (Grab Sample)	Discharge Points (TBA)
	Oil and Grease (visible)	Prior to discharge	No visible	Visual inspection	Discharge Points (TBA)
	Turbidity (NTU)	Prior to discharge	Correlation to be determined with TSS	Probe	Discharge Points (TBA)
Surface and Groundwater Water Monitoring	As presented in the Water Quality Monitoring Program (CoA 17)				
Air Quality	Dust	Daily	N/A	Visual Inspection	Where relevant
	Vehicle Emissions	Prior to commencement on site by Plant Manager or Foreman	No visible smoke for more than 10 seconds following start-up	Visual Inspection	At vehicle exhaust
Noise	LA <sub>eq</sub> (15min)	To confirm works are in line with Predictions; In response to the complaint; As required by the EPL	Noise Management Level (NML); CNVIS Predictions	Sound Level Meter	Various
Vibration	Ground Vibration (mm/s) Vibration Dose Value (VDV)	To confirm safe working zones; In response to the complaint; As required by the EPL	5mm/s at residence on privately owned land VDV of 0.2/0.4 m/s <sup>1.75</sup>	InstanTel Minimate 4 Pro	Various
Property/ infrastructure dilapidation	Photographic	Prior to Construction Post Construction (as required)		Inspection	Various

## 8.4 Recording, Analysis and Reporting

ETTT Alliance environmental forms and checklists have been specifically designed to allow for effective and comprehensive data collection in the field. Where required they provide a template to record calibration of equipment, influencing external factors (eg. weather conditions, other non-Alliance related activities in the area) along with time, place and monitoring results. Further information may be included such as associated criteria so that indications to any potential exceedances/incident/non-conformances can be immediately identified in the field.

All monitoring and inspection data is maintained on databases/registers in the environment folder on the project server.

Monitoring data and results are analysed to determine if any trends or longer term impacts are emerging as a result of ETTT Alliance activities. Any trends that are identified are discussed in the team meetings and actions implemented as appropriate.

A summary of monitoring results will be provided as required by the reporting requirements set by the EPL, as a result of any incidents or non-conformances or as required by other regulatory authorities.

The POEO Act for EPL holders requires uploading of monitoring data to the licence holder's website. A summary of the monitoring data will be uploaded onto the Leighton Contractors website within 14 days of receiving the data: <http://www.leightoncontractors.com.au>.

## 8.5 Auditing

Audits will be used as a systematic and documented method of verifying environmental performance and compliance. Audits are part of the continual improvement process used to identify opportunities and ascertain whether systems, processes and products comply with specified, agreed and/or statutory requirements.

Audits for the ETTT Alliance will be undertaken as required by CoA, in accordance with ISO19011:2011 – Guidelines for Quality and/or Environmental Management Systems Auditing.

Further details on the frequency of compliance checking and auditing is detailed within the Compliance Tracking Program (CTP).

Audits throughout the ETTT Alliance will include:

- Audits by TfNSW and / or the ER
- Audits on the suppliers/subcontractors by the ETTT Alliance Environment Team
- Internal audits by the ETTT Alliance or ETTT Alliance Participants Leighton Contractors and Lend Lease
- External audit by SAI Global (or similar) on the implementation of ETTT Alliance Participant Leighton Contractors' EMS.

Environmental audits will typically include:

- An audit of this CEMP and associated management planning documentation and tools
- CEMP Compliance audits
- ISO14001:2004 audits
- Approvals, Licences and Permits
- Construction sites and compliance with associated ECM
- Subcontractors' works.

Details of each audit will be provided in an Audit Report that includes an Audit Action List (AAL). Audit findings will be detailed in the audit report according to the categories shown in Table 13.

**Table 13: Audit Finding Categories**

Environmental Standards Report Categories	LCPL Audit Report Categories	Description
01 – Non Conformance (NCR)	Non Conformance (NCR)	A non compliance where there is a deficiency in the characteristics or documentation of a product or service compared to specified criteria, where it does not meet specified requirements for that product or service or where an Environmental process is in place but has not been followed.
02 – Area of Concern (AOC)	Corrective Action Request (CAR)	Where no process exists to manage a particular aspect of the ETTT Alliance to meet a requirement, or where there has only been partial compliance.
03 – Opportunity for Improvement (OFI)	Recommendation/ Observation (Rec/Obs)	A finding which identifies an opportunity to enhance the content or application, minimal adjustment required
04 – Recommendation/ observation	Recommendation/ Observation (Rec/Obs)	A behaviour, process or application that meets or exceeds full compliance

The audit report will be issued within 10 business days of the audit, summarising the audit process followed, and the findings of the audit.

### 8.5.1 Environmental Non-Conformances

An environmental non-conformance can generally be defined as a failure to:

- Comply with environmental legislation or other requirements (eg. CoA, REMM and EPL)
- Comply with any EMS requirements.

### 8.5.2 Identification and detection

Environmental non-conformance is detected through verification processes including:

- Environmental monitoring (e.g. Noise Monitoring Record Sheet)
- Inspections (e.g. Site Environmental Checklists)
- Incidents (Incident Reports)
- Audit programs (Audit Reports/Audit Action List)
- Confirmed (by investigation by ETTT) community complaints
- Receipt of any complaints or contact from a regulatory authority.

### 8.5.3 Corrective and Preventative Actions

Corrective actions will be identified as follows:

- Where a non-conformance is identified and raised, the Environment Manager or delegate will liaise with the appropriate ETTT Alliance personnel or qualified person(s) to determine the most appropriate corrective action to implement
- Where assessed by the Environment Manager to be appropriate, the corrective action will be actioned through either a NCR or, if raised as a result of an audit, a CAR.

Preventive actions will be identified as follows:

- All relevant incidents, complaints and non-conformances are discussed at the weekly Alliance Environment Team meetings. Trends relating to environmental incidents and non-compliance findings are reviewed at these meetings to identify any reoccurring issues that are indicative of the need to take preventative action. Any member of the ETTT Alliance Project Team, including subcontractors, can contribute and provide suggestion to any required or appropriate preventative action
- Where assessed by the Environment Manager as necessary, a preventative action will be raised and action undertaken through either a NCR or if raised as a result of an audit a CAR.

#### 8.5.4 Non-Conformance Reports

Where a non-conformance is detected a Non-Conformance Report (NCR) will be raised by undertaking the following steps:

- Raise a NCR using the TfNSW form (9TP-FT-101/7.0)
- Notification of NCR's will be made to the Clients Representative and the ER via the Teambinder.

The NCR will be close out by the Clients Representative once the corrective and preventative measures have been implemented and evidence provided.

#### 8.5.5 Corrective Action Requests

A Corrective Action Request (CAR) is raised during an audit where no process exists to manage a particular aspect of the ETTT Alliance to meet a requirement; or where a process exists but there has been partial compliance.

As a result of any audit finding, the Environment Manager may raise internal CARs through Cintellate to relevant Alliance personnel including sub-contractors requesting appropriate corrective or preventative actions. The process to follow for raising a CAR is as follows:

The Environment Team:

- Investigates the cause of the deficiency/audit finding
- Completes CAR in TeamBinder, to propose improvement actions and nominate completion date for review and approval by Environment Manager
- The delegated personnel implements the improvement action and completes the details in TeamBinder
- The Environment Manager or delegate should verify the action has been suitably completed and effective and close out the CAR in the ETTT Alliance document management system.

Notification of CARs to the Principal's Representative and the ER will be via TeamBinder.

### 8.6 Compliance Evaluation and Reporting

The ETTT Alliance will monitor ongoing compliance with applicable legislation and other obligations through the development and maintenance of a Compliance Tracking Program (CoA D5). The Compliance Tracking Program has been developed to meet and be consistent with the requirements of CoA D5 and REMM. The Compliance Tracking Program is utilised to monitor and report compliance for each applicable requirement and covers the following:

- CoA
- REMM and the Environmental impact Assessment
- PAA - environmental components only (eg. incident reporting)
- EPL
- Any other regulatory requirements which are established throughout the construction period.

### 8.6.1 Internal Reporting

The overall environmental performance of the ETTT Alliance is reported monthly to the Management Team and TfNSW through the Monthly Environmental Report.

The Environmental Monthly Report includes the following:

- Number of environmental site inspections undertaken
- Number of environmental training sessions undertaken
- Environmental incidents including annual frequency rate
- Environmental non-conformances against CoA and REMM
- Environmental non-conformances against EPL conditions
- Any current ETT Alliance environment-related issues
- Summary of performance and current undertakings.

### 8.6.2 External Reporting

The ETTT Alliance will also monitor ongoing compliance against all applicable compliance obligations through quarterly review and reporting in the Planning and Environment Compliance Monitoring System (PECOMS) which would include documenting environmental non-conformances raised by the ER or TfNSW. PECOMS can automatically develop compliance reports from the information supplied.

The compliance status for the ETTT Alliance will be reported to the Secretary DP+E (former Director-General, DP&I), as detailed in Table 14. Reporting to the EPA will be in accordance with the conditions set in the EPL.

The Compliance Tracking Program will be submitted to the Director-General, DP&I for approval prior to the commencement of construction in accordance with CoA D5.

**Table 14: Compliance Tracking Program**

Program Element	CoA Reference	Frequency	Compliance tracking element(s)	Format of Documentation	Report Recipient(s)
Notification of commencement and completion of construction	CoA D5	Prior to the commencement of construction and prior to the commencement of operation	<ul style="list-style-type: none"> <li>• Pre-construction compliance spreadsheet to be provided with notification of commencement of construction.</li> </ul>	Letter and Compliance Tracking Spreadsheet	<ul style="list-style-type: none"> <li>• Secretary, DP+E</li> </ul>
TFNSW: Planning and Environment Compliance Management System (PECOMS)		Every 3 months throughout construction	<ul style="list-style-type: none"> <li>• Status of CoA and REMM compliance.</li> </ul>	Compliance Tracking Spreadsheet / PECOMS entry	<ul style="list-style-type: none"> <li>• ALT and TfNSW.</li> <li>• Secretary, DP+E</li> <li>• (if requested)</li> </ul>

Program Element	CoA Reference	Frequency	Compliance tracking element(s)	Format of Documentation	Report Recipient(s)
Construction Compliance Report	CoA D5	As required by the CoA	<ul style="list-style-type: none"> <li>• Compliance with EA, CoA and REMMs</li> <li>• Summary of environmental monitoring (report by exception only)</li> <li>• Summary of incidents/ non-conformances / corrective actions.</li> </ul>	Document and Compliance Tracking Spreadsheet	<ul style="list-style-type: none"> <li>• Secretary, DP+E</li> <li>• (if requested)</li> </ul>
Recording and Reporting of Incidents	CoA D5	As required / in the event of incidents	<ul style="list-style-type: none"> <li>• Included in Construction Compliance Reports</li> <li>• Notified as required by Incident Reporting Requirements.</li> </ul>	Included in Compliance Construction Reports Incident Reports	<ul style="list-style-type: none"> <li>• ALT and TfNSW and the ER</li> <li>• EPA and Secretary, DP+E in accordance with Alliance Incident Reporting Requirements</li> </ul>
Auditing	CoA D5	As per Alliance Audit Schedule	<ul style="list-style-type: none"> <li>• CEMP and associated management planning documentation and tools</li> <li>• CEMP Compliance audits</li> <li>• ISO14001:2004 audits</li> <li>• Approvals, Licences and Permits</li> <li>• Compliance with Environmental Control Maps (ECM)</li> <li>• Subcontractors' works.</li> </ul>	Audit Report/ Audit Action List	<ul style="list-style-type: none"> <li>• ALT and TfNSW and the ER</li> <li>• Secretary, DP+E</li> <li>• (if requested)</li> </ul>

# 9 Manage Incident

The incident classification, management and reporting process is detailed within the Environment and Pollution Incident Response and Notification Management Procedure presented within Appendix D.

This procedure identifies the mechanisms for managing and reporting environmental related incidents and complaints and meets the requirements of CoA D6.

Potential environmental emergencies and incidents are identified through the ETTT Alliance Aspects and Impacts Environmental Risk Assessment Process, referred to in Section 5. For all incidents that have the potential to cause environmental harm as defined by the POEO Act, refer to the Pollution Incident Response Management Plan (PIRMP) which will be implemented when the ETTT Alliance has its EPL in place.

The ETTT Alliance Emergency & Crisis Management Plan may also be triggered in the event of the significant Environmental Incident.

## 9.1 Complaints Management Protocol

Complaints received by the ETTT Alliance in relation to environmental pollution issues will be managed, recorded and reported through the contact management system, Consultation Manager, in accordance with the CoA D2 & D3, TSR C1 and the ETTT Alliance EPL. The ETTT Alliance Community Liaison Plan defines the requirements for identifying and managing community specific issues arising from design and construction activities. As outlined in the Community Liaison Plan, all complaints will be managed by the Community Coordinators with assistance from the Community Manager and the Environment Team where required.

The ETTT Alliance will deal with enquiries and complaints in a prompt manner so that stakeholder concerns are recorded, mitigation measures are implemented efficiently with the support of the construction team and to the satisfaction of the stakeholder. The intent is to create a relationship of trust and reliability between the community and Alliance team.

The TfNSW Project Info line, 1800 684 490 has been established and is maintained by TfNSW that provides a dedicated contact point for any Alliance related enquiry. A 24-hour Construction Response Line, 1800 775 465, for receiving complaints has also been established and will be maintained by TfNSW.

TfNSW will receive all enquiries/complaints via the Information Line and Construction Response Line and notify the ETTT Alliance Community Liaison Team of all contacts (phone, email, letter) specific to the ETTT Project for investigation and response in accordance with response timeframes as detailed in the Community Liaison Plan.

All calls will be logged and tracked by the Community Liaison Team using Consultation Manager.

The procedure as detailed in the CLP for the handling of complaints received on-site is as follows:

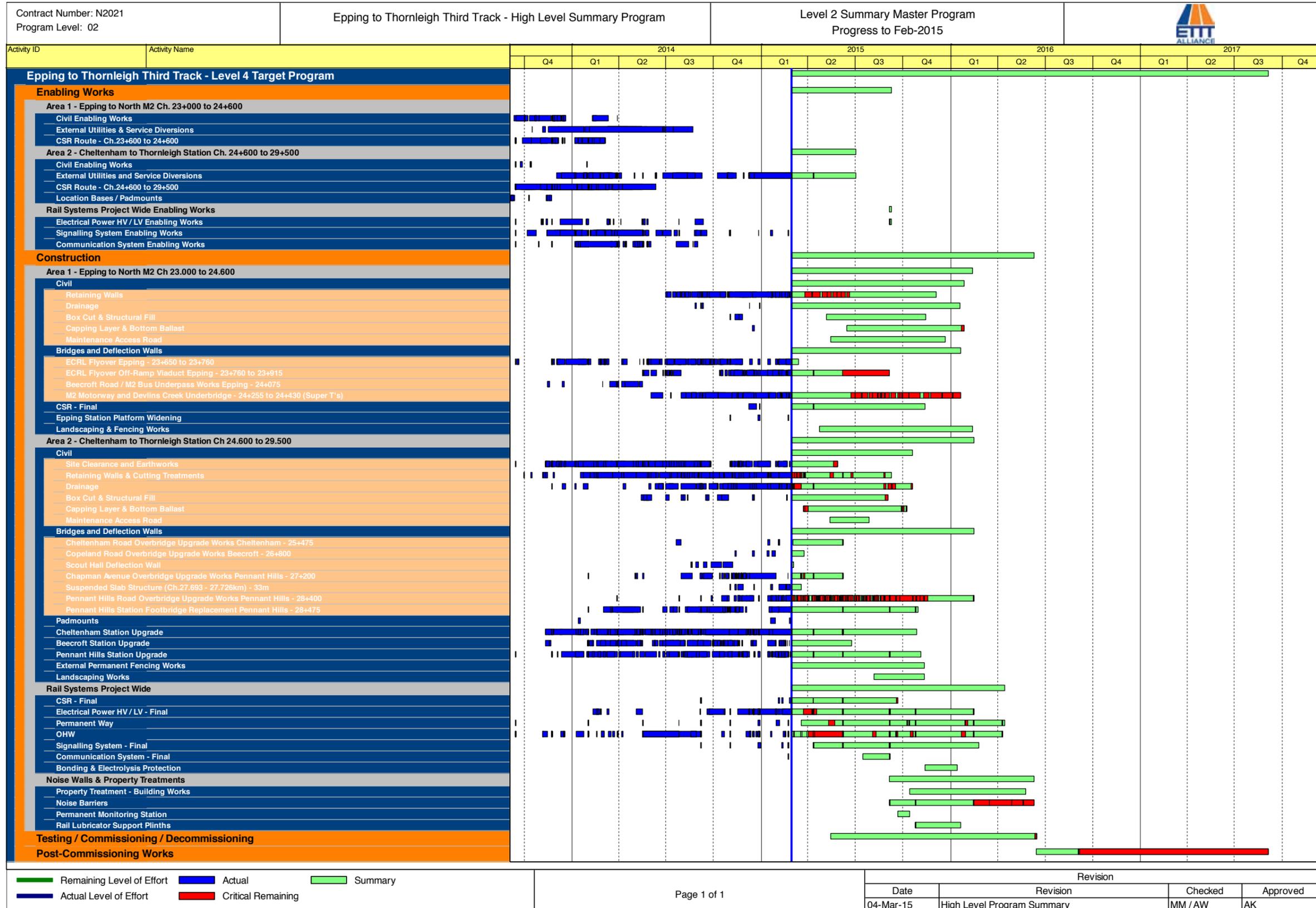
All Alliance team members who become aware of an enquiry or complaint will:

- Advise the Community Liaison Team of the enquiry or complaint details as soon as possible.
- The Community Liaison Team once aware of an enquiry or complaint will:
  - Be responsible for determining if the matter should be managed as a complaint and/or classified/ reclassified as an enquiry or other type of contact
  - Respond to the enquirer/complainant (as soon as possible and within 2 hours)
  - Maintain ongoing communication with the stakeholder about the investigation and outcomes of any actions
  - Ensure details of the issue and all stakeholder contacts and associated actions are updated in the database
  - Be responsible for identifying, advising and delegating any required actions to appropriate team managers with an appropriate timeframe
  - Ensure the database is updated with any outcomes and coordinate a follow up letter to be sent to the stakeholder within seven days of receiving the complaint (unless otherwise requested by the complainant).



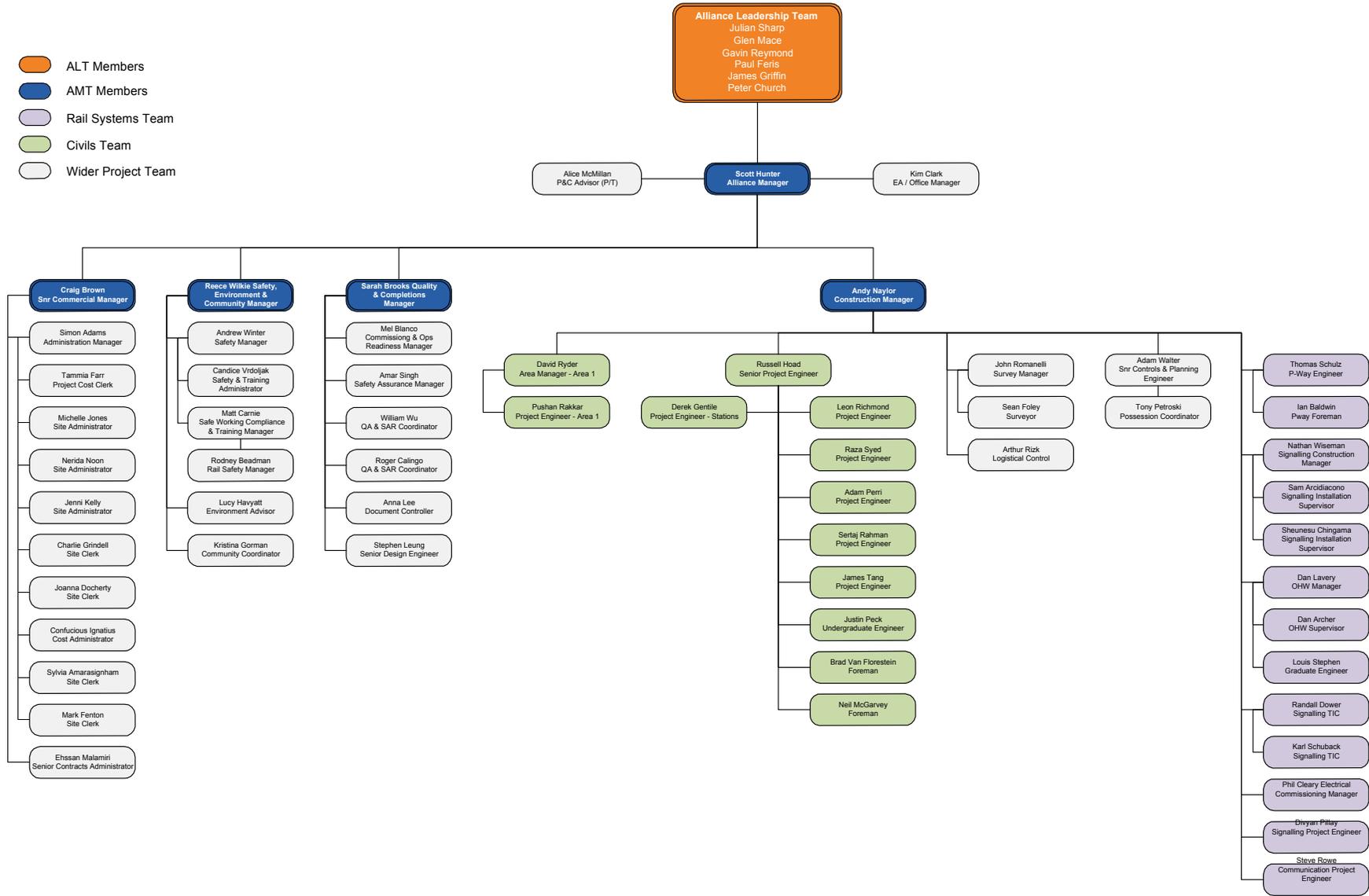
Complaints or issues relating to environmental management will be referred to the Environment Manager for assessment and action. The ER will also be notified of all complaints. The ETTT Alliance will lodge all environmental pollution complaints with the EPA in line with the requirements detailed in the ETTT Alliance EPL.

# Appendix A: Time Distance Program



# Appendix B: Organisational Chart

- ALT Members
- AMT Members
- Rail Systems Team
- Civils Team
- Wider Project Team



# Appendix C: Environmental Risk Register

Aspect (Hazard / Risk Issue)	Key Impact (Risk Effect)	Consequence Likelihood	Risk Rating (Before Mitigation)	Mitigation Measures	Responsibility	Risk Rating (after mitigation)	Management Documents
<b>Leading Risks Items</b>							
Impacts from excavation / blasting of sandstone cuttings.	Dust generation; Noise generation; Vibration; Cosmetic and/or structural damage to public and private property and infrastructure; Fly rock (injuries & damage); Community complaints.	Medium Almost certain	18 Very high threat	<ul style="list-style-type: none"> <li>Implementation of CEMP, CNVMP, ECM, ERSED Plans, Blast Management Plan, Dust Management Plan WMPs;</li> <li>General inductions and toolbox talks; and</li> <li>Selection of appropriate means of excavation for various stages (blasting, breaking, fracturing, etc).</li> </ul>	Super, FM, PE, COM, EC and EM	17 (Medium / likely) High threat	CEMP CNVMP ECM WMP CLP Project EPL TfNSW CNS Blast Management Plan Dust Management plan ERSED Plans
Works in close proximity to heritage listed sandstone causeway at Devlins Creek underneath Beecroft Bus Ramps.	Physical damage to heritage causeway, impacting heritage item.	Major Likely	20 Very high threat	<ul style="list-style-type: none"> <li>Implement CEMP, HMP, ECM and WMPs;</li> <li>General inductions and toolbox talk;</li> <li>Specific area based toolbox about working in proximity of causeway;</li> <li>Archeological watching brief; and</li> <li>No Go Fencing and signage.</li> </ul>	Super, FM, PE, EC and EM	15 (Major / Unlikely) High threat	CEMP CHMP ECM WMP

Aspect (Hazard / Risk Issue)	Key Impact (Risk Effect)	Consequence Likelihood	Risk Rating (Before Mitigation)	Mitigation Measures	Responsibility	Risk Rating (after mitigation)	Management Documents
Works in close proximity to Devlins Creek	Pollution of water - Devlin's Creek and Lane Cove River. Pollution via ERSED or Concrete Washout control failure.	Minor Likely	9 Moderate threat	<ul style="list-style-type: none"> <li>• Implementation of CEMP, ECM, ERSED Plans and WMP;</li> <li>• General inductions and toolbox talk;Weather forecast monitoring;</li> <li>• Soil Con involvement; and</li> <li>• Concrete washouts.</li> </ul>	Super, FM, PE, EC and EM	8 (Minor / Possible) Moderate threat	CEMP ERSED Plans WMP Water Quality Monitoring Sheet
Works in close proximity to Devlins Creek	Pollution of water - Devlin's Creek and Lane Cove River. Pollution via refuelling spill or leak from plant / equipment in close proximity to the creek (<10m)	Medium Likely	17 Very high threat	<ul style="list-style-type: none"> <li>• Implementation of CEMP, ECM, ERSED Plans and WMP;</li> <li>• General inductions and toolbox talk;Refuelling Procedure;</li> <li>• Spill kits;</li> <li>• Competency check of refueling operation; and</li> <li>• Run the annual PIRMP drill at this location.</li> </ul>	Super, FM, PE, EC and EM	13 (Medium / unlikely) High threat	CEMP ECM Refuelling Procedure ERSED Plans WMP Water Quality Monitoring Sheet
Breach of EPL Hours of Work Condition	Increased regulation from EPA impacting construction program. Possible PIN for Breach	Medium Almost certain	18 Very high threat	<ul style="list-style-type: none"> <li>• Implementation of CEMP, ECM and WMP;</li> <li>• General inductions and toolbox talk;Remind contractors of hours in contracts;</li> <li>• Identify suitable park up locations for haulage companies; and</li> <li>• Increased surveillance by EC.</li> </ul>	Super, FM, PE, EC and EM	13 (Medium/ Possible) Moderate threat	CEMP TMP Contracts

Aspect (Hazard / Risk Issue)	Key Impact (Risk Effect)	Consequence Likelihood	Risk Rating (Before Mitigation)	Mitigation Measures	Responsibility	Risk Rating (after mitigation)	Management Documents
Breach of POEO Act – Waste	Materials removed from site untracked and dumped	Medium Likely	17 Very high threat	<ul style="list-style-type: none"> <li>• Induction and toolboxing;</li> <li>• Waste Tracking triplicate books; and</li> <li>• Haulage contract style.</li> </ul>	Super, FM and EC	11 (Medium/Rare)	CEMP WMP WMSP Section 143 Certificates
Breach of Planning Approval - Clearing outside of approved clearing limits	Non Conformance against Approval Conditions	Major Almost Certain	23 Extreme threat	<ul style="list-style-type: none"> <li>• Conduct an initial assessment of the design plus the working space requirements against the approved limits;</li> <li>• Check of Design Drawings at each stage against the approved area of impact;</li> <li>• Initiate Consistency Assessments as soon as potential impact is identified;</li> <li>• Permit to clear procedure; and</li> <li>• Worker inducted into the ECM relevant to their working area detailing the location of sensitive vegetation types.</li> </ul>	DM, EM, EC	15 (Major/Unlikely)	CEMP FFSP ECM

Aspect (Hazard / Risk Issue)	Key Impact (Risk Effect)	Consequence Likelihood	Risk Rating (Before Mitigation)	Mitigation Measures	Responsibility	Risk Rating (after mitigation)	Management Documents
General construction day-time noise, including heavy vehicle use.	<p>Disturbance to residents or neighbouring businesses, and complaints received.</p> <p>Complaint numbers result in increased regulation from EPA</p> <p>Poor perception of Project performance due to complaints</p> <p>Heavy vehicles at high speed in unapproved local streets.</p> <p>Breaches of noise targets set in activity specific CNVIS.</p>	Medium	18 Very high threat	<ul style="list-style-type: none"> <li>• Implement CEMP, CNVMP, TMSP, CLP and ECM;</li> <li>• Inductions, toolbox talk on noise-related environmental tools;</li> <li>• Communication to surrounding affected businesses and residents;</li> <li>• Selection of appropriate plant; Operator competency;</li> <li>• Implementation of R&amp;F CNS;</li> <li>• Monitoring and feedback loops;</li> <li>• Type of haulage contract;</li> <li>• Haulage routes as part of contract; and</li> <li>• Haulage routes tool boxed.</li> </ul>	Super, FM, PE, COM, EC and EM	8 (Minor/Possible) Moderate threat	<p>CEMP</p> <p>CNVMP</p> <p>TMSP</p> <p>CLP</p> <p>ECM</p> <p>WMP</p> <p>EPL</p> <p>Noise monitoring field sheet</p> <p>Activity specific CNVIS.</p>
Noise and Vibration							

Aspect (Hazard / Risk Issue)	Key Impact (Risk Effect)	Consequence Likelihood	Risk Rating (Before Mitigation)	Mitigation Measures	Responsibility	Risk Rating (after mitigation)	Management Documents
Out of hours / night works.	Impact to residents (e.g. sleep) or neighbouring businesses, and complaints being received.	Medium Almost certain	18 Very high threat	<ul style="list-style-type: none"> <li>• Implement CEMP, CNVMP, TfNSW CNS TMS, CLP, ECM and environmental tools (Out-of-Hours Works Protocol, Out of hours work request form);</li> <li>• Inductions, toolbox talk on noise-related environmental tools;</li> <li>• Communication to surrounding affected businesses and residents;</li> <li>• Duration of works is to be limited as much possible to reduce impact to residents;</li> <li>• Noise monitoring;</li> <li>• Respite periods to be planned during intensive noise generating works;</li> <li>• Out of hours works approved by EPA and conditions adhered to; and</li> <li>• Hold point – where out of hours works planned.</li> </ul>	Super, FM, PE, COM, EC and EM	9 (Minor / Likely) Moderate threat	CEMP CNVMP TfNSW CNS TMS WMP CLP ECM Out-of-Hours Works Protocol Out of hours work request form.

Aspect (Hazard / Risk Issue)	Key Impact (Risk Effect)	Consequence Likelihood	Risk Rating (Before Mitigation)	Mitigation Measures	Responsibility	Risk Rating (after mitigation)	Management Documents
Truck movements out of normal working hours.	Non-conformance with EPL and noise impact to community, resulting in community complaints.  Breaches of noise limits set in activity specific CNVIS.	Medium Likely	17  Very high threat	<ul style="list-style-type: none"> <li>Implement CEMP, CNVMP, TMS, CLP, ECM and environmental tools (Out-of-Hours Works Protocol, Out of hours work request form);</li> <li>Clear signage on gates;</li> <li>Induction on construction hours for delivery;</li> <li>Communication of delivery times to suppliers;</li> <li>Community notifications on Project activities occurring locally;</li> <li>No idling of queuing vehicles, and where possible vehicles are not to queue near residential properties;</li> <li>Haulage routes are to be included in WMPs and subcontractor contracts/agreements; and identify suitable park up locations and provide to haulage companies.</li> </ul>	Super, FM, PE, COM, EC and EM	12  (Medium / Unlikely)  High threat	CEMP CNVMP TMS CLP ECM WMP EPL Activity specific CNVIS Out-of-Hours Works Protocol Out of hours work request form.
Traffic entering or leaving construction sites and compounds (during standard construction hours).	Increased heavy vehicle movement impacting general noise amenity.	Minor Almost certain	10  Moderate threat	<ul style="list-style-type: none"> <li>Implement CEMP, CNVMP, TMS, CLP and ECM;</li> <li>Traffic routes approved in Traffic Management Strategy;</li> <li>Inductions and toolbox talks on approved access routes;</li> <li>Community notifications on Project activities occurring locally; Well maintained equipment; and</li> <li>Equipment and plant monitoring.</li> </ul>	FM, PE, COM, and EC	8  (Minor/Possible)  Moderate threat	CEMP CNVMP TMS CLP ECM WMP

Aspect (Hazard / Risk Issue)	Key Impact (Risk Effect)	Consequence Likelihood	Risk Rating (Before Mitigation)	Mitigation Measures	Responsibility	Risk Rating (after mitigation)	Management Documents
Vibration intensive work in close proximity to buildings and sensitive receivers.	Structural and cosmetic damage to buildings.	Medium possible	13 High threat	<ul style="list-style-type: none"> <li>• Implement CEMP, CNVMP, CLP and ECM;</li> <li>• Undertake dilapidation surveys prior to works commencing;</li> <li>• Inductions, toolbox talk on vibration management including safe working distances for vibratory equipment; Establish safe working distances via monitoring / CNVIS; and</li> <li>• Vibration Fact Sheet.</li> </ul>	FM, PE, COM, and EC	7 (Minor / Unlikely) Low threat	CEMP CNVMP CLP ECM WMP
	Community complaints due to vibration.	Medium Unlikely	12 High threat	<ul style="list-style-type: none"> <li>• Implement CEMP, CNVMP, CLP and ECM;</li> <li>• Inductions, toolbox talk on community management including safe working distances for vibratory equipment; Vibration Fact Sheet; and</li> <li>• Undertake dilapidation surveys prior to works commencing.</li> </ul>	FM, PE, COM, and EC	7 (Minor / Unlikely) Low threat	CEMP CNVMP CLP ECM WMP.

Aspect (Hazard / Risk Issue)	Key Impact (Risk Effect)	Consequence Likelihood	Risk Rating (Before Mitigation)	Mitigation Measures	Responsibility	Risk Rating (after mitigation)	Management Documents
Soil and Water							
Earthworks, specifically including bridge works in riparian zones, water quality discharge and stockpiling.	Sediment laden runoff entering stormwater adjacent land or waterways (i.e. polluting - not compliant with discharge criteria), resulting in impacts to terrestrial or aquatic environments.	Major Almost certain	23 Extreme threat	<ul style="list-style-type: none"> <li>Implement CEMP, SWQMS, PSWMP, ECM, ESCPs and environmental tools (Flocculation and discharge procedure, Flocculation and discharge permit etc; Induction and toolbox talks;</li> <li>Relevant personnel to undertake erosion and sediment control training;</li> <li>On-call procedure or 'Standby' team during wet weather, able to maintain sediment and erosion controls;</li> <li>Clean water diversions;</li> <li>Maintaining vegetation for as long as possible;</li> <li>All storm water drains shall be identified prior to works and appropriate controls implemented; and</li> <li>Establish permit to pump training and allocation of qualified resources to pumping activities.</li> </ul>	Super, FM, PE, EM and EC	19 (Medium/Possible) High Threat	<ul style="list-style-type: none"> <li>CEMP</li> <li>SWQMPPSWMP</li> <li>ECM</li> <li>ESCPs</li> <li>WMP</li> <li>EPL</li> <li>Permit to Pump</li> <li>Flocculation and discharge procedure</li> <li>Flocculation and discharge permit</li> <li>Flocculation and discharge register</li> <li>Stockpile location procedure</li> <li>Stockpile location checklist</li> </ul>

Aspect (Hazard / Risk Issue)	Key Impact (Risk Effect)	Consequence Likelihood	Risk Rating (Before Mitigation)	Mitigation Measures	Responsibility	Risk Rating (after mitigation)	Management Documents
Inappropriate discharge of contaminated water e.g. excavation, concrete washout, rupture of services (sewer), leaking plant and spills to receiving water.	Polluted water entering surface water or groundwater and polluting (harming) downstream aquatic environments.	Major Likely	20 Very high threat	<ul style="list-style-type: none"> <li>Implement CEMP, SWQMS, PSWMP, ECM, ESCPs and environmental tools (Flocculation and discharge procedure, Flocculation and discharge permit etc;</li> <li>Concrete washout areas clearly marked on ECM;</li> <li>Induction and toolbox talks on soil and water quality;</li> <li>All storm water drains shall be identified prior to works;</li> <li>Relevant site personnel to undertake erosion and sediment control training;</li> <li>Appropriate water quality monitoring at key locations; and</li> <li>Hold point – for all discharges.</li> </ul>	Super, FM, PE, EM and EC	12 (Medium / Unlikely) High threat	<ul style="list-style-type: none"> <li>CEMP</li> <li>SWQMPPSWMP</li> <li>ECM</li> <li>ESCPs</li> <li>WMP</li> <li>Flocculation and discharge procedure</li> <li>Flocculation and discharge permit</li> <li>Flocculation and discharge register</li> <li>Stockpile location procedure</li> <li>Stockpile location checklist</li> </ul>
Storage of fuels, chemicals and other potentially contaminating substances.	<p>Polluted water entering waterways and polluting (harming) downstream aquatic environments.</p> <p>Contamination of surrounding soil</p> <p>Leaks of hazardous materials resulting in costly clean ups</p>	Major Likely	20 Very high threat	<ul style="list-style-type: none"> <li>Implement CEMP, SWQMS, PSWMP and ECM;</li> <li>Designated secure and bunded storage areas developed away from sensitive receivers and delineated;</li> <li>Storage areas and spill kits marked on site plans;</li> <li>Inductions on appropriate storage locations and handling requirements; and</li> <li>Regular and documented inspections of the designated storage locations/ facilities.</li> </ul>	FM, PE and EC	15 (Major / Unlikely) High threat	<ul style="list-style-type: none"> <li>CEMP</li> <li>SWQMPPSWMP</li> <li>ECM</li> <li>WMP</li> <li>Spill Management Procedure</li> </ul>

Aspect (Hazard / Risk Issue)	Key Impact (Risk Effect)	Consequence Likelihood	Risk Rating (Before Mitigation)	Mitigation Measures	Responsibility	Risk Rating (after mitigation)	Management Documents
Importing fill without clean certificates.	Contamination of soil with unclean fill.	Minor Likely	9 Moderate threat	<ul style="list-style-type: none"> <li>• Implement CEMP and SFMP; and</li> <li>• Fill to be certified clean fill prior to delivery to site.</li> <li>• Inspection of spoil upon delivery</li> </ul>	FM, PE and EC	7 (Minor / Unlikely) Low threat	<ul style="list-style-type: none"> <li>• CEMP</li> <li>• SWQMP</li> <li>• WMP</li> <li>• Waste Dockets</li> </ul>
<b>Flora and Fauna</b>							
Vegetation clearing	<p>Unauthorised works / works in no-go areas resulting in damage to native flora, endangered ecological communities and/or threatened species.</p> <p>Poor community perception of Project</p>	Medium Likely	17 Very high threat	<ul style="list-style-type: none"> <li>• Implement CEMP, FFMP, ECM and environmental tools (Pre-clearing ground disturbance inspection checklist and permit, Permit to enter protected or 'no-go' areas);</li> <li>• Toolbox talk on location and protection measures for endangered ecological communities and riparian vegetation;</li> <li>• Inspections during site-based activities;</li> <li>• Fencing and clear marking and signage of trees to be protected; and</li> <li>• Hold point – where planned entry into protected or 'no-go' areas.</li> </ul>	Super, PE, FM, EC and EM	12 (Medium / Unlikely) High threat	<ul style="list-style-type: none"> <li>• CEMP</li> <li>• FFMP</li> <li>• ECM</li> <li>• WMP</li> <li>• Vegetation Clearing Procedure</li> <li>• Pre-clearing ground disturbance inspection checklist and permit</li> <li>• Permit to enter protected or 'no-go' areas</li> </ul>

Aspect (Hazard / Risk Issue)	Key Impact (Risk Effect)	Consequence Likelihood	Risk Rating (Before Mitigation)	Mitigation Measures	Responsibility	Risk Rating (after mitigation)	Management Documents
	Unauthorised access to private property to clear areas (e.g. tree trimming over boundary fences).	Minor Likely	9  Moderate threat	<ul style="list-style-type: none"> <li>• Implement CEMP, FFMP, ECM and environmental tools (Pre-clearing ground disturbance inspection checklist and permit, Permit to enter protected or 'no-go' areas);</li> <li>• Toolbox talk on location and protection measures no-go areas and community issues;</li> <li>• Inspections during site-based activities;</li> <li>• Implementation of clearly delineated site boundary fencing;</li> <li>• Community relations team assistance in gaining private property agreements and</li> <li>• Hold point – where planned entry into private, protected or 'no-go' areas.</li> </ul>	Super, PE, FM, EC and EM	7  (Minor / Unlikely)  Low threat	<ul style="list-style-type: none"> <li>• CEMP</li> <li>• FFMP</li> <li>• ECM</li> <li>• WMP</li> <li>• Pre-clearing ground disturbance inspection checklist and permit</li> <li>• Permit to enter protected or 'no-go' areas</li> </ul>

Aspect (Hazard / Risk Issue)	Key Impact (Risk Effect)	Consequence Likelihood	Risk Rating (Before Mitigation)	Mitigation Measures	Responsibility	Risk Rating (after mitigation)	Management Documents
	Injury to native fauna.	Minor Likely	9 Moderate threat	<ul style="list-style-type: none"> <li>Implement CEMP, FFMP, ECM and environmental tools (Fauna handling and rescue procedure, Vegetation clearing procedure, Pre-clearing ground disturbance inspection checklist &amp; permit);</li> <li>Induction and toolbox talk on fauna handling;</li> <li>Pre-clearing inspection of trees known to contain hollows; and</li> <li>Inspections of fallen trees for any nested bird species or any animals.</li> <li>Speed limits to be obeyed on site to reduce chance of fauna strike.</li> </ul>	PE, FM, and EC	7 (Minor / Unlikely) Low threat	<ul style="list-style-type: none"> <li>CEMP</li> <li>FFMP</li> <li>ECM</li> <li>WMP</li> <li>Fauna handling and rescue procedure</li> <li>Vegetation clearing procedure</li> <li>Pre-clearing ground disturbance inspection checklist &amp; permit</li> </ul>
Landscaping and Weed Management	Germination of weeds from existing seed bank as a result of soil disturbance.	Minor Almost certain	10 Moderate threat	<ul style="list-style-type: none"> <li>Implement CEMP and FFMP; and</li> <li>Ongoing monitoring and maintenance of weeds during post-construction period.</li> <li>Pre-construction control measures</li> </ul>	EM, EC, Super, FM	7 (Minor / Unlikely) Low threat	<ul style="list-style-type: none"> <li>CEMP</li> <li>FFMP</li> <li>WMP</li> </ul>

Aspect (Hazard / Risk Issue)	Key Impact (Risk Effect)	Consequence Likelihood	Risk Rating (Before Mitigation)	Mitigation Measures	Responsibility	Risk Rating (after mitigation)	Management Documents
	Weed dispersion from vehicles on site which enter adjacent vegetated areas and / or waterways.	Medium Likely	17 Very high threat	<ul style="list-style-type: none"> <li>Implement CEMP, FFMP, TMSP, ECM and environmental tools (Weed management procedure);</li> <li>Visual inspection of tyres to be undertaken before leaving site for vegetative matter and excessive soil.</li> <li>Pre-construction control measures</li> </ul>	PE, FM, and EC	6 (Minor / Rare) Low threat	<ul style="list-style-type: none"> <li>CEMP</li> <li>FFMP</li> <li>ECM</li> <li>TMSP</li> <li>WMP</li> <li>Weed management procedure</li> </ul>
	Introduction of exotic species or parasites resulting in weed/parasite infestation.	Medium Likely	17 Very high threat	<ul style="list-style-type: none"> <li>Implement CEMP, FFMP, UDLP and environmental tools (Weed management procedure);</li> <li>Only use seed / mulch from recognized / authorized suppliers;</li> <li>Equipment cleaning processes as required.</li> </ul>	COM,, EM, EC, Super, FM	11 (Medium/ Rare) Low threat	<ul style="list-style-type: none"> <li>CEMP</li> <li>FFMP</li> <li>UDLP</li> <li>WMP</li> <li>Weed management procedure</li> </ul>
<b>Heritage</b>							
Works in close proximity to known items of heritage significance.  Note: There are no known Aboriginal heritage locations within the Project Corridor	Damage to items of Aboriginal heritage significance.	Major Rare	14 High threat	<ul style="list-style-type: none"> <li>Implement CEMP, HMP and ECM;</li> <li>Design to take into account known Aboriginal heritage items;</li> <li>General inductions and toolbox talk on heritage items;</li> <li>Archeologist involvement during work near heritage causeway</li> <li>Implementation of Environmental No-Go Fencing; and</li> <li>Delineation, signposting and other access controls for know items.</li> </ul>	Super, FM, PE, EC and EM	14 (Major / Rare) High threat	<ul style="list-style-type: none"> <li>CEMP</li> <li>CHMP</li> <li>ECM</li> <li>WMP</li> </ul>

Aspect (Hazard / Risk Issue)	Key Impact (Risk Effect)	Consequence Likelihood	Risk Rating (Before Mitigation)	Mitigation Measures	Responsibility	Risk Rating (after mitigation)	Management Documents
Earthworks encounter unexpected heritage items.	Damage to items of heritage significance.	Medium Possible	13 High threat	<ul style="list-style-type: none"> <li>Implement CEMP, HMP, ECM and environmental tools (Unexpected heritage find procedure, Human skeletal remains find procedure);</li> <li>General inductions and toolbox talk on heritage item identification; and</li> <li>Hold point – where suspected heritage item encountered.</li> </ul>	Super, FM, PE, EC and EM	8 (Minor / Possible) Moderate threat	<ul style="list-style-type: none"> <li>CEMP</li> <li>CHMP</li> <li>ECM</li> <li>WMP</li> <li>Unexpected heritage find procedure</li> <li>Human skeletal remains find procedure</li> </ul>
<b>Air Quality</b>							
Exhaust from plant and equipment.	Emissions resulting in air pollution.	Negligible Almost certain	5 Low threat	<ul style="list-style-type: none"> <li>Implement CEMP, AQMP, CLP and ECM;</li> <li>Inductions and toolbox talk on air quality and dust management environmental tools;</li> <li>Well-maintained plant/ equipment and pre-start checks and servicing; and</li> <li>Non-complaint vehicles removed from site / repaired.</li> </ul>	FM, PE and EC	4 (Negligible / likely) Low threat	<ul style="list-style-type: none"> <li>CEMP</li> <li>AQMP</li> <li>ECM</li> <li>WMP</li> </ul>

Aspect (Hazard / Risk Issue)	Key Impact (Risk Effect)	Consequence Likelihood	Risk Rating (Before Mitigation)	Mitigation Measures	Responsibility	Risk Rating (after mitigation)	Management Documents
Earthworks, loading spoil vehicles onsite and leaving site.	Creation of dust nuisance and / or triggering complaint.	Minor Almost certain	10 Moderate threat	<ul style="list-style-type: none"> <li>• Implement CEMP, AQMP, SFMP, CLP and ECM;</li> <li>• Inductions and toolbox talk on air quality and dust management environmental tools;</li> <li>• Careful selection of equipment;</li> <li>• Ensure that material have appropriate moisture content to minimise dust generation; and</li> <li>• All spoil vehicles to have mandatory spoil covers in place before entering / leaving site.</li> </ul>	FM, PE, COM, and EC	9 (Minor / likely) Moderate threat	<ul style="list-style-type: none"> <li>• CEMP</li> <li>• AQMP</li> <li>• SWQMP</li> <li>• CLP</li> <li>• ECM</li> <li>• WMP</li> </ul>
Un-protected stockpiles.	Creation of dust nuisance, and/or triggering complaint.	Minor Likely	9 Moderate threat	<ul style="list-style-type: none"> <li>• Implement CEMP, AQMP, SFMP, CLP, ECM and environmental tools (Stockpile location procedure and Stockpile location checklist);</li> <li>• Inductions and toolbox talk on air quality and dust management environmental tools;</li> <li>• Stockpiles to be watered regularly, as required; and</li> <li>• Longer-term stockpiles to be covered or seeded or coated with a semi-permanent coating until the stockpile is required to be used.</li> </ul>	FM, PE, COM, and EC	7 Minor / Unlikely Low threat	<ul style="list-style-type: none"> <li>• CEMP</li> <li>• AQMP</li> <li>• SWQMP</li> <li>• CLP</li> <li>• ECM</li> <li>• WMP</li> </ul>

Aspect (Hazard / Risk Issue)	Key Impact (Risk Effect)	Consequence Likelihood	Risk Rating (Before Mitigation)	Mitigation Measures	Responsibility	Risk Rating (after mitigation)	Management Documents
Tracking mud / dirt onto local roads, sediment laden run-off.	Creation of dust nuisance and/or triggering complaint.	Medium Almost certain	18 Very high threat	<ul style="list-style-type: none"> <li>• Implement CEMP, AQMP, SFMP, CLP and ECM;</li> <li>• Ensure wheels are clean prior to site exit;</li> <li>• Use bobcat / sweeper / water cart to clean any spill on roads as required, or at least at the end of each working day; and</li> <li>• Install a range of controls to prevent / remove debris from attaching to plant and equipment</li> </ul>	FM, PE, COM, and EC	17 (Medium / Likely) Very high threat	<ul style="list-style-type: none"> <li>• CEMP</li> <li>• AQMP</li> <li>• SWQMP</li> <li>• ESCP</li> <li>• CLP</li> <li>• ECM</li> <li>• WMP</li> <li>• Blue Book</li> </ul>
Encountering friable asbestos on site	Improper handling and disposal of contaminated waste resulting in health risks to general public.	Medium Likely	17 Very high threat	<ul style="list-style-type: none"> <li>• Implement CEMP, WMP, SFMP, ECM and environmental tools (Unexpected discovery of contaminated land procedure, Spoil classification procedure);</li> <li>• Induction and toolbox talks; and</li> <li>• Hold point – where unidentified contamination is encountered during construction works.</li> </ul>	Super, FM, PE, EC and EM	17 (Medium / Likely) Very high threat	<ul style="list-style-type: none"> <li>• CEMP</li> <li>• WMP</li> <li>• AMP</li> <li>• ECM</li> <li>• WMP</li> <li>• Unexpected discovery of contaminated land procedure</li> <li>• Spoil classification procedure</li> <li>• Waste classification procedure</li> <li>• Waste register</li> </ul>
Traffic							

Aspect (Hazard / Risk Issue)	Key Impact (Risk Effect)	Consequence Likelihood	Risk Rating (Before Mitigation)	Mitigation Measures	Responsibility	Risk Rating (after mitigation)	Management Documents
Traffic entering / leaving construction sites and compounds.	Congestion on local road network impacting on general amenity.	Medium Almost certain	18 Very high threat	<ul style="list-style-type: none"> <li>Implement CEMP, TMS, TMPs, SWMP and CLP; Community notifications on Project activities; Haulage routes as part of contract; and</li> <li>Haulage routes tool boxed.</li> </ul>	FM, PE, COM, and EC	8 (Minor/Possible) Moderate threat	<ul style="list-style-type: none"> <li>CEMP</li> <li>TMS</li> <li>TMPs</li> <li>CLP</li> <li>WMP</li> </ul>
Traffic entering / leaving construction sites and compounds.	Parking of personal and construction vehicles outside of designated site areas (e.g. parking in adjacent streets), resulting in community complaint.	Minor Almost certain	10 Moderate threat	<ul style="list-style-type: none"> <li>Implement CEMP, TMS, TMPs and CLP;</li> <li>Designated parking areas for Alliance staff and at compound sites, clearly marked on site plans;</li> <li>Inductions and toolbox talks on designated parking areas; and</li> <li>Community notifications on Project activities.</li> </ul>	FM, PE, COM, and EC	7 (Minor / Unlikely) Low threat	<ul style="list-style-type: none"> <li>CEMP</li> <li>TMS</li> <li>TMPs</li> <li>CLP</li> <li>WMP</li> </ul>
Works in and around pedestrian access in surrounding road network.	Disrupted access / lack of information on diversions for pedestrians resulting in complaints.	Minor Likely	9 Moderate threat	<ul style="list-style-type: none"> <li>Implement CEMP, TMS, TMPs and CLP;</li> <li>Community notifications on Project activities with potential to impact pedestrians; and</li> <li>Clear signage to be displayed at key points.</li> </ul>	FM, PE, COM, and EC	8 (Minor/Possible) Moderate threat	<ul style="list-style-type: none"> <li>CEMP</li> <li>TMS</li> <li>TMPs</li> <li>WMP</li> <li>CLP</li> </ul>

Resource Energy and Waste

Aspect (Hazard / Risk Issue)	Key Impact (Risk Effect)	Consequence Likelihood	Risk Rating (Before Mitigation)	Mitigation Measures	Responsibility	Risk Rating (after mitigation)	Management Documents
Energy consumption by construction plant and power generation/distribution systems used.	Energy wastage and greenhouse gas emissions.	Minor Likely	9 Moderate threat	<ul style="list-style-type: none"> <li>Implement CEMP, WMP, ECM and environmental tools (Waste removal register);</li> <li>Inductions and toolbox talk on waste and resource use, and energy saving practices in construction plant and equipment and during office work;</li> <li>Toolbox on energy saving practices;</li> <li>No idling of plant equipment where possible onsite; and</li> <li>Equipment / plant equipment inspections must be undertaken prior to use on site.</li> </ul>	PE, EC and EM	2 (Negligible / Unlikely) Low threat	<ul style="list-style-type: none"> <li>CEMP</li> <li>WMP</li> <li>SWQMP</li> <li>ECM</li> <li>WMP</li> <li>Waste removal register</li> </ul>
Resource usage (e.g. building materials, water, fuels, packaging).	Depletion of resources due to wastage (e.g. wastage of water / lack of recycling, poor management of procurement, ineffective removal of off-cuts).	Minor Almost certain	10 Moderate threat	<ul style="list-style-type: none"> <li>Implement CEMP, WMP, SFMP, ECM and environmental tools (Waste classification procedure, Waste removal register);</li> <li>Inductions and toolbox talks on recycling facilities and waste segregation, training/education on how to recycle;</li> <li>Procurement of materials (selection of materials);</li> <li>Planning / staging of works to minimise resource wastage; and</li> <li>Sub-contractors agreements to include Project compliant waste management principles.</li> </ul>	Super, FM, PE, EC and EM	7 (Minor / Unlikely) Low threat	<ul style="list-style-type: none"> <li>CEMP</li> <li>WMP</li> <li>SFMP</li> <li>ECM</li> <li>WMP</li> <li>Waste classification procedure</li> <li>Waste removal register</li> </ul>

Aspect (Hazard / Risk Issue)	Key Impact (Risk Effect)	Consequence Likelihood	Risk Rating (Before Mitigation)	Mitigation Measures	Responsibility	Risk Rating (after mitigation)	Management Documents
	Incorrect classification of waste (spoil/weeds) resulting in incorrect / illegal disposal/re-use.	Minor Likely	9 Moderate threat	<ul style="list-style-type: none"> <li>Implement CEMP, WMP, SFMP, ECM and environmental tools (Waste classification procedure, Waste removal register);</li> <li>Pre-classification of spoil;</li> <li>Inspection of incoming loads to ensure the material is consistent with the documents; and</li> <li>Inductions, toolbox talks and training on recycling facilities, waste segregation practices and Waste classification procedure.</li> </ul>	FM, PE and EC	7 (Minor / Unlikely) Low threat	<ul style="list-style-type: none"> <li>CEMP</li> <li>WMP</li> <li>SFMP</li> <li>ECM</li> <li>WMP</li> <li>Waste classification procedure</li> <li>Waste removal register</li> </ul>
<b>Visual Amenity</b>							
Light impacts	Impact from light and community visual amenity, resulting in complaints.	Minor Likely	9 Moderate threat	<ul style="list-style-type: none"> <li>Implement CEMP, CNVMP, CLP and environmental tools (Out-of-Hours Works Protocol, Out of hours work request form);</li> <li>Induction and toolbox talks on noise and light management;</li> <li>Directing lens away from homes and towards the work as best as possible;</li> <li>Public notifications; and</li> <li>Hold point – where out of hours works planned.</li> </ul>	Super, FM, PE, COM, EC and EM	8 (Minor / Possible) Moderate threat	<ul style="list-style-type: none"> <li>CEMP</li> <li>CNVMP</li> <li>CLP</li> <li>WMP</li> <li>Out-of-Hours Works Protocol</li> <li>Out of hours work request form</li> </ul>

Aspect (Hazard / Risk Issue)	Key Impact (Risk Effect)	Consequence Likelihood	Risk Rating (Before Mitigation)	Mitigation Measures	Responsibility	Risk Rating (after mitigation)	Management Documents
Appearance of construction site and surrounding areas during construction.	Impact to community visual amenity resulting in complaints / action, unable to use some community open spaces.	Minor Almost certain	10 Moderate threat	<ul style="list-style-type: none"> <li>• Implement CEMP, WMP and CLP;</li> <li>• Induction and toolbox talks on site maintenance and working in close proximity to sensitive receivers; and</li> <li>• Site areas to be kept tidy including areas outside corridor with all rubbish taken with personnel.</li> </ul>	FM, PE, COM, and EC	9 (Minor / Likely) Moderate threat	<ul style="list-style-type: none"> <li>• CEMP</li> <li>• WMP</li> <li>• CLP</li> <li>• WMP</li> </ul>
Appearance of construction site and surrounding area long-term.	Impact to community visual amenity resulting in complaints / action, unable to use some community open spaces.	Medium Almost certain	18 Very high threat	<ul style="list-style-type: none"> <li>• Implement CEMP, UDL and CLP;</li> <li>• Sensitive urban landscape design principles to be adopted;</li> <li>• Community consultation on long-term visual amenity issues and urban design impacts;</li> <li>• General public notifications on progress of Project; and</li> <li>• Urban design and landscape plan to be developed in consultation with local councils.</li> </ul>	Super, FM, PE, COM,, EgM EC and EM	8 (Minor / Possible) Moderate threat	<ul style="list-style-type: none"> <li>• CEMP</li> <li>• UDL</li> <li>• CLP</li> <li>• WMP</li> </ul>
<b>Community</b>							
Unapproved access to private properties.	Community complaints.	Medium Possible	13 High threat	<ul style="list-style-type: none"> <li>• Implement CEMP, CLP and ECM;</li> <li>• Inductions and toolbox talks; and Hold point – where planned entry into protected or 'no-go' areas.</li> </ul>	Super, FM, PE, COM,, EC and EM	7 (Minor / Unlikely) Low threat	<ul style="list-style-type: none"> <li>• CEMP</li> <li>• CLP</li> <li>• ECM</li> <li>• WMP</li> <li>• Permit to enter protected or 'no-go' areas</li> </ul>

Aspect (Hazard / Risk Issue)	Key Impact (Risk Effect)	Consequence Likelihood	Risk Rating (Before Mitigation)	Mitigation Measures	Responsibility	Risk Rating (after mitigation)	Management Documents
Unexpected service disruptions.	Disruptions to community service lines resulting in complaints.	Medium Possible	13 High threat	<ul style="list-style-type: none"> <li>Permit to Excavate Procedures</li> <li>Community notification of any possible services disruptions.</li> </ul>	Super, FM, PE, COM,, EC and EM	7 (Minor / Unlikely) Low threat	<ul style="list-style-type: none"> <li>CEMP</li> <li>CLP</li> <li>ECM</li> <li>WMP</li> </ul>

## Risk Matrix and Definitions

### Consequence

Consequence	Environmental Impact
<b>Substantial (100)</b>	Permanent widespread ecological damage
<b>Major (70)</b>	Heavy ecological damage, costly restoration
<b>Medium (40)</b>	Major but recoverable ecological damage
<b>Minor (10)</b>	Limited but medium term negative effects
<b>Negligible (1)</b>	Short-term damage

### Likelihood

Likelihood	Description	Probability
Almost certain	This threat can be expected to occur	>75%
Likely	This threat will quite commonly occur	51% - 75%
Possible	This threat may occur occasionally	26% -50%
Unlikely	This threat could infrequently occur	10% - 25%
Rare	This threat may occur in exceptional circumstances	<10%

## Risk Rating Matrix



## Roles

Acronym	Role Description
CM	Construction Manager
COM	Community Manager
DM	Design Manager
EC	Environmental Co-ordinator
EgM	Engineering Manager

Acronym	Role Description
EM	Environmental Manager
FM	Foreman
AM	Alliance Manager
PE	Project Engineer
Super	Superintendent

## Risk treatment options

- Reduce the risk
- Transfer the risk
- Accept the risk
- Reduce the consequences
- Reduce the likelihood

## Environmental Documents

Acronym	Document description
AMP	Asbestos Management Plan
AQMP	Air Quality and Dust Management Sub-plan
CEMP	Construction Environmental Management Plan
CMP	Contamination Management Plan
CHMP	Construction Heritage Management Sub-Plan
ECM	Environmental Control Map
EPL	Environmental Protection Licence
ESCP	Erosion and Sedimentation Control Plan
ESP	Environmental Management Sub-Plans

Acronym	Document description
FFMP	Flora and Fauna Management Sub-Plan
CNVMP	Construction Noise and Vibration Management Sub-plan
PSWMP	Primary Soil and Water Management Plan
SWQMP	Soil and Water Quality Management Plan
UDLP	Urban Design and Landscaping Sub-Plan
WMSP	Waste Management Sub-Plan
WMP	Work Method Plan

# Appendix D: Environmental Incident Classification and Notification Management Procedure

## 1. Purpose and Scope

This Procedure focuses on the response, classification, reporting and investigation of environmental incidents during the delivery of the ETTT Project. Correct incident management ensures events that have harmed or have the potential to harm the environment are effectively and efficiently managed to prevent further harm, the correct reporting is carried out and actions identified to prevent reoccurrence.

This procedure applies to all work areas on the ETTT Project. Immediate tactical spill response (spill assessment, spill management and spill clean-up) is described in detail in **Spill Response Procedure**.

## 2. Induction / training

All construction personnel will become aware of this Procedure during the Project induction process and in more detail as required in toolbox talks. Environmental Staff are to hold an intimate knowledge of this Procedure and the Pollution Incident Response Management Plan (PIRMP) associated with the Project's Environmental Protection Licence (EPL).

## 3. Incident Classification

Further detail regarding incident classification is provided within **Appendix A**.

### 3.1.1 Environmental Issue

An environmental issue is any occurrence or set of circumstances that has the potential to cause or lead to an environmental incident or non-compliance if not rectified.

Environmental issues may be identified during inspections undertaken by an Alliance, TPD representative or Environmental Representative (EMR or ER). Environmental issues identified during inspections will be recorded on Environmental Inspection Actions Form.

### 3.2 Environmental Non-compliance

An environmental non-compliance is a non-compliance with any condition of approval, license condition or any other statutory approval relevant to the activity and/or area where the activity occurs.

Examples of environmental non-compliances are as follows:

- Works without the required planning approval
- Failure to comply with a condition of approval
- Works without the required EPL
- Failure to comply with an EPL condition
- Works undertaken without any other required statutory approval
- Failure to comply with any other statutory requirement that does not result in an adverse environmental impact or pollution

### 3.3 Environmental Incident

An environmental incident is an occurrence or set of circumstances, as a consequence of which pollution (air, water, noise, or land) or an unexpected adverse environmental impact has occurred, is occurring, or is likely to occur.

Adverse environmental impact includes contamination, harm to flora and fauna (either individual species or communities), damage to heritage items and adverse unexpected community impacts.

The requirement to notify regulatory agencies (Section 148) is triggered when an environmental incident has or is threatening to cause environmental harm in accordance with Section 147 of the **Protection of the Environment Operations Act 1997** (POEO Act).

Section 147 states:

(a) harm to the environment is material if:

(i) it involves actual or potential harm to the health or safety of human beings or to ecosystems that is not trivial, or

(ii) it results in actual or potential loss or property damage of an amount, or amounts in aggregate, exceeding \$10,000 (or such other amount as is prescribed by the regulations), and

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

(2) For the purposes of this Part, it does not matter that harm to the environment is caused only in the premises where the pollution incident occurs.

Material harm to the environment could include, but not be limited to:

- pollutant discharge to water;
- spill of chemicals to land;
- unapproved handling of waste;
- clearing of land beyond clearing limits; and
- damage to heritage items.

## 4 Procedure

### 1 Immediate response

The personnel in the immediate vicinity of the incident shall stop work immediately. Personnel shall consider safety hazards created by the incident, and if safe to proceed, apply immediate controls to minimise further harm to the environment. The use of spill containment equipment is encouraged and the use of plant and equipment could also be used to minimise or prevent harm. For spill response, refer to **Spill Response Procedure**.

An overview of the process for environmental incident management is detailed within **Figure 1**.

### 2 Immediate notification

Construction personnel shall notify the incident to their relevant Supervisor who will in turn notify the Environmental Manager or Co-ordinator immediately.

### 3 Classify incident

Upon notification of the incident, the Environmental Manager or the most senior environmental team member is to attend the incident scene to carrying out an assessment to determine if the environmental incident has or is threatening to cause material environmental harm in accordance with Section 147 of the POEO Act.

As a guide to assess if (a) (i) **“health or safety of human beings”** is satisfied the Environmental Manager should consider the following when making a determination (a spill into a watercourse is used here as this type of incident is the most relevant for infrastructure construction):

- Has the spill occurred in a drinking water catchments? Is the risk to human health through ingestion of water is more than negligible?
- Nature of contaminants – Could the spill contain materials that are volatile or organic compounds, sewage or pathogenic material, where the risk to human health through respiratory inhalation, dermal absorption, or viral infection is likely to be more than negligible?
- Has the spill occurred in a catchment where commercial fishing is carried out where the risk to human health through ingestion of contaminants through the consumption of fish, crustaceans or shellfish is likely to be more than negligible?

As a guide to assess if (a) (ii) **“potential or actual harm to ecosystems”** is satisfied the Environmental Manager should consider the following when making a determination:

- Environmental quality and ecosystem diversity – Does the watercourse hold populations of amphibians, fish and aquatic invertebrates that would indicate a good level of ecosystem health?
- Could the amount and nature of the contaminants entering the watercourse as a result of the spill adversely affect any of the above fauna or Endangered Ecological Community (EEC) or Threatened species?
- Has the spill occurred in a catchment that drains to / through a National Park, Conservation Reserve, SEPP 14 or RAMSAR wetland?

**If the answer to any of the questions above is YES then it is possible that environmental harm or potential for environmental harm is NOT trivial and therefore must be notified accordingly to the authorities in accordance with the Project PIRMP.**

LCPL Internal Environmental Incident Classification of severity shall be carried out in accordance with **Table 1**.

## 5 Notify incident

Upon determination that Section 147 has been triggered the Environmental Manager shall immediately notify the relevant Authorities in accordance with Section 148 by telephone call (in the first instance) as detailed in **Appendix B**.

If Section 147 has not been triggered the Environmental Manager shall undertake further internal notifications in accordance with **Appendix B**.

Details of who and when contact is made with the relevant parties / authorities is to be documented.

Project staff are to cooperate with the guidance given by the authorities and assist where possible (though supply of labour or equipment) to combat the pollution caused by the incident.

## 6 Report incident

The Environmental Manager or Environmental Co-ordinator shall report the incident on the incident reporting and management system (LCPL Cintellate & TPD IMS).

Within 7 days of the incident, notification in writing is to be supplied to the relevant authorities (if required).

## 7 Investigate incident

The Environmental Manager shall undertake an incident investigation using the Incident Causation Analysis Method (ICAM) for all incidents where Section 147 has been triggered and other level 1 and 2 incidents. An ICAM investigation should also be undertaken for LCPL classified level one and two environmental incidents.

## 8 Develop incident actions

The Environmental Manager or Discipline Manager shall develop corrective and preventative actions based on the ICAM or other investigation findings and recommendations.

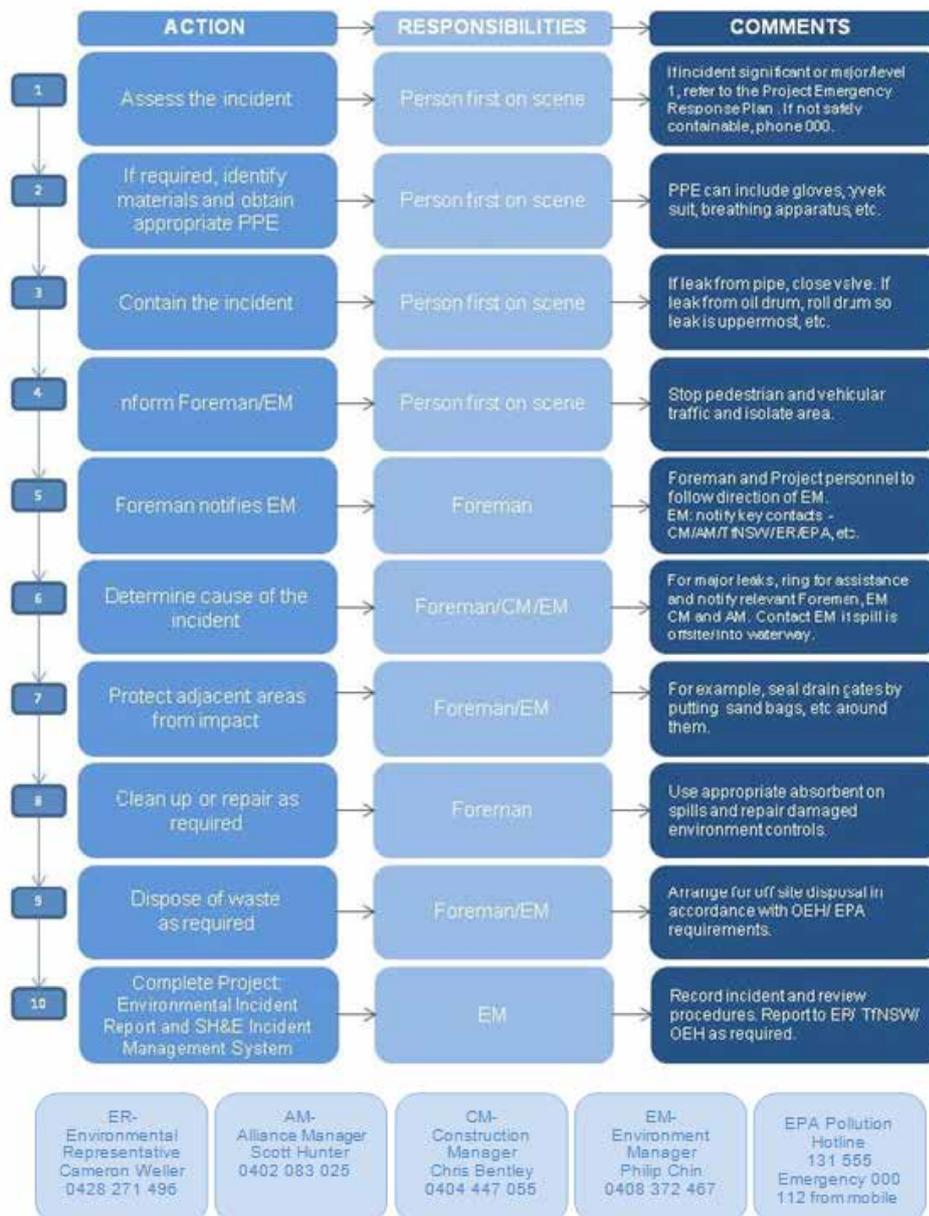
The Environmental Manager shall review the risk register in LCPL ARM to identify new risks, update existing control measures and corresponding risk assessment. In particular, new risks created by new control measures shall be assessed.

Incident actions shall be entered and tracked in LCPL Cintellate.

## 9 Communicate learning's

The Environmental Manager or Discipline Manager shall ensure that incident learning's are communicated to the Project using the communication processes as described in the CEMP (e.g. toolbox talk, incident alert, lessons learnt report). Refer also to Section 2.3 of Appendix B of this Procedure to determine the need for an environmental Alert to be prepared and distributed amongst the business.

Figure 1. Immediate Onsite Environmental Incident Management Response



## Appendix A: Environmental Incident Classification

### Environmental Incident Classification

Type of Impact	Level 4 (Environmental Issue)	Level 3 (Low Severity)	Level 2 (Medium Severity)	Level 1 (High Severity)
A General environmental and social effects - (to be used where other categories do not apply)	An occurrence or set of circumstances that has the potential to cause or lead to an environmental incident or non-compliance if not rectified. This includes events that do not result in any pollution or degradation but could have the potential to result in a Level 1, 2 or 3 incident and therefore presents opportunity for improvement of ETTT Alliance systems.	Pollution or degradation which has short-term (less than one month) and reversible detrimental effects on the environment and/or community.	Pollution or degradation which has persistent (greater than three months) but reversible detrimental effects on the environment and/or community.	Pollution or degradation which has or may have irreversible detrimental effects on the environment and/or community.
B Controlled & uncontrolled discharges to water		<p>Minor pollutant discharge to water. No impact on water resources e.g.</p> <ul style="list-style-type: none"> <li>• discharge from sedimentation basin above allowable limits</li> <li>• uncontrolled discharge of site drainage runoff water.</li> <li>• placement of material in a location where it could potentially result in pollution.</li> </ul>	<p>Major or persistent discharge to water. Short-term impact on water resources e.g.</p> <ul style="list-style-type: none"> <li>• oil spill escapes into stormwater or watercourse</li> <li>• operations cause minor pollution of groundwater in localised area(s)</li> <li>• uncontrolled discharge from sedimentation basin via emergency spillway above allowable limits.</li> </ul>	<p>Major and persistent discharge of pollutant to water outside site or workplace. Major long term impact on water resources e.g.</p> <ul style="list-style-type: none"> <li>• acid drainage run-off from mining operations</li> <li>• tailings dam failure</li> <li>• extensive contamination / pollution of groundwater or water catchment areas.</li> </ul>

Type of Impact	Level 4 (Environmental Issue)	Level 3 (Low Severity)	Level 2 (Medium Severity)	Level 1 (High Severity)
C Contamination of land		Minor spill of hydrocarbons or chemicals: <ul style="list-style-type: none"> <li>no residual contamination of land.</li> <li>spill contained to defined area(s) within site or workplace.</li> <li>no significant cleanup required other than removal of contaminated material to land farm or nominated / approved waste area.</li> <li>spill less than 1000 litres.</li> </ul>	Significant spill of hydrocarbons or chemicals: <ul style="list-style-type: none"> <li>some residual contamination of land.</li> <li>spill contained to defined area(s) within site or workplace.</li> <li>significant cleanup required over and above removal of contaminated material to land farm or nominated / approved waste area.</li> <li>spill greater than 1000 litres.</li> </ul>	Major spill or escape of hydrocarbons or chemicals: <ul style="list-style-type: none"> <li>persistent contamination of land.</li> <li>spill may or may not be contained to defined area(s) within site or workplace.</li> <li>extensive cleanup required.</li> <li>spill greater than 5000 litres from operations or storage into ground.</li> </ul>
D Controlled & uncontrolled emissions to atmosphere		Minor discharge of pollutant to atmosphere outside site or workplace e.g. <ul style="list-style-type: none"> <li>overflow of cement silo, cement dust release</li> <li>no risk to human health.</li> </ul>	Major or persistent release of pollutant to atmosphere outside site or workplace: <ul style="list-style-type: none"> <li>some contained risk to human health.</li> </ul>	Major or persistent discharge of hazardous pollutant to atmosphere outside site or workplace e.g. <ul style="list-style-type: none"> <li>explosion or leak of hazardous gas</li> <li>possible or actual evacuation of local vicinity</li> <li>risk to human health or the environment.</li> </ul>

Type of Impact	Level 4 (Environmental Issue)	Level 3 (Low Severity)	Level 2 (Medium Severity)	Level 1 (High Severity)
E Noise, dust, vibration & odour		<p>Generation of dust, noise, vibration or odour causing periodic inconvenience or disruption to community and the environment, e.g.</p> <ul style="list-style-type: none"> <li>Occasional breach of noise restrictions outside approved hours e.g. concrete pour takes longer than planned.</li> </ul>	<p>Generation of dust, noise, vibration or odour causing sustained periods of inconvenience or disruption to community and the environment, e.g.</p> <ul style="list-style-type: none"> <li>Sustained generation of dust with inadequate dust suppression, causing nuisance or local hazard.</li> <li>Sustained breach of noise restrictions outside approved hours e.</li> </ul>	<p>Generation of dust, noise, vibration or odour causing damage to property outside site or workplace, the environment or human health, e.g.</p> <ul style="list-style-type: none"> <li>Noise generated causes damage to hearing and human health</li> <li>Non-contained hazardous dust generation, e.g. asbestos dust with potential long term damage to human health</li> <li>Vibration causes damage to property.</li> </ul>
F Solids & other wastes		<p>Unapproved storage, transport, treatment or disposal of a minor quantity (205 lt, 200 Kg or 0.2 M3) of non-hazardous waste (solid or other), easily removed to an appropriate location.</p>	<p>Unapproved storage, transport, treatment or disposal of a significant quantity (10,000 lt, 10 tonnes or 10.0 M3) of non-hazardous waste or minor quantity (205 lt, 200 Kg or 0.2 M3) of hazardous waste (solid or other), easily removed to an appropriate location.</p>	<p>Unapproved storage, transport, treatment or disposal of a significant quantity (10,000 lt, 10 tonnes or 10.0 M3) of hazardous waste (solid or other) not easily removed to an appropriate location.</p>

Type of Impact	Level 4 (Environmental Issue)	Level 3 (Low Severity)	Level 2 (Medium Severity)	Level 1 (High Severity)
G Effects on the natural environment		<p>Minor loss or impact on land or water based flora, fauna &amp; habitat, but no negative effect on the ecosystem. Limited damage to an area of land of no ecological significance e.g.</p> <ul style="list-style-type: none"> <li>• Death of a native animal or species, that is not identified as abundant or a pest</li> <li>• Accidental felling of a tree</li> <li>• Over clearing of an area that is not native bush.</li> </ul>	<p>Medium impact on land or water based flora, fauna and habitat. Short-term impact on ecosystem. Damage that can be remediated e.g.</p> <ul style="list-style-type: none"> <li>• Partial destruction of native habitat leading to impact on local species numbers or disruption to breeding cycles</li> <li>• Short-term disruption of protected fauna breeding cycle.</li> </ul>	<p>Major loss or impact on land or water based flora or fauna. Destruction of ecologically significant habitat. Endangering viability of species, habitat or ecosystem. Damage that cannot be remediated without risk of long-term loss e.g.</p> <ul style="list-style-type: none"> <li>• Destruction of habitat in a national park</li> <li>• Death of an animal or species that is in danger of extinction.</li> <li>• Disruption of protected fauna-breeding cycle for an entire season.</li> </ul>
H Archaeological, heritage or cultural issues		<p>Minor repairable damage to commonplace structures, or minor infringement of cultural values.</p>	<p>Damage to structures / items of cultural / heritage significance, or significant infringement of cultural values / sacred locations.</p>	<p>Destruction or irreparable damage to highly valued structures / items / locations of cultural or heritage significance or value.</p>

Type of Impact	Level 4 (Environmental Issue)	Level 3 (Low Severity)	Level 2 (Medium Severity)	Level 1 (High Severity)
I Use of land, water, fuels & energy, and other natural resources		<p>Operations cause temporary unplanned disruption to the availability of resources to the community or the environment. Minor impact on other energy / natural resource users outside site or workplace e.g.</p> <ul style="list-style-type: none"> <li>• Short-term loss of water or power supply.</li> </ul>	<p>Operations cause substantial unplanned disruption to the availability of resources to the community or the environment. Significant impact on other energy / natural resource users outside site or workplace e.g.</p> <ul style="list-style-type: none"> <li>• Water usage / de-watering by operations causes loss of pressure or flow to local / adjacent water bores</li> </ul>	<p>Operations cause persistent unplanned disruption to the availability of resources to the community or the environment. Exhaustion or serious degradation of natural resources for future use e.g.</p> <ul style="list-style-type: none"> <li>• Mining activities cause acid drainage run-off &amp; subsequent deforestation of surrounding land</li> <li>• Operations cause loss of flow in natural watercourses</li> <li>• Operations cause water-table to rise increasing salinity problem e.g. unusable grazing pasture.</li> </ul>
J Legal		<ul style="list-style-type: none"> <li>• Minor licence non-compliance or nonconformance</li> </ul>	<ul style="list-style-type: none"> <li>• Possible or potential serious breach of regulation or licence conditions</li> <li>• Possible on-the-spot fine and/or Regulatory Authority notification with possible prosecution.</li> </ul>	<ul style="list-style-type: none"> <li>• Major breach of regulation identified and/or serious incident notification</li> <li>• Investigation by Regulatory Authority with actual or potential prosecution and/or significant financial penalties against company and/or individuals.</li> </ul>

Type of Impact	Level 4 (Environmental Issue)	Level 3 (Low Severity)	Level 2 (Medium Severity)	Level 1 (High Severity)
K Public / media		<ul style="list-style-type: none"> <li>Public concern restricted to repeated local complaints.</li> </ul>	<ul style="list-style-type: none"> <li>May attract attention from local media and/or heightened concern by local community</li> <li>Negative attitudes towards company – calls for action by Regulatory Authorities.</li> </ul>	<ul style="list-style-type: none"> <li>Probable public or media attention with national or international coverage</li> <li>Significant actual or potential damage to reputation</li> <li>Lobbying of State and/or Federal Governments for action against company.</li> </ul>
L Total Cost (\$) - fines, remedial action,  lost time, legal costs, liabilities etc.		< \$10,000	> \$10,000 - < \$50,000	> \$50,000

# Appendix B: Environmental Incident Notification

## 1 Environmental Incident Notification

### 1.1 Description

This process defines the internal & external notification requirements for environmental incidents within specified timeframes on the ETTT Project.

This encompasses seven scenarios: Actual Class 1 (A1), Potential Class 1 (PC1), Actual Class 2 (A2), Potential Class 2 (PC2), Actual Class 3 (A3), Potential Class 3 (PC3) and Environmental Issue (A4). These notifying obligations apply for any Employees, Subcontractors, Visitors or third parties that may be involved in a significant environmental incident. The six scenarios are defined in Table 1 below.

**NOTE: Section 147 could be triggered for any level / Class incident classification.**

Table 1. Definition of Incident Scenarios

Incident classification	Environment
<b>Level/Class 1 Incidents</b>	
Actual Class 1 (A1)	Pollution or degradation which has caused or may have irreversible detrimental effects on the environment and/or community.
Potential Class 1 (PC1)	Incident with potential to cause an A1
<b>Level/Class 2 Incidents</b>	
Actual Class 2 (A2)	Pollution or degradation which has persistent (greater than three months) but reversible detrimental effects on the environment and/or community.
Potential Class 2 (PC2)	Incident with potential to cause an A2
<b>Level/Class 3 Incidents</b>	
Actual Class 3 (A3)	Pollution or degradation which has short-term (less than one month) and reversible detrimental effects on the environment and/or community.
Potential Class 3 (PC3)	Incident with potential to cause an A3
<b>Level/Class 4 Incidents (Environmental Issues)</b>	
Class 4 (A4)	An occurrence or set of circumstances that has the potential to cause or lead to an environmental incident or non-compliance if not rectified. This includes events that do not result in any pollution or degradation but could have the potential to result in a Level 1, 2 or 3 incident and therefore presents opportunity for improvement of ETTT Alliance systems..

## 2 Environmental Incident and Non-compliance Reporting Requirements

All environmental incidents, non-compliances and issues must be reported to TPD.

The environmental incident reporting procedure is detailed in Tables 2A -2D, which includes requirements for verbal notification, recording the incident in TPD’s Incident Management System (IMS) and notification to the regulatory authorities for a notifiable event.

### 3.3 Verbal Notification

The TPD Environment and Planning Manager (EPM) and Environmental Representative must be notified verbally immediately after the alliance/contractor becomes aware of the incident (Level 3 and above) or non-compliance. The EPM or Senior Manager Environment (SME) shall provide advice to the Alliance Environmental Manager on the classification of the incident/non-compliance and whether notification to any regulatory authority is required.

## 2.2 Reporting

The IMS is accessed via <https://tfnsw.inxsoftware.com>. Details of the incident are to be recorded in the TPD IMS within 48 hours of the incident/non-compliance first being observed.

**Table 2A Incident Notification Procedure – A1 Incidents**

Notification to	Notification by	Timeframe (Within)	'Notification to' Contact Detail (Phone & e-mail)
Area/Discipline Manager	Field Supervisor	Immediately	Andy Naylor – 0411254183 David Ryder – 0412396249
Environmental Manager	Area/Discipline Manager	Immediately	Reece Wilkie – 0409 485 286
Construction Manager	Environmental Manager	Immediately	Tony Pruscino – 0433 426 342
Project Director	Construction Manager	Immediately	Scott Hunter – 0402 083 025
TPD – Environment & Planning Manager	Environmental Manager	Immediately	Pip Hendy – 0498886616 <b>If Pip cannot be reached:</b> Tim Stubbs – 0431 116 436
Environmental Rep	Environmental Manager	Immediately	Cameron Weller – 0428 271 496
LCPL Branch Environmental Manager	Environmental Manager	1 hour	Michelle Nation – 0427 700 269
BU - Operations Manager	Project Director	1 hour	Julian Sharp – 0437638398
General Manager – Rail BU	Project Director	1 hour	Glen Mace - 0429 929 311
Group Manager SHE	General Manager – Rail BU	1 hour	Robert Duvel – 0411131994
Executive GM	Group Manager SHE	1 hour	John Kirkwood
Managing Director	Group Manager SHE	1 hour	Roman Garrido Sanchez
General Counsel	Branch GM	2 hours	Jean-Paul Wallace
<b>If Section 147 of POEO Act is triggered</b>			
External agencies, as required	Environment Manager	Immediately following classification	EPA – 131 555 Ministry of Health – 1300 066 055 Work Cover – 131050 Hornsby Council – 9847 6666 Fire and Rescue – 1300 729 579 DoP Heritage Branch – 02 9873 8500

**Table 2B Incident Notification Procedure – PC1 and A2 Incidents**

Notification to	Notification by	Timeframe (Within)	'Notification to' Contact Detail (Phone & e-mail)
Area/Discipline Manager	Field Supervisor	Immediately	Andy Naylor – 0411254183 David Ryder - 0412396249
Environmental Manager	Area/Discipline Manager	Immediately	Reece Wilkie – 0409 485 286
Construction Manager	Environmental Manager	Immediately	Tony Pruscino – 0433 426 342
Project Director	Construction Manager	Immediately	Scott Hunter – 0402 083 025
TPD –Environment & Planning Manager	Environmental Manager	Immediately	Pip Hendy- 0498886616  <b>If Pip cannot be reached:</b> Tim Stubbs – 0431 116 436
Environmental Rep	Environmental Manager	Immediately	Cameron Weller – 0428 271 496
LCPL Branch	Environmental Manager	1 hour	Michelle Nation – 0427 700 269
Environmental Manager			
Lend Lease NSW	Environmental Manager	1 hour	Chris Bourne - 0420 996 257
Environmental Manager			
BU - Operations Manager	BU - Operations Manager	1 days	Julian Sharp – 0437638398
General Manager – Rail BU	General Manager – Rail BU	1 days	Glen Mace - 0429 929 311
<b>If Section 147 of POEO Act is triggered.</b>			
External agencies, as required	Environment Manager	Immediately following classification	EPA – 131 555 Ministry of Health – 1300 066 055 Work Cover - 131050 Hornsby Council – 9847 6666 Fire and Rescue – 1300 729 579 DoP Heritage Branch – 02 9873 8500

**Table 2C Incident Notification Procedure – PC2, A3 and PC3 Incidents**

Notification to	Notification by	Timeframe (Within)	'Notification to' Contact Detail (Phone & e-mail)
Area/Discipline Manager	Field Supervisor	Immediately	Andy Naylor – 0411254183 David Ryder - 0412396249
Environmental Manager	Area/Discipline Manager	Immediately	Reece Wilkie – 0409 485 286
Construction Manager	Environmental Manager	Immediately	Tony Pruscino – 0433 426 342
Project Director	Construction Manager	Immediately	Scott Hunter – 0402 083 025
TPD –Environment & Planning Manager	Environmental Manager	Immediately	Pip Hendy- 0498886616  <b>If Pip cannot be reached:</b> Tim Stubbs – 0431 116 436
Environmental Rep	Environmental Manager	Immediately	Cameron Weller – 0428 271 496
LCPL Branch	Environmental Manager	1 hour	Michelle Nation – 0427 700 269
Environmental Manager			
Lend Lease NSW	Environmental Manager	1 hour	Chris Bourne - 0420 996 257
Environmental Manager			

Table 2D Incident Notification Procedure – AC4 Incidents (Environmental Issue)

Notification to	Notification by	Timeframe (Within)	'Notification to' Contact Detail (Phone & e-mail)
Area/Discipline Manager & Environmental Coordinator	Field Supervisor	1 hour	Andy Naylor – 0411254183 David Ryder - 0412396249
Environmental Manager	Area/Discipline Manager & Environmental Coordinator	1 hour	Reece Wilkie – 0409 485 286
Construction Manager	Environmental Manager	8 hours	Tony Pruscino – 0433 426 342
Project Director	Construction Manager	2 days	Scott Hunter – 0402 083 025
TPD –Environment & Planning Manager	Environmental Manager	Report during Weekly Inspection	Pip Hendy- 0498886616 <b>If Pip cannot be reached:</b> Tim Stubbs – 0431 116 436
Environmental Rep	Environmental Manager	Report during Weekly Inspection	Cameron Weller – 0428 271 496

### 2.3 Determine Requirement for SHE Alert

Accountability: Environmental Manager

Consult with Regional / Business Unit SHE Manager to determine if a Deliverable: SHE Alert is required to be developed and distributed. Refer to figure below for guidance.

Incident Classification		Safety & Health	Class 1 (C1)	Elevated PC1 (EPC1)	Potential Class 1 (PC1)	Class 2 (C2) + below
		Environment	Level 1 (L1)	Refer to Potential Level 1	Potential Level 1	Level 2 + below
			▽		▽	▽
ACTIONS	1. SHE Alert - Drafted		Subject to Legal Privilege and General Counsel review	Within 48 hours of incident		If requested – within 5 days of incident
	2. Alert – Finalised & Approved			Within 72 hours of incident		
	3. SHE Intranet Updated			Within 24 hours of Alert approval		Within 48 hours of 'finalised' Alert
	4. Communicated on site			Within 48 hours of Alert approval		