

Wickham Transport Interchange Project

Construction Environmental Management Plan

Project Name	Wickham Transport Interchange
Location:	Newcastle, NSW
Project Number	G85
Client	Transport for NSW (TfNSW)
LOR Document Number	WTI-LOR-PMP-0014

Issued By:

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Authorised By:

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Signed:

James Pearce

Date:

01 August 2017

Revision	Date of Issue	Details
01	10 Feb 2015	Internal - comment and review
02	16 Feb 2015	Issued to TfNSW for review
03	13 Mar 2015	Issue incorporating TfNSW comments
04	14 Apr 2015	Issue incorporating TfNSW comments
05	21 Oct 2015	Periodic Review
06	25 Nov 2015	Issue incorporating TfNSW comments
07	03 Jun 2016	Periodic Review
08	17 Jan 2017	Periodic Review
09	01 Aug 2017	Periodic Review

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Register of Changes – Rev 09

Page / Reference	Details
Section 3	Distribution Policy
Section 12.3	Pre Operational Compliance Report Added
Appendix 3	Risk Assessment Review
Appendix 5	Environmental Control Maps
Appendix 11	Organisation Chart

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Terms and Definitions

The following terms, abbreviations and definitions are used in this document:

Terms	Explanation
ASRIS	Australian Soil Resources Information System
ASS	Acid Sulphate Soils
BSP	Bulk Supply Point
CEMP	Construction Environmental Management Plan
CoA	Conditions of Approval
CWG	Compliance Working Group
ECM	Environmental Control Map
EIS	Environmental Impact Statement
EMR	Transport for NSW's Environmental Management Representative
EMS	Environment Management System
ENM	Excavated Natural Material
EP and A Act	Environmental Planning and Assessment Act 1979
EPA	Environment Protection Authority
EPBC Act	Commonwealth Environment Protection and Biodiversity Conservation Act 1999
EPL	Environment Protection License
ERAPs	Environmental Risk Action Plans
GLT	Ground Level Troughing
GST	Galvanised Steel Troughing
HDD	Horizontal Directional Drilling
ISCA	Infrastructure Sustainability Council of Australia
JSEA	Job Safety Evaluation and Assessment
km	Kilometre
kV	Kilovolt
LEP	Local Environmental Plans
LGA	Local Government Area
LORAC	Laing O'Rourke Australia Construction Pty Limited
m	Metres
NES	National Environmental Significance (Matters of)
NSW OEH	New South Wales Office Of Environment And Heritage
OEH	Office of Environment and Heritage
OHEW	Overhead Earth Wire
OOHW	Out of Hours Works
OOHWAA	Out of Hours Works Assessment and Application
PER	Project Environmental Representative
PER	Project Environmental Representative
PMEM	TfNSW Principal Manger Environmental Management –or Environment and Planning Manager (EPM)
POEO Act	Protection of the Environment Operations Act 1997
PSU	Power Supply Upgrade
REF	Review of Environmental Factors
RMS	Roads And Maritime Services
SDG	TfNSW's Sustainable Design Guidelines
SDS	Safety Data Sheet
SEPP	State Environmental Planning Policy
SoW	Scope of Works
SWMS	Safe Work Method Statement

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Terms	Explanation
TCP	Traffic Control Plan
TfNSW	Transport for New South Wales
TMP	Traffic Management Plan
UG	Underground
ULX	Underline Crossing
VENM	Virgin Excavated Natural Material
VTA	Visual Tree Assessment
WTI	Wickham Transport Interchange

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1 Purpose

Environmental management is a core business value for Transport for New South Wales (TfNSW), Laing O'Rourke Australia (LORAC).

This plan will be used to implement the Environmental Management System (EMS) of Laing O'Rourke, supported by key elements from TfNSW Environmental Management System as detailed in this Construction Environmental Management Plan (CEMP).

LORAC implements its Environmental Management System (EMS) on all projects across the group and the system has been continuously certified to ISO 14001 by SAI Global since 1997.

The LORAC EMS includes risk assessment, stakeholder consultation, operational controls, training and induction, compliance reviews, emergency response and incident management, audit, design risk and opportunities, and legal compliance. These issues are addressed through the development of site specific Construction Environmental Management Plans.

The CEMP includes the necessary systems elements to satisfy the requirements of ISO 14001, with detail on the environmental risks and control measures to address legislation, statutory compliance requirements and TfNSW's specific requirements.

During the development of the CEMP an assessment of TfNSW's requirements, statutory requirements such as review of environmental factors (REF), environmental protection licence (EPL) and statutory permits requirements is undertaken. Where relevant to construction activities, TfNSW requirements are addressed and associated control measures are incorporated into the CEMP and specific mitigation strategies developed.

The REF for the Wickham Transport Interchange Project has been prepared in accordance with the requirements of the Environmental Planning and Assessment Act 1979 (EP&A Act) and the Environmental Planning and Assessment Regulation 2000 (EP&A Regulation). For the purposes of these works, TfNSW was the proponent and a determining authority under Part 5 of EP&A Act.

For the Wickham Transport Interchange Project, this CEMP has been specifically developed to:

- Ensure that the project meets contractual, legal and other environmental requirements including industry codes of practice.
- Comply with the TfNSW Environmental Management documents and associated procedures.
- Comply with the relevant requirements of the project REF.
- Develop alignment with TfNSW's environmental objectives and targets for the project and ensure their implementation.
- Ensure that the needs and expectations of TfNSW are addressed.
- Provide a link between the LORAC's corporate Environmental Management System and the Project's Environmental Management System.
- Manage environmental risk through a set of Environmental Risk Management Plans.
- Provide all LORAC personnel with systems, procedures and documentation necessary to undertake the construction of this project with environmental requirements and to minimise the impact on the natural environment.
- Meet the requirements of ISO 14001 including the need for continual improvement.

The CEMP has been developed with careful consideration with existing management plans to set the direction in which the project is moving and support the achievement of other management plans. The CEMP plays a vital role in the achievement of LORAC's wider strategic and operational objectives on the Wickham Transport Interchange Project.

The CEMP provides the high level governance framework for environmental management on the project and is supported by a number of issue specific Sub-plans, Environmental Risk Action Plans (ERAPs) and related documents. The figure below outlines the relationship between the project specific environmental requirements and the CEMP and associated plans and support documentation on the project.

This CEMP and the associated plans are for the environmental management of the Wickham Transport Interchange Project only. Any other works, including the Newcastle Light Rail Project, that occur within the Wickham Transport Interchange Project boundary or on the interface of that boundary must be managed by that other project.



Sub-plan	Location
Environmental Risk Action Plans	Appendix 4 of this document
Environmental Control Maps & Erosion and Sediment control Plan	Appendix 5 of this document
Pollution Incident Response Management Plan	Appendix 6 of this document
Construction Noise and Vibration Management Plan	Appendix 13 of this document
Heritage Management Plan	Appendix 15 of this document
Traffic Management Plan	Appendix 16 of this document
Construction Waste Contamination and Hazardous Material Management Plan	Appendix 17 of this document
Acid Sulphate Soils Management Plan	Appendix 22 of this document
Air Quality Management Plan	Appendix 23 of this document

2 Scope

This plan applies to the construction and commissioning phase (to the extent where LORAC is responsible) of the Wickham Transport Interchange Project (WTI). The Project Site is shown in Figure 1.

This CEMP has been developed in compliance with TfNSW's requirements and LORAC's environmental management system.

This plan applies to the construction phase of the Wickham Transport Interchange project.

The project site is located in the suburbs of Hamilton, Wickham and Islington in the City of Newcastle local government area (LGA). The project site is located on the edge of the Newcastle city centre, about two kilometres to the west of the Hunter Street Mall. The site surrounds the rail corridor and extends from just to the north-west of Hamilton Station to just to the east of Stewart Avenue, Wickham.

This Laing O'Rourke Australia Construction Pty Limited (LORAC) CEMP has been developed for the Construction phase of the project, in compliance with the Client's requirements and LORAC's environmental management system.

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The Laing O'Rourke works comprise of;

- Constructing a new train stabling yard between Hamilton Station and the Maitland Road Bridge.
- Constructing a new station at Wickham and transport interchange for heavy rail, kiss and ride, and taxis to the west of Stewart Avenue.

To continue operating the rail network to the west of the new station at Wickham, a number of modifications to rail infrastructure and services between the new station and Hamilton Station would also be required, including:

- Constructing and operating a new head shunt rail track, about 700 metres in length, between the Maitland Road overbridge and new station at Wickham
- Installing new crossovers and turnouts to facilitate the movement of trains between the three rail tracks
- Ancillary infrastructure, including power supply, signalling and overhead wiring.

Some modifications to the road network would also be required, including works on Station Street to accommodate the third platform of Wickham Interchange together with parking for taxis and a kiss and ride.

The interchange design makes allowance for the future provision of light rail. The Newcastle Light Rail project will be subject to a separate environmental impact assessment/planning approval process and is not considered in this document.

The CEMP must comply with a number of conditions specified in the CoA and the TSR E. The following table indicates where these items have been addressed.

CoA 15 Construction Environmental Management Plan	Addressed in Section
The Proponent shall prepare a CEMP prior to commencement of construction which addresses the following matters:	
• traffic and pedestrian management (in consultation with the relevant roads authority)	Traffic Management Plan (Appendix 16) & ERAPs (Appendix 4)
• noise and vibration management, including TfNSW's Construction Noise Strategy and EPA's Interim Construction Noise Guideline (July 2009)	Noise and Vibration Monitoring Plan (Appendix 13) & ERAPs (Appendix 4)
• water and soil management including TfNSW's Water Discharge and Reuse Guidelines (7TP-ST-146)	ERAPs (Appendix 4)
• air quality management (including dust suppression)	ERAPs (Appendix 4)
• indigenous and non-indigenous heritage management	Heritage Management Plan (Appendix 15) & ERAPs (Appendix 4)
• flora and fauna management	Bat Management Plan (Appendix 18) & ERAPs (Appendix 4)
• storage and use of hazardous materials	ERAPs (Appendix 4)
• contaminated land (including acid sulphate soils)	Construction Waste, Contamination and Hazardous Material Management Plan (Appendix 17) & ERAPs (Appendix 4) & Acid Sulphate Soils Management Plan (Appendix 22)
• weed management	ERAPs (Appendix 4)
• waste management	Construction Waste, Contamination and Hazardous Material Management Plan (Appendix 17) & ERAPs (Appendix 4)
• light spill	ERAPs (Appendix 4)
• sustainability initiatives	Pre-construction sustainability Plan & ERAPs (Appendix 4)
• environmental incident reporting and management procedures including TfNSW's Environmental Incident Classification and Reporting Procedure (9TP-PR-105)	Pollution Incident Response Management Plan (Appendix 5) and Section 18.0 Incidents, Complaints, Corrective and Preventative Action
• non-compliance and corrective/preventative action procedures	Section 18.0 Incidents, Complaints, Corrective and Preventative Action
The CEMP shall:	
• comply with the conditions of approval, conditions of any licences, permits or other approvals issued by government authorities for the Project, all relevant legislation and regulations, and accepted best practice management	Appendix 2 - Legal and Other Requirements & Appendix 8 Project Permit and Licenses Register
• be prepared in accordance with the Guideline for Preparation of Environmental Management Plans (Department of Infrastructure, Planning and Natural Resources, 2004)	Section 5.0 References, Standards, Codes and Regulations

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TSR E Item 3.1 CEMP Requirements	Addressed in Section
<p>The Contractor must have submitted to the Principal's Representative for review in accordance with the Contract, maintain and consistently apply until Final Completion a project and site-specific Construction Environmental Management Plan or CEMP that covers all the work necessary for the Contractor to fulfil its environmental obligations under the Contract. The timing for the initial submission of the CEMP to the Principal's Representative for review in accordance with the requirements of the Contract is nominated in Annexure A of the TSR E.</p>	<p>This document</p>
<p>The Contractor must progressively review, monitor, amend, update the CEMP and submit for review in accordance with Annexure A of this TSR E.</p>	<p>Section 3.1 Issue, Revision and Re-issue</p>
<p>The CEMP(s) must comply with the "NSW Government Environmental Management System Guidelines" and be consistent with the requirements of the Contract.</p>	<p>Section 5 References, Standards, Codes and Regulations</p>
<p>The Contractor must regularly review and update the CEMP(s) and implement additional environmental protection measures if the protection measures in the CEMP(s) are not adequate to achieve compliance with the environmental obligations under the Contract.</p>	<p>Section 3.1 Issue, Revision and Re-issue</p>
<p>The CEMP(s) must address, and be consistent with, all Authority Approvals (including the conditions imposed on these) and the Environmental Assessment (being the environmental assessment report, Environmental Impact Statement or Review of Environmental Factors), and must address all aspects and impacts identified in the Environmental Risk Assessment (refer also to clause 3.3).</p>	<p>ERAPs (Appendix 4) and other Management Plans</p>
<p>The CEMP(s) must include a matrix or equivalent outlining how the Contractor's EMS and CEMP address the requirements of this TSR E, the Authority Approvals and any other relevant Contract requirements.</p>	<p>Section 13 System Documentation and this table</p>
<p>The CEMP must:</p>	
<ul style="list-style-type: none"> • indicate the names, responsibilities and authorities of the site management personnel for implementing the CEMP, monitoring its effectiveness, providing environmental input to design, rectifying any environmental deficiencies and keeping environmental records; and 	<p>Section 8 Responsibilities and Authorities</p>
<ul style="list-style-type: none"> • nominate a member of the site management team as the Contractor's environmental representative who: 	
<ul style="list-style-type: none"> • has the responsibility and authority to ensure that an Environmental Management System is established, implemented and maintained in accordance with the Contract; 	<p>Section 8 Responsibilities and Authorities</p>
<ul style="list-style-type: none"> • reports to the Contractor's senior management; and 	<p>Section 8 Responsibilities and Authorities</p>
<ul style="list-style-type: none"> • will be the authorised contact person for the Principal and relevant Authorities for all environment related issues. 	<p>Section 8 Responsibilities and Authorities</p>

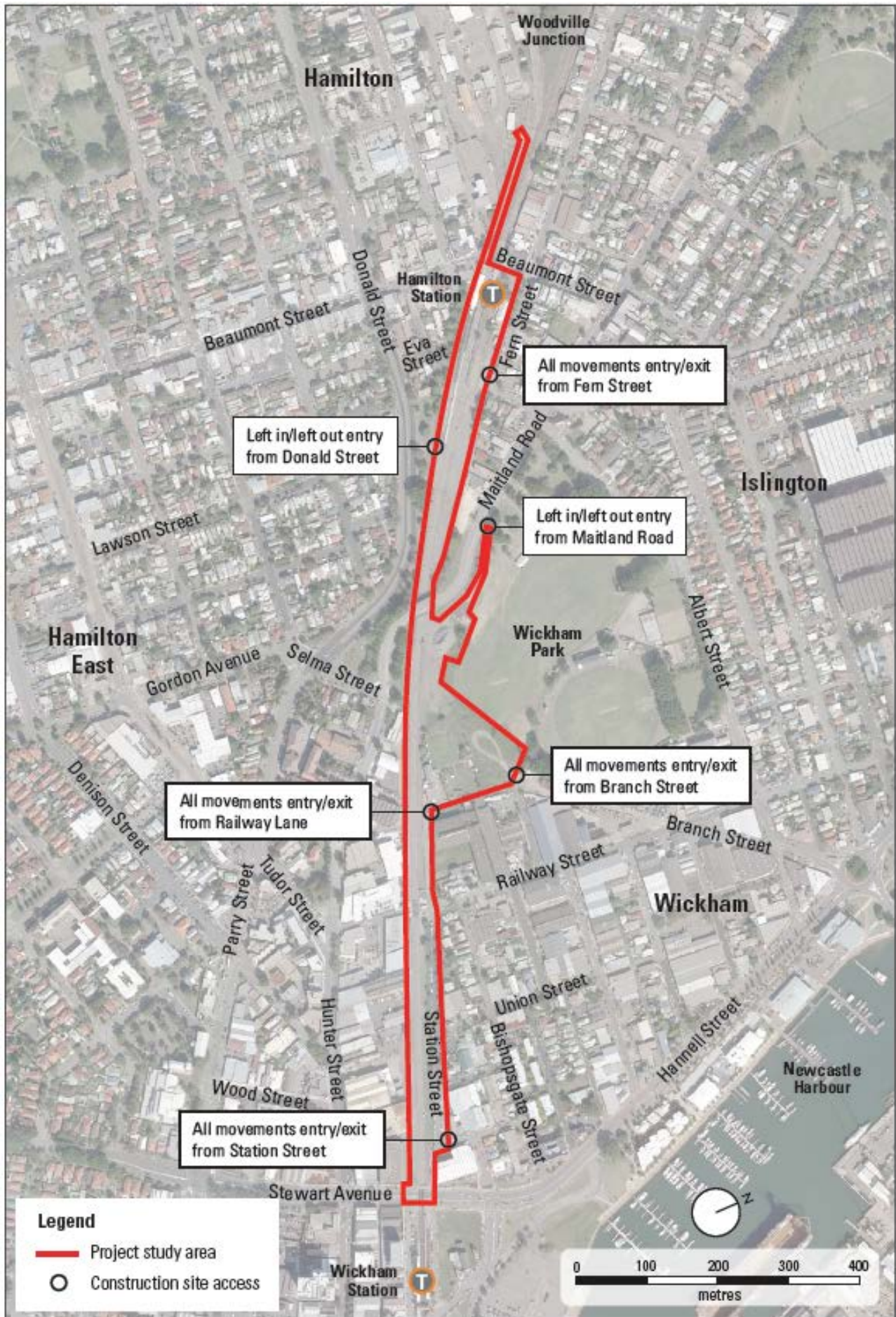


Figure 1 Wickham Transport Interchange Project Area. Source Wickham Transport Interchange REF (GHD, 2014)

2.1 Construction Hours and Out of Hours Works

Construction hours as per the CoA and the EPL are;

- 7am to 6pm Monday to Friday
- 8am to 1pm Saturdays

Any works outside of these hours must be approved by the PER and PL and, depending on noise levels generated, may require mitigation measures. The Out of Hours Assessment and Application Procedure can be found in Appendix 14.

2.2 Environmental Controls and Mitigation

A number of Environmental Risk Action Plans (ERAPs) and plans have been developed in accordance with the requirements of the Conditions of Approval (CoA) and to manage the significant environmental issues identified for this stage of the Project (Stage 2 - main works):

ERAPs have been developed and included in Appendix 4:

- Noise and Vibration
- Dust and Air Quality
- Waste
- Water Quality, Site Drainage and Erosion and Sediment Control
- Traffic Management
- Hazardous and Contaminated Land / Soil / Material
- Lighting
- Greenhouse gas emissions
- Advertising and Graffiti
- Indigenous and Non-indigenous Heritage
- Concrete Washout
- Delivery and Storage of Chemicals and Fuels (including Dangerous Goods)
- Flora and Fauna Management

3 Distribution Policy

The master 'controlled' CEMP document will be held within the Project's document management system where it can be accessed by personnel as necessary.

All paper copies of this CEMP will be considered as 'uncontrolled' unless they have been allocated a 'copy number' in a colour other than black.

Where required, controlled copies of this CEMP will be published as a hard copy, allocated a copy number (colour other than black), and distributed as follows:

Copy No.	Issued To
01	Project Leader – James Pearce
02	Project Environmental Representative – Daniel Keegan
03	TfNSW Planning and Environment Manager – Timothy Renshaw

The personnel to whom these copies have been issued will be sent amendments as they occur, and it is their responsibility to discard superseded pages and insert new pages.

3.1 Issue, Revision and Re-issue

The initial issue of this plan has been reviewed by the Business Unit Environmental Manager to ensure it meets the requirements of the current Environmental Management System and policy, contract, specifications and standards. The plan is approved for use on the project by the Project Leader. Evidence of initial review and approval is by signatures on the cover sheet.

Revisions of this CEMP may be required throughout the duration of the project to reflect changing circumstances or identified deficiencies.

Revisions may result from:

- Management Review
- Audit (either internal or by external parties)
- Client complaints or non-conformance reports
- Changes to LORAC's standard system
- Changes to legislation or legal requirements

Revisions shall be reviewed and approved by the Project Leader prior to issue. Updates to this plan are numbered consecutively and issued to holders of controlled copies.

4 Environmental System

Laing O'Rourke Australia Construction Pty Limited operates an environmental system compliant with AS/NZS ISO 14001.

The Company is currently certified (No. C10086) with SAI Global.

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

- TfNSW requirements as detailed in the Contract;
- Laing O'Rourke Australia Construction Pty Limited Environmental System as detailed in [Environment](#) on iGATE;
- ISO 14001 Environmental Management System;
- The Development Conditions of Approval; and
- All legal requirements

This Plan references relevant parts of LORAC's environmental management system and incorporates the additional elements necessary to satisfy TfNSW's environmental system requirements.

5 References, Standards, Codes and Regulations

This CEMP was prepared in accordance with the Guideline for Preparation of Environmental Management Plans (Department of Infrastructure, Planning and Natural Resources, 2004).

The CEMP was developed in line with the LORAC Environmental Management System.

The CEMP references the Wickham Transport Interchange Review of Environmental Factors (GHD, 2014).

The project will be constructed in accordance with relevant standards, codes, acts and regulations. Appendix 2 provides a register of applicable legislative instruments relevant to the project.

Access to the latest Australian standards is available via the through iGATE. A link to the website is provided in the Rules and Process – Quality and Process drop down menus.

The works will be undertaken in accordance with relevant TfNSW guidelines, including but not limited to;

- TfNSW Air Quality Management Guideline 9tp-sd-107
- TfNSW Chemical Storage and Spill Response 9tp-sd-066
- TfNSW Concrete Washout Guideline 3tp-sd-112
- TfNSW Construction Noise Strategy 7tp-st-157
- TfNSW Environmental Incident Reporting Classification and Reporting 9tp-pr-105
- TfNSW Fauna Management Guideline 3tp-sd-113
- TfNSW Greenhouse Gas Inventory Guide for Construction Projects 7tp-st-035
- TfNSW Guide to Environmental Incident Reporting using the IMS 9tp-sd-005
- TfNSW NSW Sustainable Design Guidelines 7tp-st-114
- TfNSW Unexpected Heritage Finds Guideline 3tp-sd-115
- TfNSW Vegetation Management (Protection and Removal) Guideline 9tp-sd-111
- TfNSW Vegetation offset guide 9tp-st-149
- TfNSW Water Discharge and Reuse Guideline 7tp-st-146
- TfNSW Weed Management and Disposal Guideline 3tp-sd-110

6 Policy

Laing O'Rourke maintains an Environmental Policy and a Sustainability Policy, these will be:

- Displayed at prominent locations on the project site
- Communicated to site personnel during induction and training
- Made accessible to TfNSW and concerned / interested members of the public

All personnel associated with the project including subcontractors must comply with the spirit and intent of the policies.



ENVIRONMENTAL POLICY.
EFFECTIVE DECEMBER 2015

1

ENVIRONMENTAL

Laing O'Rourke is committed to the protection and enhancement of the environment. High environmental performance is an ongoing priority and is achieved by our actions in line with this policy. This policy sits alongside our Sustainability policy and Supply Chain policy as part of our global policy framework, underpinned by our Global Code of Conduct.

Our goal is to minimise the negative impacts of our operations and maximise the quality of the built environment for future generations. Through innovation and application of leading practice, we aim to steer the industry to design a sustainable and high-quality built environment with as little environmental impact as possible through the whole asset life-cycle.

Our goal will be realised by:

- Demonstrated leadership of our environmental agenda by senior leaders
- Complying with relevant legislation and other requirements specific to the context of our business and regularly evaluating and reporting compliance
- Preventing polluting emissions or discharges to the environment
- Proactively minimising environmental impacts, including being industry leading in minimising direct and embodied carbon emissions, and providing energy efficient/low carbon assets for our clients
- Continual improvement of the environmental performance of our activities, products and services through clear objectives, targets and programmes
- Exploring opportunities in the sourcing and life cycle aspects of our products, services and supply chain to reduce carbon emissions and demonstrate positive environmental outcomes
- Exploring opportunities for innovative technologies, products and processes that drive improved environmental outcomes/environmental benefits throughout the delivery and operation of the assets we build
- Communicating and addressing the risks and opportunities associated with the impacts of our activities, products and services
- Improving resource efficiency by reducing the use of natural resources and reducing waste, maximising resource recovery and diverting the waste we do produce away from landfill sites
- Reducing our water consumption and improving water efficiency in all of our operations
- Engaging our supply chain partners to improve their environmental performance and responsible sourcing of their materials, products and services
- Proactively protecting, preserving and enhancing biodiversity and land quality
- Enhancing employee understanding of environmental sustainability, through stimulating cultural change and providing clear direction
- Maintaining ISO 14001 certification for our principal businesses and progressing further certifications for our products and services

ENVIRONMENTAL POLICY.
EFFECTIVE DECEMBER 2015

2

Our policies are reviewed and updated annually to evolve with the world around us to make Laing O'Rourke the company of first choice for all our stakeholders, whilst challenging and changing the image of construction worldwide.

The Board of Directors of Laing O'Rourke fully endorses this Policy.

I personally commit Laing O'Rourke to this Policy.



Ray O'Rourke
Chairman and Chief Executive



SUSTAINABILITY

Sustainability is about maximising our environmental, economic and socio-economic performance in the interests of the business, our stakeholders and our planet.

Laing O'Rourke is uniquely placed through our private ownership to take a long-term approach to sustainability. This policy sits alongside our Health and Safety, Quality, Environmental, Human Capital and Customer Service policies as part of our global policy framework.

As an enduring engineering enterprise we are implementing a strategy which aims to create sustainable growth by meeting the economic, social and environmental challenges of our rapidly changing world.

Achieving sustainability is an integral part of fulfilling our corporate vision. We will continually strive and expect to:

- Create exceptional, long-term sustainable outcomes for all our clients, aligned to their ambitions
- Generate profits to invest in innovation and future success
- Work to the highest ethical, social and environmental standards
- Achieve industry-leading low-carbon performance
- Innovate to develop the industry's ability to address sustainability challenges
- Develop our people: they are our most important assets
- Attract and retain new people from diverse backgrounds and demographic groups to work in the industry, and for Laing O'Rourke particularly
- Contribute to development of construction skills in our local communities by providing access to apprenticeships and life-long learning aligned to our goals and vision
- Enrich the communities in which we work
- Assess and manage all significant environmental risks
- Engage our supply chain and partners in achieving our sustainability targets and objectives
- Be transparent in reporting on strategic targets

Collaboration with clients, supply chain, industry partners, research organisations and other stakeholders is fundamental to how we develop and implement sustainability strategy.

Our policies are reviewed and updated annually to react to client needs and evolve with the world around us to make Laing O'Rourke the company of first choice for all our stakeholders, while challenging and changing the image of construction worldwide.

The Board of Directors of Laing O'Rourke fully endorses this policy.

I personally commit Laing O'Rourke to this policy.

Ray O'Rourke
Chairman and Chief Executive

7 Objectives and Targets

High level objectives and targets for this project are as follows:

Objective	Target	Reporting / Monitoring
Effective site environmental controls	<ul style="list-style-type: none"> Environmental controls are developed and implemented prior to starting work on site. Achieve alignment with TfNSW's expectations in relation to best practice control measures. Complete a rigorous and effective inspection and maintenance regime, in particular during Local Possessions when most construction takes place. Maintenance issues addressed within specified timeframes. 	<ul style="list-style-type: none"> Weekly visual supervisory inspections. Targeted inspections and monitoring during Possessions. Weekly Environmental Inspection Checklists by the Environmental Representative. Quantitative environmental monitoring and monthly reporting.
Environmental performance	<ul style="list-style-type: none"> Zero major environmental incidents (Class 1 & 2) and no breaches. No infringement notices from the EPA / Newcastle City Council. Any minor incidents, such as minor spillages, dealt with quickly and efficiently. All environmental incidents to be reported to the TfNSW immediately. Incidents with potential or actual material harm must be reported immediately to EPA, and TfNSW. 	<ul style="list-style-type: none"> Monthly reports to Regional Management. Monthly reporting to be provided in the Project Progress Meetings. Incident reporting process.
Effective implementation of the environmental system	<ul style="list-style-type: none"> Full compliance with the REF requirements and EPL conditions. Compliance with relevant sustainability design guideline initiatives. Closure of CAR's within the nominated timeframes. 	<ul style="list-style-type: none"> Audit reports (at least quarterly from project member and once annually from a LORAC auditor external to the project) Monthly report PECOMs EPL Annual Return
Community issues carefully managed	<ul style="list-style-type: none"> Complainant contacted within two hours Matter closed out within one week. 	<ul style="list-style-type: none"> Complaints handling to be handled in accordance with the TSR-C and the Community Liaison Plan. For further details on how this relates to environmental matters see section 20 of this CEMP.

8 Responsibilities and Authorities

Authorities and responsibilities for all positions are defined and communicated in Job Descriptions and project documentation. Reporting lines are shown in the Organisation Chart (available on the project network). Key responsibilities are indicated in the chart in Appendix 11.

Key responsibilities and authorities include:

8.1 Regional General Manager

- Ensure that independent audits of the system are conducted;
- Review audit reports and take action as necessary;
- Authorise expenditure on environmental and sustainability issues within limits of authority; and
- Resolve major issues which cannot be resolved by the Project Leader.

8.2 Project Leader

- Ensure that project responsibilities and authorities are defined and communicated;
- Provide adequate resources to meet environmental and sustainability objectives;
- Ensure that the CEMP is effectively implemented and maintained;
- Approve this CEMP;
- Appoint/nominate and provide support for the PER;
- Appoint/nominate and provide support for the Sustainability Officer;
- Report to senior management on the performance of the system and environmental breaches;
- Take action to resolve environmental non-conformances and incidents;
- Ensure suppliers and subcontractors comply with requirements;
- Report environmental incidents to the TfNSW / local authorities as required;

8.3 Construction Manager

- Supervise all site construction activities and personnel by ensuring that they meet environmental and other requirements;
- Organise and manage site plant, labour and temporary materials;
- Ensure that site environmental controls are properly maintained and provide support for the PER;
- Report all environmental incidents; and
- Take action to resolve non-conformances and incidents.
- Provide support for the Sustainability Officer in achieving construction based sustainability objectives

8.4 Project Commercial Manager

- Carefully select suppliers and subcontractors based upon their ability to meet stated requirements;
- Ensure that purchase orders and agreements include environmental requirements as necessary; and
- Where practical, select materials which are “environmentally friendly”.
- Ensure that the sustainability objectives of the Supply Chain Policy are met.
- Incorporate sustainability into the evaluation of tenders

8.5 Project Environmental Representative

- Act as the “Environmental Representative” under the terms of the contract and in accordance with this CEMP;
- Ensure that the CEMP is effectively established, implemented and maintained at the project level;
- Ensure compliance with all relevant statutes, regulations, rules, procedures, standards and policies;
- Liaise with TfNSW’s Environment and Planning Manager or Environmental Management Representative on environmental issues, including the written notification of non-conformances (incidents, emergencies or deviations from the CEMP);
- Ensure that all personnel on site receive appropriate environmental induction and training and are aware of their environmental responsibilities under relevant legislation and the contract;
- Report to the Project Leader on the performance of the system and improvement opportunities;
- Provide support to the project team to enable them to meet their environmental commitments;
- Ensure that environmental records and files are collected and maintained;
- Regular compliance checking as required by this CEMP;
- Ensure that non-conformances and environmental incidents are recorded and written reports provided to the TfNSW’s Environmental Management Representative and Project Leader within 24-hours. Liaise with the required stakeholders to confirm the nature of the corrective action required and comply with the timeframe within which corrective actions must occur; and
- Ensure that environmental controls, materials and equipment are maintained.

8.6 Project Sustainability Officer

- Promote sustainability on the project and take forward any sustainable innovations developed by the project team
- Organise resources to plan and deliver the sustainability objectives
- Monitor and track sustainability targets
- Liaise with the design team to ensure design based sustainability objectives are incorporated into the design
- Liaise with the construction team to ensure construction based sustainability objectives are undertaken during construction.
- Coordinate others to develop their respective deliverables under the sustainability initiatives.

8.7 Project Communications Manager

- Manage the coordination, scheduling and implementation of the communication responsibilities set forth in Communication Liaison Management Plan.
- Ensure that all communications to stakeholders are presented appropriately and are consistent with Communication Liaison Management Plan, and are properly reviewed and approved prior to release.
- Tracking, managing and redirecting stakeholder enquiries to the appropriate person to ensure an appropriate and timely response,
- Ensure that the records of all project communications are documented and correctly filed.
- Assist in the preparation of ministerial responses, responses to parliamentary questions, briefing notes and/or other reports.
- Prepare and produce public information, including newsletters, brochures and reports, presentation materials, articles, information for TfNSW website, and stakeholder correspondence and relevant briefing materials.
- Ensure ongoing compliance of communications with the TfNSW Standard Requirements, Communication (TSR C).
- Assist in the ongoing management of stakeholder relationships and may also assist in the preparation of ministerial responses, responses to parliamentary questions, briefing notes and/or other reports.
- Developing and implementing this Plan and the communication mechanisms for all listed stakeholders, in consultation with the PM.

8.8 Business Unit Environmental Manager

- Environmental support to the project team; and
- Conduct internal audits.

8.9 TfNSW Environmental and Planning Manager

- Manage planning requirements of the Project
- Facilitate Systems Audits (PECOMS)
- Liaise with the PER and TfNSW’s EMR on site issues, non-conformances, audit results and incidents.
- Review incident outcomes within INX reporting system.

8.10 TfNSW Environmental Management Representative

The TfNSW EMR is the independent representative engaged by TfNSW to oversee environmental performance. In particular:

- Monitor compliance with the CEMP and sub-plans
- Interaction between the project environmental representative and TfNSW’s EMR is to:

- Facilitate regular site inspections
- Agree on the site inspection schedule
- Timeframe for submission of compliance reports
- Be consulted in responding to the community concerning the environmental performance of the Project where the resolution of points of conflict between the Proponent and community is required.

8.11 Contractors

- Comply with all legal and contractual requirements;
- Comply with site environmental requirements;
- Comply with management / supervisory directions;
- Participate in induction and training as directed; and
- Report all incidents.
- Ensure all sustainability initiatives as detailed within the design are constructed as specified

8.12 All Personnel

- Comply with the relevant Acts, Regulations and Standards;
- Comply with the LORAC environmental policy and procedures;
- Promptly report to management on any non-conformances, environmental incidents and/or breaches of the system;
- Undergo induction and training in environmental awareness and sustainability as directed by management;
- Report all incidents; and
- Act in an environmentally responsible and sustainable manner.
- Where requested, assist the Sustainability Officer in achieving the sustainability objectives.

9 Legal and Other Requirements

All personnel associated with the Project will comply with all relevant requirements including:

- Laws – Acts, regulations, policies, etc.;
- Environment Protection Licence and permits as relevant to the Project
- The Project approval conditions;
- Development consent as relevant to the Project; and
- All Relevant industry standards / codes.

An assessment of the relevant legislative instruments has been conducted and recorded in Appendix 2.

Licences, permits and approvals are outlined in Appendix 8 in the Project Permits and Approvals Register. The register is to be developed, at or prior to, the commencement of the project to outline the full scope of the project's requirements for Government authority approvals.

The register is to be reviewed in conjunction with the 6 monthly management review outlined in Section 21 or where there has been a change to relevant legislation.

The Register is to be reviewed and updated as the project progresses and compliance with the relevant conditions reported. Compliance conditions relating to items listed on the Permits and Licences Register are incorporated into this Environmental Management Plan. Specific details and controls are included in the associated sub-plans and Environmental Risk Action Plans.

The Register is to be issued to the Business Unit Environmental Manager for incorporation in to the Regional Permit and Approval Register.

A copy of relevant Permits, Licences, conditions of approval and any development consent relevant to LORAC's activities will be kept on site.

9.1 Project Approval and Development Consent

The works are to be delivered through Part 5 of the Environmental Planning and Assessment Act 1979. The approval process includes specific planning conditions and commitments that must be addressed in this CEMP and delivered during the project.

A Pre-construction Environmental Compliance Matrix has been established in accordance with CoA 4 (see Appendix 20) to ensure the approval conditions are captured, addressed and closed out. The Matrix includes all conditions relevant to Laing O'Rourke's scope of work and will be updated as the works progress and reviewed on a quarterly basis to verify compliance with each condition. This will also be captured through the TfNSW PECOMs reporting process.

Specific conditions of approval relevant to construction activities are included in the project's Operational Controls in the aspect specific Environmental Risk Action Plans (ERAPs).

In circumstances where works that have not been assessed under the REF must be undertaken, an EIA Checklist will be completed and approved by the TfNSW Planning and Environment Manager before works may commence. In circumstances where works will occur outside the area delineated or described in the REF a Consistency Checklist will be completed and approved by the TfNSW Environment and Planning Manager before works may commence.

Non-compliances with the conditions will be documented and addressed through the project's Corrective Action Register.

9.2 Environmental Authority / Licence

This project includes the following Scheduled Activities:

Railway System Activities

Laing O'Rourke is the licensee for EPL 20514, an Environmental Protection License obtained to undertake Stage 1 WTI Project works. This license will be varied to include Stage 2 WTI Project works.

The environmental protection licence includes specific minimum requirements which are addressed within this CEMP through the Operational Controls and specifically included in Environmental Risk Action Plans (ERAPs) by LORAC as the project progresses. Specific sub-plans and documentation will be prepared such as community notifications or noise and vibration impact assessments by LORAC where required under the EPL.

9.2.1 Administrative Conditions

- The licence authorises and regulates Railway System Activities.
- All works and activities must be carried out in accordance with the licence proposal, unless specifically stated.
- Staff must be briefed in the EPL conditions and records will be retained in the training matrix register.

9.2.2 Limit Conditions

- Pollution of waters in compliance with section 120 of the POEO Act, unless specifically stated.
- Noise Limits to minimise noise and vibration impacts on sensitive receivers and implement mitigation measures.
- Hours of operation during Standard Hours unless permitted by Out of Hours Work approval (Appendix 14).

9.2.3 Operating Conditions

- All licensed activities on the site must be undertaken in a competent manner.
- Construction hours are 7am-6pm Monday to Friday and 8am-1pm Saturdays unless approved otherwise by PER and PL
- Plant and equipment must be operated and maintained in a proper and efficient manner.
- Dust emissions are to be minimised.
- A Community Information Display is to be provided with project information and construction detail, as well as Community Meetings or Open Forums must be held on issue-specific basis and minutes are to be kept.
- Waste is to be assessed, classified and managed before leaving the site; excavated material suitable for re-use may be transported by road subject to conditions; any transported waste or spoil must be covered, vehicles leaving the site must be clean and any material on road surfaces from vehicles leaving the premises must be cleaned at the end of the day.
- Erosion and Sediment controls are to be implemented, inspected, maintained and repaired (if necessary) to minimise the pollution of waters.

9.2.4 Monitoring and Recording Conditions

- Recording of monitoring results.
- Recording of weather conditions.
- Recording of pollution complaints.
- Provision of a telephone complaints line; noise and vibration complaints are investigated and results are to be reported back to the complainant; two Authorised Licensee Representatives are to be contactable by the EPA at all times.
- Recording of noise and vibration data from construction work, especially during out of hours.

9.2.5 Reporting Conditions

- Capture and collation of information for the completion of the Licence annual return.
- Notification of environmental harm.
- Notification of Noise and Vibration complaints
- A written report may be requested by the EPA.
- Any received complaints received in relation to construction activities must be reported to the EPA by 2pm each day.
- A Preliminary Investigation Report in respect to any noise or vibration monitoring undertaken may be requested by the EPA to be supplied by 4.30pm on the next working day; and submit a follow up Investigation Report to the EPA within 5 working days.
- A dust control and management report can be requested by the EPA to be provided by 4.30pm on the second working day after the request.

9.2.6 General Conditions

- A copy of the EPL must be kept at the premises and produced to any officer of the EPA or employee or agent of the licensee working at the premises (if requested).
- All personnel undertaking work on the premises must receive environmental induction training.

9.2.7 Special Conditions

- A Noise and Vibration Assessment is to be undertaken for Out of Hours Works.
- Community Notification is to be undertaken for Out of Hours Works between 7days prior commencement.

Requirements of above licence conditions will be recorded and maintained in the various project registers, including:

- Project training register
- Plant and equipment maintenance records
- Complaints register
- Monitoring register and records

A copy of relevant Permits, Licences and REF will be kept on site as controlled documents in the project's Document Management System.

10 Environmental Risk Assessment and Control

Environmental aspects and impacts have been identified and assessed in the Risk Assessment enclosed as Appendix 3.

Significant environmental issues, with a risk ranking of Medium or High, will be controlled to a degree which is commensurate with the level of risk and the level of influence which LORAC have over these issues. These are documented in Environmental Risk Action Plans which are contained in Appendix 4.

If additional risks are encountered on site, these will be addressed either by updating this CEMP or by using separate Environmental Risk Action Plans (E-T-8-1200).

An overview of this process is shown in the CEMP Flow Chart contained in Appendix 10.

11 Training, Awareness and Competence

All employees will receive suitable environmental induction / training to ensure that they are aware of their responsibilities and are competent to carry out the work.

Environmental requirements will be explained to employees during site induction and on-going training via tool box meetings, briefings, notifications and the like.

All employees (including subcontractors) will receive induction / training in the following:

- Environmental Policy
- Project REF and Conditions of Approval
- Site environmental objectives and targets
- Understanding individual authorities and responsibilities
- Site environmental rules
- Potential consequences of departure from rules
- Emergency procedure and response (e.g. Spill clean-up)
- Required testing and drills as per Pollution Incident Response Management Plan (PIRMP)
- Basic understanding of their legal obligations
- ECM, including the location of sensitive receivers likely to be affected by noise or vibration
- EPL licence requirements to minimise noise and vibration impacts on sensitive receivers
- Review and preparation of ESCPs

Personnel performing tasks which can cause significant environmental impacts will be competent on the basis of appropriate education, training and / or experience, in particular approval authorities in order to be sufficiently qualified to undertake duties in a competent manner (i.e. water testing training for staff authorised to sign Approvals to Pump Construction Water).

Environmental Toolbox talks are held on a regular basis in conjunction with the Safety toolbox session. All training and tool box meetings will be recorded in the Project Training and Competency Matrix (training register). In addition the project will deliver the monthly Mission Zero toolbox talk.

Training requirements are detailed within the Induction and Training Management Plan.

12 Communication and Reporting

With respect to the functioning of the project's environmental system, LORAC employees, TfNSW and other interested parties will be kept informed as necessary.

12.1 External

External communication methods include:

- Site meetings with TfNSW.
- Regular inspections with the EMR.
- Monthly Environmental Coordination meetings.
- All significant incidents notified to TfNSW.
- All environmental incidents, inquiries and complaints to be notified to the TfNSW Representative.
- All environmental incidents are to be entered into the TfNSW's INX and LORAC's IMPACT reporting systems.
- Project reports and updates to be provided to TfNSW at progress meetings and in the Monthly Project Report.
- Compliance reporting utilising the TfNSW Planning and Environmental Compliance System (PECOMS) at the designated intervals outlined in TfNSW document Environmental Compliance Reporting Process PE-PR-062/7.0.

- As per WTI Project CoA 5 Construction Environmental Compliance Report (due every 6 months starting from the 10th of November 2014)
- Meetings and correspondence with interested parties (e.g. Local council and EPA) as necessary.
- Discussions with adjoining land owners / neighbours and the community who may be affected by the project.
- Noise and Vibration Monitoring Compliance results are published on LORAC project website (<http://www.laingorourke.com/our-work/all-projects.aspx>).

12.2 EPA Specific

Reporting to the EPA under this EPL includes:

- Records must be produced if requested by an authorised officer of the EPA.
- Environmental Protection Licence Annual Return for the project to be submitted to EPA within the designated timeframes.
- Notification of environmental harm to the Environment Line Service by telephone on 131 555 and written detail of the notification within 7 days of the event.
- Written report, if requested on suspected reasonable ground, of an event that has caused material harm to the environment.
- Daily reports of complaints received via the telephone complaints line in relation to construction activities by 2pm each day via email to the email address nominated by the EPA.
- A Preliminary Investigation Report on noise and vibration monitoring upon request by an authorised officer of the EPA to be submitted by 4.30pm the next working day following any noise or vibration monitoring.
- A Report concerning dust control and management at the premises if requested by an authorised officer of the EPA.

12.3 Reporting Schedule

Authority	Report	Due date
TfNSW	Construction Environmental Compliance Report	19 December 2015
NSW EPA	EPL Annual Return	30 December 2015
TfNSW	Construction Environmental Compliance Report	19 June 2016
TfNSW	Construction Environmental Compliance Report	19 December 2016
NSW EPA	EPL Annual Return	30 December 2016
TfNSW	Construction Environmental Compliance Report	19 June 2017
TfNSW	Pre Operation Compliance Report	25 August 2017
Heritage Division	Section 60 Final Report	End of Construction
Heritage Division	Section 140 Final Report	End of Construction
TfNSW	Construction Environmental Compliance Report	End of Construction
NSW EPA	EPL Annual Return	End of Construction

It should also be noted that subcontractors will be required to submit a Monthly Environmental Subcontractor Report. The report will include data on material usage, water usage, emissions and waste.

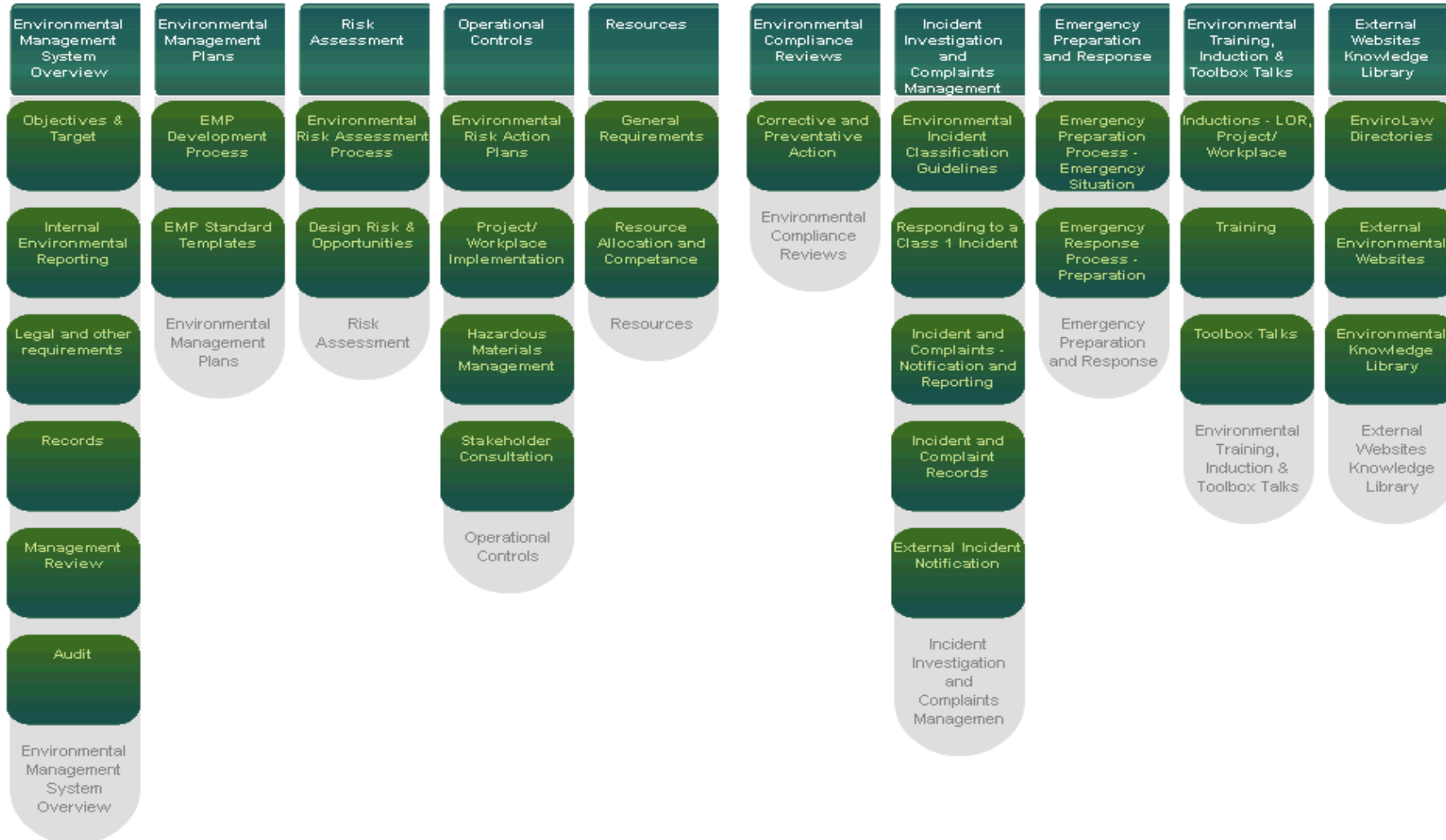
13 System Documentation

The LORAC Environmental Management System (EMS) is part of an integrated management system. The core elements of the project management system are described in this CEMP. A diagram of the EMS is enclosed below:

Laing O'Rourke Australia Environmental Management System

Policies

Accreditations



13.1 Internal

Internal communication methods include:

- Management reports
- Site inspection reports
- Audit reports
- Incident reports
- Noticeboards
- Weekly Possession Readiness meetings
- Pre-Possession Whiteboard meetings
- Site meetings
- Employee induction, training and tool box sessions
- Briefings, notifications and alerts

14 Document Control and Records

All project documentation, including environmental records, will be controlled in accordance with the requirements described in the LORAC EMS. Environmental records will be:

- Kept as objective evidence of compliance with environmental requirements.
- Filed in accordance with the project records and filing requirements in Asite.

14.1 EPL Specific Recording Conditions

Under EPL requirements, the results of any monitoring required to be conducted by this licence must be recorded and kept as follows:

- In a legible form, or in a form that can readily be reduced to a legible form.
- Kept for at least 4 years after the monitoring or event to which they relate took place.
- Produced in a legible form to any authorised officer of the EPA who asks to see them.
- Noise and Vibration Monitoring Compliance results will be published on the project website.

The following information must be captured:

- The date(s) on which the sample was taken.
- The time(s) at which the sample was collected.
- The point at which the sample was taken.
- The name of the person who collected the sample.

15 Operational Control

15.1 General

Specific operational controls to manage environmental issues are defined in either or all of the following:

- Environmental Risk Action Plans (ERAPs) contained in Appendix 4.
- Sub-plans contained in Appendices of the CEMP or as standalone documents.
- SWMS, Inspection and Test Plans / check sheets (as appropriate).
- Work instructions (e.g. refuelling and servicing).
- Environmental Control Maps and progressive Erosion and Sediment Control Plans.

Additional controls and criteria will be established and maintained where the absence of such could result in the environmental policy, objectives and targets not being met.

15.2 Hold Points

The activities outlined in the table below are not to proceed without objective review and approval by the nominated authority. These activities below are considered hold points.

Item	Process Held	Acceptance Criteria	Approval Authority	Hold Point Release
Construction Environmental Management Plan	Site activities	Site specific Environmental Management Plan has been developed, reviewed and approved.	TfNSW EPM & EMR	CEMP and ECM Approval Memorandum
Dewatering	Dewatering / pumping water off the site.	Verification that the water quality criteria have been met and are in accordance with TfNSW Water Discharge and Reuse Guideline 7tp-st-146.	Project Environmental Representative	Dewatering Permit
Sediment and erosion control measures	Construction activities involving ground disturbance.	Sediment and Erosion Control Plan has been developed, reviewed, approved and implemented and are in accordance with the Blue Book	Project Environmental Representative	Approved ESCP (ECM)
Site clearing / vegetation removal	Commencement of site clearing or vegetation removal.	Clearing limits have been verified against the project approval environmental assessment, limits have been set-out and vegetation to be retained has been delineated and or protected. Clearing is to occur in accordance with TfNSW Vegetation Management (Protection and Removal) Guideline 9tp-sd-111	TfNSW Environment and Planning Manager	Removal or Trimming of Vegetation Application

Construction Environmental Management Plan

Project:
Wickham Transport Interchange

Project No:
G85

Date:
01 August 2017

Rev:
09

Item	Process Held	Acceptance Criteria	Approval Authority	Hold Point Release
Plant and Equipment Inspection	Operation of plant / equipment items on site.	Pre-mobilisation inspection completed, no damaged hoses or hydraulic lines identified, service records are up to date.	Site Supervisor	Pre-mobilisation Plant Inspection Form
Construction Methodologies – direct delivery and subcontract works.	Construction process representing potential medium or high impact to the environment.	Construction methodology / SWMS / JSEA have been reviewed by the Project Environmental Representative and address the requirements of the CEMP ERAPs.	Construction Manager	Signed JSEAs
Dangerous Goods	Transport of dangerous goods	Verification that transport vehicles meet the requirements.	Site Manager/Safety Manager	Compliance cert from subcontractor
Dangerous Goods	Storage of dangerous goods	Verification that bunded storage is provided and that offset distances are maintained for the storage area.	Site Manager/Safety Manager	Site inspection upon arrival to site
Controlled/ Hazardous Waste	Transport of Controlled / Hazardous waste from the site	Verification that the waste has been classified in accordance with the guidelines, transport licensing in place and landfill can lawfully receive the waste	Project Environmental Representative	Hazardous Material Transport Certificate
Work outside of standard construction hours (Mon – Fri, 0700 – 1800, Sat 0800 – 1300)	Out of Hours Works	OOHW application prepared in accordance with accepted criteria established with EPA. Community Notification delivered within TfNSW and EPA specified timeframes. Noise and Vibration mitigation measures implemented. Works to occur in accordance with TfNSW Construction Noise Strategy 7tp-st-157.	Project Leader Project Community Manager Project Environmental Representative	Approved Out of Hours Works Assessment and Application form
Spoil Transport	Removal of spoil from site	Verification that the spoil has been classified and the disposal location can lawfully receive the waste.	Project Environmental Representative	Waste Classification report
CoA Item 4 - Pre-Construction Environmental Compliance Matrix	Construction commencing on Site	PECM completed and submitted to EMR	TfNSW EMR	Approved PECM
CoA Item 11 - Property Condition Surveys	Piling, excavation or bulk fill, vibratory Impact works	Register of surveyed properties maintained in Asite	Construction Manager	Verified Property Condition Survey report
CoA Item 12 - Environmental Inductions	Subcontractors commencing construction on-site	All workers have undergone an induction including environmental risks and procedures	Project Safety Manager	Induction Register
CoA Item 16 - Environmental control Maps	Construction commencing on Site	ECMs completed and submitted to EMR for approval. ECMs to be prepared in accordance with TfNSW Guide to Environmental Control Map 3tp-sd-015.	TfNSW EPM & EMR	CEMP and ECM Approval Memorandum
CoA Item 17 - Construction Hours	Works outside of normal construction hours	These may only occur if the conditions of Condition of Approval Item 17 are met.	Project Environmental Representative	Approved Out of Hours Works Assessment and Application form
CoA Item 25 - Piling	Percussive Piling	Submit proposal as to why percussive piling is required for approval of EMR or PMEM	EMR/PMEM	Construction Methodology
CoA Item 27 - Unidentified Contamination	Work in affected area	A report is submitted to the PMEM for consideration of further consultation with council and/or EPA.	PMEM	Event report reviewed by PMEM
CoA Item 28 - Unidentified Asbestos	Work in affected area	An investigation undertaken and report prepared to determine nature, extent and degree of contamination. Consultation with EPA and WorkCover as required.	PMEM	Event report reviewed by PMEM
CoA Item 31 - Road Conditions report	Construction commencing on Site	Prepare a Road Conditions Report to the satisfaction of the infrastructures owner	Construction Manager	Verified Road Conditions Report
CoA Item 34 Removal of Vegetation not assessed by EIA for the Project	Vegetation Clearance	Submit an Application for Removal or Trimming of Vegetation. Clearing is to occur in accordance with TfNSW Vegetation Management (Protection and Removal) Guideline 9tp-sd-111	EMR/PMEM	Removal or Trimming of Vegetation Application
CoA Item 36 - Heritage	Works in immediate area	If unknown heritage items are uncovered during works, all activities in the vicinity are to cease pending consultation with Heritage Consultant or Heritage Council	Heritage Consultant/Heritage Council	Notice from Heritage consultant or heritage Council to continue

Item	Process Held	Acceptance Criteria	Approval Authority	Hold Point Release
				works, or if required, further approvals
CoA Item 37 - Urban Design and Landscaping Plan	Construction of the Interchange/Station	Prepare a UDLP in consultation with the relevant stakeholders	TfNSW Director of Technical Services	Approved UDLP
CoA Item 38 - Sustainability Officer	Prior to preparation of the Pre-construction Sustainability Report	Details of the Sustainability Officer, including defined responsibilities consistent with the Proponent's sustainability objectives, included in the REF	PMS	Approved CV
CoA Item 39 - Pre-Construction Sustainability report	Construction commencing on Site	A Pre-Construction Sustainability Report is to be prepared in accordance with the Conditions of Approval	PMS	Verified PCSR
CoA Item 44 - Aboriginal Archaeology	Excavation or piling works at the Transport Interchange	Approval under Section 90 of the NPW Act 1974 to be obtained before excavation or piling works occur at the new transport interchange	Project Environmental Representative	Approved Section 90 Aboriginal Heritage Impact Permit

Proceeding past a specified Hold Point without authorisation is a system non-conformance.

15.3 Cease Work

At any point the PER (and any other LORAC staff) has the authority to cease work where necessary to prevent pollution, harm to the environment, adverse environmental impacts, a notifiable event or breach of any Australian law.

As outlined in 5TP-ST-050, the EMR can recommend to TfNSW that works stop immediately. The Stop Work Recommendation may be limited to specific activities or a specific area/location of the site, if the EMR can easily identify those activities. Where a Stop Work Recommendation has been acted on by TfNSW, and a Stop Work Order issued to the Contractor, the EMR is to track the implementation of actions implemented by the Contractor in accordance with the non-compliance management process.

15.4 Environmental Control Map (ECM)

The project Environmental Control Map(s) are prepared to assist in the planning and delivery of the project. It is specific to the site or work area and outlines the location of protection measures, monitoring requirements, conditions of approval and environmentally sensitive areas. It is the practical application of the proposed control measures.

The ECMs are to be developed in accordance with TfNSW Guide to Preparing ECMs (3TP-SD-015) and are to be approved by the EMR prior to the commencement of construction in accordance with CoA 16. The ECMs will be displayed within the site office and crib rooms to ensure information on environmental controls and sensitive areas is readably available.

A hardcopy of the project Environmental Control Maps is provided in Appendix 5 of this CEMP.

The Environmental Control Maps are to be used in project inductions, work site set-up, reviewing ongoing environmental performance, included as information in tender documents to subcontractors and site briefings (including SWMS) were applicable, and in support of ancillary environmental approvals.

The project Environmental Control Maps shall include but not limited to:

- The worksite layout and boundary, including entry/exit points and internal roads and clearing limits.
- Location of adjoining land-use and nearest noise sensitive receivers.
- Location of site offices.
- Location of spill containment and clean-up equipment.
- Location of worksite waste management facilities.
- Hours of work applicable to the worksite (including deliveries and any restrictions on high noise generating activities).
- Document control and approval details.
- Location of environmentally sensitive areas (e.g. threatened species, critical habitat, contaminated areas, heritage zones, etc.).
- Vegetation and trees to be protected.
- Location of known heritage (indigenous and non-indigenous) items.
- Specific environmental management requirements from licenses, approvals or permit conditions.
- Key environmental risk issues and the specific mitigation measures (including erosion and sediment controls).
- Project specific controls for the key risks identified.

15.5 Erosion and Sediment Control Plans (ESCPs)

Erosion and Sediment Control Plans (ESCPs) or other documentation that specify the location of environmental controls on site are to be included in the site ECMs. The ESCPs may also be produced as a separate plan (generally one or more figures showing the location any type of controls) where practical for certain activities or areas. These will not be included in the CEMP as they will be updated regularly to reflect construction progress. These will be kept within Asite. The project Erosion and

Sediment Control Plans will provide more detailed and site specific information and will be prepared in compliance with the specifications of the Soils and Construction Volume 1 - 4th edition, March 2004 (Blue Book), Measures have been developed to monitor and minimise soil erosion and the discharge of sediment and other pollutants to lands and/ or waters during construction activities works are required.

The ESCPs shall include but not limited to:

- Location and type of sediment and erosion control measures.
- Location of stormwater drainage and watercourses leading to / from the worksite.

15.6 Design

LORAC is responsible for providing detailed design functions. The following environmental issues will be considered where possible:

- How to minimise any adverse impacts on the environment including energy efficient operation, incorporation of sustainable or recycled materials.
- How to improve design efficiency to conserve natural resources.
- Address the requirements of LORAC's environmental and sustainability policies.
- How to meet environmental codes, regulations and other requirements.

These issues should be considered, while taking into account the practicalities and economic realities of the project/site.

The Design will also need to meet the requirements of Condition of Approval item 37, developing an Urban Design and Landscaping Plan in consultation with the relevant stakeholders.

The design process is controlled in accordance with the Project Design Management Plan.

15.7 Procurement

The supply of goods and/or services by suppliers and subcontractors will be carefully controlled in accordance with LORAC's Procurement Policy, and as follows:

- Environmental issues and sustainability should be taken into account when selecting subcontractors and suppliers.
- Suppliers of chemicals and hazardous substances will be required to submit SDS's with delivery or prior to chemicals arriving at site. Prior approval to bring hazardous substances to site may need to be obtained from TfNSW.
- Subcontractors will be required to submit an environmental control plan covering work which is likely to have a significant impact on the environment. Alternatively, they will be required to work under this CEMP.
- The environmental performance of subcontractors will be monitored during site inspections.

15.8 Handling, Storage, Packaging and Transport

Dangerous Goods/Hazardous materials will be stored and handled in accordance with Safety Data Sheets and the requirements of the Australian Dangerous Goods Code.

The Dangerous Goods (Road and Rail Transport) Act includes specific requirements in relation to the transport of dangerous goods. Where dangerous goods are to be transported as a result of the project, the requirements of the Act must be complied with by Laing O'Rourke and third parties.

In particular, regardless of the quantity, appropriate transport documentation must be included with each load unless a specific exemption exists.

Transport documentation must include the following:

- Project/workplace name, contact number
- Transporter name, contact number
- Transport date, origin and destination
- Product name, classification, container type, quantity

LORAC form E-T-8-1232 Dangerous Goods Transport Note may be used.

These materials will be stored in a safe area (e.g. bunded and/or store) which will prevent or contain accidental spillage and harm to the environment. Further details are provided in Appendix 4 in the ERAP - Delivery and Storage of Chemicals, Fuels & Oils and including Dangerous Goods requirements.

Safety Data Sheets (SDS's) must be stored along with or at the point where Dangerous Goods/Hazardous materials will be stored. A complete Safety Data Sheets register is available on Asite. The location of the Dangerous Goods/Hazardous materials storage container is also recorded on the ECM and ESCP.

Please refer to the Pollution Incident Response Management Plan (PIRMP) for further details on incident response addressed in Section 15.12 of this CEMP. The PIRMP can be found in Appendix 5.

15.9 Manufacture, Construction and Fabrication Processes

These processes will be carried out in accordance with LORAs "Quality & Process" Rules and Processes and incorporate the requirements of section 4.5 of TfNSW document TSR-E.

Environmental requirements, relating to manufacture, construction and fabrication processes, are defined in:

- Construction methodologies, Safe Work Method Statements and JSEAs.
- Inspection and Test Plans, Task Complete Checklists and associated documents.
- Contract documents
- Environmental control procedures including daily surveillance and periodic planned inspections (both physical and desktop type reviews) to verify the adequacy of controls for all environmental aspects of the works. These will be documented via inspection records.

15.10 Plant and Equipment

Plant and equipment used on the project will be maintained in a safe and serviceable manner. Monitoring equipment, such as noise monitoring devices and water testing equipment are to be calibrated prior use and maintained in a proper and efficient condition to manufacturers specifications.

A pre-start check will be conducted and generally incorporate the following:

- Plant will be inspected prior to operation on site. In particular fuel lines, hydraulic hoses or other items with the potential to impact the environment are to be inspected. Plant with items found to be worn, damaged or otherwise degraded will not be allowed on site.
- Where possible, plant will be serviced and washed-down only in approved areas where hydrocarbons can be captured and then properly disposed.
- Where possible, re-fuelling will be carried out in clearly marked designated areas that are designed to contain spills and leaks.
- Spill kits available on site to manage any leaks and spills.
- Plant Nappies to be used under petrol and diesel driven equipment (e.g. generators).
- Plant and equipment will be maintained to prevent / fix oil leaks.
- Plant will be driven and operated only in approved areas.
- Plant will have effective pollution control and sound attenuation devices fitted.
- All pre-start checks are to be recorded on the Inspection Register which can be found on Asite.

Further information on environmental controls is contained in Appendix 4.

15.11 Waste

Any waste generated at the project site is to be assessed, classified and managed in accordance with the Waste Classification Guidelines Part 1: Classifying Waste, November 2014 (Waste Guidelines) prior to disposal. This is in particular applicable to any spoil material from excavations that will be disposed of offsite.

Concrete rinse water is to be collected and managed onsite in accordance with Environmental Best Management Practice Guideline for Concreting Contractors (OEH, 2004) or disposed of to a facility licensed to receive and treat concrete rinse water.

No waste can be received that was generated outside the project site, except for recycled materials from Sydney Trains' rail corridor or Sydney Trains' recycling facility (Chullora) or EPA approved material for engineered fill purposes.

No waste generated at the project site, other than excavated material suitable for re-use, can be disposed of at the project site. Some materials such as waste concrete may be crushed and used as aggregate where deemed appropriate and where properly assessed.

Excavated material that is deemed suitable for re-use within the project site, may be transported from one part of the project site or the Sydney Trains rail corridor or Sydney Trains recycling facility to another part by road only if:

- the body of any vehicle or trailer, used to transport waste or excavation spoil from the project site, is covered before leaving the site to minimise any spill or escape of any dust, waste, or spoil from the vehicle or trailer.
- mud, splatter, dust and other material likely to fall from or be cast off the wheels, underside or body of any vehicle, trailer or motorised plant leaving the project site, is removed to the greatest extent practicable before the vehicle, trailer or motorised plant leaves the site.
- road surfaces subject to the tracking of material by vehicles leaving the premises are effectively cleaned at the end of each work day.

Refer to the Construction Waste, Contamination and Hazardous Material Management Plan for further details (Appendix 17).

16 Emergency Preparedness and Response

The types of environmental emergencies which could occur on this site are shown in the Pollution Incident Response Management Plan.

TfNSW and relevant statutory and regulatory authorities (such as the EPA) will also be informed as necessary as outlined in Section 18.0 of this CEMP.

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Environmental emergencies will be handled as follows:

- Immediately report all incidents to the Project Leader and / or the Construction Manager and / or the Project Environmental Representative who will assess the situation and manage the following steps:
 - Immediately take all reasonable steps to contain further damage or danger to personnel and the environment.
 - Inform relevant authorities in accordance with the regulatory requirements provided in Section 18.0 below.
 - Contact emergency service personnel as per the requirements of the POEO Act Part 5.7 and 5.7A (e.g. fire dept., spill clean-up services, etc.).
 - Provide notification to the PER, who will notify LORAC HSEQ Director and Head of Legal immediately via initial internal incident notification E-T-8-0951A.
 - Inform TfNSW and TfNSW's Environmental Management Representative (EMR) as necessary and in accordance with contractual requirements (nominated in Section 18 below).
 - Complete a detailed report of the incident using LORAC Form "E-T-8-1222 Environmental Incident Complaint Report" and send to TfNSW, TfNSW's Environmental Management Representative and the LORAC Environment Manager to upload to IMPACT.
 - Liaise with TfNSW's Environmental Management Representative regarding corrective and preventive actions required and the timeframes within which these actions must occur.
 - The designated personnel will undertake the corrective and preventive actions.

Information on the handling of hazardous materials is contained on the Safety Data Sheets (SDS's) which must be stored along with or at the point where Dangerous Goods/Hazardous materials will be stored. A complete Safety Data Sheets register is available on Asite. The location of the Dangerous Goods/Hazardous materials storage container is also recorded on the ECM and ESCP.

Emergency Services contact numbers are to be displayed in the main site office together with a copy of the Emergency Response Plan (Flipchart), EPL and this CEMP.

In accordance with the requirements set out in Part 5.7A of the POEO Act, a Pollution Incident Response Management Plan (PIRMP) has been developed and will be implemented on the project. The plan includes;

- Descriptions and likeliness of hazards to human health or the environment resulting from the project
- Pre-emptive actions undertaken to minimise or prevent such hazards occurring
- Potential pollutant details
- Emergency response equipment and procedures
- Project contacts
- Other requirements as outlined in the Act.

A hard copy of the Pollution Incident Response Management Plan (PIRMP) is to be located near the entrance door of the site office and an electronic copy is to be made available on Asite, the electronic document management system of the project.

Below is a list of Key Contacts for the Project to be called during an emergency.

Name	Position	Mobile
James Kennedy	Project Leader	0400 310 626
Nick Stephens	Construction Manager	0400 318 640
Daniel Keegan	PER	0435 859 160
Jason Ambler	LORAC Southern Region Environmental Manager	0415 737 750
Kelly Lofberg	Project Communications Manager	0425 715 536
Environment Protection Authority Pollution Line		131 555
Work Cover		131 050
Newcastle City Council		4974 2000
Fire and Rescue NSW Emergency		000
Fire and Rescue NSW Non-emergency		02 9319 7000
Ministry of Health Public Health Unit – Newcastle - ask for Public Health Officer on call		02 4924 6477(nearest hospital- John Hunter Hospital)

17 Monitoring and Measurement

Key characteristics of the project operations and activities which have a significant impact on the environment will be regularly monitored and measured.

This will include:

- recording of information to track performance (e.g. inspections and maintenance)
- monitoring operational controls
- level of conformance with objectives and targets

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Aspect	Target	Method	Time-frame	Responsibility
Site Dewatering Water Quality – Reuse Onsite (Discharge to Land)	<p>Minimum:</p> <ul style="list-style-type: none"> pH 6.5-8.5, No visible oil and grease as per TfNSW <i>Water Discharge and Reuse Guideline 7TP-ST-146</i> <p>No discharge offsite or to a waterway</p>	<ul style="list-style-type: none"> Probe/meter Visual Inspection 	<ul style="list-style-type: none"> As required prior to use on site. 	PER/ Authorised Water Tester (EPL covers discharge to land only. Dewatered water may not leave site)
Site Dewatering Water Quality – Offsite Discharge (Discharge to Water e.g. into Stormwater systems)	<ul style="list-style-type: none"> Total Suspended Solids <50mg/l, and at background level for receiving water or better pH 6.5-8.5, No visible oil and grease as per TfNSW <i>Water Discharge and Reuse Guideline 7TP-ST-146</i> 	<ul style="list-style-type: none"> Laboratory analysis initially in conjunction with a turbidity probe/grab sample until a correlation factor can be determined Probe/meter Visual Inspection 	As required prior to discharge from site.	PER/ Authorised Water Tester (Note: discharge to waters not currently covered by EPL 20514. TSS/Turbidity correlation to be determined and Background water quality monitoring of receiving waters would need to be established).
Construction Noise	<p>Compliance with EPA construction noise requirements and project approval/EPL criteria. In accordance with TfNSW Construction Noise Strategy (7TP-ST-157/2.0)</p> <p>Compliance with the Construction Noise and Vibration Management Plan Noise Goals</p>	<ul style="list-style-type: none"> Attended noise monitoring. Out of hours noise modelling. 	<ul style="list-style-type: none"> Monitoring will be conducted as PER relevant Possession Construction Noise and Vibration Assessment. Each time out-of-hours operation/s are required. As required in response to complaints. Monitoring will be conducted as per Project specific site construction noise and vibration assessment, requirements of CoA 19 and TfNSW Construction Noise Strategy (7TP-ST-157/2.0) 	PER/ External Noise Consultant (if required)
Vibration	<p>Compliance with construction vibration requirements outlined in German Standard DIN4150 and Environmental Noise Management Assessing Vibration: a technical guideline (2006).</p> <p>Compliance with the Construction Noise and Vibration Management Plan Noise Goals</p>	Vibration Monitor during vibration generating activities.	<ul style="list-style-type: none"> As required during vibration generating activities. <p>As required in response to complaints.</p>	PER/ External Noise Consultant (if required)
Dust	<p>Limit onsite dust generation.</p> <p>1 Day (24hour) average PM10 = 50µg/m³</p> <p>Annual Average PM10 = 30µg/m³</p>	Visual inspection. Weekly Inspection Dustrak Unit	During construction and/or onsite vehicle movements. At quarterly periods during construction or in response to dust complaints	Construction Manager PER
Asbestos	<p>The action level of asbestos air monitoring:</p> <ul style="list-style-type: none"> < 0.01 fibres per millilitre – Continue with control measures. > or = 0.01 fibres per millilitre – Review control measures. > or = 0.02 fibres per millilitre – Stop removal work and find the cause. 	Air monitoring and filter analysis undertaken by a qualified occupational hygienist and NATA accredited lab.	<ul style="list-style-type: none"> During asbestos-contaminated soil removal. 	Safety Manager PER Occupational Hygienist
Weather	<ul style="list-style-type: none"> Temperature Humidity Wind Velocity Rainfall 	Record data from nearest BoM weather station or site compound weather station.	<ul style="list-style-type: none"> hourly values 	PER
Erosion and Sediment Control	<p>Minimise pollution of waters. No sediment off-site and in accordance with Blue Book</p>	<p>Check operation of soil and water management works. Initiate all necessary repair and maintenance as required. Inspect after rainfall and daily inspection as per condition of EPL</p>	<ul style="list-style-type: none"> Regularly during operational hours. More often during wet weather. 	PER

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Aspect	Target	Method	Time-frame	Responsibility
		20514		
Heritage (indigenous and non-indigenous)	To comply with the requirements of the site heritage permits, including; <ul style="list-style-type: none"> Section 140 Permit Section 60 Permit (Hamilton Station) AHIP Any further permits that may be required over the course of the project 	<ul style="list-style-type: none"> Engage qualified archaeologists and heritage consultants Weekly Inspections 	<ul style="list-style-type: none"> As stipulated within each heritage permit Weekly site inspection 	PER
Property Condition Survey	No damage or adverse impacts to Heritage structures or buildings that may be affected by construction. Capture information on building condition pre/post construction	Photo record and report	<ul style="list-style-type: none"> Before construction commences After construction 	Construction Manager PER
Road Condition Survey	Capture information on road condition pre/post construction	Photo record and report	<ul style="list-style-type: none"> Before construction commences After construction 	Construction Manager PER

LORAC's E-T-8-1227 Environmental Inspection Report form will be used to monitor environmental issues on site and issued to the Project Leader. The report will be completed on a weekly basis.

Where deemed necessary by the Project Environmental Representative (PER) and as a result of revisions to project scope or changes to project risks, additional Environmental Risk Action Plans to control potential impacts will be developed.

Non-conformance to Operational Control procedures or to the Environmental Management System that cannot be rectified immediately shall be recorded and addressed by raising a Non-Conformance Report on IMPACT.

17.1 Corrective Action Register

The following environmental issues/non-conformances are to be included on the project's Corrective Action Register (IMPACT):

- Internal inspection outcomes that cannot be rectified immediately.
- Incidents and associated corrective actions.
- Internal audit observations/non-compliance.
- TfNSW audits or other notice of non-compliance.
- Notices or action from regulatory authorities.

Issues identified during environmental inspection or PER inspection requiring further action beyond normal practice or maintenance are to be documented IMPACT. Issues are entered into IMPACT by the PER or other qualified person as per environmental inspection report.

17.2 Monthly Environmental Report

The project shall complete on a monthly basis the LORAC Project Monthly Environmental Report C-T-8-1250b. The report is provided in Appendix 21 of this CEMP.

A monthly Project report is submitted to TfNSW which outlines all notable environmental and sustainability issues including incidents, planning requirements and significant audit findings.

The report is to include specific details relating to risks, status of control measures, update to plans, ESCPs and the performance indicators nominated within the report.

18 Incidents, Complaints, Corrective and Preventative Action

18.1 TfNSW Reporting Requirements

LORAC will provide notification of all environmental incidents to TfNSW as required and in accordance with TSR-E and 9TP PR-105/10.0 Environmental Incident Classification and Reporting. Additionally notification will be required in accordance with the TSR-C. Refer to the Community Liaison Plan for further information on notification in accordance with the TSR-C.

If an incident occurs the following notification is required:

Notification Type	Requirement
Initial verbal notification	Immediately to the TfNSW EPM and the EMR verbally via telephone.
Environmental Incident Report requirements	Enter incident into TfNSW INX system within 4 hours of occurring or first being observed (if practically possible). Complete incident reporting on INX system within 48 hours (if practically possible).

18.2 Laing O'Rourke Reporting Requirements

All incidents and complaints (including potential incidents) must be reported so that they can be investigated and prevented from recurring.

Incident Reporting & Investigation from the project sites is to be recorded in IMPACT by the Environmental Manager.

The Environmental Manager, the LORAC HSEQ Director and Head of Legal and TfNSW shall be notified by telephone as soon as practicable after any Actual or Potential Class 1 & Class 2 Incidents.

Major incidents (actual or potential Class 1 & Class 2 incidents) will require the PIRMP to be initiated. Environmental Incident is classified into three classes:

Class One	Class Two (Including Potential)	Class Three
<p>Class One Environmental Incidents create permanent or long term damage to the environment. This damage will result in the environment taking 12 months or more to return to pre-existing conditions.</p> <p>Major environmental investigation and potential for large prosecution.</p>	<p>Class Two Environmental Incidents create short to medium term damage to the environment.</p> <p>This damage will result in the environment taking up to 12 months to return to pre-existing conditions Potential for prosecution or infringement notice</p>	<p>Class Three Environmental Incidents typically cause short term or nuisance damage. The damage is easily rectified usually within one day. Class 3 incidents do not cause medium or long term damage.</p>

The classifications are explained in detail with examples in LORAC's E-T-8-1204 Environment Incident Classifications document.

Actual or Potential Class 3 Incidents

Where a Class 3 incident has occurred, the LORAC Construction Manager or immediate supervisor and the Project Environmental Representative are to be informed. Class 3 incidents must be logged directly into IMPACT by the Environmental Manager.

Actual or Potential Class 2 Incidents

Where an actual or potential Class 2 incident has occurred, LORAC Group Management is to be informed via the Environmental Manager.

Actual or Potential Class 1 Incidents

Where a Class 1 incident occurs the LORAC HSEQ Director and the Head of Legal are to be informed immediately by the Regional Environmental Manager (or if not available the Project Leader). The requirements of the flow chart in Appendix 1 are to be applied to all actual or potential Class 1 environmental incidents. Class 1 incidents shall be subject to an ICAM investigation.

Where complaints are received at project sites or workplaces involving the media or where Lora's image is likely to be affected, they shall be documented on the LORAC E-T-8-0951A HSE Internal Incident Notification form as provided below.

All Class 1 & Class 2 incidents will be reported to the relevant State & Federal Authorities as required under relevant Acts & Regulations. Further details are provided in the section External Incident Reporting below.

Complaints will be reported to external authorities in accordance with specific licence/permit or approval requirements.

LORAC's E-T-8-0951A HSE Internal Incident Notification shall be completed for all Actual & Potential Class 1 & Class 2 Incidents within 24 hours of the incident occurring and sent (email/fax) to the Distribution List as below:

- Project Environmental Representative
- Project Leader
- Project Communications Manager
- Project Health and Safety Manager
- TfNSW EMP
- TfNSW EMR
- LORAC HSEQ Manager

18.3 Incident and Complaints Reporting

Environmental incidents and complaints are to be investigated, documented, actioned and closed out as per the details provided in the investigation process above.

The Community Liaison Management Plan will direct community and stakeholder consultation. In this manner it is hoped that informing the community of upcoming works will mitigate the risk of complaints being made. All complaints reports shall be logged on Projects Complaint Report Register or registered in the project correspondence system (Asite). A complaint record

must be kept for at least 4 years after a complaint was made. All complaints will need to be forwarded to TfNSW, this includes environmental as well as the community complaints.

The objective is to promptly resolve matters at project level, before they potentially become a matter for TfNSW's Communications Team or the subject of a ministerial letter. The aim is to enhance the reputation of TfNSW and LORAC among local external stakeholders.

All project local letter box drops will include a toll free 24 hour 1800 number for recipients with urgent enquiries or complaints to ring and the email address of projects@transport.nsw.gov.au. The 1800 775 465 number is either diverted to a mobile phone answered by a member of the TfNSW communications team or answered by a call centre. TfNSW will forward immediately such calls/emails to LORAC to answer. The aim is to respond to complaints within two hours and to respond to enquiries within 24 hours. Emails will be responded to within 24 hours.

LORAC will forward to TfNSW Communications Team information about Project enquiries and complaints and the response each business day or as required to meet the appropriate requirements.

A contact telephone service (TfNSW Projects Info line 1800 684 490) has been established to handle enquiries. TfNSW will delegate the handling of both telephone and written correspondence to an appropriate member of the LORAC communications team. The assistance of TfNSW Project Communications will be sought should significant issues arise during the project.

A Complaints Log will be established, with a verbal response provided to the complainant within two hours. Significant or more serious complaints will be logged, with a detailed written response forwarded to the complainant within seven days if it is requested by the complainant. The REF Conditions of Approval (10) identifies the process which will be followed in the resolution of complaints and enquiries. This includes providing information on all complaints received during the previous 24 hours and response times being forwarded to the EMR each working day.

The EPL 20514 requires LORAC as the Licensee to maintain a complaints register. The EPL also requires that noise and vibration complaints are investigated within 2 hours. A report detailing any complaints must be submitted to the EPA by 2pm on the day which the complaint occurred, unless the complaint was received after 12pm in which case it must be submitted by 2pm the following day.

All incidents will be reported in accordance with TfNSW's Environmental Incident Classification and Reporting Procedure (9TP-PR-105). Furthermore, the LORAC form E-T-8-1222 Environmental Incident and Complaint Report shall be completed for all environmental incidents and complaints within 2 working days of the incident and forwarded to the Project Leader.

Class 1 & Class 2 reportable incidents shall be reviewed by the Environmental Manager, LORAC HSEQ Director and Head of Legal prior to the issue of formal correspondence to external parties or regulatory authorities.

Where an environmental non-conformance or incident is identified, Corrective and preventive actions shall be developed and may include:

- Review and improve existing environmental controls and job safety analyses/ work method statements
- Site rehabilitation
- Increased site inspections and monitoring
- Modify construction or installation methods
- Increase environmental awareness including re-training and tool-box meetings

Each incident shall be sufficiently investigated to allow specific and detailed corrective and preventative actions to be identified, actioned and closed out as outlined on LORAC's Form E-T-8-1222 Environmental Incident and Complaint Form.

If a complaint is received via the telephone complaints line in relation to construction activities regulated by the EPL, details of the complaint are to be reported to the EPA by 2:00 pm via email if the complaint was received within a 24 hour period between 12:00 pm on that day and 12:00 pm on the previous day. The report must include details and nature of the complaint, and if any actions were taken. If works relate to OOHV activities, the report must also include a copy of the relevant Noise and Vibration Assessment.

Note: where a Class 1 Incident has occurred the Authorities are to be notified in accordance with the legislative time frames in the applicable state.

18.4 External Incident Notification – Material Harm

18.4.1 State Matters

TfNSW and the EPA must be notified immediately of all pollution incidents that cause or threaten material harm to the environment.

Harm to the environment is "material" if the effect (or potential effect) from an incident on the health or safety of humans or ecosystems is not trivial and or results in actual or potential loss or property damage of an amount, or amounts in aggregate, exceeding \$10,000.

Incidents requiring notification to the EPA must also be immediately notified to the Environment Manager and the LORAC Head of Legal and TfNSW. The EM will inform TfNSW and LORAC will notify the EPA.

If an incident presents an immediate threat to human health or property, 000 is to be called in accordance with the procedures outlined in the Construction Health and Safety Management Plan.

The EPA Environment Line is to be contacted on 131555.

The notification will need to include information on:

- The time, date, nature, duration and location of the incident.
- The location of the place where pollution is occurring or is likely to occur.
- The nature, the estimated quantity or volume and the concentration of any pollutants involved.
- The circumstances in which the incident occurred (including the cause of the incident, if known).
- The action taken or proposed to be taken to deal with the incident and any resulting pollution or threatened pollution.
- Other information prescribed by the regulations.

In addition to notifying the EPA of pollution incidents other authorities as outlined below must also be notified immediately:

- The Ministry of Health (02 9391 9000)
- The WorkCover Authority (13 10 50)
- The local council – Newcastle City Council :
- Main Switchboard Telephone: (02) 4974 6000
- After Hours Emergency Telephone: (02) 4974 6000
- Fire and Rescue NSW on 000 or Non – Emergency: (02) 9319 7000

Regardless of the actual or potential impact, these authorities must be notified under the amended legislation for all notifiable pollution incidents.

Further information in relation to the incident must be provided immediately if it becomes available after the initial notification. Records of contact with and details of the information provided to external authorities must be maintained in the project records.

18.4.2 Commonwealth Matters

Environmental incidents relating to the Environmental Protection and Biodiversity Conservation Act must be notified to the Secretary of the Department within 7 days of the event.

These types of incidents include the death or injury to the following:

- Migratory bird species
- Listed marine species
- Threatened species or listed ecological community (includes taking).

18.5 TfNSW Complaints

All communications from TfNSW (including CAR's and Audit reports) expressing concern or dissatisfaction with the implementation or operation of the CEMP shall be treated as an internally raised improvement request and documented in IMPACT.

Public Complaints shall be handled as outlined in Section 18.3 above using Forms E-T-8-1222 "Environmental Incident and Complaint Report" and logged into IMPACT by the Environmental Coordinator. The Community Liaison Manager will also record community complaints in accordance with the Community Liaison Plan.

Management system non-conformances and recurring environmental incidents will be handled in accordance with the Environmental Rules documented in LORAC's "Non-conformances, Incident Investigation and Complaints Management".

Corrective and preventive actions may include:

- Site remediation and rehabilitation.
- Increased site inspections and monitoring.
- Increase environmental awareness (re-training, tool-box meetings).
- Review and improve existing environmental controls and job safety analyses/ work method statements.

19 Sustainability

LORAC will implement TfNSW sustainability requirements outlined in TSR E – Environmental Management (5TP-FT-304), including:

- Achieve a Silver Rating in accordance with the TfNSW Sustainable Design Guidelines.
- To seek a rating under the Infrastructure Sustainability Council of Australia's IS Rating Tool.
- Compliance with the Project-Specific Sustainability Requirements listed in TSR E Annexure A.
- To ensure that LORAC activities are consistent with the principles of Ecologically Sustainable Development as outlined in the Protection of the Environment Administration Act 1991.
- Reporting on greenhouse gas emissions.

In accordance with CoA 39; prior to commencement of construction, a pre-construction sustainability report (PCSR) has been prepared and accepted by the TfNSW Principal Manager Sustainability.

Further information on the approach for sustainability on the Wickham Transport Interchange Project can be found in the Sustainability Management Plan.

20 Environmental Management System Audit

Auditing of the project Environmental Management System will be carried out through the project Quality Management System. All auditing will be coordinated by this group to meet Laing O'Rourke and TfNSW auditing requirements.

The audit will evaluate compliance with this CEMP and associated documentation including legal, contractual and other requirements.

It is expected that the project will be audited within 3 months of commencing on site and approximately every 3 months thereafter.

21 Management Review

Project Management, will check the status and adequacy of the Construction Environmental Management Plan (CEMP) to ensure that it meets current TfNSW and LORAC requirements as well as relevant environmental standards.

The Plan will be reviewed as and when required during the course of the contract when the following situations arise:

- TfNSW recommendations for changes (particularly following initial review).
- Changes to the LORAC management system.
- Opportunities for improvement or deficiencies in the project system are identified.
- Following an audit of the system or the occurrence of significant incidents and non-conformances.

If none of the above situation arises an annual management review of the CEMP will be undertaken.

LORAC Form "E-T-8-0121 Management Review of the Environmental System" may be used as a guide for reviewing the system.

Where through monitoring, inspection, audit or other measure, a non-conformance is identified with the administrative or management measures outlined in this CEMP, a Non-conformance Report shall be raised within the Project's Quality Management System IMPACT. The Project Environmental Representative will be responsible for the investigation, identification and close out of the Non-conformance Report.

Where required following the investigation, the CEMP shall be reviewed and revised where required. Revisions and any additional or modified management measures will be communicated to the site team through a toolbox session delivered by the Project Environmental Representative.

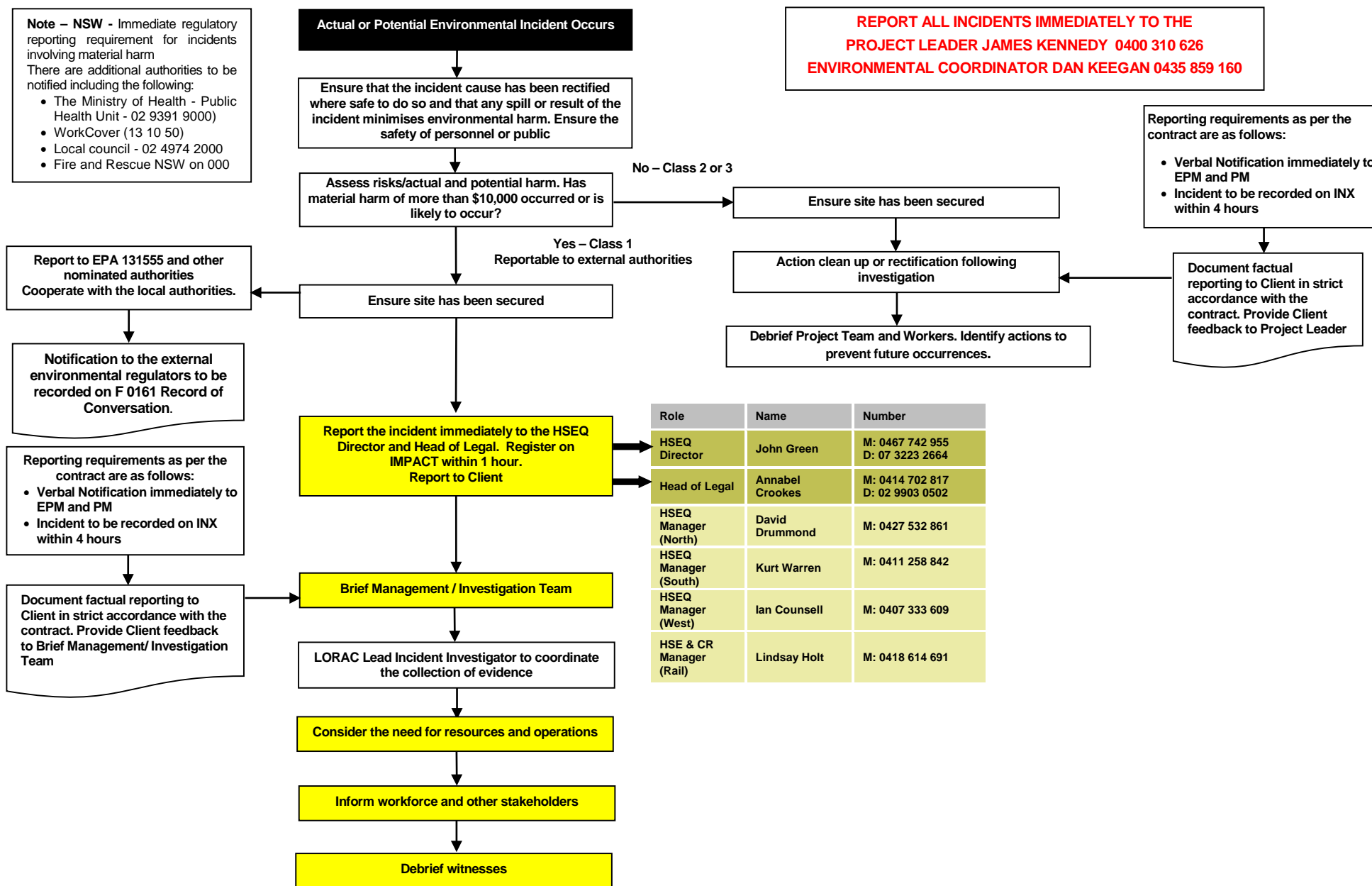
TfNSW will be advised of all non-conformances to this CEMP in line with process outlined in the CEMP Section 18 Incidents, Complaints, Corrective and Preventative Action.

22 Project Close Out

The following tasks will occur, at a minimum to close out the project;

Action	Responsible
PECOMS Audit – Close out of Conditions of Approval, EPL and other permits	PER EMR
WRAPP Reporting	PER
EPA Site Walkthrough	PER EPA Representative
EPL Annual Return	PER
EPL Surrender	PER
Submission of evidence for rating under the TfNSW Sustainable Design Guideline	PER
Submission of evidence for rating under the ISCA Rating Tool	PER
Handover of Heritage reporting to Heritage Council <ul style="list-style-type: none"> • AHIP notification of completion • S140 Notification of completion • S60 Notification of completion 	PER Archaeologist/Heritage Consultant
Handover of Asbestos Register and Hazardous Materials Register to land owner	PER RailCorp
Handover of Site Environmental Management Plan (Contamination) to land owner	PER RailCorp
Environmental and Sustainability Contributions to Operational Management Plan	PER
Site Rehabilitation Plan (including vegetation offsetting)	PER
TfNSW final inspection and site handover	PER EMR
Pre-Operational Compliance Report (Condition of Approval 6)	PER EMR

Appendix 1 – Environmental Incident Management Flow Chart



Appendix 2 – Legal and Other Requirements

The relevant legal and other requirements are shown in the table below. Access to this legislation is available on iGATE at [Legal Compliance Service](#)

Legal and Other Requirements	Summary of Obligations	Relevance to the Project / Notes and System
Environmental Planning Legislation		
Environmental Planning and Assessment Act 1979 Environmental Planning and Assessment Regulation 2000	This Act and Regulation establishes a system of environmental planning and assessment of development proposals for the State.	High Relevance The approval conditions and obligations are incorporated into the specification documents and LORAC's CEMP.
Local Government Act 1993 Local Government (General) Regulation 2005	The Local Government Act and Local Government (General) Regulation provide a legal framework for an environmentally responsible system of Local Government including the responsibility to administer various regulatory systems (e.g. Environmental Planning, Development Consents and Conditions of Approval).	Low Relevance The local Council (City of Newcastle) has number powers to control local issues including Development Applications (other than state significant development). This would only apply if ancillary works needed to occur on Council land
Roads Act 1993	This Act and Regulation primarily provide for such things as the opening and closing of public roads, identification of road boundaries and road widening, road levels, classification of public roads, road work, protection of public road and regulation of traffic, regulation of work, structures and activities.	Medium Relevance The proposal would involve some Road works on Stewart Avenue
Soil Conservation Act 1938	This Act makes provision for the conservation of soil resources, farm water resources and the mitigation of erosion. The Act is binding on the Crown, however the Crown is not liable for prosecution. The Act provides for notification in the government gazette catchments where erosion is liable to cause degradation of rivers, lakes etc. (i.e. protected land).	No Relevance This Act has low relevance as the site is not located within "protected land". Further, such notification has not been given to the owner of the land.
Environment Protection and Biodiversity Conservation Act 1999 (Cwth)	The main purpose of this Act is to provide for the protection of the environment especially those aspects that are of national environmental importance and to promote ecological sustainable development. The Act binds the Crown. Do not take, use, keep or interfere with "nationally significant" cultural and natural resources, protected wildlife and protected plants without Approval.	No Relevance This Act is of little relevance to the contractor on this project as it has been determined not to trigger the provisions of the act.
Mine Subsidence Compensation Act 1961	Under section 15, approval is required to alter or erect improvements within a mine subsidence district	High Relevance The proposal site is partly located within the Newcastle Mine Subsidence District. Consult with the Mine Subsidence Board and seek any approvals necessary, prior to commencement of construction
Native Vegetation Act 2003 Native Vegetation Regulation 2005	This Act and Regulation provide for the conservation and management of Native Vegetation by requiring Development Consent to be obtained for the clearing of Native vegetation. Section 12 of the Native Vegetation Act 2003 excludes the clearing of land carried out in accordance with consent under Division 3 of Part 9 of the Roads Act 1993. Clearing of native vegetation required for construction of the work under the contract would be covered by such consent.	Low Relevance Clearing of native vegetation is not required outside of the contract.
Land and Environment Court Act 1979	The Land and Environment Court is constituted under this Act. The jurisdiction of the Court is divided into numerous classes. The relevant classes for the project covers matter such as the prosecution for offences under various environmental legislation and to appeal against conditions of approvals, permits or orders.	Low Relevance The relevance of this Act would only apply to work under the contract if LORAC were prosecuted for an Environmental Offence.
Greenhouse Gas (GHG) Emissions National Greenhouse and Energy Reporting Act 2007	Corporations emitting more than 50kT of carbon dioxide equivalent units are required to register and report their Scope 1 and Scope 2 emissions for all Facilities in which they have Operational Control. Facilities emitting more than 25kT of carbon dioxide equivalent units must register and report Scope 1 and Scope 2 emissions.	High Relevance Laing O'Rourke Australia is a registered entity under this act. As such, where Laing O'Rourke has Operational Control, the Scope 1 and Scope 2 emissions associated with the project must be reported. This includes the collation and reporting of subcontractors site emissions. Laing O'Rourke does have Operational Control of this facility.

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Contaminated Land Legislation		
Contaminated Land Management Act 1997	This Act provides for a process to investigate and remediate land that has been contaminated and presents a significant risk of harm to human health. Section 60 of the Act is a "Duty to Report Contamination". This duty applies to owners of land and persons who become aware their activities have contaminated the land.	Medium Relevance The EPA must be notified in writing of any contamination identified within the proposal site in accordance with the requirements of section 60 of the Act.
Fire Control Legislation		
Rural Fires Act 1997	This Act is intended to prevent, mitigate and suppress bush and other fires. It places a duty on Laing O'Rourke as the occupier of the site to extinguish fires during bush fire danger periods or if unable to do so notify appropriate firefighting authorities of the existence of the fire and its location.	Low Relevance This project site and surrounding areas are not prone to bush fires.
Hazardous Substances Legislation		
Environmentally Hazardous Chemicals Act 1985	This Act prohibits the manufacturing, processing, keeping, distributing, conveying, using, selling or disposing of an environmental hazardous chemical or waste (prescribed activity) except under the provisions of a chemical control or a licence. The EPA is required to prepare inventories of environmentally hazardous chemicals and declared chemical wastes.	Low Relevance It is not anticipated any environmentally hazardous chemicals or declared chemical waste will be used or stored on the site. The Act therefore has little relevance to the site other than being aware of the existence of registers of declared chemical wastes and environmentally hazardous chemicals.
Dangerous Goods (Road and Rail Transport) Act 2008	The purpose of this Act is to regulate the transport of Dangerous Goods by road and rail in order to promote public safety and protect property and the environment. The transport of Dangerous Goods is required to be appropriately licensed (both vehicle and driver). Depending on the quantities being transported, the Act outlines specific requirements for including appropriate placards on the transport vehicle, emergency procedures, PPE, manifest documentation and fire extinguishers.	Medium Relevance The relevance of the Act is in respect to the transport of dangerous good to & from the site. The project will require the use of a variety of dangerous goods. LORAC will need to review and ensure Dangerous Goods requirements are addressed where transported by its vehicles, plant and equipment.
Water Management Act 2000 Water Management (General) Regulation 2004	This Act repeals the Rivers and Foreshores Improvement Act, 1948 and the Water Act, 1912. The provisions of both the aforesaid Acts are progressively rescinded as Water Management Plans are prepared and gazetted for catchment areas within the state. This Act and Regulation provide for the protection, conservation and ecologically sustainable development of water sources of the State and in particular to protect, enhance and restore water sources and their associated ecosystems.	No Relevance This Act has no direct relevance at this time to the construction work under this contract. The project approval does not trigger the provisions of this Act.
Dams Safety Act 1978	This Act constitutes the Dams Safety Committee and confers and imposes on the Committee functions relating to the safety of certain prescribed dams.	Low Relevance It is unlikely any action in respect to this project will endanger the safety of any prescribed dam
Coastal Protection Act 1979	This Act requires public authorities to notify the Coastal Council of NSW of any information, proposed activity or work that in the opinion of the public authority is relevant to the exercise of the function of the Coastal Council. It further empowers the Minister for the Department of Commerce to require public authorities to obtain consent prior to carrying out development in the coastal zone or giving consent to a person to occupy or carry out development in the coastal zone.	No Relevance The project is not located in areas associated with this act.
National Parks and Wildlife Act 1974	A heritage impact permit under section 87 of the Act to harm or desecrate an Aboriginal heritage object.	High Relevance An Aboriginal Heritage Impact Permit (AHIP) is currently in place for the WTI Project site. Test pitting and salvage works were conducted and the site cleared to operate under an unexpected finds procedure.
Threatened Species Conservation Act 1995 Threatened Species Conservation Regulation 2002 Threatened Species Conservation (Savings	This Act and Regulations provide for obtaining licenses to harm or pick threatened species populations or ecological communities whether plant or animal or to damage any critical habitat. The offence of picking or harming any threatened species is covered under the National Parks & Wildlife Act Part 8A. It is a defence under Part 8A of that Act if the offence was essential to carrying out development that is in accordance with a Development Consent within the meaning of the EP&A Act or an approval within the	No Relevance No threatened species of flora or fauna listed in the schedules of this Act have been identified within the area of the proposed work.

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and Transitional) Regulation 1996	meaning of Part 5 of the EP&A Act.	
Fisheries Management Act 1994	This Act is applicable to all waters within the state including private and public waters and all permanent and intermittent waters. The Act is most relevant in respect to maintaining water quality and ensuring no polluted water from site works enters streams, creeks and waterways. In addition this Act also has relevance for the removal of marine vegetation.	Low Relevance Along with the POEO Act water discharging from the site must not pollute the adjacent streams or watercourses.
Marine Pollution Act 1987	This Act creates offences for discharges of oil, oily mixtures and noxious liquid substances from ships into State waters.	No Relevance Not applicable to this project.
Noxious Weeds Act 1993	This Act provides for the classification and control of noxious weeds. Declared noxious weeds are classified as Class 1, State Prohibited Weeds; Class 2, Regionally prohibited Weeds, Class 3 Regionally Controlled Weeds, Locally Controlled Weeds and Class 5 Restricted Plants. The characteristics of each class is given in Section 8 (2) of the Noxious Weeds Amendment Act 2005. Class 1, 2 & 5 weeds are referred to in the Act as "Notifiable Weeds".	Low Relevance The Act applies to owners or occupiers of land including public authorities and thus does not apply to LORAC.
Water Act 1912	This Act provides for licences to extract water for construction purposes either from surface or artesian sources. Should construction water be extracted from surface (other than sedimentation ponds) or artesian sources a licence will be required.	Medium Relevance Water will be extracted from the underlying alluvial aquifer to construct a number of components of the project.
Heritage Act 1977	This Act provides for the preservation and conservation of heritage items such as building, works, relic, places of historic interest, scientific, cultural, social, archaeological, architectural, natural or aesthetic significance. Under this Act a relic means any deposit, object or material evidence which is 50 or more years old and relates to the settlement of the area (not being an aboriginal settlement). It is an offence under this Act to wilfully and knowingly damage or destroy items of heritage value. Do not demolish damage, move or develop around any place, building, work, relic, moveable object, precinct, or land that is the subject of an interim heritage order or listing on the State Heritage Register or heritage listing in a Local Environmental Plan without an approval from the Heritage Council (NSW) or local council.	High Relevance The proposal site includes the Hamilton Railway Station Group, which is listed on the State Heritage Register. New siding as part of the Stabling yard will be build adjacent to the northern platform, within the Curtilage area. These works have been assessed and approved under Section 60 2014-S60-166. The Project Site is also subject to a Section 140 Permit – specifically located to the main compound area and the old Station Master's Quarters
Wilderness Act 1987	An Act to provide for the permanent protection of and proper management of Wilderness Areas and to promote the education of the public in the appreciation, protection and management of wilderness. The Act and associated Regulations provides a mechanism for the identification and declaration of Wilderness areas.	No Relevance This project is not within or immediately adjacent to a declared Wilderness area. This Act has little or no relevance to the project.
Plantations and Re-forestation Act 1999	This Act is intended to facilitate the reforestation of land and development of timber plantations. It provides codified environmental standards together with a streamlined integrated scheme for the establishment and management and harvesting of timber and other forest plantation products.	No Relevance The location of work under this contract is not located within or adjacent to reforested or plantation forest land.
Australian Heritage Council (Consequential & Transitional Provisions) Act 2003 Australian Heritage Council Act 2003 (Cwth)	The Australian Heritage Council (Consequential and Transitional Provisions) Act 2003 repealed the Australian Heritage Commission Act 1975. The Australian Heritage Council Act 2003 establishes the Australian Heritage Council. The Council is required to identify places to be included in the National Estate and to maintain a Register of the National Estate of places.	No Relevance The site is not on Register of the National Estate of places.
Aboriginal and Torres Strait Islander Heritage Protection Act 1984 (Cwth)	This Act provides for the preservation and protection from injury or desecration to areas and objects of particular significance to Aboriginals. Areas and objects can be protected by Ministerial Declaration and it is then an offence to contravene such a declaration.	No Relevance No areas or objects within the works site have been identified as being subject to such a declaration and this Act is of little relevance to the project.
Ozone Protection Act 1989	This Act provides for a system of controls and to regulate and prohibit the manufacture, sale, distribution, use, emission, re-cycling & disposal of stratospheric ozone depleting substances and articles that contain these substances. The impact is that appropriately qualified people in accordance with this Act must undertake all servicing and maintenance of this type of equipment.	Low Relevance The relevance of this Act will relate to the use of refrigerators and air conditioning units in site buildings and vehicles which still contain CFCs. Such items are unlikely to be found on site.
Protection of the Environment Operations Act 1997	This Act is of most relevance to work being carried out under this contract. It integrates into one Act all the controls necessary to regulate pollution and reduce degradation of the environment, provides for licensing of scheduled development work, scheduled activities and for offences and prosecution under this Act.	High Relevance The proposal is considered to meet the definition of a scheduled activity under

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		<p>clause 33 ('railway systems activities') of schedule 1 of the POEO Act, and therefore an EPL would be required for construction.</p> <p>An EPL was established as part of the Wickham Junction works undertaken by Novo Rail Alliance and held by LORAC, this EPL is in the process of being varied to ensure that the premises that the EPL applies to includes the proposal. Section 148 of the Act requires a pollution incident causing or threatening material harm to the environment to be notified to the EPA and other authorities immediately.</p>
Transport Administration Act 1988	Approval under section 99B to close a level crossing.	<p>No Relevance Works under this Act have occurred in Stage 1.</p>
Pesticides Act 1999 Pesticides Regulation 1995	This Act and Regulation establish a legislative framework to regulate the use of pesticides. They have the objective to promote the protection of human health, the environment, property and trade in relation to pesticides. It is an offence under this Act and Regulation to wilfully or negligently misuse pesticides.	<p>Low Relevance Some pesticides or herbicides may be used on the WTI site. These will be selected on a basis of mitigating risk to the community and the environment. Appropriate notification will be given to the local community and neighbouring businesses.</p>
Waste Avoidance and Resource Recovery Act 2001	This Act repeals the Waste Minimisation and Management Act, 1995. The purpose of the Act is to encourage the most efficient use of resources and to reduce environmental harm in accordance with the principles of ecological sustainable development. The Act provides for the making of policies and strategies to achieve these ends. It is an offence under the Protection of the Environment Operations Act to wilfully or negligently dispose of waste in a manner that harms or is likely to harm the environment.	<p>Medium Relevance The relevance of the Act to this project is to implement the strategies by adopting the hierarchy of avoidance; avoidance of unnecessary resource consumption; resource recovery (including reuse, reprocessing, recycling and energy recovery), disposal (as a last resort).</p>

Appendix 3 – Risk Assessment

Initial risk assessment undertaken: 10 February 2015
Last review undertaken: 30 June 2015 & 21 July 2015

*This risk assessment is to be updated on an annual basis or when deemed necessary due to a project scope change, incident or management review.
All environmental issues have been assessed in accordance with the table below:

Risk Assessment Rankings: **E** = Extreme **H** = High **M** = Medium **L** = Low

Environmental issues which have an initial risk ranking of Medium or High will require the development and implementation of Environmental Risk Action Plans.

Issues which have an initial Extreme risk will require the development and implementation of an issue specific sub-plan.

The risks must be reassessed following the consideration of control measures.

Issues or activities that represent an Extreme risk after the application of control measures are not to be undertaken.

Aspect	Potential Environmental Impact	Initial Risk Rating			Control Measures	Residual Risk Rating		
Approvals and Licensing								
Not identifying appropriate approvals / licenses required or proceeding without them.	Works delayed, infringements, poor client relations, and reputational loss.	P	2	H	Check Environmental Assessment / REF / EIS and statutory documentation. Check for council permits Check contract documentation. Document requirement in CEMP Establish a register of approvals, licenses, permits.	U	2	M
Noise								
Noise from general construction activities resulting in impact to residents.	Disturbance to residents or neighbouring businesses. Potential for complaints.	L	2	E	Develop and implement a Construction Noise and Vibration Management Plan. Induction and toolbox talks to educate workers on noise management Plan for noisy works to occur during normal construction hours. Consult with the community in relation to upcoming activities that may result in concern. Monitor noise for compliance as the works progress at receiver locations. Provide periods of respite for high noise generating activities. Apply noise mitigation measures during entire project. Noise efficient equipment to be used on site.	P	4	M
Noise during works required to be undertaken out of standard construction hours.	Disturbance to residents or neighbouring businesses with potential for complaints.	C	2	E	Gain approvals required to work outside standard approved hours from regulatory authority and client Induction and toolbox talks to educate workers on noise management Plan for noisy works to occur during normal construction hours. Use of noise barriers where appropriate. Implement noise mitigation strategies for out of standard hours work. Monitor noise for compliance to project goals. Selection of quieter equipment where possible. Selection of subcontractors with newer/quieter plant. Register of approved out of hours work	L	3	M

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Aspect	Potential Environmental Impact	Initial Risk Rating			Control Measures	Residual Risk Rating		
		C	2	E		L	3	H
Vibration								
Vibration intensive activities undertaken on the site such as impact piling, vibratory rolling, etc.	Disruption, annoyance and nuisance to residents. Potential damage to adjacent residential and commercial residences and structures. Disruption to businesses as a result of vibration nuisance	C	2	E	Develop and implement a Noise and Vibration Management Plan. Determine vibration limits and structure/receiver offset distances. Consult with potentially affected parties prior to commencement of works on their upcoming activities that may be impacted by construction vibration. Ongoing vibration monitoring during vibration intensive works.	L	3	H
Water Quality, Erosion & Sedimentation								
Sediment laden runoff from construction works leaving site.	Degradation of local watercourses. Increased turbidity in local water ways resulting in impact on aquatic life. Fines for sediment escaping site.	P	3	M	Develop Soil and Water Quality Management Plan. Erosion and Sediment Control Plans (ESCPs). Induction, toolbox talks and training. SWMS review & regular site inspections. Develop and implement sediment and erosion control measures including sediment basins, water collection and dispersal systems, etc. Ensure measures are inspected and maintained as the works progress and also prior to and post rainfall events. Provide training and awareness on the need to prevent pollution. Site engineers dealing with earthworks and site supervisors are to undertake Erosion and Sediment Control training.	U	4	L
Stockpiling of vegetation and topsoil.	Wind and water erosion causing weed/seed dispersion offsite. Location of stockpiling next to waterways causing weeds/seeds to disperse from construction site.	L	4	M	Develop Environmental Control Plans to show stockpile areas. Appropriate locations for stockpiling (away from waterways, watercourses, drains). Management of Acid Sulphate Soils in accordance with the Acid Sulphate Soils Management Plan. Designated vegetation stockpiling areas. Minimise stockpiling / Use temporary stockpiling Cover stockpiles if left for extended periods.	U	4	L
Non-compliant water from construction works discharged from site	Non-compliant water entering stormwater system waterways (i.e. polluting - not compliant with discharge criteria).	C	3	H	Induction and toolbox talks Toolbox training on site procedures for water discharge Educate site staff on licence conditions and consequences of prosecution Environmental representative to approve all water discharges from site	U	3	M
Waste								
Waste disposal during construction.	Incorrect disposal of waste, further costs incurred for classifications and disposal, fines may be issued. Incorrect classification of waste (spoil) resulting in incorrect / illegal disposal/re-use.	L	2	E	Develop a Waste Management Plan. Inductions, toolbox talks and training on recycling facilities and waste segregation practices. Identify opportunities to incorporate recovered materials into the permanent works. Provide facilities on site for source separation and recycling. Ensure accurate waste records are retained. Tracking of disposal processes. Removal of wastes from the site would only be undertaken by a licensed contractor as required by the POEO Act and with appropriate approvals, if required, for contaminated materials, etc. All material to be utilised off-site to be appropriately classified in accordance with the Resource Recovery Exemptions. All material that requires off-site disposal to be appropriately tested and classified against the Waste Classification Guidelines (NSW EPA, 2014). Monitored during regular site inspection	U	4	L

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		Category	Score	Level		Category	Score	Level
Washout of concrete in undesignated areas.	Sediment laden/alkaline water polluting surrounding stormwater system / watercourses.	C	3	H	Contractors to provide and maintain concrete trays Subcontractors that have been found to have washed-out incorrectly are to in the first instance clean up the waste concrete and receive a first warning. Subsequent failures to comply with the concrete washout requirements may result in some penalty. Concrete washout areas clearly marked on Environmental Control Maps and delineated. Concrete truck drivers to be inducted/informed of location of washouts and directed to use them. Inductions/toolboxes on designated concrete washout areas. Subcontractor's agreements to include project compliant waste management principles. Monitored during regular site inspections. Develop pamphlet for all concrete delivery drivers to inform them of site requirements.	L	3	M
Contamination								
Management of contaminated or untreated materials	Non-compliant material and contaminated water entering surrounding waterways. Decrease in health of nearby ecosystems.	L	2	E	Develop contamination management procedures and protocols. Identify any contamination hotspots and incorporate procedures for these locations into construction documentation. Develop unexpected finds procedures.	U	3	M
Potential for discovery of unexpected contaminated spoil during construction.	Health effects resulting from airborne contamination, e.g. asbestos. Complaints received from odours released during excavations. Classification of spoil is changed and disposal options altered, costs incurred associated with disposal of higher classification of waste.	C	2	E	If contaminated soil is encountered, all works are to stop in the vicinity of the find and investigations commence. Induct personnel on location, type, nature, concentration of contaminants on site if found.	U	3	M
Encountering asbestos / contaminated material on site.	Transfer of material into previously uncontaminated area (outside work site) causing new contamination.	C	1	E	An occupational hygienist is to be engaged to manage working with or removal of asbestos. A licensed removalist must remove or direct the removal of asbestos and asbestos contaminated soil Appropriate testing of soils to identify asbestos contamination. Inspections of excavated and filled surfaces would be made during construction to determine the presence of visible asbestos. Contaminated soils would be stockpiled separately in the laydown area. Include asbestos contaminated soils on contamination maps. Communication to workers and where appropriate stakeholders and the community.	U	3	M
Hazardous Materials								
Storage of hazardous substances, leaking plant and equipment and spillage from refuelling.	Localised ground contamination / pollution of stormwater and requiring clean-up and/or receiving fines. Risk of igniting volatile substances. Unauthorised access to site / potential vandalism/damage leading to pollution.	L	3	H	Induction, toolbox talks and training on appropriate handling and storage of liquids. All storm water drains should be identified prior to works. Storage areas to be away from sensitive areas and appropriately banded. MSDS approved prior to bringing hazardous substances on site including risk assessment. Plans showing storage locations and associated controls e.g. spill kits, etc. (Environmental Control Maps). Training in use of spill kits	U	4	L

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					Contingency plans would be developed to deal with any spills which might occur during construction. Clearly label containers. Refuelling to occur in laydown area near main site compound unless otherwise agreed upon with the Environmental Coordinator. Less mobile plant may be refilled outside of the main compound area with strict controls in place including a spill kit present and a drip tray. Spill tray to be used when refuelling. Regular auditing and inspection of storage areas and materials. Make storage areas restricted access areas. Reduce/eliminate need for hazardous substances. Ensure all work sites are secure before leaving the site. All liquids i.e. fuels, paint etc. are to be securely locked away at the end of each day.			
Fuel contaminated runoff from construction works leaving site	Fuel contaminated runoff entering stormwater or waterways (i.e. polluting - not compliant with discharge criteria).	L	3	H	All storm water drains should be identified prior to works and controls implemented. Refuelling of vehicles away from culverts, water courses in the laydown area near the main site compound or other area with appropriate controls. A spill tray is to be used during refuelling and a spill kit must be present. Appropriate bunding/storage of substances. Toolbox on site procedures for sediment controls and chemical storage. Educate site staff on project conditions and consequences of prosecution. Regular audits of spill kits.	U	4	L
Biodiversity								
Vegetation trimming / clearing required outside approved work area.	Unauthorised works / removal of vegetation outside defined work area, possibility of removing threatened species, fines incurred.	P	3	M	Induction and tool box training on clearance zones and required protection measures Inspections during clearing activities. Fencing in place/ clear marking of trees to be retained and cleared / demarcation areas / plans showing clearing areas. Pre clearing checklist to be completed before any clearing of vegetation.	U	5	L
Clearing and grubbing of vegetation within work site.	Erosion of soils, uncontrolled runoff, sediment deposited into surrounding vegetated areas and water courses, and invasion of weeds. Wrong vegetation removed. Potential for injury to native fauna.	L	3	H	Inductions and toolbox training on erosion and sediment controls. Where possible works to be staged so environmental controls can be implemented after clearance works. Approved Erosion and Sediment Control Plans in place prior to starting works. Where applicable, mature trees and other native vegetation to be retained would be clearly delineated, with all construction activities excluded from these areas. Pre clearing checklist to be completed before any clearing of vegetation.	U	4	L
Weeds	Spreading of weed species around site. Incorrect disposal of weeds	P	3	M	Control Weeds in accordance with TfNSW Weed Management and Disposal Guideline 3tp-sd-110	U	4	L
Fauna on site, in particular Little Bent-wing bat at Maitland Road Bridge	Disturbance, injury or death of fauna	U	3	M	Induction and tool box training on fauna management and reporting fauna sightings Bat Management Plan	U	4	L
Pest / rodent disturbance from site establishment	Potential to relocate into residential areas / cause of community complaint. Health associated risks with increased rodents.	R	5	L	Ensure site establishment has pest controls such as wire mesh around building bases to ensure pests do not use them for shelter. If issue is problematic during construction activities, pest control services to be implemented as soon as possible	R	5	L
Feral animals	Inhabitation of site by feral animals such as foxes, feral cats, feral dogs and feral pigs.	R	5	L	Eliminate habitat for feral animals. Educate staff to not leave any food around that may attract feral animals.	R	5	L

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					If problems with feral animals persist engage a pest controller.			
Air Quality								
General construction works; site establishment, earthworks, piling, drilling, etc.	High dust activity in close proximity to residential and commercial premises, dust deposition at sensitive receivers, repairs and clean up needed, complaints received.	C	2	E	Develop Air Quality Management Plan. Inductions and toolbox training on Dust and Air Quality Management. Stop work or certain conditions in extreme weather. Assess on case by case basis. Maintain vegetation cover where possible Utilise shade cloth. Include provision for air quality monitoring during the works. Provide dust mitigation measures through water sprays/misting. Use of water carts during dry weather on haulage roads and excavations/batters. Install dust controls immediately and continually through the project. Use polymer dust suppressants where appropriate Erosion and Sediment Control Plans approved before works commence. Controls are then reviewed for maintenance.	P	3	M
Exhaust from plant and equipment.	Emissions resulting in air pollution.	U	4	L	Inductions and toolbox training on Dust and Air Quality Management. Well maintained plant/ equipment and pre-start checks and servicing. Non-complaint vehicles removed from site / repaired.	R	4	L
Heritage								
Unexpected heritage items encountered.	Work delays, additional studies, approvals required, damage to heritage item. Failure to comply with Heritage approvals and conditions	L	2	E	General inductions toolbox training on heritage management protocols. Label any known heritage items on Environmental Control Maps. If suspected heritage item encountered. Works to stop immediately and Environmental Representative contacted. Obtain all necessary approvals and act in accordance with conditions imposed. These include approvals under the Heritage Act and National Parks and Wildlife Act 1974.	P	3	M
Non-compliance with Heritage Permits	Damage to heritage items – fines, stop work orders repair costs	U	4	L	Educate the Project Team and workers on the permit conditions Delineation and signage around heritage items, where practicable and feasible.	R	4	L
Acid Sulphate Soils								
Disturbance of Potential Acid Sulphate soils and Actual Acid Sulphate Soils during excavations.	Mobilisation of metals within runoff to levels toxic to natural systems. Release of acidic runoff.	P	3	M	Follow mitigation measures within the Acid Sulphate Soils Management Plan. Awareness training in the identification and management of ASS. Provide containment and treatment facility on site where appropriate or dispose of for treatment. Ensure ASS material is left underwater, disposed of site or appropriately treated in a bunded area with sump.	U	4	L
Traffic								
Loss of on-street car parking in adjacent residential streets and commercial areas during construction.	Loss of parking availability to adjacent residential and commercial properties could result in community complaints.	P	4	M	Community notifications. Develop Traffic Management Plan / Traffic control procedures.	U	4	L
General construction traffic disturbing public access between local roads.	Disturbance to local residents resulting in complaints being made, limited access, potential for delays at local road access points resulting in complaints.	P	4	M	Approved Traffic Management Plans in consultation with relevant authorities. Detour routes to be advertised/ notified. Approved access routes, detailed Traffic Control Plans. Clear notifications / signage.	U	4	L

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		L	4	M		P	4	M
Management of heavy vehicles / haulage routes.	Complaints from sensitive receivers due to increased level and frequency of noise.	L	4	M	Designated haulage routes. Approved Traffic Management Plans. Community Notifications. Pedestrian management with traffic controller in place where required.	P	4	M
Truck deliveries out of normal working hours (un-approved).	Non-conformance with project requirements. Noise impact to community / potential complaints.	L	4	M	Personnel training of noise awareness to community included in induction and toolboxes. Induction on Construction Hours for deliveries. Communication of delivery times to suppliers. Community Notifications on project activities occurring locally. Code of conduct / selection criteria in place for subcontractors. Out of hours works approval where required (Environmental Protection Licence/ Planning Approval/ Council) Approved traffic/haulage routes. Planning and staging of works in approved hours as much as practical.	P	4	M
Resources and Energy Use								
Energy consumption by construction plant & operation of site compound facilities.	Inappropriate energy use, waste of energy resources, energy wastage costs, increased greenhouse gas emissions.	L	4	M	Inductions and toolbox training on waste management and energy saving practices in construction plant and equipment and during office work. No idling of plant equipment where possible onsite. Equipment / plant equipment inspections must be undertaken prior to use on site.	U	4	L
Water usage during construction activities.	Excess usage of potable water for construction activities leading to a decline in the amount of potable water for residents.	L	4	M	Include water conservation measures and verifiable targets. Capture and reuse rainfall and runoff for site activities.	U	4	L
Resource usage (e.g. building materials, water, fuels, packaging), waste generation and disposal.	Depletion of resources due to wastage (e.g. wastage of water / no recycling, poor management of procurement, ineffective removal of off-cuts, waste, i.e. no recycling).	L	4	M	Inductions and toolbox talks on recycling facilities and waste segregation, training/education on how to recycle. Procurement of materials (selection of materials) to be considered. Subcontractor's agreements to include project compliant waste management principles. Waste management undertaken in accordance with the Waste Avoidance and Resource Recovery Act 2001.	U	4	L
Lighting								
Lighting during night works	Light spill to sensitive receivers resulting in complaints from the community	L	4	M	Tool box staff on correct use of lighting towers Site Supervisor to monitor	U	4	L

Environmental Risk Assessment Rankings

This table may be used as a guide in determining the level of risk for each environmental issue. For each identified issue, consider the ‘maximum credible’ (not absolute worst case) risk that could result with minimal or no controls other than existing and using normal construction practices.

Note: Any one of the listed consequences must result in the use of the applicable consequence grading.

Select a letter and a number from each column. Plot letter and number selections on the Risk Ranking Matrix to determine applicable ranking:

Likelihood (Probability and Frequency of Occurrence)			Consequence (Outcome or Severity of Occurrence)		
C	Certain	<ul style="list-style-type: none"> Common or repeating occurrence Consequence can reasonably be expected to occur in life of Project. 	1	Severe	<ul style="list-style-type: none"> Major pollution incident causing significant and widespread damage or potential to health or the environment Persistent reduction in ecosystem function and value. Ongoing disruption and loss of protected species. Major prosecution likely, outcome in excess of \$500,000
L	Likely	<ul style="list-style-type: none"> Known to have occurred / “has happened” Conditions may allow the consequence to occur on the Project during its lifetime The event has occurred within the Business Unit within the previous 5 years. 	2	Major	<ul style="list-style-type: none"> Significant widespread and persistent changes to habitat, species or environmental media Significant pollution incident causing damage or potential damage to health or the environment external to the site. Potential for prosecution. Potential outcome between \$50,000 - \$500,000 Numerous substantial complaints Actual material environmental harm
P	Possible	<ul style="list-style-type: none"> Could occur / “heard of it happening” Exceptional conditions may allow consequences to occur on the Project, or has occurred nationally within the Australian Business. 	3	Moderate	<ul style="list-style-type: none"> Localised irreversible habitat loss or effects on habitat, species or environmental media Reportable incident to the relevant environmental regulator or other authority. Demonstrated breach of legislative, licence or guideline requirements. Likely infringement notice or fine, potential for prosecution up to \$50,000. Will cause complaints.
U	Unlikely	<ul style="list-style-type: none"> Not likely to occur Reasonable to expect that the consequence will not occur on the Project. Has occurred in industry but not in Business Unit. 	4	Minor	<ul style="list-style-type: none"> Localised degradation of habitat or short term impacts to habitat, species or environmental media. Pollution incident that marginally exceeds licence conditions or guidelines for acceptable pollution. Fine unlikely. Potential for complaints.
R	Rare	<ul style="list-style-type: none"> Practically impossible Not known to have occurred in industry or unheard of. 	5	Incidental	<ul style="list-style-type: none"> Localised or short term effects on habitat, species or environmental media. Fully contained on site and can be fully remediated. Little potential for fine or complaints. Insignificant or trivial incident

Probability ► ▼ Consequence	Certain	Likely	Possible	Unlikely	Rare
1 – Severe	E	E	E	H	M
2 – Major	E	E	H	M	M
3 - Moderate	H	H	M	M	L
4 – Minor	M	M	M	L	L
5 - Incidental	M	L	L	L	L

Appendix 4 – Operational Control Procedures - Environmental Risk Action Plans

These plans identify the control measures in place to mitigate the risks associated with the environmental aspects identified in the Risk Assessment. Where a control is imposed by Laing O'Rourke, i.e. it is not a legislative requirement, that control may be changed if the risks are appropriately considered in agreement with the Environmental Coordinator.

Operational Control Procedures - Environmental Risk Action Plans	
Noise and Vibration	
Objective	<ul style="list-style-type: none"> To comply with contractual and EPL requirements and ensure that noise and vibration from construction activities does not cause environmental nuisance.
Targets	<ul style="list-style-type: none"> No valid noise / vibration complaints resulting from construction works. Comply with the noise goals stipulated in the Construction Noise and Vibration Management Plan No unreasonable noise or vibration. No noise and vibration impacts on external receptors. No Infringement notices from the EPA. All works out of hours to be conducted under an Out of Hour Works Assessment and Application (OOHWAA) Full compliance with the REF requirements and CoAs.
Legal, Contractual and Other Requirements	<ul style="list-style-type: none"> Contract Specification Clause Planning consent conditions – TfNSW approval number: 385Q472 dated 10th November 2014 EPL OOHW conditions and approvals Environment Planning and Assessment Act 1979 Protection of the Environment Operations Act 1997 Protection of the Environment Operations (Noise Control) Regulation 2000 Local Government Act 1993 AS2436 Guide to Noise Control on Construction, Maintenance and Demolition Sites;
Site specific planning / approval conditions / licence conditions	<p>Construction Hours for Wickham Transport Interchange Project Construction activities would be undertaken during the hours of 7:00 am to 6:00 pm Monday to Friday; 8:00 am to 1:00 pm Saturday and at no time on Sundays and public holidays. The following construction work may be undertaken outside of the hours specified above:</p> <ul style="list-style-type: none"> Construction work that cause LAeq(15 minute) noise levels that are: <ul style="list-style-type: none"> No more than 5dB above rating background level at any residence in accordance with the Interim Construction Noise Guideline (DECC, 2009) and No more than the noise management levels specified in Table 3 of the Interim Construction Noise Guidelines (DECC, 2009) at other sensitive land uses. Delivery of plant, equipment and materials required to 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 Emergency construction works or activities to ensure the safe operation of rail or avoid loss of life, damage to property or environmental harm. <p>Further details are listed in L3 of the Wickham Transport Interchange Early Works EPL. All work undertaken outside of the standard construction hours, including work in accordance with a), b) d) and e) above, are subject to Conditions L3.4 and L3.5 of the Wickham Transport Interchange Early Works EPL. Conditions of Approval: High Noise Generating Activities Rock breaking or hammering, jack hammering, pile driving, vibratory rolling, cutting of pavement, concrete or steel and any other activities which result in impulsive or tonal noise generation shall only be scheduled between the following hours unless otherwise agreed to by the PMEM (or nominated delegate), or as approved by EPA (where relevant to the issuing of an EPL), unless inaudible at nearby residential properties and/or other noise sensitive receivers:</p> <ul style="list-style-type: none"> 8:00am to 12:00pm, Monday to Saturday 2:00pm to 5:00pm Monday to Friday.
Site specific planning / approval conditions / licence conditions	<p>Construction noise and vibration mitigation measures shall be implemented through the CEMP, in accordance with TfNSW's Construction Noise Strategy and the EPA Interim Construction Noise Guideline (July 2009). The mitigation measures shall include, but not necessarily be limited to:</p> <ul style="list-style-type: none"> details of construction activities and an indicative schedule for construction works identification of construction activities that have the potential to generate noise and/or vibration impacts on surrounding land uses, particularly sensitive noise receivers. detail what reasonable and feasible actions and measures shall be implemented to minimise noise impacts (including those identified in the REF)

Operational Control Procedures - Environmental Risk Action Plans

	<ul style="list-style-type: none"> procedures for notifying sensitive receivers of construction activities that are likely to affect their noise and vibration amenity, as well as procedures for dealing with and responding to noise complaints an out of hours work protocol (OOHWP) for the assessment, management and approval of works outside the standard construction hours identified in condition 17 of this approval, including a risk assessment process which deems the out of hours activities to be of low, medium or high environmental risk, is to be developed. All out of hours works are subject to approval by the EMR and/or PMEM or nominated delegate) or as approved by EPA (where relevant to the issuing of an EPL). The OOHWP should be consistent with the TfNSW Construction Noise Strategy. a description of how the effectiveness of actions and measures shall be monitored during the proposed works, clearly indicating the frequency of monitoring, the locations at which monitoring shall take place, recording and reporting of monitoring results and if any exceedance is detected, the manner in which any non-compliance shall be rectified. <p>Vibration Criteria Vibration (other than from blasting) resulting from construction and received at any structure outside of the Project shall be limited to:</p> <ul style="list-style-type: none"> for structural damage vibration German Standard DIN 4150:Part 3 – 1999: Structural Vibration in Buildings: Effects on Structures for human exposure to vibration – the acceptable vibration values set out in the Environmental Noise Management Assessing Vibration: A Technical Guideline (Dec 2006). <p>These limits apply unless otherwise approved by the PMEM through the CEMP.</p> <p>Non-Tonal Reversing Beepers Non-tonal reversing beepers (or an equivalent mechanism) shall be fitted and used on all construction vehicles and mobile plant regularly used on site (i.e. greater than one day) and for any out of hours work.</p> <p>Noise Impact on Educational Facilities Potentially affected pre-schools, schools, universities and any other affected permanent educational institutions shall be consulted in relation to noise mitigation measures to identify any noise sensitive periods (e.g. exam periods). As much as reasonably possible noise intensive construction works in the vicinity of affected educational buildings are to be minimised.</p> <p>Piling Wherever practical, piling activities shall be completed using non-percussive piles. If percussive piles are proposed to be used, approval of the EMR or PMEM shall be obtained prior to commencement of piling activities.</p>
<p>Controls (means and resources)</p>	<ul style="list-style-type: none"> A Construction Noise and Vibration Management Plan specific to the works has been developed to inform the Project Team of noise and vibration requirements and mitigation measures during construction. Carry out work according to the TfNSW's Construction Noise Strategy (The mitigation measures in Table 5 of the TfNSW Construction Noise Strategy aligns with the mitigation measures listed in the REF for out of hours works). The noise levels of plant and equipment must have operating Sound Power or Sound Pressure Levels compliant with the criteria listed in Table 2 of the Construction Noise Strategy (Transport for NSW, 2012) No work will be undertaken outside of the agreed hours without prior approval in line with the Out of Hours works Procedure Appendix 14. Where work outside the hours nominated above hours is required, approval shall be gained prior to the commencement of works from the PER and PL. Implement community consultation measures (including notification via letterbox drop, website, email distributions) Site induction to address construction activities and noise for employees, contractors and subcontractors. This induction would include: <ul style="list-style-type: none"> All relevant project specific and standard noise and vibration mitigation measures Relevant licence and approval conditions. Permissible hours of work Any limitations on high noise generating activities Location of nearest sensitive receivers Construction employee parking areas Designated loading/unloading areas and procedures Construction traffic routes Site opening/closing times (including deliveries) Environmental incident procedures. Where construction vibration is found to be causing a disturbance to, the construction methods shall be reviewed to reduce the impact where possible. Site offices, compounds and sheds will be located so as to have no negative impact on the noise amenity of nearby sensitive receptors. Delivery operations or other noise generating activities at compound and storage areas will take place during the designated construction hours, unless specifically required by Police or RTA requirements as per the EPL conditions. Where practical, substitution of excessively noise processes with alternative processes. Avoiding where practical the use of noisy plant simultaneously close together or adjacent to sensitive receptors. High efficiency mufflers must be fitted to all plant and equipment to minimise the generation of noise. All plant will be maintained in accordance with the manufacturer's requirements.

Operational Control Procedures - Environmental Risk Action Plans

	<ul style="list-style-type: none"> • Noise generating equipment to be orientated away from sensitive areas • Undertaking loading and unloading activities away from sensitive areas and during designated construction hours. • Select the most appropriate plant and equipment to minimise noise generation and include where necessary screening and enclosures. • On-site generators and auxiliary power sources used during construction should be positioned away from existing buildings to buffer noise/ vibration. • Regular checks are to be undertaken to ensure all equipment and vehicles are in good working order and are operated correctly. Checking should include: <ul style="list-style-type: none"> o engine covers; o defective silencing equipment; o rattling components; and o leakages in compressed air lines. • Awareness training and information will be provided to project personnel in relation to the vibration requirements on the project and the need to minimise vibration when in close proximity to operational areas. • Plant, equipment and processes shall be selected so as to limit construction related vibration. • Restrict or modify working hours to minimise impact if required. Include periods of respite where possible when vibration generating activities are being undertaken. • Introduce behavioural practices (no swearing, unnecessary shouting or loud stereos/radios on site; no dropping of materials from height, throwing of metal items and slamming of doors. • Monitoring noise throughout the construction period. • Attended vibration measurements prior to vibration generating activities to confirm vibration levels are within the acceptable range to prevent cosmetic building damage. • Where reasonable and feasible, construction should be carried out during the standard daytime working hours. Work generating high noise and/or vibration levels should be scheduled during less sensitive time periods. • If highly noise affected impacts are predicted, high noise and vibration generating activities may only be carried out in continuous blocks, not exceeding three hours each, with a minimum respite period of one hour between each block. • If highly noise affected impacts are predicted no more than three consecutive nights of high noise and/or vibration generating work may be undertaken over any seven day period, unless otherwise approved by the relevant authority. • Use quieter and less vibration emitting construction methods where reasonable and feasible. • The offset distance between noisy plant and adjacent sensitive receivers is to be maximised, particularly during OOHWs. • Plant used intermittently to be throttled down or shut down. Noise-emitting plant to be directed away from sensitive receivers. • Plan traffic flow, parking and loading/ unloading areas to minimise reversing movements within the site. • Non-tonal reversing beepers (or an equivalent mechanism) must be fitted and used on all construction vehicles and mobile plant regularly used on site and for any out of hours work. • Select site access points and roads as far as possible away from sensitive receivers. <p>Delivery vehicles to be fitted with straps rather than chains for unloading, wherever possible.</p> <p>Stationary noise sources should be enclosed or shielded, where practicable, whilst ensuring that the occupational health and safety of workers is maintained.</p> <p>Use structures to shield residential receivers from noise such as site shed placement; earth bunds; fencing; erection of operational stage noise barriers (where practicable) and consideration of site topography when situating plant.</p> <p>A site information board will be erected at the front of the site, which will include the name of the principal contractor, relevant contact details, hours of operation and regular information updates.</p> <p>All enquiries or complaints will be immediately forwarded to LORAC and be responded to within two hours. Respond to enquiries and Emails will be undertaken within 24 hours.</p> <p>Where construction noise and vibration is found to be causing a disturbance to sensitive receivers, the construction methods shall be reviewed to reduce the impact where possible.</p>
Responsibilities	<ul style="list-style-type: none"> • The Site Manager will ensure construction activities comply with these requirements and implement the control measures. • The Site Manager/Project Leader will obtain approval to work outside approved hours
Timeframe	<ul style="list-style-type: none"> • Duration of site works.
Monitoring and Reporting	<ul style="list-style-type: none"> • Noise monitoring and reporting will be undertaken as per requirements of EPL and TfNSW Noise Mitigation Strategy. • LORAC Environmental Checklist E-T-8-1227. • Weekly inspections to be uploaded on SEQ/CAR in A-site. Complaints to be recorded on LORAC's IMPACT PLUS Incident Reporting System and managed and closed out in accordance with TfNSW TSR C1 as detailed in Community Liaison • Plan Pre-start checks and regular servicing of equipment.

Operational Control Procedures - Environmental Risk Action Plans	
Dust and Air Quality	
Objective	<ul style="list-style-type: none"> To comply with contractual requirements and ensure that dust and other air emissions from construction activities do not cause impacts on sensitive receivers and equipment.
Targets	<ul style="list-style-type: none"> No valid dust complaints from construction works. No dust impacting on offsite activities or surrounding residences. No release of contaminants, (odour, smoke etc.) into the air. Full compliance with the REF requirements and CoAs. Dust levels to comply with limits stipulated by the NSW EPA.
Legal, Contractual and Other Requirements	<ul style="list-style-type: none"> Contract specification TfNSW consent conditions – approval number: 385Q472 dated 10th November 2014. Protection of the Environment Operations Act 1997 Protection of the Environment Operations (Clean Air) Regulation 2002 Local Government Act 1993
Site specific planning / approval conditions / licence conditions	<ul style="list-style-type: none"> All operations and activities occurring at the premises must be carried out in a manner that will minimise the emission of dust from the premises.
Controls (means and resources)	<ul style="list-style-type: none"> All plant and machinery would be fitted with emission control devices complying with relevant Australian Standards Machinery would be turned off when not in use and not left to idle for prolonged periods. Machinery and plant that will be kept on site will be serviced as per manufactures specifications. Vehicle movements would be limited to designed entries and exits, haulage routes and parking areas. Dust generation would be monitored visually, and where required, dust control measures such as water spraying would be implemented to control the generation of dust. Dust would also be monitored using a Dustrak unit. Monitoring will occur on a quarterly basis or after a dust complaint. Materials transported to and from the site would be covered to reduce dust generation in transit. Access points would be inspected to determine whether sediment is being transferred to the surrounding road network. If required, sediment would be promptly removed from roads to minimise dust generation. Stabilisation of any exposed surfaces as soon as practicable, including implementation of final landscaping as early as possible. Shade cloth would be fastened to the perimeter fence on the project site, where practicable, to minimise dust transported from the site during construction. Daily inspections and regular surveillance would be undertaken to identify any vehicles, plant or equipment that is causing visible emissions. If any defective vehicles, plants or equipment are identified, operation of this machinery would cease and service/maintenance would be undertaken. Works (including the spraying of paint and other materials) would be suspended during strong winds or in weather conditions where high levels of dust or airborne particulates are likely. Stockpiles will be maintained and contained appropriately, which could include covering or regular watering to minimise dust. Provision of Water tankers where necessary. Cover haul vehicles loads & ensure tail gates are closed when operating on public roads. Provide shaker grids, rumble strip or equivalent stabilisation at site egress points. Remove mud from haul vehicles prior to entering public roads. Remove spilt mud by construction equipment or vehicles on public roads. Provide awareness training in the need to minimise dust. Regular visual monitoring of dust generation.
Responsibilities	<ul style="list-style-type: none"> The Site Manager/Project Leader to implement the requirements of this plan. Site Manager to inspect the works at regular intervals.
Timeframe	<ul style="list-style-type: none"> Shaker grids to be installed prior to commencement of works. Water tankers and other measures available at the commencement of earthworks. Spilt mud and sediment to be removed from public roads prior to the end of each shift. Duration of site works.
Monitoring and Reporting	<ul style="list-style-type: none"> Weekly inspections to be recorded on Form F1227 LORAC Environmental Checklist E-T-8-1227. Complaints to be recorded on LORAC's IMPACT PLUS Incident Reporting System and TfNSW Communications Management System

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Waste

Objective	<ul style="list-style-type: none"> To comply with contractual and legislative requirements and ensure that waste from construction activities does not have the potential to escape from the site and cause an environmental nuisance / harm.
Targets	<ul style="list-style-type: none"> No incidences where waste is stored in a position where it has the potential to move off-site. All off site movements of waste will be tracked. The principles of the waste management hierarchy will be adopted, where practicable. Target to reuse or recycle 95% by weight of construction waste (including spoil). Waste will be minimised where ever possible. Full compliance with the REF requirements and CoAs. To comply with the requirements of the Wickham Transport Interchange Remediation Action Plan.
Legal, Contractual and Other Requirements	<ul style="list-style-type: none"> Contract Specification Clause TfNSW approval conditions – approval number: 385Q472 dated 10th November 2014. Protection of the Environment Operations Act 1997 Protection of the Environment Operations (Waste) Regulation 2005 Waste Avoidance and Resource Recovery Act 2001 Local Government Act 1993 Local Government (General) Regulation 2005
Site specific planning / approval conditions / licence conditions	<ul style="list-style-type: none"> EPL requirements - Concrete wash water
Controls (means and resources)	<ul style="list-style-type: none"> Implementation of LORACs Project Waste Strategy as stated within the Construction Waste, Contamination and Hazardous Materials Management Plan. Waste will be managed in accordance with the NSW Waste Avoidance and Resource Recovery Strategy and the waste hierarchy of reduce, reuse, recycle established under the Waste Avoidance and Resource Recovery Act 2001. Implementation of the Construction Waste, Contamination and Hazardous Materials Management Plan. This plan can be found in Appendix 17 of this document. The Plan covers the requirements of REF Measure 53 – “A waste management plan would be prepared as part of the CEMP and in accordance with the Waste Classification Guidelines (DECCW, 2009a).” Resource management hierarchy principles would be followed: <ul style="list-style-type: none"> Avoid unnecessary resource consumption as a priority. Avoidance is followed by resource recovery (including reuse of materials, reprocessing, recycling and energy recovery). Disposal is undertaken as a last resort. Separation of general waste from construction waste will be carried out. Waste spoil generated during the works is to be used to back fill boreholes, test pits and trenches in the first instance. Working areas would be maintained, kept free of rubbish and cleaned up at the end of each working day. Excess excavated material (that cannot be re-used on site) will be collected, stockpiled in accordance to the waste classification and disposed of to a licensed waste facility. Evidence of appropriate disposal of restricted solid waste, including quantities, must be provided to the PER. Clear delineation and identification of disposal locations on site is to be provided for separate waste streams. Licensed waste contractors will be utilised to remove waste. Use skip bins and ensure there are an adequate number of bins onsite to hold all waste generated. Retain waste disposal receipts and figures on the amount of waste that has been removed from site. Ensure waste is disposed of to the appropriate bin. Waste material would not be left on site once the works have been completed. Waste material, including soil and spoil that is taken off-site would be classified and managed in accordance with the Waste Classification Guidelines (EPA, 2014) and would be disposed of in accordance with the Protection of the Environment Operations Act 1997. All waste documentation would be collated in accordance with these guidelines and provided to Transport for NSW as requested. At least 90 per cent of construction waste generated during site preparation and construction would be diverted from landfill and either recycled or reused in accordance with Transport for NSW’s Sustainability Targets. 100 per cent of useable spoil material would be beneficially reused in accordance with Transport for NSW Sustainability Targets. If previously unidentified contamination is identified within the site, the PER is to advise TfNSW ER on whether there is a Duty to Report under section 60 of the Contaminated Land Management Act 1997, and notify the EPA in accordance with the EPA’s Guidelines on the Duty to Report Contamination under the Contaminated Land Management Act 1997 (2009).

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	<ul style="list-style-type: none"> Any waste material identified as being contaminated would be managed in accordance with the Contaminated Land Management Act 1997 and other relevant legislation. The removal, handling and disposal of any asbestos containing materials would be undertaken by an appropriately licensed contractor, and in accordance with: <ul style="list-style-type: none"> Code of Practice for the Safe Removal of Asbestos 2005 Code of Practice for the Management and Control of Asbestos in Workplaces 2005 All waste is to be disposed of at a lawful facility. Note: A lawful facility includes one that has the appropriate Development Consent, Environmental Protection Licence or is complying with EPA approved conditions and requirements. Records of the quantity and final location of the spoil material will be retained. Provide recycling services. E.g. Paper, Concrete, Steel, Cardboard, Timber. Ensure housekeeping is maintained and waste is disposed of to the appropriate bin. No illegal dumping of waste permitted.
Responsibilities	<ul style="list-style-type: none"> The Site Supervisor and Environmental Coordinator will ensure waste is correctly stored, weighed, recorded, tracked and minimised at all times The Project Leader is to ensure adequate resources are available to manage waste
Timeframe	<ul style="list-style-type: none"> Duration of site works.
Monitoring and Reporting	<ul style="list-style-type: none"> Skips monitored visually by the Site Manager on a daily basis. LORAC Environmental Checklist E-T-8-1227. LORACs project wide biannual WRAPP Report in accordance with the NSW Government Waste Reduction and Purchasing Policy (WRAPP) – Guidelines to Assist Reporting WRAPP progress for 2005-2007. Waste disposal records to be recorded in LORAC Waste Register on Asite. Waste data to be recorded in LORACs Project Wide WRAPP Report. Waste disposal records to be recorded in Waste Tracker through IMPACT Waste reporting to the client will occur through the WRAPP process on a 6 monthly basis

Water Quality, Site Drainage and Erosion and Sediment Control

Objective	<ul style="list-style-type: none"> To comply with contractual and legislative requirements and ensure that water discharged off-site from construction and erosion and sediment control (ESC) activities does not cause environmental nuisance / harm.
Targets	<ul style="list-style-type: none"> No sediment impacts to the surrounding environment and waterways as a result of the works Prevent water quality impacts off site as a result of erosion and sedimentation.
Legal, Contractual and Other Requirements	<ul style="list-style-type: none"> Wickham Transport Interchange Early Works Environmental Protection Licence No 20514 Wickham Transport Interchange Project REF. CoAs for Wickham Transport Interchange Project. Protection of the Environment Operations Act 1997 Water Management Act 2000 Local Government Act 1993 TfNSW Water Discharge and Reuse Guidelines
Site specific planning / approval conditions / licence conditions	<ul style="list-style-type: none"> Soil and water management measures shall be prepared as part of the CEMP for the mitigation of water quality and hydrology impacts during Construction of the Project. The management measures shall be prepared in accordance with Managing Urban Stormwater; Soils and construction 4th Edition (Landcom, 2004). Dewatering and water reuse must be undertaken in accordance with "TfNSW Water Discharge and Re-use Guideline – 7TP – ST-146" RMS Specification G38 Soil and Water Management (as per WTI-Specific Requirement Schedule) Flooding Evacuation Plan (Appendix 26)
Controls (means and resources)	<ul style="list-style-type: none"> Construction water will be tested and treated prior to being discharged preferentially on land within the project area in accordance with legislative requirements (including the project EPL) and TfNSW Water Discharge and Reuse Guidelines. The EPL does not currently allow for discharge off-site/to waters. The license would need to be varied, a correlation factor between TSS and Turbidity determined and the background water quality of receiving waters monitored. Discharge quality must comply with TfNSW Water Discharge and Reuse Guideline (7TP-ST-146 / 2.0) parameters: <ul style="list-style-type: none"> NTU background water quality or better (if licensed varied for discharge to Waters). pH: Between 6.5 and 8.5, if discharged to land (or water pending further approval). No visible oil and grease, if discharged to land (or water pending further approval). One or more stormwater sumps may be constructed over the course of the project, where required. Construction water will be collected in these sumps and reused for dust suppression or other construction purposes, where water quality targets are met. All chemicals and oils are to be stored in accordance with the manufacturer's specification or best practice within a bunded area protected from rain with 110% capacity of the largest container.

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	<ul style="list-style-type: none"> • The effectiveness of erosion and sediment controls will be regularly reviewed by the PER and adjusted if necessary. • Erosion and sediment controls will be inspected daily and recorded on the daily inspection register as per the requirements of the EPL. • Erosion and sediment controls will extend off site to protect existing council stormwater infrastructure, where necessary. • Erosion and sediment controls are only to be removed once the area they are protecting has been stabilised. The effectiveness of erosion and sediment controls will be regularly reviewed and adjusted if necessary. • An Erosion and Sedimentation Control Plan (ESCP) will be developed and maintained for the site in accordance with Managing Urban Stormwater, Soils and Construction Guidelines (Landcom, 2004) (the Blue Book). The ESCP will form part of the General Site Environmental Control Maps (ECMs). The plan will include site access controls preventing tracking of sediment from site, limiting the removal of groundcover and ensuring that the excavation works do not block natural drains or create undrained areas. Additional, activity specific ESCPs will be created depending on the activity and the erosion and sedimentation risk that arises from that activity. ESCPs will be updated regularly in line with construction works. • Appropriate stockpiling of materials will take place away from drainage lines, waterways and drains. Stockpiles would be managed by implementing sediment and erosion control devices in accordance with Managing Urban Stormwater, Soils and Construction (Landcom, 2004). • Spill kits will be available onsite. • Soil and sediment that accumulates in erosion and sediment control structures would be reused where practicable during site restoration, unless it is contaminated or otherwise inappropriate for use. • Site rehabilitation of disturbed areas to be undertaken progressively as activities are completed during the project. • Foundations in clayey material will be adequately protected to ensure that moisture softening of the foundation does not occur. Excavation during periods of heavy rainfall will be avoided to prevent any infiltration of water into the foundations. • Adequate drainage measures must be provided to control entry of groundwater and prevent ingress of surface water runoff to open excavation trenches. • Upstream water flows will be diverted around the worksite, where possible, in accordance with Managing Urban Stormwater, Soils and Construction. • Machinery will be checked daily to ensure that no oil, fuel or other liquids are leaking. • Refuelling of plant and equipment will be undertaken away from drainage lines (at least 10metres) within the laydown area near the main site compound, with appropriate controls in place including a spill tray and a spill kit. Any refuelling activity that does not meet this standard may only be undertaken with agreement from the Environmental Coordinator. • Visual monitoring of local water quality (i.e. turbidity, hydrocarbon spills/slicks) will be undertaken on a regular basis to identify any potential spills. • Work will cease during heavy rainfall events when there is a risk of sediment loss off site or ground disturbance due to waterlogged conditions. • Equipment, plant and materials would be placed in designated lay-down areas where they are least likely to cause erosion. • Vehicle wash down and/or cement truck washout would occur in a designated bunded area or off-site. • Following completion of work, land disturbed as a result of construction would be restored to its pre-existing conditions. A photographic survey (with photo locations being surveyed) would be undertaken prior to the work to provide a record of the baseline and ensure rehabilitation achieves the required outcome. • The development of ESCPs will be guided by the Blue Book and other guidelines where required. • Particular attention will be paid to the design criteria for sediment fences, straw bales, catch drains, diversion drains, sandbags and similar controls • Permanent drainage to be installed as early in the program as possible • All water to be discharged in accordance with legislation and only after LORAC approval. • The site EPL (20514) does not currently allow for offsite discharge. If the EPL was to be varied to include discharge offsite/to waterways a turbidity/TSS correlation should be found and the background water quality for the receiving waters determined. • The EPL allows for application to land only (this should occur in accordance with TfNSW Water Discharge and Reuse Guideline 7tp-st-146). • A shaker grid, or equivalent stabilisation, will be installed at the site egress points where there is a risk of mud-tracking onto local roads. • Top soil/mulch stockpiles to be not greater than 2.0m in height. All stockpiles will be located clear of watercourses and drainage works. • Waste water management facilities shall only be provided through connection to existing sewer or proprietary pump out systems are permitted. • Erosion and Sediment Control devices are to be maintained when their capacity has been reduced by 40%. • Toolbox talks will be conducted for employees and subcontractors on the requirements of the Erosion and Sediment Control Plan. • Use sand bag check dams to protect internal stormwater drains as required. • If flooding is predicted, follow the guidance of the Flood Evacuation Plan
Responsibilities	<ul style="list-style-type: none"> • All staff to ensure adequate ESC devices are installed and maintained. • The PER will undertake "at least weekly" inspections of on-site ESC devices, plus prior to expected rainfall and after rainfall. • The Site Manager is responsible for the repair/ management of any damage or additional ESC devices, as required.
Timeframe	<ul style="list-style-type: none"> • Duration of site works.
Monitoring and Reporting	<ul style="list-style-type: none"> • Visually monitored daily by the Site Manager. • Weekly inspections to be documented on the Weekly Environmental Inspection Checklist Form E-T-8-1227. • Maintenance activities for ESCPs shall be documented – items that cannot be immediately repaired are to be documented on the project CAR Register.

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	<ul style="list-style-type: none"> All water quality data including quantity, quality and dates of water release will be maintained the project records.
Groundwater	
Objective	<ul style="list-style-type: none"> To manage the interaction of construction works and any groundwater encountered on site. To prevent pollution of groundwater or other receiving waters during discharge.
Targets	<ul style="list-style-type: none"> Full compliance with the REF Approval requirements. To meet all conditions of any EPL variation or Extraction License if and when granted by the appropriate authorities.
Legal, Contractual and Other Requirements	<ul style="list-style-type: none"> Wickham Transport Interchange Project REF Approval. Waste Act 1912 Protection of the Environment Operations Act 1997 Protection of the Environment Operations (Waste) Regulation 2005 Environmental Planning and Assessment Act 1979. TfNSW Standard Requirements TSR E – Environmental Management.
Site specific planning / approval conditions / licence conditions	<ul style="list-style-type: none"> REF Mitigation Measures 69 -70
Controls (means and resources)	<ul style="list-style-type: none"> Any water extracted will be tested in accordance with the TfNSW Water Discharge and Reuse Guidelines and any other conditions imposed by an EPL variation or license from the NSW Office of Water. A site induction and toolbox talk will be held for all employees and will include dewatering requirements, including groundwater. A treatment train may be set up to treat for suspended sediments, pH imbalances and other chemicals if required.
Responsibilities	<ul style="list-style-type: none"> Site Environmental Representative
Timeframe	<ul style="list-style-type: none"> Duration of site works.
Monitoring and Reporting	<ul style="list-style-type: none"> Monitoring in accordance with TfNSW Water Discharge and Reuse Guidelines and any other condition imposed by the EPL or other licenses (including discharge to waters).
Traffic Management	
Objective	<ul style="list-style-type: none"> To comply with contractual requirements and ensure that noise and additional traffic from construction activities does not cause an environmental nuisance
Targets	<ul style="list-style-type: none"> No valid complaints resulting from congestion from construction traffic outside the approved Traffic Management Plan Comply with traffic management standards No visible cueing in streets surrounding the site Full compliance with the REF requirements and CoAs.
Legal, Contractual and Other Requirements	<ul style="list-style-type: none"> TfNSW approval conditions – approval number: 385Q472 dated 10th November 2014. Protection of the Environment Operations Act 1997 Roads Act 1993 RTA Traffic Control at Worksites Roads (General) Regulation 2000 Local Government Act 1993
Site specific planning / approval conditions / licence conditions	<p>In accordance with the REF the following mitigation measures will also be applied to traffic management;</p> <ul style="list-style-type: none"> Adequate road signage to inform motorists and pedestrians of the work and ensure that the risk of accidents and disruption to surrounding land uses is minimised. A pedestrian management plan to maximise safety and access for pedestrians and cyclists, including details of alternative access arrangements. Adequate sight lines to allow for safe entry and exit from the site. Impacts and changes to on and off street parking and requirements for any temporary replacement provision. Routes to be used by heavy construction-related vehicles to minimise impacts on sensitive land uses and businesses. Details for the relocation of kiss-and-ride, taxi ranks and bus stops if required, including appropriate signage to direct patrons, in consultation with the relevant operator. Measures to manage traffic flows around the area affected by the proposal, including required regulatory and directional signposting, line marking and variable message signs and all other traffic control devices necessary. Traffic and access would be managed in accordance with Traffic Control at Work Sites (RTA, 2010) and in consultation with Roads and Maritime Services and Council.

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	<ul style="list-style-type: none"> Construction vehicles would park within the construction compound/rail corridor safe zone. The timing of deliveries accessing the site would need to be considered to ensure there is sufficient space within the proposal site to accommodate deliveries. The queuing and idling of construction vehicles in residential streets would be minimised. <p>A TMP has been developed which identified the following measures to be implemented:</p> <ul style="list-style-type: none"> ensuring access to railway stations, businesses and residential properties (unless affected property owners have been consulted and appropriate alternative arrangements made) managing impacts and changes to on and off street parking and requirements for any temporary replacement provision parking locations for construction workers away from stations and busy residential areas and details of how this will be monitored for compliance <p>The performance of all Project traffic arrangements must be monitored during Construction.</p>
Controls (means and resources)	<ul style="list-style-type: none"> A Traffic Management Plan shall be developed detailing the route to the site, times of activity, types of machinery, signage, traffic control measures, etc. An approved Traffic Control Plan is required for any activity on/or immediately adjacent to public roads The Traffic Management Plan will detail the monitoring and inspection requirements Road occupancy licences would be obtained from Council for any works within the road reserve of local roads. (REF mitigation Measure 27) Access to all private properties adjacent to the proposal site would be maintained during construction, unless otherwise agreed by relevant property owners. . (REF mitigation Measure 28) Regular checks are to be undertaken to ensure all equipment and vehicles are in good working order and are operated correctly. Checking should include: <ul style="list-style-type: none"> defective silencing equipment; rattling components; and hydraulic hose or other fluid leaks. Implement the Traffic Management Plan for the works, which includes the implementation of the following management measures: <ul style="list-style-type: none"> Prior to construction commencing, the condition surveys and reports on the condition of roads and footpaths affected by construction will be prepared. Any damage resulting from the construction of the Project, aside from that resulting from normal wear and tear shall be repaired at the Proponent's expense. It is recommended that all the delivery vehicles travel to and from the construction site by state and regional roads where possible. Site deliveries of materials and plant will be scheduled outside of the peak hour periods to limit disruptions to the general public. This will avoid the morning and afternoon peak hours of pedestrian traffic and ensure that all site activity occurs within the site compound area. Site access/egress to the site compound is via Railway Lane and Holland Street. The preferred transportation for construction staff would be to use public transport, as Hamilton Railway Station is adjacent to the substation work site. It should be made clear to those construction staff driving to the area that parking within any off-street private car park areas is strictly prohibited. Existing roadway infrastructure such as, but not limited to, kerbs, footpaths, roundabouts, refuge islands and other traffic calming measures that are removed and/or damaged from the proposed construction works shall be repaired and/or reinstated Traffic impacts are to be managed through measures included in the CEMP. This would include limiting access hours in relation to traffic movements, avoiding vehicle movements in peak hours where possible. Signposting, line marking and variable message signs and other traffic control devices will be utilised to manage traffic flows around the area affected by the Project.
Responsibilities	<ul style="list-style-type: none"> The Site Manager is responsible for ensuring traffic management plans and TCPs are developed, approved and implemented
Timeframe	<ul style="list-style-type: none"> Duration of site works.
Monitoring and Reporting	<ul style="list-style-type: none"> LORAC's IMPACT PLUS Incident Reporting System to be used to document complaints. Daily inspection, checks and regular maintenance to traffic control measures.
Hazardous / Contaminated Land / Soil / Material	
Objective	<ul style="list-style-type: none"> To comply with contractual and legislative requirements and ensure that hazardous material from construction activities does not cause an environmental nuisance / harm and is disposed of in accordance with legislative requirements. To comply with the requirements of the WTI Project Remediation Action Plan (RAP)
Targets	<ul style="list-style-type: none"> No environmental incidences involving contaminated/ hazardous materials. No pollution events of the surrounding environmental and water ways by contaminated material. All off-site movement of any contaminated material will be tracked. Full compliance with the REF requirements, RAP and CoAs.
Legal, Contractual and Other Requirements	<ul style="list-style-type: none"> TfNSW approval conditions – approval number: 385Q472 dated 10th November 2014. Contract specification clause Contaminated Land Management Act 1997

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	<ul style="list-style-type: none"> • Protection of The Environment Operations Act 1997 • Dangerous Goods Safety Management Act 2001 • Dangerous Goods Safety Management Regulation 2001 • AS/ NZS 1940: 2004 - The Storage and Handling of Flammable and Combustible Liquids • Australian Dangerous Goods Code, 5th Edition • Pesticides Act 1999
Site specific planning / approval conditions / licence conditions	<p>Unidentified Contamination (Other than Asbestos)</p> <ul style="list-style-type: none"> • The Project's CoAs as issued by TfNSW. <p>If previously unidentified contamination (excluding asbestos) is discovered during Construction, work in the affected area must cease immediately, and an investigation must be undertaken and report prepared to determine the nature, extent and degree of any contamination. The level of reporting must be appropriate for the identified contamination in accordance with EPA <i>Guidelines for Consultants Reporting on Contaminated Sites</i>.</p> <p>The Proponent shall:</p> <ul style="list-style-type: none"> • Submit a copy of the report to the PME for consideration. The PME shall determine whether consultation with the relevant council and/or EPA is required prior to continuation of Construction works within the affected area. <p>Note: <i>In circumstances where both previously unidentified asbestos contamination and other contamination are discovered within a common area, nothing in these conditions shall prevent the preparation of a single investigation report to satisfy the requirements of both Condition 28 and Condition 29.</i></p> <p>Asbestos Management</p> <p>If previously unidentified asbestos contamination is discovered during Construction, work in the affected area must cease immediately, and an investigation must be undertaken and report prepared to determine the nature, extent and degree of the asbestos contamination. The level of reporting must be appropriate for the identified contamination in accordance with relevant EPA and WorkCover Guidelines and include the proposed methodology for the remediation of the asbestos contamination. Remediation activities must not take place until receipt of the investigation report.</p> <p>Works may only recommence upon receipt of a validation report from a suitably qualified contamination specialist that the remediation activities have been undertaken in accordance with the investigation report and remediation methodology.</p> <ul style="list-style-type: none"> • Note: In circumstances where both previously unidentified asbestos contamination and other contamination are discovered within a common area, nothing in these conditions shall prevent the preparation of a single investigation report to satisfy the requirements of both Condition 28 and Condition 29. <p>Pesticides and Herbicides</p> <p>Notification must be given to the land owner in accordance with the <i>TfNSW Pesticides Application Record Form 9tp-ft-160</i></p>
Controls (means and resources)	<ul style="list-style-type: none"> • Implement the Construction Waste, Contamination and Hazardous Material Management Plan for the works. • An asbestos management plan has been prepared for the site and recommendations are to be implemented during the construction phase. • Surface asbestos containing material (ACM) will be removed by a licensed asbestos removal contractor and disposed of as asbestos waste to an appropriately licensed facility in accordance with the WorkSafe NSW 2011 Code of Practice How to Safely Remove Asbestos. • Following removal of ACM a competent person will undertake a Clearance Inspection of the site to confirm that no visible ACM remains in accordance with the WorkSafe NSW 2011 Code of Practice How to Safely Remove Asbestos. • Waste Classification - During excavation works on-site, soil materials will be screened by a suitably qualified Environmental Scientist for visual and/or olfactory indicators of contamination prior to stockpiling. All material is to be stockpiled in a bunded area and wherever possible, material that is visually assessed as being similar, should be stockpiled together. Any materials displaying properties (physical, visual/olfactory) that are inconsistent with the materials characterised as part of the in-situ waste assessment must be stockpiled separately and subject to further ex-situ waste classification. A Waste Classification report will be required detailing the investigation and final classification of the waste and the material disposed of at an appropriately licensed landfill disposal. In the event, the results are below the nominated waste criteria, the material may be beneficially reused on site, if required. • A fuel bund with the capability of holding 110% of the material to be stored, if fuel to be stored on site. • Have emergency procedures in place as per PIRMP Appendix 5. • Have current SDS on site. • Manage any contaminated material as per legislative / EPA permit requirements. • In the event that indicators of contamination are encountered during construction (such as odours or visually contaminated materials), work in the affected areas would cease immediately, and the procedures detailed in the unexpected finds protocol would be implemented. • An Acid Sulphate Soils management plan has been developed for the Project. The plan has been developed in accordance with the Acid Sulphate Soil Planning Guidelines (Department of Urban Affairs and Planning, 1998). Acid sulphate soils will be treated on-site and reused if appropriate or sent to a licensed facility for treatment. • All pesticides and herbicides to be used on site are to be assessed by the PER and Safety Manager or Advisor. • Notification of pesticide use is to be made to the land owner and, where applicable, surrounding residents. • A pesticide register is to be kept which will record; the date of application, type of pesticide/herbicide, where it was applied, by whom, what notifications were made • Ensure the mitigation measures as described in the WTI Project RAP are implemented including a site validation/emu pick for asbestos, hot-spotting of contaminants and appropriate

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	capping of the potential lead contaminated area.
Responsibilities	<ul style="list-style-type: none"> Site Supervisors, Project Leader and LORAC Staff to ensure all targets are met.
Timeframe	<ul style="list-style-type: none"> Contaminated Material: Duration of any contaminated material removal. Hazardous Material: Duration of site works. Acid Sulphate Soils: Duration of works
Monitoring and Reporting	<ul style="list-style-type: none"> LORAC Environmental Checklist E-T-8-1227. Field testing and laboratory testing of soils Weekly inspections to be uploaded on SEQCAR on Asite Receipts for the disposal of any found hazardous material will be filed on Asite by the Site Clerk or PER. The finding of any contaminated material on site will be reported monthly by the PER using LORAC Form E-T-8-1227.
Indigenous and Non-Indigenous Heritage	
Objective	<ul style="list-style-type: none"> To comply with contractual and legislative requirements and ensure no adverse impact occurs to heritage items of Indigenous or Non-Indigenous nature.
Targets	<ul style="list-style-type: none"> No adverse impacts to heritage items Comply with all conditions of licenses obtained from Heritage Council, including Section 60 obtained during early works which contains main works components Comply with all conditions of licenses obtained from the Office of Environment and Heritage, including the AHIP for test pits. No heritage related incidents. Educate LORAC staff and subcontractors on the known/possible heritage items on site, relevant legislation, unexpected finds procedure and control measures required when working on or near heritage items.
Legal, Contractual and Other Requirements	<ul style="list-style-type: none"> Contract specification clause From the Conditions of Approval; <ul style="list-style-type: none"> CoA 36 - If previously unidentified indigenous or non-indigenous heritage/archaeological items are uncovered during construction works, all works in the vicinity of the find shall cease and appropriate advice shall be sought from a suitably qualified heritage consultant (and in consultation with the Heritage Division where appropriate). Works in the vicinity of the find shall not re-commence until clearance has been received from the heritage consultant and/or Heritage Division CoA43 - An approval under section 60 of the Heritage Act 1977 has been obtained from the NSW Heritage Division for works at Hamilton Station. All NSW Heritage Division approval conditions are to be implemented. Detailed design of the new station at Wickham, including materials selection would be sympathetic to the surrounding heritage items/elements and the significance of the Newcastle City Centre Heritage Conservation Area, while clearly marking the building as contemporary. These measures are to be detailed in the UDLP prepared under condition 37. Potential impacts on the heritage significance of Wickham, Civic and Newcastle stations as a result of ceasing rail operations at these stations would be addressed as part of the Residual Corridor Management Plan. CoA 44 - Prior to commencing any excavation or piling works where there is a risk of interfering with or destroying Aboriginal artefacts at the new transport interchange, an approval under section 90 of the National Parks and Wildlife Act 1974 is required from the Office of Environment and Heritage All approval conditions are to be implemented. Heritage Act 1977. National Parks and Wildlife Act 1974
Site specific planning / approval conditions / licence conditions	<ul style="list-style-type: none"> Section 60 Approval 2014-S60-166. Section 140 (2015/s140/20) Section 90 Aboriginal Heritage Impact Permit – Unexpected find procedure <p>Conditions from the Section 60 approval under the Heritage Act 1977: Development must be in accordance with:</p> <ul style="list-style-type: none"> Architectural drawings prepared by GHD, Appendix A and B General Arrangement and Detail drawings prepared by URS for Transport for NSW with Project Reference 'Hamilton Railway Station Group, Newcastle, Section 60 Application to NSW Heritage Division', Project No: SH473 Report entitled: 'Hamilton Railway Station Group - Archaeological Assessment' dated October, 2014 prepared by Artefact Heritage for Urbis Report entitled: 'Heritage Impact Statement, Hamilton Railway Station Group SH473, 16 October 2014 prepared by URBIS' Transport for NSW letter to Heritage Division Office of Environment & Heritage, dated 03.10.2014 re: Wickham Transport Interchange project - Application for approval for works at Hamilton Station <p>Use of Experienced Heritage Consultant and Tradespersons</p> <ul style="list-style-type: none"> Prior to the commencement of any work on site, an experienced heritage consultant is to be commissioned to work with the consultant team throughout the construction stages of the

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	<p>project. The nominated heritage consultant is to approve the resolution of all matters where existing significant fabric and spaces are to be subject to additions and alterations, recording and demolition. The nominated heritage consultant is to be provided with full access to the site and authorised by the applicant to respond directly to the Heritage Council or its delegate where information or clarification is required regarding the resolution of heritage issues throughout the project.</p> <ul style="list-style-type: none"> • The name of the heritage consultant is to be provided to the Heritage Council prior to commencement of any work on site. • All work shall be carried out by suitably qualified tradespersons with practical experience in conservation and restoration of similar heritage items. The nominated heritage consultant shall be consulted prior to the selection of appropriate tradespersons. <p>Site Protection & Works</p> <ul style="list-style-type: none"> • Significant built elements are to be adequately protected during the works from potential damage. Protection systems must ensure historic fabric is not damaged or removed. • New services shall be concealed appropriately to minimise visual impacts. The installation of new services and fit-outs shall be carried out in such a manner as to minimise damage to or removal of historic fabric and shall not obscure historic features. Any penetrations through heritage fabric for supply and waste pipes and mechanical ducts should be prevented. • All recommendations made on p.25 of the report referred to in the abovementioned Condition 1. c) Heritage Impact Statement, Hamilton Railway Station Group are to be carried out to mitigate any potential impacts associated with the proposed works. <p>Archaeology</p> <p>The Applicant must ensure that if intact archaeological deposits and/or State significant relics are discovered, work must cease in the affected area(s) and the Heritage Council of NSW must be notified in accordance with Section 146 of the Heritage Act. Additional assessment and approval may be required prior to works continuing in the affected area(s) based on the nature of the discovery.</p> <p>Duration of Approval</p> <p>This approval shall be void if the activity to which it refers is not physically commenced within five years after the date of the approval or within the period of consent specified in any relevant development consent granted under the Environmental Planning and Assessment Act 1979, whichever occurs first.</p> <p>Conditions of the AHIP includes the following aspects;</p> <ul style="list-style-type: none"> • Responsibility for compliance with the AHIP • Project manager to oversee actions relating to this AHIP • Actions must be in accordance with the AHIP application • Certain aboriginal objects must not be harmed • Test excavations in accordance with the Test Excavation Report • Temporary storage of certain Aboriginal objects • Long term management of certain Aboriginal objects • Notification of commencement and completion of actions • A copy of the AHIP and notices are to be provided to Registered Aboriginal Parties • Human remains measures • Incidents which may breach the Act or the AHIP – including reporting of incidents • Provision of Aboriginal Site Impact Recording Form • Report about Harm to Aboriginal Objects <p>General conditions; Indemnity, Release, Written Notice</p>
<p>Controls (means and resources)</p>	<ul style="list-style-type: none"> • A Heritage Management Plan has been developed to provide a background of Heritage related issues on site and to provide control measures to mitigate the risk of damage to items with heritage or archaeological significance. This plan will be developed before the commencement of construction and will include the conditions imposed by any licenses or permits. The plan will also include mitigation measures specified within the REF. This plan will form Appendix 15 of this document. • Include heritage requirements within the Site Induction • Tool box talks targeted at those working within known heritage areas – especially in regards to the S140 earthworks scope • The Unexpected Finds procedure is as follows; <ul style="list-style-type: none"> ○ If unexpected heritage items of a non-indigenous nature are found during works, the works will stop until the item can be identified and clearance given by the Heritage Consultant or Heritage Council in accordance with Condition of Approval 36. ○ Should Aboriginal heritage items be uncovered all work in the vicinity will cease and the Project Manager and Transport for NSW staff will be notified immediately. The Office of Environment and Heritage will be notified in accordance with the National Parks and Wildlife Act 1974. The Awabakal Local Aboriginal Land Council will be notified and an assessment by an archaeologist will be arranged to determine the significance of the objects and any other requirements before work resumes. If any human remains are discovered the Police and NSW coroner must be contacted. If the remains are found to be archaeological then the Office of Environment and Heritage must be notified. • Obtain all appropriate licenses and permits for works. • Provide toolbox talks to employees and subcontractors • Provide control maps detailing the location of known heritage items • Provide a poster showing key heritage items and what possible unknown finds may look like

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	<ul style="list-style-type: none"> All heritage items in the immediate vicinity of the proposal site would be marked on site plans, fenced off where appropriate, and avoided. The construction noise and vibration management plan prepared as part of the CEMP would define the construction methods to be used in the vicinity of heritage listed items and the measures to minimise the likelihood of vibration impacts. Vibration management measures provided in section 9.5 of the REF would be implemented to minimise the potential for structural vibration impacts to heritage items. Dilapidation surveys would be undertaken for heritage buildings/structures located on or within 25 metres of the proposal site. Sufficient protection including temporary fencing would be installed around built heritage items where works are to be undertaken in close proximity to these items, or where a thoroughfare or construction access is required.
Responsibilities	<ul style="list-style-type: none"> The Project Leader will ensure all materials are available to undertake controls as listed above The PER will ensure all relevant subcontractors undertake toolbox talks in relation to Heritage on site.
Timeframe	<ul style="list-style-type: none"> Full project duration.
Monitoring and Reporting	<ul style="list-style-type: none"> Incidents to be recorded in LORAC's IMPACT Incident Reporting System and TfNSW's INX Incident Management System. Incident reporting to OEHL in relation to the State Heritage listed Hamilton Railway Station Group. Weekly inspection, checks and regular maintenance of any on-site fencing.

Lighting

Objective	<ul style="list-style-type: none"> To comply with contractual and legislative requirements and mitigate the risk of adverse impacts to the community from light spill
Targets	<ul style="list-style-type: none"> No complaints due to light spill
Legal, Contractual and Other Requirements	
Site specific planning / approval conditions / licence conditions	<ul style="list-style-type: none"> Lighting plans to include direction to point light towers away from sensitive receivers
Controls (means and resources)	<ul style="list-style-type: none"> Tool box training to workers setting up light Visual monitoring of lighting during use Liaison with the local community
Responsibilities	<ul style="list-style-type: none"> The Project Leader will ensure all materials are available to undertake controls as listed above The PER will ensure all relevant subcontractors undertake toolbox talks in relation to lighting where required.
Timeframe	<ul style="list-style-type: none"> Full project duration.
Monitoring and Reporting	<ul style="list-style-type: none"> Visually monitored by the Shift supervisor as necessary. Reporting as per the TfNSW and LORAC incident reporting procedures for community complaints

Graffiti and Advertising

Objective	<ul style="list-style-type: none"> Minimise visual impact of construction works Eliminate offensive and/or unauthorised graffiti and advertising messages Maintain site facilities to be free of graffiti and unauthorised advertising
Targets	<ul style="list-style-type: none"> Full compliance with the REF Approval requirements.
Legal, Contractual and Other Requirements	<ul style="list-style-type: none"> Wickham Transport Interchange Project REF Approval. Environmental Planning and Assessment Act 1979. TfNSW Standard Requirements TSR E – Environmental Management.
Site specific planning / approval conditions / licence conditions	<ul style="list-style-type: none"> REF Approval Condition 40
Controls (means and resources)	Hoardings, site sheds, fencing, acoustic walls around the perimeter of the site, and any structures built as part of the Project are to be maintained free of graffiti and advertising not authorised by the Proponent during the construction period.
Responsibilities	<ul style="list-style-type: none"> Site Environmental Representative

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Timeframe	Graffiti and unauthorised advertising will be removed or covered within the following timeframes: <ul style="list-style-type: none"> • offensive graffiti will be removed or concealed within 24 hours • highly visible (yet inoffensive) graffiti will be removed or concealed within a week • graffiti that is neither offensive or highly visible will be removed or concealed within a month • any unauthorised advertising material will be removed or concealed within 24 hours
Monitoring and Reporting	<ul style="list-style-type: none"> • Weekly inspection, checks and regular maintenance of hoardings, site sheds, acoustic walls etc. and any structures built as part of the project
Flora and Fauna Management	
Objective	<ul style="list-style-type: none"> • To comply with contractual and legislative requirements and ensure no adverse impacts to flora or fauna on-site including degradation of site by further weed infestation.
Targets	<ul style="list-style-type: none"> • No unapproved clearing of vegetation • No unnecessary clearance of vegetation • No harm to fauna • Inhibit the spread of weeds on site. • Mitigate the risk of feral animal habitation onsite • Provide vegetation offsets as per requirements of CoA and TfNSW Vegetation Offset Guidelines • Educate LORAC staff and subcontractors on the above
Legal, Contractual and Other Requirements	<ul style="list-style-type: none"> • Contract specification clause • Native Vegetation Act 2003 • Threatened Species Conservation Act 1995 • Noxious Weeds Act 1993. • Pesticides Act 1999. • Local Land Services Act 2013. • National Parks and Wildlife Act 1974
Site specific planning / approval conditions / licence conditions	<ul style="list-style-type: none"> • RMS Specification G40 Clearing and Grubbing (as per WTI-Specific Requirement Schedule CoA33: <p>Replanting Program All cleared vegetation shall be replaced and/or offset in accordance with the following, unless otherwise agreed or directed by the PMEM:</p> <ul style="list-style-type: none"> • Sydney Train's Biodiversity Offset Calculator for vegetation within the rail corridor • TfNSW's Vegetation Off-set Guide for vegetation outside of the rail corridor <p>All vegetation planted on-site is to consist of locally endemic native species, unless otherwise agreed by the PMEM, following consultation with the relevant Local Authority, where relevant, and/or the owner of the land upon which the vegetation is to be planted.</p> <p>CoA34:</p> <p>Removal of Trees or Vegetation Separate approval is required in accordance with TfNSW's Application for Removal or Trimming of Vegetation for the trimming, cutting, pruning or removal of trees or vegetation where the impact has not already been identified in the EIA for the Project.</p> <p>CoA 42:</p> <p>Bat Management Plan A Bat Management Plan would be prepared, as part of the CEMP for the proposal, to minimise the potential for any impacts on bats particularly those that use the Maitland Road overpass.</p> <p>Replanting Program All cleared vegetation shall be replaced and/or offset in accordance with the following, unless otherwise agreed or directed by the PMEM:</p> <ul style="list-style-type: none"> • Sydney Train's Biodiversity Offset Calculator for vegetation within the rail corridor • TfNSW's Vegetation Offset Guide for vegetation outside of the rail corridor <p>All vegetation planted on-site is to consist of locally endemic native species, unless otherwise agreed by the PMEM, following consultation with the relevant Local Authority, where relevant, and/or the owner of the land upon which the vegetation is to be planted.</p> <p>Removal of Trees or Vegetation Separate approval is required in accordance with TfNSW's Application for Removal or Trimming of Vegetation for the trimming, cutting, pruning or removal of trees or vegetation where the impact has not already been identified in the EIA for the Project.</p>

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Controls (means and resources)	<ul style="list-style-type: none"> No clearance without prior approval Works to be undertaken in accordance with the Bat Management Plan Inductions and Tool box training on flora and fauna issues – including feral animals and weeds Works to be carried out in accordance with TfNSW Vegetation offset guide 9tp-st-149, TfNSW Weed Management and Disposal Guideline 3tp-sd-110, TfNSW Vegetation Management (Protection and Removal) Guideline 9tp-sd-111 Provide control maps detailing the location of fauna habitats and vegetation not to be disturbed Carry out work in accordance with TfNSW's biodiversity objectives as stated in the Transport Environment and Sustainability Policy Statement periodic monitoring of the underside of the Maitland Road bridge deck prior to and during works involving services or infrastructure attached to the bridge structure and avoid direct disturbance to roosting individuals from light pollution, vibration or direct contact Monitor for signs of feral animals such as foxes, cats, dogs and pigs. Educate workers on not leaving food around which may attract pests and feral animals Limit habitat for feral animals where possible. If feral animals become problematic engage a pest controller to remove the animal in accordance with NSW law. Monitor for weeds and if found organise for removal of herbicide application. Limit the spread of weeds on site. In particular Castor Oil plant. This should be done by appropriate stockpile management and weed spraying where appropriate.
Responsibilities	<ul style="list-style-type: none"> The Project Leader will ensure all materials are available to undertake controls as listed above The PER will ensure all relevant subcontractors undertake toolbox talks in relation to flora and fauna. all construction personnel to be made aware of possible roosting by listed threatened species beneath Maitland Road overpass PER to conduct periodic inspection of underside of Maitland Road bridge deck during day time, to identify possible presence of micro-bats and roosting sites such as small cracks 5cm or wider PER, construction staff to be vigilant for microbat activity at dawn and dusk (during possessions), when roosting individuals are likely to be active
Timeframe	<ul style="list-style-type: none"> Full project duration.
Monitoring and Reporting	<ul style="list-style-type: none"> Visually monitored daily by the PER. Reporting as per the TfNSW and LORAC incident reporting procedures
Concrete Washout	
Objective	<ul style="list-style-type: none"> To comply with contractual and legislative requirements in relation to the washing out of concrete on the project.
Targets	<ul style="list-style-type: none"> Zero spills or uncontrolled release of concrete. No instances of uncontrolled concrete washout.
Legal, Contractual and Other Requirements	<ul style="list-style-type: none"> TfNSW approval conditions – approval No: 385Q472 dated 10th November 2014. Contract specification clause Protection of the Environment Operations Act 1997.
Site specific planning / approval conditions / licence conditions	<ul style="list-style-type: none"> Contract Specification EPL requirements Protection of the Environment Operations Act (1997)
Controls (means and resources)	<ul style="list-style-type: none"> Subcontractors are to supply their own concrete tray for concrete disposal. Where permitted by Laing O'Rourke, subcontractors may construct and operate a concrete washout pit. Concrete washout to be constructed with geo-fabric lining and bunded. Location of concrete tray or washout to be at least 20m away from any drainage line or stormwater system. Where concrete trays are not appropriate a concrete washout is to be constructed to the dimensions of 6m x 3m x .5m deep prior to commencement of concrete works, where practicable Concrete trays or washouts should have a minimum capacity of 3m³ and should not be subject to inflow of runoff from the local catchment. Washout to be barricaded off on all sides when not in use to prevent unauthorised entry. Washout area is to be inspected daily by the Site Manager to ensure residual water levels don't exceed 75% of capacity. Record of daily inspection to be kept in Site Manager's/Supervisor's diary when concrete washout is being undertaken. Washout area to be cleaned when the capacity has been reduced below 50%. Cleaning of washout to involve, removal of spoiled geo-fabric material and disposed of to a licenced waste disposal facility. Records to be retained Where possible waste concrete shall be returned to the batch plant or concrete recycler. Concrete truck drivers are to be advised of the location of the concrete tray or washout area prior to arrival on site – to be done by subcontractor using concrete. The requirements relating to concrete washout on site are to be provided to the supplier prior to the works.

Construction Environmental Management Plan

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Wickham Transport Interchange

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Operational Control Procedures - Environmental Risk Action Plans	
Responsibilities	<ul style="list-style-type: none"> The Site Manager will ensure that an approved and prepared area for concrete washout is available. All personnel are required to ensure that the requirements of this ERAP are implemented for their operations. Site Manager /Project Leader are required to advise LORAC of any concrete spills. The Site Manager is responsible for confirming these requirements with the concrete supplier prior to the works.
Timeframe	<ul style="list-style-type: none"> Duration of site works.
Monitoring and Reporting	<ul style="list-style-type: none"> Weekly inspections to be recorded on Form E-T-8-1227. Incidents or spills of concrete to be recorded on form Environmental Incident and Complaint Report (F1222).
Greenhouse Gas Emission	
Objective	<ul style="list-style-type: none"> Implement Environmental and Sustainability Initiatives for the project (identified below and in the Sustainable Design Guidelines spreadsheet)
Targets	<ul style="list-style-type: none"> Implement LORAC Environmental and Sustainability Policy Assist TfNSW in trialling Carbon Estimate Reporting Tool (CERT)
Legal, Contractual and Other Requirements	<ul style="list-style-type: none"> Wickham Transport Interchange REF. CoAs for Wickham Transport Interchange Project. ISO 14064-1:2006 Greenhouse Gases – Specification with guidance at the organisational level for quantification and reporting of greenhouse gas emissions. TfNSW's Greenhouse Gas Inventory Guide for Construction Projects (Version 3.0). The GHG Protocol – Revised Edition, 2004, developed by a partnership between the World Resource Institute (WRI) and the World Business Council for Sustainable Development (WBCSD). National Greenhouse and Energy Reporting (Measurement) Determination 2008. National Greenhouse Accounts (NGA) Factors, July, 2013, developed by the Department of Industry, Innovation, Climate Change, Science, Research and Tertiary Education.
Site specific planning / approval conditions / licence conditions	<ul style="list-style-type: none"> Greenhouse gas assessment shall be prepared in accordance with REF and TfNSW Sustainable Design Guidelines for Rail Version 3.0 TfNSW Carbon Estimate Reporting Tool (CERT)
Controls (means and resources)	<ul style="list-style-type: none"> The potential use of biodiesel blended with regular diesel in construction vehicles and equipment. Purchase of GreenPower sourced electricity where feasible. Use of energy efficient technologies to power site offices, including; energy efficient, lighting, Behavioural patterns such as ensuring site office personnel switch off computers, monitors and office equipment whilst not in use. The use of materials such as recycled steel or alternative cement products where feasible. All vegetation cleared be disposed of at a registered compost facility or reused on site as mulch. Clearing of vegetation should be limited to the minimum that is required for the project.. Planting additional vegetation would assist in offsetting GHG emissions. Engines should be switched off when vehicles are not in use. Construction plant and vehicles should be well maintained and regularly serviced. Visibly smoky or defective plant should not be used.
Responsibilities	<ul style="list-style-type: none"> All the personnel are responsible for switching off computers, monitors, office equipment, and vehicle whilst not in use. Contractors are responsible for efficient usage of plant and equipment. The PER will undertake “at least weekly” inspections of on-site to make sure no plant leave idle for more than 30 min. Construction manager is responsible for the implementation of sustainability policies on site during construction. Site Supervisors, Senior Project Leader and LORAC Staff to ensure all targets are met.
Timeframe	<ul style="list-style-type: none"> Duration of site works.
Monitoring and Reporting	<ul style="list-style-type: none"> Report will be undertaken by LORAC as part of National Greenhouse and Energy Reporting requirement. LORAC Environmental Checklist E-T-8-1227.
Delivery and Storage of Chemicals, Fuels a Oils and including Dangerous Goods Requirements	
Objective	<ul style="list-style-type: none"> To comply with contractual and legislative requirements in relations to the transport of dangerous goods. To comply with contractual and legislative requirements in relation to the storage of chemicals, fuels and oils on the site. To ensure contractual and legislative requirements in relation to hazardous substances and dangerous goods are adequately addressed for all operations – there are specific additional requirements relating to the storage and transport of dangerous goods

Operational Control Procedures - Environmental Risk Action Plans	
Targets	<ul style="list-style-type: none"> Zero spills or uncontrolled release of fuel, oils or chemicals associated with Laing O'Rourke's Operations. Compliance with relevant transport and storage requirements. All vehicles transporting dangerous goods have appropriate placards, licenses and emergency equipment and procedures.
Legal, Contractual & Other Requirements	<ul style="list-style-type: none"> TfNSW approval conditions – approval No: 385Q472 dated 10th November 2014. AS/ NZS 1940: 2004 – The Storage and Handling of Flammable and Combustible Liquids Dangerous goods (Road and Rail Transport) Act 2008 Dangerous goods (Road and Rail Transport) Regulation 2008 Australian Dangerous Goods Code, 7th Edition Contract specification
Site specific planning / approval conditions / licence conditions	<ul style="list-style-type: none"> EPL requirements
Controls (means and resources)	<p>The following are the minimum general control measures to be implemented on the project, however additional control measures may be required following the completion of the construction process procedure/work method statement for the proposed activity.</p> <ul style="list-style-type: none"> Minimise storage of fuel, oil, chemicals or other dangerous goods on site, though efficient and timely ordering. The SDS and material risk assessment, including any specific control measures are to be submitted where required and upon request to the TfNSW's Environmental Management Representative. A risk assessment relating to the use of these materials is to be completed in accordance with the Construction Health and Safety Plan prior to the arrival of these goods to site. SDS and associated documentation for each material to be reviewed prior to the completion of the risk assessment for the relevant construction process. A copy to be included with the SWMS. Ensure SDS's are available on site for all fuels, oils, chemicals and dangerous goods. Suppliers are to provide SDS prior to dispatch of the material. Chemicals, fuels and oils to be stored in a securely bunded area with appropriate signage, at all times when not specifically in use. Chemicals fuels, oils and chemicals to be stored inside impervious bunds of sufficient capacity to contain 110% of the stored volume. Bunded areas must have sufficient cover to prevent ingress of rain. Materials removed from the bunded storage area for use are to be returned to the bund at the end of each shift Storage sites are to be > 20m away from operational facilities, drainage lines, and areas prone to flooding or on slopes > 1V:10H. Driver or Supervisor to be in attendance at all times when unloading of fuel, oil or chemicals takes place on site. No water to be discharged from bunded areas into site drainage system. Contaminated water to be removed by appropriately licensed contractor & discharged to a suitably licensed waste facility. Delivery drivers are to be provided with specific drop off and storage instructions. Spill kits & absorbent material to be located adjacent to storage bunds. Training is to be provided to the workforce in the application of this ERAP and the use of spill kits. Absorbent material used to clean up spills to be disposed of in accordance with the EPA Waste Classification Guidelines. A register of Chemicals, Fuels/Oils and Hazardous materials is to be kept onsite and maintained for the duration of the project. Each construction method statement shall identify the use of chemicals, fuels & oils and hazardous materials. SWMSs to address the specific requirements relevant to the work to be undertaken and document relevant site control measures. Dangerous Goods <ul style="list-style-type: none"> Ensure transporters of these materials are appropriately licensed. This includes relevant licenses for vehicles and drivers. Dangerous goods that are to be transported in receptacles greater than 500lt/kg may require specific licenses and shall not be transported by Laing O'Rourke without the Project Leader/Workplace Manager's approval. Dangerous goods transported by external contractors or by Laing O'Rourke must comply with these requirements. The quantities being transported determines the control and management measures required. Where dangerous goods are transported by Laing O'Rourke, a SWMS must be developed and include dangerous goods requirements. Transport information/manifest is required to be included with any quantity of Dangerous Goods transported by Laing O'Rourke – Form 1232 Dangerous Goods Transport Note is to be used unless it can be demonstrated that the activity is exempt. The SWMS statement must address the requirement for Licensing, Placards or other specific regulatory requirements Transport activities in quantities that trigger the requirements of a "Placard Load" under the regulations require the following: <ul style="list-style-type: none"> Transport vehicle to have appropriate Dangerous Goods Placard Transport documents including manifests Emergency procedures and information in an appropriate holder 30B fire extinguisher

Operational Control Procedures - Environmental Risk Action Plans

- o Double-sided reflectors.
- o Driver safety equipment and PPE.
- o Goods must be secured and where required segregated from incompatible goods.
- o Dangerous goods must be appropriately marked in accordance with the Australian Dangerous Goods Code.

The quantities that trigger the requirements for a Placard Load are as follows:

Dangerous Goods in Transport Unit	Placard Load Quantity
(a) Any dangerous goods in a receptacle with a: <ul style="list-style-type: none"> • capacity > 500 L; or • net mass > 500 kg 	One or more such receptacles (i.e. one or more placardable units)
(b) Includes any quantity of: <ul style="list-style-type: none"> • Division 2.1 (except Aerosols); or • Division 2.3; or • Packing group I of any Class or Division 	Aggregate quantity of all dangerous goods in the transport unit ≥ 250 kg(L)
(c) Division 6.2 Category A	All quantities
(d) Division 6.2 (other than Category A)	≥ 10 kg(L)
(e) All loads where placarding is not required by (a), (b), (c) or (d) above	Aggregate quantity of dangerous goods ≥ 1000 kg(L) —unless the load is: <ul style="list-style-type: none"> (i) a retail distribution load that complies with 7.3.1 (–see Note 3); or (ii) a Fumigated Unit (UN 3359 –see Note 4),

Typical dangerous goods associated with our operations include the following:

Type of Goods	DG Class	Type of Goods	DG Class	Type of Goods	DG Class
LPG Gas	2.1	Epoxy paint including hardener	8	Plumbing adhesive	3
Open Gear Lubricant	2.1	Chemical Anchor - parts A & B	8	Diesel	3
Marker Paint	2.1	Chemical Anchor	8	Joint/gap sealant	3
Silicone Lubricant	2.1	Chemical Anchor	8	Dry Film Lubricating Paint	3
Fuel Gas for welding/cutting	2.1	Adhesive Mortar	8	Joint/gap sealant	5.2
Fuel Gas for welding/cutting	2.2	Acid	8	Sealant	6.1
Air Operated Tool Lubrication	3	Degreaser (Pile Rigs)	9	Flocculent	8
Zinc Primer Paint	3	Engine Coolant	9	Rail Welding Consumables	1.4 S
Air tool lubricant - workshop	3	Antifreeze	9	Adhesive	3
Petrol-Unleaded	3	Grout	9		
Sealant	3	Form Oil	9		

Dangerous Goods Storage

- Dangerous goods storage on site must comply with the requirements of AS 1940:2004 including maintaining separation distances for incompatible materials.

Operational Control Procedures - Environmental Risk Action Plans

	<ul style="list-style-type: none"> • The proposed materials need to be assessed for compatibility and required separation distances or control measures implemented. • Flammable materials storage is to be >15m from site facilities, officers, amenities or protected places. • Quantities to be stored must be assessed to determine if they are considered manifest quantities - manifest quantities will require notification to WorkCover. • A storage location plan is required and needs to include internal layout, location of registers/manifests for the storage location. • Bunding to be impervious and of sufficient capacity to contain 110% of the stored volume • Appropriate spill containment material and fire extinguishers are also required.
Responsibilities	<ul style="list-style-type: none"> • Engineering personnel are responsible for identification of requirement to transport Dangerous Goods • Relevant Project Leader or Workplace Manager is responsible for ensuring all vehicles carry appropriate placards, licenses, emergency equipment and procedures • The General Superintendent is required to ensure that sufficient bunds are available and that material is stored appropriately. • Engineering personnel are responsible for ensure MSDS and other relevant documentation are obtained and where required submitted to TfNSW's Representative prior to the material arriving on site. Relevant documentation also includes appropriate risk assessment. • The Project Safety Advisor is responsible for ensuring the Chemicals, Fuels/Oils & Hazardous Substances register is maintained.
Timeframe	<ul style="list-style-type: none"> • Duration of operations. The requirements apply to goods transported by Laing O'Rourke and third parties.
Monitoring and Reporting	<ul style="list-style-type: none"> • Plant / project risk assessments • Plant register • Weekly inspections to be recorded on Form F1227. • Form E-T-8-1232 Dangerous Goods Transport Note • Register of Chemicals, Fuels/Oils and Hazardous Materials • Incidents or spills to be recorded on form Environmental Incident and Complaint Report (F1222). • Storage areas are to be inspected by the Supervisory personnel on a weekly basis.

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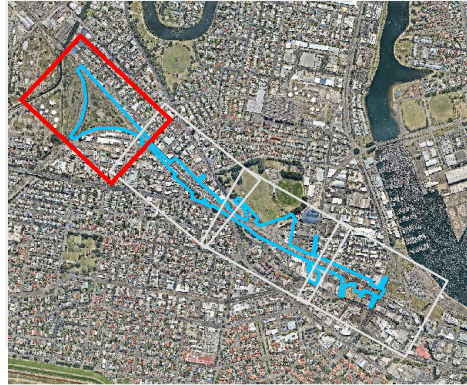
Date:
01 August 2017

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09

Appendix 5 – Environmental Control Maps

Date	Revision	Map No.	Author
31/03/2017	5	1 of 4	Reece.Zonta

Extent Map



Legend

- Haul Road
- Site Access Gate (No.)
- Flow Direction
- Archaeological Area
- Laydown Area
- Existing Drainage
- Sediment Fences
- Existing Sewer 1065
- EPL Boundary
- 0-0.5

Hours of work
 7am - 6pm Monday to Friday (11 hours)
 8am - 1pm Saturday (5 hours)
 All other works are subject to approval.
 High impact noise including rock breaking, jack hammering, concrete and rail works can only occur for 3 hours before a 1 hour continuous break is given.

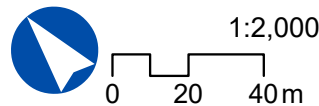
Contacts
 Project Leader - James Kennedy 0400 310 626
 Construction Manager - Nick Stephens 0400 318 640
 Environmental Coordinator - Dan Keegan 0435 859 160
 Communications Manager - Kelly Lofberg 0425 715 536
Construction Response Line - 1800 775 465
Info Line - 1800 684 490



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Wickham Transport Interchange Project

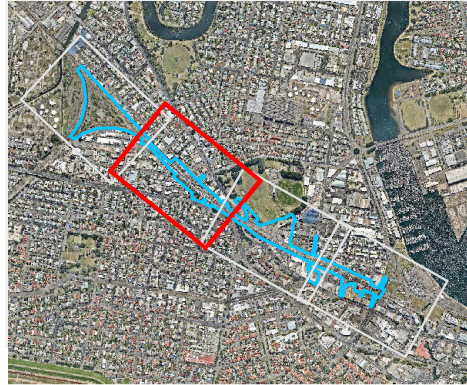
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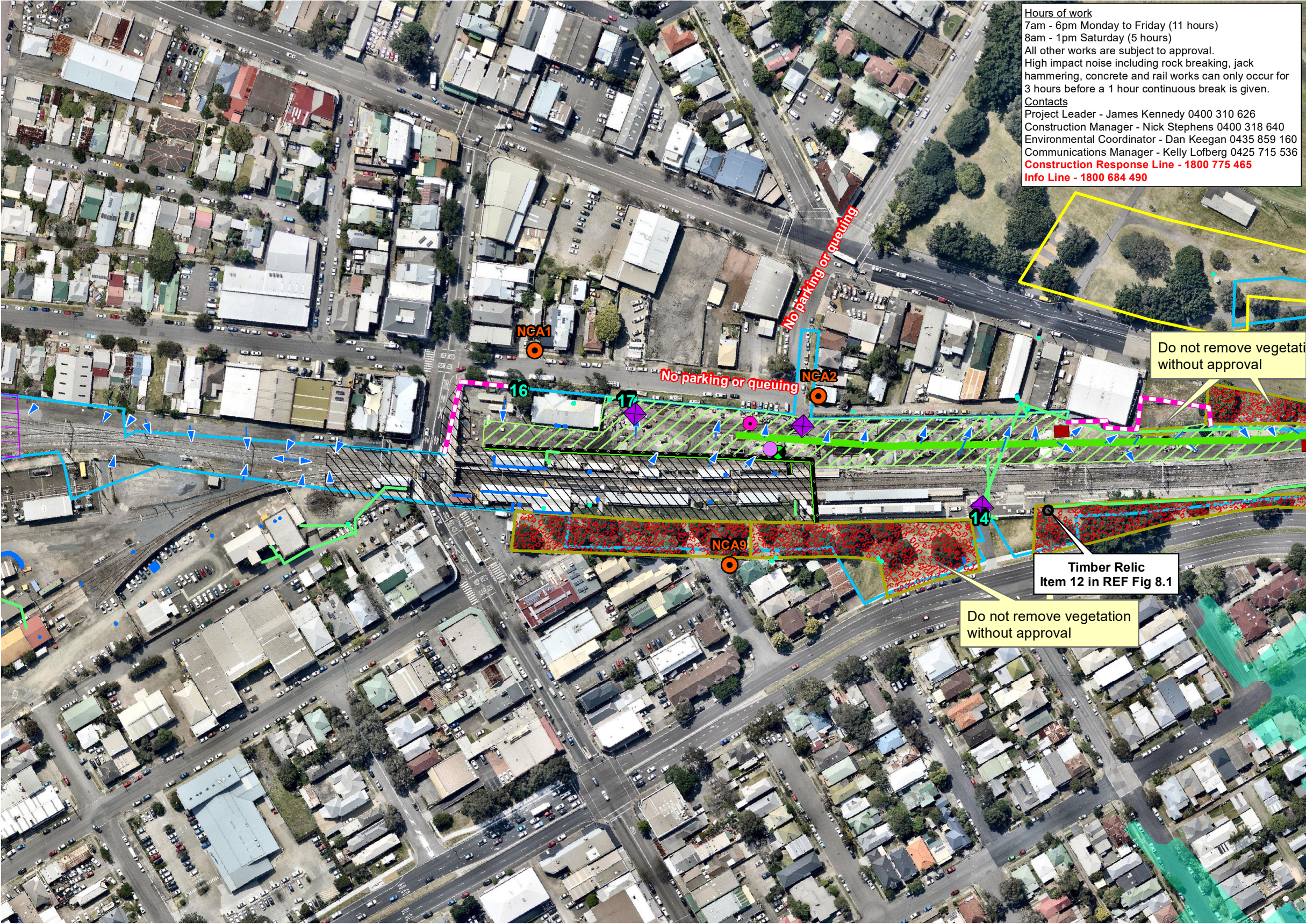
Date	Revision	Map No.	Author
31/03/2017	5	2 of 4	Reece.Zonta

Extent Map



Legend

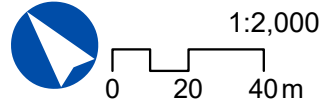
- Stabilisation
- Recycling
- Bin
- Spill Kit
- Noise Monitoring Locations
- Site Access Gate (No.)
- Flow Direction
- Archaeological Area
- Existing Drainage
- Existing Sewer
- Existing Drainage
- Sediment Fences
- Existing Sewer 1065
- Non-Construction Project Vehicles
- Spill Kit
- Delineation
- Temporary Access Track - dust supression where required
- Timber Relic
- Concrete Washout
- Environmental Areas
- State Heritage Area
- Earthworks April 2016 - November 2016
- EPL Boundary
- 0-0.5



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Wickham Transport Interchange Project

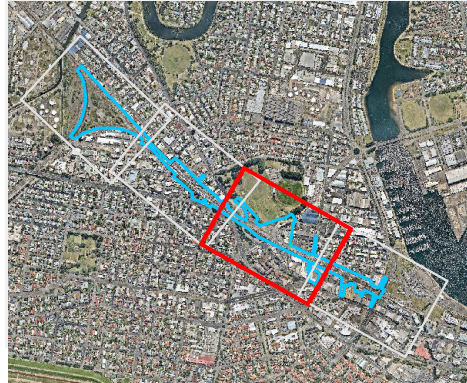
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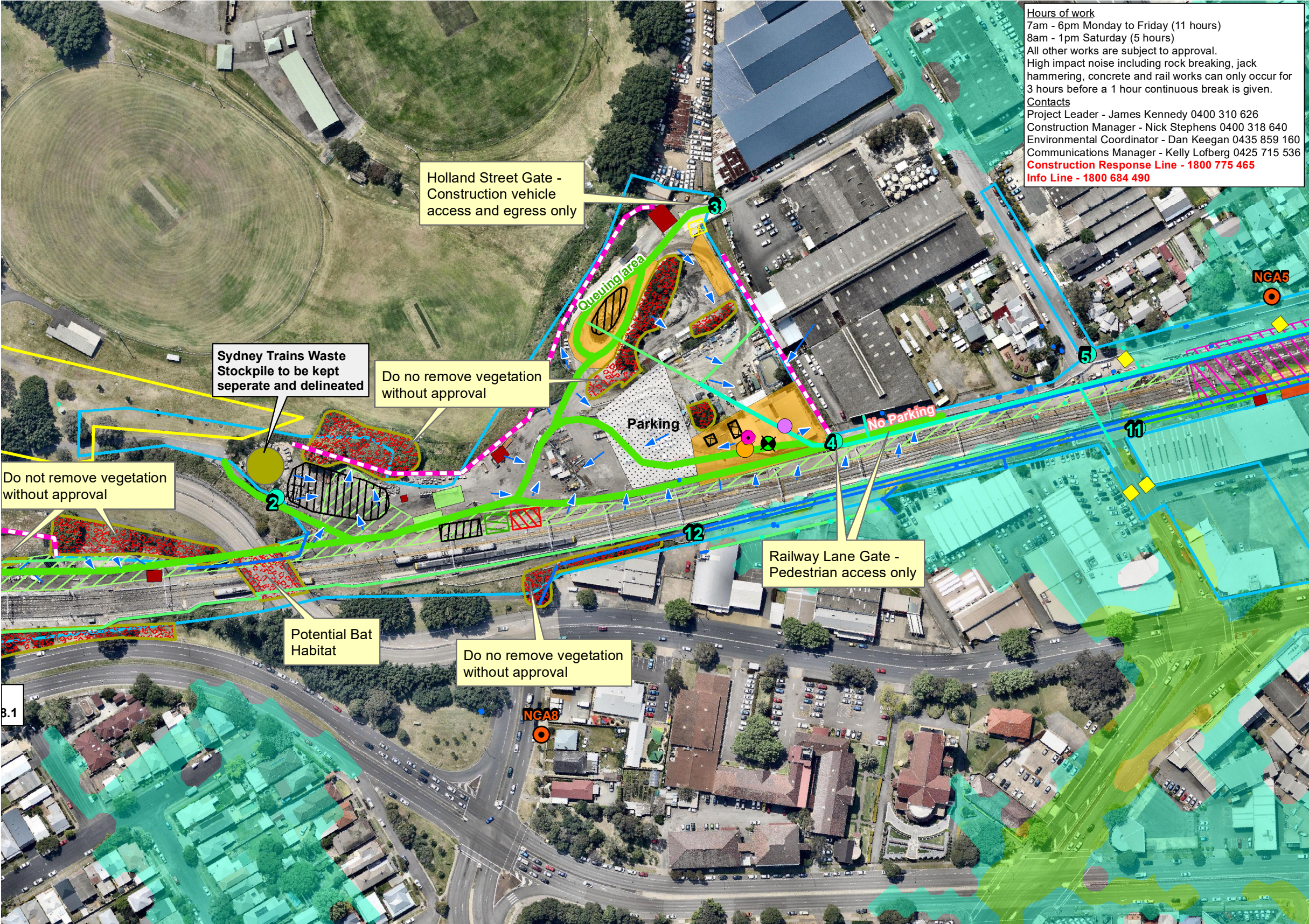
Date	Revision	Map No.	Author
31/03/2017	5	3 of 4	Reece.Zonta

Extent Map



Legend

- Protect drainage pit during construction
- Recycling
- Bin
- Spill Kit
- Noise Monitoring Locations
- Site Compound (See separate map)
- Site Access Gate (No.)
- Flow Direction
- Gate House
- SEWER-CL
- SEWER-PIPE
- Existing Drainage
- Existing Sewer
- Existing Drainage
- Sediment Fences
- Chemical Storage
- Existing Sewer 1065
- Non-Construction Project Vehicles
- Infiltration Basin
- Piling and Earthworks
- Spill Kit
- Chemical Storage
- Temporary Access Track - dust supression where required
- Construction Waste ECM
- Soil Stockpile
- Vegetation Stockpile
- Asbestos Capped Areas
- Potential Heritage Structure
- Parking
- Environmental Areas
- Earthworks April 2016 - November 2016
- EPL Boundary
- 0-0.5
- 0.5-1
- 1-1.5
- 1.5-2
- 2-2.5

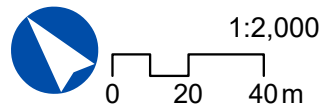


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Wickham Transport Interchange Project

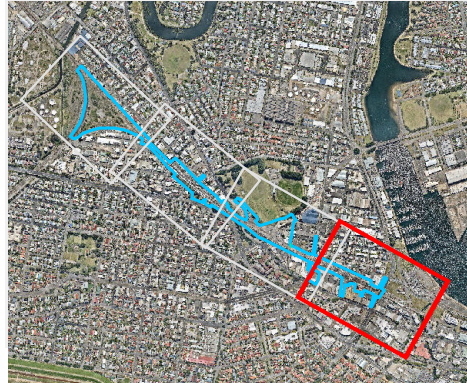
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Date	Revision	Map No.	Author
31/03/2017	5	4 of 4	Reece.Zonta

Extent Map

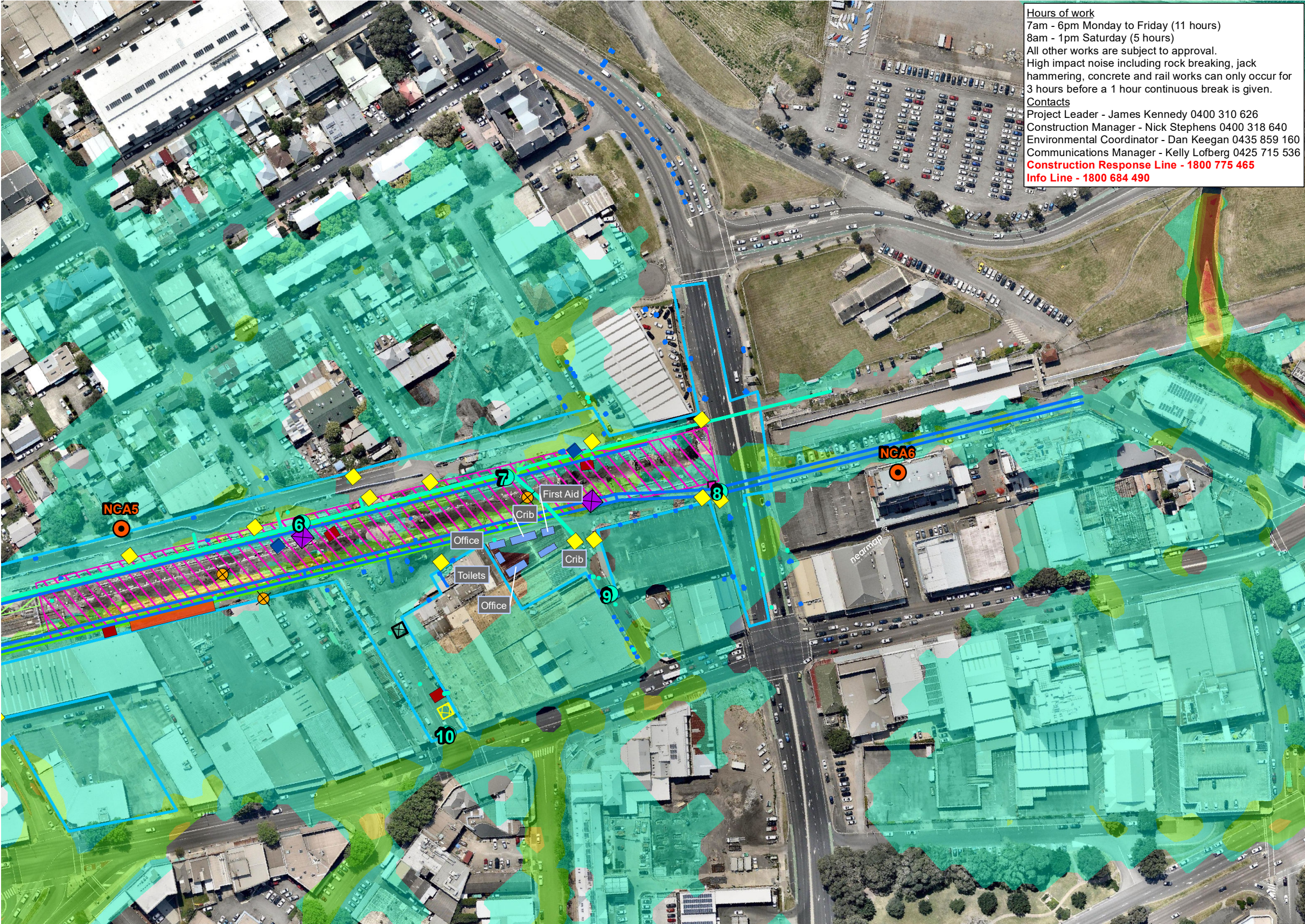


Legend

- Groundwater Pump
 - Groundwater Well
 - Protect drainage pit during construction
 - Stabilisation
 - Noise Monitoring Locations
 - Site Access Gate (No.)
 - Gate House
 - SEWER-CL
 - SEWER-PIPE
 - Existing Drainage
 - Existing Sewer
 - Existing Drainage
 - Chemical Storage
 - Existing Sewer 1065
 - Stormwater Pit
 - Infiltration Basin
 - Piling and Earthworks
 - Site Amenities
 - Spill Kit
 - Temporary Access Track - dust suppresion where required
 - Earthworks April 2016 - November 2016
 - EPL Boundary
- 0-0.5
0.5-1
1-1.5
1.5-2
2-2.5
2.5-3
>3.0

Hours of work
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 8am - 1pm Saturday (5 hours)
 All other works are subject to approval.
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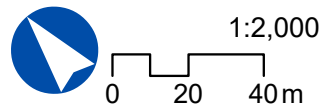
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Wickham Transport Interchange Project

Source: Aurecon, Sydney Trains, LPI
 DPE, Nearmap



Projection: GDA 1994 MGA Zone 56

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Date:
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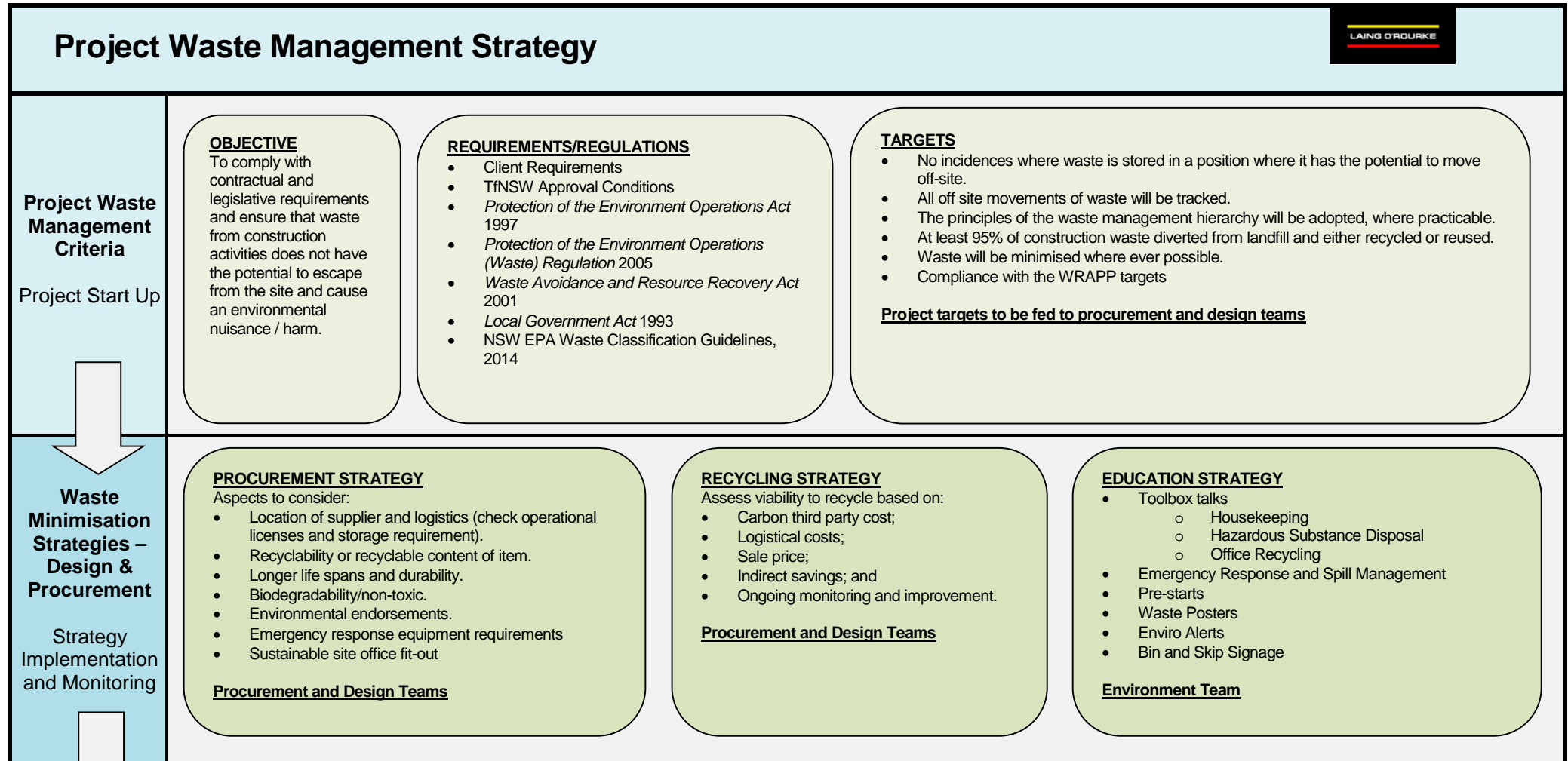
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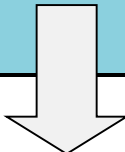
Appendix 6 – Pollution Incident Response Management Plan (PIRMP)

Refer to document number WTI-LOR-PMP-0016

Appendix 7 – Project Waste Strategy

The following strategy is an indicative guide to identify and state the type of waste that is intended to be controlled and recycled where practical.



<p>Waste Management Strategies – Construction</p> <p>All Personnel on Site</p> 	<p style="text-align: center;"><u>GENERAL WASTE</u></p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%; padding: 5px;"> <p>General Solid (non-putrescible)</p> <ul style="list-style-type: none"> Non-recyclable waste materials Broken Glass Dried sediment collected from stormwater management systems Garden waste Drained oil filters Rags and oil-absorbent materials that only contain non-volatile petroleum hydrocarbons and do not contain free liquids Building rubble </td> <td style="width: 50%; padding: 5px;"> <p>General Solid (putrescible)</p> <ul style="list-style-type: none"> Food waste Putrescible Organics Manure </td> </tr> </table> <p style="text-align: center; font-size: small;">Dispose to general waste skip bins or office bins</p>	<p>General Solid (non-putrescible)</p> <ul style="list-style-type: none"> Non-recyclable waste materials Broken Glass Dried sediment collected from stormwater management systems Garden waste Drained oil filters Rags and oil-absorbent materials that only contain non-volatile petroleum hydrocarbons and do not contain free liquids Building rubble 	<p>General Solid (putrescible)</p> <ul style="list-style-type: none"> Food waste Putrescible Organics Manure 	<p style="text-align: center;"><u>RECYCLABLE WASTE</u></p> <p>General Solid (non-putrescible)</p> <ul style="list-style-type: none"> Excess dried concrete Steel off cuts Reinforcing steel Timber Scrap Metal Paper and cardboard Comingled containers – milk bottles, drink bottles, cans, etc. Non-putrescible cleared vegetation may be mulched and reused for landscaping or ground stabilisation if no invasive weeds included <p style="text-align: center; font-size: small;">Place in labelled skip bins or office bins</p>	<p style="text-align: center;"><u>HAZARDOUS WASTE</u></p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%; padding: 5px;"> <p>Liquid</p> <ul style="list-style-type: none"> Waste oils Paints </td> <td style="width: 50%; padding: 5px;"> <p>Solid</p> <ul style="list-style-type: none"> Asbestos containing material including spoil from earthworks Empty oil and paint containers Oily rags Contaminated soil </td> </tr> </table> <p style="font-size: small;">Dispose to specific hazardous waste bin on site.</p> <p style="font-size: small;">Asbestos is only to be handled or removed by occupational hygienist or AS1/AS2 removal contractor.</p> <p style="font-size: small;">Specific oily rag bin to be used for oily rags, used spill kit material, etc.</p> <p style="font-size: small;">Decant waste oils/paint into labelled, banded drums.</p>	<p>Liquid</p> <ul style="list-style-type: none"> Waste oils Paints 	<p>Solid</p> <ul style="list-style-type: none"> Asbestos containing material including spoil from earthworks Empty oil and paint containers Oily rags Contaminated soil
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<p>Liquid</p> <ul style="list-style-type: none"> Waste oils Paints 	<p>Solid</p> <ul style="list-style-type: none"> Asbestos containing material including spoil from earthworks Empty oil and paint containers Oily rags Contaminated soil 						

Licensed waste contractors only to collect and remove all wastes from site

Laing O'Rourke to ensure the waste facility is fully licensed to accept the types of waste being sent offsite

Transport and waste facility docket required within 3 days of disposal from site

Laing O'Rourke to input and interpret data from waste tracking spreadsheet

**Wickham
Transport
Interchange
Project
Specific
Strategies**

GENERAL WASTE

- Non-recyclable office waste will be placed in the general waste bins located at the Wickham Transport Interchange site
- Vegetation waste will be collected in the Wickham Transport Interchange site and if not mulched and reused onsite, will go to a facility for composting
- Any mixed building rubble such as bricks/plasterboard/etc. will be placed in a separate stockpile/or skip and sent to a resource recovery facility for sorting and recycling.

RECYCLABLE WASTE

- Office waste bins will be segregated into the following recycling streams; Comingled / Paper & Cardboard / Organics
- Steel waste will be collected in the a steel and go to a recycling facility
- Dried concrete waste will be collected in the Wickham Transport Interchange site and go to a recycling facility
- Asphalt and bricks will be collected and recycled
- Verified/classified spoil material diverted from landfill.

HAZARDOUS WASTE

- Any oily rags or used spill kit material to be placed in the oily waste bin and disposed of off-site
- Asbestos containing waste is only to be handled or removed by occupational hygienist or AS1/AS2 removal contractor
- Waste oil/paints will be stored in banded drums

PROCUREMENT

- Identify procurement initiatives specific to the project including packaging reduction and return, bulk loads
- Incorporation of reusable temporary works such as proprietary formwork systems at the Wickham Transport Interchange site.

Waste to be tracked using the Waste Tracker in IMPACT or other suitable document, and all records maintained.

Appendix 8 – Project Permits and Licenses Register

Project Permit and Approvals Register	Applicable to the project (Yes / No)	Permit / licence / Approval Number / registration certificate	Commencement date	Expiry date	Surrender requirements	Project custodian	Project briefing date
Environmental Planning and Assessment Act 1979							
Transport for New South Wales Approval	Yes	CoA 385Q47	10 Nov 2014	Duration of Project	N/A	PER	
Section 109R Certification (Contractual requirement, not a requirements under the Act)	Yes	109R Certification	AFC	Duration of Project	N/A	Design Manager	
Protection of The Environment Operations Act 1997							
Environment Protection Licence	Yes	EPL20514	31 Oct 2014	Duration of Project	Close out report to NSW EPA	PER	10 May 2015
Water Act 1912							
Section 10 Surface Water Licence	No						
Part 5 Section 112 Groundwater Licence	Yes	20BL173954	8 June 2016	7 June 2017	Close out report to DPI – Office of Water	PER	8 June 2015
Part 8 Division 3 Approval of controlled work	No						
Water Management Act 2000							
Section 56 Access Licences	No						
Section 89 Water use approvals	No						
Section 90 Water management work approvals	No						
Section 91 Activity Approvals	No						
Fisheries Management Act 1994							
Division 3 (Sections 199, 200, 201) Dredging and Reclamation	No						
Section 205 Marine vegetation - regulation of harm Permit to Harm Marine Vegetation	No						
Section 220ZW Licence to harm threatened species, population or ecological community or damage habitat	No						
Hunter Water Act 1991							
Section 31 Offence to discharge into works - Trade Waste Permit	No						
Permit to Use Approved Metered Standpipes on Hunter Water Hydrants	Yes	Subcontractors to confirm upon commencement	Subcontractors to confirm	Subcontractors to confirm	Subcontractors to confirm	PER - Water cart and Street sweeper subcontractor	Subcontractors to confirm
Dangerous Goods (Road and Rail) Transport Act							

Construction Environmental Management Plan

Project:
Wickham Transport Interchange

Project No:
G85

Date:
01 August 2017

Rev:
09

Project Permit and Approvals Register	Applicable to the project (Yes / No)	Permit / licence / Approval Number / registration certificate	Commencement date	Expiry date	Surrender requirements	Project custodian	Project briefing date
Section 6 Licensing of vehicles transporting dangerous goods	No						
Section 7 Licensing of drivers transporting dangerous goods	No						
National Parks and Wildlife Act 1974							
Section 90 Aboriginal heritage impact permit	Yes	3809	13 Mar 2015	13 Mar 2016	Notification 7 days prior to finalisation of works under the AHIP	PER	11 May 2015
Heritage Act 1977							
Division 3 Applications for approval	No						
Section 60	Yes	2014-S60-166	10 Nov 2014	10 Nov 2019 if works have not commenced	Notice to Heritage Council	PER	
Section 140 Excavation permit	Yes	2014/s140/20	16 Sep 2015	16 Sep 2020	Close out report	PER	12 Sep 2015
Management of Waters and Waterside Lands Regulations							
Division 3 Occupation of Waters	No						
Environment Protection and Biodiversity Conservation Act 1999 (Cwth)							
Include details of approvals under this Act where applicable	No						
Other							
List other relevant legislation here							
Section 91 Activity Approvals	No						
Roads Act 1993							
Section 138 Works and structures - permit to undertake works to roads	Yes	Multiple	AFC	end of construction	none	Construction Manager	AFC
Occupational Health and Safety Regulation 2001							
Section 174ZS Notification to WorkCover	No						
Section 175L Major hazard facility must be registered or provisionally registered	No						
Marine Safety Act							
Section 29 Types of marine safety licences	No						
Rural Fires Act 1997							
Section 89 Issue of permits (includes "hot works" which would constitute lighting a fire)	Yes	Multiple	AFC	end of construction	none	Construction Manager	AFC

Construction Environmental Management Plan

Project:
Wickham Transport Interchange

Project No:
G85

Date:
01 August 2017

Rev:
09

Project Permit and Approvals Register	Applicable to the project (Yes / No)	Permit / licence / Approval Number / registration certificate	Commencement date	Expiry date	Surrender requirements	Project custodian	Project briefing date
Local Government Act							
Section 68 - What activities, general, require the approval of council	No						
Section 68A - Operation of a system of sewage management	No						

Appendix 9 – Environmental Incident Investigation Guidelines

Incident Investigation ([E-T-8-1222 Environmental Incident and Complaint Report](#))

Note: Class 1 incidents shall be subject to an ICAM investigation.

The following section outlines the environmental incident and complaint investigation. The actual detail required will vary depending on the class of the incident. In any case, form E-T-8-1222 Environmental Incident and Complaint Report is to be used to document the incident.

Step 1 - Identify the class of incident and obtain the incident or complaint details.

Step 2 - Observation and information gathering.

The first priority is to understand the incident and how the incident occurred.

- Take samples or obtain results (required for Class 1&2) - laboratory results or insitu samples (Note: for Class 1 & 2 incidents NATA certified laboratories may be required)
- Interview persons involved where required - Include witnesses / supervisors / experts
- Inspect the incident scene - Take measurements (do not guess), photos, videos, drawings, diagrams / sketches.

Collect related documentation - Attach additional material as appropriate such as Work Method Statements, JSEA's, Environmental Risk Action Plans (ERAPs), Erosion and Sediment Control Plans, Risk Assessments, induction records, toolbox talks, pre-start, environmental training records, subcontractor/TfNSW incident report, relevant design documentation, maintenance records.

Step 3 - Give detailed description of the incident

- Outlined exactly what happened and give the following details as applicable:
- Area or people affected and pollutant type as appropriate
- Time, date and weather conditions
- Plant, equipment, organisations involved
- Potential stakeholders involved
- Describe the nature of the incident including:
- Breach of licence condition, Act or regulation
- Discovery of cultural heritage item, artefact, etc.
- Unauthorised release of harmful substance to environment
- Penalty or fine imposed or protection order or notice issued.
- Performance of the environmental controls
- Describe the immediate remedial actions undertaken:
- Notify relevant parties
- Contain pollution or clean up affected area
- Repair to environmental controls
- Rectify damage and remediate the affected area

Step 4 - Undertaken basic level incident analysis

List the elements involved including people, equipment and environment (weather conditions) elements involved in the incident

List the essential and contributing factors for the items above.

Step 5 - Identify the corrective and preventative actions.

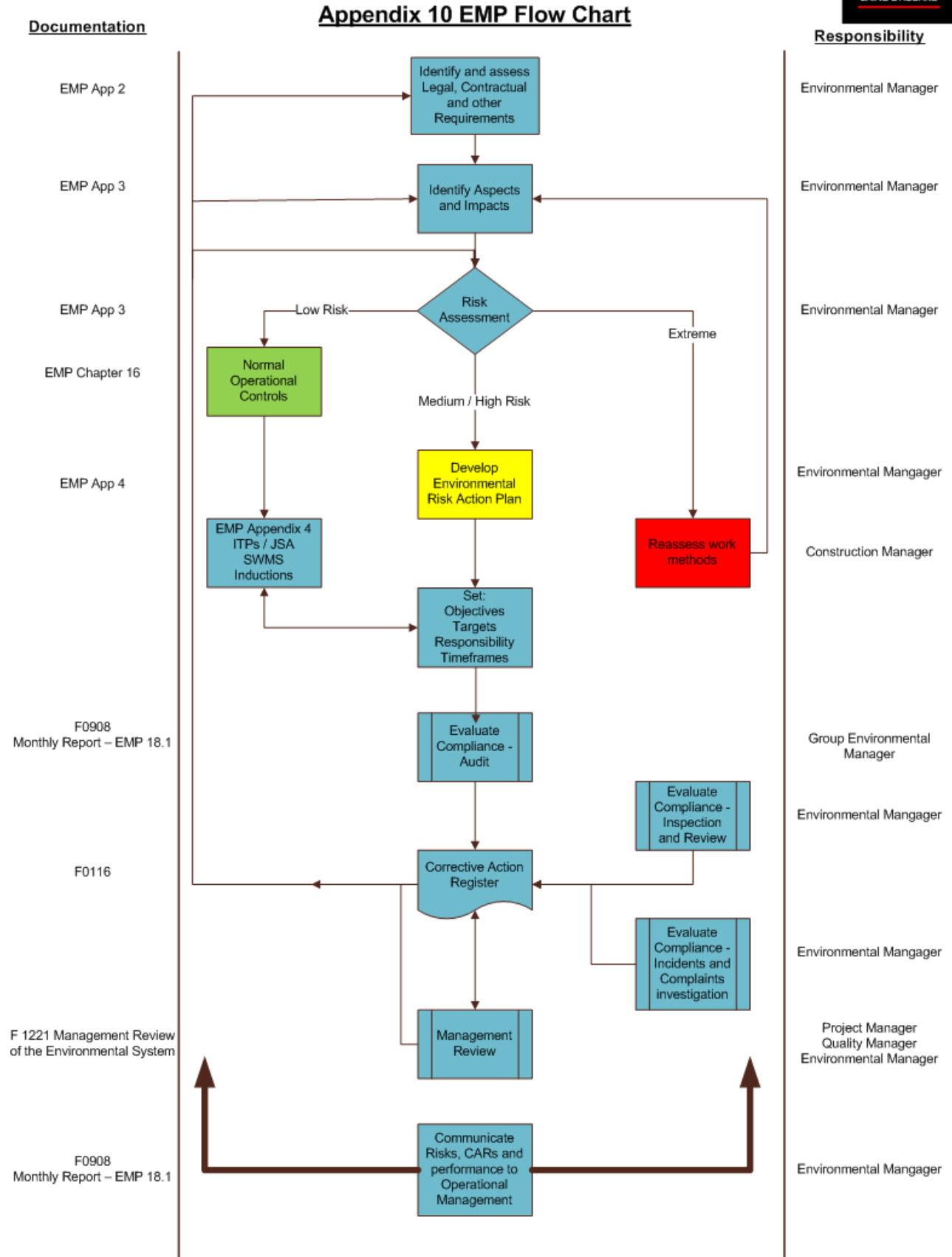
- Change to equipment/machinery design / maintenance
- Improve environmental control measures
- Implement additional resources
- Change to work methods or processes
- Change or additional induction training
- Additional ongoing training

Step 6 - Implement the corrective and preventative actions outlined above

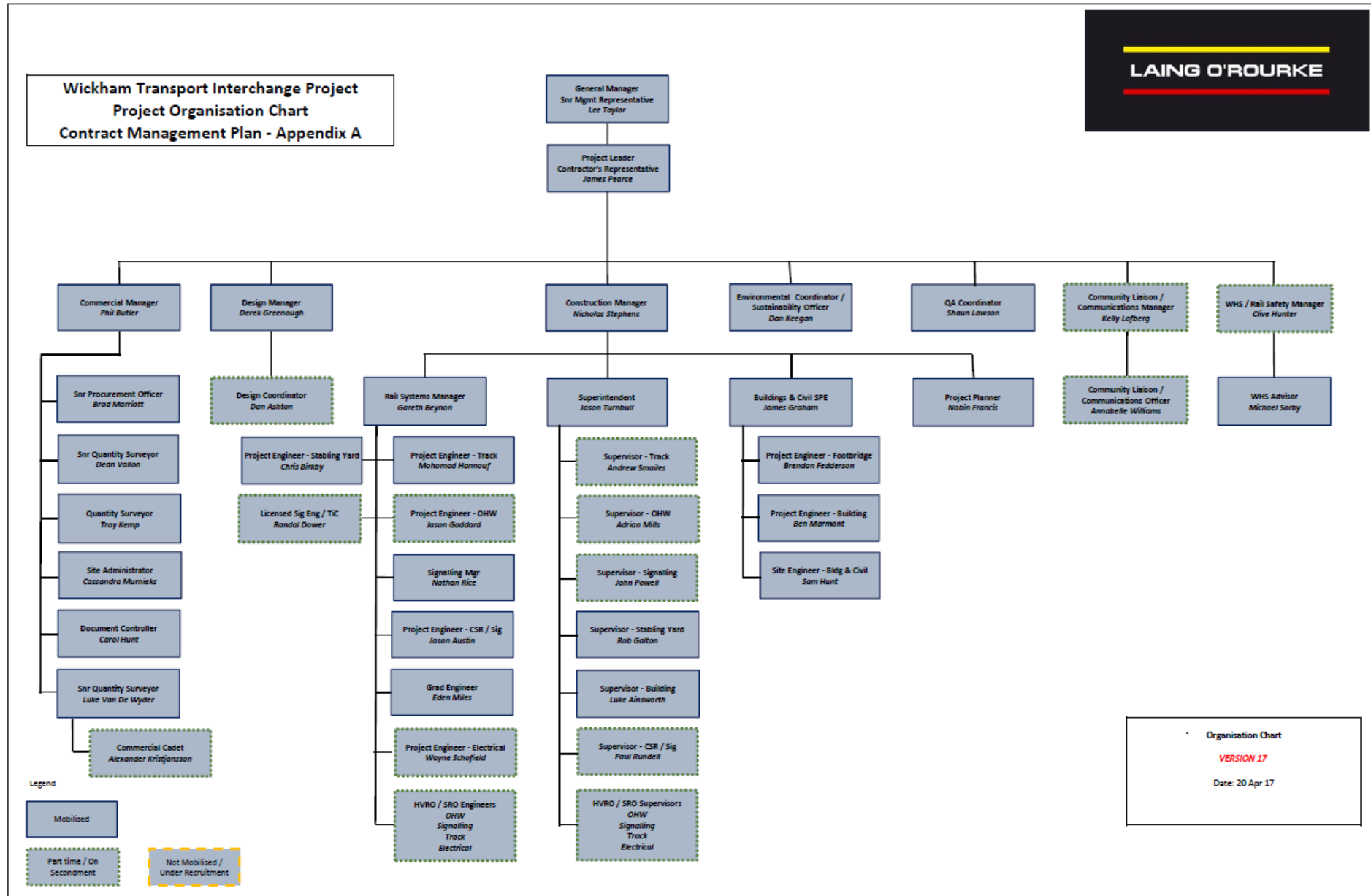
- Outline responsibilities and accountabilities
- Obtain relevant approvals for the corrective and preventative actions (i.e. Regulatory Authority or TfNSW requirement)
- Provide proposed completion dates for the approved actions
- Document actions implemented and close out

Note: where a Class 1 Incident has occurred the Corporate HSEQ Manager will initiate the investigation and allocate responsibilities, an external consultant may be engaged. Authorities are to be notified in accordance with the legislative time frames in the applicable state.

Appendix 10 – CEMP Flow Chart



Appendix 11 – Organisation Chart

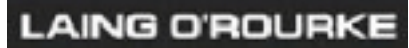


Appendix 12 – Other Attachments

Note the latest version of these forms is located on iGATE.

- [E-T-8-1200](#) [Environmental Risk Action Plans](#)
- [E-T-8-0121](#) [Management Review Record](#)
- [E-T-8-1222](#) [Environmental Incident Complaint Report](#)
- [E-T-8-1298](#) [Water Sampling Record](#)
- [Current Construction Program](#)

ENVIRONMENTAL RISK ACTION PLAN



The completed ERAP shall be retained in the EMP Appendix 4

Environmental Issue E.g. Air Quality and Dust

Initial Risk Rating	Likelihood		Consequence		Rating	
Objective	•					
Legal, Contractual & Other Requirements	•					
Targets or Acceptable Limits	•					
Responsibilities	•					
Controls (means & resources)	•					
Timeframe	•					
Residual Risk Rating	Likelihood		Consequence		Rating	
Monitoring & Reporting	•					

Management Review Record

Hub/ Region:				DATE :	
Business/ Project:				DATE :	
System reviewed:	ISO 9001 - Quality	ISO 14001 - Environment		AS 4801 - H & S	
				Rail	
Plan reviewed:	Business/ Quality Plan	Environment Plan		H & S Plan	
AGENDA ITEMS:					
<ul style="list-style-type: none"> a) Internal/External Audit, Schedule, Effectiveness, Results and Emerging Trends b) Customer Feedback & Complaints c) Process Performance & Conformity d) Recommendations for Improvement e) Resources and training needs f) Objectives & Targets g) Evaluation of compliance with legal and other requirement h) Next Meeting 					
Persons involved in the review:		Name	Position/ Title		
ITEM	ITEM DISCUSSED			Date	ACTION
1.	<u>REVIEW INPUTS</u>				
a)	<u>Internal/External Audit, Schedule, Effectiveness, Results and Emerging Trends</u> Adherence to schedule, improvements following audit, significant trends				
b)	<u>Customer Feedback & Complaints</u> <ul style="list-style-type: none"> • State the status of client relationship 				
c)	<u>Process Performance & Conformity</u> <ul style="list-style-type: none"> • Include the status of the close out of NCRs, CARs and Complaints 				
d)	<u>Recommendations for Improvement</u> <ul style="list-style-type: none"> • 				
e)	<u>Resource & Training Needs</u>				
f)	<u>Objectives and Targets</u> <ul style="list-style-type: none"> • 				
g)	<u>Evaluation of compliance with legal and other requirements</u> <ul style="list-style-type: none"> • 				
h)	<u>NEXT MEETING</u>				
Items identified as actions above are to be added to the Corrective Actions Register to ensure follow up.				Ref: E-P-8-0121 Management Review	
Distribution: Regional HSEQ Manager, Operations Manager, Project Leader, Attendees					

ENVIRONMENTAL INCIDENT & COMPLAINT REPORT No.



Instructions: This report must be used to record all environmental incidents including pollution events and complaints. Class 1 or 2 incidents as defined in [F 1204 Environment Incident Classifications](#) will require a full investigation with supporting information such as photographs, records of interviews, etc, and these should be appended to the report.

SITE DETAILS

Location / Project: _____ Date of Incident: _____

Report raised by: _____ Date of Report: _____

DETAILS OF PERSONS INVESTIGATING INCIDENT/COMPLAINT

Team Leader Name	_____	Position	_____	Contact Number	_____
Team Member Name	_____	Position	_____	Contact Number	_____
Team Member Name	_____	Position	_____	Contact Number	_____

STEP 1: PROBLEM IDENTIFICATION AND PREPARATION

Incident Class (Refer [F 1204](#)) Class 1 Class 2 Class 3

BASIC DETAILS OF THE INCIDENT/ COMPLAINT (Provide full details of incident)

Incident/ Complaint reported by: _____ Duration of Incident/ Complaint: _____

Exact location of Incident/ Complaint: _____ Time of Incident/ Complaint: _____

Comments

STEP 2: Observation / Information Gathering

- Take samples or obtain results (required for Class 1&2)** – laboratory results or insitu samples (Note: for Class 1 & 2 incidents NATA certified laboratories may be required)
- Interview persons involved where required** – Include witnesses / supervisors / experts
- Inspect the incident scene** – Take measurements (do not guess), photos, videos, drawings, diagrams / sketches.

List of attachments

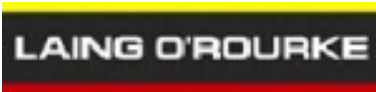
No.	Details	No.	Details
1	_____	3	_____
2	_____	4	_____

STEP 3: Give a detailed description of the incident/complaint

Nature of Incident/ Complaint: (more than one box may be marked)

- | | |
|---|---|
| <input type="checkbox"/> Complaint from public, client, etc | <input type="checkbox"/> Unauthorised release of harmful substance to environment |
| <input type="checkbox"/> Breach of licence conditions, Act or regulation | <input type="checkbox"/> Penalty or fine imposed by authority (Amount \$) |
| <input type="checkbox"/> Discovery of cultural heritage item, artefact, etc | <input type="checkbox"/> Environmental controls failed or were ineffective |
| <input type="checkbox"/> Near miss (no actual damage to environment) | <input type="checkbox"/> Pollutant (specify type) |

Details (Explain exactly what happened, why, where, quantity of pollutant, etc):

<h2 style="margin: 0;">ENVIRONMENTAL INCIDENT & COMPLAINT REPORT No.</h2>	
--	--

Remedial action (Action to rectify the problem)

Containment / Rectification / Remediation: (more than one box may be marked)

<input type="checkbox"/> Notify relevant & interested parties	<input type="checkbox"/> Repair / improve environmental controls
<input type="checkbox"/> Contain pollution / Clean-up site	<input type="checkbox"/> Rectify damage and remediate area
<input type="checkbox"/> No remedial action possible or practical	<input type="checkbox"/>

Details:

STEP 4: BASIC LEVEL INCIDENT ANALYSIS

List Elements
List the "people", "equipment", and "environment" elements involved in the incident

PEOPLE	EQUIPMENT	ENVIRONMENT

List Essential and Contributing Factors
For each element listed above identify essential & contributing factors. *Essential* = factor is essential for the incident to occur. *Contributing* = factor increases the likelihood of occurrence, but removal may not interrupt incident

<ul style="list-style-type: none"> Poor workplace practices Lack of or ineffective induction and training Lack of resource Equipment failure Ineffective controls Lack of Planning 	Details:
--	----------

STEP 5: IDENTIFY CORRECTIVE / PREVENTATIVE ACTIONS

Corrective and Preventative Actions may include the following:

<ul style="list-style-type: none"> Change to equipment/machinery design / maintenance Improve environmental control measures Implement additional resources 	<ul style="list-style-type: none"> Change to work methods or processes Change or additional induction/induction Additional ongoing training
--	--

Details:

STEP 6: IMPLEMENTATION

SUPERVISOR'S COMMENTS

Name		Signature	
------	--	-----------	--

ENVIRONMENTAL REPRESENTATIVE

Name		Signature	
------	--	-----------	--

PROJECT LEADER'S/WORKPLACE MANAGER COMMENTS

Name		Signature	
------	--	-----------	--

ACTIONS COMPLETED

<input type="checkbox"/> Rectification completed	<input type="checkbox"/> Corrective and preventive action completed
Signed Project Leader/Workplace Manager: _____	Date: _____

DISTRIBUTION: Original – master file; Copies: Environmental Manager, other relevant parties.

WATER SAMPLING RECORD



PROJECT: _____ **JOB No:** _____ **Analysis Company:** _____

DETAILS:

Sample Number	Date Sampled	Time	Sample Type	Analysis Required (tick box)					Results					Compliant/ Non - Compliant
				pH 6.5 – 8.5	TSS <50mg/L				pH 6.5 – 8.5	TSS <50mg/L				

Distribution: Project Leader

WTI-LOR-Wickham Transport Interchange

Activity ID	Activity Name	Original Duration	Remaining Duration	Start	Finish	Duration % Complete	Total Float	2015												2016												2017												2018
								D	Jan	F	M	Apr	M	J	Jul	A	S	Oct	N	D	Jan	F	Mar	Apr	M	Jun	Jul	A	S	Oct	N	D	Jan	F	Mar	Apr	M	Jun	Jul	A	S	Oct	N	D
Wickham Transport Interchange		745	95	18-Dec-14 A	13-Nov-17	87.28%	0																																					
Key Milestones		731	35	18-Dec-14 A	13-Nov-17	95.24%	0																																					
Delivery Milestones		731	35	18-Dec-14 A	13-Nov-17	95.24%	0																																					
KM1000	Contract Award Date	0	0	18-Dec-14 A	18-Dec-14 A	100%																																						
KM1010	Contract Commencement Date	0	0	19-Dec-14 A		100%																																						
KM1020	Portion 1 Completion (i.e Site Establishment completion)	0	0		27-Mar-15 A	100%																																						
KM1030	Portion 2 Completion (i.e Track and OHW Design to AFC completion)	0	0		11-Mar-16 A	100%																																						
KM1040	Portion 3 - Completion (i.e. Commissioning)	0	0		24-Sep-17	0%	0																																					
KM1050	Portion 4 Completion (i.e Handover of Asbuilt Drawings, DSS, O&M Manuals and Associated Documentation)	0	0		13-Nov-17	0%	0																																					
KM1080	Completion of Works required post commissioning	35	35	24-Sep-17	13-Nov-17	0%	0																																					
Contract Milestones (Revised Baseline)		605	36	28-Mar-15 A	13-Nov-17	94.05%	0																																					
KM1090	Portion 1 Contract Completion (i.e Site Establishment completion)	0	0		28-Mar-15 A	100%																																						
KM1100	Portion 2 Contract Completion (i.e Track and OHW Design to AFC completion)	0	0		11-Mar-16 A	100%																																						
KM1120	Portion 3 Completion - Completion of works to put works into operation excl works that can only happen after commission	0	0		24-Sep-17	0%	0																																					
KM1130	Portion 4 Completion - Handover of Asbuilt , DSS, O&M Manuals and Associated Documentation Incl. all works excl from !	0	0		13-Nov-17*	0%	0																																					
Delay Events		317	0	24-Mar-15 A	26-May-17 A	100%																																						
Option 1A - Changes to Station design and Concourse area		1	0	24-Mar-15 A	24-Mar-15 A	100%																																						
DE-0013-100	Variation - Changes to Station design and Concourse area	1	0	24-Mar-15 A	24-Mar-15 A	100%																																						
Delay in Procurement of Turnouts- Superseded		1	0	4-May-15 A	4-May-15 A	100%																																						
EVENT/WTIF	TPO instruction to delay issue Purchase Order of Turnouts	1	0	4-May-15 A	4-May-15 A	100%																																						
New Intercity Fleet Works		25	0	28-May-15 A	26-Jun-15 A	100%																																						
DE-0024-000	Instruction to suspend design for stabling yard	0	0		28-May-15 A	100%																																						
DE-0024-005	Develop Design Options	15	0	29-May-15 A	19-Jun-15 A	100%																																						
DE-0024-008	TPO Decision on Options and Proceed with Concept Design	0	0		19-Jun-15 A	100%																																						
DE-0024-010	Optioneering/workshop/confirm changes/ Receive design basis	5	0	22-Jun-15 A	26-Jun-15 A	100%																																						
Option 2 Roof Works		0	0	16-Jun-15 A	16-Jun-15 A	0%																																						
DE-0025-000	Instruction to Proceed with Revised Concept Design	0	0		16-Jun-15 A	100%																																						
Option 2A Roof Works		1	0	21-Aug-15 A	21-Aug-15 A	100%																																						
DE-0025-160	Direction to Proceed with Design development(PDR)of Option 2A	1	0	21-Aug-15 A	21-Aug-15 A	100%																																						
Noise Wall		1	0	24-Sep-15 A	15-Dec-15 A	100%																																						
DE-0031-100	Direction to Proceed with Noise wall	1	0	24-Sep-15 A	24-Sep-15 A	100%																																						
DE-0031-110	Noise Wall Clarifications (4821735)	1	0	15-Dec-15 A	15-Dec-15 A	100%																																						
Foot Bridge		1	0	26-Aug-15 A	26-Aug-15 A	100%																																						
DE-0035-100	Direction to Proceed with Foot bridge	1	0	26-Aug-15 A	26-Aug-15 A	100%																																						
NLR		1	0	24-Sep-15 A	24-Sep-15 A	100%																																						
DE-0042-100	Direction to Proceed with NLR Platform	1	0	24-Sep-15 A	24-Sep-15 A	100%																																						
SFS/Signal Hut		1	0	28-Sep-15 A	28-Sep-15 A	100%																																						
DE-0047-100	SFS/Signal hut variation	1	0	28-Sep-15 A	28-Sep-15 A	100%																																						
Power Study		1	0	31-Aug-15 A	31-Aug-15 A	100%																																						
DE-0039-100	Variation - Power study	1	0	31-Aug-15 A	31-Aug-15 A	100%																																						
DSS		1	0	19-Oct-15 A	19-Oct-15 A	100%																																						
DE-0048-100	Variation - DSS	1	0	19-Oct-15 A	19-Oct-15 A	100%																																						
FOOTBRIDGE TO SINGLE SPAN		41	0	30-Oct-15 A	15-Jan-16 A	100%																																						
DE-0057-100	Direction to vary the footbridge to single span	1	0	30-Oct-15 A	30-Oct-15 A	100%																																						
DE-0057-110	Develop options / discussions / await confirmation from Principal	20	0	2-Nov-15 A	23-Nov-15 A	100%																																						
DE-0057-120	Confirmation from Principal on Concept design	1	0	24-Nov-15 A	24-Nov-15 A	100%																																						
DE-0057-130	Incorporate design change & Completion of CDR Design	20	0	25-Nov-15 A	15-Jan-16 A	100%																																						
TRAIN ACCESS PLATFORM STRAIN ACCESS PLATFORMS		25	0	4-Nov-15 A	3-Dec-15 A	100%																																						
DE-0058-100	Direction to proceed with train access platforms	1	0	4-Nov-15 A	4-Nov-15 A	100%																																						
DE-0058-110	Incorporate Revised design to current CDR (4 Weeks after current CDR)-N/A Suspended	0	0	10-Nov-15 A	26-Nov-15 A	100%																																						
DE-0058-120	Withdrawal Direction to proceed with train access platforms	1	0	26-Nov-15 A	26-Nov-15 A	100%																																						
DE-0058-130	Redo changes and resume CDR preparation and submission to LORA	5	0	27-Nov-15 A	3-Dec-15 A	100%																																						
Station Street Reconfiguration		92	0	27-Jul-15 A	26-Apr-16 A	100%																																						
DE-0034-100	Completion of Traffic study - by TfNSW	20	0	27-Jul-15 A	15-Jan-16 A	100%																																						
DE-0034-110	Complete traffic report and submission to NCC	15	0	11-Jan-16 A	28-Jan-16 A	100%																																						
DE-0034-120	NCC Traffic committee hearing - Feb'16	1	0	15-Feb-16 A	15-Feb-16 A	100%																																						
DE-0034-130	Station Street reconfiguration - Considered by Elected Council - Mar'16/Apr'16	1	0	26-Apr-16 A	26-Apr-16 A	100%																																						
LC No. 003 - NCC Stormwater Sewer		30	0	11-May-16 A	27-Jun-16 A	100%																																						

Actual Work
 Critical Remainin...
 Remaining Work
 Remaining Work

Milestone
 Baseline Milestone

TASK filters: Hide LOE WBS, Suppressed Activities.
Baseline : Rebaseline
Layout : WTIP - TPD Submission Full Program layout

WTI-LOR-Wickham Transport Interchange

Activity ID	Activity Name	Original Duration	Remaining Duration	Start	Finish	Duration % Complete	Total Float	2015												2016												2017												2018																	
								D	Jan	F	M	Apr	M	J	Jul	A	S	Oct	N	D	Jan	F	Mar	Apr	M	Jun	Jul	A	S	Oct	N	D	Jan	F	Mar	Apr	M	Jun	Jul	A	S	Oct	N	D	Jan	F	Mar	Apr	M	Jun	Jul	A	S	Oct	N	D					
LD1250	Help Points	0	0		26-Jul-17	0%	0																																																	◆	Help Points				
LD1260	ETS Self Service Machines	0	0		26-Jul-17	0%	0																																																	◆	ETS Self Service Machines				
LD1270	Lifts - Station & Pedestrian Footbridge	0	0		26-Jul-17	0%	0																																																	◆	Lifts - Station & Pedestrian				
Stabling Yard - Operating Guide & User Manuals								0	0	26-Jul-17	26-Jul-17	0%	0																																																
LD1090	Fire & Life Safety - Alarms, Hydrants, Detection	0	0		26-Jul-17	0%	0																																																	◆	Fire & Life Safety - Alarms, H				
LD1100	Decanting System	0	0		26-Jul-17	0%	0																																																	◆	Decanting System				
LD1280	Potable Water, Heating units, Sanitary, Eyewash Stations	0	0		26-Jul-17	0%	0																																																	◆	Potable Water, Heating units				
LD1290	CCTV (Platforms, Station, Stabling Yard)	0	0		26-Jul-17	0%	0																																																	◆	CCTV (Platforms, Station, St				
LD1300	Access Control / swipe card system	0	0		26-Jul-17	0%	0																																																	◆	Access Control / swipe card				
Final Handover								0	0	13-Nov-17	13-Nov-17	0%	0																																																
Station								0	0	13-Nov-17	13-Nov-17	0%	0																																																
LD1310	WTI Padmount SS (HV)	0	0		13-Nov-17	0%	0																																																	◆	WTI Padmo				
LD1340	Station - HVAC system & Control	0	0		13-Nov-17	0%	0																																																	◆	Station - HVAC				
LD1350	Station - Spaceframe Canopy	0	0		13-Nov-17	0%	0																																																	◆	Station - Sp				
LD1360	Station - Lighting System & Control	0	0		13-Nov-17	0%	0																																																	◆	Station - Lig				
LD1370	Fire & Life Safety - Alarms, Hydrants, Detection	0	0		13-Nov-17	0%	0																																																	◆	Fire & Life S				
LD1380	Potable Water, Heating units, Sanitary, Eyewash Stations	0	0		13-Nov-17	0%	0																																																	◆	Potable Wat				
LD1390	Windows - Operable	0	0		13-Nov-17	0%	0																																																	◆	Windows - (
LD1400	Operable Wall	0	0		13-Nov-17	0%	0																																																	◆	Operable/W				
LD1410	CCTV (Platforms, Station, Stabling Yard)	0	0		13-Nov-17	0%	0																																																	◆	CCTV (Platf				
LD1420	Access Control / swipe card system	0	0		13-Nov-17	0%	0																																																	◆	Access Cor				
LD1430	Ticketing System	0	0		13-Nov-17	0%	0																																																	◆	Ticketing Sy				
LD1440	AFILS	0	0		13-Nov-17	0%	0																																																	◆	AFILS				
LD1450	Platform & Concourse Indicators	0	0		13-Nov-17	0%	0																																																	◆	Platform & C				
LD1460	VMS Boards	0	0		13-Nov-17	0%	0																																																	◆	VMS Board				
LD1470	Precise Clocks	0	0		13-Nov-17	0%	0																																																	◆	Precise Clo				
LD1480	Help Points	0	0		13-Nov-17	0%	0																																																	◆	Help Points				
LD1490	ETS Self Service Machines	0	0		13-Nov-17	0%	0																																																	◆	ETS Self Se				
LD1500	Lifts - Station & Pedestrian Footbridge	0	0		13-Nov-17	0%	0																																																	◆	Lifts - Statio				
Stabling Yard								0	0	13-Nov-17	13-Nov-17	0%	0																																																
LD1320	Fire & Life Safety - Alarms, Hydrants, Detection	0	0		13-Nov-17	0%	0																																																	◆	Fire & Life S				
LD1330	Decanting System	0	0		13-Nov-17	0%	0																																																	◆	Decanting S				
LD1510	Potable Water, Heating units, Sanitary, Eyewash Stations	0	0		13-Nov-17	0%	0																																																	◆	Potable Wat				
LD1520	CCTV (Platforms, Station, Stabling Yard)	0	0		13-Nov-17	0%	0																																																	◆	CCTV (Platf				
LD1530	Access Control / swipe card system	0	0		13-Nov-17	0%	0																																																	◆	Access Cor				
Mobilisation and Preliminaries								716	20	19-Dec-14 A	23-Oct-17	97.24%	15																																																
Mobilisation and Demobilisation of General Plant, Equip, Personnel & Site Establishment								669	20	14-Jan-15 A	23-Oct-17	97.05%	15																																																
MO1020	First Insurance Payment	0	0		14-Jan-15 A	100%																																																		◆	First Insurance Payment				
MO1000	Setting up Site Compound / Project office / Car Park	15	0	16-Jan-15 A	31-Mar-15 A	100%																																																		◆	Setting up Site Compound / Project office / Car Park				
MO1030	Long Service Leavy Payment	0	0		23-Apr-15 A	100%																																																		◆	Long Service Leavy Payment				
MO1040	Insurance Payment	0	0		19-May-15 A	100%																																																		◆	Insurance Payment				
MO1050	Second Insurance Payment	0	0		29-Jan-16 A	100%																																																		◆	Second Insurance Payment				
MO1070	Construction of Laydown yard	25	0	30-Nov-15 A	5-Feb-16 A	100%																																																		◆	Construction of Laydown yard				
MO1060	Final Dilapidation Survey	10	10	24-Sep-17	9-Oct-17	0%	25																																																	◆	Final Dilapidation				
MO1010	Demobilisation	20	20	24-Sep-17	23-Oct-17	0%	15																																																	◆	Demobilisation				
Management Plans								694	0	19-Dec-14 A	19-May-17 A	100%																																																	
Submission Dates								161	0	23-Jan-15 A	22-Jun-15 A	100%																																																	
MP1000	T4 Management Plans Submission Date	0	0		23-Jan-15 A	100%																																																		◆	T4 Management Plans Submission Date				
MP1010	T2 Management Plans Submission Date	0	0		9-Feb-15 A	100%																																																		◆	T2 Management Plans Submission Date				
MP1020	T7 Management Plans Submission Date	0	0		16-Feb-15 A	100%																																																		◆	T7 Management Plans Submission Date				
MP1030	T5 Management Plans Submission Date	0	0		15-May-15 A	100%																																																		◆	T5 Management Plans Submission Date				
MP1040	T9 Management Plans Submission Date	0	0		22-Jun-15 A	100%																																																		◆	T9 Management Plans Submission Date				
Management Plans - Main Works								239	0	19-Dec-14 A	2-Nov-15 A	100%																																																	
T2 Management Plan Production, Submission and Approval Procedure								216	0	19-Dec-14 A	19-Oct-15 A	100%																																																	
MP1050	T2 - Prepare Plan (Actual Plans listed below)	26	0	19-Dec-14 A	9-Feb-15 A	100%																																																		◆	T2 - Prepare Plan (Actual Plans listed below)				
MP1380	T2 - Submit Plan to Principal's Representative	0	0		9-Feb-15 A	100%																																																		◆	T2 - Submit Plan to Principal's Representative				
MP1390	T2 - Principal's Representative review and comments	10	0	10-Feb-15 A	11-Jun-15 A	100%																																																		◆	T2 - Principal's Representative review and comments				
MP1510	T2 - Review and Respond to Comments	5	0	2-Mar-15 A	19-Oct-15 A	100%																																																		◆	T2 - Review and Respond to Comments				
MP1520	T2 - Plan Complete and Approved	0	0		19-Oct-15 A	100%																																																		◆	T2 - Plan Complete and Approved				
MP1670	T2 - Close out of Comments	5	0	19-Oct-15 A	19-Oct-15 A	100%																																																		◆	T2 - Close out of Comments				
Contract Management Plan								46	0	19-Dec-14 A	27-Apr-15 A	100%																																																	
MP1070	Contract Management Plan	46	0	19-Dec-14 A	27-Apr-15 A	100%																																																		◆	Contract Management Plan				

- Actual Work
- Remaining Work
- Remaining Work
- ◆ Milestone
- ◆ Baseline Milestone
- Critical Remainin...

TASK filters: Hide LOE WBS, Suppressed Activities.
 Baseline : Rebaseline
 Layout : WTIP - TPD Submission Full Program layout

WTI-LOR-Wickham Transport Interchange

Activity ID	Activity Name	Original Duration	Remaining Duration	Start	Finish	Duration % Complete	Total Float	2015												2016												2017												2018
								D	Jan	F	M	Apr	M	J	Jul	A	S	Oct	N	D	Jan	F	Mar	Apr	M	Jun	Jul	A	S	Oct	N	D	Jan	F	Mar	Apr	M	Jun	Jul	A	S	Oct	N	D
Human Resources Management Plan		46	0	19-Dec-14 A	27-Apr-15 A	100%																																						
MP1130	Human Resources Management Plan	46	0	19-Dec-14 A	27-Apr-15 A	100%																																						
Community Liaison Management Plan		46	0	19-Dec-14 A	27-Apr-15 A	100%																																						
MP1150	Community Liaison Management Plan	46	0	19-Dec-14 A	27-Apr-15 A	100%																																						
Quality Management Plan		46	0	19-Dec-14 A	27-Apr-15 A	100%																																						
MP1220	Quality Management Plan	46	0	19-Dec-14 A	27-Apr-15 A	100%																																						
Asset Management Information Delivery Plan		46	0	19-Dec-14 A	27-Apr-15 A	100%																																						
MP1200	Asset Management Information Delivery Plan	46	0	19-Dec-14 A	27-Apr-15 A	100%																																						
Safety Assurance Plan		46	0	19-Dec-14 A	12-Jun-15 A	100%																																						
MP1190	Safety Assurance Plan	46	0	19-Dec-14 A	12-Jun-15 A	100%																																						
Systems Engineering Management Plan		46	0	19-Dec-14 A	27-Apr-15 A	100%																																						
MP1210	Systems Engineering Management Plan	46	0	19-Dec-14 A	27-Apr-15 A	100%																																						
Property Management Plan		46	0	19-Dec-14 A	23-Jun-15 A	100%																																						
MP1140	Property Management Plan	46	0	19-Dec-14 A	23-Jun-15 A	100%																																						
T4 Management Plan Production, Submission and Approval Procedure		93	0	19-Dec-14 A	27-Apr-15 A	100%																																						
MP1230	T4 - Prepare Plan (Actual Plans listed below)	16	0	19-Dec-14 A	23-Jan-15 A	100%																																						
MP1360	T4 - Submit Plan to Principal's Representative	0	0		23-Jan-15 A	100%																																						
MP1370	T4 - Principal's Representative review and comments	10	0	27-Jan-15 A	6-Mar-15 A	100%																																						
MP1480	T4 - Review and Respond to Comments	10	0	6-Mar-15 A	27-Apr-15 A	100%																																						
MP1500	T4 - Plan Complete and Approved	0	0		27-Apr-15 A	100%																																						
MP1680	T4 - Close out of Comments	5	0	27-Apr-15 A	27-Apr-15 A	100%																																						
Risk Management Plan		41	0	19-Dec-14 A	27-Apr-15 A	100%																																						
MP1240	Risk Management Plan	41	0	19-Dec-14 A	27-Apr-15 A	100%																																						
Design Management Plan		41	0	19-Dec-14 A	27-Apr-15 A	100%																																						
MP1250	Design Execution Plan (Digital Engineering)	41	0	19-Dec-14 A	27-Apr-15 A	100%																																						
Configuration Management Plan		41	0	19-Dec-14 A	27-Apr-15 A	100%																																						
MP1260	Configuration Management Plan	41	0	19-Dec-14 A	27-Apr-15 A	100%																																						
T5 management Plan Production, Submission and Approval Procedure		171	0	10-Feb-15 A	29-Jun-15 A	100%																																						
MP1400	T5 - Prepare Plan (Actual Plans listed below)	45	0	10-Feb-15 A	7-May-15 A	100%																																						
MP1550	T5 - Submit Plan to Principal's Representative	0	0		7-May-15 A	100%																																						
MP1560	T5 - Principal's Representative review and comments	10	0	11-May-15 A	28-May-15 A	100%																																						
MP1570	T5 - Review and Respond to Comments	5	0	29-May-15 A	16-Jun-15 A	100%																																						
MP1710	T5 - Close out of Comments	5	0	1-Jun-15 A	16-Jun-15 A	100%																																						
MP1580	T5 - Plan Complete and Approved	0	0		29-Jun-15 A	100%																																						
Construction and Site Management Plan		66	0	10-Feb-15 A	7-May-15 A	100%																																						
MP1420	Operational Traffic Management Plan	66	0	10-Feb-15 A	24-Apr-15 A	100%																																						
MP1430	Vehicle Management Plan	66	0	10-Feb-15 A	7-May-15 A	100%																																						
MP1440	Worksite Management Plan	66	0	10-Feb-15 A	7-May-15 A	100%																																						
MP1450	Utilities Management Plan	66	0	10-Feb-15 A	7-May-15 A	100%																																						
MP1460	Instrumentation and Monitoring Plan	66	0	10-Feb-15 A	7-May-15 A	100%																																						
T7 Management Plan Production, Submission and Approval Procedure		104	0	19-Dec-14 A	27-Apr-15 A	100%																																						
MP1270	T7 - Prepare Plan (Actual Plans listed below)	31	0	19-Dec-14 A	16-Feb-15 A	100%																																						
MP1470	T7 - Submit Plan to Principal's Representative	0	0		16-Feb-15 A	100%																																						
MP1490	T7 - Principal's Representative review and comments	10	0	17-Feb-15 A	10-Apr-15 A	100%																																						
MP1530	T7 - Review and Respond to Comments	5	0	2-Mar-15 A	20-Apr-15 A	100%																																						
MP1690	T7 - Close out of Comments	5	0	21-Apr-15 A	26-Apr-15 A	100%																																						
MP1540	T7 - Plan Complete and Approved	0	0		27-Apr-15 A	100%																																						
Workplace Relations Management Plan		46	0	19-Dec-14 A	27-Apr-15 A	100%																																						
MP1720	Workplace Relations Management Plan	46	0	19-Dec-14 A	27-Apr-15 A	100%																																						
Construction Environmental Management Plan		51	0	19-Dec-14 A	27-Apr-15 A	100%																																						
MP1280	Contamination Management Plan (Contamination of Hazardous Materials)	51	0	19-Dec-14 A	27-Apr-15 A	100%																																						
MP1290	Asbestos Management Plan	51	0	19-Dec-14 A	27-Apr-15 A	100%																																						
MP1300	Stormwater Management Plan	51	0	19-Dec-14 A	27-Apr-15 A	100%																																						
MP1310	Operational Noise and Vibration Management Plan	51	0	19-Dec-14 A	27-Apr-15 A	100%																																						
MP1320	Flood and Risk Management Plan	51	0	19-Dec-14 A	27-Apr-15 A	100%																																						
MP1330	Air Quality Management Plan	51	0	19-Dec-14 A	27-Apr-15 A	100%																																						
MP1340	Waste Management Plan	51	0	19-Dec-14 A	27-Apr-15 A	100%																																						
MP1350	Long Term Environmental Management Plan	51	0	19-Dec-14 A	27-Apr-15 A	100%																																						
Traffic Management Plan		1	0	19-Dec-14 A	27-Apr-15 A	100%																																						
MP1780	Traffic Management Plan	1	0	19-Dec-14 A	27-Apr-15 A	100%																																						
T8 management Plan Production, Submission and Approval Procedure		159	0	19-Dec-14 A	30-Jul-15 A	100%																																						
MP1740	T8 - Principal's Representative review and comments	10	0	19-Dec-14 A	29-Jun-15 A	100%																																						
MP1750	T8 - Review and Respond to Comments	5	0	29-Jun-15 A	13-Jul-15 A	100%																																						
MP1760	T8 - Close out of Comments	5	0	14-Jul-15 A	30-Jul-15 A	100%																																						

█ Actual Work █ Critical Remainin...
█ Remaining Work ◆ Milestone
█ Remaining Work ◆ Baseline Milestone

TASK filters: Hide LOE WBS, Suppressed Activities.
 Baseline : Rebaseline
 Layout : WTIP - TPD Submission Full Program layout

WTI-LOR-Wickham Transport Interchange

Activity ID	Activity Name	Original Duration	Remaining Duration	Start	Finish	Duration % Complete	Total Float	2015												2016												2017												2018
								D	Jan	F	M	Apr	M	J	Jul	A	S	Oct	N	D	Jan	F	Mar	Apr	M	Jun	Jul	A	S	Oct	N	D	Jan	F	Mar	Apr	M	Jun	Jul	A	S	Oct	N	D
Submission																																												
DS1840	Submit Stage Gate 2 CCB to TPD	8	0	2-Jun-15 A	9-Jun-15 A	100%		◆ Submit Stage Gate 2 CCB to TPD																																				
DS1850	CCB Meeting	0	0		9-Jun-15 A	100%		◆ CCB Meeting																																				
ORIGINAL - Preliminary Design Review (PDR) Phase																																												
Civil Design Package																																												
DP1000	C01 - General Arrangements	20	0	23-Mar-15 A	21-Apr-15 A	100%		█ C01 - General Arrangements																																				
DP1010	C02 - Civil Structures	20	0	23-Mar-15 A	21-Apr-15 A	100%		█ C02 - Civil Structures																																				
DP1020	C03 - Geotechnical, Ground Improvements, Earthworks, Formation & Structure	20	0	23-Mar-15 A	21-Apr-15 A	100%		█ C03 - Geotechnical, Ground Improvements, Earthworks, Formation & Structure																																				
DP1030	C04 - Drainage	20	0	23-Mar-15 A	21-Apr-15 A	100%		█ C04 - Drainage																																				
DP1040	C06 - Roads & Walkways	20	0	23-Mar-15 A	21-Apr-15 A	100%		█ C06 - Roads & Walkways																																				
DP1050	C13 - Track	20	0	23-Mar-15 A	21-Apr-15 A	100%		█ C13 - Track																																				
DP1060	C08 - Fencing, Gates and Signage	20	0	23-Mar-15 A	21-Apr-15 A	100%		█ C08 - Fencing, Gates and Signage																																				
DP1070	C11 - Water Services	20	0	23-Mar-15 A	21-Apr-15 A	100%		█ C11 - Water Services																																				
Rail Systems Package																																												
DP1080	R09 - Utilities	20	0	23-Mar-15 A	21-Apr-15 A	100%		█ R09 - Utilities																																				
DP1090	R02 - OHW and OHWS	20	0	23-Mar-15 A	21-Apr-15 A	100%		█ R02 - OHW and OHWS																																				
DP1100	R06 - Communications	20	0	23-Mar-15 A	21-Apr-15 A	100%		█ R06 - Communications																																				
DP1110	R07 - HV Traction Power	20	0	23-Mar-15 A	21-Apr-15 A	100%		█ R07 - HV Traction Power																																				
DP1120	R08 - Earthing, Bonding and Stray Current	20	0	23-Mar-15 A	21-Apr-15 A	100%		█ R08 - Earthing, Bonding and Stray Current																																				
DP1130	R10 - Combined Services Route	20	0	23-Mar-15 A	21-Apr-15 A	100%		█ R10 - Combined Services Route																																				
DP1140	R12 - HV / LV Supply	20	0	23-Mar-15 A	21-Apr-15 A	100%		█ R12 - HV / LV Supply																																				
DP1150	R05 - Signalling Installation design	20	0	23-Mar-15 A	21-Apr-15 A	100%		█ R05 - Signalling Installation design																																				
Review, Submission and Approvals																																												
DP1200	Stakeholders Engagement by LORAC	5	0	15-Apr-15 A	21-Apr-15 A	100%		█ Stakeholders Engagement by LORAC																																				
DP1250	Review comments from TfNSW	3	0	17-Apr-15 A	21-Apr-15 A	100%		█ Review comments from TfNSW																																				
DP1210	Issue PDR Design to LORAC	0	0		30-Apr-15 A	100%		◆ Issue PDR Design to LORAC																																				
DP1260	Incorporate TfNSW comments into design	5	0	22-Apr-15 A	30-Apr-15 A	100%		█ Incorporate TfNSW comments into design																																				
DP1220	LORAC Constructability Review	3	0	1-May-15 A	5-May-15 A	100%		█ LORAC Constructability Review																																				
DP1230	Close Out Comments and Compile	3	0	1-May-15 A	5-May-15 A	100%		█ Close Out Comments and Compile																																				
DP1240	Issue of CoNO by LORAC	0	0		5-May-15 A	100%		◆ Issue of CoNO by LORAC																																				
Buildings Package																																												
DP1960	Design planning and workshops	4	0	27-Apr-15 A	28-Apr-15 A	100%		█ Design planning and workshops																																				
DP1980	Models & XLR Clash reports Submitted to LORAC	0	0		15-May-15 A	100%		◆ Models & XLR Clash reports Submitted to LORAC																																				
DP1880	XLR Clash reports Submitted to LORAC	0	0		19-May-15 A	100%		◆ XLR Clash reports Submitted to LORAC																																				
DP1970	XLR Clash reports LORAC Review	5	0	30-Apr-15 A	26-May-15 A	100%		█ XLR Clash reports LORAC Review																																				
DP1160	B01 - Architecture and Urban Design	20	0	28-Apr-15 A	28-May-15 A	100%		█ B01 - Architecture and Urban Design																																				
DP1170	B02A - Station Structures	20	0	28-Apr-15 A	28-May-15 A	100%		█ B02A - Station Structures																																				
DP1180	B02B - Station Roof	20	0	28-Apr-15 A	28-May-15 A	100%		█ B02B - Station Roof																																				
DP1190	B03 - Station Services	20	0	28-Apr-15 A	28-May-15 A	100%		█ B03 - Station Services																																				
DP1810	B03A - Building Services Hydraulics	20	0	28-Apr-15 A	28-May-15 A	100%		█ B03A - Building Services Hydraulics																																				
DP1820	B03B - Building Services mech	20	0	28-Apr-15 A	28-May-15 A	100%		█ B03B - Building Services mech																																				
DP1830	B03C - Building Services Security	20	0	28-Apr-15 A	28-May-15 A	100%		█ B03C - Building Services Security																																				
DP1840	B03E - Building Services Comms	20	0	28-Apr-15 A	28-May-15 A	100%		█ B03E - Building Services Comms																																				
DP1850	Background Reports	20	0	28-Apr-15 A	28-May-15 A	100%		█ Background Reports																																				
DP1860	Issue PDR Buildings Design to LORAC	0	0		28-May-15 A	100%		◆ Issue PDR Buildings Design to LORAC																																				
DP1870	Respond to TfNSW concept design comments & closeout as required	5	0	19-May-15 A	28-May-15 A	100%		█ Respond to TfNSW concept design comments & closeout as required																																				
Review, Submission and Approvals																																												
DP1920	Constructability review	3	0	28-May-15 A	29-May-15 A	100%		█ Constructability review																																				
ORIGINAL - Critical Design Review (CDR) Phase - Suspended																																												
Civil Design Package																																												
DC1010	C01 - General Arrangements	23	0	6-May-15 A	5-Jun-15 A	100%		█ C01 - General Arrangements																																				
DC1020	C02 - Civil Structures	23	0	6-May-15 A	5-Jun-15 A	100%		█ C02 - Civil Structures																																				
DC1030	C03 - Geotechnical, Ground Improvements, Earthworks, Formation & Structure	23	0	6-May-15 A	5-Jun-15 A	100%		█ C03 - Geotechnical, Ground Improvements, Earthworks, Formation & Structure																																				
DC1040	C04 - Drainage	23	0	6-May-15 A	5-Jun-15 A	100%		█ C04 - Drainage																																				
DC1050	C06 - Roads & Walkways	23	0	6-May-15 A	5-Jun-15 A	100%		█ C06 - Roads & Walkways																																				
DC1060	C13 - Track	23	0	6-May-15 A	5-Jun-15 A	100%		█ C13 - Track																																				
DC1070	C08 - Fencing, Gates and Signage	23	0	6-May-15 A	5-Jun-15 A	100%		█ C08 - Fencing, Gates and Signage																																				
DC1080	C11 - Water Services	23	0	6-May-15 A	5-Jun-15 A	100%		█ C11 - Water Services																																				
Rail Systems Package																																												
DC1090	R09 - Utilities	23	0	6-May-15 A	5-Jun-15 A	100%		█ R09 - Utilities																																				
DC1100	R02 - OHW and OHWS	23	0	6-May-15 A	5-Jun-15 A	100%		█ R02 - OHW and OHWS																																				
DC1110	R06 - Communications	23	0	6-May-15 A	5-Jun-15 A	100%		█ R06 - Communications																																				

█ Actual Work █ Critical Remainin...
█ Remaining Work ◆ Milestone
█ Remaining Work ◆ Baseline Milestone

WTI-LOR-Wickham Transport Interchange

Activity ID	Activity Name	Original Duration	Remaining Duration	Start	Finish	Duration % Complete	Total Float	2015												2016												2017												2018
								D	Jan	F	M	Apr	M	J	Jul	A	S	Oct	N	D	Jan	F	Mar	Apr	M	Jun	Jul	A	S	Oct	N	D	Jan	F	Mar	Apr	M	Jun	Jul	A	S	Oct	N	D
Design Safety Assurance deliverables		0	0	12-Oct-15 A	12-Oct-15 A	0%																																						
DP2390	Updated Project Specific Risk Register (PSRR)	0	0		12-Oct-15 A	100%																																						
DP2400	Updated Requirements compliance (RATM)	0	0		12-Oct-15 A	100%																																						
TfNSW Review		1	0	16-Oct-15 A	16-Oct-15 A	100%																																						
DP2380	Review/Comments Workshop(EAR) -Track,Station Structure and Roof,Earthing and Bonding & Signalling Installation Desi	1	0	16-Oct-15 A	16-Oct-15 A	100%																																						
REVISED - Critical Design Review (CDR) Phase		70	0	13-Oct-15 A	21-Jan-16 A	100%																																						
Civil Design Package		25	0	13-Oct-15 A	3-Dec-15 A	100%																																						
DC2470	C01 - General Arrangements	25	0	13-Oct-15 A	3-Dec-15 A	100%																																						
DC2480	C02 - Civil Structures	25	0	13-Oct-15 A	3-Dec-15 A	100%																																						
DC2490	C03 - Geotechnical, Ground Improvements, Earthworks, Formation & Structure	25	0	13-Oct-15 A	3-Dec-15 A	100%																																						
DC2500	C04- Drainage	25	0	13-Oct-15 A	3-Dec-15 A	100%																																						
DC2510	C06- Roads & Walkways	25	0	13-Oct-15 A	3-Dec-15 A	100%																																						
DC2520	C13- Track	25	0	13-Oct-15 A	3-Dec-15 A	100%																																						
DC2530	C08 - Fencing, Gates and Signage	25	0	13-Oct-15 A	3-Dec-15 A	100%																																						
DC2540	C11 - Water Services	25	0	13-Oct-15 A	3-Dec-15 A	100%																																						
Rail Systems Package		25	0	13-Oct-15 A	3-Dec-15 A	100%																																						
DC2300	R09 - Utilities	25	0	13-Oct-15 A	3-Dec-15 A	100%																																						
DC2310	R02- OHW and OHWS	25	0	13-Oct-15 A	3-Dec-15 A	100%																																						
DC2320	R06- Communications	25	0	13-Oct-15 A	3-Dec-15 A	100%																																						
DC2330	R07- HV Traction Power	25	0	13-Oct-15 A	3-Dec-15 A	100%																																						
DC2340	R08- Earthing, Bonding and Stray Current	25	0	13-Oct-15 A	3-Dec-15 A	100%																																						
DC2350	R10- Combined Services Route	25	0	13-Oct-15 A	3-Dec-15 A	100%																																						
DC2360	R12- HV / LV Supply	25	0	13-Oct-15 A	3-Dec-15 A	100%																																						
DC2370	R05 - Signalling Installation design	25	0	13-Oct-15 A	3-Dec-15 A	100%																																						
Site Wide Reports and Study Packages		25	0	13-Oct-15 A	3-Dec-15 A	100%																																						
DC2390	SW04 - Environmental Control Map	5	0	13-Oct-15 A	19-Oct-15 A	100%																																						
DC2380	SW03 - System and Safety Assurance, RAMS Reporting	25	0	13-Oct-15 A	3-Dec-15 A	100%																																						
DC2400	SW05 - Sustainability	25	0	13-Oct-15 A	3-Dec-15 A	100%																																						
DC2410	SW06 - Durability	25	0	13-Oct-15 A	3-Dec-15 A	100%																																						
DC2420	SW07 - Design Survey and DSS Management	25	0	13-Oct-15 A	3-Dec-15 A	100%																																						
DC2430	SW08 - BCA and DDA	25	0	13-Oct-15 A	3-Dec-15 A	100%																																						
DC2440	SW09 / R11 - Site Security	25	0	13-Oct-15 A	3-Dec-15 A	100%																																						
DC2450	SW12 - Fire and Life Safety	25	0	13-Oct-15 A	3-Dec-15 A	100%																																						
DC2460	SW13 - Pedestrian Modelling	25	0	13-Oct-15 A	3-Dec-15 A	100%																																						
Buildings Package		38	0	13-Oct-15 A	3-Dec-15 A	100%																																						
DC2720	Design planning and workshops	4	0	13-Oct-15 A	16-Oct-15 A	100%																																						
DC2730	XLR Clash reports Submission to LORAC	0	0		1-Dec-15 A	100%																																						
DC2770	Models & XLR Clash reports Submission to LORAC	0	0		1-Dec-15 A	100%																																						
DC2550	B01 - Architecture and Urban Design	25	0	13-Oct-15 A	3-Dec-15 A	100%																																						
DC2560	B02A - Station Structures	25	0	13-Oct-15 A	3-Dec-15 A	100%																																						
DC2570	B02B - Station Roof	25	0	13-Oct-15 A	3-Dec-15 A	100%																																						
DC2580	B03 - Station Services	25	0	13-Oct-15 A	3-Dec-15 A	100%																																						
DC2590	B03A - Building Services Hydraulics	25	0	13-Oct-15 A	3-Dec-15 A	100%																																						
DC2600	B03B - Building Services mech	25	0	13-Oct-15 A	3-Dec-15 A	100%																																						
DC2610	B03C - Building Services Security	25	0	13-Oct-15 A	3-Dec-15 A	100%																																						
DC2620	B03E - Building Services Comms	25	0	13-Oct-15 A	3-Dec-15 A	100%																																						
DC2630	Background Reports	25	0	13-Oct-15 A	3-Dec-15 A	100%																																						
DC2640	Issue CDR Buildings Design to LORAC	0	0		3-Dec-15 A	100%																																						
DC2740	XLR Clash reports LORAC Review	5	0	27-Nov-15 A	3-Dec-15 A	100%																																						
Review, Submission and Approvals		37	0	27-Nov-15 A	21-Jan-16 A	100%																																						
DC1300	Issue CDR Design to LORAC	0	0		3-Dec-15 A	100%																																						
DC1290	Stakeholders Engagement by LORAC	5	0	27-Nov-15 A	3-Dec-15 A	100%																																						
DC1310	Issue No TC to TfNSW for June 2015 critical OHWS Footings-NA	0	0		3-Dec-15 A	100%																																						
DC1320	IDC Review	4	0	4-Dec-15 A	9-Dec-15 A	100%																																						
DC1330	LORAC Constructability Review	4	0	4-Dec-15 A	9-Dec-15 A	100%																																						
DC1340	Internal Verification	3	0	10-Dec-15 A	14-Dec-15 A	100%																																						
DC1350	Close Comments and Compile Submission	2	0	15-Dec-15 A	16-Dec-15 A	100%																																						
DC1360	Issue CDR Design to TfNSW	0	0		16-Dec-15 A	100%																																						
DC1370	Issue CDR Design to Stakeholders	0	0		16-Dec-15 A	100%																																						
Design Safety Assurance deliverables		0	0	16-Dec-15 A	16-Dec-15 A	0%																																						
DC2790	RAM Report	0	0		16-Dec-15 A	100%																																						
DC2800	HF Report (Depending on outcome of the OSHA.)	0	0		16-Dec-15 A	100%																																						

■ Actual Work ■ Critical Remainin...
■ Remaining Work ◆ Milestone
■ Remaining Work ◆ Baseline Milestone

TASK filters: Hide LOE WBS, Suppressed Activities.
Baseline : Rebaseline
Layout : WTIP - TPD Submission Full Program layout

WTI-LOR-Wickham Transport Interchange

Activity ID	Activity Name	Original Duration	Remaining Duration	Start	Finish	Duration % Complete	Total Float	2015												2016												2017												2018	
								D	Jan	F	M	Apr	M	J	Jul	A	S	Oct	N	D	Jan	F	Mar	Apr	M	Jun	Jul	A	S	Oct	N	D	Jan	F	Mar	Apr	M	Jun	Jul	A	S	Oct	N	D	Jan
								2015												2016												2017												2018	
DC2810	Updated Project Specific Risk Register (PSRR)	0	0		16-Dec-15 A	100%														◆ Updated Project Specific Risk Register (PSRR)																									
DC2820	Updated Requirements compliance (RATM)	0	0		16-Dec-15 A	100%														◆ Updated Requirements compliance (RATM)																									
DC2830	Updated Design Safety Assurance Report (DSAR)	0	0		16-Dec-15 A	100%														◆ Updated Design Safety Assurance Report (DSAR)																									
TINNSW Review		15	0	17-Dec-15 A	21-Jan-16 A	100%																																							
DC1380	Review of CDR by TINNSW	15	0	17-Dec-15 A	21-Jan-16 A	100%														■ Review of CDR by TINNSW																									
Critical Design Review Closeout (CDRC)		208	0	22-Jan-16 A	15-Nov-16 A	100%																																							
Civil Design Package		10	0	22-Jan-16 A	5-Feb-16 A	100%																																							
DO1000	C01 - General Arrangements	10	0	22-Jan-16 A	5-Feb-16 A	100%														■ C01 - General Arrangements																									
DO1010	C02 - Civil Structures	10	0	22-Jan-16 A	5-Feb-16 A	100%														■ C02 - Civil Structures																									
DO1020	C03 - Geotechnical, Ground Improvements, Earthworks, Formation & Structure	10	0	22-Jan-16 A	5-Feb-16 A	100%														■ C03 - Geotechnical, Ground Improvements, Earthworks, Formation & Structure																									
DO1030	C04 - Drainage	10	0	22-Jan-16 A	5-Feb-16 A	100%														■ C04 - Drainage																									
DO1040	C06 - Roads & Walkways	10	0	22-Jan-16 A	5-Feb-16 A	100%														■ C06 - Roads & Walkways																									
DO1050	C13 - Track	10	0	22-Jan-16 A	5-Feb-16 A	100%														■ C13 - Track																									
DO1060	C08 - Fencing, Gates and Signage	10	0	22-Jan-16 A	5-Feb-16 A	100%														■ C08 - Fencing, Gates and Signage																									
DO1070	C11 - Water Services	10	0	22-Jan-16 A	5-Feb-16 A	100%														■ C11 - Water Services																									
Rail Systems Package		147	0	22-Jan-16 A	21-Oct-16 A	100%																																							
DO1080	R09- Utilities	10	0	22-Jan-16 A	5-Feb-16 A	100%														■ R09- Utilities																									
DO1090	R02- OHW and OHWS	10	0	22-Jan-16 A	5-Feb-16 A	100%														■ R02- OHW and OHWS																									
DO1100	R06- Communications	10	0	22-Jan-16 A	5-Feb-16 A	100%														■ R06- Communications																									
DO1110	R07- HV Traction Power	10	0	22-Jan-16 A	5-Feb-16 A	100%														■ R07- HV Traction Power																									
DO1120	R08- Earthing, Bonding and Stray Current	10	0	22-Jan-16 A	5-Feb-16 A	100%														■ R08- Earthing, Bonding and Stray Current																									
DO1130	R10- Combined Services Route	10	0	22-Jan-16 A	5-Feb-16 A	100%														■ R10- Combined Services Route																									
DO1140	R12- HV / LV Supply	10	0	22-Jan-16 A	5-Feb-16 A	100%														■ R12- HV / LV Supply																									
DO1150	R05 - Signalling Installation design	10	0	22-Jan-16 A	5-Feb-16 A	100%														■ R05 - Signalling Installation design																									
DO2430	R10- Combined Services Route- Redesign after Main Package CCB	10	0	3-May-16 A	28-Jul-16 A	100%														■ R10- Combined Services Route- Redesign after Main Package CCB																									
DO2440	R05 - Signalling Installation design - Redesign after Main Package CCB	10	0	3-May-16 A	28-Jul-16 A	100%														■ R05 - Signalling Installation design - Redesign after Main Package CCB																									
DO2490	Review of CDR by TINNSW	5	0	29-Jul-16 A	12-Aug-16 A	100%														■ Review of CDR by TINNSW																									
DO2500	CDRC design	5	0	15-Aug-16 A	26-Aug-16 A	100%														■ CDRC design																									
DO2510	Close out of Comments with TINNSW	5	0	26-Aug-16 A	30-Sep-16 A	100%														■ Close out of Comments with TINNSW																									
DO2540	TINNSW DSAR review	5	0	12-Sep-16 A	7-Oct-16 A	100%														■ TINNSW DSAR review																									
DO2550	DSAR(revised) submission	5	0	10-Oct-16 A	21-Oct-16 A	100%														■ DSAR(revised) submission																									
Buildings Package		11	0	22-Jan-16 A	5-Feb-16 A	100%																																							
DO2250	XLR Clash reports Submission to LORAC	0	0		1-Feb-16 A	100%														◆ XLR Clash reports Submission to LORAC																									
DO1160	B01 - Architecture and Urban Design	10	0	22-Jan-16 A	5-Feb-16 A	100%														■ B01 - Architecture and Urban Design																									
DO1170	B02A - Station Structures	10	0	22-Jan-16 A	5-Feb-16 A	100%														■ B02A - Station Structures																									
DO1180	B02B - Station Roof	10	0	22-Jan-16 A	5-Feb-16 A	100%														■ B02B - Station Roof																									
DO1190	B03 - Station Services	10	0	22-Jan-16 A	5-Feb-16 A	100%														■ B03 - Station Services																									
DO2170	B03A - Building Services Hydraulics	10	0	22-Jan-16 A	5-Feb-16 A	100%														■ B03A - Building Services Hydraulics																									
DO2180	B03B - Building Services mech	10	0	22-Jan-16 A	5-Feb-16 A	100%														■ B03B - Building Services mech																									
DO2190	B03C - Building Services Security	10	0	22-Jan-16 A	5-Feb-16 A	100%														■ B03C - Building Services Security																									
DO2200	B03E - Building Services Comms	10	0	22-Jan-16 A	5-Feb-16 A	100%														■ B03E - Building Services Comms																									
DO2210	Background Reports	10	0	22-Jan-16 A	5-Feb-16 A	100%														■ Background Reports																									
DO2220	Issue CDRC Buildings Design to LORAC	0	0		5-Feb-16 A	100%														◆ Issue CDRC Buildings Design to LORAC																									
DO2340	XLR Clash reports LORAC Review	5	0	1-Feb-16 A	5-Feb-16 A	100%														◆ XLR Clash reports LORAC Review																									
Review, Submission and Approvals		203	0	29-Jan-16 A	15-Nov-16 A	100%																																							
DO1210	Issue CDRC to LORAC & TINNSW	0	0		5-Feb-16 A	100%														◆ Issue CDRC to LORAC & TINNSW																									
DO1230	Review of CDRC by LORAC	3	0	8-Feb-16 A	10-Feb-16 A	100%														■ Review of CDRC by LORAC																									
DO1220	Close out of Comments with TINNSW	5	0	8-Feb-16 A	12-Feb-16 A	100%														■ Close out of Comments with TINNSW																									
DO1240	Update and Compile submission	5	0	15-Feb-16 A	19-Feb-16 A	100%														■ Update and Compile submission																									
DO1250	CDRC Stage Completion	0	0		19-Feb-16 A	100%														◆ CDRC Stage Completion																									
DO2420	IPR Review & Closeout	10	0	8-Feb-16 A	19-Feb-16 A	100%														■ IPR Review & Closeout																									
Stage Gate 3		203	0	29-Jan-16 A	15-Nov-16 A	100%																																							
Package 1		203	0	29-Jan-16 A	15-Nov-16 A	100%																																							
Designs		15	0	29-Jan-16 A	19-Feb-16 A	100%																																							
DO1200	Preparation of CCB Stage 3 Documents by LORAC	15	0	29-Jan-16 A	19-Feb-16 A	100%														■ Preparation of CCB Stage 3 Documents by LORAC																									
Submission		187	0	22-Feb-16 A	15-Nov-16 A	100%																																							
DO1270	Stage Gate 3 CCB Submit to TPD	0	0		22-Feb-16 A	100%														◆ Stage Gate 3 CCB Submit to TPD																									
DO1260	Stage Gate 3 CCB Review	7	0	22-Feb-16 A	1-Mar-16 A	100%														■ Stage Gate 3 CCB Review																									
DO1280	CCB Meeting	1	0	1-Mar-16 A	1-Mar-16 A	100%														■ CCB Meeting																									
DO2450	Stage Gate 3 CCB Review - Revised CSR package	7	0	24-Oct-16 A	14-Nov-16 A	100%														■ Stage Gate 3 CCB Review - Revised CSR package																									
DO2470	Stage Gate 3 CCB Review - Revised signal design	7	0	24-Oct-16 A	14-Nov-16 A	100%														■ Stage Gate 3 CCB Review - Revised signal design																									
DO2460	CCB Meeting - Revised CSR package	1	0	15-Nov-16 A	15-Nov-16 A	100%														■ CCB Meeting - Revised CSR package																									
DO2480	CCB Meeting - Revised signal design	1	0	15-Nov-16 A	15-Nov-16 A	100%														■ CCB Meeting - Revised signal design																									

	Actual Work		Critical Remainin...
	Remaining Work		Milestone
	Remaining Work		Baseline Milestone

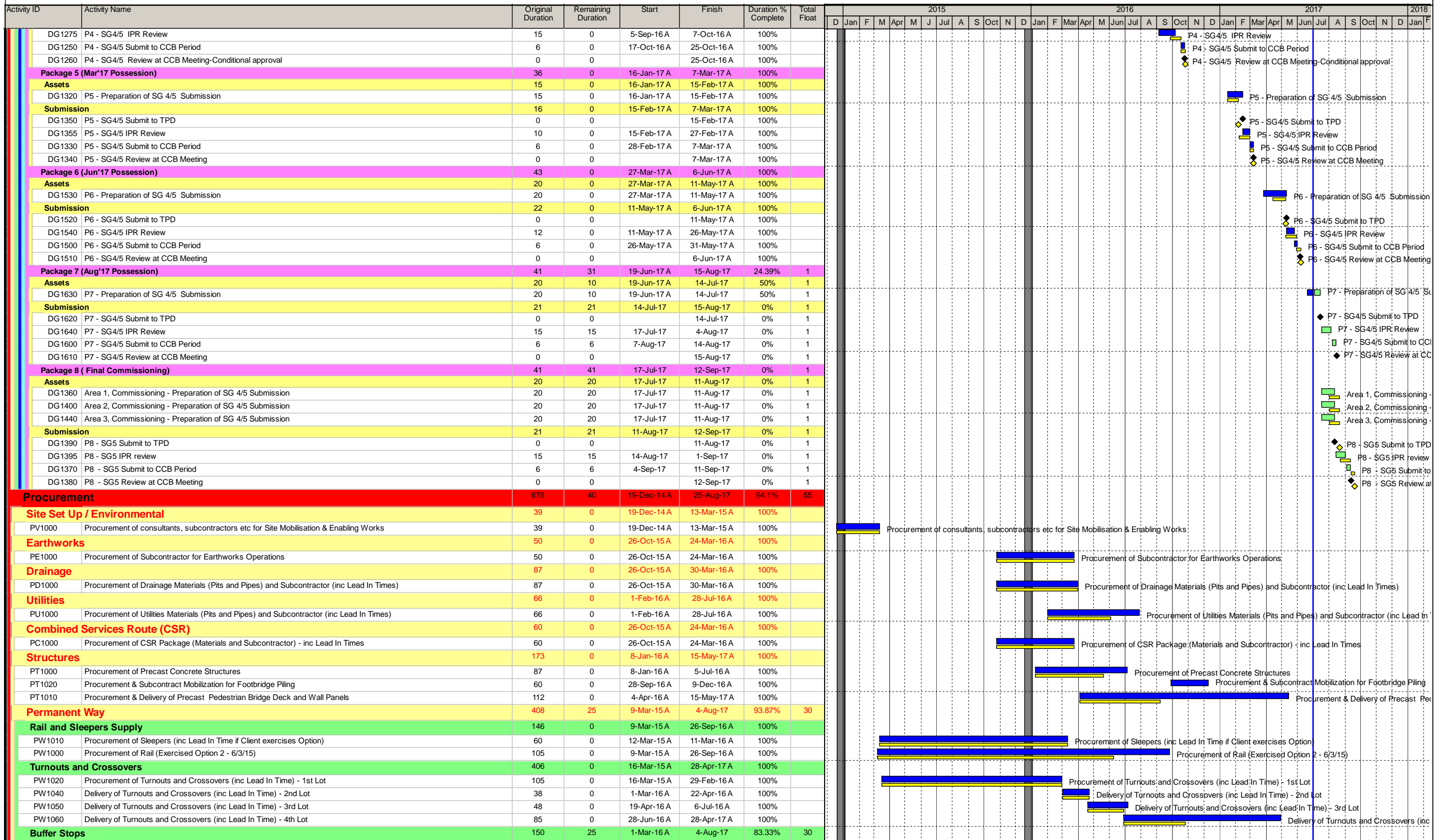
WTI-LOR-Wickham Transport Interchange

Activity ID	Activity Name	Original Duration	Remaining Duration	Start	Finish	Duration % Complete	Total Float	2015												2016												2017												2018
								D	Jan	F	M	Apr	M	J	Jul	A	S	Oct	N	D	Jan	F	Mar	Apr	M	Jun	Jul	A	S	Oct	N	D	Jan	F	Mar	Apr	M	Jun	Jul	A	S	Oct	N	D
Approved for Construction (AFC) Phase																																												
Civil Design Package																																												
DA1000	C01 - General Arrangements	8	0	2-Mar-16 A	11-Mar-16 A	100%		C01 - General Arrangements																																				
DA1010	C02 - Civil Structures	8	0	2-Mar-16 A	11-Mar-16 A	100%		C02 - Civil Structures																																				
DA1020	C03 - Geotechnical, Ground Improvements, Earthworks, Formation & Structure	8	0	2-Mar-16 A	11-Mar-16 A	100%		C03 - Geotechnical, Ground Improvements, Earthworks, Formation & Structure																																				
DA1030	C04 - Drainage	8	0	2-Mar-16 A	11-Mar-16 A	100%		C04 - Drainage																																				
DA1040	C06 - Roads & Walkways	8	0	2-Mar-16 A	11-Mar-16 A	100%		C06 - Roads & Walkways																																				
DA1050	C13 - Track	8	0	2-Mar-16 A	11-Mar-16 A	100%		C13 - Track																																				
DA1060	C08 - Fencing, Gates and Signage	8	0	2-Mar-16 A	11-Mar-16 A	100%		C08 - Fencing, Gates and Signage																																				
DA1070	C11 - Water Services	8	0	2-Mar-16 A	11-Mar-16 A	100%		C11 - Water Services																																				
Review, Submission and Approvals																																												
DA1200	Issue of AFC Design Package - Civil Design Package	0	0	11-Mar-16 A	11-Mar-16 A	0%		Issue of AFC Design Package - Civil Design Package																																				
Rail Systems Package																																												
DA1080	R09 - Utilities	8	0	2-Mar-16 A	11-Mar-16 A	100%		R09 - Utilities																																				
DA1090	R02 - OHW and OHWS	8	0	2-Mar-16 A	11-Mar-16 A	100%		R02 - OHW and OHWS																																				
DA1100	R06 - Communications	8	0	2-Mar-16 A	11-Mar-16 A	100%		R06 - Communications																																				
DA1110	R07 - HV Traction Power	8	0	2-Mar-16 A	11-Mar-16 A	100%		R07 - HV Traction Power																																				
DA1120	R08 - Earthing, Bonding and Stray Current	8	0	2-Mar-16 A	11-Mar-16 A	100%		R08 - Earthing, Bonding and Stray Current																																				
DA1140	R12 - HV / LV Supply	8	0	2-Mar-16 A	11-Mar-16 A	100%		R12 - HV / LV Supply																																				
DA1130	R10 - Combined Services Route	3	0	17-Nov-16 A	28-Nov-16 A	100%		R10 - Combined Services Route																																				
DA1150	R05 - Signalling Installation design	3	0	17-Nov-16 A	28-Nov-16 A	100%		R05 - Signalling Installation design																																				
Review, Submission and Approvals																																												
DA1210	Issue of AFC Design Package - Rail Systems Package	0	0	11-Mar-16 A	11-Mar-16 A	100%		Issue of AFC Design Package - Rail Systems Package																																				
Buildings Package																																												
DA1160	B01 - Architecture and Urban Design	8	0	2-Mar-16 A	11-Mar-16 A	100%		B01 - Architecture and Urban Design																																				
DA1170	B02A - Station Structures	8	0	2-Mar-16 A	11-Mar-16 A	100%		B02A - Station Structures																																				
DA1180	B02B - Station Roof	8	0	2-Mar-16 A	11-Mar-16 A	100%		B02B - Station Roof																																				
DA1190	B03 - Station Services	8	0	2-Mar-16 A	11-Mar-16 A	100%		B03 - Station Services																																				
Review, Submission and Approvals																																												
DA1220	Issue of AFC Design Package - Buildings Package	0	0	24-Aug-15 A	28-Mar-16 A	100%		Issue of AFC Design Package - Buildings Package																																				
Digital Engineering Deliverables																																												
DA1230	DE 3D Flythrough submission to TfNSW	0	0	24-Aug-15 A	24-Aug-15 A	100%		DE 3D Flythrough submission to TfNSW																																				
DA1240	DE Construction Sequence Flythrough to TfNSW	9	0	4-Dec-15 A	16-Dec-15 A	100%		DE Construction Sequence Flythrough to TfNSW																																				
DA1330	DE Construction Sequence Flythrough submission to TfNSW	0	0		16-Dec-15 A	100%		DE Construction Sequence Flythrough submission to TfNSW																																				
DA1400	DE Oculus (CDR) Submission to TfNSW	5	0	16-Dec-15 A	16-Dec-15 A	100%		DE Oculus (CDR) Submission to TfNSW																																				
DA1320	DE Construction sequence to TfNSW	10	0	29-Feb-16 A	18-Mar-16 A	100%		DE Construction sequence to TfNSW																																				
DA1350	DE Issue Oculus	0	0		28-Mar-16 A	100%		DE Issue Oculus																																				
DA1340	DE 3D Flythrough to TfNSW	0	0		28-Mar-16 A	100%		DE 3D Flythrough to TfNSW																																				
Design Safety Assurance deliverables																																												
DA1370	Project Specific Risk Register (PSRR)	0	0	22-Feb-16 A	23-Feb-16 A	100%		Project Specific Risk Register (PSRR)																																				
DA1380	Requirements compliance (RATM)	0	0		23-Feb-16 A	100%		Requirements compliance (RATM)																																				
DA1390	Design Safety Assurance Report (DSAR)	0	0		23-Feb-16 A	100%		Design Safety Assurance Report (DSAR)																																				
Footbridge design Package																																												
Review, Submission and Approvals-CDRC																																												
DC1540	Stakeholders Engagement by LORAC	5	0	1-Dec-15 A	7-Dec-15 A	100%		Stakeholders Engagement by LORAC																																				
DC1480	Issue CDR Design to LORAC	0	0		15-Jan-16 A	100%		Issue CDR Design to LORAC																																				
DC1490	IDC Review	4	0	18-Jan-16 A	22-Jan-16 A	100%		IDC Review																																				
DC1560	LORAC Constructability Review	4	0	18-Jan-16 A	22-Jan-16 A	100%		LORAC Constructability Review																																				
DC1500	Internal Verification Draft CDR review	3	0	25-Jan-16 A	28-Jan-16 A	100%		Internal Verification Draft CDR review																																				
DC1510	Close Comments and Compile Submission	2	0	29-Jan-16 A	1-Feb-16 A	100%		Close Comments and Compile Submission																																				
DC1520	Issue CDR Design to TfNSW	0	0		1-Feb-16 A	100%		Issue CDR Design to TfNSW																																				
DC1550	Issue CDR Design to Stakeholders	0	0		1-Feb-16 A	100%		Issue CDR Design to Stakeholders																																				
DC1530	Review of CDR by TfNSW	3	0	2-Feb-16 A	4-Feb-16 A	100%		Review of CDR by TfNSW																																				
CDRC																																												
DO1380	C02 - Civil Structures- Footbridge	5	0	5-Feb-16 A	11-Feb-16 A	100%		C02 - Civil Structures- Footbridge																																				
Review, Submission and Approvals-CDRC																																												
DO1420	Issue CDRC to LORAC & TfNSW	0	0	1-Feb-16 A	11-Feb-16 A	100%		Issue CDRC to LORAC & TfNSW																																				
DO1390	Close out of Comments with TfNSW	5	0	10-Feb-16 A	16-Feb-16 A	100%		Close out of Comments with TfNSW																																				
DO1430	Review of CDRC by LORAC	3	0	12-Feb-16 A	16-Feb-16 A	100%		Review of CDRC by LORAC																																				
DO1400	Update and Compile submission	3	0	17-Feb-16 A	19-Feb-16 A	100%		Update and Compile submission																																				
DO1410	CDRC Stage Completion	0	0		19-Feb-16 A	100%		CDRC Stage Completion																																				
Stage Gate 3																																												

Actual Work
 Critical Remainin...
 Remaining Work
 ◆ Milestone
 Remaining Work
 ◆ Baseline Milestone

TASK filters: Hide LOE WBS, Suppressed Activities.
 Baseline : Rebaseline
 Layout : WTIP - TPD Submission Full Program layout

WTI-LOR-Wickham Transport Interchange



- Actual Work
- Critical Remainin...
- Remaining Work
- ◆ Milestone
- ◆ Baseline Milestone

TASK filters: Hide LOE WBS, Suppressed Activities.
 Baseline : Rebaseline
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WTI-LOR-Wickham Transport Interchange

Activity ID	Activity Name	Original Duration	Remaining Duration	Start	Finish	Duration % Complete	Total Float	2015												2016												2017												2018										
								D	Jan	F	M	Apr	M	J	Jul	A	S	Oct	N	D	Jan	F	Mar	Apr	M	Jun	Jul	A	S	Oct	N	D	Jan	F	Mar	Apr	M	Jun	Jul	A	S	Oct	N	D	Jan	F								
Siding -2																																																						
CY1250	Siding 2 - Track works- West	3	0	1-May-17 A	5-May-17 A	100%																																																
CY1230	Siding 2 - Track works- East	3	0	3-May-17 A	5-May-17 A	100%																																																
Siding -1																																																						
CY1310	Siding 1 - Track works- West	3	0	3-May-17 A	5-May-17 A	100%																																																
CY1580	Siding 1 - Track works- East	3	0	4-May-17 A	8-May-17 A	100%																																																
Walkway -5																																																						
CY1650	Walkway 5 East (160M) - FRP, Hydrants, local cable routs,Lighting, Decant, Electric equipments	12	0	1-May-17 A	15-May-17 A	100%	7																																															
CY1660	Walkway 5 West (Exchange to decant 70M)- FRP, Hydrants, local cable routs,Lighting, Decant, Electric equipments	7	7	1-Jul-17	10-Jul-17	0%	7																																															
Walkway 2																																																						
CY1270	Walkway 2 East(275m) - FRP Hydrants, local cable routs,Lighting, Decant, Electric equipments	12	0	6-May-17 A	22-May-17 A	100%																																																
CY1330	Walkway 2 West(100m) - FRP, Hydrants, local cable routs,Lighting, Decant, Electric equipments	6	0	22-May-17 A	27-May-17 A	100%																																																
CY1940	Walkway 2 West(34m) - FRP, Hydrants, local cable routs,Lighting, Decant, Electric equipments	6	0	1-Jun-17 A	8-Jun-17 A	100%																																																
Siding -4																																																						
CY1670	Siding 4 - Track works- West	2	0	15-May-17 A	17-May-17 A	100%																																																
CY1680	Siding 4 - Track works- East	2	0	17-May-17 A	19-May-17 A	100%																																																
Siding -3																																																						
CY1610	Siding 3 - Track works- West	2	0	17-May-17 A	19-May-17 A	100%																																																
CY1620	Siding 3 - Track works- East	2	0	19-May-17 A	22-May-17 A	100%																																																
Walkway -4																																																						
CY1640	Walkway 4 East - FRP, Hydrants, local cable routs,Lighting, Decant, Electric equipments	12	4	19-Jun-17 A	6-Jul-17	66.67%	43																																															
CY1630	Walkway 4 West - FRP, Hydrants, local cable routs,Lighting, Decant, Electric equipments	8	7	27-Jun-17 A	10-Jul-17	12.5%	43																																															
Walkway Fitout works																																																						
CY1890	Install PA,Speakers, CCTV camera & Walkway Lighting	20	10	19-May-17 A	13-Jul-17	50%	17																																															
CY1900	Final connection of lights to DB's	2	2	14-Jul-17	17-Jul-17	0%	17																																															
Track Works																																																						
CT1220	Installation of Catchpoints (483) - in situ	6	0	25-May-17 A	27-May-17 A	100%																																																
CY1930	Top Ballast sidings & Turnouts	8	0	23-May-17 A	29-May-17 A	100%																																																
CY1240	Installation of Turnout 480,481,482 (in-situ + welding)	11	0	17-May-17 A	29-May-17 A	100%																																																
CY1290	Free Welding	2	0	14-Jun-17 A	15-Jun-17 A	100%																																																
CY1300	Adjustment Welding (Destressing)	2	0	14-Jun-17 A	15-Jun-17 A	100%																																																
CY1260	Tamping and Regulating	3	0	15-Jun-17 A	19-Jun-17 A	100%																																																
CY1320	Installation of Buffer Stops	4	4	5-Aug-17	10-Aug-17	0%	33																																															
Overhead Wiring																																																						
CY1150	OHW Structures Installaton	12	0	12-Jan-17 A	24-Jan-17 A	100%																																																
CY1280	OHW - Preparations & Wire Run 1, 2 & 3 (Siding 2,3 & 4)/ Siding 1 preparations	16	0	22-May-17 A	9-Jun-17 A	100%																																																
Fencing & Gates																																																						
DE-0031-C	Installation of Noise Walls panels - Fern St	3	0	1-May-17 A	3-May-17 A	100%																																																
CY1840	Walkway 1 Fencing	15	9	31-May-17 A	12-Jul-17	40%	25																																															
CY1830	Walkway 5 Fencing	20	14	15-Jun-17 A	19-Jul-17	30%	30																																															
CY1910	Installation of Noise Walls Gates - Fern St	4	4	3-Aug-17	8-Aug-17	0%	24																																															
Urban Design & Landscaping																																																						
CY1370	Landscaping	8	8	3-Aug-17	12-Aug-17	0%	20																																															
Wayfinding & Signage																																																						
CY1360	Signage Installation	10	10	1-Aug-17	12-Aug-17	0%	20																																															
Possession Works Stabling Yard - Area 1																																																						
Possession No. 1 : 21st Feb - 22nd Feb 2015 (Config 9)																																																						
Area 1 (Chainage: 164.850 - 165.260)																																																						
General																																																						
CP1000	Investigation Works - Geotechnical, Contamination and Heritage	2	0	21-Feb-15 A	22-Feb-15 A	100%																																																
Utilities (LV,HV,Sewer,Comms,Water)																																																						
CP1010	Utilities Potholing	2	0	21-Feb-15 A	22-Feb-15 A	100%																																																
Possession No. 2 : 6th - 8th June 2015 (Config 9)																																																						
Area 1 (Chainage: 164.850 - 165.260)																																																						
CP2410	Service Locating Works	6	0	6-Jun-15 A	8-Jun-15 A	100%																																																
Possession No. 3 :5th - 6th Sept 2015 (Config 9)																																																						
Area 1 (Chainage: 164.850 - 165.260)																																																						
Permanent Way																																																						
CP1150	Potholing & Removal of Redundant Structures- Signal Hut(102.83, 102.54 & Railwat st Level xing) & Location cases	6	0	5-Sep-15 A	7-Sep-15 A	100%																																																
Possession No. 4 :24th - 25th Oct 2015 (Config 9)																																																						
Area 1 (Chainage: 164.850 - 165.260)																																																						
CP2600	Remove Railway St crossing	6	0	24-Oct-15 A	26-Oct-15 A	100%																																																
CP2770	Field investigation works	6	0	24-Oct-15 A	26-Oct-15 A	100%																																																
Possession No. 5 :13th - 14th Feb 2016 (Config 9)																																																						
Area 1 (Chainage: 164.850 - 165.260)																																																						
Area 1 (Chainage: 164.850 - 165.260)																																																						

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WTI-LOR-Wickham Transport Interchange

Activity ID	Activity Name	Original Duration	Remaining Duration	Start	Finish	Duration % Complete	Total Float	2015												2016												2017												2018											
								D	Jan	F	M	Apr	M	J	Jul	A	S	Oct	N	D	Jan	F	M	Apr	M	Jun	Jul	A	S	Oct	N	D	Jan	F	M	Apr	M	Jun	Jul	A	S	Oct	N	D	Jan	F	M	Apr	M	Jun	Jul	A	S	Oct	N
Main Works																																																							
Earthwork & Site Enabling Works																																																							
CT1120	Earthworks Treatment to Shunt Formation	11	0	15-Jun-16 A	30-Jun-16 A	100%																																																	
CT1130	Structural / General Fill to Shunt - Filling from East to West permitting trucks to maintain one way system through site	8	0	14-Jun-16 A	1-Jul-16 A	100%																																																	
CT1360	Construct maintenance access road	10	0	18-Jan-17 A	14-Feb-17 A	100%																																																	
CT1380	Final trim maintenance access road	5	5	27-Jul-17	2-Aug-17	0%	14																																																
Services Works																																																							
DE-0048-6i	Railway St Underbore works	27	27	10-Jul-17	11-Aug-17	0%	26																																																
Hydrology and Drainage																																																							
CT1150	Installation of Drainage	26	0	9-Jul-16 A	10-Jul-16 A	100%																																																	
CT1180	Installation of Swale Drain	14	0	1-Sep-16 A	12-Sep-16 A	100%																																																	
CT1350	Installation of box culvert & surface Drainage	7	7	18-Jul-17	26-Jul-17	0%	14																																																
CSR																																																							
CT1370	Install - GST / GLT (256M)	20	0	8-Nov-16 A	28-Nov-16 A	100%																																																	
CT1170	Installation of new CSR / Signalling Route	28	0	1-Dec-16 A	21-Mar-17 A	100%																																																	
Structural Works																																																							
CT1140	Construction of OHW Footings (N164+921 to N165+299)- 14Nos	10	0	6-Apr-16 A	20-Apr-16 A	100%																																																	
CT1340	Construction of OHW Footings (N165+174)	6	0	20-Jun-16 A	24-Jun-16 A	100%																																																	
CT1260	Installation of Lightpole Footings-Not required	7	0	22-Jul-16 A	22-Jul-16 A	100%																																																	
Overhead Wiring																																																							
CT1160	OHW Structures Installation	5	0	7-Jun-16 A	9-Jun-16 A	100%																																																	
Permanent Way																																																							
CT1200	Installation of Turnouts (485A,486B) - insitu	10	0	16-Jul-16 A	5-Aug-16 A	100%																																																	
CT1190	Installation of Bottom Ballast	10	0	10-Apr-17 A	19-Apr-17 A	100%																																																	
CT1210	Installation of Tracks	16	0	13-Apr-17 A	24-Apr-17 A	100%																																																	
CT1240	Installation of Top Ballast	3	0	20-Apr-17 A	27-Apr-17 A	100%																																																	
CT1250	Tamping and Regulating	6	0	14-Jun-17 A	21-Jun-17 A	100%																																																	
CT1280	Free Welding	2	0	21-Jun-17 A	23-Jun-17 A	100%																																																	
CT1290	Adjustment Welding (Destressing)	1	0	23-Jun-17 A	24-Jun-17 A	100%																																																	
Urban Design & Landscaping																																																							
CT1320	Landscaping	8	8	2-Aug-17	11-Aug-17	0%	26																																																
Fencing & Gates																																																							
CT1230	Fencing and Gates Installation	15	15	27-Jul-17	15-Aug-17	0%	14																																																
Wayfinding & Signage																																																							
CT1310	Signage Installation	10	10	15-Aug-17	28-Aug-17	0%	14																																																
Possession Works Wickham Turnback - Area 2																																																							
Possession No. 1 : 21st Feb - 22nd Feb 2015 (Config 9)																																																							
Area 2 (Chainage: 165.260 - 165.410)																																																							
General																																																							
CP1020	Investigation Works - Geotechnical, Contamination and Heritage	2	0	21-Feb-15 A	22-Feb-15 A	100%																																																	
Utilities (LV,HV,Sewer,Comms,Water)																																																							
CP1030	Utilities Potholing	2	0	21-Feb-15 A	22-Feb-15 A	100%																																																	
Possession No. 2 : 6th - 8th June 2015 (Config 9)																																																							
CP2420	Service Locating Works	6	0	6-Jun-15 A	8-Jun-15 A	100%																																																	
Possession No. 5A : 02nd - 03rd Apr 2016 (Config 9)																																																							
CP1230	Construction of OHW Footing (N164+970 to N165+194)	6	0	2-Apr-16 A	4-Apr-16 A	100%																																																	
CP3030	Relocate 102.98	6	0	2-Apr-16 A	4-Apr-16 A	100%																																																	
CP3190	Drainage for 485B & 486A	6	0	2-Apr-16 A	4-Apr-16 A	100%																																																	
Possession No. 6 : 11th - 13th June 2016 (Config 9)																																																							
Area 2 (Chainage: 165.260 - 165.410)																																																							
Permanent Way																																																							
CP1370	Installation of Track from Turnout 486A, 487	9	0	11-Jun-16 A	14-Jun-16 A	100%																																																	
CP1380	Tamping, Welding and Adjustment	9	0	11-Jun-16 A	14-Jun-16 A	100%																																																	
CP3040	Signal support for track works	9	0	11-Jun-16 A	14-Jun-16 A	100%																																																	
OHW																																																							
CP1560	Installation of OHW Structure (N164+970)	6	0	11-Jun-16 A	13-Jun-16 A	100%																																																	
CP1570	Installation of OHW Structure (N165+018)	6	0	11-Jun-16 A	13-Jun-16 A	100%																																																	
CP1580	Installation of OHW Structure (N165+047)	6	0	11-Jun-16 A	13-Jun-16 A	100%																																																	
CP1590	Installation of OHW Structure (N165+082)	6	0	11-Jun-16 A	13-Jun-16 A	100%																																																	
CT1340/C	Construction of OHW Footings (N165+263 to N165+273)- 3 Nos	6	0	11-Jun-16 A	13-Jun-16 A	100%																																																	
HV and LV																																																							
CP1300	Area 2 Relocation of 11kV	6	0	11-Jun-16 A	13-Jun-16 A	100%																																																	
ULX & Civil																																																							
CP1160	Installation of ULX (2 Tracks - Up & Down Main- Ch165+400)	9	0	11-Jun-16 A	14-Jun-16 A	100%																																																	

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WTI-LOR-Wickham Transport Interchange

Activity ID	Activity Name	Original Duration	Remaining Duration	Start	Finish	Duration % Complete	Total Float	2015							2016							2017							2018														
								D	Jan	F	M	Apr	M	J	Jul	A	S	Oct	N	D	Jan	F	Mar	Apr	M	Jun	Jul	A	S	Oct	N	D	Jan	F	Mar	Apr	M	Jun	Jul	A	S	Oct	N
Possession No : 6A 09th -10th July 2016																																											
CP3410	VPR 20 - Relocation of Cleaners hut to facilitate construction of OHW footing N165+133	4	0	9-Jul-16 A	11-Jul-16 A	100%																																					
CP2540	Installation of OHW Structure (N165+224, 273 & 263)	6	0	9-Jul-16 A	11-Jul-16 A	100%																																					
CP2550	Installation of OHW Structure (N165+068)	6	0	9-Jul-16 A	11-Jul-16 A	100%																																					
CP3400	Construction of OHW Footing (N164+133 x 2 Nos (Cleaners Hut Clash) & 165+299	4	0	9-Jul-16 A	11-Jul-16 A	100%																																					
CP3440	Earthworks and Drainage Works- Turnback area	4	0	9-Jul-16 A	11-Jul-16 A	100%																																					
Possession No. 7A ::1st- 12th Aug 2016 (Config 9)																																											
Area 2 (Chainage: 165.260 - 165.410)																																											
Permanent Way																																											
CP1500	Installation of Track	6	0	1-Aug-16 A	3-Aug-16 A	100%																																					
CP1530	Tamping, Welding and Adjustment	6	0	2-Aug-16 A	4-Aug-16 A	100%																																					
CP1510	Installation of Crossover 485B & 484	9	0	1-Aug-16 A	4-Aug-16 A	100%																																					
CP1520	Tamp 485 and 484 connections	9	0	1-Aug-16 A	4-Aug-16 A	100%																																					
OHW																																											
CP1550	Installation of OHW Structure (N164+921)	6	0	1-Aug-16 A	3-Aug-16 A	100%																																					
CP1610	Installation of OHW Structure (N165+174)	6	0	1-Aug-16 A	3-Aug-16 A	100%																																					
CP1600	Installation of OHW Structure (N165+133)	6	0	4-Aug-16 A	6-Aug-16 A	100%																																					
CP2520	Installation of OHW Structure (N165+299)	6	0	4-Aug-16 A	6-Aug-16 A	100%																																					
OHW-Wire runs																																											
CP1650	Stage 1 OHW -Wire Run 1, 2	6	0	6-Aug-16 A	8-Aug-16 A	100%																																					
CP1660	Stage 1- OHW -Wire Run - 3,4,5	9	0	8-Aug-16 A	11-Aug-16 A	100%																																					
Possession No. 8 :29th - 30th Oct 2016 (Config 9)																																											
Area 2 (Chainage: 165.260 - 165.410)																																											
CP3050	Signalling Civil works, Points mechanical fit out	6	0	29-Oct-16 A	31-Oct-16 A	100%																																					
CP3460	Install GIJ's	6	0	29-Oct-16 A	31-Oct-16 A	100%																																					
CP3480	OHW - Modification works	6	0	29-Oct-16 A	31-Oct-16 A	100%																																					
ULX/Civil																																											
CP3100	Installation of ULX-06 -Cleaners hut	6	0	29-Oct-16 A	31-Oct-16 A	100%																																					
Possession No. 9 :11th - 12th Mar 2017 (Config 9)																																											
CP1730	OHW Adjustments & N165+095 defect correction	6	0	11-Mar-17 A	13-Mar-17 A	100%																																					
Possession No. 10 :10th - 12th June 2017 (Config 9)																																											
CP1008	Install Steel deck (Ped Bridge)	2	0	11-Jun-17 A	12-Jun-17 A	100%																																					
Possession No. 11 :26th - 27th August 2017 (Config 9)																																											
CP3620	Stage 1 - Infrastructure removals	4	4	26-Aug-17	27-Aug-17	0%	6																																				
CP3540	Precommission 1500V Works	6	6	26-Aug-17	28-Aug-17	0%	6																																				
Commissioning Possession - 21st - 24th September 2017																																											
CP1750	Removal of existing NovoRail Assets used for temporary stabling (GST,F/H,Sewer,Light Poles, CCTV,PA, Fencing etc	6	6	21-Sep-17	22-Sep-17	0%	0																																				
CP1770	Commissioning Works	6	6	22-Sep-17	24-Sep-17	0%	0																																				
CP1780	Removal of remaining redundant Temporary Infrastructure (installed by NovoRail)	6	6	22-Sep-17	24-Sep-17	0%	0																																				
Wickham Station Area 3 (Chainage: 165.404-165.850)																																											
Interface Contractor Start Milestones																																											
CS5230	Level 1 - Area Ready for Interface Contractors	0	0	14-Jun-17 A		100%																																					
CS5250	MSR/SSR - Area Ready for Interface Contractors	0	0	15-Jun-17 A		100%																																					
CS5260	Northpod - Area Ready for Interface Contractors	0	0	20-Jun-17 A		100%																																					
CS5240	Ground Floor - Area Ready for Interface Contractors	0	0	13-Jul-17		0%	11																																				
CS5270	Platform - Area Ready for Interface Contractors	0	0	18-Jul-17		0%	22																																				
CS5340	Station Concourse Ready for Interface Contractors	0	0	25-Jul-17		0%	8																																				
Enabling Works																																											
Earthwork & Site Enabling Works																																											
CS1020	Preparatory Road Work at Station Street and Beresford Street (Lay Back Installation)	5	0	20-Apr-15 A	24-Apr-15 A	100%																																					
CS1010	Set Up Site Delineation under worksite protection and obtain RSW free status	24	0	28-Mar-15 A	9-May-15 A	100%																																					
CS1770	Site waste classification soil sampling	1	0	11-Apr-15 A	31-Jul-15 A	100%																																					
Services Works																																											
CS1030	Pothole/Vac Truck to Locate Existing Services	8	0	9-May-15 A	29-May-15 A	100%																																					
CS3020	Potholing & Service investigation works on ped. Footbridge	10	0	8-Dec-15 A	19-Jan-16 A	100%																																					
CS3040	Construction Fencing & Gate installation- Stewart Avenue & Station St	3	0	8-Feb-16 A	11-Feb-16 A	100%																																					
CS3030	Cut-in temp drive entrance for Mc Carrol's	3	0	16-Feb-16 A	18-Feb-16 A	100%																																					
CS2980	Remove redundant Sigs & Comms services	10	0	20-Feb-16 A	7-Mar-16 A	100%																																					
CS3050	Hunter water culvert core holing & Investigation	5	0	1-Mar-16 A	7-Mar-16 A	100%																																					
CY1420	CIPP Site measurement	1	0	1-Apr-16 A	2-Apr-16 A	100%																																					
CS3080	Bypass pumping arrangement and removal of 225mm Sewer	10	0	27-May-16 A	9-Jun-16 A	100%																																					
CY1470	CIPP crew mobilization	27	0	1-Jul-16 A	8-Aug-16 A	100%																																					
CY1450	CIPP works onsite	8	0	8-Aug-16 A	17-Aug-16 A	100%																																					

■ Actual Work ■ Critical Remainin...
■ Remaining Work ◆ Milestone
■ Remaining Work ◆ Baseline Milestone

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Station Canopy																																																															
CS3480	Syphonic Drainage	10	0	6-Feb-17 A	27-Jul-17	90.51%	33																																																								█ Syphonic Drainage
CS4890	LV Ductwork / conduits	12	0	14-Mar-17 A	20-Mar-17 A	100%																																																									█ LV Ductwork / conduits
CS4910	Bird-protection	7	0	8-May-17 A	12-May-17 A	100%																																																									█ Bird-protection
CS4900	Lighting Installation	12	12	13-Jul-17	27-Jul-17	0%	33																																																								█ Lighting Installation
Fencing & Gates																																																															
CS1490	Perimeter Fencing, Gates	5	5	19-Jul-17	25-Jul-17	0%	46																																																								█ Perimeter Fencing, Gates
Platforms																																																															
CS3210	Retaining walls (north of platform road 3)	12	0	12-Sep-16 A	19-Oct-16 A	100%																																																									█ Retaining walls (north of platform road 3)
CS3220	Load transfer mat over ovitrom sewer(LDB)	12	0	13-Sep-16 A	21-Oct-16 A	100%																																																									█ Load transfer mat over ovitrom sewer(LDB)
CS3290	Earthworks and Capping of Platform 1 & 2	6	0	20-Sep-16 A	28-Oct-16 A	100%																																																									█ Earthworks and Capping of Platform 1 & 2
CS3400	Earthworks and Capping completion - Platform road-1 & 2	6	0	16-Jan-17 A	15-Feb-17 A	100%																																																									█ Earthworks and Capping completion - Platform road-
CS3300	Earthworks and Capping of Platform road- 3	10	0	8-May-17 A	27-May-17 A	100%																																																									█ Earthworks and Capping of Platform r
CS3370	Drivers walkway on Platform road- 3	17	7	6-Jun-17 A	10-Jul-17	61.76%	15																																																								█ Drivers walkway on Platform rc
Structural Works-Platform 1																																																															
CS2870	Piling and pad Footings -Platform 1	9	0	9-May-16 A	7-Oct-16 A	100%																																																									█ Piling and pad Footings -Platform 1
CS3010	Inground Services.	6	0	13-Sep-16 A	17-Oct-16 A	100%																																																									█ Inground Services.
CS2860	Structural steel platform	10	0	14-Oct-16 A	21-Oct-16 A	100%																																																									█ Structural steel platform
CS3250	Precast Installation	4	0	12-Dec-16 A	15-Dec-16 A	100%																																																									█ Precast Installation
CS2890	FRP Platform Slabs	15	0	14-Dec-16 A	20-Jan-17 A	100%																																																									█ FRP Platform Slabs
CS2880	Structural Steel canopy	12	0	23-Jan-17 A	8-Feb-17 A	100%																																																									█ Structural Steel canopy
CS2900	Roof Sheeting, flashings and cappings	12	0	1-Feb-17 A	15-Feb-17 A	100%																																																									█ Roof Sheeting, flashings and cappings
Structural Works-Platform 2 & 3																																																															
CS1140	Piling and pad Footings (PF 2 & 3)	9	0	30-May-16 A	31-Aug-16 A	100%																																																									█ Piling and pad Footings (PF 2 & 3)
DE-0025-	Additional piling and pile caps	12	0	30-May-16 A	6-Oct-16 A	100%																																																									█ Additional piling and pile caps
CS1180	Structural steel platform	14	0	27-Sep-16 A	18-Oct-16 A	100%																																																									█ Structural steel platform
CS1160	Inground Services.	6	0	7-Sep-16 A	27-Oct-16 A	100%																																																									█ Inground Services.
CS3240	Precast installation	5	0	25-Oct-16 A	23-Nov-16 A	100%																																																									█ Precast installation
CS1230	FRP Platform Slabs	6	0	8-Nov-16 A	16-Dec-16 A	100%																																																									█ FRP Platform Slabs
CS1360	Structural Steel canopy	12	0	17-Dec-16 A	17-Jan-17 A	100%																																																									█ Structural Steel canopy
CS1420	Roof Sheeting, flashings and cappings	10	0	11-Jan-17 A	6-Feb-17 A	100%																																																									█ Roof Sheeting, flashings and cappings
complete 40m Platform 1- Eastern platform (After Spaceframe completion)																																																															
CS2950	Structural steel platform	3	0	21-Jan-17 A	24-Feb-17 A	100%																																																									█ Structural steel platform
CS3260	Precast installation	2	0	24-Jan-17 A	27-Feb-17 A	100%																																																									█ Precast installation
CS3270	FRP Platform Slabs	3	0	27-Feb-17 A	3-Mar-17 A	100%																																																									█ FRP Platform Slabs
CS2940	Structural Steel Canopy	3	0	4-Mar-17 A	8-Mar-17 A	100%																																																									█ Structural Steel Canopy
CS2960	Roof Sheeting, flashings and cappings	3	0	1-Apr-17 A	5-Apr-17 A	100%																																																									█ Roof Sheeting, flashings and cappings
complete 40m Platform 2 & 3 -Eastern platform																																																															
CS5180	Structural steel platform	1	0	20-Feb-17 A	23-Feb-17 A	100%																																																									█ Structural steel platform
CS5210	Precast installation	2	0	21-Feb-17 A	24-Feb-17 A	100%																																																									█ Precast installation
CS5220	FRP Platform Slabs	4	0	25-Feb-17 A	2-Mar-17 A	100%																																																									█ FRP Platform Slabs
CS5170	Structural Steel Canopy	2	0	1-Apr-17 A	4-Apr-17 A	100%																																																									█ Structural Steel Canopy
CS5190	Roof Sheeting, flashings and cappings	2	0	3-Apr-17 A	5-Apr-17 A	100%																																																									█ Roof Sheeting, flashings and cappings
Platform -1 Construction Access																																																															
CS5090	Structural steel platform	1	0	24-Mar-17 A	24-Mar-17 A	100%																																																									█ Structural steel platform
CS5120	Precast installation	2	0	24-Mar-17 A	25-Mar-17 A	100%																																																									█ Precast installation
CS5130	FRP Platform Slabs	3	0	27-Mar-17 A	31-Mar-17 A	100%																																																									█ FRP Platform Slabs
CS5080	Structural Steel Canopy	2	0	1-Apr-17 A	4-Apr-17 A	100%																																																									█ Structural Steel Canopy
CS5100	Roof Sheeting, flashings and cappings	2	0	5-Apr-17 A	7-Apr-17 A	100%																																																									█ Roof Sheeting, flashings and cappings
Services Works																																																															
CS3380	Services on Platform steel structure	10	0	26-Oct-16 A	13-Dec-16 A	100%																																																									█ Services on Platform steel structure
CS4920	Installation of cable route / trays / conduits to Canopies (P1,2,3)	15	0	14-Mar-17 A	19-Apr-17 A	100%																																																									█ Installation of cable route / trays / conduits
CS4940	PA Speaker installation	10	0	27-Feb-17 A	26-Apr-17 A	100%																																																									█ PA Speaker installation
CS4970	Install grated drain channels	15	0	14-Feb-17 A	26-Apr-17 A	100%																																																									█ Install grated drain channels
CS4930	Installation of Lighting incl mounting & cable-works	15	0	22-Feb-17 A	2-May-17 A	100%																																																									█ Installation of Lighting incl mounting & cab
CS4950	CCTV mounts / brackets & camera installation	10	0	28-Feb-17 A	17-May-17 A	100%																																																									█ CCTV mounts / brackets & camera ins
CS5060	Interface Contractor (SPI, VMS, PA, Security, CCTV, Help Points, DVA, EWIS)- (Obsolete Activity)	15	0	30-Jun-17 A	30-Jun-17 A	100%																																																									█ Interface Contractor (SPI, VMS,
CS1630	Installation of Cable route GST / trays (LV/Comms low level)	9	9	26-Jun-17 A	12-Jul-17	0%	13																																																								█ Installation of Cable route GST
CS4980	Asphalt - Platform 1, 2 & 3	10	9	22-May-17 A	12-Jul-17	10%	8																																																								█ Asphalt - Platform 1, 2 & 3
CS4960	Cable hauling to equipment, terminations	20	6	8-Jun-17 A	17-Jul-17	70%	13																																																								█ Cable hauling to equipment, te
CS4990	Coping - platform 1, 2 & 3	12	12	3-Jul-17	18-Jul-17	0%	8																																																								█ Coping - platform 1, 2 & 3
CS5040	Install Grated drain covers	5	5	13-Jul-17	19-Jul-17	0%	13																																																								█ Install Grated drain covers
CS5010	Windbreaks - Steel & Glass	5	5	18-Jul-17	24-Jul-17	0%	26																																																								█ Windbreaks - Steel & Glass
CS5020	Platform seating	5	5	18-Jul-17	24-Jul-17	0%	26																																																								█ Platform seating

█ Actual Work █ Critical Remainin...
█ Remaining Work ◆ ◆ Milestone
█ Remaining Work ◇ ◇ Baseline Milestone

WTI-LOR-Wickham Transport Interchange

Activity ID | Activity Name | Original Duration | Remaining Duration | Start | Finish | Duration % Complete | Total Float | 2015 (D, Jan, Feb, Mar, Apr, May, Jun, Jul, Aug, Sep, Oct, Nov, Dec) | 2016 (Jan, Feb, Mar, Apr, May, Jun, Jul, Aug, Sep, Oct, Nov, Dec) | 2017 (Jan, Feb, Mar, Apr, May, Jun, Jul, Aug, Sep, Oct, Nov, Dec) | 2018 (Jan, Feb, Mar, Apr, May, Jun, Jul, Aug, Sep, Oct, Nov, Dec)

Actual Work (blue bar) Remaining Work (green bar) Critical Remain... (red bar) Milestone (black diamond) Baseline Milestone (yellow diamond)

WTI-LOR-Wickham Transport Interchange

Activity ID	Activity Name	Original Duration	Remaining Duration	Start	Finish	Duration % Complete	Total Float	2015												2016												2017												2018
								D	Jan	F	M	Apr	M	J	Jul	A	S	Oct	N	D	Jan	F	M	Apr	M	Jun	Jul	A	S	Oct	N	D	Jan	F	M	Apr	M	Jun	Jul	A	S	Oct	N	D
VO3		22	0	13-Jan-15 A	25-May-15 A	100%																																						
DR1010	Undertaking of Flood Study (inc TINSW approvals)	20	0	13-Jan-15 A	25-May-15 A	100%		Undertaking of Flood Study (inc TINSW approvals)																																				
VO1000	V01 - Flood Study	20	0	13-Jan-15 A	25-May-15 A	100%		V01 - Flood Study																																				
VO1		152	0	5-Jun-15 A	19-Jun-15 A	100%																																						
VO1020	V01 - Concept Stage 2 Gate CCB Approval	0	0	5-Jun-15 A	5-Jun-15 A	100%		◆ V01 - Concept Stage 2 Gate CCB Approval																																				
VO1030	V01 - CDR Approval by TINSW	0	0	19-Jun-15 A	19-Jun-15 A	100%		◆ V01 - CDR Approval by TINSW																																				
VO2		1	0	28-May-15 A	28-May-15 A	100%																																						
VO1050	V02-Site Establishment savings	1	0	28-May-15 A	28-May-15 A	100%		V02-Site Establishment savings																																				
VO4		0	0	30-Jun-15 A	30-Jun-15 A	0%																																						
VO1060	VPR4 Artists Impression Roof Design	0	0	30-Jun-15 A	30-Jun-15 A	100%		◆ VPR4 Artists Impression Roof Design																																				
VO6		3	0	29-Jun-15 A	3-Jul-15 A	100%																																						
VO1070	VO6 - Raise Overhead Wiring at Merewether Street Level Crossing	3	0	29-Jun-15 A	3-Jul-15 A	100%		V06 - Raise Overhead Wiring at Merewether Street Level Crossing																																				
VO7		3	0	4-Nov-15 A	6-Nov-15 A	100%																																						
VO1150	VO07 - Argle Street Works	3	0	4-Nov-15 A	6-Nov-15 A	100%		V07 - Argle Street Works																																				
VO8		7	0	26-May-15 A	2-Jun-15 A	100%																																						
VO1080	VO8 - Investigation of Existing Railway CSR Infrastructure	7	0	26-May-15 A	2-Jun-15 A	100%		V08 - Investigation of Existing Railway/CSR Infrastructure																																				
VO9		1	0	24-Aug-15 A	24-Aug-15 A	100%																																						
VO1090	VPR09 - NIF Concept Design	1	0	24-Aug-15 A	24-Aug-15 A	100%		VPR09 - NIF Concept Design																																				
VO11		1	0	24-Aug-15 A	24-Aug-15 A	100%																																						
VO1100	V011 - Alternate Option 2 Station Roof Concept Design	1	0	24-Aug-15 A	24-Aug-15 A	100%		V011 - Alternate Option 2 Station Roof Concept Design																																				
VO14 - Remediation of existing ATF Fence within the Truncated Rail Corridor		10	0	3-Feb-16 A	14-Feb-16 A	100%																																						
VO1950	VO14 - Remediation of existing ATF Fence	10	0	3-Feb-16 A	14-Feb-16 A	100%		V014 - Remediation of existing ATF Fence																																				
VO15		1	0	30-Nov-15 A	30-Nov-15 A	100%																																						
VO1160	VO15 - Sea Container @ Hamilton Station	1	0	30-Nov-15 A	30-Nov-15 A	100%		V015 - Sea Container @ Hamilton Station																																				
VO16		1	0	16-Oct-15 A	13-Nov-15 A	100%																																						
VO1170	VO16 - Donald Street Park PowerTel Route Proving Works	1	0	16-Oct-15 A	13-Nov-15 A	100%		V016 - Donald Street Park PowerTel Route Proving Works																																				
VO17- Decommissioning Works on Redundant Rail Corridor - Wickham to Newcastle		86	0	23-Oct-15 A	30-Nov-15 A	100%																																						
VO1110	VO-17 - Direction to undertake decommissioning works	1	0	23-Oct-15 A	23-Oct-15 A	100%		V0-17 - Direction to undertake decommissioning works																																				
VO1120	VO-17 -Site Establishment	8	0	26-Oct-15 A	4-Nov-15 A	100%		V0-17 -Site Establishment																																				
VO1130	VO-17 -Approvals & Notification	12	0	23-Oct-15 A	9-Nov-15 A	100%		V0-17 -Approvals & Notification																																				
VO1140	VO-17 - OHW Wire run Removals & site rectification	10	0	9-Nov-15 A	30-Nov-15 A	100%		V0-17 - OHW Wire run Removals & site rectification																																				
Variation Orders		470	0	14-Jun-16 A	30-May-17 A	100%																																						
VO1960	VO20 - PowerTel Cable Relocation Works - Donald Park	1	0	14-Jun-16 A	30-Jun-16 A	100%		V020 - PowerTel Cable Relocation Works - Donald Park																																				
VO1970	VO25 - Alternative Design to Retain Exchange Pit Affected by NIF	1	0	14-Jun-16 A	30-Jun-16 A	100%		V025 - Alternative Design to Retain Exchange Pit Affected by NIF																																				
VO1980	VO26 - Novo Rail Demountable Building Clash	1	0	14-Jun-16 A	30-Jun-16 A	100%		V026 - Novo Rail Demountable Building Clash																																				
VO2030	EVENT 065 Staged Installation of RMU	1	0	14-Jun-16 A	30-Jun-16 A	100%		EVENT 065 Staged Installation of RMU																																				
VO2000	EVENT 076 - Sydney Trains Crossing	1	0	9-Jul-16 A	10-Jul-16 A	100%		EVENT 076 - Sydney Trains Crossing																																				
VO2040	EVENT 054 - Landscape Design	1	0	9-Jul-16 A	10-Jul-16 A	100%		EVENT 054 - Landscape Design																																				
VO2060	EVENT 091 -VPR 20 - Partial Relocation of the Cleaners Hut	2	0	9-Jul-16 A	10-Jul-16 A	100%		EVENT 091 -VPR 20 - Partial Relocation of the Cleaners Hut																																				
VO2110	EVENT 84 - Station Street Work Zone Permit	1	0	14-Oct-16 A	30-Oct-16 A	100%		EVENT 84 - Station Street Work Zone Permit																																				
VO2120	EVENT 52 - Drivers Walkways (Direction Withdrawn)	1	0	14-Oct-16 A	30-Oct-16 A	100%		EVENT 52 - Drivers Walkways (Direction Withdrawn)																																				
VO2130	EVENT 69 - Specialist Lighting	1	0	14-Jun-16 A	30-Oct-16 A	100%		EVENT 69 - Specialist Lighting																																				
VO2150	EVENT 122 - VO40 - Repairs to Drivers Walkways	1	0	14-Oct-16 A	30-Oct-16 A	100%		EVENT 122 - VO40 - Repairs to Drivers Walkways																																				
VO2170	EVENT 125 - VO57 - Installation of Additional Containment for Alternative Position of Concourse Indicators	1	0	14-Oct-16 A	30-Oct-16 A	100%		EVENT 125 - VO57 - Installation of Additional Containment for Altern																																				
VO2160	EVENT 115 - Omission of Pole 24	20	0	21-Nov-16 A	30-Nov-16 A	100%		EVENT 115 - Omission of Pole 24																																				
VO1990	VO29 - Stabling Yard Drainage	1	0	14-Jun-16 A	21-Dec-16 A	100%		V029 - Stabling Yard Drainage																																				
VO2020	EVENT 049 - Potable Water to the Stabling Yard Decanting Facility	1	0	14-Jun-16 A	30-May-17 A	100%		EVENT 049 - Potable Water to the St																																				
Advance Payment		1	0	17-Dec-15 A	18-Dec-15 A	100%																																						
VO1180	Unfixed Materials Spreadsheet	1	0	17-Dec-15 A	17-Dec-15 A	100%		Unfixed Materials Spreadsheet																																				
VO1860	Advance payment - Principal 1	1	0	18-Dec-15 A	18-Dec-15 A	100%		Advance payment - Principal 1																																				

■ Actual Work ■ Critical Remainin...
■ Remaining Work ◆ Milestone
■ Remaining Work ◆ Baseline Milestone

Appendix 13 – Construction Noise and Vibration Management Plan

Refer to document number WTI-LOR-PMP-0015

Appendix 14 – Out of Hours Work (OOHW) Procedure

Purpose

This Out of Hours Work Procedure has been developed for the Wickham Transport Interchange Project to comply with TfNSW Conditions of Approval for the Wickham Transport Interchange, Environmental Protection License 20514 and the TfNSW Construction Noise Strategy 7tp-st-157. In particular, this procedure will outline the approval process in order to undertake works outside of the approved construction hours outlined below.

Noise management will also occur in accordance with The WTI Project CEMP and the Construction Noise and Vibration Management Plan.

Approved Working Hours

The following outlines the approved working hours for the Project as described within the CoA and EPL.

CoA / EPL	Condition Detail
CoA 17	<p>Construction Hours Construction activities shall be restricted to the hours of 7:00 am to 6:00 pm (Monday to Friday); 8:00 am to 1:00 pm (Saturday) and at no time on Sundays and public holidays except for the following works which are permitted outside these standard hours:</p> <ul style="list-style-type: none"> any works which do not cause noise emissions to be more than 5dBA higher than rating background level (RBL) at any nearby residential property and/or other noise sensitive receivers the delivery of plant, equipment and materials which is required outside these hours as requested by police or other authorities for safety reasons and with suitable notification to the community as agreed by the PMEM Emergency Work to avoid the loss of lives, property and/or to prevent environmental harm any other work as agreed by the PMEM (or nominated delegate), and considered essential to the Project, or as approved by EPA (where an EPL is in effect). <p>Any work undertaken outside of the standard construction hours shall be subject to approval in accordance with TfNSW's Construction Noise Strategy (CNS) (7TP-ST-157).</p>
CoA B4	<p>High Noise Generating Activities Rock breaking or hammering, jack hammering, pile driving, vibratory rolling, cutting of pavement, concrete or steel and any other activities which result in impulsive or tonal noise generation shall only be scheduled between the following hours unless otherwise agreed to by the PMEM (or nominated delegate), or as approved by EPA (where relevant to the issuing of an EPL), unless inaudible at nearby residential properties and/or other noise sensitive receivers:</p> <ul style="list-style-type: none"> 8:00am to 12:00pm, Monday to Saturday 2:00pm to 5:00pm Monday to Friday.
EPL L3.1	<p>Standard construction hours Unless permitted by another condition of this licence, construction works and activities must:</p> <ul style="list-style-type: none"> only be undertaken between the hours of 7:00 am and 6:00 pm Monday to Friday; only be undertaken between the hours of 8:00 am and 1:00 pm Saturday; and not be undertaken on Sundays or Public Holidays.
EPL L3.2	<p>Exemptions to standard construction hours The following construction work may be undertaken outside of the hours specified by Condition L3.1:</p> <ul style="list-style-type: none"> Construction work that causes LAeq(15minute) noise levels that are: <ul style="list-style-type: none"> no more than 5 dB above rating background level at any residence in accordance with the Interim Construction Noise Guideline (DECC 2009); and no more than the noise management levels specified Table 3 of the Interim Construction Noise Guideline (DECC, 2009) at other sensitive land uses; Delivery of plant, equipment and materials required to be delivered out of hours for safety reasons; Rail maintenance works including tamping and regulating to remediate vertical or horizontal movement >4 mm in track geometry that has occurred as a direct result of works being undertaken for the project; and Emergency construction works or activities to ensure the safe operation of rail or avoid loss of life, damage to property, or environmental harm. <p>The licensee must:</p> <ul style="list-style-type: none"> on becoming aware of the need to undertake emergency construction work, notify the Environment Protection Authority's Environment Line on 131 555 of the need for those activities or work; and the next working day following the emergency works, submit a report to the EPA's Manager Metropolitan Infrastructure detailing: <ul style="list-style-type: none"> the cause, time and duration of the emergency; action taken by the licensee in relation to the emergency; and details of any measure taken or proposed to be taken to prevent or mitigate against a recurrence of the emergency.
EPL L3.3	<p>High Noise Impact Works High noise impact works and activities must only be undertaken:</p> <ul style="list-style-type: none"> between the hours of 8:00am to 6:00pm Monday to Friday, between the hours of 8:00am to 1:00pm Saturday, and in continuous blocks not exceeding 3 hours each with a minimum respite from those activities and works of not less than 1 hour between each block, except as expressly permitted by Conditions L3.4, L3.5 and L3.6, or another condition of this licence. <p>For the purposes of this condition "continuous" includes any period during which there is less than a 1 hour respite between ceasing and recommencing any of the work that is the subject of this condition.</p>
EPL L3.4	<p>Works Approved Outside of Standard Construction Hours - Local Possessions</p> <ul style="list-style-type: none"> Works and activities may be undertaken during any local possession, but only if: <ul style="list-style-type: none"> carrying on those works and activities during standard construction hours (specified in Condition L3.1) would cause unacceptable risks to: <ul style="list-style-type: none"> construction personnel safety; rail passenger and railways personnel safety; or

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CoA / EPL	Condition Detail
	<ul style="list-style-type: none"> • railway network operational reliability as may be notified to the licensee from time to time by RailCorp; and • the licensee complies with the requirements of Condition E1; • noise and vibration mitigation measures are implemented as detailed in the Interim Construction Noise Guideline (DECC 2009); and • the licensee complies with Condition L3.7. • High noise impact works and activities (excluding rail adjustment, tamping and regulating) may be undertaken during any local possession permissible by Condition L3.4(a) as follows: <ul style="list-style-type: none"> • between the hours of 6:00am to 10:00pm on any day subject to the works and activities being undertaken in continuous blocks not exceeding 3 hours each with a minimum respite from those works and activities of not less than one hour between each block. <p>For the purposes of this condition "continuous" includes any period during which there is less than a 1 hour respite between ceasing and recommencing any of the works or activities the subject of this condition.</p> <ul style="list-style-type: none"> • Rail adjustment, tamping and regulating may be undertaken at any time during a local possession permissible by Condition L3.4(a).
EPL L3.6	<p>Works Approved Outside of Standard Construction Hours - Weekends</p> <ul style="list-style-type: none"> • Activities and works may be undertaken during the hours outlined in Condition L3.5(b) but only if one or more of the following applies: <ul style="list-style-type: none"> • carrying on those works and activities during the hours specified in Condition L3.1 would cause unacceptable risks to one or more of the following: <ul style="list-style-type: none"> • construction personnel safety; • road user and public safety; • road network operational performance as may be notified from time to time by the Roads and Maritime Services; and/or • essential utility services. • the Roads and Maritime Services' Traffic Management Centre (or other road authority) refuse to issue a road occupancy licence for the works or activities during the hours specified in Condition L3.1. • For the situations outlined in Condition L3.5(a), activities and works may be undertaken (except on public holidays) between the hours of: <ul style="list-style-type: none"> • 6:00 pm and 7:00 am the following day on Mondays, Tuesdays, Wednesdays, and Thursdays; and • 6:00 pm and 8:00 am the following day on Fridays. • In undertaking any activities and works under Condition L3.6(b) the licensee must: <ul style="list-style-type: none"> • comply with Condition L3.7; • comply with the requirements of Condition E1; and • implement noise and vibration mitigation measures as detailed in the Interim Construction Noise Guideline (DECC 2009).
EPL L3.7	<p>Limitations on Frequency of Night and Evening Works</p> <ul style="list-style-type: none"> • Activities permitted by Condition L3.4, L3.5 or L3.6 (excluding high noise impact works) must not be undertaken within the same local noise catchment on more than: <ul style="list-style-type: none"> • 3 consecutive evenings or nights per week; • 4 evenings or nights per week; or • 10 evenings or nights per month. • High noise impact activities and works must not be undertaken on more than 2 evenings or nights per week within the same local noise catchment. <p><i>Note: The EPA will consider an exemption to the above conditions if the licensee can demonstrate to the EPA's satisfaction that the majority of stakeholders impacted by the works support the exemption.</i></p>

Out of Hours Works Assessment and Referral Process

For construction activities that require to be undertaken outside of the approved construction hours for the project, the following process applies. An Out of Hours Works Assessment and Application (OOHWAA) will be utilised to identify risk of the proposed out of hours.

No.	Step	Detail
1	Work Identification	Identify work activities requiring work outside of the approved hours.
2	Assess Alternatives	Assess alternate options that may allow construction to be undertaken within approved hours such as; <ul style="list-style-type: none"> • using alternate equipment, • different construction methods, or • postponing scheduled works. If no other options are considered practical, consult the project Environment Manager.
3	Undertake OOHWAA	If no alternate options are available/viable, the activity is to be assessed for noise and vibration impacts on the surrounding receivers via an Out of Hours Works Assessment and Approval, prepared by suitably qualified personnel, taking into account all proposed noise and vibration mitigation measures. General activities such as security operations, office staff and cleaning that are not audible at receivers will not require an OOHWAA. The assessment may be based on information within the Construction Noise and Vibration Management Plan, or if works are not sufficiently captured within this plan, a standalone noise assessment in the form of a spreadsheet.
4	Low Impact Works	If the OOHWAA shows that the construction activity LAeq (15 minute) level is no more than 5 dB above rating background level at any residence the activity will be considered low environmental risk and referred to the Project Environmental Representative (PER), Project Community Manager (PCM) and Project Leader (PL) for review and approval.
5	Medium-High Impact Works	If the OOHWAA shows that the construction activity LAeq (15 minute) level is greater

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No.	Step	Detail
		<p>than 5 6dB above rating background level at any residence the activity will be considered medium to high environmental. The assessment will categorise the activities into one of 4 categories as listed in Table 5 of the TfNSW Construction Noise Strategy 7tp-st-157;</p> <ul style="list-style-type: none"> • Noticeable • Clearly Audible • Moderately Intrusive • Highly Intrusive <p>Mitigation measures for community liaison will be in accordance with Table 5 of the TfNSW Construction Noise Strategy 7tp-st-157.</p> <p>The OOHWAA must be reviewed and approved by the Project Environmental Representative (PER), Project Community Manager (PCM) and Project Leader (PL). Up to 4 weeks (20 business days) will be allowed to review the OOHWAA.</p>
6	OOH Works Approval	<p>Works will not commence during varied hours until approval is granted by the Project Environmental Representative (PER), Project Community Manager (PCM) and Project Leader (PL).</p> <p>A copy of the OOHWAA will be sent to TfNSW and, where required by any license, the EPA for information purposes.</p>
7	Community Notification	<p>All out of hours works (both low and high impact) will require a 7 day community notification period and be distributed to affected receivers.</p>
8	Mitigation and Monitoring	<p>All reasonable and feasible mitigation measures are to be implemented in both standard approved and varied hours of works for the duration of the project.</p> <p>Attended noise monitoring will be undertaken for commencement of all work activities undertaken out of standard hours that have been predicted to be of medium to high environmental risk to ensure they comply with findings of the OOHWAA.</p> <p>The OOHWAA may stipulate certain mitigation measures for the works it has assessed. These must be complied with.</p> <p>Noise monitoring will be undertaken by suitably qualified personnel, including professionally trained and experienced environmental staff and noise consultants where deemed necessary.</p> <p>Should noise or vibration levels be observed to continually exceed those outlined in the activity specific OOHWAA, works shall stop and alternate methods and mitigation investigated.</p>

Mitigation Measures

Standard noise and vibration mitigation measures for all works are outlined the Construction Noise and Vibration Management Plan and Appendix 4 of the Construction Environmental Management Plan.

Activity specific mitigation measures will be detailed for each out of hours works request.

Notifications

Notification requirements for construction works are detailed in the Community Liaison Plan. Notifications will be issued for work undertaken outside standard construction hours that are deemed to be medium to high risk.

Regular monthly construction updates will also be distributed to surrounding receivers.

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Appendix 15 – Heritage Management Plan

Refer to document number WTI-LOR-PMP-0017

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Appendix 16 – Traffic Management Plan

Refer to document number WTI-LOR-PMP-0028

Appendix 17 – Construction Waste, Contamination and Hazardous Material Management Plan

Refer to document number WTI-LOR-PMP-0018

Appendix 18 – Bat Management Plan

The Maitland Road overpass is potential roosting habitat for the Little Bent Wing Bat, a threatened species listed as vulnerable under the TSC Act. However, the bridge is not considered suitable as breeding habitat. If bats are present beneath the bridge deck, they will likely roost in small (<5 cm) cracks in the concrete, where they will sleep during daylight hours. At dusk they will emerge to forage, returning at dawn the following day. Any works to be undertaken at night will have a heightened risk due to bat activity. Should Little Bent wing bat be identified to be present, additional mitigation measures will be implemented to minimise impacts. These will include lighting source and direction, in addition to toolbox briefing for site personnel working in this area.

Works scheduled to take place beneath the overpass include an additional rail siding, overhead wire structure install, footpaths, attaching cable troughing and services conduits to the vertical walls. Microbats such as the Little Bent wing bat will only roost beneath horizontal or overhanging structures, hence it is unlikely that the proposed works will have any direct or long term impact on their roosting habitat.

Although the proposed works are considered to be too short in duration to significantly impact populations of the Little Bent wing bat within this area, periodic monitoring of the underside of the bridge deck prior to and during construction will be undertaken. This will ensure that these areas are not being utilised by the Little Bent wing bat at the time of the proposed works. This would involve a simple inspection using a torch if necessary to see into any small crevices that might be used as roosts. Should Little Bent wing bats be detected during these surveys, construction personnel will be informed and instructed that bats are not to be disturbed (i.e. direct disturbance, light pollution and vibration).

The presence of the Little Bent Wing Bat will be included in the Site Induction. Workers undertaking activities in the vicinity of the known roosting habitat will be tool boxed on the bat.

Should Little Bent wing bat be present and are accidentally harmed or otherwise require to be relocated, WIRES will be contacted (contact details are on the ECM in Appendix 5 of this CEMP and displayed in the site compound).

This management plan is the responsibility of the Site ER, and appropriate tool box talks will be given to personnel working in the vicinity of the bridge.

Appendix 20 – Conditions of Approval – Pre-Construction Compliance Tracking Matrix

No	Type	CEMP Ref.	Construction Phase	Action date	Status	Responsibility	Comment/Evidence of Compliance												
General																			
	<p>Terms of Approval The Project shall be carried out generally in accordance with the EIA for this Project, which comprises the following documents:</p> <table border="1"> <thead> <tr> <th>Document</th> <th>Author</th> <th>Date</th> </tr> </thead> <tbody> <tr> <td>Wickham Transport Interchange Review of Environmental Factors</td> <td>GHD</td> <td>July 2014</td> </tr> <tr> <td>Wickham Transport Interchange Submissions Report</td> <td>GHD</td> <td>October 2014</td> </tr> <tr> <td>Wickham Transport Interchange Determination Report</td> <td>TfNSW</td> <td>November 2014</td> </tr> </tbody> </table> <p>In the event of an inconsistency between these conditions and the EIA, these conditions will prevail to the extent of the inconsistency.</p>	Document	Author	Date	Wickham Transport Interchange Review of Environmental Factors	GHD	July 2014	Wickham Transport Interchange Submissions Report	GHD	October 2014	Wickham Transport Interchange Determination Report	TfNSW	November 2014	CEMP	Before/During/Post		Ongoing	LORAC/TfNSW	CEMP and sub-plans written in accordance with listed documents to be enforced on-site. Ongoing field inspections, systems audits and joint meetings to check compliance.
Document	Author	Date																	
Wickham Transport Interchange Review of Environmental Factors	GHD	July 2014																	
Wickham Transport Interchange Submissions Report	GHD	October 2014																	
Wickham Transport Interchange Determination Report	TfNSW	November 2014																	
	<p>Project Modifications Any modification to the project as approved in the EIA would be subject to further assessment by TfNSW. This assessment would need to demonstrate that any environmental impacts resulting from the modifications have been minimised.</p>	Not Used	Before/During		Ongoing	LORAC/TfNSW	Modifications to the project will be properly assessed as they arise.												
	<p>Statutory Requirements These conditions do not relieve the Proponent of the obligation to obtain all other licences, permits, approvals and land owner consents from all relevant authorities and land owners as required under any other legislation for the Project. The Proponent shall comply with the terms and conditions of such licences, permits, approvals and permissions.</p>	CEMP	During		Recurrent	LORAC/TfNSW	Appendix 2 and Appendix 8												
	<p>Pre-Construction Environmental Compliance Matrix A pre-construction environmental compliance matrix (PECM) for the Project (or such stages of the Project as agreed to by the Environmental Management Representative (EMR)) shall be prepared detailing compliance with all relevant conditions prior to commencement of construction. The PECM shall also include details of approvals, licences and permits required to be obtained under any other legislation for the Project. The PECM shall include details demonstrating how the design and construction of the Project will be in compliance with the Sustainable Design Guidelines Version 3.0. The Proponent shall:</p> <ul style="list-style-type: none"> submit a copy of the PECM to the EMR and PMS for review. The EMR and PMS are to be given a minimum period of 7 days to review and provide any comments to the Proponent in relation to the PECM upon completion of the EMR and PMS review period, submit a copy of the PECM to the PMEM for approval, at least 14 days (or within such time as otherwise agreed to by the PMEM) prior to commencement of construction of the Project. 	Appendix 20	Pre-construction: prior to each phase or activity		Complete as at pre-construction commencement	LORAC	Appendix 20 (this matrix). SDG requirements are addressed within Condition 39.												
	<p>Construction Environmental Compliance Report The Proponent shall prepare a construction environmental compliance report (CECR) which addresses the following matters:</p> <ul style="list-style-type: none"> compliance with the construction environmental management plan (CEMP) and these conditions compliance with the Sustainable Design Guidelines Version 3.0 compliance checklist compliance with any approvals or licenses issued by relevant authorities for construction of the Project implementation and effectiveness of environmental controls (the assessment of effectiveness should be based on a comparison of actual impacts against performance criteria identified in the CEMP) 		6 months from commencement		For preparation post-construction or 6 months after commencement	LORAC	To be completed six months after the commencement of construction												

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	<ul style="list-style-type: none"> environmental monitoring results, presented as a results summary and analysis details of the percentage of waste diverted from landfill and the percentage of spoil beneficially reused number and details of any complaints, including summary of main areas of complaint, actions taken, responses given and intended strategies to reduce recurring complaints (subject to privacy protection) details of any review and amendments to the CEMP resulting from construction during the reporting period any other matter as requested by the PMPD and PMEM. <p>The Proponent shall:</p> <ul style="list-style-type: none"> submit a copy of the CECR to the EMR for review. The EMR is to be given a minimum period of 7 days to review and provide any comments to the Proponent in relation to the CECR submit a copy of the CECR to the PMEM (or nominated delegate) for approval upon completion of the EMR review period make publicly available a copy of the CECR by posting the CECR on the TfNSW website within 7 days of approval of the CECR by the PMEM. <p>The first CECR shall report on the first six months of construction and be submitted within six weeks of expiry of that period (or at any other time interval agreed to by the PMEM). CECRs shall be submitted no later than six months after the date of submission of the preceding CECR (or at other such periods as requested by the PMEM) for the duration of construction.</p>						
	<p>Pre-Operation Compliance Report</p> <p>A pre-operation compliance report (POCR) for the Project shall be prepared, prior to commencement of operation of the Project. The POCR shall detail compliance with all the conditions and the <i>Sustainable Design Guidelines Version 3.0</i> compliance checklist (refer to condition 40).</p> <p>The Proponent shall:</p> <ul style="list-style-type: none"> submit a copy of the POCR to the EMR for review. The EMR is to be given a minimum period of 7 days to review and provide any comments to the Proponent in relation to the POCR. upon completion of the EMR review period submit a copy of the POCR to the PMEM (or nominated delegate) and PMS for approval. The POCR is to be provided to the PMEM and PMS at least one month prior to the scheduled operation of the Project (or such time as otherwise agreed to by the PMEM). 	Not referenced in CEMP	Nearing completion of construction – will apply to operation of temporary stabling facility at Hamilton.		To be prepared prior to completion of construction (for temporary stabling facilities)	LORAC	
Communications							
	<p>Community Liaison Plan</p> <p>The Proponent shall develop and implement a community liaison plan (CLP) to engage with government agencies, relevant councils, landowners, community members and other relevant stakeholders (such as utility and service providers, bus companies and businesses). The CLP shall comply with the obligations of these conditions and should include, but not necessarily be limited to:</p> <ul style="list-style-type: none"> details of the protocols and procedures for disseminating information and liaising with the community and other key stakeholders about construction activities (including timing and staging) and any associated impacts during the construction period details of the community liaison team appointed to manage and implement the plan stakeholder and issues identification and analysis identification of opportunities where community feedback will be sought throughout the project (including sustainability initiatives) procedures for dealing with complaints or disputes and response requirements, including 	Section 18	Pre- and during construction		Finalised	LORAC	Community notifications have been sent out within the specified time frames as per the TSR-C

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	<p>advertising the 24 hour construction response line number</p> <ul style="list-style-type: none"> details (including a program) of training for all employees, contractors and sub-contractors on the requirements of the CLP. <p>Sub-plans to the CLP will be developed as required. These sub-plans will detail site-specific consultation and communication requirements for construction works that impact residents, other stakeholders and businesses. They will also identify further mitigation measures and processes to reduce construction impacts.</p> <p>The CLP shall be prepared to the satisfaction of the Technical Director Project Communications at least 7 days prior to the commencement of construction and implemented, reviewed and revised as appropriate during construction of the Project.</p>						
	<p>Community Notification and Liaison</p> <p>The local community shall be advised of any activities related to the Project with the potential to impact upon them.</p> <p>Prior to any site activities commencing and throughout the Project duration, the community is to be notified of works to be undertaken, the estimated hours of construction and details of how further information can be obtained (i.e. contact telephone number/email, website, newsletters etc.) including the 24 hour construction response line number.</p> <p>Construction-specific impacts including information on traffic changes, access changes, detours, services disruptions, public transport changes, high noise generating work activities and work required outside the nominated working hours shall be advised to the local community at least seven (7) days prior to such works being undertaken or other period as agreed to by the Technical Director Project Communications or as required by Environment Protection Authority (EPA) (where an Environment Protection Licence (EPL) is in effect).</p>	Section 18 CEMP	During		Recurrent	LORAC/TfNSW	Community notifications will be issued, at minimum, on a monthly basis in accordance with the Community Liaison Plan (ref. condition 7). Further notices may be delivered to targeted residence or businesses impacted by certain parts of the works Project telephone information line has been established (1800 684 490)
	<p>Website</p> <p>The Proponent shall provide electronic information (or details of where hard copies of this information may be accessed by members of the public) related to the Project, on dedicated pages within its existing website, including:</p> <ul style="list-style-type: none"> a copy of the documents referred to under condition 1 of this approval and any documentation supporting modifications to the approval or related approvals that may be granted in the future a copy of each relevant licence approval or permit required and obtained in relation to the Project a list of environmental management reports that are publicly available details of construction information 24 hour contact telephone number for information and complaints. <p>Detailed updates of work progress and construction activities shall be regularly provided on the website.</p>	Section 18 CEMP	During		Ongoing	LORAC/TfNSW	Project construction details on TfNSW Website: http://www.transport.nsw.gov.au/projects-wickham-transport-interchange
	<p>Complaints Management</p> <p>The Proponent shall set up a 24 hour construction response line number.</p> <p>Details of all complaints received during construction are to be recorded on a complaints register. A verbal response to phone enquiries on what action is proposed to be undertaken is to be provided to the complainant within two (2) hours during all times construction is being undertaken and within 24 hours during non-construction times (unless the complainant agrees otherwise). A detailed written response is to be provided to the complainant within seven (7) calendar days. Responses to written complaints (email/letter) should be provided within 48 hours of receipt of the communication.</p> <p>Information on all complaints received during the previous 24 hours and response times shall be forwarded to the EMR each working day.</p>	Section 18 CEMP	During		Ongoing	LORAC/TfNSW	Project telephone information line has been established (1800 684 490)
Property							

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	<p>Property Condition Surveys Subject to landowner agreement, property condition surveys shall be completed prior to piling, excavation or bulk fill or any vibratory impact works including jack hammering and compaction (Designated Works) in the vicinity of all heritage listed buildings and other sensitive structures within 25 metres from the edge of the Designated Works unless otherwise determined following geotechnical and vibration assessment as endorsed by a qualified geotechnical engineer and as approved by the PMEM as not likely to be adversely affected. Property condition surveys need not be undertaken if a risk assessment indicates buildings/structures/roads will not be affected as determined by a qualified geotechnical and construction engineering expert with appropriate registration on the National Professional Engineers Register prior to commencement of Designated Works. Selected potentially sensitive buildings and/or structures shall first be surveyed prior to the commencement of the Designated Works and again immediately upon completion of the Designated Works. All owners of assets to be surveyed, as defined above, are to be advised of the scope and methodology of the survey and the process for making a claim regarding property damage within a reasonable time (not less than 14 days) prior to commencement of the surveys. A copy of the survey(s) shall be given to each affected owner. A register of all properties surveyed shall be maintained. Any damage to buildings, structures, lawns, trees, sheds, gardens etc. as a result of construction activity direct and indirect (i.e. including vibration and groundwater changes) shall be rectified at no cost to the owner(s).</p>		<p>Pre-construction; Before piling, excavation or bulk fill or any vibratory impact works.</p> <p>Post Construction.</p>	1 Jun 15		LORAC	No vibratory works will take place within curtilage of heritage listed buildings (Hamilton Station) until surveys have been completed and conditions of S.60 approval (Heritage Act) have been complied with.
Environmental Management							
	<p>Environmental Induction Prior to the commencement of construction, all contractors shall be inducted by the Proponent on the key Project interfaces and associated environmental risks and procedures.</p>	Section 11 CEMP	Before During		Recurrent	LORAC	Induction package – already in place for all construction staff & subcontractors. Induction must be undertaken prior to being admitted to the site. Copy of Site induction register available on request.
	<p>Environmental Management System Construction works shall be undertaken in accordance with the Proponent's Environmental Management System(s) (EMS) which has been accredited as ISO14001 compliant.</p>	Section 13 CEMP	Before During		Recurrent	LORAC	Section 13 CEMP: CEMP has been prepared so as to achieve consistency with the EMS.
	<p>Environmental Management Representative Prior to the commencement of construction, the PMEM shall appoint an EMR who is independent of the design and construction personnel of the Project, for the duration of the construction period for the Project. The EMR shall provide advice to the PMEM in relation to the environmental compliance and performance of the Project. The EMR shall have responsibility for:</p> <ul style="list-style-type: none"> considering and advising the Proponent on matters specified in these conditions and compliance with such reviewing and where required by the PMEM, providing advice on the Project's induction and training program for all persons involved in the construction activities and monitoring implementation periodically auditing the Project's environmental activities to evaluate the implementation, effectiveness and level of compliance of on-site construction activities with authority approvals and licences, the CEMP and associated plans and procedures, including carrying out site inspections weekly, or as required by the PMEM; 		Ongoing		Active / recurrent	TfNSW	EMR: David Bone OnSite Environmental Management 02 4935 2300 / 0407 461 092 David.bone@osem.com.au

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	<ul style="list-style-type: none"> reporting weekly to the Proponent issuing a recommendation to the Proponent for work to stop immediately, if in the view of the EMR circumstances so require. The stop work recommendation may be limited to specific activities if the EMR can easily identify those activities requiring reasonable steps to be taken to avoid or minimise unintended or adverse environmental impacts reviewing corrective and preventative actions to ensure the implementation of recommendations made from the audits and site inspections providing reports to the Proponent on matters relevant to the carrying out of the EMR role as necessary where required by the PMEM, providing advice on the content and implementation of the CEMP and Environmental Controls Map (ECM) in accordance with the conditions. <p>The EMR shall be available during construction activities to inspect the site(s) and be present on-site as required during any critical construction Activities as defined in the CEMP and ECM.</p>						
	<p>Construction Environmental Management Plan</p> <p>The Proponent shall prepare a CEMP prior to commencement of construction which addresses the following matters:</p> <ul style="list-style-type: none"> traffic and pedestrian management (in consultation with the relevant roads authority) noise and vibration management, including TfNSW's Construction Noise Strategy and EPA's Interim Construction Noise Guideline (July 2009) water and soil management including TfNSW's Water Discharge and Reuse Guidelines (7TP-ST-146) air quality management (including dust suppression) indigenous and non-indigenous heritage management flora and fauna management storage and use of hazardous materials contaminated land (including acid sulphate soils) weed management waste management light spill sustainability initiatives environmental incident reporting and management procedures including TfNSW's Environmental Incident Classification and Reporting Procedure (9TP-PR-105) non-compliance and corrective/preventative action procedures <p>The CEMP shall:</p> <ul style="list-style-type: none"> comply with the conditions of approval, conditions of any licences, permits or other approvals issued by government authorities for the Project, all relevant legislation and regulations, and accepted best practice management be prepared in accordance with the Guideline for Preparation of Environmental Management Plans (Department of Infrastructure, Planning and Natural Resources, 2004) <p>The Proponent shall:</p> <ul style="list-style-type: none"> consult with government agencies and relevant service/utility providers as part of the preparation of the CEMP submit a copy of the CEMP to the EMR for review. The EMR is to be given a minimum period of 7 days to review and provide any comments to the Proponent in relation to the CEMP submit a copy of the CEMP to the PMEM (or nominated delegate) for approval upon completion of the EMR review period, at least 14 days prior to commencement of construction (or such time as is otherwise agreed to by the PMEM) 	CEMP (all)	Before / During	01 Jun 15	Plan to be updated during life of construction works.	LORAC	Approved CEMP

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	<ul style="list-style-type: none"> make publicly available a copy of the CEMP by posting the CEMP on the Proponent's website within 7 days of approval of the CEMP by the PMEM (or nominated delegate where relevant) review and update the CEMP at minimum 6-monthly intervals, and in response to any actions identified as part of the EMR's audit of the document ensure updates to the CEMP are made within 7 days of the completion of the review or receipt of actions identified by any EMR audit of the document, and be submitted to the EMR for approval. <p>The CEMP must be approved by the PMEM prior to the commencement of construction work associated with the Project.</p>						
	<p>Environmental Controls Map</p> <p>The Proponent shall prepare an ECM in accordance with TfNSW's <i>Guide to Preparing ECMs</i> prior to the commencement of construction for implementation for the duration of construction. The ECM is to be endorsed by the EMR and may be prepared in stages as set out in the CEMP.</p> <p>The Proponent shall submit a copy of the ECM to the EMR for review and endorsement. The EMR is to be given a minimum period of 7 days to review and endorse the ECM. Following receipt of the EMR's endorsement, the ECM shall be submitted to the PMEM (or nominated delegate) for approval, at least 14 days prior to commencement of construction (or such time as is otherwise agreed to by the PMEM).</p> <p>The ECM shall be prepared as a map – suitably enlarged (e.g. A3 size or larger) for mounting on the wall of a site office and included in site inductions, supported by relevant written information.</p> <p>Updates to the ECM shall be made within 7 days of the completion of the review or receipt of actions identified by any EMR audit of the document, and be submitted to the EMR for approval.</p>	Appendix 5 CEMP	All	Jun 2015	Early works ECM submitted to cover clearing and grubbing. Construction ECMs to be submitted by the 29 Jun 15.	LORAC	Subject to periodic revision/review
Hours of Work							
	<p>Construction Hours</p> <p>Construction activities shall be restricted to the hours of 7:00 am to 6:00 pm (Monday to Friday); 8:00 am to 1:00 pm (Saturday) and at no time on Sundays and public holidays except for the following works which are permitted outside these standard hours:</p> <ul style="list-style-type: none"> any works which do not cause noise emissions to be more than 5dBA higher than rating background level (RBL) at any nearby residential property and/or other noise sensitive receivers the delivery of plant, equipment and materials which is required outside these hours as requested by police or other authorities for safety reasons and with suitable notification to the community as agreed by the PMEM <p>Emergency Work to avoid the loss of lives, property and/or to prevent environmental harm any other work as agreed by the PMEM (or nominated delegate), and considered essential to the Project, or as approved by EPA (where an EPL is in effect).</p> <p>Any work undertaken outside of the standard construction hours shall be subject to approval in accordance with TfNSW's <i>Construction Noise Strategy</i> (CNS) (7TP-ST-157).</p>	Appendix 4 (Environmental Risk Action Plans)	During		Recurrent OOHW subject to conditions in EPL.	LORAC	OOHW applications will be prepared and submitted as required. Internal sign off under LORAC EPL. All works outside EPL boundary will be signed off by TfNSW EMR.
	<p>High Noise Generating Activities</p> <p>Rock breaking or hammering, jack hammering, pile driving, vibratory rolling, cutting of pavement, concrete or steel and any other activities which result in impulsive or tonal noise generation shall only be scheduled between the following hours unless otherwise agreed to by the PMEM (or nominated delegate), or as approved by EPA (where relevant to the issuing of an EPL), unless inaudible at nearby residential properties and/or other noise sensitive receivers:</p>	Appendix 4 (Environmental Risk Action Plans)	During		Recurrent	LORAC	Works to occur in line with this CoA and the EPL conditions.

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	<ul style="list-style-type: none"> 8:00am to 12:00pm, Monday to Saturday 2:00pm to 5:00pm Monday to Friday. 						
Noise and Vibrations							
	<p>Construction Noise and Vibration Construction noise and vibration mitigation measures shall be implemented through the CEMP, in accordance with TfNSW's <i>Construction Noise Strategy</i> and the EPA <i>Interim Construction Noise Guideline</i> (July 2009). The mitigation measures shall include, but not necessarily be limited to:</p> <ul style="list-style-type: none"> details of construction activities and an indicative schedule for construction works identification of construction activities that have the potential to generate noise and/or vibration impacts on surrounding land uses, particularly sensitive noise receivers. detail what reasonable and feasible actions and measures shall be implemented to minimise noise impacts (including those identified in the REF) procedures for notifying sensitive receivers of construction activities that are likely to affect their noise and vibration amenity, as well as procedures for dealing with and responding to noise complaints an out of hours work protocol (OOHWP) for the assessment, management and approval of works outside the standard construction hours identified in condition 17 of this approval, including a risk assessment process which deems the out of hours activities to be of low, medium or high environmental risk, is to be developed. All out of hours works are subject to approval by the EMR and/or PMEM or nominated delegate) or as approved by EPA (where relevant to the issuing of an EPL). The OOHWP should be consistent with the TfNSW Construction Noise Strategy. a description of how the effectiveness of actions and measures shall be monitored during the proposed works, clearly indicating the frequency of monitoring, the locations at which monitoring shall take place, recording and reporting of monitoring results and if any exceedance is detected, the manner in which any non-compliance shall be rectified 	Appendix 4 (Environmental Risk Action Plans)	During	01 Jun 15	Recurrent	LORAC	Construction Noise & Vibration Management Plan to be developed before 01 June.
	<p>Vibration Criteria Vibration (other than from blasting) resulting from construction and received at any structure outside of the Project shall be limited to:</p> <ul style="list-style-type: none"> for structural damage vibration - German Standard DIN 4150:Part 3 – 1999: Structural Vibration in Buildings: Effects on Structures for human exposure to vibration – the acceptable vibration values set out in the Environmental Noise Management Assessing Vibration: A Technical Guideline (DEC 2006). <p>These limits apply unless otherwise approved by the PMEM through the CEMP.</p>	Appendix 4 (Environmental Risk Action Plans)	During	01 Aug 15	Recurrent	LORAC	Construction Noise & Vibration Management Plan to be developed before 01 August
	<p>Non-tonal Reversing Beepers Non-tonal reversing beepers (or an equivalent mechanism) shall be fitted and used on all construction vehicles and mobile plant regularly used on site (i.e. greater than one day) and for any out of hours work.</p>	Appendix 4 (Environmental Risk Action Plans)	During		Recurrent	LORAC	Plant inspection for pre-mobilisation
	<p>Noise Impact on Educational Facilities Potentially affected pre-schools, schools, universities and any other affected permanent educational institutions shall be consulted in relation to noise mitigation measures to identify any noise sensitive periods (e.g. exam periods). As much as reasonably possible noise intensive construction works in the vicinity of affected educational buildings are to be minimised.</p>	Appendix 4 (Environmental Risk Action Plans) Community Liaison Plan	During		Recurrent	LORAC	Noise & Vibration Management Plan Community Liaison Plan
	<p>Operational Noise and Vibration During detailed design an operational noise and vibration management plan (ONVMP) shall be prepared to confirm the final mitigation measures for operational noise and vibration that</p>	Not referenced in CEMP	Pre-construction		Completed	TfNSW	The operational Noise and Vibration Management Plan has been completed.

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	<p>would be implemented.</p> <p>The ONVMP shall be prepared in consultation with NSW Trains (where relevant) and other relevant stakeholders. The ONVMP shall:</p> <ul style="list-style-type: none"> consider any changes to the predicted noise and vibration levels resulting from design refinements and any changes to the proposed operational plan for trains examine all reasonable and feasible noise and vibration mitigation measures consistent with the Rail Infrastructure Noise Guidelines and Industrial Noise Policy identify specific physical and other mitigation measures for controlling noise and vibration at the source and at the receiver (if relevant) including location, type and timing of implementation of the proposed operational noise and vibration mitigation measures seek feedback from directly affected receivers on the final mitigation measures proposed in the review consider measures identified in the NSW Government's broader noise mitigation program and the role this would play in mitigation at the project level. <p>The ONVMP is to be prepared for the approval of PMEM prior to the commencement of operation.</p>						
	<p>Operational Noise Compliance Monitoring</p> <p>In order to validate the predicted noise levels identified in the noise and vibration assessment, monitoring shall be undertaken within three months of commencement of operation. This noise and vibration monitoring shall be undertaken to confirm compliance with the predicted noise and vibration levels, or as modified by the reasonable and feasible review.</p> <p>Should the results of monitoring indicate that the predicted noise and vibration levels are exceeded, additional reasonable and feasible mitigation measures would be implemented in consultation with the affected property owners.</p>	Not referenced in CEMP	Post-construction (operation of temporary stabling facility at Hamilton)		To be scheduled at commencement of operation	TfNSW	
	<p>Piling</p> <p>Wherever practical, piling activities shall be completed using non-percussive piles. If percussive piles are proposed to be used, approval of the EMR or PMEM shall be obtained prior to commencement of piling activities.</p>	Appendix 4 (Environmental Risk Action Plans)	During		Recurrent	LORAC	Piling will be conducted using continuous flight auger (CFA) piling method
Contamination and Hazardous Materials							
	<p>Duty to Notify</p> <p>If previously unidentified contamination is identified within the site, the Proponent is to determine whether there is a Duty to Report under section 60 of the <i>Contaminated Land Management Act 1997</i>, and notify the EPA in accordance with the EPA's <i>Guidelines on the Duty to Report Contamination under the Contaminated Land Management Act 1997</i> (2009).</p>	CEMP Section 18 Appendix 4 (Environmental Risk Action Plans)	During		Recurrent	LORAC	CEMP Section 18 Appendix 4 (Environmental Risk Action Plans)
	<p>Unidentified Contamination (Other than Asbestos)</p> <p>If previously unidentified contamination (excluding asbestos) is discovered during construction, work in the affected area must cease immediately, and an investigation must be undertaken and report prepared to determine the nature, extent and degree of any contamination. The level of reporting must be appropriate for the identified contamination in accordance with EPA <i>Guidelines for Consultants Reporting on Contaminated Sites</i>.</p> <p>The Proponent shall submit a copy of the report to the PMEM for consideration. The PMEM shall determine whether consultation with the relevant council and/or EPA is required prior to continuation of Construction works within the affected area.</p> <p>Note: <i>In circumstances where both previously unidentified asbestos contamination and other contamination are discovered within a common area, nothing in these conditions shall prevent the preparation of a single investigation report to satisfy the requirements of both condition 27 and condition 28.</i></p>	Appendix 4 (Environmental Risk Action Plans)	During		Recurrent	LORAC	'Unexpected finds' procedure documented in CEMP Appendix 4

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	<p>Asbestos Management</p> <p>If previously unidentified asbestos contamination is discovered during construction, work in the affected area must cease immediately, and an investigation must be undertaken and report prepared to determine the nature, extent and degree of the asbestos contamination. The level of reporting must be appropriate for the identified contamination in accordance with relevant EPA and WorkCover Guidelines and include the proposed methodology for the remediation of the asbestos contamination. Remediation activities must not take place until receipt of the investigation report.</p> <p>Works may only recommence upon receipt of a validation report from a suitably qualified contamination specialist that the remediation activities have been undertaken in accordance with the investigation report and remediation methodology.</p> <p>Note: <i>In circumstances where both previously unidentified asbestos contamination and other contamination are discovered within a common area, nothing in these conditions shall prevent the preparation of a single investigation report to satisfy the requirements of both condition 27 and condition 28.</i></p>	<p>Appendix 4 (Environmental Risk Action Plans)</p> <p>Appendix 2 (Legal and other requirements)</p> <p>Appendix 3 (Environmental Risk Assessment)</p> <p>Appendix 7 (Project Waste Strategy)</p>	During		Recurrent	LORAC	'Unexpected finds' procedure documented in CEMP Appendix 4 Asbestos Management Plan has been developed
	<p>Storage and Use of Hazardous Materials</p> <p>Construction hazard and risk issues associated with the use and storage of hazardous materials shall be addressed through risk management measures, which shall be developed by the construction contractor prior to construction as part of the overall CEMP, in accordance with relevant EPA guidelines, TfNSW <i>Chemical Storage and Spill Response Guideline</i> and Australian and ISO standards. These measures shall include:</p> <ul style="list-style-type: none"> 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 spill kits, appropriate for the type and volume of hazardous materials stored or in use, to be readily available and accessible to construction workers. Kits to be kept at hazardous materials storage locations, in site compounds and on specific construction vehicles. Where a spill to a watercourse is identified as a risk, spill kits to be kept in close proximity to potential discharge points in support of preventative controls all hazardous materials spills and leaks to be reported to site managers and actions to be immediately taken to remedy spills and leaks training in the use of spill kits to be given to all personnel involved in the storage, distribution or use of hazardous materials. 	<p>CEMP Section 15</p> <p>CEMP Section 18</p> <p>Appendix 3 (Environmental Risk Assessment)</p> <p>Appendix 4 (Environmental Risk Action Plans)</p> <p>Appendix 6 (Pollution Incident Response Management Plan)</p>	During		Recurrent	LORAC	ECMs (CEMP Appendix 5) illustrate locations for storage of hazardous materials
	<p>Traffic Management Plan</p> <p>The Proponent shall prepare a construction traffic management plan (TMP) as part of the CEMP which addresses, as a minimum, the following:</p> <ul style="list-style-type: none"> ensuring adequate road signage at construction work sites to inform motorists and pedestrians of the work site ahead to ensure that the risk of road accidents and disruption to surrounding land uses is minimised maximising safety and accessibility for pedestrians and cyclists ensuring adequate sight lines to allow for safe entry and exit from the site ensuring access to railway stations, businesses, entertainment premises and residential properties (unless affected property owners have been consulted and appropriate alternative arrangements made) managing impacts and changes to on and off street parking and requirements for any temporary replacement provision parking locations for construction workers away from stations and busy residential areas and details of how this will be monitored for compliance routes to be used by heavy construction-related vehicles to minimise impacts on sensitive 	<p>Appendix 16 - Construction Traffic Management Plan</p>	Pre-construction	Apr 2015.	Final comments from TfNSW incorporated.	LORAC	Construction Traffic Management Plan

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	<p>land uses and businesses</p> <ul style="list-style-type: none"> details for relocating kiss-and-ride, taxi ranks and rail replacement bus stops if required, including appropriate signage to direct patrons, in consultation with the relevant bus operator. Particular provisions should also be considered for the accessibility impaired. measures to manage traffic flows around the area affected by the Project, including as required regulatory and direction signposting, line marking and variable message signs and all other traffic control devices necessary for the implementation of the TMP. identify crane locations and swing paths <p>The Proponent shall consult with the relevant roads authority during preparation of the TMP, as required. The performance of all Project traffic arrangements must be monitored during construction.</p>						
	<p>Road Condition Reports Prior to construction commencement, the Proponent shall prepare road condition surveys and reports on the condition of roads and footpaths affected by construction, to the satisfaction of the infrastructure owner(s). The Proponent shall carry out rectification work at the Proponent's expense to repair infrastructure to the asset condition prior to commencement of construction.</p>	Not referenced in CEMP	Pre-construction commencement	01 Aug 15		LORAC	Local roads that will be subject to construction traffic – Report for Railway Lane has been completed and accepted by NCC. Remaining reports will be staggered to coincide with road usage.
Lighting							
	<p>Lighting Control All permanent lighting for the Project must be designed, installed and operated in accordance with the requirements of AS 1158 Road Lighting and AS 4282 Control of the Obtrusive Effects of Outdoor Lighting and other relevant standards.</p>	Appendix 3 (Environmental Risk Assessment) Appendix 4 (Environmental Risk Action Plans)	During		Recurrent	LORAC	Permanent lighting will be managed through design process. Construction lighting to be managed in accordance with CEMP.
Flora and Fauna							
	<p>Replanting Program All cleared vegetation shall be replaced and/or offset in accordance with the following, unless otherwise agreed or directed by the PMEM: Sydney Train's Biodiversity Offset Calculator for vegetation within the rail corridor TfNSW's Vegetation Offset Guide for vegetation outside of the rail corridor</p> <p>All vegetation planted on-site is to consist of locally endemic native species, unless otherwise agreed by the PMEM, following consultation with the relevant Local Authority, where relevant, and/or the owner of the land upon which the vegetation is to be planted.</p>	Appendix 4 (Environmental Risk Action Plans)	During Post		Recurrent	LORAC	Replanting to occur in accordance with TfNSW guideline. Appendix 4 (Environmental Risk Action Plans)
	<p>Removal of Trees or Vegetation Separate approval is required in accordance with TfNSW's Application for Removal or Trimming of Vegetation for the trimming, cutting, pruning or removal of trees or vegetation where the impact has not already been identified in the EIA for the Project.</p>	Appendix 4 (Environmental Risk Action Plans)	During		Recurrent		All vegetation will be removed in under a TfNSW Removal or Trimming of Vegetation Application. Appendix 4 (Environmental Risk Action Plans)
Erosion and Sediment Control							
	<p>Erosion and Sediment Control Soil and water management measures shall be prepared as part of the CEMP for the mitigation of water quality and hydrology impacts during construction of the Project. The management measures shall be prepared in accordance with <i>Managing Urban Stormwater</i>;</p>	Appendix 3 (Environmental Risk Assessment)	During		Recurrent	LORAC	ESC Plans to be updated as construction progresses as relevant to changing ground conditions

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	<i>Soils and Construction 4th Edition (Landcom, 2004).</i>	Appendix 4 (Environmental Risk Action Plans) Appendix 5 (Environmental Control Maps)					
Heritage							
	<p>Indigenous and Non Indigenous Heritage</p> <p>If previously unidentified indigenous or non-indigenous heritage/archaeological items are uncovered during construction works, all works in the vicinity of the find shall cease and appropriate advice shall be sought from a suitably qualified heritage consultant (and in consultation with the Heritage Division where appropriate). Works in the vicinity of the find shall not re-commence until clearance has been received from the heritage consultant and/or Heritage Division.</p> <p>Refer to Conditions 43 and 44 for additional heritage requirements.</p>	Appendix 3 (Environmental Risk Assessment) Appendix 4 (Environmental Risk Action Plans) Appendix 5 (Environmental Control Maps)	During		Recurrent	LORAC	Unexpected finds procedure documented in CEMP Appendix 4 Heritage Management Plan to be developed before excavation or piling works occur.
Urban Design and Landscaping							
	<p>Urban Design and Landscaping Plan</p> <p>Prior to the finalisation of the Project's detailed design, the Proponent shall prepare an urban design and landscaping plan (UDLP) which addresses the following matters:</p> <ul style="list-style-type: none"> materials, finishes, colour schemes and maintenance procedures including graffiti control for new walls, barriers and fences location and design of pedestrian pathways, street furniture including relocated bus and taxi facilities, bicycle storage (where relevant), telephones and lighting equipment landscape treatments and street tree planting to integrate with surrounding streetscape design detail that is sympathetic to the amenity and character of the local heritage items opportunities for public art created by local artists to be incorporated, where considered appropriate, into the Project total water management principles to be integrated into the design where considered appropriate design measures included to meet the Sustainable Design Guidelines Version 3.0 identification of design and landscaping aspects that will be open for community input any other matters which the conditions require the UDLP to address. <p>The UDLP shall be prepared in consultation with Council, relevant stakeholders and accepted by the Director Technical Services, Transport Projects Division, TfNSW.</p> <p>Refer to condition 43 for consideration of non-Aboriginal heritage in detailed design.</p>	Not referenced in CEMP	During After	Prior to finalisation of Detailed design – 01 Aug 15	Ongoing	LORAC	UDLP to be developed in consultation with stakeholders – prior to finalisation of the Project's detailed design.
Sustainability							
	<p>Sustainability Officer</p> <p>The Proponent shall appoint a Sustainability Officer who is responsible for implementing sustainability objectives for the Project.</p> <p>Details of the Sustainability Officer, including defined responsibilities consistent with the Proponent's sustainability objectives, included in the REF, are to be submitted to the satisfaction of the PMS prior to preparation of the PCSR.</p>	Section 8 of CEMP	Before During			LORAC	Sustainability Officer during construction to be Daniel Keegan

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	<p>Pre-Construction Sustainability Report Prior to commencement of construction, a pre-construction sustainability report (PCSR) shall be prepared to the satisfaction of the PMS. The Report shall include the following minimum components:</p> <ul style="list-style-type: none"> a completed electronic checklist demonstrating compliance with the Sustainable Design Guidelines Version 3.0 to a Silver level standard a statement outlining the Proponent's own corporate sustainability obligations, goals, targets, in house tools, etc. a section specifying any areas of innovation that will be explored and/or implemented on the Project during the course of the construction period. <p>The Proponent shall submit a copy of the PCSR to the PMS for approval, at least 14 days prior to the commencement of construction (or within such time as otherwise agreed to by the PMS).</p>	Not referenced in CEMP	Pre, during construction	30 Jun 15	Final comments from TfNSW to be incorporated into checklist.	LORAC	SDG Checklist to be finalised and Pre-construction Sustainability Report to be Finalised.
Miscellaneous							
	<p>Graffiti and Advertising Hoardings, site sheds, fencing, acoustic walls around the perimeter of the site, and any structures built as part of the Project are to be maintained free of graffiti and advertising not authorised by the Proponent during the construction period. Graffiti and unauthorised advertising will be removed or covered within the following timeframes:</p> <ul style="list-style-type: none"> offensive graffiti will be removed or concealed within 24 hours highly visible (yet inoffensive) graffiti will be removed or concealed within a week graffiti that is neither offensive or highly visible will be removed or concealed within a month any unauthorised advertising material will be removed or concealed within 24 hours 	Appendix 4 (Environmental Risk Action Plans)	During		Recurrent		Graffiti-free surfaces; prompt removal of graffiti, advertising
	<p>Authorised Water Servicing Co-ordinator The Proponent shall engage a Hunter Water authorised water servicing coordinator to manage the design and construction of any works to the existing potable water or sewer reticulation.</p>	Not referenced in CEMP	During		To be confirmed		Construction Manager and Design Manager to liaise with Hunter Water in mean time
Project Specific							
	<p>Bat Management Plan A Bat Management Plan shall be prepared, as part of the CEMP for the proposal, to minimise the potential for any impacts on bats particularly those that roost under the Maitland Road overpass.</p>	Appendix 3 (Environmental Risk Assessment) Appendix 5 (ECM) Appendix 18 (Bat Management Plan)	During (only works beneath Maitland Road overpass)		Ongoing	LORAC	Appendix 18 The presence of Bats on site is also discussed in the Environmental site induction
	<p>Non Aboriginal Heritage An approval under section 60 of the <i>Heritage Act 1977</i> has been obtained from the NSW Heritage Division for works at Hamilton Station. All NSW Heritage Division approval conditions are to be implemented. Detailed design of the new station at Wickham, including materials selection would be sympathetic to the surrounding heritage items/elements and the significance of the Newcastle City Centre Heritage Conservation Area, while clearly marking the building as contemporary. These measures are to be detailed in the UDLP prepared under condition 37. Potential impacts on the heritage significance of Wickham, Civic and Newcastle stations as a</p>	Appendix 3 (Environmental Risk Assessment) Appendix 4 (Environmental Risk Action Plans) Appendix 5	During	01 Aug 15	Conditions of S.60 approval require heritage consultant to be engaged prior to commencement of any works on site relating to heritage fabric	LORAC	Heritage Management Plan to be developed before construction works commence in State Heritage curtilage for Hamilton Station.

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	result of ceasing rail operations at these stations would be addressed as part of the Residual Corridor Management Plan.	(Environmental Control Maps)			and spaces		
	Aboriginal Archaeology Prior to commencing any excavation or piling works where there is a risk of interfering with or destroying Aboriginal artefacts at the new transport interchange, an approval under section 90 of the <i>National Parks and Wildlife Act 1974</i> is required from the Office of Environment and Heritage. All approval conditions are to be implemented.	Appendix 3 (Environmental Risk Assessment) Appendix 4 (Environmental Risk Action Plans)	Before During		AHIP granted – survey works to occur early Apr 15	LORAC	All relevant plans to be updated pending results of indigenous archaeology survey
	Residual Corridor Management Plan To manage potential environmental impacts on the residual rail corridor of the Newcastle Branch Line, east of Stewart Avenue, following the cessation of rail services, the Proponent shall prepare a Residual Corridor Management Plan. Potential impacts on the heritage significance of Wickham, Civic and Newcastle stations as a result of ceasing rail operations at these stations would be addressed as part of the Residual Corridor Management Plan. The Residual Corridor Management Plan would be developed with consideration of the recommendations of the socio-economic assessment to enhance future access within the city centre. The Residual Corridor Management Plan is to be prepared by to the cessation of rail services east of Stewart Avenue.	Not Referenced	After		Ongoing	TfNSW	A Residual Corridor Management Plan exists
	Stabling Facility Noise Management Plan Within 6 months of the date of this approval, the Proponent shall prepare a Stabling Facility Noise Management Plan (SFNMP) with the objective of minimising noise impacts on surrounding sensitive receivers. The SFNMP shall: <ul style="list-style-type: none"> be prepared in accordance with relevant noise criteria including INP and RING; be prepared in consultation with NSW Trains and relevant stakeholders and the surrounding receivers; identify preferred mitigation measures with an established hierarchy of mitigating at the source prior to at the boundary of the facility followed lastly by at receiver treatments; and at source mitigation measures shall include the potential for testing train horns at less sensitive locations and/or the use of low noise yard warnings. The SFNMP shall be approved by the PMEM.	Not referenced in CEMP	During (prior to commissioning of temporary stabling facility at Hamilton)		To be prepared prior to commissioning of temporary stabling facility at Hamilton	TfNSW	A “draft Stabling Facility Noise Management Plan” has been prepared in accordance with this condition and is currently under review by TfNSW.
Other Permits							
47	Hamilton Railway Station Group Section 60 Approval Heritage Council approval for works to occur in the curtilage of the Hamilton Railway Station Group in accordance with Section 60: 2014-S60-166	Appendix 3 (Environmental Risk Assessment) Appendix 4 (Environmental Risk Action Plans) Appendix 5 (Environmental Control Maps)	During		Ongoing	LORAC/ TfNSW	All works to occur in accordance with conditions of Section 60: 2014-S60-166

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48	Environmental Protection License 20514 NSW EPA approval for Railway Systems works to occur in accordance with EPL 20514	ALL CEMP	Before / During / After		Ongoing	LORAC	All works to occur in accordance with conditions of EPL 20514
49	Aboriginal Heritage Impact Permit A permit was granted by the NSW Office of Environmental & Heritage on the 13 Mar 15 to disturb aboriginal relics during test pitting as part of Indigenous Heritage survey works. Several artefacts were found during this test pit phase. On the 5 May 15 an AHIP variation was approved for 4 salvage pits between Railway Street and Stewart Avenue Wickham. The AHIP allows for the collection of any artefacts by the Archaeologists from Artefact. The remainder of the site beyond will operate under the unexpected finds procedure outlines within the ERAP.	Appendix 3 (Environmental Risk Assessment) Appendix 4 (Environmental Risk Action Plans)	During		Ongoing	TfNSW /LORAC	Artefact to commence salvage works on 11 Jun 15.

Appendix 21 – Project Monthly Environmental Report – E-T-8-1250b

An internal monthly report will be made to using this form or a similar standard as set by the Project Leader.

Project Name:		Month:	
Prepared by:		Report Date:	

1. General (risks, status of control measures, update to plans, trends, ESCPs)
2. Environmental KPI

KPI	Number this period		Project total to date	
	Number	Hours	Number	Hours
Weekly Environmental Inspections signed off by the Project Leader? (Target 100%)				
Number of weekly environmental inspections accompanied by supervisory or engineering personnel? (Target 50%)				
Number of environmental hazard / near miss recorded? (target 1:2500 hours)				
Relevant environmental content in Toolbox Talks / Prestart Meetings (TBT target 3 per month / Pre-start target 2 per week)	TBT	Pre-start		
Hydraulic Inspections/Audits completed (minimum 5)				

3. Environmental Governance

Description	Number this period	Total to date	Comments/Outcomes/Actions
Inspections by Regulatory Authorities			
Notices from Regulatory Authorities			
TfNSW Audits/inspections			
Internal Audits			

4. Monthly Environmental Incident Analysis

Description of Incident	Incident Class	Action Taken

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Description of Incident	Incident Class	Action Taken

5. Monthly CAR Register Analysis – New or Open Corrective Actions

Item	Evidence sighted	Risk	Description of non-compliance	Corrective Action Taken	Date Closed

6. Permits, Licence and conditions compliance

Item	Compliance this period (Y/N/NA)	Comments or Action Taken on Non-compliance
Environmental Planning/Approval instrument Conditions		
Statutory Licence/Environmental Authority/Approval Conditions		
Other Permits (list)		
Project permits and approvals register reviewed and up to date		

7. Environmental Monitoring - Current Status – to be completed where required

Description	Compliance this period (Y/N/NA)	Comments on Non-compliance
Noise Monitoring Results		
Dust Monitoring Results		
Water Quality Monitoring		
Vibration Monitoring		
Erosion and Sediment control		
Flora and Fauna		

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Description	Compliance this period (Y/N/NA)	Comments on Non-compliance
Aboriginal and Non Aboriginal heritage		
Soil contamination		
Waste and Resource		
Hazardous Substances		

Appendix 22 – Acid Sulphate Soils Management Plan

Refer to document number WTI-COF-PMP-0001

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Appendix 23 – Air Quality Management Plan

Refer to document number WTI-LOR-PMP-0045

Appendix 24 – Site Rehabilitation Plan

Laing O'Rourke will endeavour to conserve site resources to enable site rehabilitation at the end of the construction. This will include, where possible, the stockpiling of suitable topsoil for reuse on site. The general approach will be to re-apply this topsoil to encourage vegetation regrowth. Vegetation cover is important to prevent erosion from dust and wind and for aesthetic purposes.

By reusing the site top-soil, the local seed bank will be retained, leading to the reestablishment of vegetation with local plants. Care must be taken to mitigate the risk of the establishment or re-establishment of weeds.

When removing topsoils for separate storage the Environmental Coordinator must be present to ensure the layer identified as topsoil is collected without mixing of other layers.

Top soils will be stored in the Holland Street Laydown and Main Laydown. The stockpiles will be managed to prevent erosion, contamination and mixing with other materials from site. Top soil stockpile will be appropriately segregated and sign posted. Weeds will not be allowed to grow on topsoil stockpiles and should be manually removed. Vegetation contained within the topsoil should be allowed to grow to maintain coverage, mitigate erosion and maintain soil ecology.

Top soils may require further treatment to meet standards required for the growth of vegetation. Additional top soil may be introduced to site where necessary.

Top soil won from site will not be used in the landscaping at the Interchange building as per the Remediation Action Plan.

Planting may occur on site during the close out of construction. The number of plants required will be determined once offsetting requirements are finalised. The offsetting will occur in accordance with TfNSW Vegetation removal and Trimming Guideline.

Species selection for replanting will be based on the following;

- Native Species
- Local species
- Rapid growing species
- Species that provide maximum ground cover
- Species that will not attract larger fauna species such as possums or bats to the vicinity of the infrastructure.
- Species that require minimal maintenance –drought tolerant species
- Species that are appropriate for the soil profile.

The majority of the site does not have a top-soil layer and consists of mainly sand and ballast associated with the operation of the railway over. There is a limited amount of topsoil on-site, primarily located in the Holland Street Compound Area and the Station area. It is estimated that approximately 150m³ of viable topsoil exists on site. This topsoil is to be maintained throughout the construction and reapplied to the project as per the Landscaping Plan once major construction works have been completed. The Landscape Plan includes the addition of top soil and planting to previously bare areas. As such it is expected that all of the capture topsoil from site can be beneficially re-used on site without pavement cover (pending the identification contamination during construction).

It should be noted that the Remediation Action Plan requires that soils remain on the project site or are disposed of as waste. Therefore no topsoil will be used on nearby projects.

Appendix 25 – Pesticide Use and Notification Plan

Laing O'Rourke will mitigate the risk to the surrounding community and environment by implementing this Pesticide Use and Notification Plan. This plan also applies to the application of herbicides.

In accordance with the Pesticides Act of 1999 Laing O'Rourke will notify the local community and neighbouring businesses, where required to under the act, when the use of pesticide is planned on the WTI project.

Laing O'Rourke will implement the following measures to mitigate the risks to the community and environment when applying pesticides;

- Assess the use of each pesticide based on a review of the SDS – ensuring the pesticide is fit for purpose from both a safety and an environmental perspective
- Not to apply pesticides during windy or rainy weather
- To apply the pesticide as directed by the label and SDS
- To report any incidents involving the miss application of pesticides
- Give sufficient notice to local residence and businesses, in accordance with the Pesticide Act of 1999, when applying pesticide.

Appendix 26 – Flood Evacuation Plan

The Project Leader and Emergency Response Coordinator will facilitate the following process during a flood evacuation, assigning tasks to others, where deemed necessary and appropriate.

